**Planning Commission**
**November 18, 2025 - 6:00 PM**
**233 South Main Street, Monroe, Ohio**

**Call to Order**

**Roll Call**

**Approval of Minutes**

- Meeting minutes from the October 21, 2025 Planning Commission Meeting

**Old Business**

**New Business**

- **Case No. 2025-11-8— Public Hearing—Consideration of a Zoning Map Amendment for properties located on Greentree Road**
- **Case No. 2025-11-9— Public Hearing— Consideration of a PUD Amendment to the Mount Pleasant Planned Unit Development**
- **Case No. 2025-11-10— Public Hearing—Consideration of a Zoning Map Amendment and Planned Unit Development for Cornerstone Monroe Farm**
- **Case No. 2025-11-11— Public Hearing—Consideration of Various Text Amendments to the Monroe Planning and Zoning Code**

**Administrative Reports**

**Adjournment**

**Planning Commission**
**October 21, 2025**
**233 South Main Street, Monroe, Ohio**

***Call to Order***

Mr. Duckworth, Chair, called the meeting to order at 6:01p.m.

***Roll Call***

Planning Commission members present: Andrew Hall, Robert Duckworth, Christina McElfresh, Matt Frye, Debbie Hagedorn

Staff members present: Tom Smith, Development Director; Kameryn Jones, Assistant Development Director; Jameson Cole, Planner; Michelle Layman, Planning and Zoning Specialist.

***Approval of Minutes***

Mrs. McElfresh moved to approve the minutes from the July 15, 2025, Planning Commission meeting; seconded by Mrs. Hagedorn. Voice vote. Motion carried.

***Old Business***

None

***New Business***

Mr. Duckworth opened the public hearing for Case No. 2025-10-6- Consideration of a Zoning Map Amendment for Glass Coatings & Concepts LLC.

Mr. Duckworth stated the request will be presented by Staff. Following this presentation, anyone wishing to speak in favor of the proposal will be given an opportunity to speak. After all proponents have spoken, the opponents will be given an opportunity to present their case. Speakers are asked not to repeat the same ideas which have been previously presented but indicate that they agree with a previous speaker. All persons speaking are subject to cross examination and must be sworn. Planning Commission has the opportunity to question any speaker after they have completed their presentation. Once the public hearing is closed, individual speakers have no right to comment during discussion by the Planning Commission.

Mr. Duckworth asked that all those wishing to speak during this public hearing (including staff) to stand and raise their right hand to be sworn in.

Having been sworn in, Mr. Cole presented the background as follows:

- Jonathan Wocher on behalf of Glass Coating & Concepts LLC has submitted a request to rezone property located at 300 Lawton Avenue.
- The applicant seeks to rezone the property from LI Light Industrial to HI Heavy Industrial for the purposes of a future expansion of their existing site.
- The site is approximately 8.64 acres.

Mr. Cole showed a map of proposed property.

Mr. Cole presented the review criteria as follows:

Zoning Map Amendment Review Criteria:

- Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;
- Changing conditions. The proposed amendment corrects an error or meets the challenge of some changing condition, trend, or fact since the time that the original map designation were established;
    - Mr. Cole reviewed the future land use map and stated the Common Review Criteria requirements had been met.
- Impact Mitigation. The proposal helps to mitigate adverse impacts of the use and development of land on the natural or built environments, including, but not limited to, mobility, air quality, water quality, noise levels, stormwater management, and vegetation, or will be neutral with respect to these issues;
- Community Need. Whether the proposed amendment addresses a demonstrated community need;
    - Mr. Cole stated the Impact Mitigation and Community need requirements had been met.
- Strategic Objectives. The proposal advances the strategic objectives of the City Council, such as fiscal responsibility, efficient use of infrastructure and public services, and other articulated City objectives; and
- No Single Factor and Case Determination. No single factor listed above may control and not all factors may be applicable in each case. Each case shall be determined on its own facts.
    - Mr. Cole stated the Strategic Objectives and No Single Factor and Case Determination requirements had been met.

Mr. Cole stated no public comments had been received.

Mr. Cole reviewed the department comments as follows:

- Fire Department: Fire reserves the right to comment during future submittals.

- Police Department: No comment at this time. Police reserve the right to comment during future submittals.
- Engineering/Public Work Department: No comment and the time. Public Works and Engineering will comment during future submittals.

Mr. Cole reviewed the staff recommendation as follows:

- Staff recommend Planning Commission make a recommendation for approval to City Council regarding this application.

Mr. Cole presented the exhibits to Planning Commission.

Mr. Duckworth asked for any proponents that wish to speak to come forward. Mr. Jonathan Wocher with McBride Dale Clairion came forward to speak.

Mr. Wocher stated the property Glass Coatings & Concepts is currently on is coded LI Ligh Industrial and the property that was recently purchased is in the HI Heavy Industrial zone. He stated the request to change from LI to HI more accurately fits the type of work being done and that they want both properties to be zoned the same. Mr. Wocher stated the plan is to expand the facility in the future.

Mr. Duckworth asked for any opponents that wish to speak to come forward.

Mrs. McElfresh moved to accept the documents submitted for the record. Seconded by Mrs. Hagedorn; Voice vote. Motion carried.

Mrs. Hagedorn moved to close the public hearing. Seconded by Mr. Frye; Voice vote. Motion carried.

Mrs. Hagedorn stated she feels it makes sense to have the same zoning for the properties.

Mr. Hall asked if there are any current operations that are restricted due to the current zoning. Mr. Wocher stated there are not but that they feel the company better fits the Heavy Industrial zone.

Mr. Duckworth asked what the difference is between HI and LI. Mrs. Jones stated the HI zoning would be considered a place like Worthington Steel, who manufactures raw materials into something else.

Mrs. Hagedorn moved to recommend approval to City Council regarding Case No. 2025-10-6- Consideration of a Zoning Map Amendment for Glass Coatings & Concepts LLC. Seconded by Mr. Hall. Roll call vote. 5 ayes. Motion carried.

Mr. Duckworth opened Case No. 2025-10-7- Consideration of a Preliminary Plat for Tall Oaks.

Mrs. Jones presented the background as follows:

- CKN Development LLC has submitted application for Preliminary Plat for Tall Oaks subdivision.
- The subdivision will consist of 187 new lots in addition to the completion of the existing first phase.
- The lot widths vary between 90', 70', and 65'.
- The overall density is 1.98 units per acre.
- This project received PUD approval earlier this year. The written agreement and Master Development Plan dictate the layout and parameters of this development.

Mrs. Jones reviewed a map of the area showing the area is zoned Suburban Residential with a PUD overlay. Mrs. Jones showed the preliminary plat, addressing small changes the developer made.

Mrs. Jones stated green space and tree placement were changed. She also stated that the stub on the north end of the development will now be a T turn around.

Mrs. Jones stated:

- The application is in the next step in the development process for the Tall Oaks subdivision.
- The Preliminary Plat provides the general design prior to moving into the construction drawing and actual construction phases of a subdivision project.
- Planning Commission considers the following review criteria from 1207.31 Preliminary Plat. Staff has provided feedback where applicable.

Mrs. Jones reviewed the review criteria as follows:

- Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;
- Subdivision Standards. The Preliminary Plat conforms with the standards in Chapter 1205, Subdivision Standards;
- Traffic Impact Study: If required, the traffic impacts from the proposed development will be adequately mitigated in accordance with 1204.18, Traffic Impact Study.
    - Mrs. Jones stated all review criteria have been met by the applicant.

Mrs. Jones reviewed the department comments as follows:

- Fire Department: Fire reserves the right to comment during future submittals.
- Police Department: No comment at this time. Police reserve the right to comment during future submittals.

- Engineering/Public Work Department: Public Works and Engineering review is ongoing. The applicant must comply with the outcome of this review.

Mrs. Jones reviewed the process and next steps, stating this is the second step in the process. If recommendation for approval is given tonight, City Council will then vote. After this, step three is construction plans, followed by final plat.

Mrs. Jones reviewed the staff recommendation as follows:

- Planning Commission acts as a recommending body to City Council regarding Preliminary Plat applications.
- Planning Commission may table the application, recommend approval, or recommend denial of the application.
- Staff recommends Planning Commission make a recommendation for approval to City Council regarding this application with the following conditions:
    - All department comments shall be addressed in a revised set of plans prior to City Council approval.

Mr. Hall asked the developer to do their best to consider the current residents of Apple Knoll when addressing the buffer area. He asked for clarification of what is being cleared and what will be left. Mrs. Jones reviewed the map showing the green space and buffer areas. Mrs. Jones stated their plan is still to leave as much of the current vegetation in place.

Mrs. McElfresh asked if the buffer area being shown tonight is identical to what the original PUD had in place. Mrs. Jones stated the original PUD did not have any buffer area.

Mrs. McElfresh asked if a buffer requirement would not have been in our code during the original subdivision development. Mrs. Jones stated she isn't sure there would be at that time but there is now.

Mr. Hall moved to recommend approval to City Council regarding Case No. 2025-10-7-Consideration of a Preliminary Plat for Tall Oaks with the following conditions:

- All department comments shall be addressed in a revised set of plans prior to City Council approval.

Seconded by Mrs. McElfresh. Voice vote. Mrs. Hagedorn abstained from voting. 4 ayes. Motion carried.

***Adjournment***

Mr. Hall moved to adjourn the meeting; seconded by Mr. Frye. Voice vote. Motion carried.

The Planning Commission meeting adjourned at 6:33 p.m.

Respectfully submitted,

Michelle Layman
Planning and Zoning Specialist

**CITY OF MONROE**
**Inter-Office Correspondence**

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TO: Members of the Monroe Planning Commission
FROM: Kameryn Jones
Assistant Development Director

DATE: November 18, 2025
RE: Information Packet for November 18, 2025, Planning Commission Meeting at 6:00 p.m.

# I. Case No. 2025-11-8— Public Hearing—Consideration of a Zoning Map Amendment for properties located on Greentree Road

## A. Background

- Eli Krafte-Jacobs has submitted a request to rezone properties located along Greentree Road.
- The applicant seeks to rezone the properties from NC Neighborhood Conservation to RR Rural Residential. Per the submitted application, the intent is to ensure the land may continue to be used in its current condition. At present, the property is developed with single-family homes, with some properties incorporating agricultural uses.
- The total acreage subject to the application is 37.3 acres.

**Overhead View of Property**

**Zoning Map**

**Eastbound on Greentree Road**

**Westbound on Greentree Road**

**Bird's Eye View of Property**

## B. Staff Comments

The application before Planning Commission is to change the zoning designation from NC Neighborhood Conservation to RR Rural Residential.

Planning Commission considers the following review criteria from *1207.23 Zoning Map Amendment.* Staff has provided feedback where applicable.

### 1207.23 Zoning Amendment

- *Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;*

  The request meets all applicable common review criteria. One of the common review criteria focuses on compatibility with the surrounding properties and uses. The property is surrounded almost entirely by RR Rural Residential zoning on the east, west, and south sides. The private drive used to access the homes off Greentree Road abuts LI Light Industrial zoning.

- *Changing Conditions. The proposed amendment corrects an error or meets the challenge of some changing condition, trend, or fact since the time that the original map designations were established;*

  Conditions have not changed since the adoption of the current zoning map.

- *Impact Mitigation. The proposal helps to mitigate adverse impacts of the use and development of land on the natural or built environments, including, but not limited to,*

*mobility, air quality, water quality, noise levels, stormwater management, and vegetation, or will be neutral with respect to these issues;*

This proposal is not associated with any plans for development. As stated in their application, the property owners wish to continue utilizing the property for larger lot residential with the ability for some agricultural uses.

- *Community Need. Whether the proposed amendment addresses a demonstrated community need;*

  Not applicable.

- *Strategic Objectives. The proposal advances the strategic objectives of the City Council, such as fiscal responsibility, efficient use of infrastructure and public services, and other articulated City objectives; and*

  Not applicable.

- *No Single Factor and Case Determination. No single factor listed above may control and not all factors may be applicable in each case. Each case shall be determined on its own facts.*

**C. Public Comments:**

- No public comment has been received as of 11/13/25.

**D. Department Comments**

- **Fire Department:**
  - No comment.
- **Police Department:**
  - No comment at this time.
- **Engineering/Public Works Department:**
  - No comment.

**E. Staff Recommendation**

- In Zoning Map Amendment applications, Planning Commission acts as a recommending body to City Council.
- Planning Commission may table the application, recommend approval, recommend approval with conditions, or recommend denial of the application.

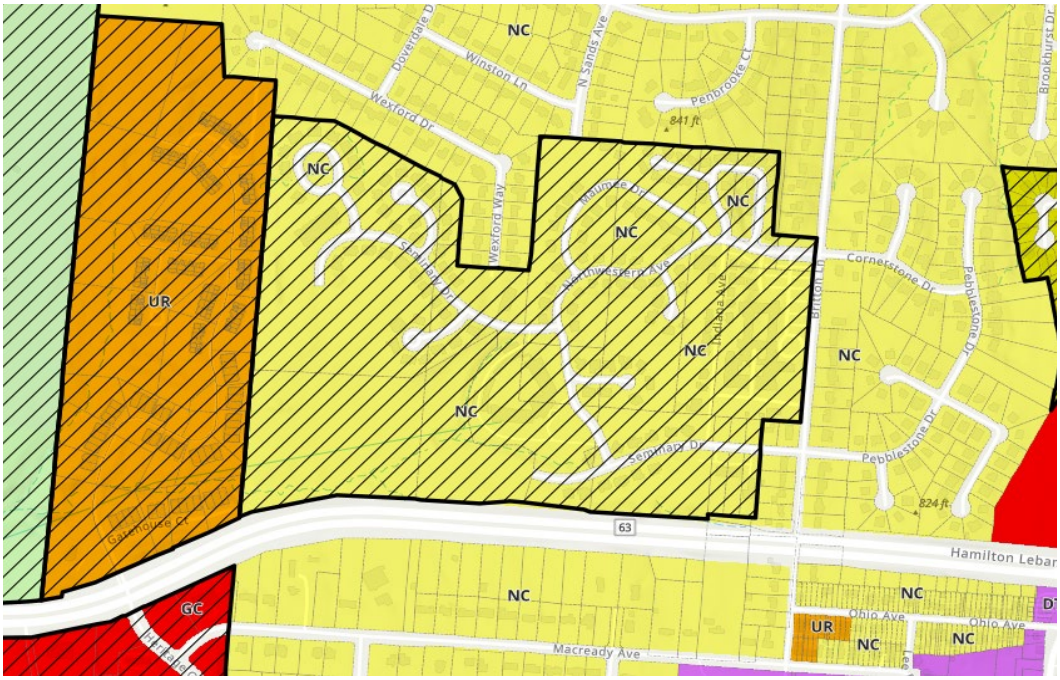
Staff recommends Planning Commission make a recommendation for approval to City Council regarding this application.

## II. Case No. 2025-11-9— Public Hearing— Consideration of a PUD Amendment to the Mount Pleasant Planned Unit Development

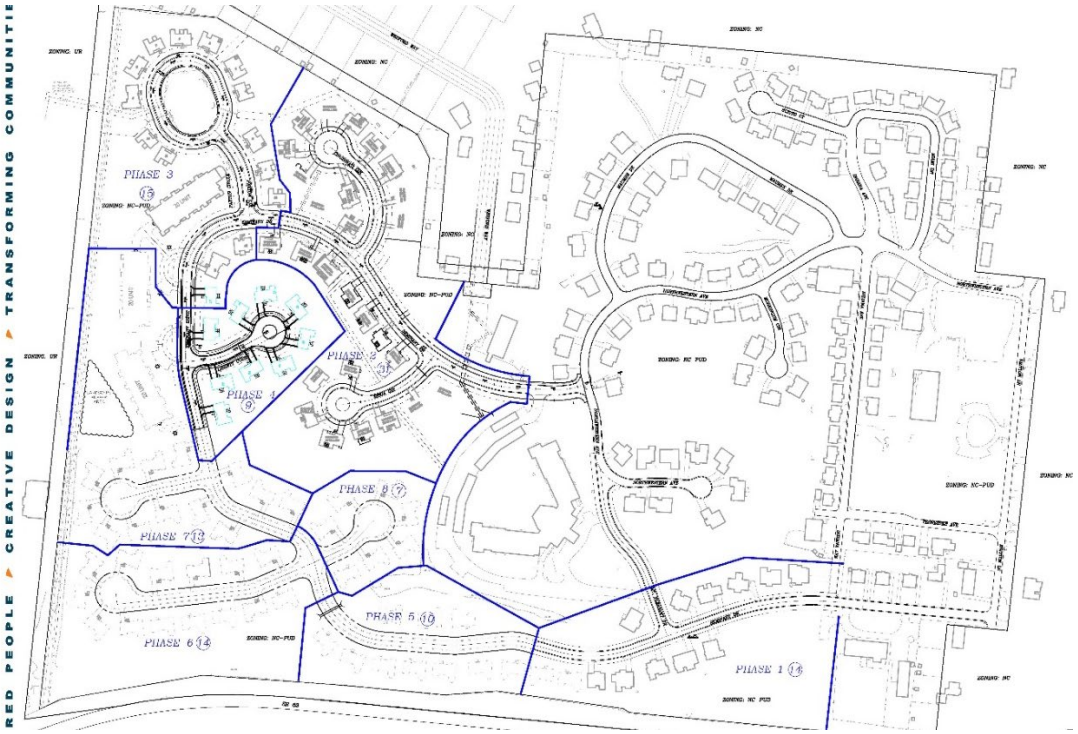
### A. Background

- Adam Fait on behalf of Ohio Living has submitted an application for an amendment to the existing Mount Pleasant Planned Unit Development.
- The applicant seeks an amendment to the PUD Master Development Plan related to the phasing of the remaining undeveloped land.
- The applicant seeks to modify phases 4 and 7 of the development plan regarding two 20-unit buildings. The two buildings that were to be constructed in phase 4 are now proposed to be built as part of phase 7.
- The PUD is approximately 92.65 acres, with approximately 22.5 acres remaining undeveloped.

**Overhead View of Property**




**Zoning**




**Proposed Master Development Plan**

**Looking South towards the site from Seminary Drive**

**Looking west towards the site from Northwestern Avenue**

**Looking west towards the site from Seminary Drive**

**B. Staff Comments**

- Planning Commission considers the following review criteria from 1202.07 Planned Unit Development, 1207.16 Master Development Plan, and . Staff have provided feedback where applicable.

**1202.07 Planned Unit Developments**

*A. Purpose. The purposes of the Planned Unit Development (PUD") district are:*

1. *Ensure Against Misuse. To establish standards to ensure against misuse of the increased flexibility.*

2. *Redevelopment. To generate the reuse or redevelopment of sites where an orderly change of use is determined to be desirable, especially where reuse is restricted because of existing nonconformities, physical development, or the constraints of conventional zoning standards.*

3. *Land Use Compatibility. It is further intended that development permitted pursuant to this Section be laid out so that proposed uses, buildings, and site improvements relate to each other and to adjoining existing uses and to the public realm in such a way that they will be compatible, with no material adverse impact of one use on another.*

4. *Flexibility and Innovation. To allow regulatory flexibility to clearly achieve:*

a. *Development that is in accordance with the City's Comprehensive Plan;*

The proposed continued development of Mt Pleasant Retirement Village is in accordance with the City's Comprehensive Plan as it contributes to connectivity efforts with its continued interior sidewalk and roadway connections planned to be completed with future developments. The development also provides a diverse mix of housing types including ranch style single-family homes, two story multi-unit apartments, and a larger scale care facility.

b. *Economy and efficiency in the use of land, natural resources, energy, and in the provision of public services and utilities;*

c. *Protection and preservation of natural resources and natural features;*

The proposed amendment does not aim to change the previously approved layout. To safeguard the existing conditions of the undeveloped site, the proposed emergency access road will align with the future route of Seminary Drive. This approach is intended to minimize the overall impact of the development both now and in the future.

d. *Creation of useful open space particularly suited to the proposed development and the parcel on which it is located; and*

As stated above the previously approved layout is not changing and so no open space that was already planned for will be created or taken away at this time.

e. *Appropriate development to satisfy the needs of residents of the City of Monroe.*

The development meets the needs of aging residents within the City by offering differing assisted living options.

B. *Eligibility. A PUD district is only permitted where the proposed design could not be largely or substantially achieved using conventional zone districts or PZC standards, including available tools allowing flexibility within those districts.*

There is already a PUD in place. This is considered an amendment to the PUD due to the requested change in phasing plan.

C. *Purposes Not Intended. The PUD district shall not be used for the sole purpose of circumventing the requirements of this Code, securing an agreement between an applicant and nearby property owners to receive zoning approval, or assigning responsibility to the City for private deed covenants or restrictions.*

The application submitted is to amend the existing PUD agreement.

D. *Permitted Uses. The permitted uses within the PUD shall be based on the underlying base zoning district. If an applicant wishes to incorporate uses other than those permitted in the underlying base district, the applicant may request a change of the underlying base zoning district in concurrence with the procedure during the zoning map amendment process for the PUD as established in Section 1207.23, Zoning Map Amendment. No such change in the underlying base zoning district shall be approved without concurrent approval of a Master Development Plan. Written notice of such decision shall be provided to the Director, and any such development shall be subject to the requirements of Section 1207.16, Master Development Plans, and paragraph F below.*

   This application does not seek to change or add any permitted uses or change the underlying base zoning district.

E. *Areas of Flexibility Permitted. Each PUD application may request only the following types of adjustments from the underlying base zoning district standards as regulated in Article 02.02, Residential Zoning Districts or Article 02.03, Mixed Use and Nonresidential Zoning Districts:*

   1. *Adjustment of minimum lot sizes;*

   2. *Adjustment in residential development density;*

   3. *Adjustment of building setbacks;*

   4. *Additional types of bufferyards not specified in Section 1204.21, Bufferyard Landscaping; and*

   5. *Additional types of housing not specified in this PZC.*

The applicant is not looking to alter any of the lot sizes, development density, setbacks, bufferyards or housing types that have already been approved.

F. *Development Standards.*
   1. *Generally. Development requirements for each separate PUD district shall be set forth in the ordinance granting the PUD district or the concept plan attached to the ordinance and may include, but not be limited to, uses, density, lot area, lot width, lot depth, yard depths and widths, building size, building height, building elevations, coverage, floor area ratio, parking, access, screening, landscaping, accessory buildings, signs, lighting, management associations, and other requirements as the Planning Commission and City Council may deem appropriate.*

      The applicant is not altering anything regarding the above development requirements.

   2. *Conformance with the PZC. The PUD district shall conform to all other sections of this PZC unless specifically excluded in the granting ordinance.*

      The application meets this requirement.

3. *Size.*

    a. *Minimum Acreage. The minimum acreage for a PUD district request shall be three acres for non-residential development and ten acres for residential development*

    The application meets this requirement.

    b. *Exceptions. The Planning Commission may allow an application for smaller project areas if such land is found to be suitable for a PUD by virtue of its unique historical character, topography, unique use, or other natural features, or by virtue of its qualifying as an isolated problem area.*

    *The application meets this requirement.*

4. *High-Density Residential Uses. For high-density residential developments, a common civic and open space shall be designated for the leisure and recreational use enjoyment of the occupants and general public. Except as provided below, the open amenity space shall be no less than required for a similar development as set forth in Article 02.02, Residential Zoning Districts. This requirement may only be varied downward by the City Council when the installation of private recreational open space or where the availability and nature of adjacent and accessible public open space is such that a lesser amount would adequately accommodate the development.*

    This is not a residential development and would not apply.

5. *Mixed and Nonresidential Uses. For mixed-use and nonresidential developments, common civic and open spaces shall be designated for the enjoyment of the general public or, in the case of industrial developments, the employees. Except as provided below, the civic and open space shall be no less than required for a similar development as set forth in Article 02.03, Mixed Use and Nonresidential Zoning Districts. This requirement may only be varied downward by the City Council when installation of private recreational open space or where the availability and nature of adjacent and accessible public open amenity space is such that a lesser amount would adequately accommodate the development.*

    All common civic and open spaces will remain the same as originally approved and amended.

6. *Site Layout. The subject property is laid out in an efficient manner relative to the natural and built environments and designed to achieve the aims of a compact, highly walkable environment;*

    The amendment will not change the site layout of the development as seen in the original PUD Agreement.

7. *Building Form and Massing. The placement, arrangement, size, and relationships of buildings relative to streets, pedestrian and civic spaces, and one another create an urban environment;*

   The amendment will not alter the building designs or placements on the site from the originally approved and amended PUD.

8. *Walkability. There are trail and sidewalk connections within and between buildings, civic spaces, parking areas, transit areas, and to adjacent development; there are amenities and other pedestrian improvements; and the proximity of origins and destinations both internal and external to the development must be such that walking and bicycling are safe and viable modes of transportation;*

   The amendment does not directly affect the walkability of the development. However, it supports the goal of internal connectivity with the further expansion of Seminary Drive, bringing it closer to its eventual connection.

9. *Undeveloped Space. Together with the developed areas, the undeveloped spaces devoted to natural resource preservation, buffering of uses, and for passive and active use must be connected and continuous throughout the development;*

   The amendment does not seek to impact any planned undeveloped space at this time, except for the addition of an emergency access drive for emergency services.

10. *Complete Streets and Parking. All private and public streets must be designed for multi-modal use, including vehicular movement, on-street parking, and safe use for pedestrians and bicyclists. Parking is required to be well distributed and designed to create an urban streetscape;*

    The street being expanded as part of the proposed Phase 4 will be designed to meet current City standards, which include, but are not limited to, multi-modal use, vehicular movement, and on-street parking.

11. *Phasing. The development must be phased in a manner that assures an adequate mixture of residential and non-residential land uses and allows for transition from the early phases to completion, relating to the intensity of uses and parking; and*

    With the larger-scale facilities and one 20-unit building already built, along with a couple of dozen ranch-style houses throughout, the development adequately distributes the different senior housing types.

12. *Quality Design. The design of buildings and hardscape and landscape areas help to establish visual interest, aesthetic appeal, and a unique identity for the development, including as key considerations human-scale amenities, integration of civic spaces for public interaction, and protection from the environmental elements.*

    This will not change as part of this amendment.

## 1207.16 Master Development Plan

- *Site Layout. The development is laid out in an efficient manner relative to its context and location (natural and built environments) and designed to achieve the aims of a compact, highly walkable environment;*

  The amendment will not change the site layout of the development as seen in the original PUD Agreement.

- *Quality Design. The design of buildings, circulation, hardscape, and landscape areas help to establish functionality, visual interest, aesthetic appeal, and a unique identity for the development including human-scale amenities, integration of civic spaces for public interaction, and protection from the environmental elements;*

  The amendment does not aim to alter the design of the hardscape, architecture, or overall identity of the existing development. Instead, it addresses a circulation issue concerning emergency vehicles by introducing an emergency access route. This new access will connect both sections of Seminary Drive and will remain in place until the completion of the remaining phases along Seminary Drive.

- *Phasing. The development is phased in a manner that assures an adequate mixture of residential and non-residential land uses and allows for transition from the early phases to completion, relating to the intensity of uses and parking; and*

  The amendment to the phasing plan for this development involves modifying Phase 4. Instead of including the two 20-unit buildings, Phase 4 will now consist of the two homes along Seminary Drive and seven homes on Liberty Court. The two 20-unit buildings will be relocated to Phase 7.

  The applicant stated that the change to the phasing plan is due to current market demand; however, they still intend to construct the 20-unit building in a later phase, depending on market conditions.

- *Single Site Design. All properties within a single site must be contiguous and immediately adjacent to one another or be the subject of additional development plans and filing fees.*

  The Mount Pleasant PUD contains multiple parcels that are contiguous to one another.

## 1207.23 Zoning Map Amendment—Planned Unit Development

- Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;

- *Balanced Community. A variety of housing types, employment opportunities, or commercial services to achieve a balanced community;*

Mount Pleasant Retirement Village offers a variety of housing types for seniors, including larger-scale facilities, apartment-style units, and ranch-style homes.

- *Arrangement of Land Uses. An orderly and creative arrangement of all land uses with respect to each other and to the entire community;*

- *Amenity Offset. Each proposed modification of any subdivision or zoning regulation is compensated for by a significant increase in other site amenities or design element that exceeds the minimum requirements established;*

- *Comprehensive Transportation System. A planned and integrated comprehensive transportation system providing for a separation of pedestrian and vehicular traffic, that shall include facilities for roadways, trails, and pedestrian walkways;*

- *Relationship to Natural and Built Environment. The location of general building envelopes to take maximum advantage of the natural and built environment; and*

- *Public Utilities, Facilities, and Services. The staging of development in a manner that can be accommodated by the timely provision of public utilities, facilities, and services.*

  The emergency access drive to be installed during Phase 4 will enhance emergency service access deeper into the development, improving vehicle maneuverability during calls.

**C. Public Comments:**

- No public comment has been received as of November 13, 2025.

**D. Department Comments**

- **Fire Department:**
  - Emergency access is required for circulation of emergency vehicles until the road is complete with the remaining phases.
  - Fire reserves the right to comment during future submittals.
- **Police Department:** No comment.
- **Engineering/Public Works Department:**
  - The section of the emergency access road crossing the creek cannot be built as a temporary structure and will need to be permanent.
  - Public Works and Engineering will comment further during future submittals.

## E. Staff Recommendation

- In PUD Amendment applications, Planning Commission acts as a recommending body to City Council.
- Planning Commission may table the application, recommend approval, recommend approval with conditions, or recommend denial of the application.

- Staff recommends Planning Commission make a recommendation for approval to City Council regarding this application with the following conditions:

    - An emergency access road will be constructed to connect both sections of Seminary Drive with the development of Phase 4.
    - The section of the emergency access road crossing the creek shall be designed and constructed as a permanent structure as approved with Phase 4 construction plans.
    - All department comments shall be addressed in a revised submittal prior City Council approval.

## III. Case No. 2025-11-10— Public Hearing—Consideration of a Zoning Map Amendment and Planned Unit Development for Cornerstone Monroe Farm

### A. Background

- Bridge Development Group has submitted a request for Zoning Map Amendment and PUD for two properties located northeast of State Route 63 and Cincinnati Dayton Road.
- The applicant seeks to rezone the property from UR Urban Residential and GC General Commercial to UR Urban Residential and GR General Residential with a Planned Unit Development overlay for the entire 84.542 acres.
- The proposed PUD and associated Master Development Plan (MDP) are for a 600-unit residential development consisting of single-unit detached homes, attached single-unit homes, and multi-unit homes.

**Overhead View of Property**

**Zoning Map**

**Facing East on Overbrook Drive**

**Bird's Eye View of Property**

## B. Staff Comments

The application before Planning Commission is two-fold: to consider a rezone from UR (81.312 acres) and GC (3.23 AC) to approximately 54.10 AC GR General Residential and 30.44 AC Urban Residential with a Planned Unit Development (PUD) overlay.

As described below, the applicant proposes to use the Planned Unit Development process in order to request flexibility from the zoning code for several requirements such as minimum setbacks and building type adjustments. Through this process, Planning Commission has the ability to require additional amenities, design features, or other elements above and beyond the minimum code requirements under *1207.23(C)(2)(d) Amenity Offset*.

Planning Commission considers the following review criteria from *1207.23(1) Zoning Map Amendment and 1207.23(2) Planned Unit Development.* Staff has provided feedback where applicable.

### 1207.23(C)(1) Zoning Map Amendment

- *Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;*

  The request meets all applicable common review criteria, except where requested through the PUD process or where noted by staff below.

- *Changing Conditions. The proposed amendment corrects an error or meets the challenge of some changing condition, trend, or fact since the time that the original map designations were established;*

Conditions have not changed since the adoption of the current zoning map.

- *Impact Mitigation. The proposal helps to mitigate adverse impacts of the use and development of land on the natural or built environments, including, but not limited to, mobility, air quality, water quality, noise levels, stormwater management, and vegetation, or will be neutral with respect to these issues;*

  Given the property is undeveloped, there will be impact to the existing environment that will be regulated by development review standards.

  As required by code, the applicant has submitted a landscape plan to include buffer yards along all sides of the development that abut commercial, agricultural, and industrial land uses.

  The landscape plan will need to be revised to include street trees in the southeast portion, of the development. While it is proposed to be a private street network, all private roads must meet public standards.

- *Community Need. Whether the proposed amendment addresses a demonstrated community need;*

  The proposed project aims to add diversity to Monroe's housing stock, an identified need from the comprehensive plan.

- *Strategic Objectives. The proposal advances the strategic objectives of the City Council, such as fiscal responsibility, efficient use of infrastructure and public services, and other articulated City objectives; and*

  The development includes a significant internal trail network, contributing to the Parks and Connectivity City Council objective.

- *No Single Factor and Case Determination. No single factor listed above may control and not all factors may be applicable in each case. Each case shall be determined on its own facts.*

**1207.23(C)(2) Planned Unit Development**

- *Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;*

  The request meets all applicable common review criteria.

- *Balanced Community. A variety of housing types, employment opportunities, or commercial services to achieve a balanced community;*

  The project offers multiple housing types that will add diversity to Monroe's housing stock and ideally attract a variety of buyers.

- *Arrangement of Land Uses. An orderly and creative arrangement of all land uses with respect to each other and to the entire community;*

  The housing types are arranged in such a way that transitions well from the commercially zoned areas fronting Cincinnati Dayton Road and State Route 63, with a majority of the multi-unit housing shown closest to the commercially zoned parcels along State Route 63 and a majority of the single-unit detached homes tucked further back within the development.

- *Amenity Offset. Each proposed modification of any subdivision or zoning regulation is compensated for by a significant increase in other site amenities or design element that exceeds the minimum requirements established;*

  Through the PUD process, the applicant requests modifications to minimum code requirements including the following:

  - Subdivision Waiver:
    - Request to exceed the maximum block width of 800 FT.

  - GR Residential:
    - Townhouse Lot Width- 40 FT lot width to 26 FT lot width
    - Townhouse Rear Yard Setback- 20 FT setback to 10 FT setback
    - Townhouse Parking Placement- Current code dictates parking is in the rear only. Applicant requests front loaded parking.

  - UR Urban Residential:
    - Multiplex housing type does not include frontload parking
    - Multiplex housing does not permit more than one visible entrance from a public ROW (impacting 8 units)

  With these requests, Planning Commission considers additional amenities and/or design elements to incorporate into the Planned Unit Development.

- *Comprehensive Transportation System. A planned and integrated comprehensive transportation system providing for a separation of pedestrian and vehicular traffic, that shall include facilities for roadways, trails, and pedestrian walkways;*

  The applicant has planned for a separate trail network within the development to contribute to the required formal open space requirement. Staff notes that the internal path needs widened to no less than 8 FT wide and confirmed as a solid paved surface (asphalt or concrete).

  The minimum sidewalk width in the UR zone is 8 FT wide. The applicant must revise this in all areas zoned UR.

- *Cultural or Recreational Facilities. The provisions of cultural or recreational facilities for all segments of the community;*

  Code requires 5% formal open space for residential PUDs. In total, 4.2 AC is required in formal open space and may include programmed spaces such as playgrounds, seating

areas, trails, pavilions, or clubhouses. As proposed, the development shows for 0.5 acres for a clubhouse in the southeast portion of the project area and 0.6 acres for a play area in the northwest portion of the project area. The proposed trail network contributes to the remaining acreage of proposed formal open space, for a total of 2.42 AC of formal open space.

The applicant must incorporate additional formal open space in order to meet this minimum requirement.

- *Relationship to Natural and Built Environment. The location of general building envelopes to take maximum advantage of the natural and built environment; and*

  The development takes advantage of topography and existing streams with wet detention basins that are activated by trails.

- *Public Utilities, Facilities, and Services. The staging of development in a manner that can be accommodated by the timely provision of public utilities, facilities, and services.*

  The phasing plan submitted by the applicant shows two phases for construction and designates two access points with the first phase of development in order to meet City requirements.

**C. Public Comments:**

- No public comment has been received as of 11/13/25.

**D. Department Comments:**

- **Fire Department:**
  - Fire reserves the right to comment during future submittals.
- **Police Department:**
  - No comment at this time. Police reserve the right to comment during future submittals.
- **Engineering/Public Works Department:**
  - A stub connecting to the adjacent property to the north is required. Staff will work with the applicant on the specifics of that connection and associated right-of-way dedication needed as determined by the City Engineer.
  - An 11 FT shared use path be shown along the north side of Overbrook Drive from Cincinnati Dayton Road to the western edge of proposed parcel Lot 1.
  - Full Engineering feedback is included in a separate attachment.

**E. Staff Recommendation:**

- In Zoning Map Amendment and Planned Unit Development applications, Planning Commission acts as a recommending body to City Council.
- Planning Commission may table the application, recommend approval, recommend approval with conditions, or recommend denial of the application.

- Planning Commission shall discuss and make a recommendation on the proposed rezoning and the requested PUD in terms of requested waivers and areas of flexibility as well as any additional conditions in accordance with the amenity offset provision.

- Should Planning Commission make a recommendation for approval to City Council regarding this application, Staff offers the following conditions:

    - Formal open space be increased to no less than 5% of the gross project acreage.
    - Sidewalk widths, where deficient, be revised to meet minimum code standards.
    - The pedestrian connection on the north side of Overbrook Drive from Cincinnati Dayton Road to Lot 1 be increased to an 11 FT shared use path.
    - The internal path network labeled “7 FT natural path” be revised to no less than 8 FT wide and be constructed of asphalt or concrete.
    - The applicant understands an alternate street tree location plan will be required for the entire project, including proposed private streets, at the time of preliminary plat submittal.
    - A stub connecting to the adjacent property to the north is required. Staff will work with the applicant on the specifics of that connection and associated right-of-way dedication needed as determined by the City Engineer.
    - The final design and location of the northern North Main Street access point will be determined through the design process with approval by the City Engineer.
    - All other department review attached, and including the pending Traffic Impact Study, be addressed as approved by staff.
    - All other department staff comments be addressed prior to Council approval.

# IV. Case No. 2025-11-11— Public Hearing—Consideration of Various Text Amendments to the Monroe Planning and Zoning Code

## A. Background

- City staff has prepared a set of code text updates related to residential development, including setbacks, lot widths, and definitions. This set of amendments also addresses minor corrections and clarifying the intent of the code across all sections.
- As the City continues to utilize this relatively new zoning code, Staff will continue to look for areas of improvement. It is Staff's intent to bring these minor updates to Planning Commission for consideration on an annual basis, if needed.
- A summary of all text changes as well as a redline draft of the zoning code have been included in your report for reference.

## B. Staff Comments

Planning Commission considers the following review criteria from 1207.22 Zoning Text Amendment. Staff has provided feedback where applicable.

### 1207.23 Zoning Amendment

- *Common Review Criteria. All applicable common review criteria as denoted in Table 1207.07-1, Common Review Criteria;*

  The application meets all applicable common review criteria, particularly "The request promotes the purposes of this PZC as established in 1201.02, Purposes, and in other applicable purpose statements in this PZC". Many of the proposed amendments aim to continuously improve upon the Code's clarity and ease of use in a way that plainly articulates the City's desired outcomes.

- *Changing Conditions. The proposed amendment corrects an error or meets the challenge of some changing condition, trend, or fact since the time that the original map designations were established;*

  Conditions have not changed since the adoption of the current zoning ordinance in spring 2024.

- *Impact Mitigation. The proposal helps to mitigate adverse impacts of the use and development of land on the natural or built environments, including, but not limited to, mobility, air quality, water quality, noise levels, stormwater management, and vegetation, or will be neutral with respect to these issues;*

- *Community Need. Whether the proposed amendment addresses a demonstrated community need;*

- *Strategic Objectives. The proposal advances the strategic objectives of the City Council, such as fiscal responsibility, efficient use of infrastructure and public services, and other articulated City objectives; and*

This set of amendments addresses most directly Council's Strategic Growth and Development objective.

- *No Single Factor and Case Determination. No single factor listed above may control and not all factors may be applicable in each case. Each case shall be determined on its own facts.*

**C. Public Comments:**

- No public comment has been received as of 11/13/25.

**D. Department Comments**

- **Fire Department:**
  - No comment.
- **Police Department:**
  - No comment.
- **Engineering/Public Works Department:**
  - No comment.

**E. Staff Recommendation**

- In Zoning Text Amendment applications, Planning Commission acts as a recommending body to City Council.
- Planning Commission may table the application, recommend approval, recommend approval with conditions, or recommend denial of the application.

- Staff recommends Planning Commission make a recommendation for approval to City Council regarding this application.

## EXHIBIT A

| | PIDN | Address | Owner(s) |
|---|---|---|---|
| I. | 07-02-377-005 | 6514 Greentree Road, Lot A<br>Middletown, Ohio 45044 | Eric G. Schauer<br>Amanda Schauer |
| II. | 07-02-377-006<br>07-02-451-002 | 6514 Greentree Road, Lot B<br>Middletown, Ohio 45044 | Middletown Investments Group LLC |
| III. | 07-02-451-005<br>07-02-376-005 | 6514 Greentree Road, Lot C<br>Middletown, Ohio 45044 | Brenda Sue Wagers<br>Harold Wagers |
| IV. | 07-02-376-003 | 6514 Greentree Road, Lot D<br>Middletown, Ohio 45044 | Robert C. Archambault<br>Cindy Sue Archambault |
| V. | 07-02-377-001 | 6514 Greentree Road, Lot E<br>Middletown, Ohio 45044 | Joseph DeBacker<br>Michelle L. DeBacker |
| VI. | 07-02-376-001 | 6514 Greentree Road, Lot F<br>Middletown, Ohio 45044 | Jordan D. Brown |
| VII. | 07-02-376-007 | 6514 Greentree Road, Lot G<br>Middletown, Ohio 45044 | Frank L. Baughman, Jr. |
| VIII. | 07-02-376-012 | 6514 Greentree Road, Lot J<br>Middletown, Ohio 45044 | William F. Thompson<br>Carol A. Thompson |
| IX. | 07-02-376-009 | 6514 Greentree Road, Lot K<br>Middletown, Ohio 45044 | Eli N. Krafte-Jacobs<br>Nicole R. Jacobs |
| X. | 07-02-377-004 | 6531 Greentree Road<br>Middletown, Ohio 45044 | Steven W. Jones<br>Donna Jones |
| XI. | 07-02-376-010 | 6465 Greentree Road<br>Middletown, Ohio 45044 | Cliffton L. Thoroughman<br>Jenifer M. Thoroughman |

*[Legal Descriptions to Follow]*

## LEGAL DESCRIPTIONS

**Parcel I:**

Situated in Section 2, Town 2, Range 4, Turtlecreek Township, Warren County, Ohio and being Lot Number 2 as the same is known and designated on the Recorded Plat of McNeil Subdivision, as recorded in Plat Book No. 64, Page 69 of the Plat Records of Warren County, Ohio.

Parcel ID Number: 07-02-377-005

Property Address: 6514 Greentree Road, Lot A, Middletown, Ohio 45044

Prior Reference: Instrument No. 2019-017734 of the Warren County Recorder's Office

**Parcel II:**

Tract 1: Situated in the Township of Turtlecreek, County of Warren, State of Ohio, in Section 2, Town 2, Range 4, Turtlecreek Township, Warren County, Ohio and being Lot #3 as the same is known and designated on the recorded Plat of McNeil Subdivision, as recorded in Plat Book 64, Page 69 of the Plat Records of Warren County, Ohio.

Parcel ID Number: 07-02-377-006

Property Address: 6514 Greentree Road, Lot B, Middletown, Ohio 45044

Prior Reference: Instrument No. 2015-030945 of the Warren County Recorder's Office

Tract 2: SITUATED IN THE SOUTH PART OF SETION 2, TOWN 2, RANGE 4, IN TURTLECREEK TOWNSHIP, WARREN COUNTY, OHIO AND BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT FOUND BY MEASURING FROM THE SOUTHWESTERLY CORNER OF SAID SECTION 2, S. 85 DEGREES 38 MINUTES E., ALONG THE SOUTHERLY LINE OF SAID SECTION 2900.85 FEET TO A POINT, THENCE N. 2 DEGREES 26 MINUTES E., 171.43 FEET TO THE ABOVE MENTIONED POINT OF BEGINNING; SAID POINT OF BEGINNING LYING IN THE EASTERLY LINE OF LANDS OF NAOMI EISELS, PRIOR GRANTOR, AND WITNESSETH BY AN IRON PIPE, N-85 DEGREES, 38 MINUTES W., 1.38 FEET; THENCE FROM SAID POINT OF BEGINNING, N. 85 DEGREES 38 MINUTES W., 215.00 FEET TO AN IRON PIPE; THENCE N. 2 DEGREES 34 MINUTES E. 384.82 FEET TO AN IRON PIPE, THENCE S. 86 DEGREES 02 MINUTES E. 214.05 FEET TO AN IRON PIPE IN SAID NAOMI EISEL'S EASTERLY LINE; THENCE S. 2 DEGREES 26 MINUTES W. 386.34 FEET TO THE POINT OF BEGINNING. BEING 1.899 ACRES MORE OR LESS.

Parcel ID Number: 07-02-451-002

Property Address: 6514 Greentree Road, Lot B, Middletown, Ohio 45044

Prior Reference: OR Book 5825, Page 808 of the Warren County Recorder's Office

*[Continued on Following Page]*

**Parcel III:**

Tract 1: Beginning at a point in the southeast corner of Stonewall Subdivision, Section 3, as recorded in Plat Book 11, Page 48, Warren County Recorder's Office, said point also being in the west line of Stonewall Subdivision, Section 2, as recorded in Plat Book 9, Page 98, Warren County Recorder's Office;

Thence along the west line of said Stonewall Subdivision, Section 2 and leaving S 02° 56' 00" W a distance of 407.44 feet to an Iron Pin found; thence S 02°25'52" W a distance of 165.82 feet to an Iron Pin set at the real Point of Beginning for this description;

Thence continuing S 02°25'52" W a distance of 632.75 feet to an Iron Pin set;

Thence N 86°02'00" W a distance of 214.05 feet to an Iron Pin set;

Thence N 02°34'00" E a distance of 635.99 feet to an Iron Pin set;

Thence along a new division line, S 85°09'00" E a distance of 212.66 feet to the real Point of Beginning for this description.

Containing in all 3.105 acres, more or less, subject to all legal highways and easements of record. Also subject to all easements, covenants and restrictions of record.

This description is a result of a survey prepared by King Hasselbring & Associates, and written by J. Timothy King, PE-PS, Registered Surveyor No. 6549, dated March 15, 2007, the survey plat of which is filed in Volume 130, Plat No. 92 of the Warren County Engineer's Record of Land Division.

Parcel ID Number: 07-02-451-005

Property Address: 6514 Greentree Road, Lot C, Middletown, Ohio 45044

Prior Reference: OR Book 5843, Page 920 of the Warren County Recorder's Office

Tract 2: Beginning at a southeasterly corner of the herein described 5.394 acre tract, said beginning point bears South 85 deg. 09' East a distance of 256.43 feet from the southwesterly corner of said 5.394 acre tract (Tract #10) and also said beginning point being the northeasterly corner of the northerly terminus of said 50 foot right-of-way strip; thence South 02 deg. 34' West along the westly line of a 3.898 acre tract 496.19 feet to a point on the northerly line of a 50 foot right-of-way strip running in an easterly-westerly direction; thence North 85 deg. 38' West with said northerly line 50.02 feet to a southeasterly corner of a 1.885 acre tract (Tract #6); thence North 02 deg. 34' East with the easterly line of said Tract, also being the westerly line of the herein described 50 foot right-of-way 491.61 feet to the northeasterly corner of said Tract #6; thence South 85 deg. 09' East crossing the northerly terminus of the herein described 50 foot right-of-way 50.04 feet to a point of beginning containing 0.570 acres. Subject to all easements of record.

Parcel ID Number: 07-02-376-005

Property Address: 6514 Greentree Road, Lot C, Middletown, Ohio 45044

Prior Reference: OR Book 5843, Page 924 of the Warren County Recorder's Office

*[Continued on Following Page]*

**Parcel IV:**

Situated in the Southwest Quarter of Section 2, Town 2 East, Range 4 North, in Turtlecreek Township, Monroe Corporation, Warren County, Ohio and bounded and described as follows:

Beginning at a point found by measuring from the southwesterly corner of said Section 2, South 85° 38' East along the southerly line of said Section 2685.45 feet to an old stone;

Thence North 2° 34' Esat 696.04 feet to a point in the westerly line of a 3.898 acre tract of land previously conveyed by the Grantor herein to Eugene and Virginia Eisele, last aforesaid point being North 2° 34' East 139.80 feet from an iron pipe at the southwesterly corner of the aforesaid 3.898 acre tract;

Thence North 85° 38' West 50.02 feet to the above mentioned point of beginning;

Thence from said point of beginning North 85° 38' West parallel with the aforesaid southerly section line, 165.17 feet;

Thence North 2° 34' East parallel with the said westerly line of the 3.898 acre tract, 498.01 feet;

Thence South 85° 09' East 165.22 feet;

Thence South 2° 34' West parallel with and 50' from the westerly line of said 3.898 acre tract, 496.61 feet to the point of beginning, containing 1.885 acres.

Subject to any and all easements, restrictions, conditions, and legal highways of record and/or in existence.

Parcel ID Number: 07-02-376-003

Property Address: 6514 Greentree Road, Lot D, Middletown, Ohio 45044

Prior Reference: Instrument No. 2021-016686 of the Warren County Recorder's Office

**Parcel V:**

Situated in the south part of Section 2, Town 2, Range 4, in Village of Monroe, Turtlecreek Township, Warren County, Ohio and bounded and described as follows:

Beginning at an iron pipe found by measuring from the southwesterly corner of said Section 2, South 85 degrees 38' East along the southerly line of said Section 2635.43 feet to an iron pipe; thence North 2 degrees 34' East 421.42 feet to an iron pipe; thence North 85 degrees 38' West 386.88 feet to the iron pipe at the above mentioned place of beginning; North 85 degrees 38' West 280.00 feet to an iron pipe; thence North 3 degrees 50' East 494.60 feet to an iron pipe; thence South 85 degrees 38' East 280.89 feet to an iron pipe; thence South 3 degrees 56' West 494.60 feet to the place of beginning containing 3.184 acres.

Parcel ID Number: 07-02-377-001

Property Address: 6514 Greentree Road, Lot E, Middletown, Ohio 45044

Prior Reference: OR Book 4399, Page 167 of the Warren County Recorder's Office

*[Continued on Following Page]*

**Parcel VI:**

Situated in the South part of Section 2, Town 2, Range 4, in Turtlecreek Township, Warren County, Ohio, and bounded and described as follows;

Beginning at an iron pipe found by measuring from the Southwesterly corner of said Section 2, South 85° 38' E., along the Southerly line of said Section 2,635.43 feet to an iron pipe; thence N. 2° 34' E, 421.42 feet to an iron pipe; thence N. 85° 38' W., 306.88 feet to an iron pipe; thence N. 3° 56' E., 494.60 feet to the iron pipe at the above mentioned place of beginning, thence N. 85° 38' W., 280.89 feet to an iron pipe; thence N 3° 50' E., 282.20 feet to an iron pipe; thence S. 85° 09' E., 281.43 feet to an iron pipe; thence S. 3° 56' W., 279.50 feet to the place of beginning, containing 1.812 acres in Village of Monroe.

Parcel ID Number: 07-02-376-001

Property Address: 6514 Greentree Road, Lot F, Middletown, Ohio 45044

Prior Reference: Instrument No. 2016-037951 of the Warren County Recorder's Office

**Parcel VII:**

Tract 1: SITUATED IN THE SOUTH PART OF SECTION 2, TOWN 2, RANGE 4, TURTLECREEK TOWNSHIP, WARREN COUNTY, OHIO AND BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWESTERLY CORNER OF A 1.885 ACRE TRACT (TRACT# 6 ), SAID TRACT CONVEYED BY ZOLLIE AND VIRGINIA TRIMBLE TO EVERTT AND VERNA M. CLEMONS - VOL. 343, PAGE 170, WARREN COUNTY DEED RECORDS, SAID BEGINNING POINT FOUND BY MEASURING FROM THE SOUTHWESTERLY CORNER OF SAID SECTION 2, SOUTH 85 DEGREES 38' EAST ALONG THE SOUTHERLY LINE OF SAID SECTION 2685.45 FEET TO AN OLD STONE; THENCE NORTH 02 DEGREES 34' EAST A DISTANCE OF 696.04 FEET TO A POINT IN THE WESTERLY LINE OF A 3.898 ACRE TRACT (TRACT #3) OF LAND; THENCE NORTH 85 DEGREES 38' WEST A DISTANCE OF 215.19 FEET TO THE AFORESAID REAL POINT OF BEGINNING: THENCE FROM SAID BEGINNING POINT NORTH 85 DEGREES 38' WEST ALONG A NORTHERLY LINE OF A 50 FOOT RIGHT-OF-WAY 165.17 FEET; THENCE NORTH 03 DEGREES 56' EAST ALONG AN EASTERLY LINE OF THE AFORESAID 50 FOOT RIGHT-OF-WAY 240.00 FEET; THENCE NORTH 85 DEGREES 38' WEST ACROSS THE NORTHERLY TERMINUS OF SAID RIGHT-OF-WAY 50.00 FEET; THENCE NORTH 03 DEGREES 56' EAST ALONG THE EASTERLY LINE OF A 1.812 ACRE TRACT (TRACT #5) 259.50 FEET TO THE NORTHEASTERLY CORNER OF AFORESAID TRACT #5; THENCE SOUTH 85 DEGREES 09' EAST BY NEW DIVISION LINE 203.37 FEET TO THE NORTHWESTERLY CORNER OF AFORESAID TRACT #6, THENCE SOUTH 02 DEGREES 34' WEST ALONG THE WESTERLY LINE OF TRACT #6 A DISTANCE OF 498.01 FEET TO THE POINT OF BEGINNING, CONTAINING 2.120 ACRES.

Tract 2: IN ADDITION TO THE HEREIN DESCRIBED 2.120 ACRE TRACT THE GRANTOR HEREIN CONVEYS IN FEE SIMPLE TO THE GRANTEE A RIGHT-OF-WAY STRIP, 50 FEET IN WIDTH, LYING ADJACENT TO THE SOUTHWEST PART OF THE HEREIN PREVIOUSLY DESCRIBED TRACT #8 AND THENCE RUNNING EASTWARDLY AND SOUTHWARDLY TO THE GRANTOR'S SOUTHERLY LINE, AND BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT THE WESTERLY CORNER OF THE NORTHERLY TERMINUS OF SAID 50 FOOT STRIP, SAID POINT BEING A SOUTHWESTERLY CORNER OF THE AFORESAID 2.120 ACRE TRACT WHICH BEARS NORTH 03 DEGREES 56' EAST 20.00 FEET FROM THE SOUTHEASTERLY CORNER OF TRACT #5; THENCE FROM SAID POINT OF BEGINNING SOUTH 85 DEGREES 38' EAST ALONG A

SOUTHERLY LINE OF SAID TRACT #8 A DISTANCE OF 50.00 FEET; THENCE SOUTH 03 DEGREES 56' WEST ALONG A WESTERLY LINE OF TRACT #8 A DISTANCE OF 240.00 FEET; THENCE SOUTH 85 DEGREES 38' EAST WITH THE SOUTHERLY LINES OF TRACTS #8 AND #6 A DISTANCE OF 380.36 FEET TO A POINT IN THE WESTERLY LINE OF TRACT #3; THENCE SOUTH 02 DEGREES 34' WEST ALONG THE WESTERLY LINES OF TRACTS #3 AND #2 A DISTANCE OF 524.62 FEET TO THE SOUTHWESTERLY CORNER OF TRACT #2; THENCE NORTH 85 DEGREES 38' WEST ALONG THE GRANTOR'S SOUTHERLY LINE 50.02 FEET; THENCE NORTH 02 DEGREES 34' EAST ALONG THE WESTERLY LINE OF SAID 50 FOOT RIGHT-OF-WAY 474.62 FEET TO THE NORTHEASTERLY CORNER OF TRACT #7; THENCE NORTH 85 DEGREES 38' WEST ALONG THE NORTHERLY LINE OF TRACT #7 A DISTANCE OF 381.53 FEET TO THE NORTHWESTERLY CORNER OF SAID TRACT; THENCE NORTH 03 DEGREES 56' EAST ALONG THE EASTERLY LINE OF TRACT #4 AND #5 A DISTANCE OF 290.00 FEET TO THE POINT OF BEGINNING, CONTAINING 1.315 ACRES, SUBJECT, HOWEVER TO ALL EASEMENTS OF RECORD.

Parcel ID Number: 07-02-376-007

Property Address: 6514 Greentree Road, Lot G, Middletown, Ohio 45044

Prior Reference: OR Book 3787, Page 70 of the Warren County Recorder's Office

**Parcel VIII:**

Situate in Section 2, Town 2, Range 4, City of Monroe, Township of Turtlecreek, County of Warren, State of Ohio and being more particularly described as follows:

Beginning at an Iron Pin set in the southeast corner of Stonewall Subdivision, Section 3, as recorded in Plat Book 11, Page 48, Warren County Recorder's Office, said point also being in the west line of Stonewall Subdivision, Section 2, as recorded in Plat Book 9, Page 98, Warren County Recorder's Office;

Thence from the real Point-of-Beginning for this description and along the west line of said Stonewall Subdivision, Section 2 and leaving, S-02°56'00"-W a distance of 407.44 feet to an Iron Pin found;

Thence S-02°25'52"-W a distance of 165.82 feet to an Iron Pin found;

Thence N-85°09'00"-W a distance of 469.09 feet to an Iron Pin set, passing at 212.66 feet an Iron Pin found;

Thence N-02°24'00"-E a distance of 575.20 feet to an Iron Pin set in the south line of Stonewall Subdivision, Section 3;

Thence along said south line of said Stonewall Subdivision, Section 3, S-84°56'00"-E a distance of 473.05 feet to the real Point-of-Beginning for this description.

Containing in all 6.198 acres, more or less, subject to all legal highways and easements of record.

Parcel ID Number: 07-02-376-012

Property Address: 6514 Greentree Road, Lot J, Middletown, Ohio 45044

Prior Reference: OR Book 4560, Page 408 of the Warren County Recorder's Office

**Parcel IX:**

Situated in the State of Ohio, Warren County, City of Monroe, Turtlecreek Township, Section 2, Town 2, Range 4 and being more particularly described as follows:

Commencing at the Southwest corner of Section 2; thence along the Warren County/Butler County line and the Westerly line of Section 2, N 03° 08' 30" E a distance of 1794.60 feet; thence along the City of Monroe Corporation Line, S 85° 05' 30" E a distance of 2012.23 feet to a 5/8 inch iron pin set at the Point of Beginning; thence continuing along said corporation line and the southerly line of Stonewall Subdivision as recorded in Plat Book 11, Page 48, S 84° 56' 00" E a distance of 199.28 feet to a 5/8 inch iron pin set at the Point of Beginning; thence continuing along said line S 84° 56' 00" E a distance of 199.28 feet to a ½" iron pin found; thence along the easterly line of 5.311 acre tract, S 02° 24' 00" W a distance of 575.20 feet to a 1" iron pipe found; thence N 85° 09' 00" W a distance of 137.15 feet to a 5/8" iron pin set; thence along a new division line, N 03° 43' 13" W a distance of 581.93 feet to the Point of Beginning, containing 2.220 acres mor or less and subject to all easements, restrictions and right-of-way of record.

Parcel ID Number: 07-02-376-009

Property Address: 6514 Greentree Road, Lot K, Middletown, Ohio 45044

Prior Reference: Instrument No. 2024-016173

**Parcel X:**

Situate in the City of Monroe, County of Warren, State of Ohio, being in Section 2, Town 2, Range 4, and being all of Lot Number 1 of the McNeil Subdivision, as recorded in Plat Book 64, Page 69, of the Plat Records of Warren County, Ohio.

Parcel ID Number: 07-02-377-004

Property Address: 6531 Greentree Road, Middletown, Ohio 45044

Prior Reference: Instrument No. 2021-026258 of the Warren County Recorder's Office

**Parcel XI:**

Situated in the State of Ohio, Warren County, City of Monroe, Turtlecreek Township, Section 2, Town 2, Range 4 and being more particularly described as follows:

Commencing at the Southwest corner of Section 2; thence along the Warren County/Butler County line and the Westerly line of Section 2, North 03 degrees 08' 30" East a distance of 1794.60 feet; thence along the City of Monroe Corporation Line, South 85 Degrees 05' 30" East a distance of 2012.23 feet to a 5/8 inch iron pin set at the point of beginning; thence continuing along said corporation line and the Southerly line of Stonewall Subdivision as recorded in Plat Book 11, Page 48 South 84 degrees 56' 00" East a distance of 199.28 feet to a 5/8 inch iron pin set; thence along a new division line, South 03 degrees 43' 13" East a distance of 581.93 feet to a 5/8 inch iron pin set; thence along the southerly line of a 5.311 acre tract, North 85 degrees 09' 00" West passing a 1 inch pipe found at 25.00 feet, a total distance of 268.50 feet to a 1 inch pipe found; thence along the Westerly line of said 5.311 acre tract, North 03 degrees 06' 00" East a distance of 576.44 feet to the point of beginning, containing 3.091 acres more or less and being subject to all easements, restrictions and rights-of-way of record.

The above description is based upon a field survey by RW Consultants, Inc. Engineers and Surveyors, Middletown, Ohio, Kenneth R. Combs, Ohio Professional Surveyor No. 7311 and is recorded in Volume 105, Page 11 of the Warren County Engineer's Record of Land Surveys.

Parcel ID Number: 07-02-376-010

Property Address: 6465 Greentree Road, Middletown, Ohio 45044

Prior Reference: OR Book 5948, Page 339 of the Warren County Recorder's Office

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot A

Middletown, Ohio 45044

Parcel ID Number: 07-02-377-005

This Addendum was executed by the undersigned as of the 9 day of November, 2025.

Sign: _____

Print: Amanda Schauer

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6531 Greentree Road, Lot ___

Middletown, Ohio 45044

Parcel ID Number: 07-02-377-004

This Addendum was executed by the undersigned as of the 10 day of November, 2025.

Sign: Donna B Jones

Print: Donna B. Jones

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6465 Greentree Road, Lot ___

Middletown, Ohio 45044

Parcel ID Number: 07-02-376-010

This Addendum was executed by the undersigned as of the 10 day of November, 2025.

Sign: _____

Print: Clifton Thoroughman

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot E

Middletown, Ohio 45044

Parcel ID Number: 07-02-377-001

This Addendum was executed by the undersigned as of the 6 day of November, 2025.

Sign: _____

Print: Joe DeBacker

# Application for a Zoning Map/Text Amendment

Monroe Development Department
233 South Main Street, Monroe, Ohio 45050
Phone: 513-539-7374
Email: planning@monroeohio.gov
www.monroeohio.gov

| For Staff Use Only | |
|---|---|
| Submittal Date: | |
| Date Application Determined Complete: | |
| Date of Planning Commission Review: | |
| Fee Paid: | Staff Initials: |
| Application/Case Number: | |

## Zoning Amendment Review Information

1. The zoning map and text amendment review procedure and review criteria are established in Section 1207.04 of the Monroe Planning and Zoning Code.
2. A pre-application conference is required prior to submission of an application for a zoning map amendment unless the Development Director waives the requirement. Contact the Development Department to set up a time.
3. The application fee is due at the time the application is submitted to planning@monroeohio.gov.

## Basic Information

Project Address: 6514 Greentree Road, et al. (see additional parcels on Exhibit A)

County: ☐ Butler ☑ Warren | Total Area of Rezoning: Approximately 37.3 Acres

County Tax Parcel ID: 07-02-376-001, et al. (see additional parcels on Exhibit A)

Existing Zoning District: Neighborhood Conservation

Proposed Zoning District: Rural Residential - Conservation

## Applicant Information

Applicant Name: Eli Krafte-Jacobs

Contact Person: Eli Krafte-Jacobs

Contact Address: 4270 Ivy Pointe Boulevard, Suite 225, Cincinnati, Ohio 45245

Contact Phone Number: 513-797-2853 | Contact Fax Number: 513-943-6669

Contact E-Mail: Eli@Finneylawfirm.com

Property Owner Name: Jordan D. Brown, et al. (see additional owners on Exhibit A)

The applicant may provide a separate attachment with contact information for additional people, if necessary (e.g., additional owners, registered engineer, landscape architect, etc.). The same contact information shall be provided for each contact name.

## Zoning Amendment Information

**1) Describe any change in conditions, trends, or other facts that necessitates the proposed zoning amendment. Furthermore, describe how the proposed zoning district will remedy the change in conditions, trends, or other issues.**

The proposed zoning amendment would correct the error of originally zoning the land as Neighborhood Conservation at the time the original map designations were established. This change will ensure that the land will continue to be used and maintained in its current condition, and will not be overdeveloped.

Project Address or Tax Parcel ID:

## Rezoning Information Continued

**2) Describe how the proposed amendment furthers each of the objectives of the Comprehensive Plan.**

The PZC's objectives are to protect, preserve or provide certain objectives. Public health and safety is furthered by preventing the overcrowding of land and regulating density. Scenic and environmental goals are furthered by limiting future development to ensure the protection of existing trees and vegetation. Quality of life is furthered by maintaining and preserving the character of the community and the specific properties. Economic and fiscal goals are furthered by expanding the potential uses of the properties. Transparency in regulations are furthered by ensuring the Zoning Map meets the expectations of the citizens of Monroe.

**3) Provide information necessary to document and describe how the map amendment meets the review criteria established for zoning amendments *[Table 1207.07-1 Common Review Criteria and Article 07.04 Text and Zoning Map Amendments]*.**

This application requests a Zoning Map Amendment, and is not within a PUD. The request complies with the standards of the PZC, the Monroe Code of Ordinances, and all applicable county, state and federal requirements. The request otherwise conforms to any prior approvals for the land and is consistent with the policies of the comprehensive plan. All residences currently built on the properties satisfy the setback requirements of the Rural Residential district, and there are currently no plans to erect additional buildings.

## Certification and Signatures

**Applicant Signature - I certify that, to the best of my knowledge, the information contained in this form and within any attachments is correct and truthful. I understand that knowingly falsifying this information may be grounds for the denial or revoking of this zoning map amendment application and any subsequent zoning permit or other review applications.**

Print Name: Eli Krafte-Jacobs

Signature:

Date:

**Property Owner Signature - If the property owner is not the named applicant on this form, the property owner shall sign the form below acknowledging that the applicant is an authorized agent of the property owner as it relates to proposed project. If the proposed rezoning affects multiple properties owned by different property owners, each property owner subject to the rezoning shall be required to sign this form acknowledging consents of the rezoning request. Separate signature sheets or letters acknowledging such consent are acceptable.**

Print Name: Jordan D. Brown (additional property owner signatures attached)

Signature:

Date:

Note: A letter signed by the property owner, authorizing the applicant to act on their behalf may be submitted in lieu of the property owner's signature on this form.

| Submittal Requirement Checklist | |
|---|---|
| **General Information** | |
| ☐ | Completion of required pre-application conference |
| ☐ | Zoning Map Amendment Review application form |
| ☐ | Application fee |
| ☐ | Legal description of the parcels subject to the proposed rezoning. |
| ☐ | Plans and maps established below at a scale no smaller than 1 inch = 100 feet, unless otherwise noted. |
| ☐ | Traffic Impact Study, if required by the City Engineer. |
| ☐ | Any additional information determined to be necessary by the Development Department |
| **Vicinity Map (Scale may be smaller than 1" = 100')** | |
| ☐ | Date, north arrow, scale, and a legend for all symbols |
| ☐ | Boundary line of the land subject to the proposed rezoning |
| ☐ | All surrounding properties, streets, and corporation limits within a minimum of 500' of the outer boundaries of the project site |
| **Proposed Zoning Text or Map** | |
| ☐ | The existing and proposed zoning for all properties part of the application for a zoning map amendment. The map shall also identify the existing zoning for all surrounding properties. For text amendments, a redline draft of the proposed text is required. |
| ☐ | Existing parcel lines for the properties to be rezoned and all parcel lines within 200' of the site |
| ☐ | Existing streets within 200' of site with names and centerlines |
| ☐ | Existing watercourses and bodies of water including any applicable flood hazard areas |

# Application for a Zoning Map/Text Amendment

Monroe Development Department
233 South Main Street, Monroe, Ohio 45050
Phone: 513-539-7374
Email: planning@monroeohio.gov
www.monroeohio.gov

| For Staff Use Only | |
|---|---|
| Submittal Date: | |
| Date Application Determined Complete: | |
| Date of Planning Commission Review: | |
| Fee Paid: | Staff Initials: |
| Application/Case Number: | |

## Zoning Amendment Review Information

1. The zoning map and text amendment review procedure and review criteria are established in Section 1207.04 of the Monroe Planning and Zoning Code.
2. A pre-application conference is required prior to submission of an application for a zoning map amendment unless the Development Director waives the requirement. Contact the Development Department to set up a time.
3. The application fee is due at the time the application is submitted to planning@monroeohio.gov.

## Basic Information

Project Address: 6514 Greentree Road, et al. (see additional parcels on Exhibit A)

County: ☐ Butler ☑ Warren | Total Area of Rezoning: Approximately 37.3 Acres

County Tax Parcel ID: 07-02-376-001, et al. (see additional parcels on Exhibit A)

Existing Zoning District: Neighborhood Conservation

Proposed Zoning District: Rural Residential - Conservation

## Applicant Information

Applicant Name: Eli Krafte-Jacobs

Contact Person: Eli Krafte-Jacobs

Contact Address: 4270 Ivy Pointe Boulevard, Suite 225, Cincinnati, Ohio 45245

Contact Phone Number: 513-797-2853 | Contact Fax Number: 513-943-6669

Contact E-Mail: Eli@Finneylawfirm.com

Property Owner Name: Jordan D. Brown, et al. (see additional owners on Exhibit A)

The applicant may provide a separate attachment with contact information for additional people, if necessary (e.g., additional owners, registered engineer, landscape architect, etc.). The same contact information shall be provided for each contact name.

## Zoning Amendment Information

**1) Describe any change in conditions, trends, or other facts that necessitates the proposed zoning amendment. Furthermore, describe how the proposed zoning district will remedy the change in conditions, trends, or other issues.**

The proposed zoning amendment would correct the error of originally zoning the land as Neighborhood Conservation at the time the original map designations were established. This change will ensure that the land will continue to be used and maintained in its current condition, and will not be overdeveloped.

Project Address or Tax Parcel ID:

## Rezoning Information Continued

**2) Describe how the proposed amendment furthers each of the objectives of the Comprehensive Plan.**

The PZC's objectives are to protect, preserve or provide certain objectives. Public health and safety is furthered by preventing the overcrowding of land and regulating density. Scenic and environmental goals are furthered by limiting future development to ensure the protection of existing trees and vegetation. Quality of life is furthered by maintaining and preserving the character of the community and the specific properties. Economic and fiscal goals are furthered by expanding the potential uses of the properties. Transparency in regulations are furthered by ensuring the Zoning Map meets the expectations of the citizens of Monroe.

**3) Provide information necessary to document and describe how the map amendment meets the review criteria established for zoning amendments *[Table 1207.07-1 Common Review Criteria and Article 07.04 Text and Zoning Map Amendments].***

This application requests a Zoning Map Amendment, and is not within a PUD. The request complies with the standards of the PZC, the Monroe Code of Ordinances, and all applicable county, state and federal requirements. The request otherwise conforms to any prior approvals for the land and is consistent with the policies of the comprehensive plan. All residences currently built on the properties satisfy the setback requirements of the Rural Residential district, and there are currently no plans to erect additional buildings.

## Certification and Signatures

**Applicant Signature - I certify that, to the best of my knowledge, the information contained in this form and within any attachments is correct and truthful. I understand that knowingly falsifying this information may be grounds for the denial or revoking of this zoning map amendment application and any subsequent zoning permit or other review applications.**

Print Name: Eli Krafte-Jacobs

Signature:

Date: 9/29/25

**Property Owner Signature - If the property owner is not the named applicant on this form, the property owner shall sign the form below acknowledging that the applicant is an authorized agent of the property owner as it relates to proposed project. If the proposed rezoning affects multiple properties owned by different property owners, each property owner subject to the rezoning shall be required to sign this form acknowledging consents of the rezoning request. Separate signature sheets or letters acknowledging such consent are acceptable.**

Print Name: Jordan D. Brown (additional property owner signatures attached)

Signature:

Date: 9/25/25

Note: A letter signed by the property owner, authorizing the applicant to act on their behalf may be submitted in lieu of the property owner's signature on this form.

| Submittal Requirement Checklist | |
|---|---|
| **General Information** | |
| ☐ | Completion of required pre-application conference |
| ☐ | Zoning Map Amendment Review application form |
| ☐ | Application fee |
| ☐ | Legal description of the parcels subject to the proposed rezoning. |
| ☐ | Plans and maps established below at a scale no smaller than 1 inch = 100 feet, unless otherwise noted. |
| ☐ | Traffic Impact Study, if required by the City Engineer. |
| ☐ | Any additional information determined to be necessary by the Development Department |
| **Vicinity Map (Scale may be smaller than 1" = 100')** | |
| ☐ | Date, north arrow, scale, and a legend for all symbols |
| ☐ | Boundary line of the land subject to the proposed rezoning |
| ☐ | All surrounding properties, streets, and corporation limits within a minimum of 500' of the outer boundaries of the project site |
| **Proposed Zoning Text or Map** | |
| ☐ | The existing and proposed zoning for all properties part of the application for a zoning map amendment. The map shall also identify the existing zoning for all surrounding properties. For text amendments, a redline draft of the proposed text is required. |
| ☐ | Existing parcel lines for the properties to be rezoned and all parcel lines within 200' of the site |
| ☐ | Existing streets within 200' of site with names and centerlines |
| ☐ | Existing watercourses and bodies of water including any applicable flood hazard areas |

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot A
Middletown, Ohio 45044

Parcel ID Number: 07-02-377-005

This Addendum was executed by the undersigned as of the 21 day of September, 2025.

Sign: _____

Print: ERIC SCHAUER

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot B
Middletown, Ohio 45044

Parcel ID Number: 07-02-377-006
07-02-451-002

This Addendum was executed by the undersigned as of the 25 day of September, 2025.

MIDDLETOWN INVESTMENT GROUP LLC,
an Ohio limited liability company

By: _____ member
Name: Nat Krasit
Title: OWNER

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

651 Greentree Road, Lot C
Middletown, Ohio 45044

Parcel ID Number: 07502451005
07502376005

This Addendum was executed by the undersigned as of the 12 day of September, 2025.

Sign: Harold M Wagner
Print: Harold Wagner

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot D
Middletown, Ohio 45044

Parcel ID Number: 07-02-376-003

This Addendum was executed by the undersigned as of the 21 day of September, 2025.

Sign: _____

Print: Robert Archambault

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot E
Middletown, Ohio 45044

Parcel ID Number: 07-02-377-001

This Addendum was executed by the undersigned as of the ____ day of September, 2025.

Sign: Michelle DeBacker

Print: Michelle DeBacker

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot F
Middletown, Ohio 45044

Parcel ID Number: 07-02-376-001

This Addendum was executed by the undersigned as of the 21 day of September, 2025.

Sign: _____

Print: Jordan Brown

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot 6
Middletown, Ohio 45044

Parcel ID Number: 07-02-376-007

This Addendum was executed by the undersigned as of the 22 day of September, 2025.

Sign: _____

Print: Frank L Baughman JR

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot J
Middletown, Ohio 45044

Parcel ID Number: 07-02-376-012

This Addendum was executed by the undersigned as of the 21 day of September, 2025.

Sign: William F. Thompson
Print: WILLIAM F. THOMPSON

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6514 Greentree Road, Lot K
Middletown, Ohio 45044

Parcel ID Number: 07-02-376-009

This Addendum was executed by the undersigned as of the 29TH day of September, 2025.

Sign: Eli Krafte-Jacobs

Print: Eli Krafte-Jacobs

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6531 Greentree Road,
Middletown, Ohio 45044

Parcel ID Number: 07-02-377-004

This Addendum was executed by the undersigned as of the 21 day of September, 2025.

Sign: Steven W Jones

Print: Steven W. Jones

**ADDENDUM TO APPLICATION**

**FOR**

**ZONING MAP/TEXT AMENDMENT**

The undersigned property owner hereby authorizes Eli Krafte-Jacobs to act on his, her, or their behalf for the purpose of submitting the Application for a Zoning Map/Text Amendment to which this Addendum is attached (hereinafter the "Application"). This letter shall be accepted in lieu of my signature on the Application itself.

This authorization shall be strictly limited to the filing of the Application and only insofar as it relates to that certain parcel of real estate commonly known as:

6465 Greentree Road,
Middletown, Ohio 45044

Parcel ID Number: 07-02-376-010

This Addendum was executed by the undersigned as of the 21 day of September, 2025.

Sign: _____

Print: JENNIFER THOROUGHMAN

## EXHIBIT A

| | PIDN | Address | Owner(s) |
|---|---|---|---|
| I. | 07-02-377-005 | 6514 Greentree Road, Lot A<br>Middletown, Ohio 45044 | Eric G. Schauer<br>Amanda Schauer |
| II. | 07-02-377-006<br>07-02-451-002 | 6514 Greentree Road, Lot B<br>Middletown, Ohio 45044 | Middletown Investments Group LLC |
| III. | 07-02-451-005<br>07-02-376-005 | 6514 Greentree Road, Lot C<br>Middletown, Ohio 45044 | Brenda Sue Wagers<br>Harold Wagers |
| IV. | 07-02-376-003 | 6514 Greentree Road, Lot D<br>Middletown, Ohio 45044 | Robert C. Archambault<br>Cindy Sue Archambault |
| V. | 07-02-377-001 | 6514 Greentree Road, Lot E<br>Middletown, Ohio 45044 | Joseph DeBacker<br>Michelle L. DeBacker |
| VI. | 07-02-376-001 | 6514 Greentree Road, Lot F<br>Middletown, Ohio 45044 | Jordan D. Brown |
| VII. | 07-02-376-007 | 6514 Greentree Road, Lot G<br>Middletown, Ohio 45044 | Frank L. Baughman, Jr. |
| VIII. | 07-02-376-012 | 6514 Greentree Road, Lot J<br>Middletown, Ohio 45044 | William F. Thompson<br>Carol A. Thompson |
| IX. | 07-02-376-009 | 6514 Greentree Road, Lot K<br>Middletown, Ohio 45044 | Eli N. Krafte-Jacobs<br>Nicole R. Jacobs |
| X. | 07-02-377-004 | 6531 Greentree Road<br>Middletown, Ohio 45044 | Steven W. Jones<br>Donna Jones |
| XI. | 07-02-376-010 | 6465 Greentree Road<br>Middletown, Ohio 45044 | Cliffton L. Thoroughman<br>Jenifer M. Thoroughman |

*[Legal Descriptions to Follow]*

## LEGAL DESCRIPTIONS

**Parcel I:**

Situated in Section 2, Town 2, Range 4, Turtlecreek Township, Warren County, Ohio and being Lot Number 2 as the same is known and designated on the Recorded Plat of McNeil Subdivision, as recorded in Plat Book No. 64, Page 69 of the Plat Records of Warren County, Ohio.

Parcel ID Number: 07-02-377-005

Property Address: 6514 Greentree Road, Lot A, Middletown, Ohio 45044

Prior Reference: Instrument No. 2019-017734 of the Warren County Recorder's Office

**Parcel II:**

Tract 1: Situated in the Township of Turtlecreek, County of Warren, State of Ohio, in Section 2, Town 2, Range 4, Turtlecreek Township, Warren County, Ohio and being Lot #3 as the same is known and designated on the recorded Plat of McNeil Subdivision, as recorded in Plat Book 64, Page 69 of the Plat Records of Warren County, Ohio.

Parcel ID Number: 07-02-377-006

Property Address: 6514 Greentree Road, Lot B, Middletown, Ohio 45044

Prior Reference: Instrument No. 2015-030945 of the Warren County Recorder's Office

Tract 2: SITUATED IN THE SOUTH PART OF SETION 2, TOWN 2, RANGE 4, IN TURTLECREEK TOWNSHIP, WARREN COUNTY, OHIO AND BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT FOUND BY MEASURING FROM THE SOUTHWESTERLY CORNER OF SAID SECTION 2, S. 85 DEGREES 38 MINUTES E., ALONG THE SOUTHERLY LINE OF SAID SECTION 2900.85 FEET TO A POINT, THENCE N. 2 DEGREES 26 MINUTES E., 171.43 FEET TO THE ABOVE MENTIONED POINT OF BEGINNING; SAID POINT OF BEGINNING LYING IN THE EASTERLY LINE OF LANDS OF NAOMI EISELS, PRIOR GRANTOR, AND WITNESSETH BY AN IRON PIPE, N-85 DEGREES, 38 MINUTES W., 1.38 FEET; THENCE FROM SAID POINT OF BEGINNING, N. 85 DEGREES 38 MINUTES W., 215.00 FEET TO AN IRON PIPE; THENCE N. 2 DEGREES 34 MINUTES E. 384.82 FEET TO AN IRON PIPE, THENCE S. 86 DEGREES 02 MINUTES E. 214.05 FEET TO AN IRON PIPE IN SAID NAOMI EISEL'S EASTERLY LINE; THENCE S. 2 DEGREES 26 MINUTES W. 386.34 FEET TO THE POINT OF BEGINNING. BEING 1.899 ACRES MORE OR LESS.

Parcel ID Number: 07-02-451-002

Property Address: 6514 Greentree Road, Lot B, Middletown, Ohio 45044

Prior Reference: OR Book 5825, Page 808 of the Warren County Recorder's Office

*[Continued on Following Page]*

**Parcel III:**

Tract 1: Beginning at a point in the southeast corner of Stonewall Subdivision, Section 3, as recorded in Plat Book 11, Page 48, Warren County Recorder's Office, said point also being in the west line of Stonewall Subdivision, Section 2, as recorded in Plat Book 9, Page 98, Warren County Recorder's Office;

Thence along the west line of said Stonewall Subdivision, Section 2 and leaving S 02° 56' 00" W a distance of 407.44 feet to an Iron Pin found; thence S 02°25'52" W a distance of 165.82 feet to an Iron Pin set at the real Point of Beginning for this description;

Thence continuing S 02°25'52" W a distance of 632.75 feet to an Iron Pin set;

Thence N 86°02'00" W a distance of 214.05 feet to an Iron Pin set;

Thence N 02°34'00" E a distance of 635.99 feet to an Iron Pin set;

Thence along a new division line, S 85°09'00" E a distance of 212.66 feet to the real Point of Beginning for this description.

Containing in all 3.105 acres, more or less, subject to all legal highways and easements of record. Also subject to all easements, covenants and restrictions of record.

This description is a result of a survey prepared by King Hasselbring & Associates, and written by J. Timothy King, PE-PS, Registered Surveyor No. 6549, dated March 15, 2007, the survey plat of which is filed in Volume 130, Plat No. 92 of the Warren County Engineer's Record of Land Division.

Parcel ID Number: 07-02-451-005

Property Address: 6514 Greentree Road, Lot C, Middletown, Ohio 45044

Prior Reference: OR Book 5843, Page 920 of the Warren County Recorder's Office

Tract 2: Beginning at a southeasterly corner of the herein described 5.394 acre tract, said beginning point bears South 85 deg. 09' East a distance of 256.43 feet from the southwesterly corner of said 5.394 acre tract (Tract #10) and also said beginning point being the northeasterly corner of the northerly terminus of said 50 foot right-of-way strip; thence South 02 deg. 34' West along the westly line of a 3.898 acre tract 496.19 feet to a point on the northerly line of a 50 foot right-of-way strip running in an easterly-westerly direction; thence North 85 deg. 38' West with said northerly line 50.02 feet to a southeasterly corner of a 1.885 acre tract (Tract #6); thence North 02 deg. 34' East with the easterly line of said Tract, also being the westerly line of the herein described 50 foot right-of-way 491.61 feet to the northeasterly corner of said Tract #6; thence South 85 deg. 09' East crossing the northerly terminus of the herein described 50 foot right-of-way 50.04 feet to a point of beginning containing 0.570 acres. Subject to all easements of record.

Parcel ID Number: 07-02-376-005

Property Address: 6514 Greentree Road, Lot C, Middletown, Ohio 45044

Prior Reference: OR Book 5843, Page 924 of the Warren County Recorder's Office

*[Continued on Following Page]*

**Parcel IV:**

Situated in the Southwest Quarter of Section 2, Town 2 East, Range 4 North, in Turtlecreek Township, Monroe Corporation, Warren County, Ohio and bounded and described as follows:

Beginning at a point found by measuring from the southwesterly corner of said Section 2, South 85° 38' East along the southerly line of said Section 2685.45 feet to an old stone;

Thence North 2° 34' Esat 696.04 feet to a point in the westerly line of a 3.898 acre tract of land previously conveyed by the Grantor herein to Eugene and Virginia Eisele, last aforesaid point being North 2° 34' East 139.80 feet from an iron pipe at the southwesterly corner of the aforesaid 3.898 acre tract;

Thence North 85° 38' West 50.02 feet to the above mentioned point of beginning;

Thence from said point of beginning North 85° 38' West parallel with the aforesaid southerly section line, 165.17 feet;

Thence North 2° 34' East parallel with the said westerly line of the 3.898 acre tract, 498.01 feet;

Thence South 85° 09' East 165.22 feet;

Thence South 2° 34' West parallel with and 50' from the westerly line of said 3.898 acre tract, 496.61 feet to the point of beginning, containing 1.885 acres.

Subject to any and all easements, restrictions, conditions, and legal highways of record and/or in existence.

Parcel ID Number: 07-02-376-003

Property Address: 6514 Greentree Road, Lot D, Middletown, Ohio 45044

Prior Reference: Instrument No. 2021-016686 of the Warren County Recorder's Office

**Parcel V:**

Situated in the south part of Section 2, Town 2, Range 4, in Village of Monroe, Turtlecreek Township, Warren County, Ohio and bounded and described as follows:

Beginning at an iron pipe found by measuring from the southwesterly corner of said Section 2, South 85 degrees 38' East along the southerly line of said Section 2635.43 feet to an iron pipe; thence North 2 degrees 34' East 421.42 feet to an iron pipe; thence North 85 degrees 38' West 386.88 feet to the iron pipe at the above mentioned place of beginning; North 85 degrees 38' West 280.00 feet to an iron pipe; thence North 3 degrees 50' East 494.60 feet to an iron pipe; thence South 85 degrees 38' East 280.89 feet to an iron pipe; thence South 3 degrees 56' West 494.60 feet to the place of beginning containing 3.184 acres.

Parcel ID Number: 07-02-377-001

Property Address: 6514 Greentree Road, Lot E, Middletown, Ohio 45044

Prior Reference: OR Book 4399, Page 167 of the Warren County Recorder's Office

*[Continued on Following Page]*

**Parcel VI:**

Situated in the South part of Section 2, Town 2, Range 4, in Turtlecreek Township, Warren County, Ohio, and bounded and described as follows;

Beginning at an iron pipe found by measuring from the Southwesterly corner of said Section 2, South 85° 38' E., along the Southerly line of said Section 2,635.43 feet to an iron pipe; thence N. 2° 34' E, 421.42 feet to an iron pipe; thence N. 85° 38' W., 306.88 feet to an iron pipe; thence N. 3° 56' E., 494.60 feet to the iron pipe at the above mentioned place of beginning, thence N. 85° 38' W., 280.89 feet to an iron pipe; thence N 3° 50' E., 282.20 feet to an iron pipe; thence S. 85° 09' E., 281.43 feet to an iron pipe; thence S. 3° 56' W., 279.50 feet to the place of beginning, containing 1.812 acres in Village of Monroe.

Parcel ID Number: 07-02-376-001

Property Address: 6514 Greentree Road, Lot F, Middletown, Ohio 45044

Prior Reference: Instrument No. 2016-037951 of the Warren County Recorder's Office

**Parcel VII:**

Tract 1: SITUATED IN THE SOUTH PART OF SECTION 2, TOWN 2, RANGE 4, TURTLECREEK TOWNSHIP, WARREN COUNTY, OHIO AND BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWESTERLY CORNER OF A 1.885 ACRE TRACT (TRACT# 6 ), SAID TRACT CONVEYED BY ZOLLIE AND VIRGINIA TRIMBLE TO EVERTT AND VERNA M. CLEMONS - VOL. 343, PAGE 170, WARREN COUNTY DEED RECORDS, SAID BEGINNING POINT FOUND BY MEASURING FROM THE SOUTHWESTERLY CORNER OF SAID SECTION 2, SOUTH 85 DEGREES 38' EAST ALONG THE SOUTHERLY LINE OF SAID SECTION 2685.45 FEET TO AN OLD STONE; THENCE NORTH 02 DEGREES 34' EAST A DISTANCE OF 696.04 FEET TO A POINT IN THE WESTERLY LINE OF A 3.898 ACRE TRACT (TRACT #3) OF LAND; THENCE NORTH 85 DEGREES 38' WEST A DISTANCE OF 215.19 FEET TO THE AFORESAID REAL POINT OF BEGINNING: THENCE FROM SAID BEGINNING POINT NORTH 85 DEGREES 38' WEST ALONG A NORTHERLY LINE OF A 50 FOOT RIGHT-OF-WAY 165.17 FEET; THENCE NORTH 03 DEGREES 56' EAST ALONG AN EASTERLY LINE OF THE AFORESAID 50 FOOT RIGHT-OF-WAY 240.00 FEET; THENCE NORTH 85 DEGREES 38' WEST ACROSS THE NORTHERLY TERMINUS OF SAID RIGHT-OF-WAY 50.00 FEET; THENCE NORTH 03 DEGREES 56' EAST ALONG THE EASTERLY LINE OF A 1.812 ACRE TRACT (TRACT #5) 259.50 FEET TO THE NORTHEASTERLY CORNER OF AFORESAID TRACT #5; THENCE SOUTH 85 DEGREES 09' EAST BY NEW DIVISION LINE 203.37 FEET TO THE NORTHWESTERLY CORNER OF AFORESAID TRACT #6, THENCE SOUTH 02 DEGREES 34' WEST ALONG THE WESTERLY LINE OF TRACT #6 A DISTANCE OF 498.01 FEET TO THE POINT OF BEGINNING, CONTAINING 2.120 ACRES.

Tract 2: IN ADDITION TO THE HEREIN DESCRIBED 2.120 ACRE TRACT THE GRANTOR HEREIN CONVEYS IN FEE SIMPLE TO THE GRANTEE A RIGHT-OF-WAY STRIP, 50 FEET IN WIDTH, LYING ADJACENT TO THE SOUTHWEST PART OF THE HEREIN PREVIOUSLY DESCRIBED TRACT #8 AND THENCE RUNNING EASTWARDLY AND SOUTHWARDLY TO THE GRANTOR'S SOUTHERLY LINE, AND BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT THE WESTERLY CORNER OF THE NORTHERLY TERMINUS OF SAID 50 FOOT STRIP, SAID POINT BEING A SOUTHWESTERLY CORNER OF THE AFORESAID 2.120 ACRE TRACT WHICH BEARS NORTH 03 DEGREES 56' EAST 20.00 FEET FROM THE SOUTHEASTERLY CORNER OF TRACT #5; THENCE FROM SAID POINT OF BEGINNING SOUTH 85 DEGREES 38' EAST ALONG A

SOUTHERLY LINE OF SAID TRACT #8 A DISTANCE OF 50.00 FEET; THENCE SOUTH 03 DEGREES 56' WEST ALONG A WESTERLY LINE OF TRACT #8 A DISTANCE OF 240.00 FEET; THENCE SOUTH 85 DEGREES 38' EAST WITH THE SOUTHERLY LINES OF TRACTS #8 AND #6 A DISTANCE OF 380.36 FEET TO A POINT IN THE WESTERLY LINE OF TRACT #3; THENCE SOUTH 02 DEGREES 34' WEST ALONG THE WESTERLY LINES OF TRACTS #3 AND #2 A DISTANCE OF 524.62 FEET TO THE SOUTHWESTERLY CORNER OF TRACT #2; THENCE NORTH 85 DEGREES 38' WEST ALONG THE GRANTOR'S SOUTHERLY LINE 50.02 FEET; THENCE NORTH 02 DEGREES 34' EAST ALONG THE WESTERLY LINE OF SAID 50 FOOT RIGHT-OF-WAY 474.62 FEET TO THE NORTHEASTERLY CORNER OF TRACT #7; THENCE NORTH 85 DEGREES 38' WEST ALONG THE NORTHERLY LINE OF TRACT #7 A DISTANCE OF 381.53 FEET TO THE NORTHWESTERLY CORNER OF SAID TRACT; THENCE NORTH 03 DEGREES 56' EAST ALONG THE EASTERLY LINE OF TRACT #4 AND #5 A DISTANCE OF 290.00 FEET TO THE POINT OF BEGINNING, CONTAINING 1.315 ACRES, SUBJECT, HOWEVER TO ALL EASEMENTS OF RECORD.

Parcel ID Number: 07-02-376-007

Property Address: 6514 Greentree Road, Lot G, Middletown, Ohio 45044

Prior Reference: OR Book 3787, Page 70 of the Warren County Recorder's Office

**Parcel VIII:**

Situate in Section 2, Town 2, Range 4, City of Monroe, Township of Turtlecreek, County of Warren, State of Ohio and being more particularly described as follows:

Beginning at an Iron Pin set in the southeast corner of Stonewall Subdivision, Section 3, as recorded in Plat Book 11, Page 48, Warren County Recorder's Office, said point also being in the west line of Stonewall Subdivision, Section 2, as recorded in Plat Book 9, Page 98, Warren County Recorder's Office;

Thence from the real Point-of-Beginning for this description and along the west line of said Stonewall Subdivision, Section 2 and leaving, S-02°56'00"-W a distance of 407.44 feet to an Iron Pin found;

Thence S-02°25'52"-W a distance of 165.82 feet to an Iron Pin found;

Thence N-85°09'00"-W a distance of 469.09 feet to an Iron Pin set, passing at 212.66 feet an Iron Pin found;

Thence N-02°24'00"-E a distance of 575.20 feet to an Iron Pin set in the south line of Stonewall Subdivision, Section 3;

Thence along said south line of said Stonewall Subdivision, Section 3, S-84°56'00"-E a distance of 473.05 feet to the real Point-of-Beginning for this description.

Containing in all 6.198 acres, more or less, subject to all legal highways and easements of record.

Parcel ID Number: 07-02-376-012

Property Address: 6514 Greentree Road, Lot J, Middletown, Ohio 45044

Prior Reference: OR Book 4560, Page 408 of the Warren County Recorder's Office

**Parcel IX:**

Situated in the State of Ohio, Warren County, City of Monroe, Turtlecreek Township, Section 2, Town 2, Range 4 and being more particularly described as follows:

Commencing at the Southwest corner of Section 2; thence along the Warren County/Butler County line and the Westerly line of Section 2, N 03° 08' 30" E a distance of 1794.60 feet; thence along the City of Monroe Corporation Line, S 85° 05' 30" E a distance of 2012.23 feet to a 5/8 inch iron pin set at the Point of Beginning; thence continuing along said corporation line and the southerly line of Stonewall Subdivision as recorded in Plat Book 11, Page 48, S 84° 56' 00" E a distance of 199.28 feet to a 5/8 inch iron pin set at the Point of Beginning; thence continuing along said line S 84° 56' 00" E a distance of 199.28 feet to a ½" iron pin found; thence along the easterly line of 5.311 acre tract, S 02° 24' 00" W a distance of 575.20 feet to a 1" iron pipe found; thence N 85° 09' 00" W a distance of 137.15 feet to a 5/8" iron pin set; thence along a new division line, N 03° 43' 13" W a distance of 581.93 feet to the Point of Beginning, containing 2.220 acres mor or less and subject to all easements, restrictions and right-of-way of record.

Parcel ID Number: 07-02-376-009

Property Address: 6514 Greentree Road, Lot K, Middletown, Ohio 45044

Prior Reference: Instrument No. 2024-016173

**Parcel X:**

Situate in the City of Monroe, County of Warren, State of Ohio, being in Section 2, Town 2, Range 4, and being all of Lot Number 1 of the McNeil Subdivision, as recorded in Plat Book 64, Page 69, of the Plat Records of Warren County, Ohio.

Parcel ID Number: 07-02-377-004

Property Address: 6531 Greentree Road, Middletown, Ohio 45044

Prior Reference: Instrument No. 2021-026258 of the Warren County Recorder's Office

**Parcel XI:**

Situated in the State of Ohio, Warren County, City of Monroe, Turtlecreek Township, Section 2, Town 2, Range 4 and being more particularly described as follows:

Commencing at the Southwest corner of Section 2; thence along the Warren County/Butler County line and the Westerly line of Section 2, North 03 degrees 08' 30" East a distance of 1794.60 feet; thence along the City of Monroe Corporation Line, South 85 Degrees 05' 30" East a distance of 2012.23 feet to a 5/8 inch iron pin set at the point of beginning; thence continuing along said corporation line and the Southerly line of Stonewall Subdivision as recorded in Plat Book 11, Page 48 South 84 degrees 56' 00" East a distance of 199.28 feet to a 5/8 inch iron pin set; thence along a new division line, South 03 degrees 43' 13" East a distance of 581.93 feet to a 5/8 inch iron pin set; thence along the southerly line of a 5.311 acre tract, North 85 degrees 09' 00" West passing a 1 inch pipe found at 25.00 feet, a total distance of 268.50 feet to a 1 inch pipe found; thence along the Westerly line of said 5.311 acre tract, North 03 degrees 06' 00" East a distance of 576.44 feet to the point of beginning, containing 3.091 acres more or less and being subject to all easements, restrictions and rights-of-way of record.

The above description is based upon a field survey by RW Consultants, Inc. Engineers and Surveyors, Middletown, Ohio, Kenneth R. Combs, Ohio Professional Surveyor No. 7311 and is recorded in Volume 105, Page 11 of the Warren County Engineer's Record of Land Surveys.

Parcel ID Number: 07-02-376-010

Property Address: 6465 Greentree Road, Middletown, Ohio 45044

Prior Reference: OR Book 5948, Page 339 of the Warren County Recorder's Office

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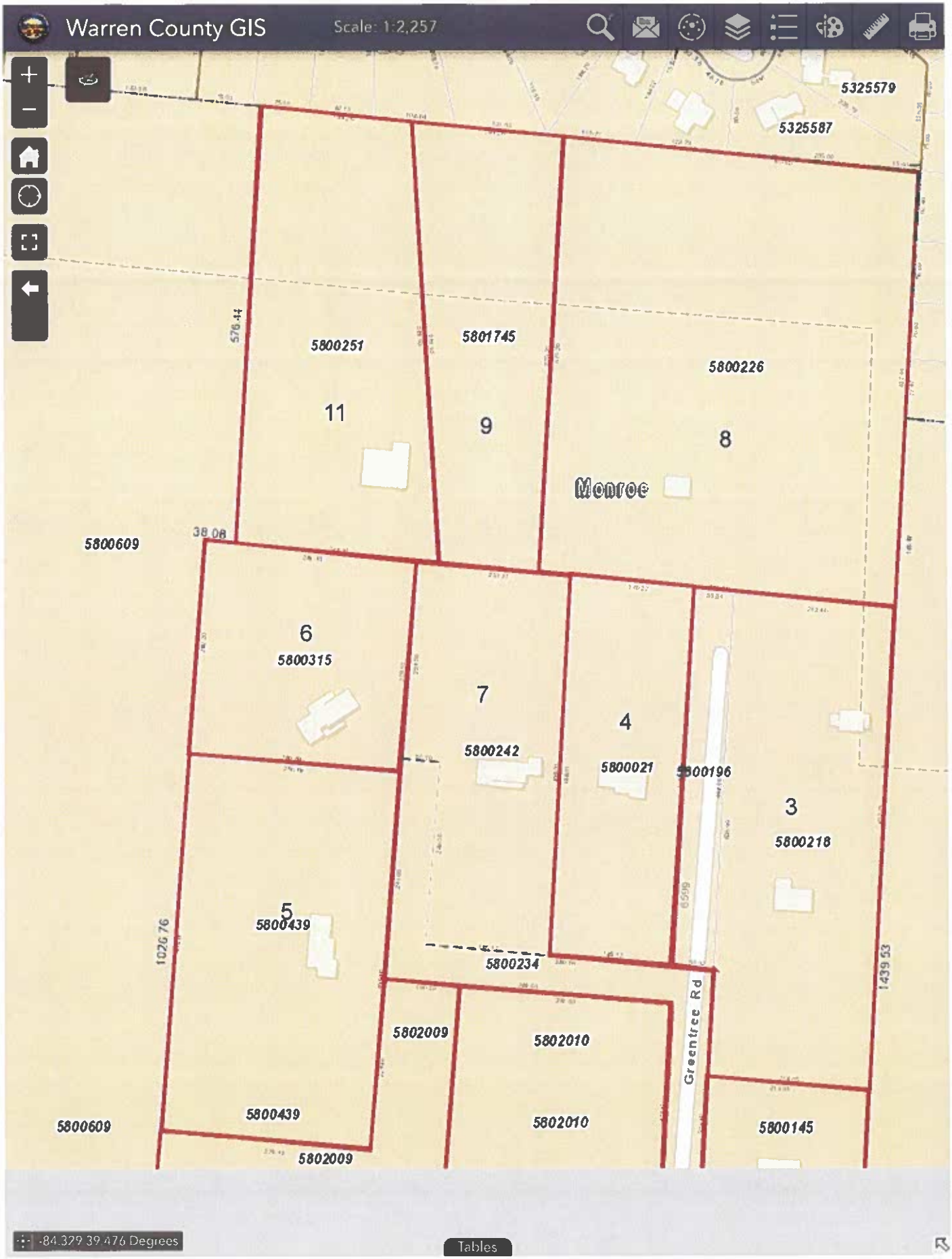
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# Application for a Planned Unit Development (PUD)

Monroe Development Department
233 South Main Street, Monroe, Ohio 45050
Phone: 513-539-7374
planning@monroeohio.gov
www.monroeohio.gov

| For Staff Use Only | |
|---|---|
| Submittal Date: | |
| Date Application Determined Complete: | |
| Date of Planning Commission Review: | |
| Fee Paid: | Staff Initials: |
| Application/Case Number: | |

## Planned Unit Development Review Information

1. The purpose of the Planned Unit Development (PUD) is to provide certain flexibility to clearly achieve innovative, creative, new development that help meet the objectives of Monroe's comprehensive plan and policies.
2. The review procedure and review criteria for Planned Unit Developments are established in Chapter 1207.23 of the Monroe Planning and Zoning Code under Zoning Map Amendment.
3. The PUD review procedure follows the same process as a zoning map amendment and is accompanied by a Master Development Plan (MDP), referenced in 1207.16 of the Monroe Planning and Zoning Code. This application form shall serve as the application for a PUD zoning map amendment.
4. A pre-application conference is required prior to submission of an application for a PUD zoning map amendment unless the Director waives the requirement.
5. The applicant shall be responsible for contacting the Development Department to set up a pre-application conference and submitting conceptual plans at least one week in advance of submitting this application and related information.
6. The application fee is due at the time the application is submitted. The fee schedule is located in Chapter 286 Fees of the Monroe Code of Ordinances.

## Basic Information

Project Address: Seminary Drive

☐ New PUD Development ☒ PUD Amendment

County: ☒ Butler ☐ Warren | Total Area of Property: 20.2720

County Tax Parcel ID: C1800005000042

Existing Zoning District: NC-PUD

Proposed Zoning District: NC-PUD

## Applicant Information

Applicant Name: Ohio Living

Contact Person: Adam Fait

Contact Address: 9200 Worthington Road, Suite 300 Westerville, OH 43082

Contact Phone Number: (614) 888-7800 | Contact Fax Number:

Contact E-Mail: ARFait@ohioliving.org

Property Owner Name: Ohio Presbyterian Retirement Communities

The applicant may attach a separate sheet of a paper with contact information for additional people, if necessary (e.g., additional owners, registered engineer, landscape architect, etc.). The same contact information shall be provided for each contact name.

Project Address or Tax Parcel ID: C1800005000042

**Planned Unit Development Information**

**1) Describe any change in conditions, trends, or other facts that necessitates the proposed amendment. Furthermore, describe how the proposed zoning district will remedy the change in conditions, trends, or other issues.**

Phase lines for phase 4,5, & 7 have been adjusted on the master plan. Phase 4 will now include 9 sin

**2) Describe how the proposed amendment furthers the objectives of the comprehensive plan.**

The total number of units or types of units is not proposed to change. The only revision is the phasing

**3) Provide any additional information necessary to document how the proposed plans meet the review criteria established for PUDs in the Monroe Planning and Zoning Code.**

| | |
|---|---|
| Project Address or Tax Parcel ID: | C1800005000042 |
| **Certification and Signatures** | |
| **Applicant Signature - I certify that, to the best of my knowledge, the information contained in this form and within any attachments is correct and truthful. I understand that knowingly falsifying this information may be grounds for the denial or revoking of this PUD application and any subsequent zoning permit or other review applications.** | |
| Print Name: | Adam Fait |
| Signature: | |
| Date: | 10/17/2025 |
| **Property Owner Signature - If the property owner is not the named applicant on this form, the property owner shall sign the form below acknowledging that the applicant is an authorized agent of the property owner as it relates to proposed project. If the proposed PUD affects multiple properties owned by different property owners, each property owner subject to the PUD review shall be required to sign this form acknowledging consents of this PUD request. Separate signature sheets or letters acknowledging such consent are acceptable.** | |
| Print Name: | Robert B. Stillman, CHIEF FINANCIAL OFFICER |
| Signature: | |
| Date: | 10/20/2025 |
| Note: A letter signed by the property owner, authorizing the applicant to act on their behalf may be submitted in lieu of the property owner's signature on this form. | |

| Submittal Requirement Checklist<br>**All document applications shall be submitted in a compatible electronic format to planning@monroeohio.gov. Paper copies may be required based on project specifics. Final digital Files will be required after approval.** | |
|---|---|
| **General Information** | |
| ☒ | Completion of required pre-application conference |
| ☒ | Planned Unit Development Review Application Form |
| ☒ | Application fee |
| ☒ | Plans and maps established below at a scale no smaller than 1 inch = 100 feet, unless otherwise noted |
| ☒ | Traffic impact study, if required by the City Engineer. |
| ☒ | Any additional information determined to be necessary by the Development Department |
| **Vicinity Map (Scale may be smaller than 1" = 100')** | |
| ☒ | Date, north arrow, scale, and a legend for all symbols |
| ☒ | Identification of properties subject to the proposed rezoning |
| ☒ | All surrounding properties, streets, and corporation limits within a minimum of 500' of the outer boundaries of the project site |
| **PUD Plan and Map Amendment** | |
| ☒ | The existing and proposed zoning for all properties that are a part of this application for a PUD. The map shall also identify the existing zoning for all surrounding properties |
| ☒ | Existing streets within 200' of site with names and centerlines |
| ☒ | Existing watercourses and bodies of water including any applicable flood hazard areas |
| ☒ | A development plan with an appropriate scale illustrating the proposed streets, internal circulation, sidewalks and trails, landscaping, open spaces and related improvements, lots, land uses and related densities, for the entire PUD, regardless if the PUD will be developed in phases |
| ☒ | A proposed schedule for completion of the project, including any phasing schedule |
| ☒ | Elevations for all buildings. Applicant may submit a series of elevations to show the architectural character and materials for any residential product(s) |
| ☒ | Subdivision level details illustrating the lot layout, street information (e.g., width and access), sidewalks and trails, building footprints, and other information deemed necessary by the Development Department |
| ☒ | A copy of any deed restrictions or covenants that will apply to development in the PUD.<br>**Note**: This submittal does not imply a requirement for the City to enforce any of these private agreements |

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

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PHASE 1 (14)
PHASE 2 (31)
PHASE 3 (15)
PHASE 4 (9)
PHASE 5 (10)
PHASE 6 (14)
PHASE 7 (13)
PHASE 8 (7)

WEXFORD WAY
CINCINNATI CIR
PAYTON CIRCLE
PAYTON CIR
SEMINARY DR
LIBERTY COURT
XENIA CIR
SCIOTO CT
MIAMI DR
MAUMEE DR
INDIANA AVE
NORTHWESTERN AVE
MUSKINGUM CIR
BRITTON LN
TENNESSEE AVE
INDIANA AVE
MT. PLEASANT DR
SEMINARY DR
NORTHWESTERN AVE
NORTHWESTERN AVE
SR 63
SR 63
20 UNIT
20 UNIT
20 UNIT
LANDSCAPE BUFFER AREA


THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
6219 Centre Park Dr.
West Chester, OH 45069
513.779.7851



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SEAL:

| NO. | DATE | DESCRIPTION |
|---|---|---|

# MOUNT PLEASANT

SECTION 18, TOWN 3, RANGE 3
CITY OF MONROE
BUTLER COUNTY, OHIO

| | |
|---|---|
| PROJECT NO: | 040609.017 |
| DATE: | 2025/10/21 |
| SCALE: | 0 50 100 200 |

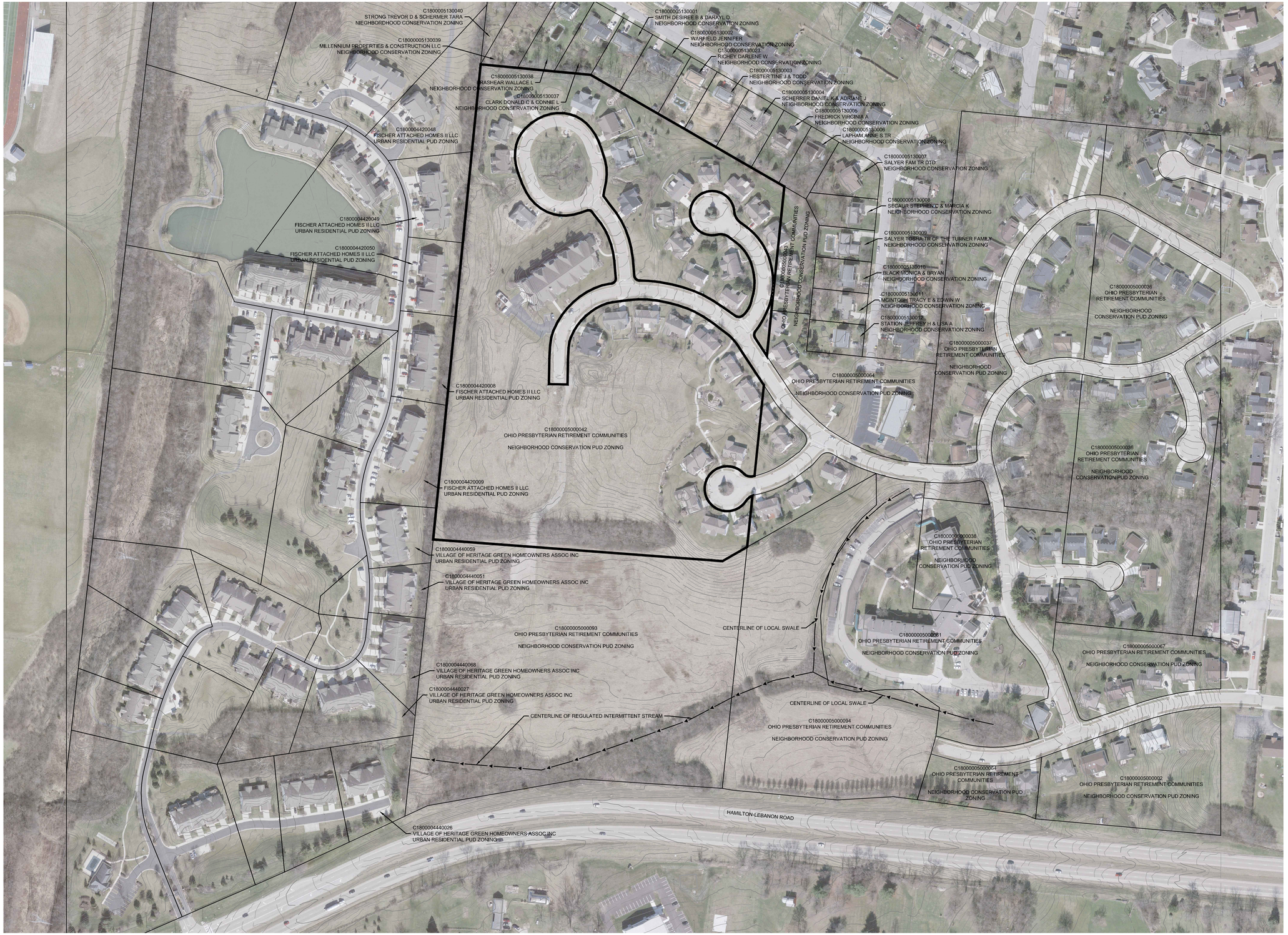
SHEET NAME:

## REVISED MASTER DEVELOPMENT PLAN

SHEET NO.

# 1 OF 1

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES





THE KLEINGERS GROUP

CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE

www.kleingers.com

6219 Centre Park Dr.
West Chester, OH 45069
513.779.7851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SEAL:

NO. DATE DESCRIPTION

# MOUNT PLEASANT

SECTION 18, TOWN 3, RANGE 3
CITY OF MONROE
BUTLER COUNTY, OHIO

PROJECT NO: 040607.017

DATE: 2025/10/21

SCALE:

0 60 120 240

SHEET NAME:

## ZONING MAP

SHEET NO.

1 OF 1

THE KLEINGERS GROUP

CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com

6219 Centre Park Dr.
West Chester, OH 45069
513.779.7851

# MT. PLEASANT

**SECTION 18, TOWN 3, RANGE 3**
**CITY OF MONROE**
**BUTLER COUNTY, OHIO**

| | |
|---|---|
| *PROJECT NO:* | **040609.017** |
| *DATE:* | **10/21/2025** |
| *SCALE:* | **1" = 400'** |

0 200 400 800

*SHEET NO.*

**1 OF 1**

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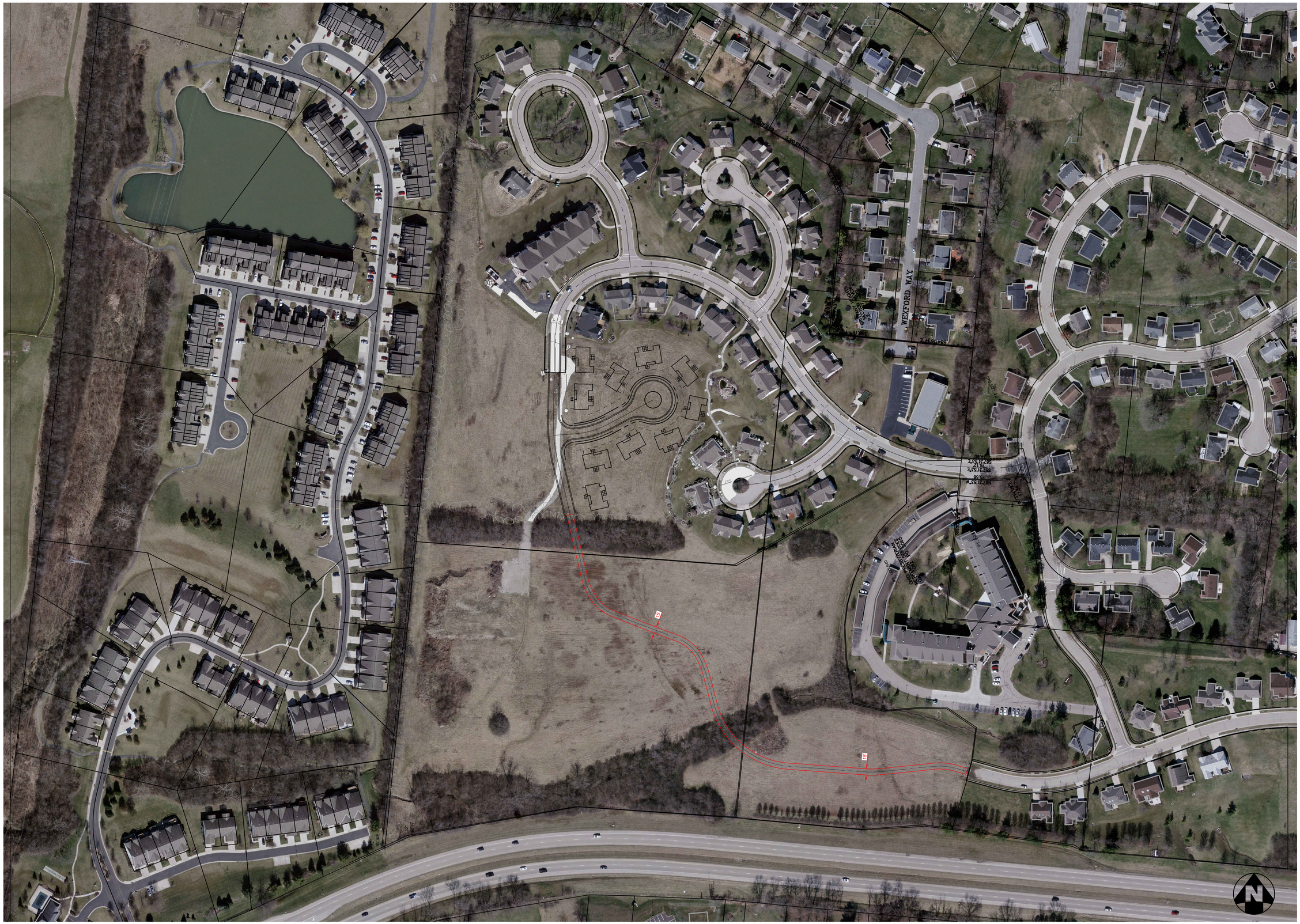
INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES




THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
6219 Centre Park Dr.
West Chester, OH 45069
513.779.7851

SEAL:

NO. DATE DESCRIPTION

# MOUNT PLEASANT

SECTION 18, TOWN 3, RANGE 3
CITY OF MONROE
BUTLER COUNTY, OHIO

| | |
|---|---|
| PROJECT NO: | 040609.017 |
| DATE: | 2025/10/20 |
| SCALE: | 0 50 100 200 |

SHEET NAME:

## TEMPORARY SECONDARY ACCESS EXHBIIT

SHEET NO.

# 1 OF 1

\\kleingers.com\westchester\Engineering\2003-2004\P-040609\017_DWG\040609SHP01.dwg, 10/17/2025 12:26 PM, Jake Blackburn

Docusign Envelope ID: 05B2F49E-0B8B-447F-B760-AF08B43A77AC

# Application for a Planned Unit Development (PUD)

Monroe Development Department
233 South Main Street, Monroe, Ohio 45050
Phone: 513-539-7374
planning@monroeohio.gov
www.monroeohio.gov

| For Staff Use Only | |
|---|---|
| Submittal Date: | |
| Date Application Determined Complete: | |
| Date of Planning Commission Review: | |
| Fee Paid: | Staff Initials: |
| Application/Case Number: | |

## Planned Unit Development Review Information

1. The purpose of the Planned Unit Development (PUD) is to provide certain flexibility to clearly achieve innovative, creative, new development that help meet the objectives of Monroe's comprehensive plan and policies.
2. The review procedure and review criteria for Planned Unit Developments are established in Chapter 1207.23 of the Monroe Planning and Zoning Code under Zoning Map Amendment.
3. The PUD review procedure follows the same process as a zoning map amendment and is accompanied by a Master Development Plan (MDP), referenced in 1207.16 of the Monroe Planning and Zoning Code. This application form shall serve as the application for a PUD zoning map amendment.
4. A pre-application conference is required prior to submission of an application for a PUD zoning map amendment unless the Director waives the requirement.
5. The applicant shall be responsible for contacting the Development Department to set up a pre-application conference and submitting conceptual plans at least one week in advance of submitting this application and related information.
6. The application fee is due at the time the application is submitted. The fee schedule is located in Chapter 286 Fees of the Monroe Code of Ordinances.

## Basic Information

Project Address: Northeast corner of Cincinnati Dayton Road and SR 63, Monroe, OH, 45050

☒ New PUD Development ☐ PUD Amendment

County: ☒ Butler ☐ Warren | Total Area of Property: 84.542 acres

County Tax Parcel ID: C1800 0006 000 044, C1800-005-000-081

Existing Zoning District: GC (3.23 acre parcel) and UR (81.312 acre parcel)

Proposed Zoning District: PUD with GR (single family) and UR (multi-family)

## Applicant Information

Applicant Name: Bridge Development Group

Contact Person: Zach Rodenbarger

Contact Address: 3700 Roosevelt St. Gary, IN 46408

Contact Phone Number: 317-426-1144 | Contact Fax Number:

Contact E-Mail: ZJR@BridgeDevelop.com

Property Owner Name: Cornerstone Monroe Farm LLC

The applicant may attach a separate sheet of a paper with contact information for additional people, if necessary (e.g., additional owners, registered engineer, landscape architect, etc.). The same contact information shall be provided for each contact name.

Docusign Envelope ID: 05B2F49E-0B8B-447F-B760-AF08B43A77AC

Project Address or Tax Parcel ID: C1800 0006 000 044, C1800-005-000-081

## Planned Unit Development Information

**1) Describe any change in conditions, trends, or other facts that necessitates the proposed amendment. Furthermore, describe how the proposed zoning district will remedy the change in conditions, trends, or other issues.**

This community development plan aligns with key recommendations from Advance Monroe 2040. The PUD provides the ideal framework to meet the Comprehensive Plan's goals while addressing the needs of current and future Monroe residents.
Our proposed neighborhood will feature a diverse mix of housing—traditional multifamily rentals, 4-plex and 5-plex rental and for-sale units, and single-family homes—creating a walkable, connected community with a balanced mix of owners and tenants. This diversity will strengthen the community and encourage investment in the downtown and surrounding areas.
The plan advances several priority objectives: providing a mix of housing types and price points (LUR #7), promoting smaller lot development with high-quality materials (LUR #12), enhancing pedestrian connectivity (HR #13), and offering a variety of styles, types, and densities (HR #4, HR #6). In order to target these 2040 goals, we see a PUD and the flexibility it allows as the best option for our development.

**2) Describe how the proposed amendment furthers the objectives of the comprehensive plan.**

This community development plan aligns with key recommendations from Advance Monroe 2040. The PUD provides the ideal framework to meet the Comprehensive Plan's goals while addressing the needs of current and future Monroe residents.
Our proposed neighborhood will feature a diverse mix of housing—traditional multifamily rentals, 4-plex and 5-plex rental and for-sale units, and single-family homes—creating a walkable, connected community with a balanced mix of owners and tenants. This diversity will strengthen the community and encourage investment in the downtown and surrounding areas.
The plan advances several priority objectives: providing a mix of housing types and price points (LUR #7), promoting smaller lot development with high-quality materials (LUR #12), enhancing pedestrian connectivity (HR #13), and offering a variety of styles, types, and densities (HR #4, HR #6). In order to target these 2040 goals, we see a PUD and the flexibility it allows as the best option for our development.

**3) Provide any additional information necessary to document how the proposed plans meet the review criteria established for PUDs in the Monroe Planning and Zoning Code.**

This development meets the review criteria established for PUD's in the Monroe Zoning Code Section 1202.07 by requesting regulatory flexibility in the requirements of the underlying GR and UR zoning Districts. This will allow for an innovative development that is in line with the City's Comprehensive Plan and makes efficient use of the land for density of housing and open space/ amenities. The regulatory flexibility requested will apply to lot sizes, setbacks, and development density.

Docusign Envelope ID: 05B2F49E-0B8B-447F-B760-AF08B43A77AC

| Project Address or Tax Parcel ID: . C1800 0006 000 044, C1800-005-000-081 |
|---|
| **Certification and Signatures** |
| **Applicant Signature - I certify that, to the best of my knowledge, the information contained in this form and within any attachments is correct and truthful. I understand that knowingly falsifying this information may be grounds for the denial or revoking of this PUD application and any subsequent zoning permit or other review applications.** |
| Print Name: Zach Rodenbarger |
| Signature: Signed by: Zachary James Rodenbarger 1C11F9FA2C6943A... |
| Date: 9/15/2025 |
| **Property Owner Signature - If the property owner is not the named applicant on this form, the property owner shall sign the form below acknowledging that the applicant is an authorized agent of the property owner as it relates to proposed project. If the proposed PUD affects multiple properties owned by different property owners, each property owner subject to the PUD review shall be required to sign this form acknowledging consents of this PUD request. Separate signature sheets or letters acknowledging such consent are acceptable.** |
| Print Name: Tom Ratterman - Cornerstone Monroe Farm LLC |
| Signature: DocuSigned by: 8D6DB882897A420... |
| Date: 9/15/2025 |
| Note: A letter signed by the property owner, authorizing the applicant to act on their behalf may be submitted in lieu of the property owner's signature on this form. |

Docusign Envelope ID: 05B2F49E-0B8B-447F-B760-AF08B43A77AC

| Submittal Requirement Checklist<br>**All document applications shall be submitted in a compatible electronic format to planning@monroeohio.gov. Paper copies may be required based on project specifics. Final digital Files will be required after approval.** | |
|---|---|
| **General Information** | |
| ☒ | Completion of required pre-application conference |
| ☒ | Planned Unit Development Review Application Form |
| ☒ | Application fee |
| ☒ | Plans and maps established below at a scale no smaller than 1 inch = 100 feet, unless otherwise noted |
| ☒ | Traffic impact study, if required by the City Engineer. |
| ☒ | Any additional information determined to be necessary by the Development Department |
| **Vicinity Map (Scale may be smaller than 1" = 100')** | |
| ☒ | Date, north arrow, scale, and a legend for all symbols |
| ☒ | Identification of properties subject to the proposed rezoning |
| ☒ | All surrounding properties, streets, and corporation limits within a minimum of 500' of the outer boundaries of the project site |
| **PUD Plan and Map Amendment** | |
| ☒ | The existing and proposed zoning for all properties that are a part of this application for a PUD. The map shall also identify the existing zoning for all surrounding properties |
| ☒ | Existing streets within 200' of site with names and centerlines |
| ☒ | Existing watercourses and bodies of water including any applicable flood hazard areas |
| ☒ | A development plan with an appropriate scale illustrating the proposed streets, internal circulation, sidewalks and trails, landscaping, open spaces and related improvements, lots, land uses and related densities, for the entire PUD, regardless if the PUD will be developed in phases |
| ☒ | A proposed schedule for completion of the project, including any phasing schedule |
| ☒ | Elevations for all buildings. Applicant may submit a series of elevations to show the architectural character and materials for any residential product(s) |
| ☒ | Subdivision level details illustrating the lot layout, street information (e.g., width and access), sidewalks and trails, building footprints, and other information deemed necessary by the Development Department |
| ☒ | A copy of any deed restrictions or covenants that will apply to development in the PUD.<br>**Note**: This submittal does not imply a requirement for the City to enforce any of these private agreements |

# Application for a Zoning Map/Text Amendment

Monroe Development Department
233 South Main Street, Monroe, Ohio 45050
Phone: 513-539-7374
Email: planning@monroeohio.gov
www.monroeohio.gov

| For Staff Use Only | |
|---|---|
| Submittal Date: | |
| Date Application Determined Complete: | |
| Date of Planning Commission Review: | |
| Fee Paid: | Staff Initials: |
| Application/Case Number: | |

## Zoning Amendment Review Information

1. The zoning map and text amendment review procedure and review criteria are established in Section 1207.04 of the Monroe Planning and Zoning Code.
2. A pre-application conference is required prior to submission of an application for a zoning map amendment unless the Development Director waives the requirement. Contact the Development Department to set up a time.
3. The application fee is due at the time the application is submitted to planning@monroeohio.gov.

## Basic Information

Project Address: Northeast corner of Cincinnati Dayton Road and SR 63, Monroe, OH, 45050

County: ☑ Butler ☐ Warren | Total Area of Rezoning: 84.542 acres

County Tax Parcel ID: C1800 0006 000 044, C1800-005-000-081

Existing Zoning District: GC (3.23 acre parcel) and UR (81.312 acre parcel)

Proposed Zoning District: PUD with GR (single family) and UR (multi-family)

## Applicant Information

Applicant Name: Bridge Development Group

Contact Person: Zach Rodenbarger

Contact Address: 3700 Roosevelt St. Gary, IN 46408

Contact Phone Number: 317-426-1144 | Contact Fax Number:

Contact E-Mail: ZJR@BridgeDevelop.com

Property Owner Name: Cornerstone Monroe Farm LLC

The applicant may provide a separate attachment with contact information for additional people, if necessary (e.g., additional owners, registered engineer, landscape architect, etc.). The same contact information shall be provided for each contact name.

## Zoning Amendment Information

**1) Describe any change in conditions, trends, or other facts that necessitates the proposed zoning amendment. Furthermore, describe how the proposed zoning district will remedy the change in conditions, trends, or other issues.**

This community development plan aligns with key recommendations from Advance Monroe 2040. The PUD provides the ideal framework to meet the Comprehensive Plan's goals while addressing the needs of current and future Monroe residents.

Our proposed neighborhood will feature a diverse mix of housing—traditional multifamily rentals, 4-plex and 5-plex rental and for-sale units, and single-family homes—creating a walkable, connected community with a balanced mix of owners and tenants. This diversity will strengthen the community and encourage investment in the downtown and surrounding areas.

The plan advances several priority objectives: providing a mix of housing types and price points (LUR #7), promoting smaller lot development with high-quality materials (LUR #12), enhancing pedestrian connectivity (HR #13), and offering a variety of styles, types, and densities (HR #4, HR #6). In order to target these 2040 goals, we see a PUD and the flexibility it allows as the best option for our development.

Project Address or Tax Parcel ID: C1800 0006 000 044, C1800-005-000-081

## Rezoning Information Continued

**2) Describe how the proposed amendment furthers each of the objectives of the Comprehensive Plan.**

This community development plan aligns with key recommendations from Advance Monroe 2040. The PUD provides the ideal framework to meet the Comprehensive Plan's goals while addressing the needs of current and future Monroe residents.

Our proposed neighborhood will feature a diverse mix of housing—traditional multifamily rentals, 4-plex and 5-plex rental and for-sale units, and single-family homes—creating a walkable, connected community with a balanced mix of owners and tenants. This diversity will strengthen the community and encourage investment in the downtown and surrounding areas.

The plan advances several priority objectives: providing a mix of housing types and price points (LUR #7), promoting smaller lot development with high-quality materials (LUR #12), enhancing pedestrian connectivity (HR #13), and offering a variety of styles, types, and densities (HR #4, HR #6). In order to target these 2040 goals, we see a PUD and the flexibility it allows as the best option for our development.

**3) Provide information necessary to document and describe how the map amendment meets the review criteria established for zoning amendments *[Table 1207.07-1 Common Review Criteria and Article 07.04 Text and Zoning Map Amendments]*.**

The map amendment meets the review criteria established in Table 1207.07-1 in that it is consistent with applicable policies of the Comprehensive Plan, utility plans, and capital improvements. In addition, all adequate infrastructure facilities are or will be provided (roads with proper circulation, utilities to serve site, etc.).

## Certification and Signatures

**Applicant Signature - I certify that, to the best of my knowledge, the information contained in this form and within any attachments is correct and truthful. I understand that knowingly falsifying this information may be grounds for the denial or revoking of this zoning map amendment application and any subsequent zoning permit or other review applications.**

Print Name: Zach Rodenbarger

Signature: Signed by: Zachary James Rodenbarger 1C11F9FA2C6943A...

Date: 9/15/2025

**Property Owner Signature - If the property owner is not the named applicant on this form, the property owner shall sign the form below acknowledging that the applicant is an authorized agent of the property owner as it relates to proposed project. If the proposed rezoning affects multiple properties owned by different property owners, each property owner subject to the rezoning shall be required to sign this form acknowledging consents of the rezoning request. Separate signature sheets or letters acknowledging such consent are acceptable.**

Print Name: Tom Ratterman - Cornerstone Monroe Farm LLC

Signature: DocuSigned by: 8D6DB882897A420...

Date: 9/15/2025

Note: A letter signed by the property owner, authorizing the applicant to act on their behalf may be submitted in lieu of the property owner's signature on this form.

| Submittal Requirement Checklist | |
|---|---|
| **General Information** | |
| ☑ | Completion of required pre-application conference |
| ☑ | Zoning Map Amendment Review application form |
| ☑ | Application fee |
| ☑ | Legal description of the parcels subject to the proposed rezoning. |
| ☑ | Plans and maps established below at a scale no smaller than 1 inch = 100 feet, unless otherwise noted. |
| ☑ | Traffic Impact Study, if required by the City Engineer. |
| ☑ | Any additional information determined to be necessary by the Development Department |
| **Vicinity Map (Scale may be smaller than 1" = 100')** | |
| ☑ | Date, north arrow, scale, and a legend for all symbols |
| ☑ | Boundary line of the land subject to the proposed rezoning |
| ☑ | All surrounding properties, streets, and corporation limits within a minimum of 500' of the outer boundaries of the project site |
| **Proposed Zoning Text or Map** | |
| ☑ | The existing and proposed zoning for all properties part of the application for a zoning map amendment. The map shall also identify the existing zoning for all surrounding properties. For text amendments, a redline draft of the proposed text is required. |
| ☑ | Existing parcel lines for the properties to be rezoned and all parcel lines within 200' of the site |
| ☑ | Existing streets within 200' of site with names and centerlines |
| ☑ | Existing watercourses and bodies of water including any applicable flood hazard areas |

CONTOUR LAND GROUP
DESIGN • ENGINEERING

October 21, 2025

Kameryn Jones
Assistant Development Director
City of Monroe
Office: 513.539.7374 ext.1020

RE: Cornerstone Development – Bridge Development Group
Ratterman PUD/Rezone—Preliminary Comments

Dear Ms. Jones,

In conjunction with our submittal for PUD and ZMA review for the Cornerstone Development, the following are our responses to your e-mailed comments dated 10/02/2025.

**General:**

**1. To request zoning for some of the acreage, we'll need to see legal descriptions and lot splits for that acreage. The PUD would then overlay the two separate UR and GR parcels. We cannot have two zoning designations on a single parcel.**
*RESPONSE: Noted. The MDP now indicates which areas of the site will be UR and GR zoning. Additionally, legal descriptions and exhibit have been provided for incorporation into the PUD.*

**2. The MDP submitted shows only reserved space for multifamily, conflicting with the concept plan submitted in the same package, and what the revised TIS is being based upon. Please clarify the intent for the multifamily portion of the plan**
*RESPONSE: The multi-unit attached areas now shows example site plans for those developments on the MDP.*

**3. If the MDP submitted is to cover the multi-unit areas, it needs to be included in all calculations.**
*RESPONSE: The multi-unit areas are now shown on the MDP and all calculations reflect all portions of the development.*

**4. Please clarify what is meant by "multi-family detached homes". Is this isolated to townhomes or could this also include a duplex product?**
*RESPONSE: This was incorrect. We have connected with the potential builder, and the product is a multi-unit attached product. They are similar to multi-plexes. Per the Teams conference call on 10/17/25, we have revised this terminology to "multi-unit attached homes" since the units will share a common roof.*

**1202.07 Planned Unit Development (PUD)**
**1. Areas of flexibility permitted:**
**a. Minimum floor areas are not eligible for adjustment through the PUD process**
*RESPONSE: Noted. Minimum floor area adjustments are not being requested.*

**2. Phasing is difficult to evaluate based on the project schedule identified on the MDP.**
*RESPONSE: Phasing lines are now shown on the MDP and the project schedule has been clarified.*

**Layout:**
**1. Stub streets are required to permit future street extensions into adjoining properties for future development:**
**a. Property to the north (Bake Farm)**
*RESPONSE: Noted. A stub to the northern property line can be provided, once the location is agreed upon by the parties involved.*

**2. Proposed road to the north that connects into the private access drive servicing retail development along Cincinnati Dayton Road. Concern this is not sufficient for the second access point. Access directly on to Main Street.**
*RESPONSE: As discussed on the 10/17/2025 Teams call, the access directly to Main Street is now shown with the understanding that the geometry may need to be adjusted depending on further discussions related to sight distance and the traffic study. A cross section of the access road is also now shown on the MDP. Please see attached revised layout.*

**Sidewalks/Connectivity:**
**1. Reminder: 5 FT sidewalk is required along all project frontages, including Overbrook extension into subdivision**
*RESPONSE: The sidewalk is now shown throughout the subdivision and along the Overbrook extension road.*

**Open Space:**
**1. Please confirm the open space calculated does not include any space covered by public or private utility easements.**
*RESPONSE: The open space calculation does not include the space covered by public or private utility easements.*

**2. Open space areas must have a minimum contiguous area of 10,000 SF. There are a few spots on the north side that likely won't be able to satisfy that requirement**
*RESPONSE: Noted. Only the open space areas with contiguous areas of 10,000 SF or more have been included.*

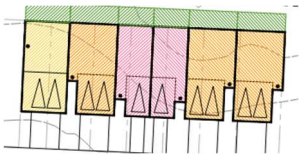
**3. Please provide calculation of formal open space (minimum 5%)**
*RESPONSE: The formal open space is now included in the calculations on the MDP.*

**4. Please provide intended improvements/amenities associated with formal open space**
*RESPONSE: The formal open space areas include a natural path around the site, park areas, and a clubhouse for multi-unit attached. The detail for these amenities is not yet known and is to be determined.*

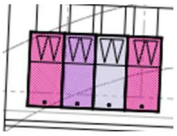
**Landscaping:**
**• Landscape plan not submitted**
*RESPONSE: The landscape plan will be submitted as a follow up to the formal PUD/ZMA submittal package as discussed in the meeting on 10/17. We will forward as soon as complete.*

**Home Information:**
**1. Please provide intended materials and other architectural details for all building types, understanding vinyl is not permitted.**
*RESPONSE: The example imagery provided provides architectural details and indicates that vinyl is not permitted. Actual material samples will be provided when decided upon by the developer and builders. We have requested updated imagery from potential builders removing all vinyl.*

**2. Clarify whether the townhome product in yellow may be intended for rear loaded garages (see image below under Fire comments for reference)**
*RESPONSE:*

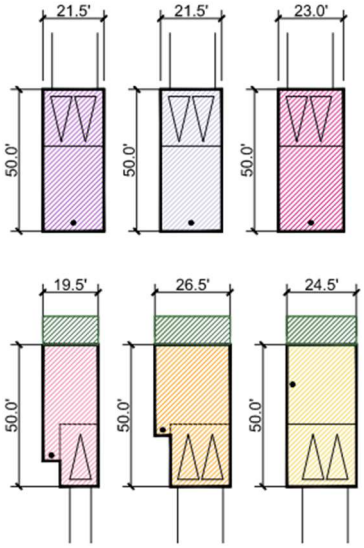


*Yellow/pink/orange units are fronted loaded with a driveway/garage.*



*Purple/magenta/gray units are alley (rear) loaded with access via the alley.*

**3. Please provide building footprints for all building types**
*RESPONSE: The single-family homes will have a building footprint 40' wide x 30'-70' in depth. The townhome units will be 26' wide x 70' deep max. Multi-unit attached in SE are:*




Multi-unit attached footprints in the SW are approximately 8,500 SF.

**Department Specific Comments:**
**Fire:**
**1. The North access point requires further discussion, due to the concern of it becoming a choke point due to the width of the access road, and the turn onto it. Must show elevation changes in that area**
*RESPONSE: Noted. The north access point has been revised to connect to Main Street. Per discussion on 10/17 the frontage road will connect for emergency vehicles to be able to access the existing driveway and turn left. Full improvements to the access road and point of connection are still under discussion with relation to the traffic study.*

**2. A secondary access point to Main Street or State Route 63 must be completed before the 30th unit is finished**
*RESPONSE: Noted.*

**3. Roadway design must address on-street parking, designated fire lanes, and fire lane signage. The required road width may also depend on the height of the multi-family units**
*RESPONSE: Noted. We will address when moving forward with plans.*

**4. An AutoCAD turning analysis for aerial apparatus must be provided for the entire site plan, including the multi-family portions**
*RESPONSE: A fire truck turning exhibit has been provided in this submittal.*

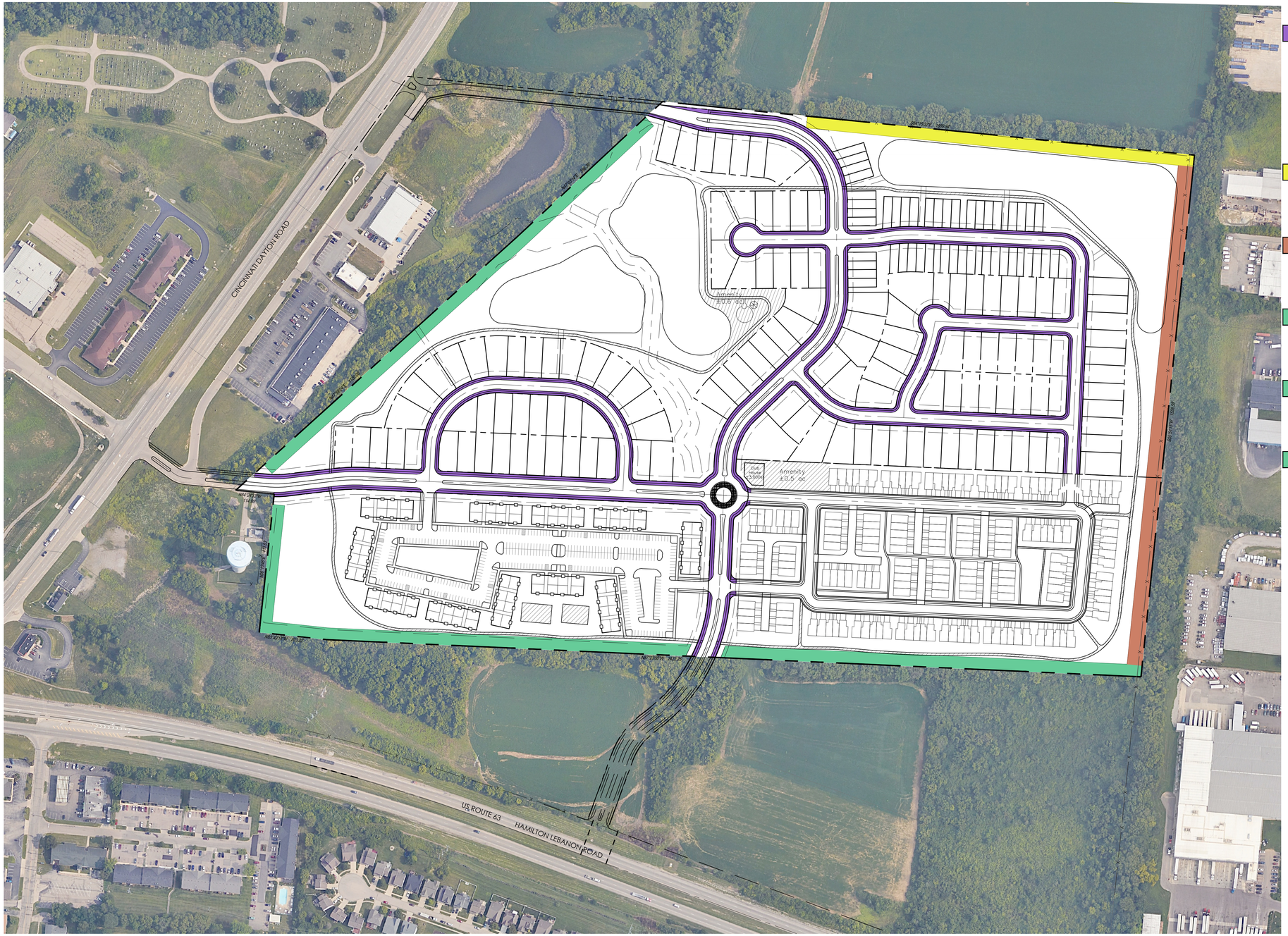
**5. The secondary access point for the multi-family units on the south side must be installed at least up to the secondary access location shown before the project can proceed further**
*RESPONSE: Noted.*

**6. For the multi-unit townhome buildings in the yellow area, preference is to allow pass-through driveways, and/or address how emergency vehicles would navigate this area. Also confirm these are intended to be private drives to access parking.**
*RESPONSE: As discussed, the developer would prefer to keep the rear alley access drives separated to allow the sidewalk/ pedestrian way to pass through without crossing areas for vehicle use. These rear access drives are for accessing the parking for each unit.*

**7. Hydrant spacing and underground water mains must comply with code and receive approval from both Fire and Monroe Public Works**
*RESPONSE: Noted.*

**Public Works/Engineering:**
**1. Concerns regarding North Main Street access as well as stub to the northern acreage are mentioned above**
*RESPONSE: Noted. See previous responses.*

**2. Comments outside the TIS will be provided once a formal submission is made**
*RESPONSE: Noted.*




## ZONING LANDSCAPE REQUIREMENTS

**STREET TREE REQUIREMENTS (1204 E)**

Street trees required along both sides of all streets for all new sites along all frontages, excluding interstate highway frontage and alleys.

Street trees to be planted 40' O.C. along all streets where required.

**BUFFERYARD LANDSCAPING (1204.21)**

Bufferyard type determined by adjacent zoning district.

Trees or shrubs in bufferyard shall generally be clustered in order to present a naturalistic character.

| | | REQUIRED | PROVIDED |
|---|---|---|---|
| North Boundry UR-RR | | | |
| Natural - Type A | 1,134 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 1 | 11 | 11 |
| Ornamental | 5 | 57 | 57 |
| Evergreen | N/A | N/A | N/A |
| Shrubs | 15 | 170 | 170 |
| East Boundry UR-LI | | | |
| Natural - Type D | 1,491 l.f. | 45' wd | 45' wd |
| Plants per 100 l.f. | | | |
| Canopy | 9 | 134 | 134 |
| Ornamental | 10 | 149 | 149 |
| Evergreen | 10 | 149 | 149 |
| Shrubs | 55 | 820 | 820 |
| South Boundry UR-GC | | | |
| Natural - Type C | 2,444 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 6 | 147 | 147 |
| Ornamental | 7 | 171 | 171 |
| Evergreen | 8 | 196 | 196 |
| Shrubs | 25 | 611 | 611 |
| West Boundry UR-GC | | | |
| Natural - Type C | 364 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 6 | 22 | 22 |
| Ornamental | 7 | 25 | 25 |
| Evergreen | 8 | 29 | 29 |
| Shrubs | 25 | 91 | 91 |
| SW-NE Boundry UR-GC | | | |
| Natural - Type C | 1,535 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 6 | 92 | 92 |
| Ornamental | 7 | 107 | 107 |
| Evergreen | 8 | 123 | 123 |
| Shrubs | 25 | 384 | 384 |

Laflin Design Group ltd.
Landscape Architecture
beyond the seasons
8337 Nashua Drive
Indianapolis, Indiana 46260
o-630.761.8450
info@laflindesigngroup.com

project:

Bridge Development
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

Landscape Zoning Analysis

project #: 2965

issue date: 10/31/25
checked by: ldg
drafted by: kl
file: 2965-2025-10-28_pud
plot: L1

All ideas, designs and plans represented by this drawing are the exclusive property of Laflin Design Group, ltd, and shall not be used or altered without prior written permission from Laflin Design Group, ltd.

stamp:

STATE OF OHIO
KATRINA L LAFLIN
LA.2401671
LANDSCAPE ARCHITECT

EXPIRATION DATE: 12.31.2026

PROFESSIONAL DESIGN FIRM REGISTRATION FIRM.24314753
©2025 LAFLIN DESIGN GROUP, LTD.

revisions:

| no. | date | description | by |
|---|---|---|---|

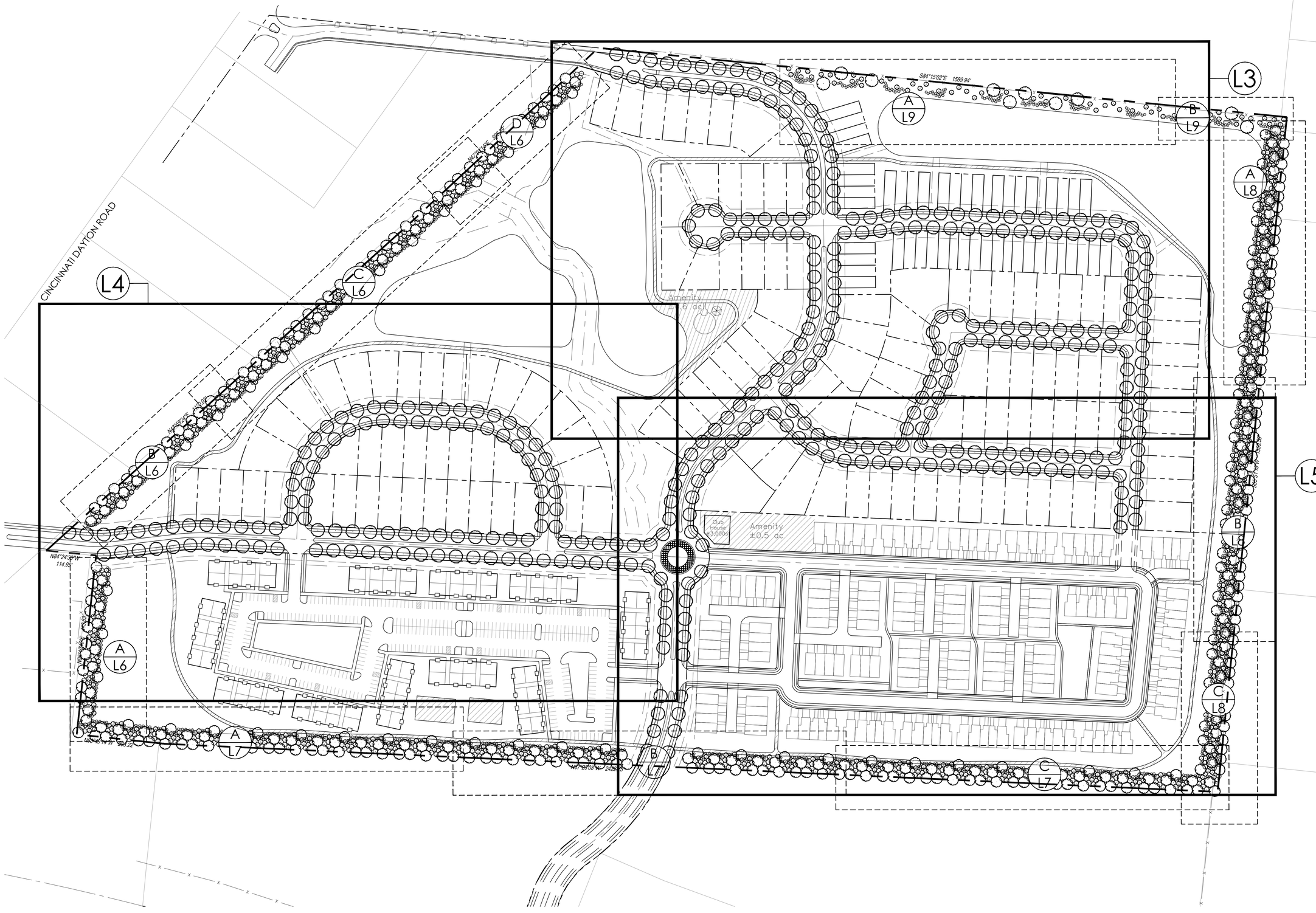
scale: 1" = 150'-0"

0 150 300 450

north:

sheet: L1

of 9




Laflin Design Group, ltd.
Landscape Architecture
beyond the seasons

8337 Nashua Drive
Indianapolis, Indiana 46260
o-630.761.8450
info@laflindesigngroup.com

project:

Bridge Development
US-63 / Hamilton Lebanon Road
and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

Overall
Landscape Plan

| | |
|---|---|
| project #: | 2965 |
| issue date: | 10/31/25 |
| checked by: | ldg |
| drafted by: | kl |
| file: | 2965-2025-10-28_pud |
| plot: | L2 |

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STATE OF OHIO
KATRINA L LAFLIN
LA.2401671
LANDSCAPE ARCHITECT

EXPIRATION DATE: 12.31.2026

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revisions:

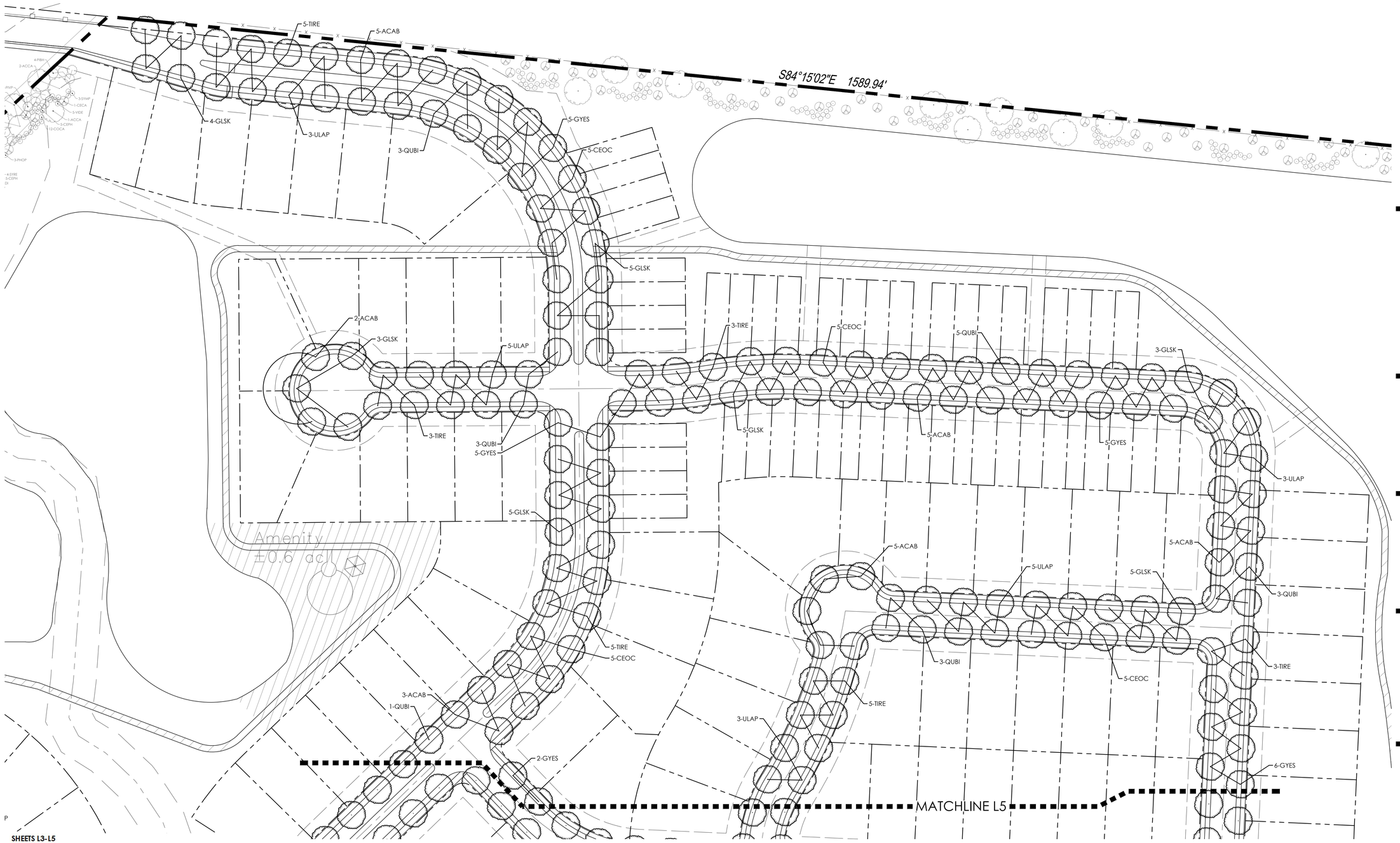
| no. | date | description | by |
|---|---|---|---|
| | | | |

scale: 1" = 100'-0"

0 100 200 300

north:

sheet: L2 of 9




**SHEETS L3-L5**

## PLANT LEGEND

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Shade Trees** | | | |
| 57 | ACAB | Acer freemanii 'Jeffersred' Autumn Blaze Freeman Maple | 2.5" cal | 40-55' | 30-40' |
| 56 | CEOC | Celtis occidentalis Hackberry | 2.5" cal | 40-60' | 40-60' |
| 67 | GLSK | Gleditsia triacanthos 'Skycole' Skyline Honeylocust | 2.5" cal | 45-50' | 30-35' |
| 56 | GYES | Gymnocladus dioica 'Espresso' Kentucky Coffee Tree | 2.5" cal | 40-50' | 30-35' |
| 41 | QUBI | Quercus bicolor Swamp White Oak | 2.5" cal | 50-60' | 50-60' |
| 43 | TIRE | Tilia americana 'Redmond' Redmond American Linden | 2.5" cal | 50-70' | 30-45' |
| 43 | ULAP | Ulmus americana 'Princeton' Princeton American Elm | 2.5" cal | 50-70' | 30-50' |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project:

**Bridge Development**
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

Street Tree Landscape Plan North

| | |
|---|---|
| project #: | 2965 |
| issue date: | 10/31/25 |
| checked by: | ldg |
| drafted by: | kl |
| file: | 2965-2025-10-28_pud |
| plot: | L3 |


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scale: 1" = 50'-0"

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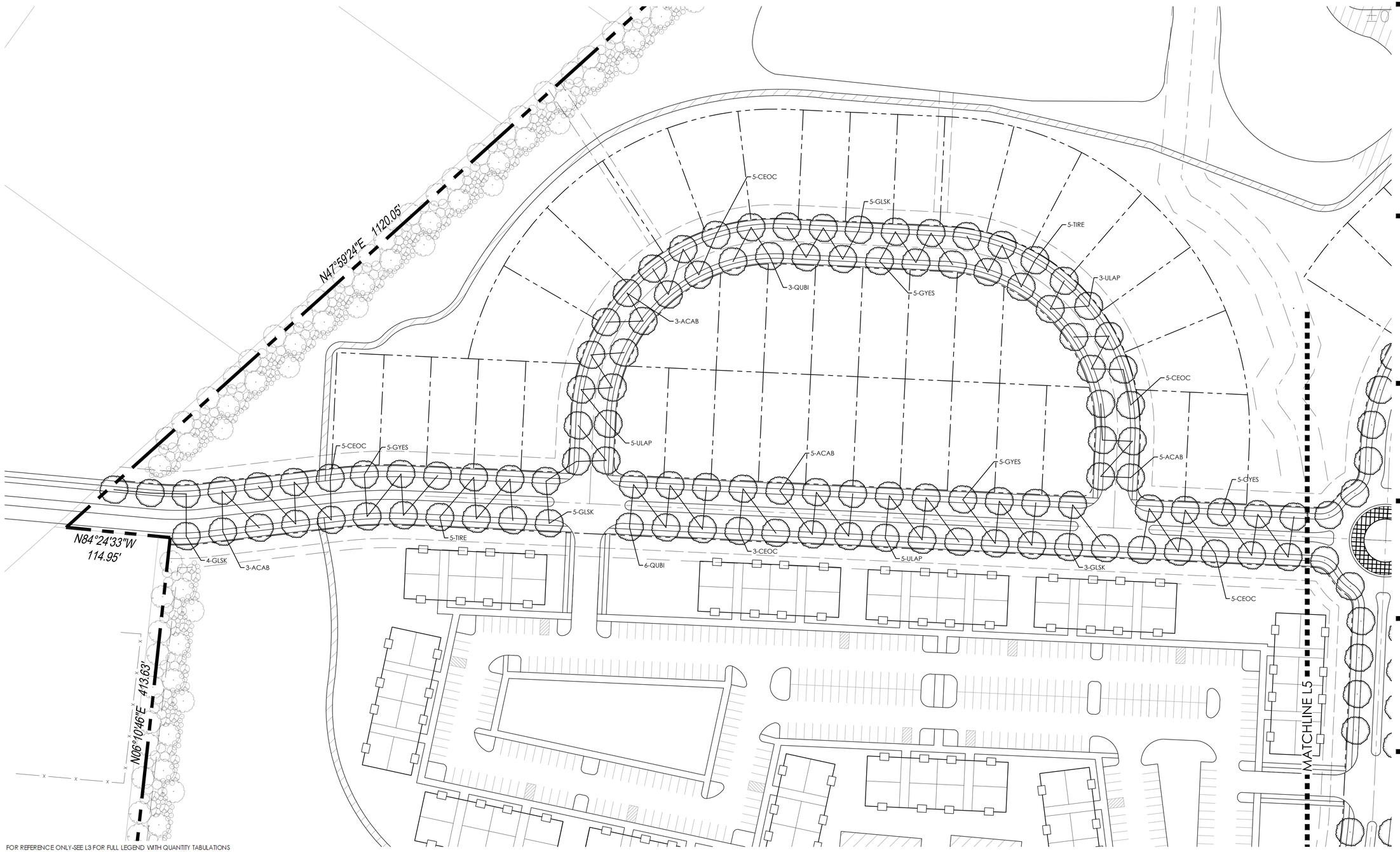
north:

sheet: L3 of 9




FOR REFERENCE ONLY-SEE L3 FOR FULL LEGEND WITH QUANTITY TABULATIONS

## PLANT LEGEND

| KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|
| **Shade Trees** | | | | |
| ACAB | Acer freemanii 'Jeffersred' Autumn Blaze Freeman Maple | 2.5" cal | 40-55' | 30-40' |
| CEOC | Celtis occidentalis Hackberry | 2.5" cal | 40-60' | 40-60' |
| GLSK | Gleditsia triacanthos 'Skycole' Skyline Honeylocust | 2.5" cal | 45-50' | 30-35' |
| GYES | Gymnocladus dioica 'Espresso' Kentucky Coffee Tree | 2.5" cal | 40-50' | 30-35' |
| QUBI | Quercus bicolor Swamp White Oak | 2.5" cal | 50-60' | 50-60' |
| TIRE | Tilia americana 'Redmond' Redmond American Linden | 2.5" cal | 50-70' | 30-45' |
| ULAP | Ulmus americana 'Princeton' Princeton American Elm | 2.5" cal | 50-70' | 30-50' |

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project:

**Bridge Development**
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

**Street Tree Landscape Plan West**

| | |
|---|---|
| project #: | 2965 |
| issue date: | 10/31/25 |
| checked by: | ldg |
| drafted by: | kl |
| file: | 2965-2025-10-28_pud |
| plot: | L4 |

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|---|---|---|---|

scale: 1" = 50'-0"

0 50 100 150

north: sheet: L4 of 9

FOR REFERENCE ONLY-SEE L3 FOR FULL LEGEND WITH QUANTITY TABULATIONS

## PLANT LEGEND

| KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|
| **Shade Trees** | | | | |
| ACAB | Acer freemanii 'Jeffersred' Autumn Blaze Freeman Maple | 2.5" cal | 40-55' | 30-40' |
| CEOC | Celtis occidentalis Hackberry | 2.5" cal | 40-60' | 40-60' |
| GLSK | Gleditsia triacanthos 'Skycole' Skyline Honeylocust | 2.5" cal | 45-50' | 30-35' |
| GYES | Gymnocladus dioica 'Espresso' Kentucky Coffee Tree | 2.5" cal | 40-50' | 30-35' |
| QUBI | Quercus bicolor Swamp White Oak | 2.5" cal | 50-60' | 50-60' |
| TIRE | Tilia americana 'Redmond' Redmond American Linden | 2.5" cal | 50-70' | 30-45' |
| ULAP | Ulmus americana 'Princeton' Princeton American Elm | 2.5" cal | 50-70' | 30-50' |


Laflin Design Group, ltd.
Landscape Architecture
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project:

Bridge Development
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

Street Tree Landscape Plan Southeast

| | |
|---|---|
| project #: | 2965 |
| issue date: | 10/31/25 |
| checked by: | ldg |
| drafted by: | kl |
| file: | 2965-2025-10-28_pud |
| plot: | L5 |


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scale: 1" = 50'-0"

0 50 100 150

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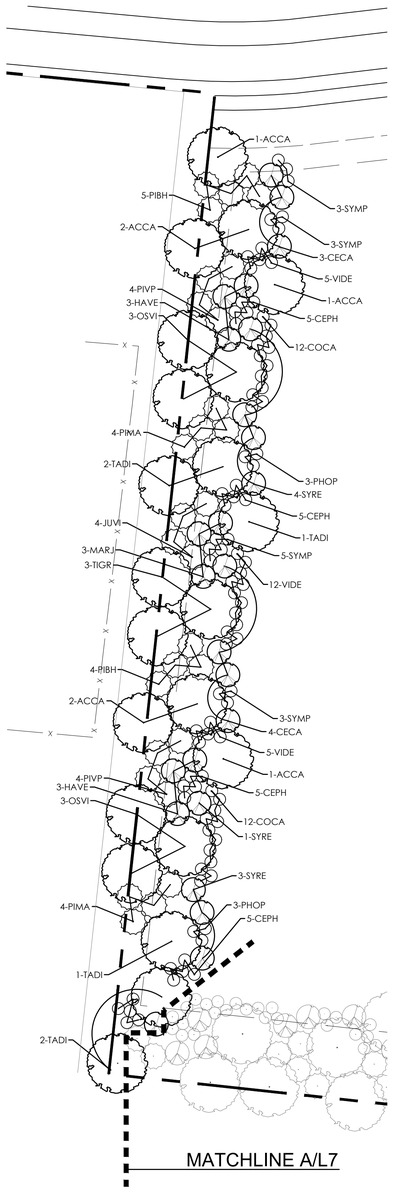
sheet: L5 of 9




A WEST BUFFERYARD 'C' PLANTING

SHEET L6/A

## PLANT LEGEND

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Shade Trees** | | | |
| 6 | ACCA | Acer campestre<br>Hedge Maple | 2.5" cal | 25-35' | 25-35' |
| 6 | OSVI | Ostrya virginiana<br>Hop Hornbeam | 2.5" cal | 25-40' | 20-30' |
| 6 | TADI | Taxodium distichum<br>Baldcypress | 2.5" cal | 50-70' | 20-45' |
| 3 | TIGR | Tilia cordata 'Greenspire'<br>Greenspire Littleleaf Linden | 2.5" cal | 40-50' | 30-35' |
| | | **Evergreen Trees** | | | |
| 4 | JUVI | Juniperus virginiana<br>Eastern Red Cedar | 6' ht | 30-65' | 8-25' |
| 8 | PIVP | Pinus flexilis 'Vanderwolf's Pyramid'<br>Limber Pine | 6' ht | 20-30' | 10-15' |
| 9 | PIBH | Picea glauca var. densata<br>Black Hills Spruce | 6' ht | 20-40' | 10-15' |
| 8 | PIMA | Picea mariana<br>Black Spruce | 6' ht | 30-40' | 15-20' |
| | | **Ornamental Trees** | | | |
| 7 | CECA | Cercis canadensis<br>Redbud | 2" cal | 20-30' | 25-35' |
| 6 | HAVE | Hamamelis vernalis<br>Vernal Witch Hazel | 2" cal | 15-20' | 15-20' |
| 3 | MARJ | Malus 'Jewelcole'<br>Red Jewel Crabapple | 2" cal | 12'-15' | 8'-12' |
| 8 | SYRE | Syringa reticulata 'Ivory Silk'<br>Ivory Silk Japanese Tree Lilac | 2" cal | 20-25' | 15-20' |
| | | **Deciduous Shrubs** | | | |
| 20 | CEPH | Cephalanthus occidentalis<br>Common Buttonbush | 36" ht | 5-12' | 4-8' |
| 24 | COCA | Cornus sericea 'Cardinal'<br>Cardinal Redtwig Dogwood | 36" ht | 6-9' | 8-12' |
| 6 | PHOP | Physocarpus opulifolius<br>Common Ninebark | 36" ht | 5-10' | 6-10' |
| 14 | SYMP | Syringa meyeri 'Palibin'<br>Dwarf Korean Lilac | 36" ht | 4-5' | 5-7' |
| 22 | VIDE | Viburnum dentatum<br>Arrowwood Viburnum | 36" ht | 6-10' | 6-10' |

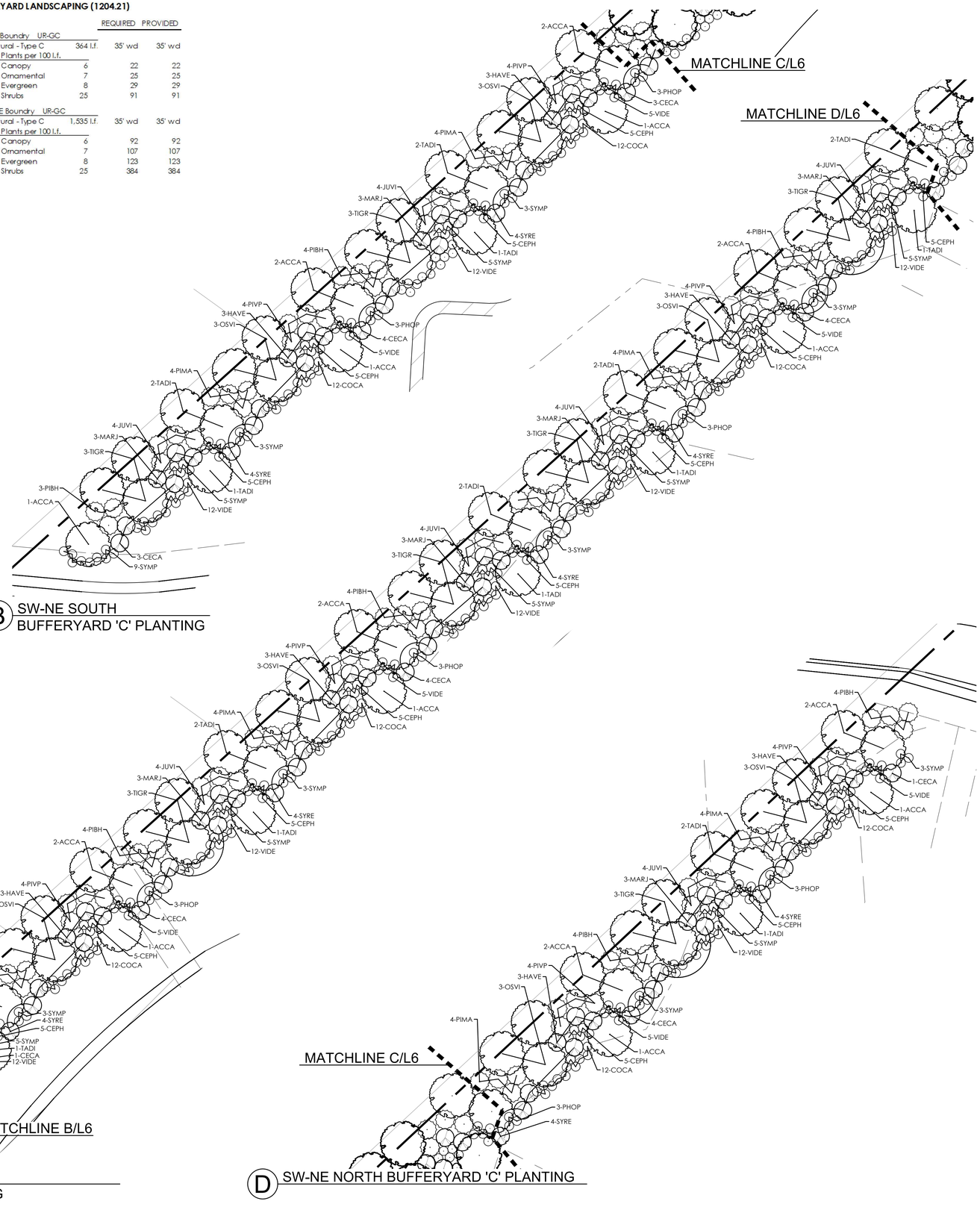
SHEET L6/B-D

## PLANT LEGEND

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Shade Trees** | | | |
| 22 | ACCA | Acer campestre<br>Hedge Maple | 2.5" cal | 25-35' | 25-35' |
| 21 | OSVI | Ostrya virginiana<br>Hop Hornbeam | 2.5" cal | 25-40' | 20-30' |
| 24 | TADI | Taxodium distichum<br>Baldcypress | 2.5" cal | 50-70' | 20-45' |
| 24 | TIGR | Tilia cordata 'Greenspire'<br>Greenspire Littleleaf Linden | 2.5" cal | 40-50' | 30-35' |
| | | **Evergreen Trees** | | | |
| 32 | JUVI | Juniperus virginiana<br>Eastern Red Cedar | 6' ht | 30-65' | 8-25' |
| 28 | PIVP | Pinus flexilis 'Vanderwolf's Pyramid'<br>Limber Pine | 6' ht | 20-30' | 10-15' |
| 31 | PIBH | Picea glauca var. densata<br>Black Hills Spruce | 6' ht | 20-40' | 10-15' |
| 28 | PIMA | Picea mariana<br>Black Spruce | 6' ht | 30-40' | 15-20' |
| | | **Ornamental Trees** | | | |
| 28 | CECA | Cercis canadensis<br>Redbud | 2" cal | 20-30' | 25-35' |
| 21 | HAVE | Hamamelis vernalis<br>Vernal Witch Hazel | 2" cal | 15-20' | 15-20' |
| 21 | MARJ | Malus 'Jewelcole'<br>Red Jewel Crabapple | 2" cal | 12'-15' | 8'-12' |
| 32 | SYRE | Syringa reticulata 'Ivory Silk'<br>Ivory Silk Japanese Tree Lilac | 2" cal | 20-25' | 15-20' |
| | | **Deciduous Shrubs** | | | |
| 75 | CEPH | Cephalanthus occidentalis<br>Common Buttonbush | 36" ht | 5-12' | 4-8' |
| 84 | COCA | Cornus sericea 'Cardinal'<br>Cardinal Redtwig Dogwood | 36" ht | 6-9' | 8-12' |
| 21 | PHOP | Physocarpus opulifolius<br>Common Ninebark | 36" ht | 5-10' | 6-10' |
| 73 | SYMP | Syringa meyeri 'Palibin'<br>Dwarf Korean Lilac | 36" ht | 4-5' | 5-7' |
| 131 | VIDE | Viburnum dentatum<br>Arrowwood Viburnum | 36" ht | 6-10' | 6-10' |

**BUFFERYARD LANDSCAPING (1204.21)**

| | | REQUIRED | PROVIDED |
|---|---|---|---|
| West Boundry UR-GC | | | |
| Natural - Type C | 364 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 6 | 22 | 22 |
| Ornamental | 7 | 25 | 25 |
| Evergreen | 8 | 29 | 29 |
| Shrubs | 25 | 91 | 91 |
| SW-NE Boundry UR-GC | | | |
| Natural - Type C | 1,535 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 6 | 92 | 92 |
| Ornamental | 7 | 107 | 107 |
| Evergreen | 8 | 123 | 123 |
| Shrubs | 25 | 384 | 384 |




B SW-NE SOUTH BUFFERYARD 'C' PLANTING

C SW-NE CENTRAL BUFFERYARD 'C' PLANTING

D SW-NE NORTH BUFFERYARD 'C' PLANTING


Laflin Design Group, ltd.
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project:

Bridge Development
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

West Bufferyard Type C Landscape Plan

| | |
|---|---|
| project #: | 2965 |
| issue date: | 10/31/25 |
| checked by: | ldg |
| drafted by: | kl |
| file: | 2965-2025-10-28_pud |
| plot: | L6 |


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KATRINA L LAFLIN
LA.2401671
LANDSCAPE ARCHITECT

EXPIRATION DATE: 12.31.2026


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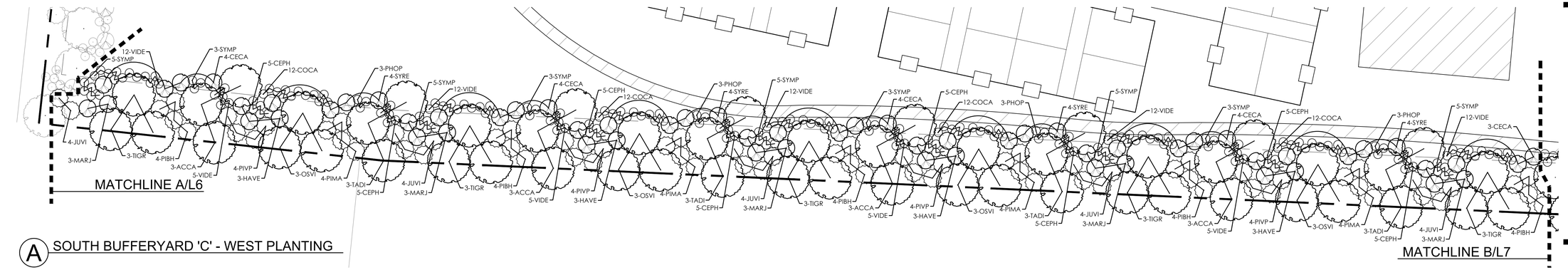
| no. | date | description | by |
|---|---|---|---|
| | | | |

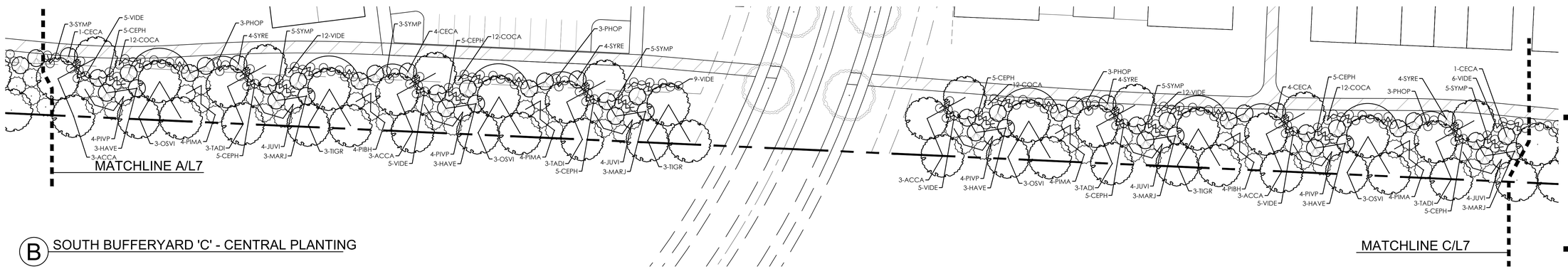
scale: 1" = 30'-0"

0 30 60 90

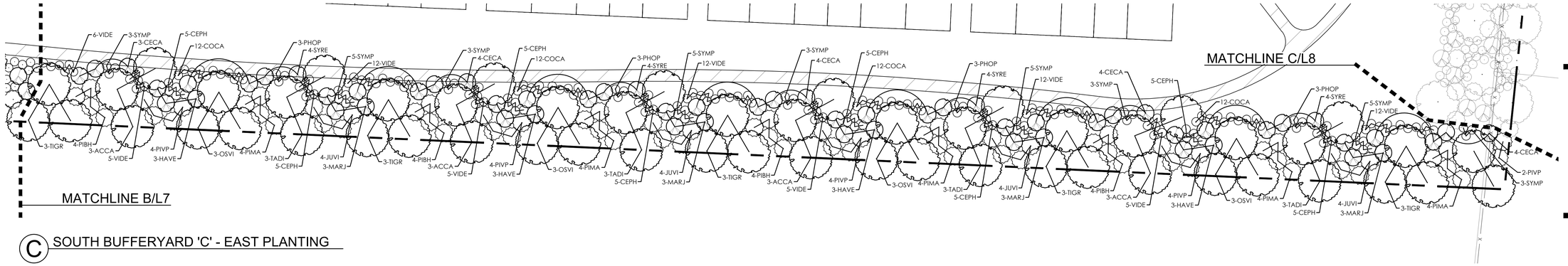
north: sheet: L6 of 9




A SOUTH BUFFERYARD 'C' - WEST PLANTING




B SOUTH BUFFERYARD 'C' - CENTRAL PLANTING




C SOUTH BUFFERYARD 'C' - EAST PLANTING

**BUFFERYARD LANDSCAPING (1204.21)**

| | | REQUIRED | PROVIDED |
|---|---|---|---|
| South Boundary | UR-GC | | |
| Natural - Type C | 2,444 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 6 | 147 | 147 |
| Ornamental | 7 | 171 | 171 |
| Evergreen | 8 | 196 | 196 |
| Shrubs | 25 | 611 | 611 |

SHEET L7/A-C

## PLANT LEGEND

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Shade Trees** | | | |
| 36 | ACCA | Acer campestre<br>Hedge Maple | 2.5" cal | 25-35' | 25-35' |
| 36 | OSVI | Ostrya virginiana<br>Hop Hornbeam | 2.5" cal | 25-40' | 20-30' |
| 36 | TADI | Taxodium distichum<br>Baldcypress | 2.5" cal | 50-70' | 20-45' |
| 39 | TIGR | Tilia cordata 'Greenspire'<br>Greenspire Littleleaf Linden | 2.5" cal | 40-50' | 30-35' |
| | | **Evergreen Trees** | | | |
| 48 | JUVI | Juniperus virginiana<br>Eastern Red Cedar | 6' ht | 30-65' | 8-25' |
| 54 | PIVP | Pinus flexilis 'Vanderwolf's Pyramid'<br>Limber Pine | 6' ht | 20-30' | 10-15' |
| 44 | PIBH | Picea glauca var. densata<br>Black Hills Spruce | 6' ht | 20-40' | 10-15' |
| 52 | PIMA | Picea mariana<br>Black Spruce | 6' ht | 30-40' | 15-20' |

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Ornamental Trees** | | | |
| 48 | CECA | Cercis canadensis<br>Redbud | 2" cal | 20-30' | 25-35' |
| 36 | HAVE | Hamamelis vernalis<br>Vernal Witch Hazel | 2" cal | 15-20' | 15-20' |
| 39 | MARJ | Malus 'Jewelcole'<br>Red Jewel Crabapple | 2" cal | 12'-15' | 8'-12' |
| 48 | SYRE | Syringa reticulata 'Ivory Silk'<br>Ivory Silk Japanese Tree Lilac | 2" cal | 20-25' | 15-20' |
| | | **Deciduous Shrubs** | | | |
| 120 | CEPH | Cephalanthus occidentalis<br>Common Buttonbush | 36" ht | 5-12' | 4-8' |
| 144 | COCA | Cornus sericea 'Cardinal'<br>Cardinal Redtwig Dogwood | 36" ht | 6-9' | 8-12' |
| 36 | PHOP | Physocarpus opulifolius<br>Common Ninebark | 36" ht | 5-10' | 6-10' |
| 98 | SYMP | Syringa meyeri 'Palibin'<br>Dwarf Korean Lilac | 36" ht | 4-5' | 5-7' |
| 208 | VIDE | Viburnum dentatum<br>Arrowwood Viburnum | 36" ht | 6-10' | 6-10' |

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project:

Bridge Development
US-63 / Hamilton Lebanon Road
and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

South Bufferyard
Type C
Landscape Plan

project #: 2965

issue date: 10/31/25

checked by: ldg

drafted by: kl

file: 2965-2025-10-28_pud

plot: L7

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KATRINA LAFLIN
LA.2401671
LANDSCAPE ARCHITECT

EXPIRATION DATE: 12.31.2026

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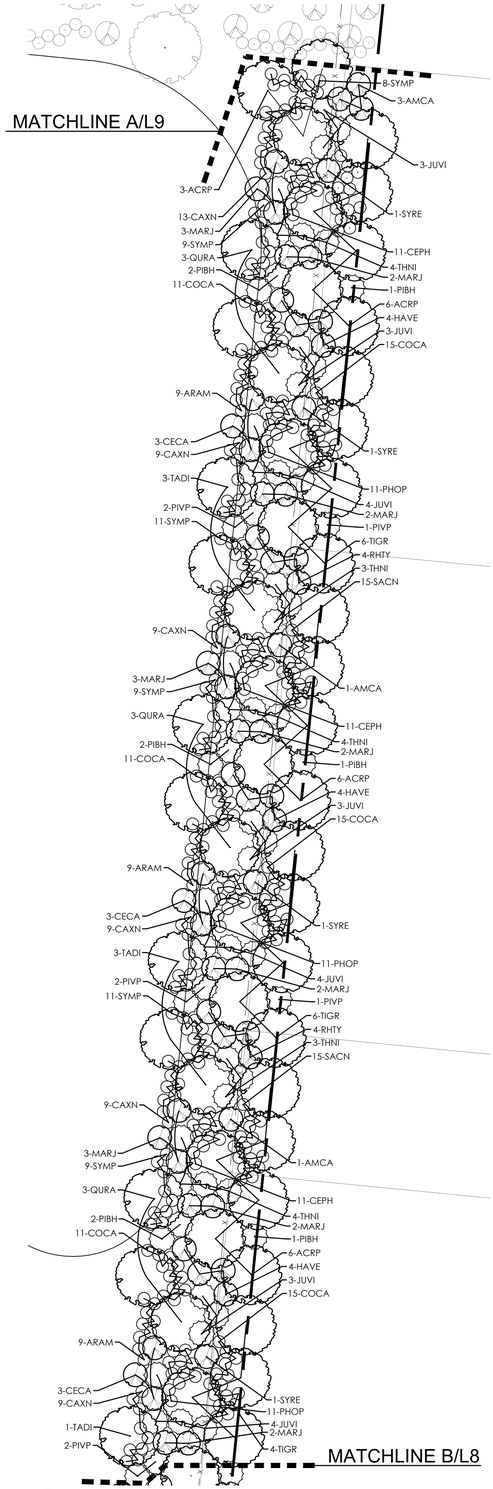
scale: 1" = 30'-0"

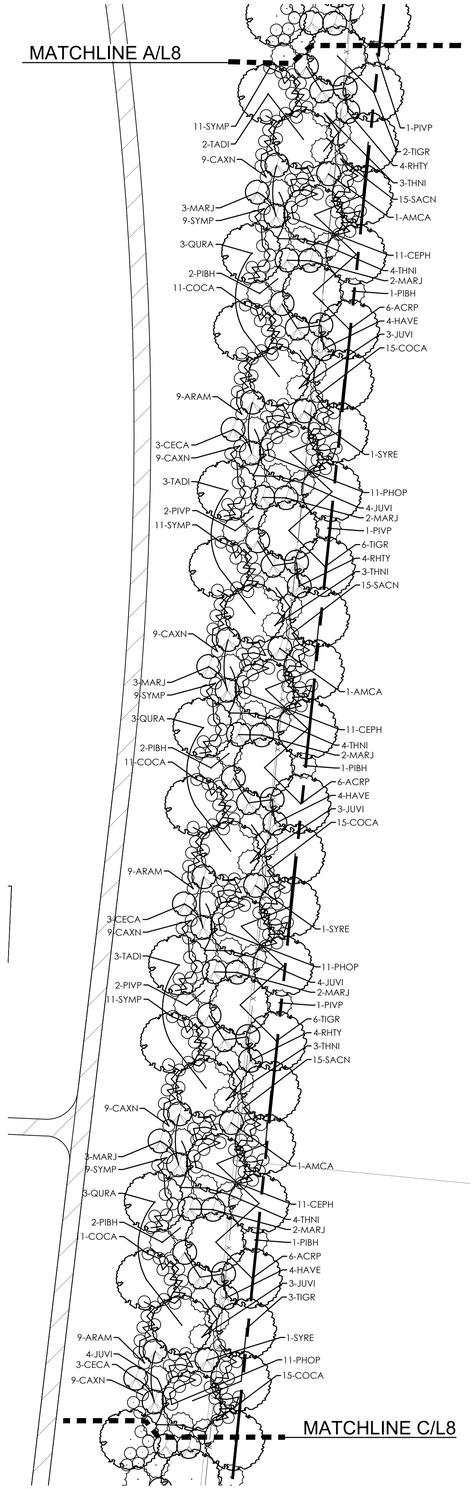
0 30 60 90

north:

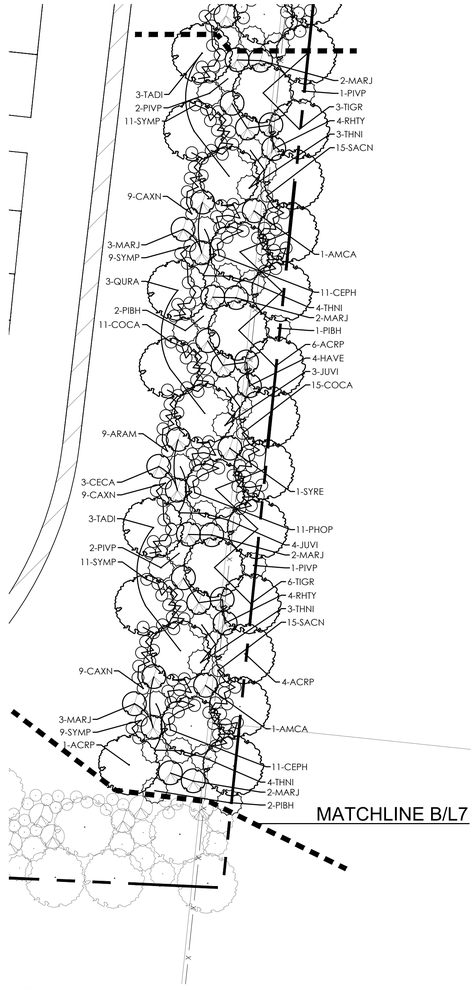
sheet: L7 of 9




A EAST BUFFERYARD D' - NORTH PLANTING




B EAST BUFFERYARD D' - CENTRAL PLANTING




C EAST BUFFERYARD D' - SOUTH PLANTING

**BUFFERYARD LANDSCAPING (1204.21)**

| | | REQUIRED | PROVIDED |
|---|---|---|---|
| East Boundry UR-LI | | | |
| Natural - Type D | 1,491 l.f. | 45' wd | 45' wd |
| Plants per 100 l.f. | | | |
| Canopy | 9 | 134 | 134 |
| Ornamental | 10 | 149 | 149 |
| Evergreen | 10 | 149 | 149 |
| Shrubs | 55 | 820 | 820 |

**SHEET L8/A-C**

## PLANT LEGEND

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Shade Trees** | | | |
| 50 | ACRP | Acer rubrum 'Frank Jr.' Redpointe Red Maple | 2.5" cal | 40-45' | 25-30' |
| 16 | QURA | Quercus robur x Q. alba 'Cimschmidt' Crimson Spire Oak | 2.5" cal | 40-45' | 15-20' |
| 21 | TADI | Taxodium distichum Baldcypress | 2.5" cal | 50-70' | 20-45' |
| 42 | TIGR | Tilia cordata 'Greenspire' Greenspire Littleleaf Linden | 2.5" cal | 40-50' | 30-35' |
| | | **Evergreen Trees** | | | |
| 55 | JUVI | Juniperus virginiana Eastern Red Cedar | 6' ht | 30-65' | 8-25' |
| 21 | PIVP | Pinus flexilis 'Vanderwolf's Pyramid' Limber Pine | 6' ht | 20-30' | 10-15' |
| 23 | PIBH | Picea glauca var. densata Black Hills Spruce | 6' ht | 20-40' | 10-15' |
| 53 | THNI | Thuja occidentalis 'Nigra' Dark Green Arborvitae | 6' ht | 20-30' | 5-10' |
| | | **Ornamental Trees** | | | |
| 10 | AMCA | Amelanchier canadensis Serviceberry | 2" cal | 25-30' | 15-20' |
| 21 | CECA | Cercis canadensis Redbud | 2" cal | 20-30' | 25-35' |
| 28 | HAVE | Hamamelis vernalis Vernal Witch Hazel | 2" cal | 15-20' | 15-20' |
| 54 | MARJ | Malus 'Jewelcole' Red Jewel Crabapple | 2" cal | 12-15' | 8'-12' |
| 28 | RHTY | Rhus typhina Staghorn Sumac | 2" cal | 15-25' | 20-30' |
| 8 | SYRE | Syringa reticulata 'Ivory Silk' Ivory Silk Japanese Tree Lilac | 2" cal | 20-25' | 15-20' |
| | | **Deciduous Shrubs** | | | |
| 63 | ARAM | Aronia melanocarpa 'Autumn Magic' Autumn Magic Black Chokeberry | 36" ht | 3-6' | 4-7' |
| 139 | CAXN | Callicarpa x 'NCCX2' Pearl Glam Beautyberry | 36" ht | 4-6' | 4-6' |
| 88 | CEPH | Cephalanthus occidentalis Common Buttonbush | 36" ht | 5-12' | 4-8' |
| 182 | COCA | Cornus sericea 'Cardinal' Cardinal Redtwig Dogwood | 36" ht | 6-9' | 8-12' |
| 77 | PHOP | Physocarpus opulifolius Common Ninebark | 36" ht | 5-10' | 6-10' |
| 105 | SACN | Sambucus canadensis Elderberry | 36" ht | 8-12' | 6-8' |
| 157 | SYMP | Syringa meyeri 'Palibin' Dwarf Korean Lilac | 36" ht | 4-5' | 5-7' |


Laflin Design Group, ltd.
Landscape Architecture
beyond the seasons
8337 Nashua Drive
Indianapolis, Indiana 46260
o-630.761.8450
info@laflindesigngroup.com


project:

Bridge Development
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

East Bufferyard Type D Landscape Plan

| | |
|---|---|
| project #: | 2965 |
| issue date: | 10/31/25 |
| checked by: | ldg |
| drafted by: | kl |
| file: | 2965-2025-10-28_pud |
| plot: | L8 |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stamp:

STATE OF OHIO
KATRINA LAFLIN
LA.2401671
LANDSCAPE ARCHITECT

EXPIRATION DATE: 12.31.2026

PROFESSIONAL DESIGN FIRM REGISTRATION FIRM.24314753

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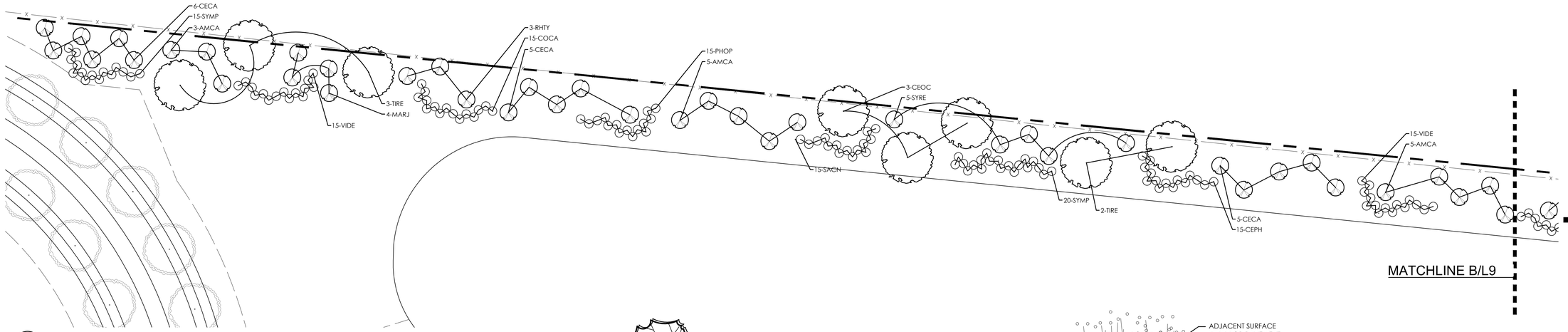
revisions:

| no. | date | description | by |
|---|---|---|---|

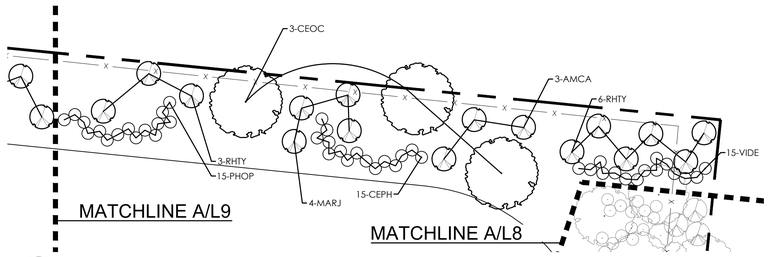
scale: 1" = 30'-0"

0 30 60 90

north: sheet: L8 of 9




## A NORTH BUFFERYARD 'A' - WEST PLANTING




## B NORTH BUFFERYARD A' - EAST PLANTING

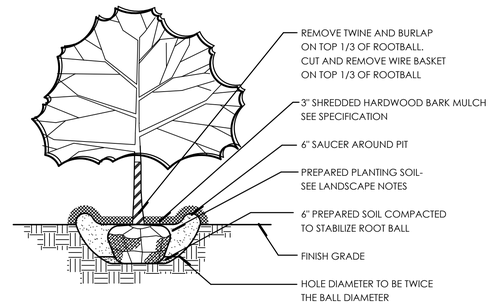
**BUFFERYARD LANDSCAPING (1204.21)**

| | | REQUIRED | PROVIDED |
|---|---|---|---|
| North Boundry UR-RR | | | |
| Natural - Type A | 1,134 l.f. | 35' wd | 35' wd |
| Plants per 100 l.f. | | | |
| Canopy | 1 | 11 | 11 |
| Ornamental | 5 | 57 | 57 |
| Evergreen | N/A | N/A | N/A |
| Shrubs | 15 | 170 | 170 |

**SHEET L9/A-B**

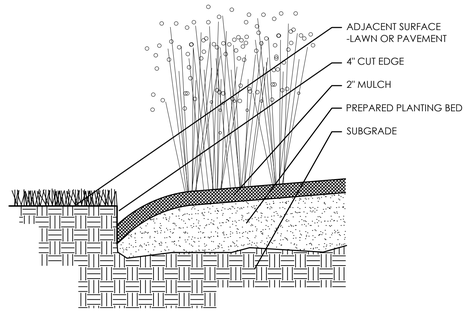
## PLANT LEGEND

| QTY | KEY | BOTANICAL NAME / COMMON NAME | SIZE | MATURE HEIGHT | MATURE WIDTH |
|---|---|---|---|---|---|
| | | **Shade Trees** | | | |
| 6 | CEOC | Celtis occidentalis<br>Hackberry | 2.5" cal | 40-60' | 40-60' |
| 5 | TIRE | Tilia americana 'Redmond'<br>Redmond American Linden | 2.5" cal | 50-70' | 30-45' |
| | | **Ornamental Trees** | | | |
| 16 | AMCA | Amelanchier canadensis<br>Serviceberry | 2" cal | 25-30' | 15-20' |
| 16 | CECA | Cercis canadensis<br>Redbud | 2" cal | 20-30' | 25-35' |
| 8 | MARJ | Malus 'Jewelcole'<br>Red Jewel Crabapple | 2" cal | 12'-15' | 8'-12' |
| 12 | RHTY | Rhus typhina<br>Staghorn Sumac | 2" cal | 15-25' | 20-30' |
| 5 | SYRE | Syringa reticulata 'Ivory Silk'<br>Ivory Silk Japanese Tree Lilac | 2" cal | 20-25' | 15-20' |
| | | **Deciduous Shrubs** | | | |
| 30 | CEPH | Cephalanthus occidentalis<br>Common Buttonbush | 36" ht | 5-12' | 4-8' |
| 15 | COCA | Cornus sericea 'Cardinal'<br>Cardinal Redtwig Dogwood | 36" ht | 6-9' | 8-12' |
| 30 | PHOP | Physocarpus opulifolius<br>Common Ninebark | 36" ht | 5-10' | 6-10' |
| 35 | SYMP | Syringa meyeri 'Palibin'<br>Dwarf Korean Lilac | 36" ht | 4-5' | 5-7' |
| 45 | VIDE | Viburnum dentatum<br>Arrowwood Viburnum | 36" ht | 6-10' | 6-10' |



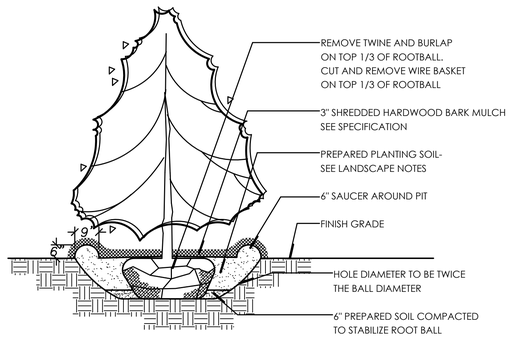

## C SHADE TREE PLANTING DETAIL

N.T.S.



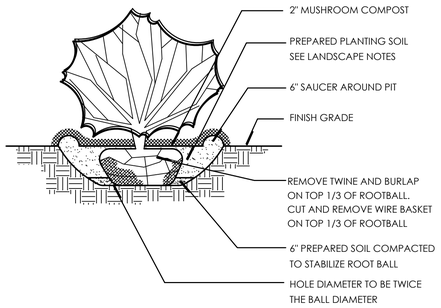

## F SPADED PLANTING BED EDGE

N.T.S.




## D EVERGREEN PLANTING DETAIL

N.T.S.




## E SHRUB PLANTING DETAIL

N.T.S.

## GENERAL NOTES

1. Contractor is responsible for verification of underground utility lines and is responsible for any damage occurring as a product of his work.
2. Contractor shall maintain clear and open access to the vehicular and pedestrian entrances to and from the property during all periods of work.
3. Contractor is responsible for verification of all existing conditions in the field prior to bidding and construction and shall notify the Landscape Architect and/or Owner of any variances.
4. Contractor is responsible for acquisition of and payment for all permits, fees and inspections necessary for the proper execution of this work and for compliance with all codes applicable to this work.
5. Contractor shall protect the property and is directly responsible for all damages caused by his work and for daily removal of all trash and debris from his work area to the satisfaction of the Landscape Architect and/or the Owner.

## LANDSCAPE NOTES

1. Material quantities are shown only for the convenience of the Contractor. The Contractor is responsible for verification of all materials and supplies in sufficient quantity to complete the job per plan.
2. All work shall conform to the current edition of the American Standard for Nursery Stock, State of Ohio Horticultural Standards and local municipal requirements, including but not limited to the City of Monroe Planning and Zoning Code Chapter.
3. All plant material installation shall be as detailed on these Drawings.
4. All pruning work shall be performed only with hand pruners.
5. All deciduous plant material shall be thin pruned to remove ¼ interior branches, dead branches and broken branches. Pruning shall compliment the plants natural form. Absolutely no tip pruning is allowed, except for hedges as noted on the Drawing. Any plant that is tip pruned is subject to rejection by the Landscape Architect and/or Owner.
6. Evergreen plant material shall be pruned of dead and broken branches and as directed by the Landscape Architect and/or Owner.
7. The Landscape Architect and/or Owner reserves the right to inspect trees and shrubs either at the place of growth or at the site prior to planting for compliance with requirements of variety, size and quality.
8. Provide pre-mixed planting mixture for use around the balls and roots of the plants consisting of 5 parts topsoil to 1 part leaf compost and 1/2 lb. Organic Bio-tone Starter Plus plant fertilizer as available from Espoma for each cu. yd. of mixture. If leaf compost is unavailable mushroom compost can be substituted
9. Prior to mulching, all individual trees and shrub beds shall be treated with a pre-emergent herbicide, such as Snap-Shot®. All areas shall be free from weeds prior to herbicide application.
10. All shrub beds shall be mulched to a depth of 2"-3" finely shredded hardwood bark mulch.
11. Water all plant material within the first 12 hours of initial planting. Continue watering weekly or as needed until the end of the maintenance period.
12. All site restoration lawn areas shall be ODOT State of Ohio "Lawn" Mixture applied at a rate of 10lbs/1,000 square feet with excelsior fiber blanket applied to slopes greater that 4:1. All lawn areas with slope less than 4:1 may be hydroseeded..
13. Contractor shall maintain all planting under the contracted work for a period of no less than 90 days or through the end of the calendar year/growing season.
14. Maintenance operations shall include mowing, edging, pruning, cultivating, weeding, resetting settled plants, application of pesticides if required and application of fertilizer as needed to insure proper establishment of planting and lawns.

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Indianapolis, Indiana 46260
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info@laflindesigngroup.com

project:

Bridge Development
US-63 / Hamilton Lebanon Road and North Main Street
Monroe, Ohio

prepared for:

Contour Land Group, LLC
984 Logan Street, Suite 204
Noblesville, Indiana 46060

sheet title:

North Bufferyard Type A Landscape Plan

project #: 2965

issue date: 10/31/25
checked by: ldg
drafted by: kl
file: 2965-2025-10-28_pud
plot: L9

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stamp:

EXPIRATION DATE: 12.31.2026

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revisions:

| no. | date | description | by |
|---|---|---|---|
| | | | |

scale: 1" = 30'-0"

0 30 60 90

north: sheet: L9

of 9

Docusign Envelope ID: FA6C19F1-A256-4BD1-9A7E-0F4C55C29359

# Application for a Zoning Map/Text Amendment

Monroe Development Department
233 South Main Street, Monroe, Ohio 45050
Phone: 513-539-7374
Email: planning@monroeohio.gov
www.monroeohio.gov

| For Staff Use Only | |
|---|---|
| Submittal Date: | |
| Date Application Determined Complete: | |
| Date of Planning Commission Review: | |
| Fee Paid: | Staff Initials: |
| Application/Case Number: | |

## Zoning Amendment Review Information

1. The zoning map and text amendment review procedure and review criteria are established in Section 1207.04 of the Monroe Planning and Zoning Code.
2. A pre-application conference is required prior to submission of an application for a zoning map amendment unless the Development Director waives the requirement. Contact the Development Department to set up a time.
3. The application fee is due at the time the application is submitted to planning@monroeohio.gov.

## Basic Information

Project Address: Northeast corner of Cincinnati Dayton Road and SR 63, Monroe, OH, 45050

County: ☑ Butler ☐ Warren | Total Area of Rezoning: 84.542 acres

County Tax Parcel ID: C1800 0006 000 044, C1800-005-000-081

Existing Zoning District: GC (3.23 acre parcel) and UR (81.312 acre parcel)

Proposed Zoning District: PUD with GR (single family) and UR (multi-family)

## Applicant Information

Applicant Name: Bridge Development Group

Contact Person: Zach Rodenbarger

Contact Address: 3700 Roosevelt St. Gary, IN 46408

Contact Phone Number: 317-426-1144 | Contact Fax Number:

Contact E-Mail: ZJR@BridgeDevelop.com

Property Owner Name: Cornerstone Monroe Farm LLC

The applicant may provide a separate attachment with contact information for additional people, if necessary (e.g., additional owners, registered engineer, landscape architect, etc.). The same contact information shall be provided for each contact name.

## Zoning Amendment Information

**1) Describe any change in conditions, trends, or other facts that necessitates the proposed zoning amendment. Furthermore, describe how the proposed zoning district will remedy the change in conditions, trends, or other issues.**

This community development plan aligns with key recommendations from Advance Monroe 2040. The PUD provides the ideal framework to meet the Comprehensive Plan's goals while addressing the needs of current and future Monroe residents.

Our proposed neighborhood will feature a diverse mix of housing—traditional multifamily rentals, 4-plex and 5-plex rental and for-sale units, and single-family homes—creating a walkable, connected community with a balanced mix of owners and tenants. This diversity will strengthen the community and encourage investment in the downtown and surrounding areas.

The plan advances several priority objectives: providing a mix of housing types and price points (LUR #7), promoting smaller lot development with high-quality materials (LUR #12), enhancing pedestrian connectivity (HR #13), and offering a variety of styles, types, and densities (HR #4, HR #6). In order to target these 2040 goals, we see a PUD and the flexibility it allows as the best option for our development.

Project Address or Tax Parcel ID: C1800 0006 000 044, C1800-005-000-081

## Rezoning Information Continued

**2) Describe how the proposed amendment furthers each of the objectives of the Comprehensive Plan.**

This community development plan aligns with key recommendations from Advance Monroe 2040. The PUD provides the ideal framework to meet the Comprehensive Plan's goals while addressing the needs of current and future Monroe residents.

Our proposed neighborhood will feature a diverse mix of housing—traditional multifamily rentals, 4-plex and 5-plex rental and for-sale units, and single-family homes—creating a walkable, connected community with a balanced mix of owners and tenants. This diversity will strengthen the community and encourage investment in the downtown and surrounding areas.

The plan advances several priority objectives: providing a mix of housing types and price points (LUR #7), promoting smaller lot development with high-quality materials (LUR #12), enhancing pedestrian connectivity (HR #13), and offering a variety of styles, types, and densities (HR #4, HR #6). In order to target these 2040 goals, we see a PUD and the flexibility it allows as the best option for our development.

**3) Provide information necessary to document and describe how the map amendment meets the review criteria established for zoning amendments *[Table 1207.07-1 Common Review Criteria and Article 07.04 Text and Zoning Map Amendments]*.**

The map amendment meets the review criteria established in Table 1207.07-1 in that it is consistent with applicable policies of the Comprehensive Plan, utility plans, and capital improvements. In addition, all adequate infrastructure facilities are or will be provided (roads with proper circulation, utilities to serve site, etc.).

## Certification and Signatures

**Applicant Signature - I certify that, to the best of my knowledge, the information contained in this form and within any attachments is correct and truthful. I understand that knowingly falsifying this information may be grounds for the denial or revoking of this zoning map amendment application and any subsequent zoning permit or other review applications.**

Print Name: Zach Rodenbarger

Signature: Signed by: Zachary James Rodenbarger 1C11F9FA2C6943A...

Date: 9/15/2025

**Property Owner Signature - If the property owner is not the named applicant on this form, the property owner shall sign the form below acknowledging that the applicant is an authorized agent of the property owner as it relates to proposed project. If the proposed rezoning affects multiple properties owned by different property owners, each property owner subject to the rezoning shall be required to sign this form acknowledging consents of the rezoning request. Separate signature sheets or letters acknowledging such consent are acceptable.**

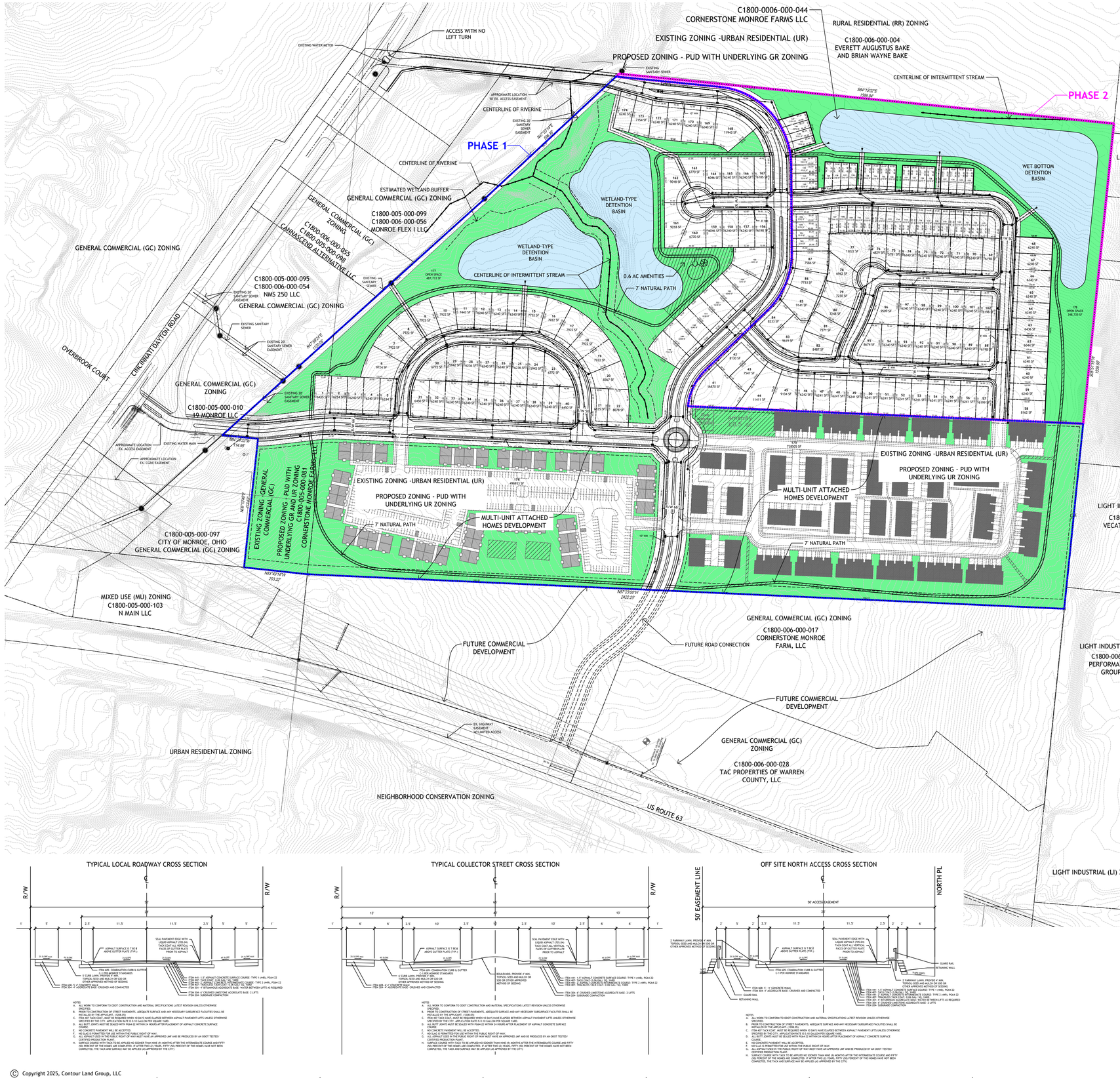
Print Name: Tom Ratterman - Cornerstone Monroe Farm LLC

Signature: DocuSigned by: 8D6DB882897A420...

Date: 9/15/2025

Note: A letter signed by the property owner, authorizing the applicant to act on their behalf may be submitted in lieu of the property owner's signature on this form.

| Submittal Requirement Checklist | |
|---|---|
| **General Information** | |
| ☑ | Completion of required pre-application conference |
| ☑ | Zoning Map Amendment Review application form |
| ☑ | Application fee |
| ☑ | Legal description of the parcels subject to the proposed rezoning. |
| ☑ | Plans and maps established below at a scale no smaller than 1 inch = 100 feet, unless otherwise noted. |
| ☑ | Traffic Impact Study, if required by the City Engineer. |
| ☑ | Any additional information determined to be necessary by the Development Department |
| **Vicinity Map (Scale may be smaller than 1" = 100')** | |
| ☑ | Date, north arrow, scale, and a legend for all symbols |
| ☑ | Boundary line of the land subject to the proposed rezoning |
| ☑ | All surrounding properties, streets, and corporation limits within a minimum of 500' of the outer boundaries of the project site |
| **Proposed Zoning Text or Map** | |
| ☑ | The existing and proposed zoning for all properties part of the application for a zoning map amendment. The map shall also identify the existing zoning for all surrounding properties. For text amendments, a redline draft of the proposed text is required. |
| ☑ | Existing parcel lines for the properties to be rezoned and all parcel lines within 200' of the site |
| ☑ | Existing streets within 200' of site with names and centerlines |
| ☑ | Existing watercourses and bodies of water including any applicable flood hazard areas |


C1800-0006-000-044
CORNERSTONE MONROE FARMS LLC
EXISTING ZONING -URBAN RESIDENTIAL (UR)
PROPOSED ZONING - PUD WITH UNDERLYING GR ZONING
RURAL RESIDENTIAL (RR) ZONING
C1800-006-000-004
EVERETT AUGUSTUS BAKE
AND BRIAN WAYNE BAKE
CENTERLINE OF INTERMITTENT STREAM
PHASE 2
PHASE 1
ACCESS WITH NO LEFT TURN
EXISTING WATER METER
EXISTING SANITARY SEWER
APPROXIMATE LOCATION 50' EX. ACCESS EASEMENT
CENTERLINE OF RIVERINE
EXISTING 20' SANITARY SEWER EASEMENT
ESTIMATED WETLAND BUFFER
GENERAL COMMERCIAL (GC) ZONING
C1800-005-000-099
C1800-006-000-056
MONROE FLEX I LLC
GENERAL COMMERCIAL (GC) ZONING
C1800-006-000-055
C1800-006-000-098
CANNASCEND ALTERNATIVE LLC
GENERAL COMMERCIAL (GC) ZONING
C1800-005-000-095
C1800-006-000-054
NMS 250 LLC
GENERAL COMMERCIAL (GC) ZONING
C1800-005-000-010
19 MONROE LLC
GENERAL COMMERCIAL (GC) ZONING
C1800-005-000-097
CITY OF MONROE, OHIO
GENERAL COMMERCIAL (GC) ZONING
MIXED USE (MU) ZONING
C1800-005-000-103
N MAIN LLC
URBAN RESIDENTIAL ZONING
NEIGHBORHOOD CONSERVATION ZONING
WETLAND-TYPE DETENTION BASIN
WETLAND-TYPE DETENTION BASIN
WET BOTTOM DETENTION BASIN
0.6 AC AMENITIES
7' NATURAL PATH
OVERBROOK COURT
CINCINNATI-DAYTON ROAD
EXISTING ZONING - GENERAL COMMERCIAL (GC)
PROPOSED ZONING - PUD WITH UNDERLYING GR AND UR ZONING
C1800-005-000-096
CORNERSTONE MONROE FARMS LLC
EXISTING ZONING -URBAN RESIDENTIAL (UR)
PROPOSED ZONING - PUD WITH UNDERLYING UR ZONING
7' NATURAL PATH
MULTI-UNIT ATTACHED HOMES DEVELOPMENT
EXISTING ZONING -URBAN RESIDENTIAL (UR)
PROPOSED ZONING - PUD WITH UNDERLYING UR ZONING
MULTI-UNIT ATTACHED HOMES DEVELOPMENT
7' NATURAL PATH
LIGHT INDUSTRIAL (LI) ZONING
C1800-006-000-038
HOBACK INVESTMENTS LLC
LIGHT INDUSTRIAL (LI) ZONING
C1800-006-000-030
371 LAWTON LLC
LIGHT INDUSTRIAL (LI) ZONING
C1800-006-000-031
TFI MONROE OH LLC
C1800-006-000-046
CHROME DEPOSIT, INC
LIGHT INDUSTRIAL (LI) ZONING
LIGHT INDUSTRIAL (LI) ZONING
C1800-006-000-039
VECAT PROPERTIES, LP
LAWTON AVENUE
LIGHT INDUSTRIAL (LI) ZONING
C1800-006-430-017
PERFORMANCE FOOD GROUP, INC.
FUTURE COMMERCIAL DEVELOPMENT
FUTURE ROAD CONNECTION
GENERAL COMMERCIAL (GC) ZONING
C1800-006-000-017
CORNERSTONE MONROE FARM, LLC
FUTURE COMMERCIAL DEVELOPMENT
GENERAL COMMERCIAL (GC) ZONING
C1800-006-000-028
TAC PROPERTIES OF WARREN COUNTY, LLC
EX. HIGHWAY EASEMENT W/LIMITED ACCESS
US ROUTE 63
LIGHT INDUSTRIAL (LI) ZONING
N 87°10'53"E 1559.84'
S 87°10'53"W 1559.84'
N 87°10'53"E 1559.84'
N 87°10'53"E 1559.84'
N 87°10'53"E 1559.84'
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N 87°10'53"E 1559.84'
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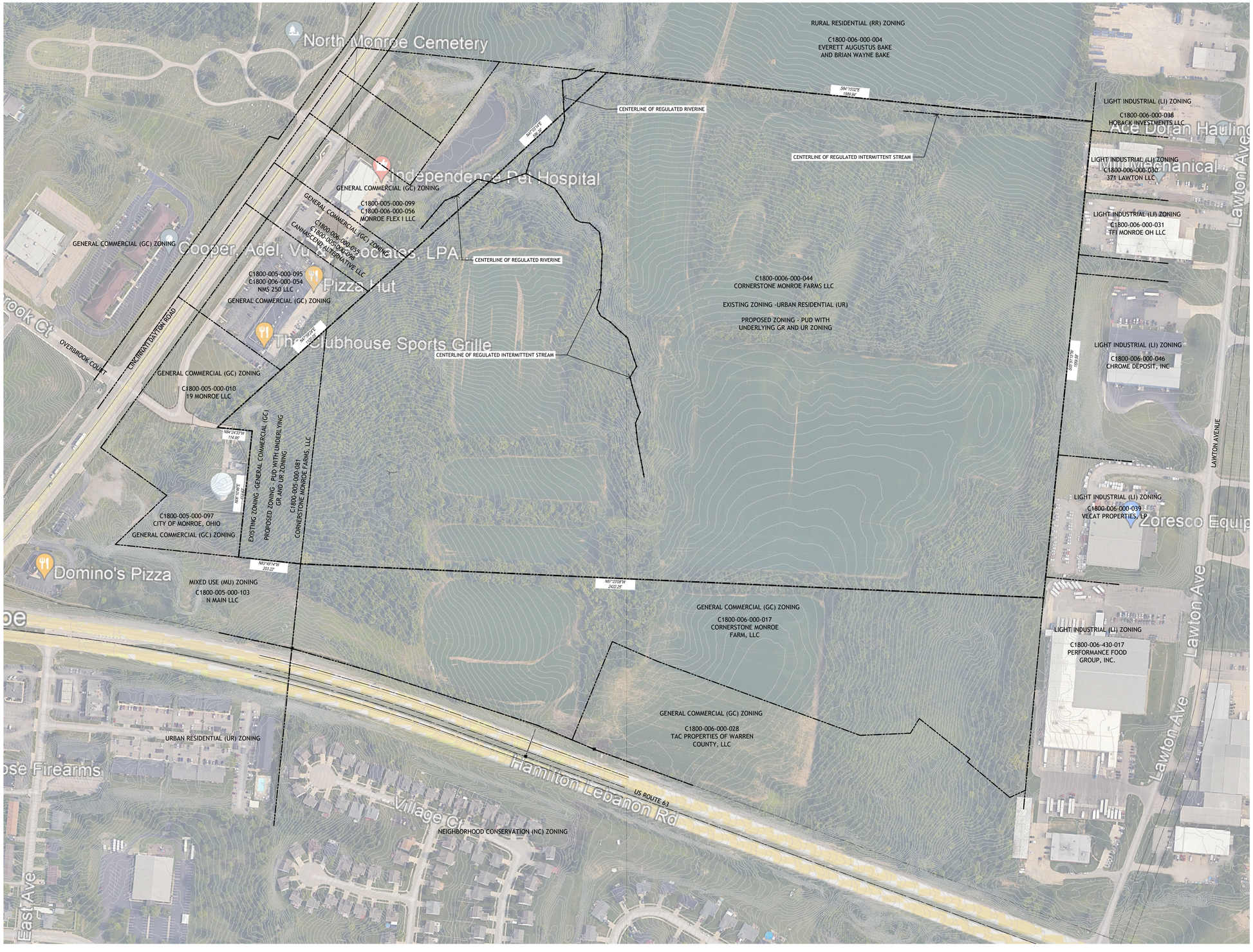


N

0 75 150 300

37.5 112.5 225

SCALE: 1"=150'


CONTOUR
DESIGN • ENGINEERING

984 Logan St., Suite 204
Noblesville, IN 46060
765.430.2042 (C)
jnierzwicki@contourlandgroup.com


Seal

Consultant

Project

BRIDGE DEVELOPMENT
MONROE, OH

US-63
Monroe, OH

Sheet

ZONING MAP

Issued for

2025.09.16 PUD/ZMA SUBMITTAL

2025.10.21 UPDATED PUD/ZMA SUBMITTAL

Project Number

24-310

Sheet Number

ZM


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W:\Shared\Projects\-Bridge Development Group\BDG_OH_Monroe_24-310\5_Disciplines-Design\Civil\CADD\Exhibits\Zoning Map Exhibit\Zoning Map Exhibit.dwg // 10/21/2025 10:28:00 AM // jsclyn

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

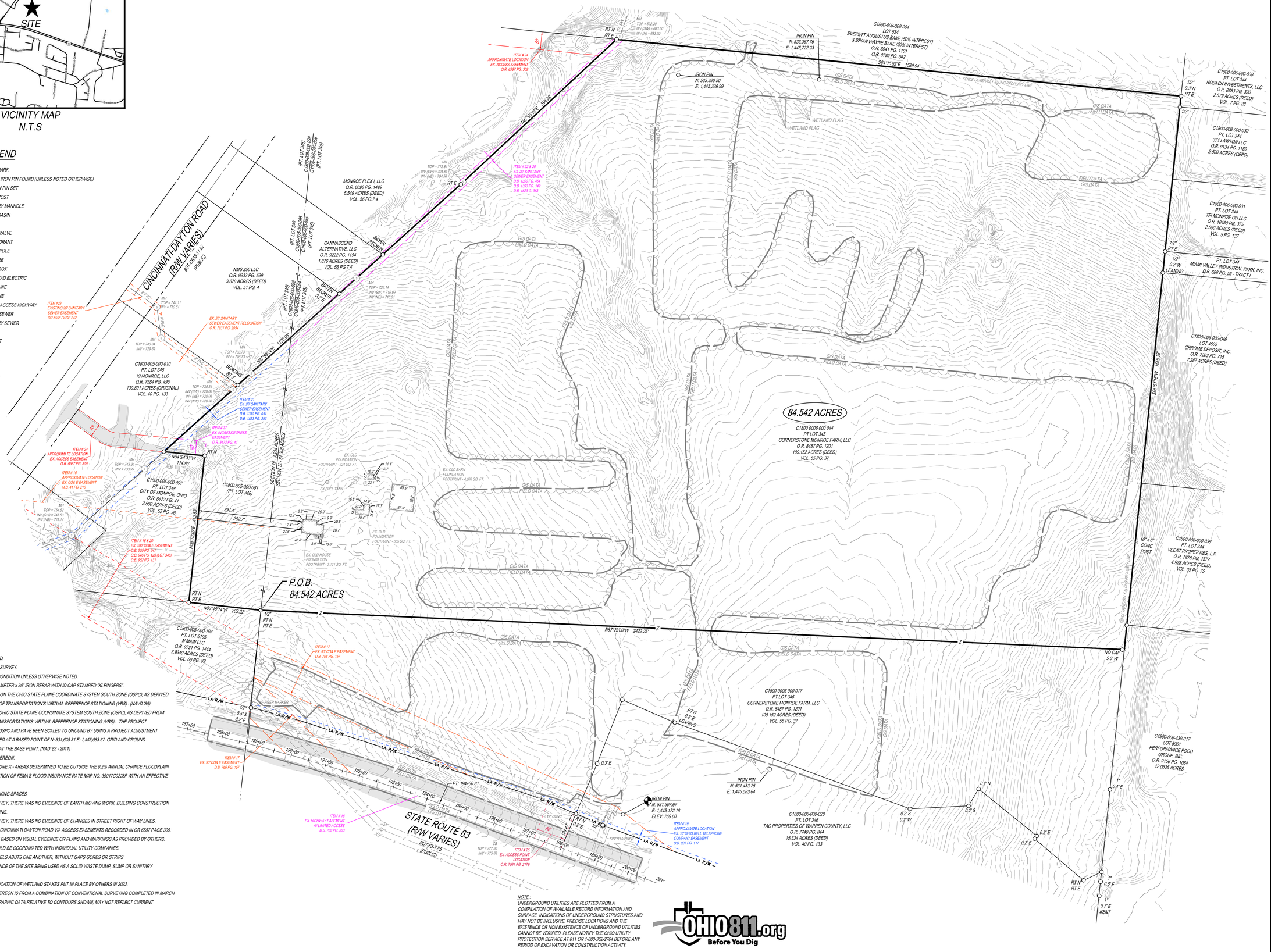
VICINITY MAP
N.T.S

## LEGEND

- BENCHMARK
- 5/8" K&A IRON PIN FOUND (UNLESS NOTED OTHERWISE)
- 5/8" IRON PIN SET
- FENCE POST
- SANITARY MANHOLE
- CATCH BASIN
- WELL
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- GUY WIRE
- PHONE BOX
- OVERHEAD ELECTRIC
- FENCE LINE
- TREE LINE
- LIMITED ACCESS HIGHWAY
- STORM SEWER
- SANITARY SEWER
- ASPHALT
- GRAVEL
- RIP RAP

## NOTES:

1. SOURCE DOCUMENTS AS NOTED.
2. OCCUPATION IN GENERAL FITS SURVEY.
3. MONUMENTATION IS IN GOOD CONDITION UNLESS OTHERWISE NOTED.
4. ALL IRON PINS SET ARE 5/8" DIAMETER x 30" IRON REBAR WITH ID CAP STAMPED "KLEINGERS".
5. VERTICAL DATUM IS BASED ON ON THE OHIO STATE PLANE COORDINATE SYSTEM SOUTH ZONE (OSPC), AS DERIVED FROM THE OHIO DEPARTMENT OF TRANSPORTATION'S VIRTUAL REFERENCE STATIONING (VRS) . (NAVD '88)
6. BEARINGS ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM SOUTH ZONE (OSPC), AS DERIVED FROM THE OHIO DEPARTMENT OF TRANSPORTATION'S VIRTUAL REFERENCE STATIONING (VRS) . THE PROJECT COORDINATES ARE BASED ON OSPC AND HAVE BEEN SCALED TO GROUND BY USING A PROJECT ADJUSTMENT FACTOR OF 1.0000946958 APPLIED AT A BASED POINT OF N: 531,628.31 E: 1,445,083.67. GRID AND GROUND COORDINATES ARE IDENTICAL AT THE BASE POINT. (NAD '83 - 2011)
7. SITE BENCHMARK AS SHOWN HEREON.
8. SUBJECT SITE IS LOCATED IN ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER A GRAPHICAL INTERPRETATION OF FEMA'S FLOOD INSURANCE RATE MAP NO. 39017C0228F WITH AN EFFECTIVE DATE OF 10/19/2018.
9. SUBJECT SITE CONTAINS 0 PARKING SPACES
10. AT THE TIME OF THE FIELD SURVEY, THERE WAS NO EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS ONGOING.
11. AT THE TIME OF THE FIELD SURVEY, THERE WAS NO EVIDENCE OF CHANGES IN STREET RIGHT OF WAY LINES.
12. SUBJECT SITE HAS ACCESS TO CINCINNATI DAYTON ROAD VIA ACCESS EASEMENTS RECORDED IN OR 6587 PAGE 309.
13. UTILITIES ARE SHOWN HEREON BASED ON VISUAL EVIDENCE OR PLANS AND MARKINGS AS PROVIDED BY OTHERS. ALL UTILITY AVAILABILITY SHOULD BE COORDINATED WITH INDIVIDUAL UTILITY COMPANIES.
14. THE SUBJECT PROPERTY PARCELS ABUTS ONE ANOTHER, WITHOUT GAPS GORES OR STRIPS
15. THERE IS NO OBSERVED EVIDENCE OF THE SITE BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
16. THE SURVEY REFLECTS THE LOCATION OF WETLAND STAKES PUT IN PLACE BY OTHERS IN 2022.
17. TOPOGRAPHIC DATA SHOWN HEREON IS FROM A COMBINATION OF CONVENTIONAL SURVEYING COMPLETED IN MARCH OF 2022 AND GIS DATA. TOPOGRAPHIC DATA RELATIVE TO CONTOURS SHOWN, MAY NOT REFLECT CURRENT CONDITIONS.


CINCINNATI-DAYTON ROAD (R/W VARIES)
BUT-CR-8-1.02 (PUBLIC)
STATE ROUTE 63 (R/W VARIES)
BUT-63-1.85 (PUBLIC)
P.O.B. 84.542 ACRES
RT N 0.2' E
RT N RT E
1/2" RT N 0.2' E
1/2" 0.2' W LEANING
1/2" RT E
1/2" 0.3' N RT E
1/2"
1" 0.4' E
1" 0.5' E
1" 0.7' E BENT
NO CAP 5.5' W
N84°24'33"W 114.98'
N83°49'14"W 203.22'
N87°23'08"W 2422.25'
N47°55'43"E 596.39'
N47°55'43"E 1129.05'
S84°15'02"E 1589.94'
S85°51'57"E 1589.58'
84.542 ACRES
C1800-005-000-010 PT. LOT 348 19 MONROE, LLC O.R. 7584 PG. 495 130.891 ACRES (ORIGINAL) VOL. 40 PG. 133
C1800-005-000-087 PT. LOT 348 CITY OF MONROE, OHIO O.R. 9472 PG. 41 2.500 ACRES (DEED) VOL. 55 PG. 36
C1800-005-000-081 (PT. LOT 348)
SECTION 16 - 2.234 ACRES SECTION 12 - 81.308 ACRES
C1800-005-000-103 PT. LOT 6105 N MAIN LLC O.R. 9721 PG. 1444 3.9340 ACRES (DEED) VOL. 60 PG. 89
NMS 250 LLC O.R. 9932 PG. 699 3.878 ACRES (DEED) VOL. 51 PG. 4
MONROE FLEX I, LLC O.R. 8698 PG. 1499 5.549 ACRES (DEED) VOL. 56 PG.7.4
CANNASCEND ALTERNATIVE, LLC O.R. 9222 PG. 1154 1.878 ACRES (DEED) VOL. 56 PG.7.4
C1800-006-000-004 LOT 634 EVERETT AUGUSTUS BAKE (50% INTEREST) & BRIAN WAYNE BAKE (50% INTEREST) O.R. 6041 PG. 1101 O.R. 9795 PG. 642
C1800 0006 000 044 PT LOT 345 CORNERSTONE MONROE FARM, LLC O.R. 8487 PG. 1201 109.152 ACRES (DEED) VOL. 55 PG. 37
C1800 0006 000 017 PT LOT 346 CORNERSTONE MONROE FARM, LLC O.R. 8487 PG. 1201 109.152 ACRES (DEED) VOL. 55 PG. 37
C1800-006-000-028 PT. LOT 346 TAC PROPERTIES OF WARREN COUNTY, LLC O.R. 7749 PG. 844 15.334 ACRES (DEED) VOL. 40 PG. 133
C1800-006-000-038 PT. LOT 344 HOBACK INVESTMENTS, LLC O.R. 8853 PG. 320 2.579 ACRES (DEED) VOL. 7 PG. 28
C1800-006-000-030 PT. LOT 344 371 LAWTON LLC O.R. 9134 PG. 1189 2.500 ACRES (DEED)
C1800-006-000-031 PT. LOT 344 TFI MONROE OH LLC O.R. 10160 PG. 375 2.500 ACRES (DEED) VOL. 5 PG. 137
PT. LOT 344 MIAMI VALLEY INDUSTRIAL PARK, INC. D.B. 687 PG. 55 - TRACT I
C1800-006-000-046 LOT 4605 CHROME DEPOSIT, INC. O.R. 7263 PG. 715 7.287 ACRES (DEED)
C1800-006-000-039 PT. LOT 344 VECAT PROPERTIES, L.P. O.R. 7878 PG. 1577 4.928 ACRES (DEED) VOL. 35 PG. 75
C1800-006-430-017 LOT 5961 PERFORMANCE FOOD GROUP, INC. O.R. 9156 PG. 1094 12.0635 ACRES
IRON PIN N: 533,367.76 E: 1,445,722.23
IRON PIN N: 533,380.50 E: 1,445,326.99
IRON PIN N: 531,307.67 E: 1,445,172.18 ELEV: 769.60
IRON PIN N: 531,433.75 E: 1,445,583.64
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ITEM # 16 APPROXIMATE LOCATION EX. CG& E EASEMENT M.B. 41 PG. 212
EX. 20' SANITARY SEWER EASEMENT RELOCATION O.R. 7001 PG. 2054
ITEM #21 EX. 20' SANITARY SEWER EASEMENT D.B. 1390 PG. 451 D.B. 1523 PG. 353
ITEM # 27 EX. INGRESS/EGRESS EASEMENT O.R. 9472 PG. 41
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ITEM # 17 EX. 90' CG& E EASEMENT D.B. 766 PG. 157
ITEM # 18 EX. HIGHWAY EASEMENT W/ LIMITED ACCESS D.B. 788 PG. 563
ITEM # 22 & 26 EX. 20' SANITARY SEWER EASEMENT D.B. 1390 PG. 454 D.B. 1393 PG. 149 D.B. 1523 G. 353
ITEM # 19 APPROXIMATE LOCATION EX. 10' OHIO BELL TELEPHONE COMPANY EASEMENT D.B. 929 PG. 117
ITEM # 25 EX. ACCESS POINT LOCATION O.R. 7061 PG. 2179
EX. OLD FOUNDATION FOOTPRINT - 324 SQ. FT.
EX. OLD BARN FOUNDATION FOOTPRINT - 4,688 SQ. FT.
EX. OLD FOUNDATION FOOTPRINT - 865 SQ. FT.
EX. OLD HOUSE FOUNDATION FOOTPRINT - 2,131 SQ. FT.
EX. FUEL TANK
WETLAND FLAG
FENCE GENERALLY ALONG PROPERTY LINE
GIS DATA FIELD DATA
FIBER MARKER
12" CONC
10" x 6" CONC POST
MH TOP = 744.11 INV = 730.51
MH TOP = 740.34 INV = 729.69
MH TOP = 733.73 INV = 726.73
MH TOP = 735.34 INV (SW) = 728.06 INV (NE) = 728.06 INV (NW) = 728.38
MH TOP = 743.31 INV = 733.80
MH TOP = 754.02 INV (SW) = 745.53 INV (NE) = 745.14
MH TOP = 713.81 INV (SW) = 704.81 INV (NE) = 704.56
MH TOP = 726.14 INV (SW) = 716.99 INV (NE) = 716.81
MH TOP = 692.20 INV (SW) = 683.50 INV (NE) = 683.20
CB TOP = 777.30 INV = 773.63
PT: 194+36.81
LA R/W
EX. 20' SANITARY SEWER EASEMENT
EX. 10' SANITARY SEWER EASEMENT
EX. 10' WATER EASEMENT
EX. 10' GAS EASEMENT
EX. 10' ELECTRIC EASEMENT
EX. 10' TELEPHONE EASEMENT
EX. 10' CABLE TV EASEMENT
EX. 10' GAS EASEMENT
EX. 10' ELECTRIC EASEMENT
EX. 10' TELEPHONE EASEMENT
EX. 10' CABLE TV EASEMENT
EX. 10' WATER EASEMENT
EX. 10' SANITARY SEWER EASEMENT
EX. 10' STORM SEWER

14. Deed of Easement from Irwin O. Byers and Myrtle Byers to The Ohio Power Company, dated March 26, 1942, filed for record April 15, 1942 and recorded in Book 356, Page 275 of Butler County Records.
(COULD NOT DETERMINE LOCATION WITH DOCUMENT PROVIDED.)

15. Deed of Easement from Myrtle Byers, Douglass Byers and Geneva Byers to The Ohio Power Company, dated March 26, 1942, filed for record April 28, 1944 and recorded in Book 387, Page 289 of Butler County Records.

Assigned to Ohio Power Company in Volume 505, Page 347 of Butler County Records.

Correcting Easement, dated July 17, 1970, filed for record September 22, 1970 and recorded in Book 952, Page 131 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #15.)

16. Easement from Myrtle, Byers, Geneva Byers and Douglass Byers to The Cincinnati Gas & Electric Company, dated May 8, 1958, filed for record May 26, 1958 and recorded in Book 41, Page 210 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #16)

17. Grant of easement from Karl J. Alter, Archbishop of Cincinnati, Trustee, to The Cincinnati Gas & Electric Company, dated December 14, 1962, filed for record January 21, 1963 and recorded in Book 766, Page 157 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #17)

18. Easement for Highway Purposes from Karl J. Alter, Archbishop of Cincinnati, as Trustee to State of Ohio, dated November 3, 1962, filed for record March 14, 1963 and recorded in Book 768, Page 563 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #18)

19. Easement from Karl J. Alter, Archbishop of Cincinnati, as Trustee to The Ohio Bell Telephone Company, dated June 13, 1969, filed for record September 17, 1969 and recorded in Book 925, Page 117 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #19)

20. Easement by and between Geneva Byers and The Cincinnati Gas & Electric Company, dated June 18, 1970, filed for record July 2, 1970 and recorded in Book 946, Page 123 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #20)

21. Easement for Sanitary Sewer and Appurtenances from Miami Valley Industrial Park, Inc. to Village of Monroe, dated December 11, 1979, filed for record March 6, 1980 and recorded in Book 1390, Page 451 of Butler County Records.

Assignment contained in the Deed to The Board of Commissioners of Butler County, Ohio, dated May 6, 1985, filed for record May 10, 1985 and recorded in Book 1523, Page 353 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #21)

22. Easement for Sanitary Sewer and Appurtenances from Miami Valley Industrial Park, Inc. to Village of Monroe, dated December 11, 1979, filed for record March 6, 1980 and recorded in Book 1390, Page 454 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #22)

23. Easement for Sanitary Sewer and Appurtenances from Eagle Investments I, LLC to Teazek Ltd., filed for record February 27, 1996 and recorded in O.R. 5558, Page 242 of Butler County Records.
(PORTION OF SUBJECT EASEMENT WAS RELEASED BY O.R. 7931 PG. 2054. REMAINING PORTION OF EASEMENT DOES NOT LIE ON, OVER, OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #23)

24. Easement Agreement by and between CIL, Inc. to Paul Hemmer Development Company IV, LLC, dated as of April 11, 2001, filed for record April 12, 2011 and recorded in O.R. 6587, Page 309 of Butler County Records.

First Amendment to Easement Agreement recorded June 22, 2023 in OR Book 9984, Page 1351 of Butler County Records.
(ABUTS AND BENEFITS SURVEYED PROPERTY. APPROXIMATE LOCATION PLOTTED AND LABELED AS ITEM #24.)

25. Access Grant by Paul Hemmer Development Company IV and City of Monroe, dated July 17, 2002, filed for record April 9, 2003 and recorded in OR Book 7061, Page 2179 of Butler County Records.
NOTE: SAID EASEMENT CHANGES THE ROAD ACCESS POINT MAKING IT 80 FEET, RECITED BUT NO ACTUAL GRANT NOTED IN THE DOCUMENT. REFERENCE IS MADE TO DEED BOOK 768, PAGE 563.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #25.)

26. Easement filed for record in Volume 1393, Page 149 of Butler County Records.

Assignment contained in the Deed to The Board of Commissioners of Butler County, Ohio, dated May 6, 1985, filed for record May 10, 1985 and recorded in Book 1523, Page 353 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #26)

27. Easement, Restrictions, Covenants disclosed in deed recorded July 30, 2012 in Volume 8472, Page 41 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #27)

## LEGAL DESCRIPTION:

Situated in the City of Monroe, Butler County, Ohio being part of City Lots 345, 346 and 348 as conveyed to Fifth Third Bank in O.R. 8290, page 1137, the boundary of which being more particularly described as follows:

Beginning at a ½" iron pin found at the southeast corner of said Lot 348, being in the east line of Section 18;

Thence along the south line of said Lot 348, North 83° 49' 14" West a distance of 203.22 feet to a 5/8" iron pin found at the southeast corner of a 2.500 acre tract of land described on the plat recorded in Volume 55, page 36 of the Butler County Engineer's Record of Land Surveys;

Thence along the east line of said 2.500 acre tract, North 06° 10' 46" East a distance of 413.63 feet to a 5/8" iron pin found;

Thence along the north line of said 2.500 acre tract, North 84° 24' 33" West a distance of 114.95 feet to a 5/8" iron pin found in the east line of a 19.244 acre (deed) tract of land conveyed to 19 Monroe, LLC in O.R. 7584, page 495;

Thence in part along said east line and along the east line of a 3.678 acre tract of land conveyed to Monroe Shoppes, LLC in O.R. 7900, page 2373, North 47° 59' 24" East a distance of 1120.05 feet to a 5/8" iron pin found;

Thence continuing along the east line of said 19.244 acre tract, North 47° 03' 14" East a distance of 596.39 feet to a 5/8" iron pin found in the south line of Lot 634 as conveyed to Everett A. and Deborah K. Bake in O.R. 6041, page 1101;

Thence along the south line of said Lot 634, South 84° 15' 002" East a distance of 1589.94 feet to a 5/8" iron pin found in the west line of Lot 344;

Thence along west line of said Lot 344, Lot 4605, and in part along Lot 5961, South 05° 51' 15" West a distance 1559.58 feet to a point in the north line of Lot 364, witness a 5/8" iron pin lying 5.5 feet west;

Thence along the north line of Lot 346, N87°23'06"W a distance of 2422.25 feet to the Point of Beginning.

Containing 84.542 acres more or less, being subject to easements and rights-of-way of record.

Bearings are based on the Ohio State Plane coordinate system, South Zone and have been scaled to ground by using a project adjustment factor of 1.0000946958 applied at base point N53,168.31 E1,445,083.67. Grid and ground coordinates are identical at the base point.

## SURVEYOR'S CERTIFICATION

TO: FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES; MONROE BDG III, LLC, AN INDIANA LIMITED LIABILITY COMPANY, CORNERSTONE MONROE FARM, LLC;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA / NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-5, 6(a), 6(b), 7(a), 7(b1), 7(c), 8, 9, 11(a), 11(b), 13, 14, 16, 17, 18 AND 19 OF TABLE A THEREOF.

THE FIELD WORK WAS COMPLETED ON 12-19-2024

DATE OF PLAT OR MAP 12-17-2024

_____ _____
RANDY C. WOLFE DATE
OHIO PROFESSIONAL SURVEYOR NO.8033

THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
6219 Centre Park Dr.
West Chester, OH 45069
513.779.7851

SEAL:

STATE OF OHIO
RANDY C. WOLFE
8033
REGISTERED
PROFESSIONAL SURVEYOR

| NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 12-17-24 | ALTA/NSPS TITLE SURVEY - KPR |

# ALTA/NSPS LAND TITLE SURVEY
# 84.542 ACRES

**PT. LOTS 345 & 348**
**SEC. 12 & 18, TOWN 3, RANGE 3, M.Rs.**
**CITY OF MONROE**
**BUTLER COUNTY, OHIO**

| | |
|---|---|
| PROJECT NO: | 180753VSD003 |
| DATE: | 12-17-24 |
| SCALE: | |
| SHEET NAME: | CORNERSTONE FARMS INDUSTRIAL |
| SHEET NO. | 2 OF 2 |



INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

JULY 11, 2025

Traffic Impact Study for the proposed

# CORNERSTONE MONROE - RATTERMAN PROPERTY

Monroe, Ohio

*prepared for:*

**Contour Land Group**
**136 Parliament Court**
**Noblesville, IN 46060**

THE KLEINGERS GROUP

6219 Centre Park Drive
West Chester, OH 45069
p. 513-779-7851
f. 513-779-7852

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This study was conducted to analyze the impact of the proposed Cornerstone Monroe - Ratterman Property residential development, located at the northeast quadrant of the intersection of SR 63 and Cincinnati-Dayton Road in Monroe Ohio. The development is planned to consist of 240 apartment units, 111 townhome units, and 210 single-family homes. The development is planned to be completed by 2027. In addition to the residential development, there is the potential for an adjacent future commercial development along SR 63. For the purpose of this study, the commercial development is assumed to include approximately 130,000 square feet of retail space. In the preparation of this study, traffic counts were collected in the study area during peak times and were used to develop projected background traffic volumes. Site-generated trips for the residential and commercial developments were developed and distributed onto the roadway network. Turn lane warrant analyses were performed all unsignalized intersections, where applicable. Sight distance reviews were performed at all proposed access locations. Intersection capacity analyses for the opening year (2027) and future year (2047) no-build and build scenario traffic volumes were conducted at the study area intersections. Queuing analyses based on 95th percentile queue lengths for the future year no-build and build scenarios were conducted at the study area intersections. Signal warrant analyses were performed at unsignalized intersections where capacity analyses indicated the need for a traffic signal. This report includes recommended roadway improvements to accommodate the projected traffic volumes.

The following findings were made during the traffic impact study process:

1. Turn lane warrant analyses indicated that a southbound left turn lane is warranted at the intersection of Cincinnati-Dayton Road and Access 1 for all build scenarios. The calculated length is 175-feet, including a 50-foot taper, for all build scenarios.
    - The supplemental Access 1 turn lane warrant analyses indicated that the southbound left turn lane is warranted. The calculated length is 225-feet, including a 50-foot taper if Access 1 is connected to the existing commercial access that is approximately 1,070 feet north of Overbrook Court.
2. Turn lane warrant analyses indicated that a northbound right turn lane is not warranted at the intersection of Cincinnati-Dayton Road and Access 1 for all build scenarios.
    - The supplemental Access 1 turn lane warrant analyses indicated that the northbound right turn lane is not warranted if Access 1 is connected to the existing commercial access that is approximately 1,070 feet north of Overbrook Court.
3. Turn lane warrant analyses indicated that a southbound left turn lane is warranted at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 for all build scenarios. The calculated length according to the ODOT Location and Design Manual is 175-feet, including a 50-foot taper, for all build scenarios. However, based on the queuing analysis in the signalized condition, this turn lane should be 275-feet long, including a 50-foot diverging taper.
4. Turn lane warrant analyses indicated that a northbound right turn lane is warranted at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 for all build scenarios. Turn lane lengths vary between each build scenario.

- Scenario 1 - 325-feet, including a 50-foot taper
- Scenario 2 - 275-feet, including a 50-foot taper
- Scenario 2 with Commercial - 225-feet, including a 50-foot taper
- Scenario 3 - 275-feet, including a 50-foot taper
- Scenario 3 with Commercial - 325-feet, including a 50-foot taper

Note that an existing turn lane of 250-feet, including a 50-foot taper exists at this location. This turn lane extends to a nearby access drive, with no more available space for further extension.

5. Turn lane warrant analyses indicated that an eastbound left turn lane is warranted at the intersection of SR 63 and Access 3 for Build Scenario 2. The calculated length according to the ODOT Location and Design Manual is 325-feet, including a 50-foot taper. However, based on calculations for a signalized condition, this turn lane should be 600-feet, including a 50-foot taper.
6. Turn lane warrant analyses indicated that a westbound right turn lane is warranted at the intersection of SR 63 and Access 3 for all build scenarios. Turn lane lengths vary between each build scenario.

    - Scenario 2 - 300-feet, including a 50-foot taper
    - Scenario 2 with Commercial - 350-feet, including a 50-foot taper
    - Scenario 3 - 300-feet, including a 50-foot taper
    - Scenario 3 with Commercial - 350-feet, including a 50-foot taper

    However, based on calculations for a signalized condition, this turn lane is not needed for the proposed development. With a future commercial development, a westbound right turn lane of up to 800-feet may be needed.
7. Turn lane warrant analyses indicated that no turn lanes are warranted at any of the internal study intersections.
8. Sight distance review indicated the required sight distance (430-feet) is available to the south from the proposed Access 1 location. The required sight distance of 565-feet is not available to the north from the proposed Access 1 location.

    - Additional sight distance review indicated that the required sight distance is available at approximately 150-feet to 200-feet north of the originally proposed Access 1 location. At this location, required sight distance is still available to the south.
9. Sight distance review indicated the required sight distance (530-feet) is available to the east from the proposed Access 3 location. The required sight distance of 790-feet is not available when looking to the west. However, it should be noted that this driveway location has been previously established within the limited access right of way.
10. Capacity analyses indicated that acceptable levels of service are expected at the following intersections for all no-build and build scenarios in the opening year (2027) and future year (2047):

- Cincinnati-Dayton Road @ Todhunter Road
- Cincinnati-Dayton Road @ Access 1
- SR 63 @ Lawton Avenue
- Intersection A
- Intersection B
- Intersection C
- Intersection D

11. Capacity analyses indicated that the supplemental Access 1 location is expected to operate with acceptable levels of service in the no-build scenarios for the opening year (2027) and future year (2047). The westbound approach is expected to operate with failing levels of service in the PM peak hour for all build scenarios, with delays just over the failing threshold. It should be noted that drivers that want to turn left to go south have the opportunity to use the commercial road parallel to Cincinnati-Dayton Road to access the proposed traffic signal at Overbrook Court.
12. Capacity analyses indicated that the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with overall acceptable levels of service in the opening year (2027) and future year (2047) No-Build scenarios. The westbound approach is expected to experience marginally failing levels of service in the future year No-Build PM peak.
    - All baseline build scenario analyses, which use existing roadway conditions. are expected to experience increasing failing levels of service for the westbound approach.
    - Alternative 1 analyses, which implements a traffic signal at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2, indicated acceptable levels of service for all build scenarios in the opening year and future year.
13. Capacity analyses indicated that the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with overall unacceptable levels of service in the opening year (2027) and future year (2047) No-Build scenarios.
    - All baseline build scenario analyses, which use existing roadway conditions. are expected to experience increasing failing levels of service.
    - Alternative 1 analyses, which implement a second eastbound left turn lane, adds an independent northbound right turn lane, adds northbound right and southbound right overlap phasing, and optimized split timings, are expected to mitigate the impacts of the proposed development in the opening year and future year for all build scenarios except Scenario 3 with Commercial Development.
    - Alternative 2 for the build Scenario 3 with commercial development, implements the Alternative 1 improvements, and adds an additional southbound left turn lane. These improvements are expected to mitigate the impacts of the commercial development.

14. Capacity analyses indicated that the intersection of SR 63 and Access 3 is expected to operate with failing levels of service in the opening year (2027) and future year (2047) Build Scenario 2 Baseline. Alternative 1 analyses, which implement a traffic signal, is expected to operate with acceptable levels of service. Opening year and future year Build Scenario 3 is expected to operate with acceptable levels of service. While the analyses included in this study include a westbound right turn lane in the signalized analyses, further analyses indicate that a westbound right turn lane is not needed for capacity purposes for the proposed development. With the addition of the future commercial development, the westbound right turn lane and potentially an additional eastbound left turn lane may be needed.
15. Queuing analyses indicated that the proposed development has minimal impact on the expected 95th percentile queue lengths at the following intersections in the future year (2047):
    - Cincinnati-Dayton Road @ Todhunter Road
    - Cincinnati-Dayton Road @ Overbrook Court / Access 2 (Alternative 1)
    - SR 63 @ Access 3 (Alternative 1)
    - SR 63 @ Lawton Avenue
16. Queuing analysis at the intersection of SR 63 and Cincinnati-Dayton Road indicated that 95th percentile queue lengths are expected to exceed the existing storage lengths in the future year (2047) No-Build scenarios for various turning movements. Build Scenario 2 is expected to have the lowest impact on queue lengths, most notably for the southbound left turn movement.
17. Signal warrants indicated that warrants 1, 2, and 3 are met at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 for Scenario 1. Warrants 1 and 2 are met for Scenarios 2 and 3.
18. Signal warrants indicated that warrant 2 is met at the intersection of SR 63 and Access 3 in the opening year (2027) Scenario 2.
    - Additional warrants were performed for the commercial development in the future year (2047). Warrants 1, 2, and 3 are all met.

The following improvements are recommended as a result of this traffic impact study:

1. Cincinnati-Dayton Road and Access 1
    - Access 1 should be located at the existing north access location approximately 1,070 feet north of Overbrook Court, due to sight distance requirement issues.
    - Modify pavement markings to provide a southbound left turn lane of 225-feet, including a 50-foot taper.
2. Cincinnati-Dayton Road and Overbrook Court / Access 2
    - Construct a traffic signal.
        - ◊ The traffic signal should operate as a 2-phase signal with optimized signal timings. Coordination of the signal should be provided with the nearby intersection of SR 63 and Cincinnati-Dayton Road.
    - Modify pavement marking to provide a southbound left turn lane of 275-feet, including a 50-foot taper.
    - Modify pavement markings to provide a northbound left turn lane of 350-feet, including a 50-foot taper.
    - Retain the existing 250-foot (including taper) northbound right turn lane.
    - Construct the westbound approach to have one left turn lane and one thru-right lane.
3. SR 63 and Cincinnati-Dayton Road
    - Convert the northbound thru-right lane to a thru-only lane. Construct a northbound right turn lane of 185-feet, including a 50-foot taper. The length of this turn lane is limited by grading issues farther to the south and sidewalk access to the adjacent park.
    - Construct an additional eastbound left turn lane providing 200-feet of storage in each lane. According to ODOT L&D Manual Figure 401-12, the total length of the turn lane from the initial diverging taper to the stop bar should be 500-feet.
    - Optimize traffic signal split timings
        - ◊ The northbound and southbound right turn lanes should operate as permitted-overlap, overlapping with the westbound and eastbound left turn phases, respectively.

Note that these improvements only mitigate the impact of the proposed residential development. Also, it is anticipated that the future commercial development would generate additional improvements at this intersection such as an additional southbound left turn lane. The intersection of SR 63 and Cincinnati-Dayton Road currently operates at failing levels of service. The recent SR 63 Corridor Study, performed by Burgess & Niple, identified potential solutions to improve the

intersection to acceptable levels of service. An alternative approach to constructing the mitigating improvements outlined above would be to construct the ultimate improvements at this intersection with the developer contributing a portion in commensurate with the development's impact to the intersection.

4. SR 63 and Access 3

   If Scenario 2 is implemented (full access on SR 63), the following improvements should be constructed:

   - Construct a full access along SR 63. The intersection should be operated by a traffic signal. The intersection should be at the established location within the limited access right of way.
   - Construct an eastbound left turn lane of 600-feet, including a 50-foot taper.
     - ◊ The eastbound left turning movement should operate as protected-permitted.
   - Construct the southbound approach to have separate left turn and right turn lanes.
     - ◊ The southbound right turning movement should operate as permitted-overlap, overlapping with the eastbound left phase.

   If Scenario 3 is implemented (right-in / right-out access on SR 63), the following improvements should be constructed:

   - Construct a westbound right turn lane of 300-feet, including a 50-foot taper. Note that the length of this turn lane may need to be extended as part of the future commercial development.

5. Intersection A
   - The eastbound and westbound approaches should be free flowing
   - The northbound and southbound approaches should be stop-controlled.
6. Intersection B
   - The northbound and southbound approaches should be free flowing
   - The eastbound and westbound approaches should be stop-controlled.
7. Intersection C
   - The intersection should operate as all-way stop controlled.
8. Intersection D
   - The northbound and southbound approaches should be free flowing
   - The eastbound approach should be stop-controlled.

Conceptual improvement sketches are included in Appendix I.

## 2.1 DEVELOPMENT DESCRIPTION

The Cornerstone Monroe Farms - Ratterman Property development is at the northeast quadrant of the intersection of SR 63 (Hamilton Lebanon Road) and Cincinnati-Dayton Road (Main Street) in Monroe Ohio. The development is planned to consist of 240 apartment units, 111 townhome units, and 210 single-family homes. The development is planned to be completed by 2027.

In addition to the residential development, there is the potential for an adjacent future commercial development along SR 63. For the purpose of this study, the commercial development is assumed to include approximately 130,000 square feet of retail space.

For the purpose of this study and in addition to the no-build analyses, three separate build scenarios were analyzed:

- Build Scenario 1 - No access to SR 63
- Build Scenario 2 - Full access to SR 63
- Build Scenario 3 - Right-In/Right-Out (RIRO) access to SR 63

A preliminary site plan is included in Appendix A of this report. A Project Location Map is presented in Figure 2A.

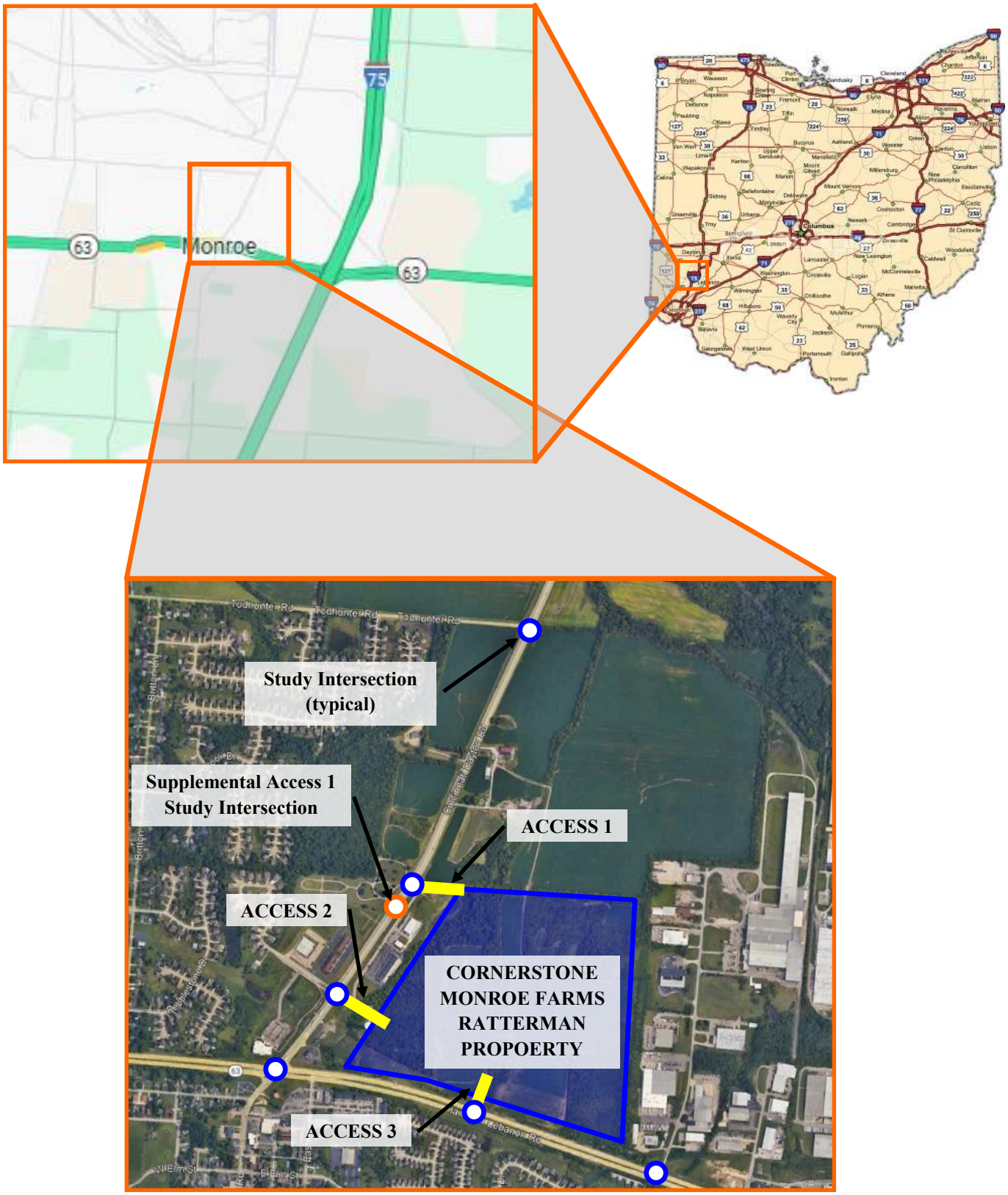
## 2.2 STUDY AREA

The study area was determined through coordination with the City of Monroe staff and includes the intersections expected to have the most impact from the increased traffic volumes proposed development. The study area for this analysis includes the following intersections:

1. Cincinnati-Dayton Road (Main Street) @ Todhunter Road
2. Cincinnati-Dayton Road (Main Street) @ Access 1
3. Cincinnati-Dayton Road (Main Street) @ Overbrook Court / Access 2
4. SR 63 (Hamilton Lebanon Road) @ Cincinnati-Dayton Road (Main Street)
5. SR 63 (Hamilton Lebanon Road) @ Access 3
6. SR 63 (Hamilton Lebanon Road) @ Lawton Avenue

Four (4) internal development intersections

7. Intersection A
8. Intersection B
9. Intersection C
10. Intersection D




**Project Location Map**

## 3.1 AREA LAND USE

Area land use in the immediate area surrounding the Cornerstone Monroe Farms - Ratterman Property development is mixed. A small office and retail development is located just to the west of the property along Cincinnati-Dayton Road. A large industrial development is located to the east along SR 63. Residential areas are located to the west and the south. Undeveloped agricultural land is located to the north.

## 3.2 SITE ACCESSIBILITY

Cincinnati Dayton Road (Main Street) runs north and south. To the north of SR 63, it has two travel lanes in each direction, is classified as a minor arterial, and has a posted speed limit of 45 miles per hour. To the south of SR 63, it has one travel lane in each direction, is classified as a major collector, and has a posted speed limit of 25 miles per hour.

Todhunter Road is a major collector that runs east and west. It has one travel lane in each direction and a posted speed limit of 40 miles per hour.

Overbrook Court is a local roadway that runs east and west. It has one travel lane in each direction and a posted speed limit of 25 miles per hour.

SR 63 (Hamilton Lebanon Road) runs east and west. It has two travel lanes in each direction and a posted speed limit of 50 miles per hour. To the east of Cincinnati-Dayton Road it is classified as a minor arterial. To the west of Cincinnati-Dayton Road it is classified as a major collector.

Lawton Avenue is a local roadway that runs north and south. It has one travel lane in each direction.

For the purpose of this study, all internal development roadways are assumed to be two-lane roadways with posted speed limits of 25 miles per hour.

Existing lane configurations are presented in Figure 3A for the external study intersections.

## 3.3 EXISTING TRAFFIC VOLUMES

Turning movement counts were performed at the study intersections prior to the preliminary traffic volume submittal. Turning movement count summaries are included with the preliminary traffic volume submittal MOU in Appendix B of this report.

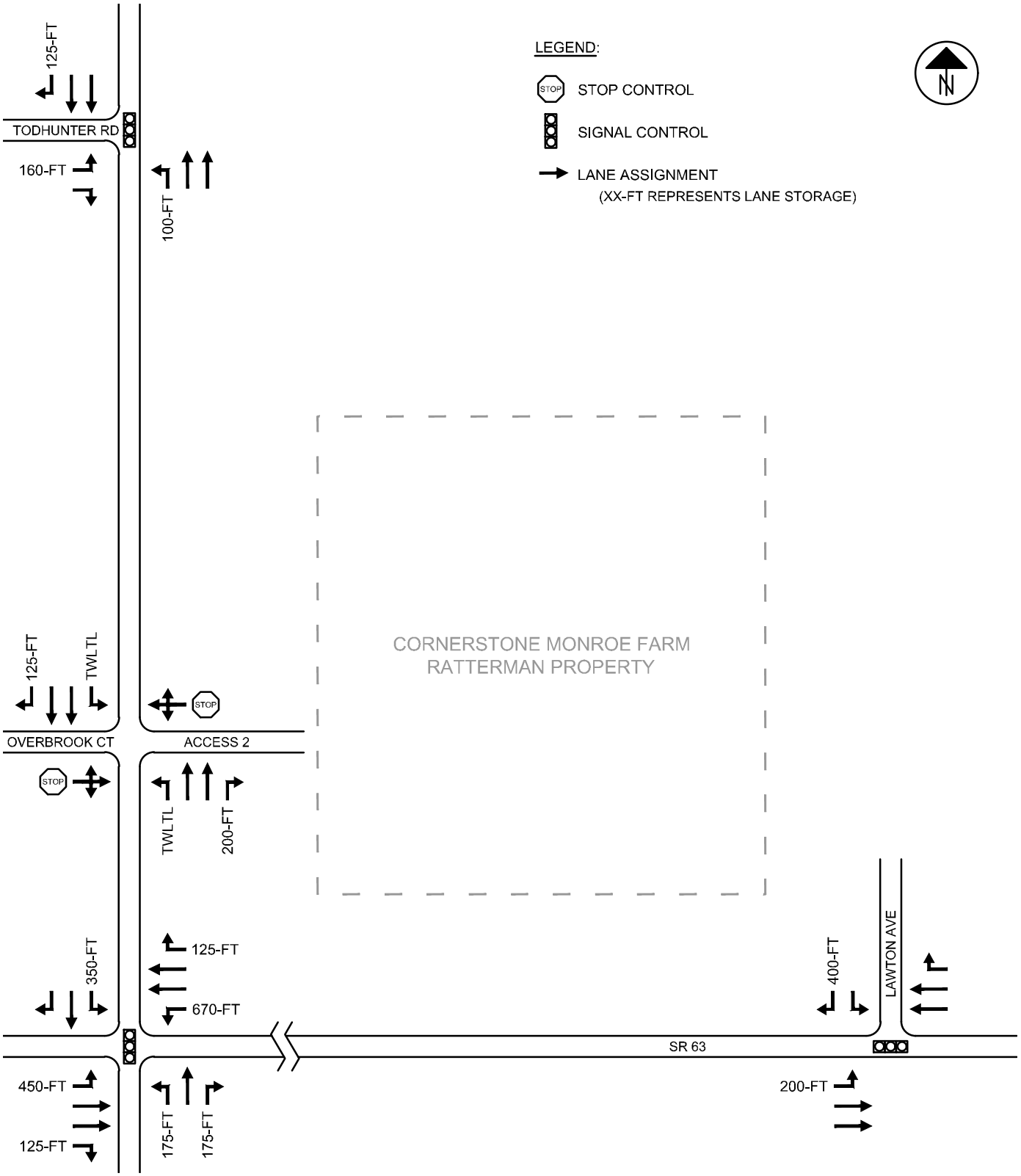
The counted traffic volumes are presented in Figure 3B.

## 3.4 SUPPLEMENTAL TRAFFIC VOLUMES

Turning movement counts were performed at the supplemental Access 1 study intersection, which is the existing intersection of Cincinnati-Dayton Road and the cemetery/commercial access located approximately 1,070 feet north of Overbrook Court. This data was collected for the analysis of an alternate access configuration where Access 1 for the proposed development is connected to the existing commercial roadway on the east side of Cincinnati-Dayton Road.

Data was collected on Tuesday, June 24, 2025, from 5:30-9:00 AM and from 3:30-7:00 PM. The peak hours were found to occur from 7:15 to 8:15 AM and from 3:30 to 4:30 PM. Turning movement count summaries for the supplemental study intersection are included in Appendix C of this report.

For this study, only the traffic volumes entering and exiting the existing driveways in the more recent counts were used in the analyses. The through volumes on Cincinnati-Dayton Road were translated through this intersection using the previously projected traffic volumes at the Overbrook Court intersection.




**EXISTING LANE CONFIGURATION**

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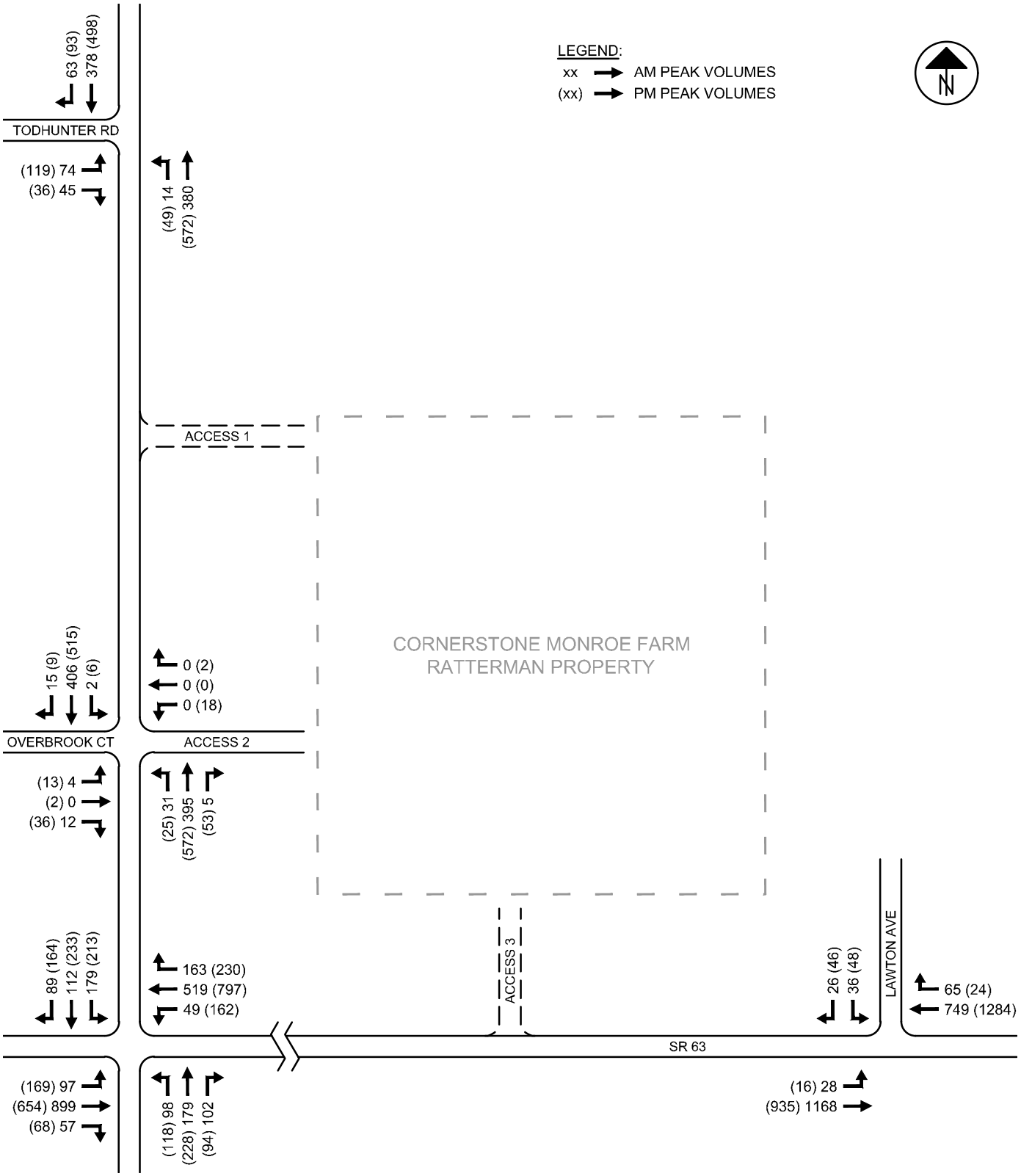
**FIGURE 3A**
**JULY 11, 2025**




COUNTED TRAFFIC VOLUMES

FIGURE 3B
JULY 11, 2025

## 4.1 BASE TRAFFIC VOLUMES

The development of the no-build and build traffic volumes were performed as part of the preliminary traffic volume submittal. The approved document is provided in Appendix B of this report.

The opening year (2027) and future year (2047) no-build traffic volumes are presented in Figures 4A and 4B, respectively.

The opening year (2027) and future year (2047) build scenario 1 traffic volumes are presented in Figures 4C and 4D, respectively.

The opening year (2027) and future year (2047) build scenario 2 traffic volumes are presented in Figures 4E and 4F, respectively.

The future year (2047) build scenario 2 traffic volumes with the commercial development are presented in Figure 4G.

The opening year (2027) and future year (2047) build scenario 3 traffic volumes are presented in Figures 4H and 4I, respectively.

The future year (2047) build scenario 3 traffic volumes with the commercial development are presented in Figure 4J.

## 4.2 SUPPLEMENTAL TRAFFIC VOLUMES (ACCESS 1)

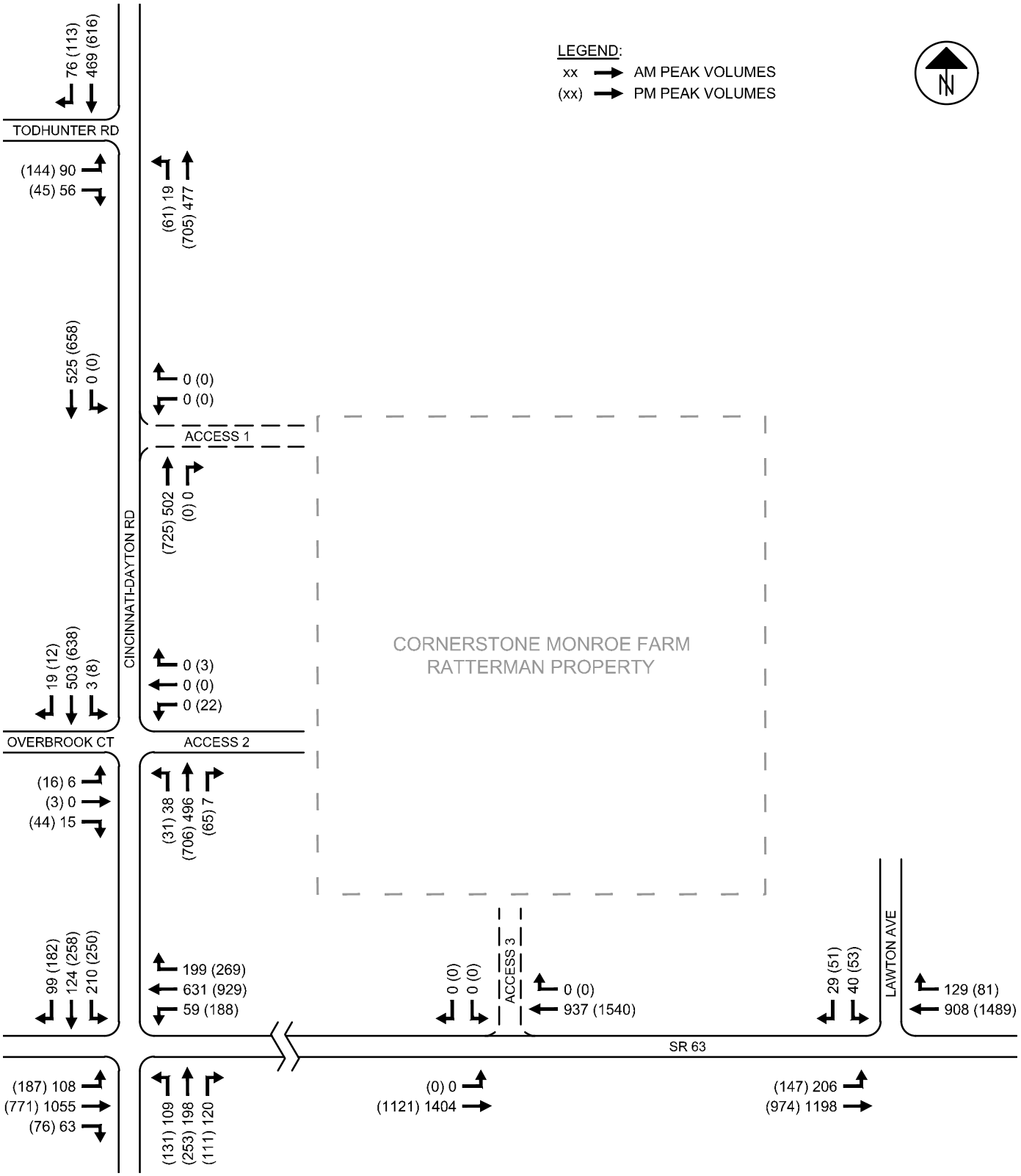
The entering and exiting traffic volumes at the supplemental Cincinnati-Dayton Road and Access 1 intersection, located approximately 1,070 feet north of Overbrook Court, are presented in Figure 4K. These entering and exiting traffic volumes have been layered with the base analyses traffic volumes for each scenario.

The opening year (2027) and future year (2047) supplemental Access 1 no-build traffic volumes are presented in Figure 4L.

The opening year (2027) and future year (2047) supplemental Access 1 Scenario 1 traffic volumes are presented in Figure 4M.

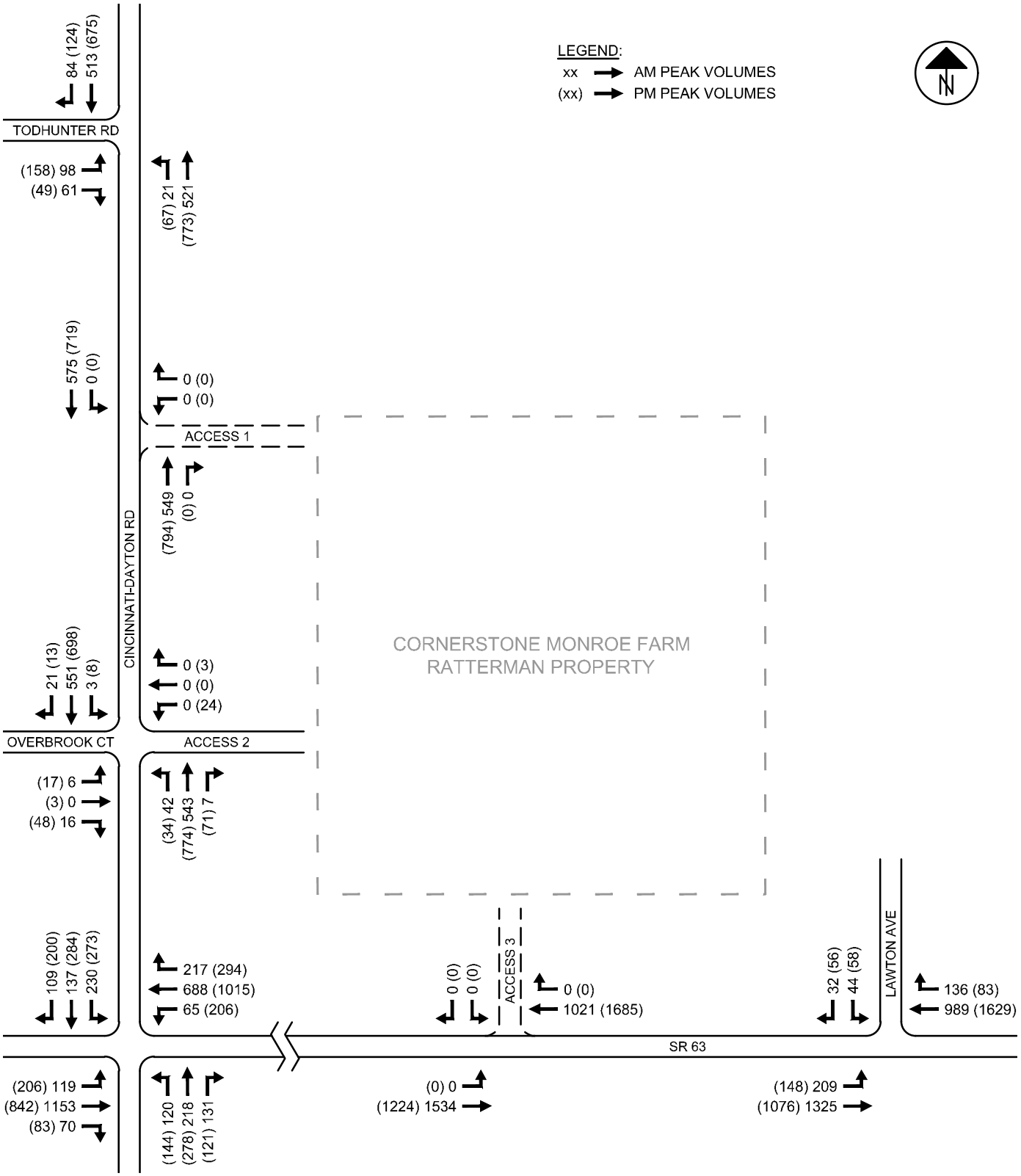
The opening year (2027) and future year (2047) supplemental Access 1 Scenario 2 traffic volumes are presented in Figure 4N.

The opening year (2027) and future year (2047) supplemental Access 1 Scenario 3 traffic volumes are presented in Figure 4O.

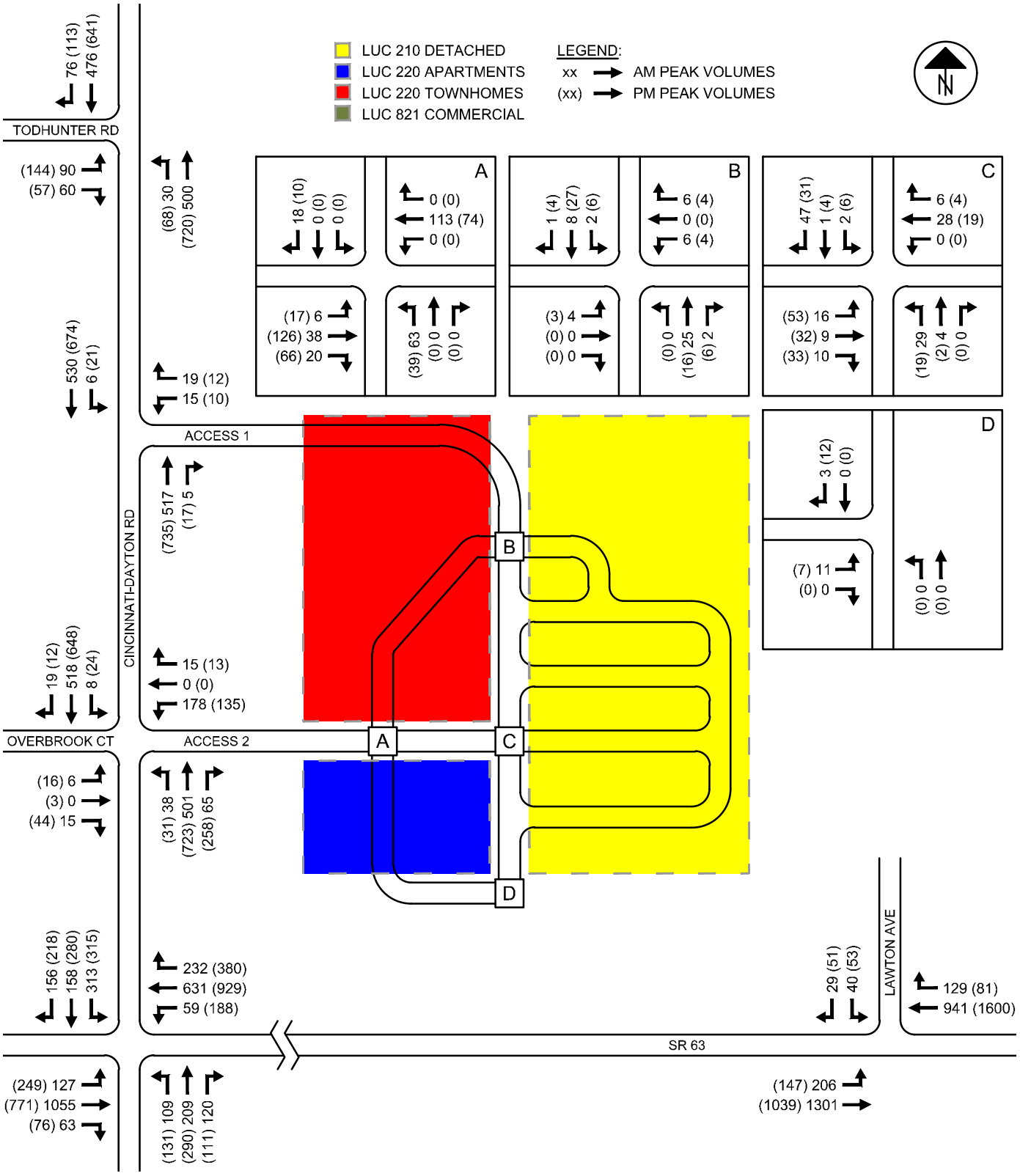



2027 NO-BUILD TRAFFIC VOLUMES

FIGURE 4A
JULY 11, 2025




**2047 NO-BUILD TRAFFIC VOLUMES**




2027 BUILD TRAFFIC VOLUMES - SCENARIO 1

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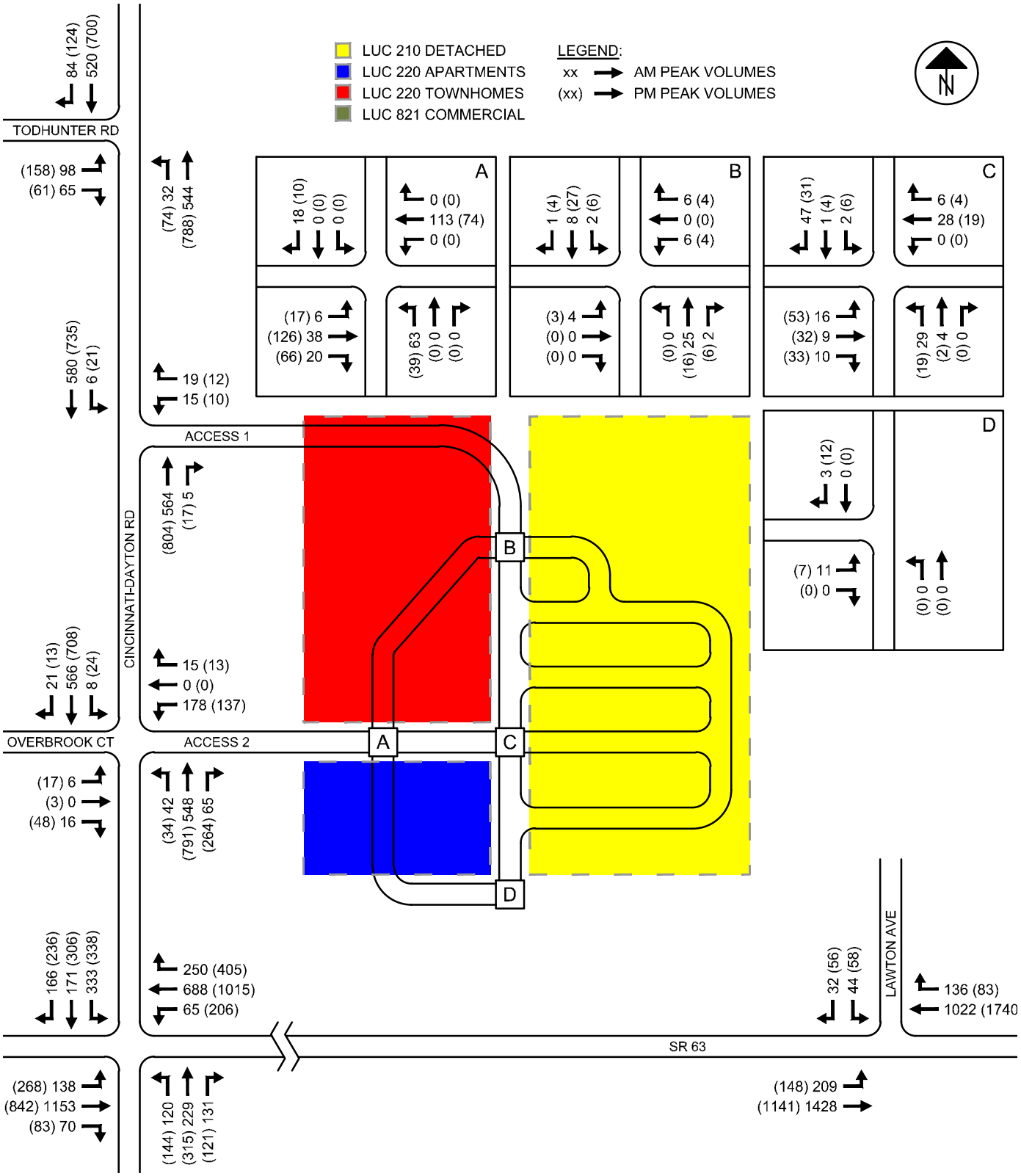
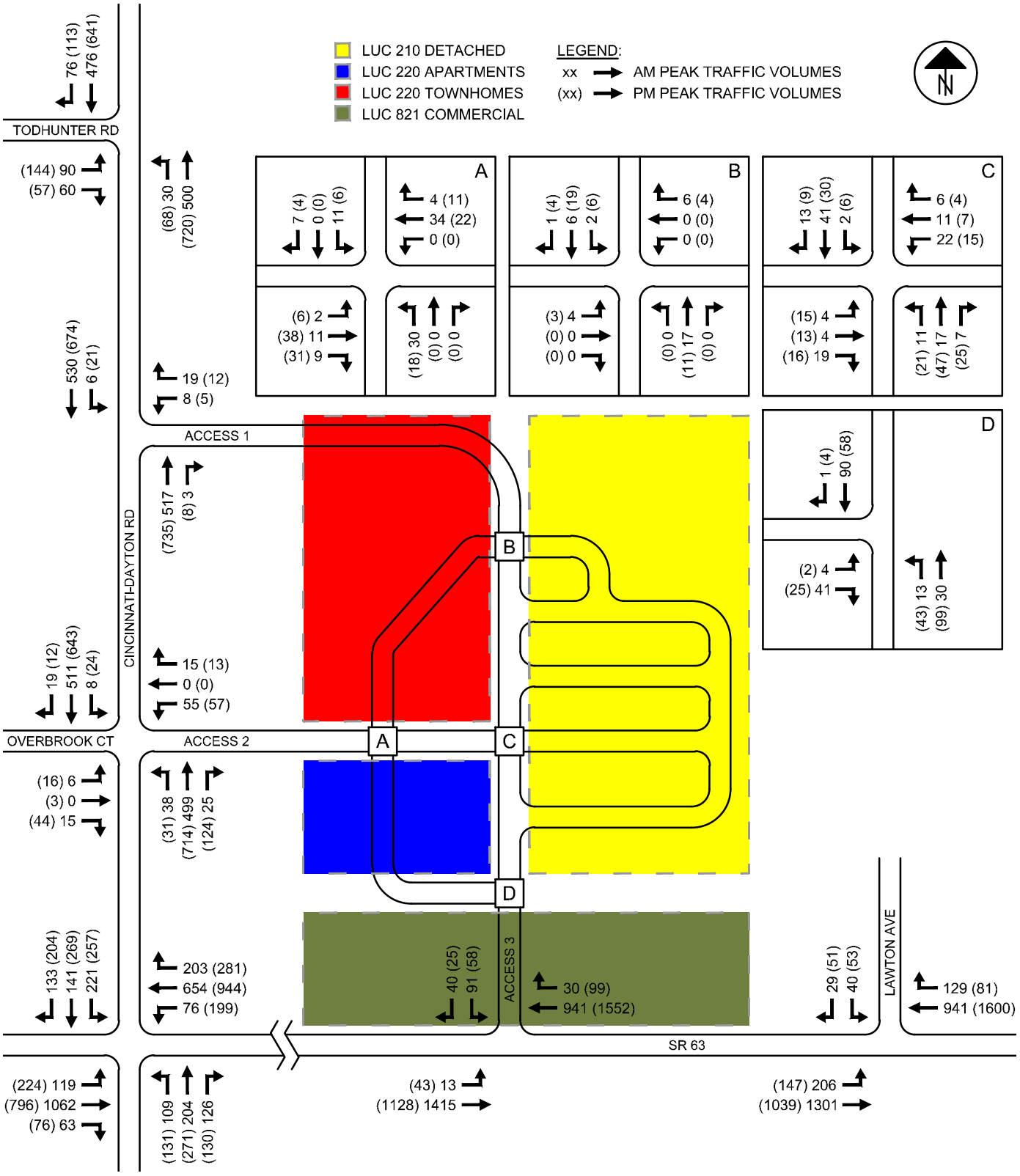
FIGURE 4C
JULY 11, 2025

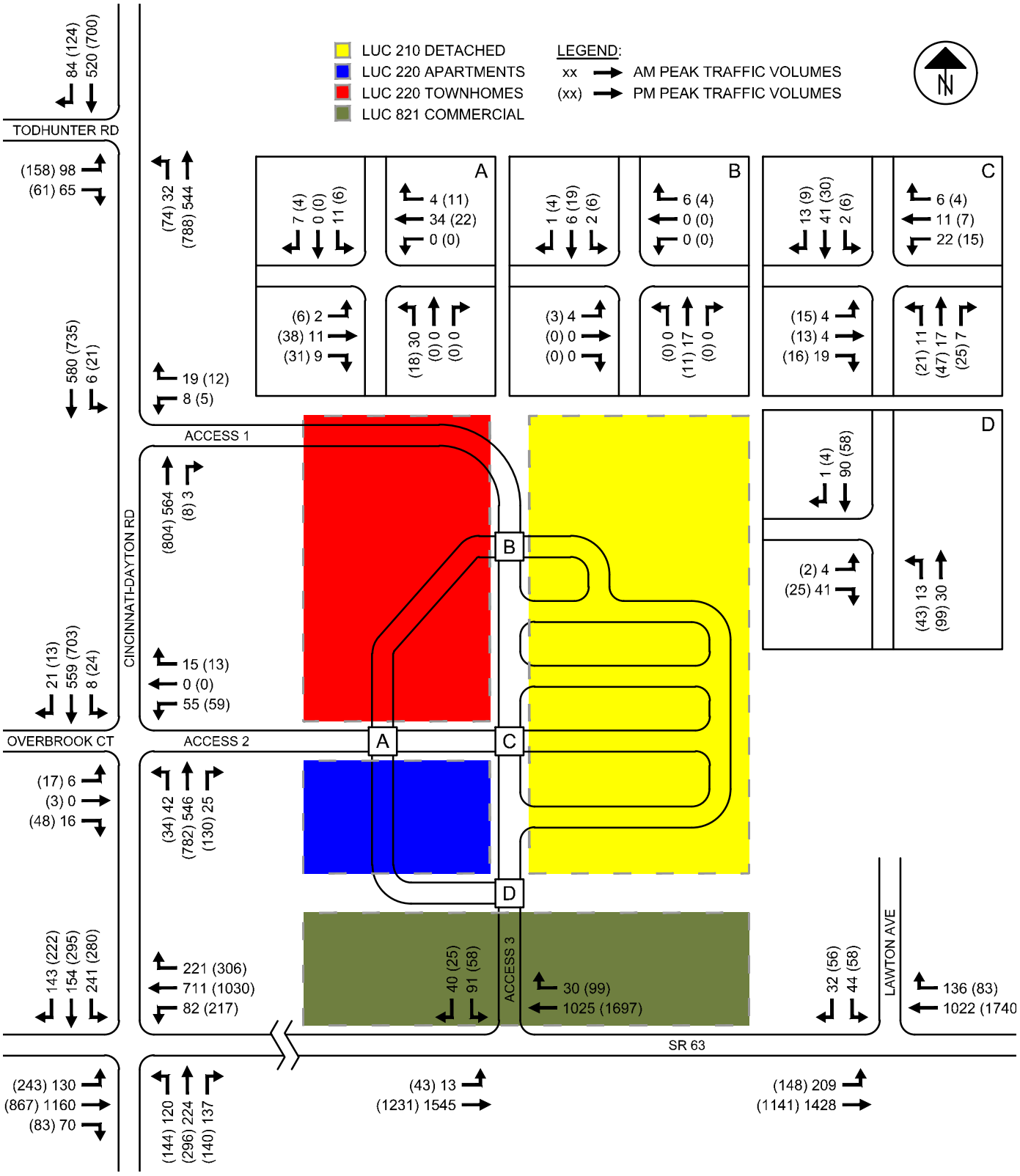



**2047 BUILD TRAFFIC VOLUMES - SCENARIO 1**

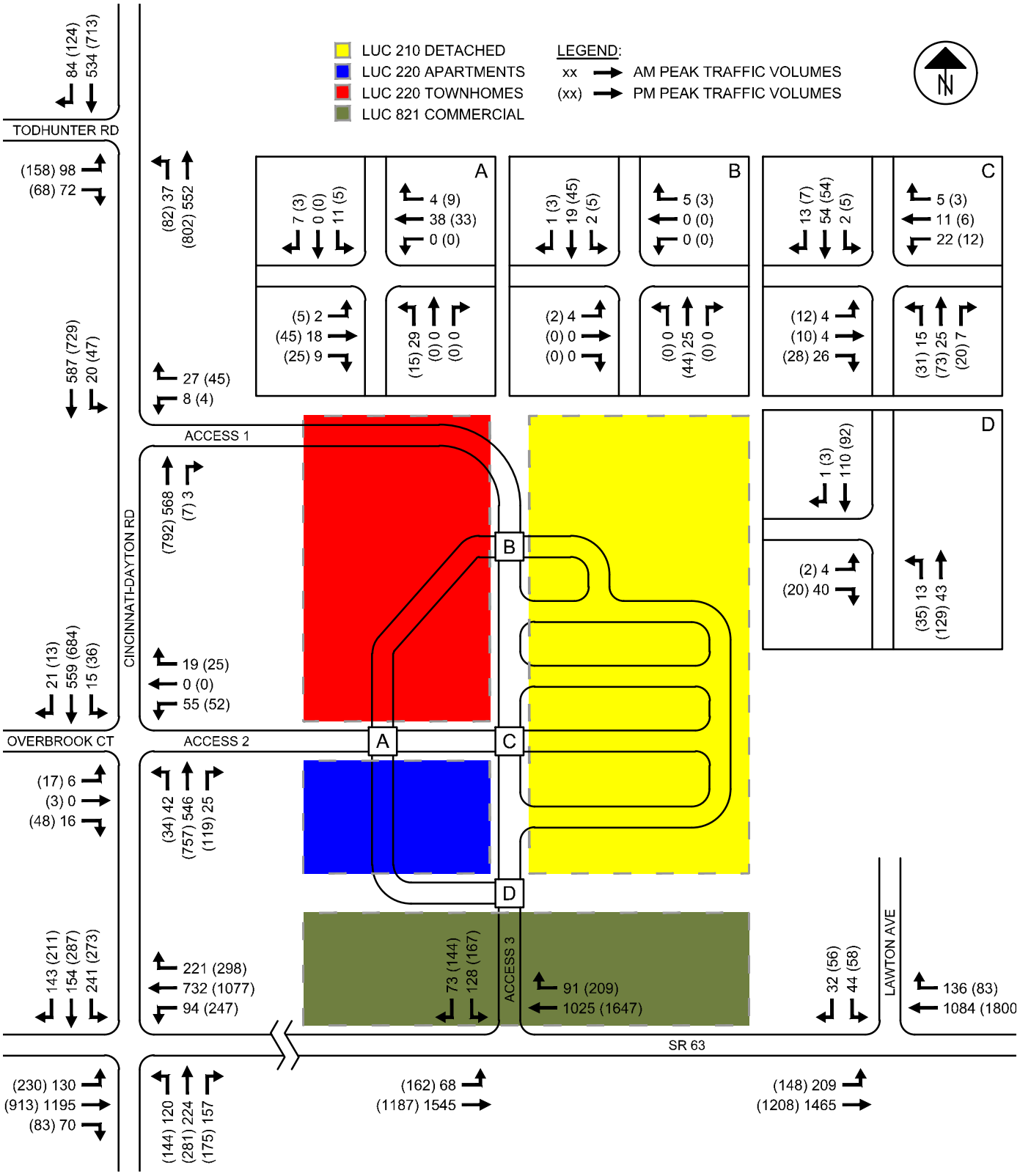



2027 BUILD TRAFFIC VOLUMES - SCENARIO 2

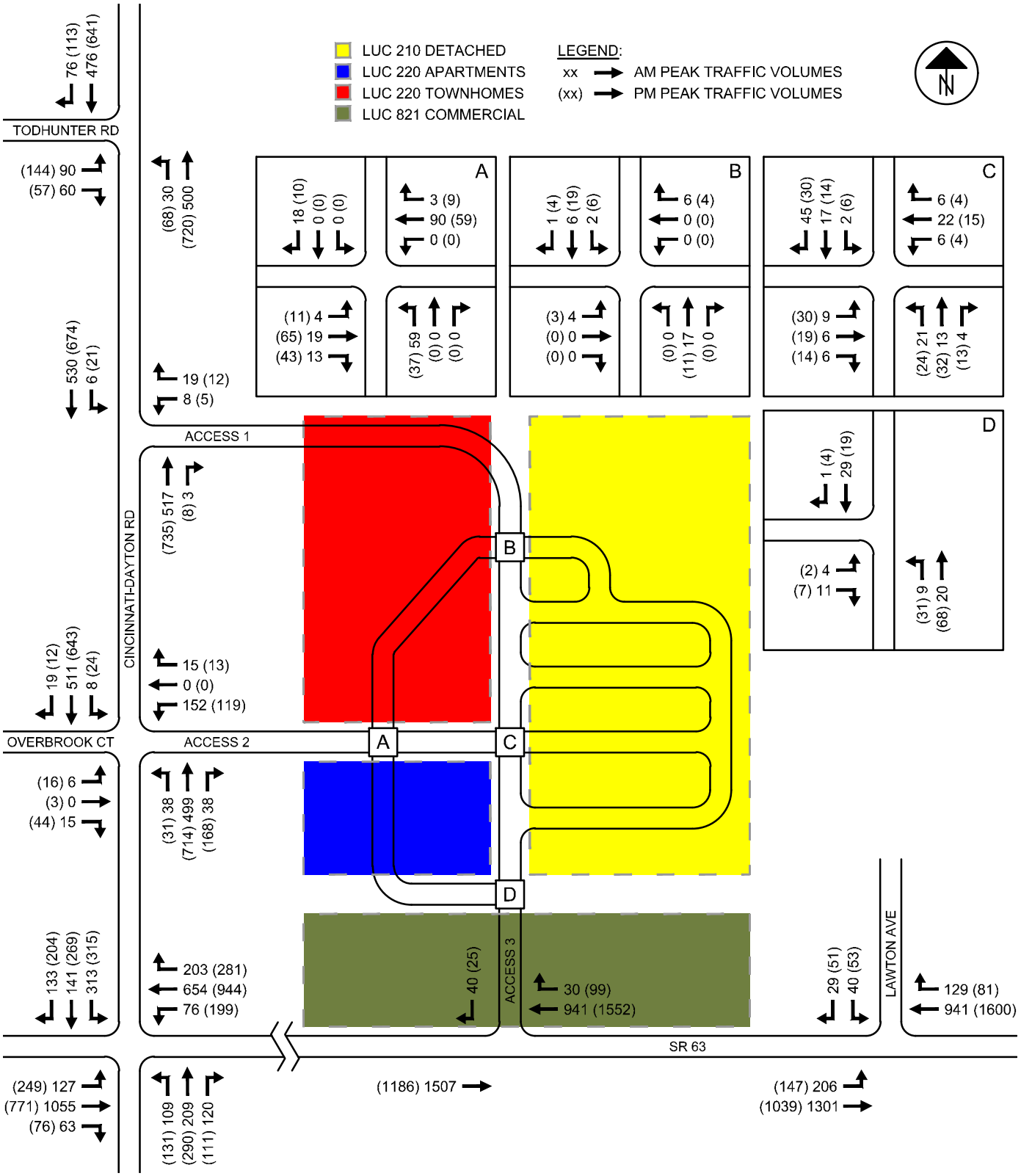
FIGURE 4E
JULY 11, 2025



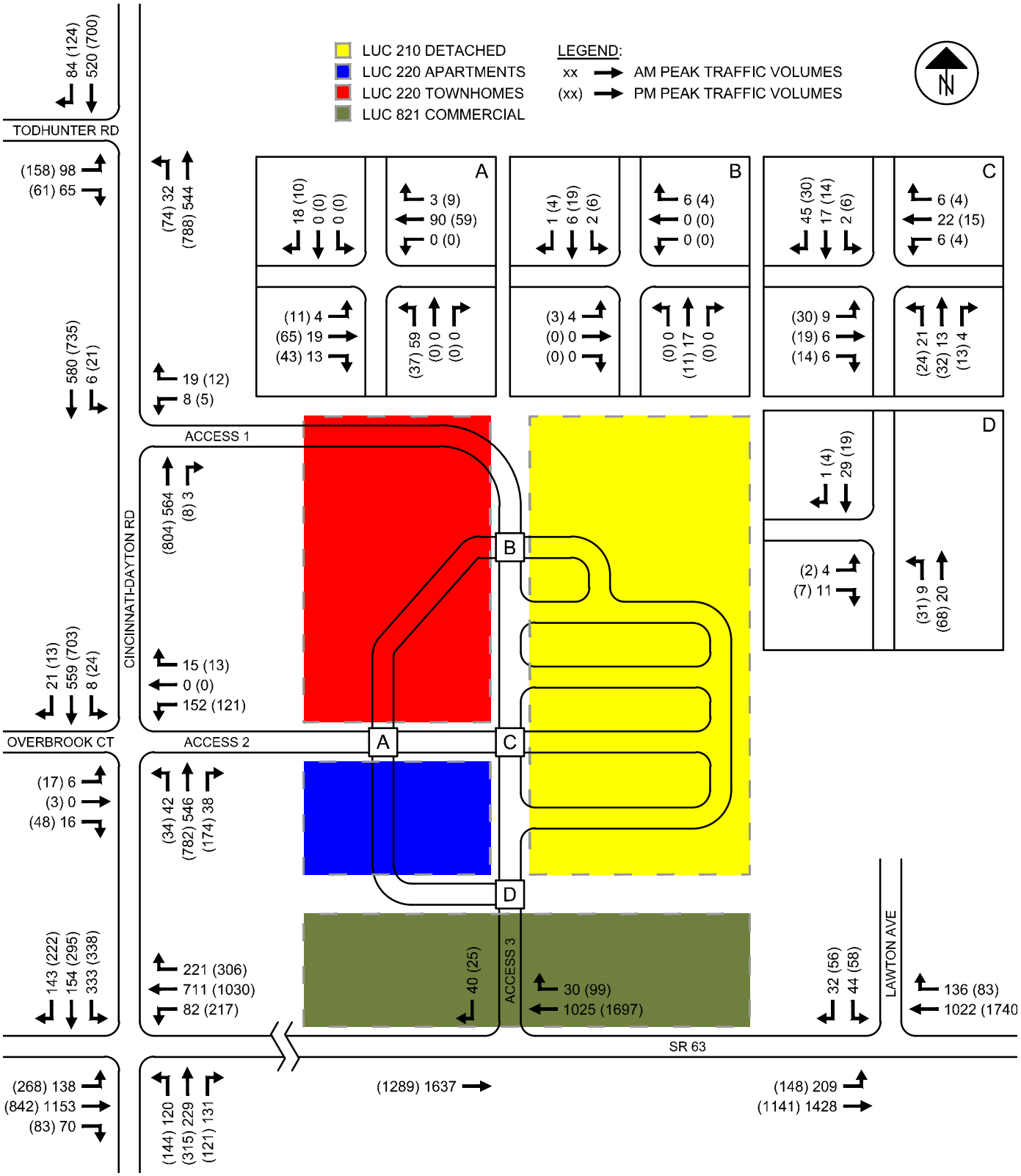

**2047 BUILD TRAFFIC VOLUMES - SCENARIO 2**




**2047 BUILD TRAFFIC VOLUMES - SCENARIO 2 WITH COMMERCIAL**

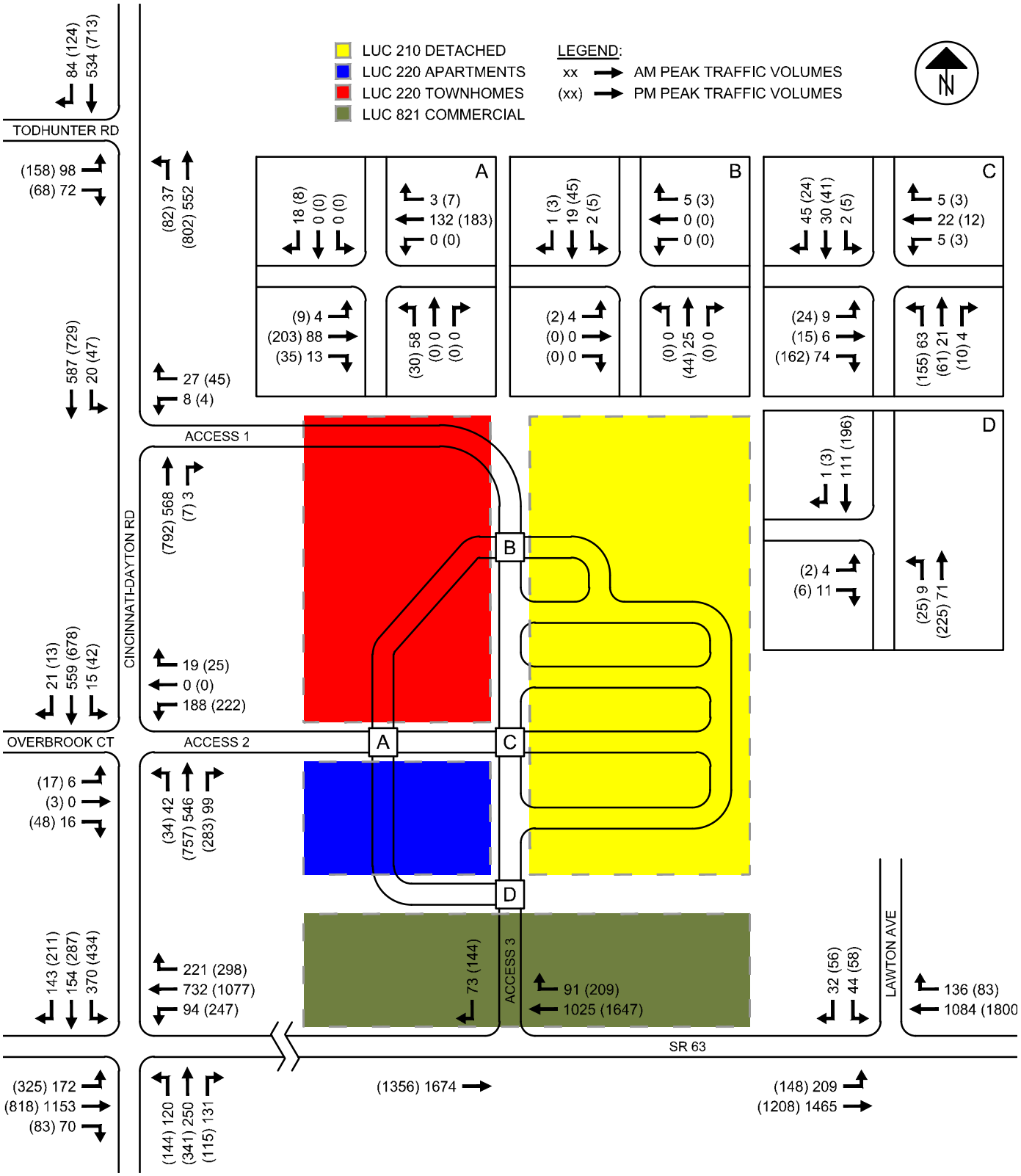



2027 BUILD TRAFFIC VOLUMES - SCENARIO 3



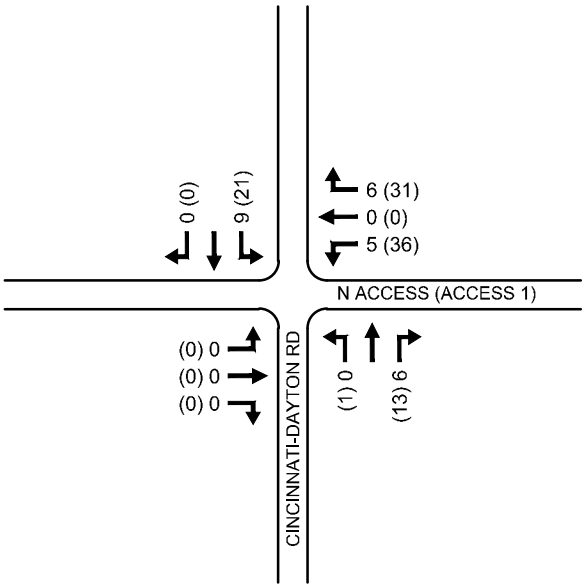

2047 BUILD TRAFFIC VOLUMES - SCENARIO 3

FIGURE 4I
JULY 11, 2025




**2047 BUILD TRAFFIC VOLUMES - SCENARIO 3 WITH COMMERCIAL**

LEGEND:
xx → AM PEAK VOLUMES
(xx) → PM PEAK VOLUMES

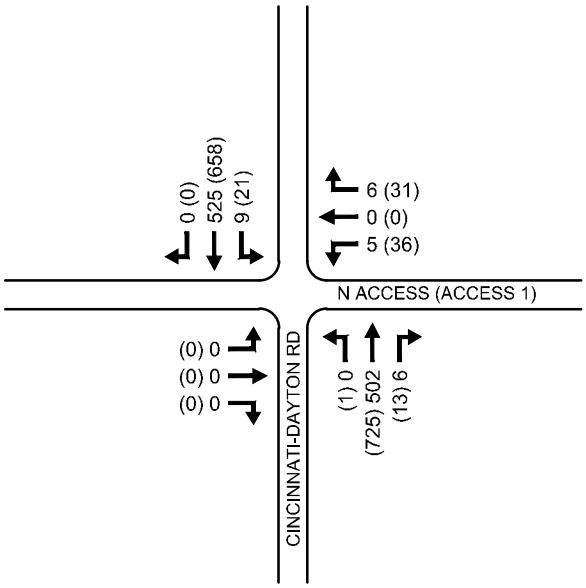



**SUPPLEMENTAL ACCESS 1 - COUNTED TRAFFIC VOLUMES**

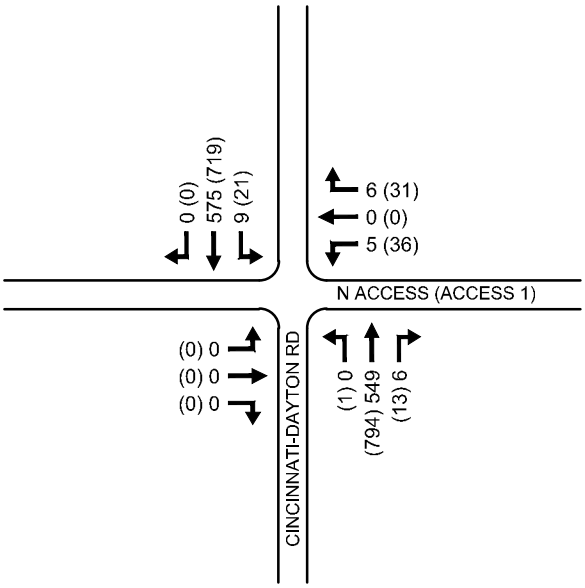
LEGEND:
xx → AM PEAK VOLUMES
(xx) → PM PEAK VOLUMES

N

2027 No-Build




2047 No-Build

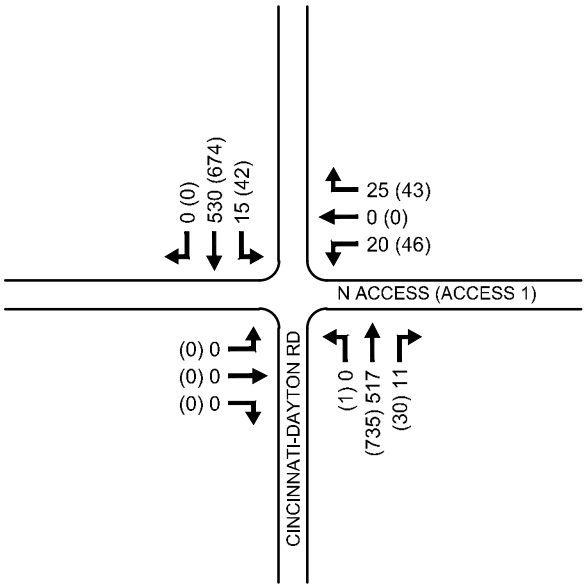



**SUPPLEMENTAL ACCESS 1 - NO-BUILD TRAFFIC VOLUMES**

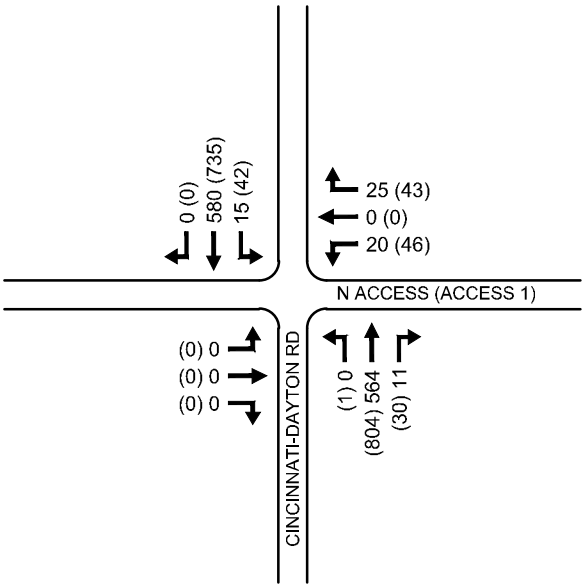
LEGEND:
xx → AM PEAK VOLUMES
(xx) → PM PEAK VOLUMES

N

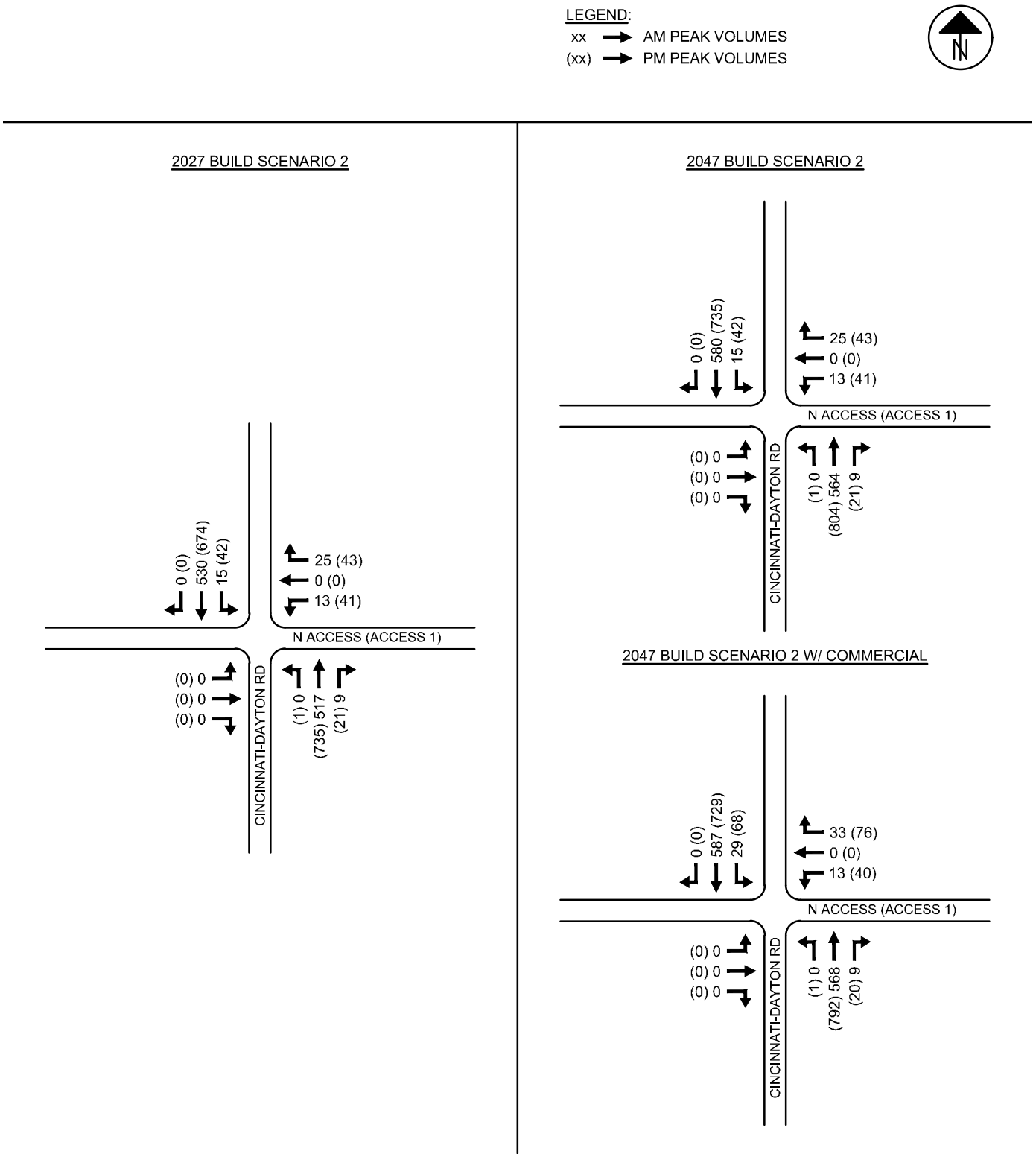
2027 BUILD SCENARIO 1



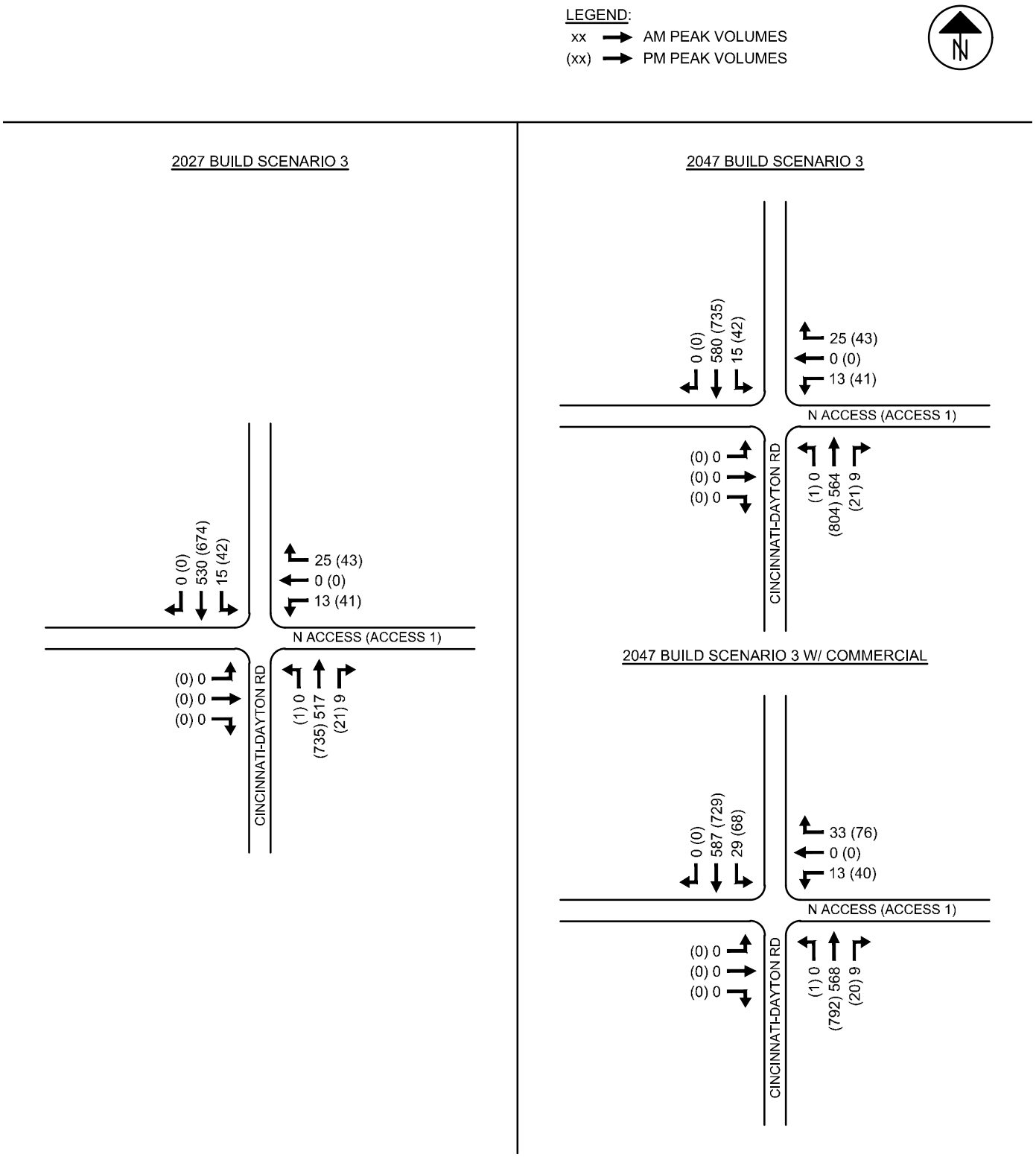

2047 BUILD SCENARIO 1




**SUPPLEMENTAL ACCESS 1 - SCENARIO 1 TRAFFIC VOLUMES**




**SUPPLEMENTAL ACCESS 1 - SCENARIO 2 TRAFFIC VOLUMES**




**SUPPLEMENTAL ACCESS 1 - SCENARIO 3 TRAFFIC VOLUMES**

Projected opening year (2027) and future year (2047) no-build and build scenario traffic volumes were analyzed at the study area intersections to determine the impacts of the Cornerstone Monroe Farms - Ratterman Property development. Turn lane warrant analyses were performed at all unsignalized intersections were applicable, in accordance with ODOT's Location and Design Manual, Volume 1. Sight distance evaluations were performed at each new access to the proposed development. Synchro capacity analysis software was used to determine the Level of Service (LOS) and volume-to-capacity ratio (v/c) of each of the study area intersections. The LOS represents an intersection's measure of effectiveness and is used to determine the impacts on the intersection from the proposed development. LOS values range from "A" (best) to "F" (failing). The v/c should not exceed 1.00, and a ratio of 0.93 is preferred. Synchro was also used to determine the expected queues at each intersection based on the HCM 95th percentile queue outputs. Signal warrant analyses were performed at access intersections were capacity analyses revealed the need for a signal. Recommended improvements are based upon the results of the above described analyses.

## 5.1 TURN LANE WARRANT ANALYSES

Turn lane warrants were checked at all three accesses to the proposed development, as well as any internal intersection, where applicable. Turn lane warrants were checked according to the procedures in the ODOT L&D (Location and Design) Manual, Volume 1. When warrants were met, Tables 401-9 and 401-10 of the same manual were used to determine the recommended length of the turn lane including the diverging taper. Turn lane warrant charts are presented in Appendix D of this report.

Cincinnati-Dayton Road @ Access 1

Turn lane warrants were performed for each build scenario. Table 5.1-A1 summarizes the turn lane warrants performed for the intersection of Cincinnati-Dayton Road and Access 1.

| | **Cincinnati-Dayton Road @ Access 1** | | | |
|---|---|---|---|---|
| | NB Right | | SB Left | |
| | AM | PM | AM | PM |
| 2047 Scenario 1 | | | | 125' |
| 2047 Scenario 2 | | | | 125' |
| 2047 Scenario 2 With Commerical | | | 125' | 125' |
| 2047 Scenario 3 | | | | 125' |
| 2047 Scenario 3 With Commerical | | | 125' | 125' |

**Table 5.1-A1:** Cincinnati-Dayton Rd @ Access 1 - Turn Lane Warrants

*values in the table represent the storage length of the required turn lane and do not include a 50-foot diverging taper

**all turn lanes warranted shall include a 50-foot diverging taper

Additional turn lane warrants were performed for the supplemental access 1 traffic volumes. Table 5.1-A2 summarizes the turn lane warrants performed.

| | Cincinnati-Dayton Road @ Access 1 | | | |
|---|---|---|---|---|
| | NB Right | | SB Left | |
| | AM | PM | AM | PM |
| 2047 Scenario 1 | | | | 125' |
| 2047 Scenario 2 | | | | 125' |
| 2047 Scenario 2 With Commerical | | | 125' | 175' |
| 2047 Scenario 3 | | | | 125' |
| 2047 Scenario 3 With Commerical | | | 125' | 175' |

**Table 5.1-A2:** Supplemental Cincinnati-Dayton Rd @ Access 1 - Turn Lane Warrants

*values in the table represent the storage length of the required turn lane and do not include a 50-foot diverging taper

**all turn lanes warranted shall include a 50-foot diverging taper

Cincinnati-Dayton Road @ Overbrook Court / Access 2

Turn lane warrants were performed for each build scenario. Table 5.1-B summarizes the turn lane warrants performed for the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2.

| | Cincinnati-Dayton Road @ Access 2 | | | |
|---|---|---|---|---|
| | NB Right | | SB Left | |
| | AM | PM | AM | PM |
| 2047 Scenario 1 | 175' | 275' | | 125' |
| 2047 Scenario 2 | | 225' | | 125' |
| 2047 Scenario 2 With Commerical | | 175' | | 125' |
| 2047 Scenario 3 | | 225' | | 125' |
| 2047 Scenario 3 With Commerical | 175' | 275' | | 125' |

**Table 5.1-B:** Cincinnati-Dayton Rd @ Overbrook Ct / Access 2 - Turn Lane Warrants

*values in the table represent the storage length of the required turn lane and do not include a 50-foot diverging taper

**all turn lanes warranted shall include a 50-foot diverging taper

SR 63 @ Access 3

Turn lane warrants were performed for each build scenario. Table 5.1-C summarizes the turn lane warrants performed for the intersection of SR 63 @ Access 3.

| | SR-63 @ Access 3 | | | |
|---|---|---|---|---|
| | WB Right | | EB Left | |
| | AM | PM | AM | PM |
| 2047 Scenario 2 | 250' | 250' | | 250' |
| 2047 Scenario 2 With Commerical | 250' | 300' | 250' | 275' |
| 2047 Scenario 3 | 250' | 250' | | |
| 2047 Scenario 3 With Commerical | 250' | 300' | | |

**Table 5.1-C:** SR-63 @ Access 3 - Turn Lane Warrants

*values in the table represent the storage length of the required turn lane and do not include a 50-foot diverging taper

**all turn lanes warranted shall include a 50-foot diverging taper

Internal Development Intersections

Turn lane warrants were performed for each build scenario at intersections A, B, and D. No turn lanes were found to be warranted at any of the internal intersections.

## 5.2 SIGHT DISTANCE REVIEW

Sight distance profiles were created at the proposed development access locations. The required intersection sight distance at each access was calculated based on Figure 201-5 of ODOT's L&D Manual, Volume 1. Sight distance profiles are provided in Appendix E of this report.

Cincinnati-Dayton Road @ Access 1

Tables 5.2-A and 5.2-B summarize the calculations for the required sight distances at the intersection of Cincinnati-Dayton Road and Access 1.

| | |
|---|---|
| Intersection: | Cincinnati-Dayton Rd @ Access 1 |
| Calculated By: | AWS |
| Date: | 5/22/2025 |
| Design Speed (mph): | 45 |
| Design Vehicle: | Passenger Car |
| Turning Movement: | Right Turn From Stop |
| Initial Time Gap (s) | 6.5 |
| Additional Lanes Crossed | |
| Additional Time Gap per Lane (s) | |
| Final Time Gap (s) | 6.5 |
| Required Sight Distance (ft) | 430 |

**Table 5.2-A:** Access 1 ISD - Right Turn From Stop

| | |
|---|---|
| Intersection: | Cincinnati-Dayton Rd @ Access 1 |
| Calculated By: | AWS |
| Date: | 5/22/2025 |
| Design Speed (mph): | 45 |
| Design Vehicle: | Passenger Car |
| Turning Movement: | Left Turn From Stop |
| Initial Time Gap (s) | 7.5 |
| Additional Lanes Crossed | 2 |
| Additional Time Gap per Lane (s) | 0.5 |
| Final Time Gap (s) | 8.5 |
| Required Sight Distance (ft) | 565 |

**Table 5.2-B:** Access 1 ISD - Left Turn From Stop

According to the sight distance profiles, required sight distance is not available to the north from the proposed access location. According to the sight distance profiles, required sight distance is available to the south from the proposed access location.

Additional sight distance profiles were created at 100-FT, 150-FT, and 200-FT north of the proposed access location, to determine where the access would need to be located to achieve the required sight distance.

According to the additional sight distance profiles, required sight distance is not available to the north at the 100-FT location.

According to the additional sight distance profiles, required sight distance is marginally available to the north at the 150-FT location.

According to the additional sight distance profiles, required sight distance is available to the north at the 200-FT location. According to the additional sight distance profiles, required sight distance is available to the south at the 200-FT location.

SR 63 @ Access 3

Tables 5.2-C and 5.2-D summarize the calculations for the required sight distances at the intersection of SR 63 and Access 3

| | |
|---|---|
| Intersection: | SR 63 @ Access 3 |
| Calculated By: | AWS |
| Date: | 5/22/2025 |
| Design Speed (mph): | 55 |
| Design Vehicle: | Passenger Car |
| Turning Movement: | Right Turn From Stop |
| Initial Time Gap (s) | 6.5 |
| Additional Lanes Crossed | |
| Additional Time Gap per Lane (s) | |
| Final Time Gap (s) | 6.5 |
| Required Sight Distance (ft) | 530 |

**Table 5.2-C:** Access 3 ISD - Right Turn From Stop

| | |
|---|---|
| Intersection: | SR 63 @ Access 3 |
| Calculated By: | AWS |
| Date: | 5/22/2025 |
| Design Speed (mph): | 55 |
| Design Vehicle: | Passenger Car |
| Turning Movement: | Left Turn From Stop |
| Initial Time Gap (s) | 7.5 |
| Additional Lanes Crossed | 4.5 |
| Additional Time Gap per Lane (s) | 0.5 |
| Final Time Gap (s) | 9.75 |
| Required Sight Distance (ft) | 790 |

**Table 5.2-D:** Access 3 ISD - Left Turn From Stop

According to the sight distance profiles, sight distance is not available to the west from the proposed access location. According to the sight distance profiles, sight distance is available to the east from the proposed access location. Due to right-of-way constraints, no alternate locations were analyzed.

## 5.3 CAPACITY ANALYSES

The projected traffic volumes were analyzed, using Synchro software, at the study intersections. Existing signal timings have been implemented in the analyses at all signalized study intersections as a baseline. The analyses utilize the intersection peak hour factors and turning movement heavy vehicle percentages as observed in the traffic count data. Capacity analyses reports, providing levels of service and v/c ratios, can be found in Appendix F.

Cincinnati-Dayton Road @ Todhunter Road

*No-Build*

According to the analyses, the intersection of Cincinnati-Dayton Road and Todhunter Road is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) no-build scenarios. Table 5.3-A1 summarizes the analyses performed.

| | | | Eastbound | | Westbound | Northbound | | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | RT | | LT | THRU | THRU | RT | |
| **2027 No-Build** | AM | Delay | 21.9 | 26.9 | | 14.9 | 7.0 | 13.5 | 7.5 | 11.8 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.41 | 0.29 | | 0.07 | 0.30 | 0.45 | 0.11 | |
| | PM | Delay | 26.0 | 19.5 | | 11.8 | 7.7 | 16.4 | 8.9 | 13.0 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.67 | 0.18 | | 0.22 | 0.42 | 0.61 | 0.18 | |
| **2047 No-Build** | AM | Delay | 22.1 | 23.0 | | 15.8 | 7.3 | 14.0 | 7.6 | 11.9 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.44 | 0.30 | | 0.08 | 0.33 | 0.50 | 0.12 | |
| | PM | Delay | 27.3 | 19.4 | | 12.3 | 7.9 | 17.2 | 9.1 | 13.5 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.73 | 0.19 | | 0.25 | 0.46 | 0.68 | 0.19 | |

**Table 5.3-A1:** Cincinnati-Dayton Rd @ Todhunter Rd - No-Build, Capacity Analyses Summary

*Build Scenario 1*

According to the analyses, the intersection of Cincinnati-Dayton Road and Todhunter Road is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-A2 summarizes the analyses performed.

| | | | Eastbound | | Westbound | Northbound | | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | RT | | LT | THRU | THRU | RT | |
| **2027 Build** Scenario 1 | AM | Delay | 22.3 | 20.9 | | 11.6 | 7.0 | 14.1 | 7.9 | 11.7 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.41 | 0.28 | | 0.11 | 0.32 | 0.47 | 0.11 | |
| | PM | Delay | 26.1 | 19.6 | | 12.1 | 7.7 | 16.9 | 9.0 | 13.2 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.67 | 0.22 | | 0.25 | 0.43 | 0.64 | 0.18 | |
| **2047 Build** Scenario 1 | AM | Delay | 22.5 | 20.8 | | 11.3 | 7.2 | 14.6 | 7.9 | 12.0 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.44 | 0.29 | | 0.12 | 0.34 | 0.51 | 0.12 | |
| | PM | Delay | 27.4 | 19.6 | | 12.6 | 8.0 | 17.7 | 9.2 | 13.8 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.73 | 0.23 | | 0.28 | 0.47 | 0.71 | 0.19 | |

**Table 5.3-A2:** Cincinnati-Dayton Rd @ Todhunter Rd - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, the intersection of Cincinnati-Dayton Road and Todhunter Road is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-A3 summarizes the analyses performed.

| | | | Eastbound | | Westbound | Northbound | | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | RT | | LT | THRU | THRU | RT | |
| **2027 Build** Scenario 2 | AM | Delay | 22.3 | 20.9 | | 11.6 | 7.0 | 14.1 | 7.9 | 11.7 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.41 | 0.28 | | 0.11 | 0.32 | 0.47 | 0.11 | |
| | PM | Delay | 26.1 | 19.6 | | 12.1 | 7.7 | 16.9 | 9.0 | 13.2 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.67 | 0.22 | | 0.25 | 0.43 | 0.64 | 0.18 | |
| **2047 Build** Scenario 2 | AM | Delay | 22.5 | 20.8 | | 11.3 | 7.2 | 14.6 | 7.9 | 12.0 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.44 | 0.29 | | 0.12 | 0.34 | 0.51 | 0.12 | |
| | PM | Delay | 27.4 | 19.6 | | 12.6 | 8.0 | 17.7 | 9.2 | 13.8 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.73 | 0.23 | | 0.28 | 0.47 | 0.71 | 0.19 | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | 22.6 | 20.8 | | 11.4 | 7.8 | 14.9 | 8.1 | 12.2 |
| | | LOS | C | C | | B | A | B | A | B |
| | | V/C | 0.44 | 0.31 | | 0.13 | 0.35 | 0.53 | 0.12 | |
| | PM | Delay | 27.5 | 19.6 | | 12.8 | 8.0 | 18.0 | 9.3 | 13.9 |
| | | LOS | C | B | | B | A | B | A | B |
| | | V/C | 0.73 | 0.25 | | 0.31 | 0.48 | 0.72 | 0.19 | |

**Table 5.3-A3:** Cincinnati-Dayton Rd @ Todhunter Rd - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of Cincinnati-Dayton Road and Todhunter Road is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) Build Scenario 3. Table 5.3-A4 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 | AM | Delay | 22.3 | 20.9 | | | 11.6 | 7.0 | | 14.1 | | 7.9 | 11.7 |
| | | LOS | C | C | | | B | A | | B | | A | B |
| | | V/C | 0.41 | 0.28 | | | 0.11 | 0.32 | | 0.47 | | 0.11 | |
| | PM | Delay | 26.1 | 19.6 | | | 12.1 | 7.7 | | 16.9 | | 9.0 | 13.2 |
| | | LOS | C | B | | | B | A | | B | | A | B |
| | | V/C | 0.67 | 0.22 | | | 0.25 | 0.43 | | 0.64 | | 0.18 | |
| **2047 Build** Scenario 3 | AM | Delay | 22.5 | 20.8 | | | 11.3 | 7.2 | | 14.6 | | 7.9 | 12.0 |
| | | LOS | C | C | | | B | A | | B | | A | B |
| | | V/C | 0.44 | 0.29 | | | 0.12 | 0.34 | | 0.51 | | 0.12 | |
| | PM | Delay | 27.4 | 19.6 | | | 12.6 | 8.0 | | 17.7 | | 9.2 | 13.8 |
| | | LOS | C | B | | | B | A | | B | | A | B |
| | | V/C | 0.73 | 0.23 | | | 0.28 | 0.47 | | 0.71 | | 0.19 | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | 22.6 | 20.8 | | | 11.4 | 7.3 | | 14.9 | | 8.1 | 12.2 |
| | | LOS | C | C | | | B | A | | B | | A | B |
| | | V/C | 0.44 | 0.31 | | | 0.13 | 0.35 | | 0.53 | | 0.12 | |
| | PM | Delay | 27.5 | 19.6 | | | 12.8 | 8.0 | | 18.0 | | 9.3 | 13.9 |
| | | LOS | C | B | | | B | A | | B | | A | B |
| | | V/C | 0.73 | 0.25 | | | 0.31 | 0.48 | | 0.72 | | 0.19 | |

**Table 5.3-A4:** Cincinnati-Dayton Rd @ Todhunter Rd - Scenario 3, Capacity Analyses Summary

Cincinnati-Dayton Road @ Access 1

*Build Scenario 1*

According to the analyses, the intersection of Cincinnati-Dayton Road and Access 1 is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-B1summarizes the analyses performed.

| | | | Eastbound | Westbound | | Northbound | | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LT | RT | THRU | RT | LT | THRU | |
| **2027 Build** Scenario 1 | AM | Delay | | 12.2 | | | | 8.6 | | |
| | | LOS | | B | | | | A | | |
| | | V/C | | 0.07 | | | | 0.01 | | |
| | PM | Delay | | 14.5 | | | | 9.6 | | |
| | | LOS | | B | | | | A | | |
| | | V/C | | 0.06 | | | | 0.03 | | |
| **2047 Build** Scenario 1 | AM | Delay | | 12.7 | | | | 8.8 | | |
| | | LOS | | B | | | | A | | |
| | | V/C | | 0.07 | | | | 0.01 | | |
| | PM | Delay | | 15.3 | | | | 9.9 | | |
| | | LOS | | C | | | | A | | |
| | | V/C | | 0.06 | | | | 0.03 | | |

**Table 5.3-B1:** Cincinnati-Dayton Rd @ Access 1 - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, the intersection of Cincinnati-Dayton Road and Access 1 is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-B2 summarizes the analyses performed.

| | | | Eastbound | Westbound | | | Northbound | | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LT | | RT | THRU | RT | LT | THRU | |
| **2027 Build** Scenario 2 | AM | Delay | | 11.5 | | | | | 8.6 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.05 | | | | | 0.01 | | |
| | PM | Delay | | 13.2 | | | | | 9.6 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.04 | | | | | 0.03 | | |
| **2047 Build** Scenario 2 | AM | Delay | | 11.9 | | | | | 8.8 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.05 | | | | | 0.01 | | |
| | PM | Delay | | 13.9 | | | | | 9.9 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.04 | | | | | 0.03 | | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | | 11.8 | | | | | 8.9 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.07 | | | | | 0.02 | | |
| | PM | Delay | | 12.7 | | | | | 10.0 | | |
| | | LOS | | B | | | | | B | | |
| | | V/C | | 0.10 | | | | | 0.07 | | |

**Table 5.3-B2:** Cincinnati-Dayton Rd @ Access 1 - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of Cincinnati-Dayton Road and Access 1 is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-B3 summarizes the analyses performed.

| | | | Eastbound | Westbound | | | Northbound | | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LT | | RT | THRU | RT | LT | THRU | |
| **2027 Build** Scenario 3 | AM | Delay | | 11.5 | | | | | 8.6 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.05 | | | | | 0.01 | | |
| | PM | Delay | | 13.2 | | | | | 9.6 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.04 | | | | | 0.03 | | |
| **2047 Build** Scenario 3 | AM | Delay | | 11.9 | | | | | 8.8 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.05 | | | | | 0.01 | | |
| | PM | Delay | | 13.9 | | | | | 9.9 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.04 | | | | | 0.03 | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | | 11.8 | | | | | 8.9 | | |
| | | LOS | | B | | | | | A | | |
| | | V/C | | 0.07 | | | | | 0.02 | | |
| | PM | Delay | | 12.7 | | | | | 10.0 | | |
| | | LOS | | B | | | | | B | | |
| | | V/C | | 0.10 | | | | | 0.07 | | |

**Table 5.3-B3:** Cincinnati-Dayton Rd @ Access 1 - Scenario 3, Capacity Analyses Summary

Supplemental Access 1

*No-Build*

According to the analyses, the intersection of Cincinnati-Dayton Road and the supplemental Access 1 is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) no-build scenarios. Table 5.3-B4 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 | AM | Delay | 0.0 | | | 15.5 | | | 0.0 | | | 8.7 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.04 | | | 0.00 | | | 0.01 | | | |
| | PM | Delay | 0.0 | | | 33.9 | | | 9.2 | | | 9.7 | | | |
| | | LOS | A | | | D | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.38 | | | 0.00 | | | 0.03 | | | |
| **2047 Build** Scenario 1 | AM | Delay | 0.0 | | | 16.8 | | | 0.0 | | | 8.9 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.04 | | | 0.00 | | | 0.01 | | | |
| | PM | Delay | 0.0 | | | 43.5 | | | 9.5 | | | 10.0 | | | |
| | | LOS | A | | | E | | | A | | | B | | | |
| | | V/C | 0.00 | | | 0.46 | | | 0.00 | | | 0.03 | | | |

**Table 5.3-B4:** Supplemental Access 1 - No-Build, Capacity Analyses Summary

*Build Scenario 1*

According to the analyses, the intersection of Cincinnati-Dayton Road and the supplemental Access 1 is expected to operate with acceptable levels of service in the opening year (2027) Build Scenario 1. In the future year (2047) the westbound approach is expected to have failing levels of service at the westbound approach due to delays over the 50 second delay threshold. However, v/c ratios are expected to be acceptable. Table 5.3-B5 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 | AM | Delay | 0.0 | | | 17.5 | | | 0.0 | | | 8.8 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.15 | | | 0.00 | | | 0.02 | | | |
| | PM | Delay | 0.0 | | | 48.5 | | | 9.3 | | | 10.0 | | | |
| | | LOS | A | | | E | | | A | | | B | | | |
| | | V/C | 0.00 | | | 0.57 | | | 0.00 | | | 0.06 | | | |
| **2047 Build** Scenario 1 | AM | Delay | 0.0 | | | 19.2 | | | 0.0 | | | 9.0 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.17 | | | 0.00 | | | 0.02 | | | |
| | PM | Delay | 0.0 | | | 67.3 | | | 9.5 | | | 10.4 | | | |
| | | LOS | A | | | F | | | A | | | B | | | |
| | | V/C | 0.00 | | | 0.67 | | | 0.00 | | | 0.07 | | | |

**Table 5.3-B5:** Supplemental Access 1 - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, the intersection of Cincinnati-Dayton Road and the supplemental Access 1 is expected to operate with acceptable levels of service in the opening year (2027) Build Scenario 2. In the future year (2047) the westbound approach is expected to have failing levels of service at the westbound approach due to delays over the 50 second delay threshold. However, v/c ratios are expected to be acceptable. Table 5.3-B6 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 | AM | Delay | 0.0 | | | 15.6 | | | 0.0 | | | 8.8 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.12 | | | 0.00 | | | 0.02 | | | |
| | PM | Delay | 0.0 | | | 42.8 | | | 9.3 | | | 9.9 | | | |
| | | LOS | A | | | E | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.51 | | | 0.00 | | | 0.06 | | | |
| **2047 Build** Scenario 2 | AM | Delay | 0.0 | | | 16.9 | | | 0.0 | | | 9.0 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.13 | | | 0.00 | | | 0.02 | | | |
| | PM | Delay | 0.0 | | | 58.3 | | | 9.5 | | | 10.3 | | | |
| | | LOS | A | | | F | | | A | | | B | | | |
| | | V/C | 0.00 | | | 0.61 | | | 0.00 | | | 0.07 | | | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | 0.0 | | | 16.9 | | | 0.0 | | | 9.1 | | | |
| | | LOS | A | | | C | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.15 | | | 0.00 | | | 0.04 | | | |
| | PM | Delay | 0.0 | | | 61.1 | | | 9.5 | | | 10.5 | | | |
| | | LOS | A | | | F | | | A | | | B | | | |
| | | V/C | 0.00 | | | 0.71 | | | 0.00 | | | 0.11 | | | |

**Table 5.3-B6:** Supplemental Access 1 - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of Cincinnati-Dayton Road and the supplemental Access 1 is expected to operate with acceptable levels of service in the opening year (2027) Build Scenario 3. In the future year (2047) the westbound approach is expected to have failing levels of service at the westbound approach due to delays over the 50 second delay threshold. However, v/c ratios are expected to be acceptable. Table 5.3-B7 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 | AM | Delay | | 0.0 | | | 15.6 | | 0.0 | | | 8.8 | | | |
| | | LOS | | A | | | C | | A | | | A | | | |
| | | V/C | | 0.00 | | | 0.12 | | 0.00 | | | 0.02 | | | |
| | PM | Delay | | 0.0 | | | 42.8 | | 9.3 | | | 9.9 | | | |
| | | LOS | | A | | | E | | A | | | A | | | |
| | | V/C | | 0.00 | | | 0.51 | | 0.00 | | | 0.06 | | | |
| **2047 Build** Scenario 3 | AM | Delay | | 0.0 | | | 16.9 | | 0.0 | | | 9.0 | | | |
| | | LOS | | A | | | C | | A | | | A | | | |
| | | V/C | | 0.00 | | | 0.13 | | 0.00 | | | 0.02 | | | |
| | PM | Delay | | 0.0 | | | 58.3 | | 9.5 | | | 10.3 | | | |
| | | LOS | | A | | | F | | A | | | B | | | |
| | | V/C | | 0.00 | | | 0.61 | | 0.00 | | | 0.07 | | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | | 0.0 | | | 16.9 | | 0.0 | | | 9.1 | | | |
| | | LOS | | A | | | C | | A | | | A | | | |
| | | V/C | | 0.00 | | | 0.15 | | 0.00 | | | 0.04 | | | |
| | PM | Delay | | 0.0 | | | 61.1 | | 9.5 | | | 10.5 | | | |
| | | LOS | | A | | | F | | A | | | B | | | |
| | | V/C | | 0.00 | | | 0.71 | | 0.00 | | | 0.11 | | | |

**Table 5.3-B7:** Supplemental Access 1 - Scenario 3, Capacity Analyses Summary

Cincinnati-Dayton Road @ Overbrook Court / Access 2

*No-Build*

According to the analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with acceptable levels of service in the opening year (2027). However, failing levels of service are expected in the future year (2047) no-build scenarios. Table 5.3-C1 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 No-Build** | AM | Delay | | 15.5 | | | 0.0 | | 8.9 | | | 8.7 | | | |
| | | LOS | | C | | | A | | A | | | A | | | |
| | | V/C | | 0.07 | | | 0.00 | | 0.05 | | | 0.00 | | | |
| | PM | Delay | | 22.0 | | | 42.0 | | 9.4 | | | 9.7 | | | |
| | | LOS | | C | | | E | | A | | | A | | | |
| | | V/C | | 0.25 | | | 0.23 | | 0.04 | | | 0.01 | | | |
| **2047 No-Build** | AM | Delay | | 16.7 | | | 0.0 | | 9.1 | | | 8.8 | | | |
| | | LOS | | C | | | A | | A | | | A | | | |
| | | V/C | | 0.08 | | | 0.00 | | 0.05 | | | 0.00 | | | |
| | PM | Delay | | 26.1 | | | 56.7 | | 9.7 | | | 10.1 | | | |
| | | LOS | | D | | | F | | A | | | B | | | |
| | | V/C | | 0.31 | | | 0.31 | | 0.05 | | | 0.01 | | | |

**Table 5.3-C1:** Cincinnati-Dayton Rd @ Access 2 - No-Build, Capacity Analyses Summary

*Build Scenario 1*

According to the analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 1 baseline conditions. Signal warrant analyses were performed later in this report (see section 5.5). The baseline capacity analyses is summarized in Table 5.3-C2.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 (Baseline) | AM | Delay | 16.2 | | | 146.9 | 10.2 | | 9.0 | | | 8.9 | | | |
| | | LOS | C | | | F | B | | A | | | A | | | |
| | | V/C | 0.07 | | | 1.10 | 0.03 | | 0.05 | | | 0.01 | | | |
| | PM | Delay | 25.8 | | | 374.4 | 11.2 | | 9.4 | | | 11.0 | | | |
| | | LOS | D | | | F | B | | A | | | B | | | |
| | | V/C | 0.29 | | | 1.56 | 0.03 | | 0.04 | | | 0.04 | | | |
| **2047 Build** Scenario 1 (Baseline) | AM | Delay | 17.5 | | | 229.2 | 10.5 | | 9.2 | | | 9.1 | | | |
| | | LOS | C | | | F | B | | A | | | A | | | |
| | | V/C | 0.08 | | | 1.30 | 0.03 | | 0.05 | | | 0.01 | | | |
| | PM | Delay | 32.0 | | | 580.9 | 11.6 | | 9.7 | | | 11.5 | | | |
| | | LOS | D | | | F | B | | A | | | B | | | |
| | | V/C | 0.37 | | | 2.00 | 0.03 | | 0.05 | | | 0.05 | | | |

**Table 5.3-C2:** Cincinnati-Dayton Rd @ Access 2 - Scenario 1 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year with a signalized intersection operation. According to the Scenario 1 Alternative 1 analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with acceptable levels of service in the opening year and future year when it is operated by a traffic signal. Table 5.3-C3 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 (Alternative 1) | AM | Delay | 44.1 | | | 54.7 | 44.0 | | 14.3 | 12.5 | 9.7 | 9.5 | 6.2 | 4.9 | 16.2 |
| | | LOS | D | | | D | D | | B | B | A | A | A | A | B |
| | | V/C | 0.09 | | | 0.76 | 0.07 | | 0.08 | 0.26 | 0.07 | 0.02 | 0.26 | 0.02 | |
| | PM | Delay | 52.2 | | | 59.3 | 49.8 | | 0.5 | 0.2 | 0.2 | 4.1 | 4.8 | 3.7 | 8.1 |
| | | LOS | D | | | E | D | | A | A | A | A | A | A | A |
| | | V/C | 0.32 | | | 0.71 | 0.08 | | 0.06 | 0.31 | 0.24 | 0.06 | 0.27 | 0.01 | |
| **2047 Build** Scenario 1 (Alternative 1) | AM | Delay | 44.2 | | | 54.7 | 44.0 | | 15.1 | 12.9 | 9.7 | 10.1 | 6.3 | 4.9 | 16.0 |
| | | LOS | D | | | D | D | | B | B | A | B | A | A | B |
| | | V/C | 0.10 | | | 0.76 | 0.07 | | 0.09 | 0.28 | 0.07 | 0.02 | 0.28 | 0.02 | |
| | PM | Delay | 51.9 | | | 59.2 | 49.3 | | 0.6 | 0.1 | 0.2 | 4.3 | 5.2 | 3.8 | 7.9 |
| | | LOS | D | | | E | D | | A | A | A | A | A | A | A |
| | | V/C | 0.34 | | | 0.71 | 0.08 | | 0.07 | 0.34 | 0.25 | 0.07 | 0.30 | 0.01 | |

**Table 5.3-C3:** Cincinnati-Dayton Rd @ Access 2 - Scenario 1 Alt 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 2 baseline conditions. Signal warrant analyses were performed later in this report (see section 5.5). The baseline capacity analyses is summarized in Table 5.3-C4.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 (Baseline) | AM | Delay | | 16.0 | | 33.3 | 10.2 | | 8.9 | | | 8.8 | | | |
| | | LOS | | C | | D | B | | A | | | A | | | |
| | | V/C | | 0.07 | | 0.34 | 0.03 | | 0.05 | | | 0.01 | | | |
| | PM | Delay | | 24.2 | | 88.5 | 11.2 | | 9.4 | | | 10.2 | | | |
| | | LOS | | C | | F | B | | A | | | B | | | |
| | | V/C | | 0.28 | | 0.63 | 0.02 | | 0.04 | | | 0.04 | | | |
| **2047 Build** Scenario 2 (Baseline) | AM | Delay | | 17.4 | | 41.4 | 10.5 | | 9.2 | | | 8.9 | | | |
| | | LOS | | C | | E | B | | A | | | A | | | |
| | | V/C | | 0.08 | | 0.40 | 0.03 | | 0.05 | | | 0.01 | | | |
| | PM | Delay | | 29.7 | | 146.6 | 11.5 | | 9.7 | | | 10.6 | | | |
| | | LOS | | D | | F | B | | A | | | B | | | |
| | | V/C | | 0.35 | | 0.83 | 0.03 | | 0.05 | | | 0.04 | | | |
| **2047 Build** Scenario 2 with Commercial (Baseline) | AM | Delay | | 17.7 | | 43.6 | 10.5 | | 9.2 | | | 9.0 | | | |
| | | LOS | | C | | E | B | | A | | | A | | | |
| | | V/C | | 0.08 | | 0.41 | 0.03 | | 0.05 | | | 0.02 | | | |
| | PM | Delay | | 29.5 | | 122.2 | 11.6 | | 9.6 | | | 10.5 | | | |
| | | LOS | | D | | F | B | | A | | | B | | | |
| | | V/C | | 0.34 | | 0.72 | 0.05 | | 0.05 | | | 0.06 | | | |

**Table 5.3-C4:** Cincinnati-Dayton Rd @ Access 2 - Scenario 2 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year with a signalized intersection operation. According to the Scenario 2 Alternative 1 analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with acceptable levels of service in the opening year and future year when it is operated by a traffic signal. Table 5.3-C5 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 (Alternative 1) | AM | Delay | | 53.9 | | 56.5 | 53.9 | | 0.3 | 0.2 | 0.0 | 2.4 | 3.1 | 2.4 | 5.7 |
| | | LOS | | D | | E | D | | A | A | A | A | A | A | A |
| | | V/C | | 0.17 | | 0.41 | 0.17 | | 0.07 | 0.23 | 0.02 | 0.01 | 0.23 | 0.02 | |
| | PM | Delay | | 54.0 | | 56.4 | 53.9 | | 0.4 | 0.2 | 0.0 | 2.4 | 3.2 | 2.4 | 5.5 |
| | | LOS | | D | | E | D | | A | A | A | A | A | A | A |
| | | V/C | | 0.19 | | 0.41 | 0.17 | | 0.08 | 0.25 | 0.02 | 0.01 | 0.25 | 0.02 | |
| **2047 Build** Scenario 2 (Alternative 1) | AM | Delay | | 60.2 | | 59.7 | 56.0 | | 0.3 | 0.2 | 0.1 | 2.6 | 3.1 | 2.3 | 6.0 |
| | | LOS | | E | | E | E | | A | A | A | A | A | A | A |
| | | V/C | | 0.51 | | 0.45 | 0.15 | | 0.06 | 0.29 | 0.11 | 0.05 | 0.25 | 0.01 | |
| | PM | Delay | | 60.9 | | 60.3 | 56.0 | | 0.4 | 0.2 | 0.1 | 2.6 | 3.2 | 2.3 | 6.0 |
| | | LOS | | E | | E | E | | A | A | A | A | A | A | A |
| | | V/C | | 0.55 | | 0.47 | 0.15 | | 0.07 | 0.31 | 0.11 | 0.05 | 0.28 | 0.01 | |
| **2047 Build** Scenario 2 with Commerical (Alternative 1) | AM | Delay | | 54.0 | | 56.4 | 54.3 | | 0.4 | 0.2 | 0.0 | 2.5 | 3.2 | 2.4 | 5.6 |
| | | LOS | | D | | E | D | | A | A | A | A | A | A | A |
| | | V/C | | 0.18 | | 0.41 | 0.21 | | 0.08 | 0.25 | 0.02 | 0.03 | 0.25 | 0.02 | |
| | PM | Delay | | 60.9 | | 59.4 | 57.2 | | 0.4 | 0.2 | 0.1 | 2.8 | 3.2 | 2.3 | 6.2 |
| | | LOS | | E | | E | E | | A | A | A | A | A | A | A |
| | | V/C | | 0.55 | | 0.42 | 0.28 | | 0.07 | 0.30 | 0.10 | 0.08 | 0.27 | 0.01 | |

**Table 5.3-C5:** Cincinnati-Dayton Rd @ Access 2 - Scenario 2 Alt 1, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 3 baseline conditions. Signal warrant analyses were performed later in this report (see section 5.5). The baseline capacity analyses is summarized in Table 5.3-C6.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 (Baseline) | AM | Delay | 16.0 | | | 98.7 | 10.2 | | 8.9 | | | 8.8 | | | |
| | | LOS | C | | | F | B | | A | | | A | | | |
| | | V/C | 0.07 | | | 0.93 | 0.03 | | 0.05 | | | 0.01 | | | |
| | PM | Delay | 24.6 | | | 276.4 | 11.2 | | 9.4 | | | 10.4 | | | |
| | | LOS | C | | | F | B | | A | | | B | | | |
| | | V/C | 0.28 | | | 1.32 | 0.02 | | 0.04 | | | 0.04 | | | |
| **2047 Build** Scenario 3 (Baseline) | AM | Delay | 17.4 | | | 156.7 | 10.5 | | 9.2 | | | 9.0 | | | |
| | | LOS | C | | | F | B | | A | | | A | | | |
| | | V/C | 0.08 | | | 1.10 | 0.03 | | 0.05 | | | 0.01 | | | |
| | PM | Delay | 30.0 | | | 450.6 | 11.5 | | 9.7 | | | 10.8 | | | |
| | | LOS | D | | | F | B | | A | | | B | | | |
| | | V/C | 0.35 | | | 1.70 | 0.03 | | 0.05 | | | 0.04 | | | |
| **2047 Build** Scenario 3 with Commercial (Baseline) | AM | Delay | 17.7 | | | 273.1 | 10.5 | | 9.2 | | | 9.3 | | | |
| | | LOS | C | | | F | B | | A | | | A | | | |
| | | V/C | 0.08 | | | 1.41 | 0.03 | | 0.05 | | | 0.02 | | | |
| | PM | Delay | 32.4 | | | 1123.1 | 11.6 | | 9.6 | | | 11.6 | | | |
| | | LOS | D | | | F | B | | A | | | B | | | |
| | | V/C | 0.37 | | | 3.24 | 0.05 | | 0.05 | | | 0.08 | | | |

**Table 5.3-C6:** Cincinnati-Dayton Rd @ Access 2 - Scenario 3 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year with a signalized intersection operation. According to the Scenario 3 Alternative 1 analyses, the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with acceptable levels of service in the opening year and future year when it is operated by a traffic signal. Table 5.3-C7 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 (Alternative 1) | AM | Delay | 46.5 | | | 56.0 | 46.3 | | 6.6 | 5.2 | 4.2 | 6.3 | 5.3 | 4.2 | 12.3 |
| | | LOS | D | | | E | D | | A | A | A | A | A | A | B |
| | | V/C | 0.10 | | | 0.73 | 0.08 | | 0.07 | 0.25 | 0.04 | 0.01 | 0.25 | 0.02 | |
| | PM | Delay | 54.0 | | | 60.1 | 51.4 | | 0.4 | 0.2 | 0.2 | 3.6 | 4.3 | 3.3 | 8.0 |
| | | LOS | D | | | E | D | | A | A | A | A | A | A | A |
| | | V/C | 0.36 | | | 0.68 | 0.09 | | 0.06 | 0.30 | 0.15 | 0.05 | 0.27 | 0.01 | |
| **2047 Build** Scenario 3 (Alternative 1) | AM | Delay | 46.6 | | | 56.0 | 46.3 | | 7.0 | 5.3 | 4.2 | 6.6 | 5.4 | 4.2 | 11.9 |
| | | LOS | D | | | E | D | | A | A | A | A | A | A | B |
| | | V/C | 0.11 | | | 0.73 | 0.08 | | 0.09 | 0.27 | 0.04 | 0.02 | 0.27 | 0.02 | |
| | PM | Delay | 53.7 | | | 59.9 | 50.8 | | 0.5 | 0.2 | 0.1 | 3.8 | 4.6 | 3.4 | 7.8 |
| | | LOS | D | | | E | D | | A | A | A | A | A | A | A |
| | | V/C | 0.38 | | | 0.69 | 0.09 | | 0.07 | 0.33 | 0.16 | 0.06 | 0.29 | 0.01 | |
| **2047 Build** Scenario 3 with Commercial (Alternative 1) | AM | Delay | 43.3 | | | 54.2 | 43.2 | | 15.6 | 13.3 | 10.6 | 10.8 | 6.7 | 5.2 | 16.5 |
| | | LOS | D | | | D | D | | B | B | B | B | A | A | B |
| | | V/C | 0.09 | | | 0.76 | 0.09 | | 0.09 | 0.29 | 0.10 | 0.04 | 0.28 | 0.02 | |
| | PM | Delay | 43.5 | | | 54.6 | 42.1 | | 3.7 | 2.1 | 2.1 | 9.2 | 8.3 | 6.4 | 11.6 |
| | | LOS | D | | | D | D | | A | A | A | A | A | A | B |
| | | V/C | 0.23 | | | 0.79 | 0.09 | | 0.08 | 0.36 | 0.29 | 0.13 | 0.32 | 0.02 | |

**Table 5.3-C7:** Cincinnati-Dayton Rd @ Access 2 - Scenario 3 Alt 1, Capacity Analyses Summary

SR 63 @ Cincinnati-Dayton Road

*No-Build*

According to the analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year (2027) and future year (2047) no-build scenarios. The PM peak has notably higher delays. Table 5.3-D1 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 No-Build** | AM | Delay | 169.5 | 33.4 | | 82.8 | 26.9 | | 46.0 | 65.7 | | 57.0 | 43.0 | 43.0 | 45.0 |
| | | LOS | F | C | | F | F | | D | E | | E | D | D | D |
| | | V/C | 1.18 | 0.78 | | 0.87 | 0.50 | | 0.42 | 0.89 | | 0.83 | 0.37 | 0.36 | |
| | PM | Delay | 108.6 | 34.7 | | 108.2 | 38.6 | | 60.6 | 129.8 | | 66.4 | 54.2 | 49.1 | 60.0 |
| | | LOS | F | C | | F | D | | E | F | | E | D | D | E |
| | | V/C | 0.99 | 0.63 | | 0.99 | 0.76 | | 0.70 | 1.03 | | 0.91 | 0.75 | 0.62 | |
| **2047 No-Build** | AM | Delay | 128.8 | 42.7 | | 89.6 | 31.3 | | 45.0 | 67.4 | | 60.5 | 41.6 | 41.6 | 48.5 |
| | | LOS | F | D | | F | C | | D | E | | E | D | D | D |
| | | V/C | 1.06 | 0.90 | | 0.92 | 0.59 | | 0.44 | 0.89 | | 0.86 | 0.38 | 0.37 | |
| | PM | Delay | 110.7 | 39.6 | | 110.3 | 47.6 | | 70.0 | 156.9 | | 70.4 | 56.4 | 49.8 | 68.2 |
| | | LOS | F | D | | F | D | | E | F | | E | E | D | E |
| | | V/C | 1.00 | 0.74 | | 1.00 | 0.88 | | 0.79 | 1.13 | | 0.92 | 0.78 | 0.65 | |

**Table 5.3-D1:** SR 63 @ Cincinnati-Dayton Rd - No-Build, Capacity Analyses Summary

*Build Scenario 1*

According to the analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-D2 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 (Baseline) | AM | Delay | 116.5 | 36.4 | | 82.8 | 30.9 | | 45.8 | 65.9 | | 138.7 | 42.2 | 43.5 | 54.6 |
| | | LOS | F | D | | F | C | | D | E | | F | D | D | D |
| | | V/C | 1.02 | 0.82 | | 0.87 | 0.55 | | 0.43 | 0.89 | | 1.14 | 0.44 | 0.52 | |
| | PM | Delay | 145.8 | 38.0 | | 108.2 | 48.5 | | 57.3 | 159.0 | | 88.9 | 51.1 | 48.9 | 72.6 |
| | | LOS | F | D | | F | D | | E | F | | F | D | D | E |
| | | V/C | 1.11 | 0.68 | | 0.99 | 0.87 | | 0.67 | 1.12 | | 0.99 | 0.72 | 0.66 | |
| **2047 Build** Scenario 1 (Baseline) | AM | Delay | 112.2 | 45.3 | | 89.6 | 34.2 | | 44.7 | 68.0 | | 164.2 | 41.9 | 43.2 | 61.0 |
| | | LOS | F | D | | F | C | | D | E | | F | D | D | E |
| | | V/C | 1.00 | 0.92 | | 0.92 | 0.63 | | 0.45 | 0.90 | | 1.21 | 0.46 | 0.54 | |
| | PM | Delay | 175.7 | 41.8 | | 110.3 | 57.3 | | 70.4 | 193.4 | | 109.3 | 56.3 | 52.3 | 84.8 |
| | | LOS | F | D | | F | E | | E | F | | F | E | D | F |
| | | V/C | 1.20 | 0.76 | | 1.00 | 0.95 | | 0.79 | 1.22 | | 1.07 | 0.79 | 0.72 | |

**Table 5.3-D2:** SR 63 @ Cincinnati-Dayton Rd - Scenario 1 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year to mitigate the impacts of the proposed development. The Alternative 1 analyses adds a second eastbound left turn lane, adds an independent northbound right turn lane, adds northbound right and southbound right overlap phasing, and optimized split timings.

According to the Scenario 1 Alternative 1 analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year and future year. However, the improvements to the intersection are expected to mitigate the impact of the proposed development. Table 5.3-D3 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 (Alternative 1) | AM | Delay | 66.1 | 37.5 | | 101.4 | 28.6 | | 51.4 | 77.7 | 62.4 | 69.7 | 49.3 | 44.2 | 46.9 |
| | | LOS | E | D | | F | C | | D | E | E | E | D | D | D |
| | | V/C | 0.82 | 0.83 | | 0.87 | 0.52 | | 0.52 | 0.85 | 0.70 | 0.91 | 0.42 | 0.41 | |
| | PM | Delay | 94.8 | 36.9 | | 102.1 | 35.9 | | 62.0 | 82.9 | 43.5 | 74.7 | 61.5 | 44.9 | 55.2 |
| | | LOS | F | D | | F | D | | E | F | D | E | E | D | E |
| | | V/C | 0.98 | 0.66 | | 0.99 | 0.72 | | 0.71 | 0.94 | 0.36 | 0.93 | 0.76 | 0.50 | |
| **2047 Build** Scenario 1 (Alternative 1) | AM | Delay | 71.3 | 43.1 | | 123.4 | 29.3 | | 50.1 | 80.1 | 63.1 | 93.0 | 50.8 | 45.6 | 52.5 |
| | | LOS | E | D | | F | C | | D | F | E | F | D | D | D |
| | | V/C | 0.89 | 0.90 | | 0.92 | 0.57 | | 0.53 | 0.88 | 0.72 | 1.00 | 0.48 | 0.46 | |
| | PM | Delay | 102.1 | 42.6 | | 106.7 | 41.8 | | 66.5 | 89.3 | 42.0 | 84.4 | 66.1 | 44.7 | 60.6 |
| | | LOS | F | D | | F | D | | E | F | D | F | E | D | E |
| | | V/C | 0.99 | 0.77 | | 0.99 | 0.83 | | 0.77 | 0.96 | 0.37 | 0.97 | 0.81 | 0.53 | |

**Table 5.3-D3:** SR 63 @ Cincinnati-Dayton Rd - Scenario 1 Alt 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-D4 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 (Baseline) | AM | Delay | 128.8 | 35.9 | | 112.9 | 29.6 | | 45.6 | 66.2 | | 58.8 | 42.5 | 43.4 | 46.4 |
| | | LOS | F | D | | F | C | | D | E | | E | D | D | D |
| | | V/C | 1.06 | 0.81 | | 1.03 | 0.55 | | 0.42 | 0.89 | | 0.85 | 0.40 | 0.46 | |
| | PM | Delay | 113.5 | 36.5 | | 109.4 | 43.9 | | 61.8 | 163.5 | | 67.7 | 55.1 | 51.5 | 67.5 |
| | | LOS | F | D | | F | D | | E | F | | E | E | D | E |
| | | V/C | 1.00 | 0.67 | | 0.99 | 0.83 | | 0.72 | 1.14 | | 0.91 | 0.76 | 0.68 | |
| **2047 Build** Scenario 2 (Baseline) | AM | Delay | 113.7 | 46.6 | | 132.7 | 33.9 | | 44.5 | 68.3 | | 64.5 | 41.4 | 42.2 | 51.8 |
| | | LOS | F | D | | F | C | | D | E | | E | D | D | D |
| | | V/C | 1.01 | 0.93 | | 1.09 | 0.64 | | 0.44 | 0.90 | | 0.89 | 0.41 | 0.46 | |
| | PM | Delay | 137.5 | 42.1 | | 111.5 | 54.5 | | 72.5 | 198.2 | | 71.8 | 57.7 | 52.5 | 78.3 |
| | | LOS | F | D | | F | D | | E | F | | E | E | D | E |
| | | V/C | 1.09 | 0.78 | | 1.00 | 0.93 | | 0.81 | 1.23 | | 0.93 | 0.80 | 0.71 | |
| **2047 Build** Scenario 2 with Commercial (Baseline) | AM | Delay | 113.7 | 55.5 | | 188.3 | 35.3 | | 43.7 | 69.9 | | 63.8 | 40.6 | 41.4 | 57.3 |
| | | LOS | F | E | | F | D | | D | E | | E | D | D | E |
| | | V/C | 1.01 | 0.98 | | 1.22 | 0.67 | | 0.43 | 0.90 | | 0.89 | 0.40 | 0.45 | |
| | PM | Delay | 120.1 | 44.5 | | 139.9 | 59.3 | | 71.4 | 226.8 | | 70.4 | 57.0 | 51.3 | 84.0 |
| | | LOS | F | D | | F | E | | E | F | | E | E | D | F |
| | | V/C | 1.03 | 0.82 | | 1.09 | 0.96 | | 0.80 | 1.30 | | 0.92 | 0.79 | 0.68 | |

**Table 5.3-D4:** SR 63 @ Cincinnati-Dayton Rd - Scenario 2 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year to mitigate the impacts of the proposed development. The Alternative 1 analyses adds a second eastbound left turn lane, adds an independent northbound right turn lane, adds northbound right and southbound right overlap phasing, and optimized split timings.

According to the Scenario 2 Alternative 1 analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year and future year. However, the improvements to the intersection are expected to mitigate the impact of the proposed development. Table 5.3-D5 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 (Alternative 1) | AM | Delay | 64.0 | 30.8 | | 129.0 | 39.3 | | 50.3 | 63.7 | 57.7 | 60.5 | 52.8 | 47.2 | 45.2 |
| | | LOS | E | C | | F | D | | D | E | E | E | D | D | D |
| | | V/C | 0.77 | 0.75 | | 1.03 | 0.48 | | 0.49 | 0.75 | 0.67 | 0.81 | 0.48 | 0.43 | |
| | PM | Delay | 96.9 | 33.5 | | 94.5 | 46.3 | | 75.1 | 73.1 | 43.8 | 76.3 | 79.3 | 49.1 | 57.6 |
| | | LOS | F | C | | F | D | | E | E | D | E | E | D | E |
| | | V/C | 0.98 | 0.63 | | 0.99 | 0.66 | | 0.82 | 0.90 | 0.42 | 0.90 | 0.90 | 0.57 | |
| **2047 Build** Scenario 2 (Alternative 1) | AM | Delay | 67.1 | 33.3 | | 159.5 | 32.1 | | 51.7 | 72.3 | 62.5 | 81.5 | 54.4 | 48.0 | 48.0 |
| | | LOS | E | C | | F | C | | D | E | E | F | D | D | D |
| | | V/C | 0.84 | 0.82 | | 1.09 | 0.52 | | 0.56 | 0.83 | 0.72 | 0.92 | 0.54 | 0.47 | |
| | PM | Delay | 99.2 | 37.8 | | 95.1 | 49.5 | | 96.5 | 74.5 | 42.0 | 94.4 | 91.8 | 49.0 | 62.9 |
| | | LOS | F | D | | F | D | | F | E | D | F | F | D | E |
| | | V/C | 0.98 | 0.72 | | 0.99 | 0.74 | | 0.92 | 0.91 | 0.41 | 0.98 | 0.96 | 0.59 | |
| **2047 Build** Scenario 2 with Commercial (Alternative 1) | AM | Delay | 67.1 | 34.9 | | 201.4 | 40.5 | | 51.7 | 72.3 | 73.6 | 81.7 | 54.4 | 48.0 | 52.6 |
| | | LOS | E | C | | F | D | | D | E | E | F | D | D | D |
| | | V/C | 0.84 | 0.84 | | 1.22 | 0.54 | | 0.56 | 0.83 | 0.82 | 0.92 | 0.54 | 0.47 | |
| | PM | Delay | 103.2 | 40.8 | | 87.3 | 48.5 | | 115.7 | 64.2 | 40.5 | 104.9 | 89.7 | 49.3 | 62.9 |
| | | LOS | F | D | | F | D | | F | E | D | F | F | D | E |
| | | V/C | 0.98 | 0.78 | | 0.99 | 0.75 | | 0.98 | 0.80 | 0.47 | 1.01 | 0.94 | 0.57 | |

**Table 5.3-D5:** SR 63 @ Cincinnati-Dayton Rd - Scenario 2 Alt 1, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-D6 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 (Baseline) | AM | Delay | 116.5 | 37.1 | | 112.9 | 31.3 | | 45.7 | 65.9 | | 138.7 | 41.6 | 42.4 | 55.8 |
| | | LOS | F | D | | F | C | | D | E | | F | D | D | E |
| | | V/C | 1.02 | 0.82 | | 1.03 | 0.57 | | 0.42 | 0.89 | | 1.14 | 0.39 | 0.44 | |
| | PM | Delay | 145.8 | 38.9 | | 109.4 | 49.7 | | 55.6 | 159.0 | | 88.9 | 49.6 | 47.3 | 73.0 |
| | | LOS | F | D | | F | D | | E | F | | F | D | D | E |
| | | V/C | 1.11 | 0.69 | | 0.99 | 0.88 | | 0.64 | 1.12 | | 0.99 | 0.69 | 0.62 | |
| **2047 Build** Scenario 3 (Baseline) | AM | Delay | 112.2 | 46.4 | | 132.7 | 34.8 | | 44.6 | 68.0 | | 164.2 | 41.3 | 42.1 | 62.8 |
| | | LOS | F | D | | F | C | | D | E | | F | D | D | E |
| | | V/C | 1.00 | 0.92 | | 1.09 | 0.65 | | 0.44 | 0.90 | | 1.21 | 0.41 | 0.46 | |
| | PM | Delay | 175.7 | 42.9 | | 111.5 | 60.0 | | 66.6 | 193.4 | | 109.3 | 54.2 | 50.1 | 85.5 |
| | | LOS | F | D | | F | E | | E | F | | F | D | D | F |
| | | V/C | 1.20 | 0.78 | | 1.00 | 0.96 | | 0.77 | 1.22 | | 1.07 | 0.76 | 0.68 | |
| **2047 Build** Scenario 3 with Commercial (Baseline) | AM | Delay | 116.1 | 49.5 | | 188.3 | 39.3 | | 43.9 | 69.1 | | 218.9 | 40.6 | 41.4 | 74.5 |
| | | LOS | F | D | | F | D | | D | E | | F | D | D | E |
| | | V/C | 1.00 | 0.94 | | 1.22 | 0.73 | | 0.43 | 0.90 | | 1.35 | 0.40 | 0.45 | |
| | PM | Delay | 278.2 | 43.0 | | 139.9 | 69.9 | | 63.9 | 211.6 | | 225.3 | 52.7 | 48.5 | 115.4 |
| | | LOS | F | D | | F | F | | E | F | | F | D | D | F |
| | | V/C | 1.45 | 0.77 | | 1.09 | 1.00 | | 0.74 | 1.27 | | 1.37 | 0.74 | 0.64 | |

**Table 5.3-D6:** SR 63 @ Cincinnati-Dayton Rd - Scenario 3 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year to mitigate the impacts of the proposed development. The Alternative 1 analyses adds a second eastbound left turn lane, adds an independent northbound right turn lane, adds northbound right and southbound right overlap phasing, and optimized split timings.

According to the Scenario 3 Alternative 1 analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year and future year. However, the improvements to the intersection are expected to mitigate the impact of the proposed development without commercial. Table 5.3-D7 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 (Alternative 1) | AM | Delay | 66.1 | 38.1 | | 143.3 | 28.9 | | 51.4 | 79.5 | 60.6 | 70.6 | 48.8 | 43.4 | 48.5 |
| | | LOS | E | D | | F | C | | D | E | E | E | D | D | D |
| | | V/C | 0.82 | 0.83 | | 1.03 | 0.54 | | 0.51 | 0.86 | 0.68 | 0.91 | 0.38 | 0.35 | |
| | PM | Delay | 95.3 | 37.7 | | 101.7 | 36.3 | | 59.8 | 84.0 | 42.8 | 74.8 | 59.9 | 44.4 | 55.4 |
| | | LOS | F | D | | F | D | | E | F | D | E | E | D | E |
| | | V/C | 0.98 | 0.68 | | 0.99 | 0.74 | | 0.69 | 0.94 | 0.35 | 0.93 | 0.73 | 0.47 | |
| **2047 Build** Scenario 3 (Alternative 1) | AM | Delay | 71.7 | 44.6 | | 170.3 | 29.9 | | 49.5 | 82.1 | 61.6 | 90.4 | 50.3 | 44.8 | 54.4 |
| | | LOS | E | D | | F | C | | D | F | E | F | D | D | D |
| | | V/C | 0.89 | 0.91 | | 1.09 | 0.59 | | 0.51 | 0.89 | 0.71 | 0.99 | 0.44 | 0.40 | |
| | PM | Delay | 102.1 | 43.8 | | 107.8 | 42.5 | | 62.9 | 89.3 | 41.3 | 84.6 | 64.4 | 44.2 | 60.9 |
| | | LOS | F | D | | F | D | | E | F | D | F | E | D | E |
| | | V/C | 0.99 | 0.79 | | 0.99 | 0.84 | | 0.74 | 0.96 | 0.36 | 0.97 | 0.79 | 0.50 | |
| **2047 Build** Scenario 3 with Commercial (Alternative 1) | AM | Delay | 94.5 | 50.9 | | 220.2 | 32.8 | | 49.6 | 96.9 | 60.3 | 106.4 | 49.0 | 42.8 | 63.5 |
| | | LOS | F | D | | F | C | | D | F | E | F | D | D | E |
| | | V/C | 0.98 | 0.95 | | 1.22 | 0.64 | | 0.51 | 0.96 | 0.70 | 1.06 | 0.41 | 0.36 | |
| | PM | Delay | 106.5 | 58.2 | | 108.3 | 73.5 | | 53.3 | 106.6 | 38.9 | 114.2 | 55.5 | 39.0 | 77.6 |
| | | LOS | F | E | | F | F | | D | F | D | F | E | D | E |
| | | V/C | 1.01 | 0.91 | | 1.00 | 1.02 | | 0.63 | 1.01 | 0.31 | 1.09 | 0.66 | 0.41 | |

**Table 5.3-D7:** SR 63 @ Cincinnati-Dayton Rd - Scenario 3 Alt 1, Capacity Analyses Summary

Additional capacity analyses, Alternative 2, were performed for the future year with commercial development to mitigate the impacts of the proposed development. The Alternative 2 analyses adds a second eastbound left turn lane, adds a second southbound left turn lane (making the southbound left protected only), adds an independent northbound right turn lane, adds northbound right and southbound right overlap phasing, and optimized split timings.

According to the Scenario 3 Alternative 2 analyses, the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with failing levels of service in the opening year and future year. However, the improvements to the intersection are expected to mitigate the impact of the proposed development with commercial. Table 5.3-D8 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2047 Build** Scenario 3 with Commercial (Alternative 2) | AM | Delay | 85.4 | 34.2 | | 209.2 | 26.3 | | 50.8 | 77.6 | 56.5 | 90.8 | 53.3 | 46.6 | 52.5 |
| | | LOS | F | C | | F | C | | D | E | E | F | D | D | D |
| | | V/C | 0.97 | 0.83 | | 1.22 | 0.55 | | 0.55 | 0.88 | 0.66 | 0.98 | 0.53 | 0.44 | |
| | PM | Delay | 98.2 | 40.6 | | 104.3 | 42.0 | | 84.0 | 94.4 | 38.5 | 91.0 | 72.1 | 43.4 | 63.6 |
| | | LOS | F | D | | F | D | | F | F | D | F | E | D | E |
| | | V/C | 0.99 | 0.74 | | 0.99 | 0.85 | | 0.87 | 0.98 | 0.31 | 0.98 | 0.86 | 0.48 | |

**Table 5.3-D8:** SR 63 @ Cincinnati-Dayton Rd - Scenario 3 Alt 2, Capacity Analyses Summary

SR 63 @ Access 3

*Build Scenario 2*

According to the analyses, the intersection of SR 63 and Access 3 is expected to operate with failing levels of service in the opening year (2027) and future year (2047) build Scenario 2 baseline conditions. Signal warrant analyses were performed later in this report (see section 5.5). Table 5.3-E1 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 Build** Scenario 2 (Baseline) | AM | Delay | 10.6 | | | | | 372.6 | 12.8 | |
| | | LOS | B | | | | | F | B | |
| | | V/C | 0.02 | | | | | 1.46 | 0.09 | |
| | PM | Delay | 17.3 | | | | | 1079.0 | 17.9 | |
| | | LOS | C | | | | | F | C | |
| | | V/C | 0.14 | | | | | 2.63 | 0.09 | |
| **2047 Build** Scenario 2 (Baseline) | AM | Delay | 11.1 | | | | | 576.1 | 13.4 | |
| | | LOS | B | | | | | F | B | |
| | | V/C | 0.02 | | | | | 1.87 | 0.09 | |
| | PM | Delay | 19.5 | | | | | 1667.5 | 19.7 | |
| | | LOS | C | | | | | F | C | |
| | | V/C | 0.16 | | | | | 3.71 | 0.10 | |
| **2047 Build** Scenario 2 with Commercial (Baseline) | AM | Delay | 12.2 | | | | | 1415.9 | 14.1 | |
| | | LOS | B | | | | | F | B | |
| | | V/C | 0.13 | | | | | 3.66 | 0.17 | |
| | PM | Delay | 37.6 | | | | | 14362.9 | 32.2 | |
| | | LOS | E | | | | | F | D | |
| | | V/C | 0.63 | | | | | 30.25 | 0.55 | |

**Table 5.3-E1:** SR 63 @ Access 3 - Scenario 2 Baseline, Capacity Analyses Summary

Additional capacity analyses, Alternative 1, were performed for the opening year and future year with a signalized intersection operation. According to the Scenario 3 Alternative 1 analyses, the intersection of SR 63 and Access 3 is expected to operate with acceptable levels of service in the opening year and future year when it is operated by a traffic signal. Table 5.3-E2 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 Build** Scenario 2 (Alternative 1) | AM | Delay | 8.8 | 2.4 | 21.1 | 14.3 | | 27.4 | 26.3 | 10.8 |
| | | LOS | A | A | C | B | | C | C | B |
| | | V/C | 0.07 | 0.90 | 0.63 | 0.04 | | 0.16 | 0.08 | |
| | PM | Delay | 10.0 | 2.6 | 18.7 | 12.2 | | 30.8 | 29.5 | 10.0 |
| | | LOS | B | A | B | B | | C | C | B |
| | | V/C | 0.07 | 0.92 | 0.64 | 0.04 | | 0.18 | 0.09 | |
| **2047 Build** Scenario 2 (Alternative 1) | AM | Delay | 44.7 | 14.8 | 19.1 | 10.1 | | 36.1 | 35.1 | 18.0 |
| | | LOS | D | B | B | B | | D | D | B |
| | | V/C | 0.38 | 0.59 | 0.79 | 0.11 | | 0.14 | 0.07 | |
| | PM | Delay | 43.1 | 12.1 | 16.2 | 7.8 | | 41.1 | 39.8 | 15.3 |
| | | LOS | D | B | B | A | | D | D | B |
| | | V/C | 0.40 | 0.59 | 0.81 | 0.10 | | 0.17 | 0.08 | |
| **2047 Build** Scenario 2 with Commercial (Alternative 1) | AM | Delay | 23.4 | 2.0 | 28.3 | 18.8 | | 32.6 | 28.0 | 14.2 |
| | | LOS | C | A | C | B | | C | C | B |
| | | V/C | 0.40 | 0.90 | 0.77 | 0.14 | | 0.26 | 0.15 | |
| | PM | Delay | 66.5 | 10.9 | 29.5 | 14.9 | | 49.8 | 40.7 | 25.5 |
| | | LOS | E | B | C | B | | D | D | C |
| | | V/C | 0.99 | 0.56 | 0.94 | 0.26 | | 0.51 | 0.38 | |

**Table 5.3-E2:** SR 63 @ Access 3 - Scenario 2 Alt 1, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of SR 63 and Access 3 is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-E3 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 Build** Scenario 3 | AM | Delay | | | | | | 12.8 | | |
| | | LOS | | | | | | B | | |
| | | V/C | | | | | | 0.09 | | |
| | PM | Delay | | | | | | 17.9 | | |
| | | LOS | | | | | | C | | |
| | | V/C | | | | | | 0.09 | | |
| **2047 Build** Scenario 3 | AM | Delay | | | | | | 13.4 | | |
| | | LOS | | | | | | B | | |
| | | V/C | | | | | | 0.09 | | |
| | PM | Delay | | | | | | 19.7 | | |
| | | LOS | | | | | | C | | |
| | | V/C | | | | | | 0.10 | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | | | | | | 14.1 | | |
| | | LOS | | | | | | B | | |
| | | V/C | | | | | | 0.17 | | |
| | PM | Delay | | | | | | 32.2 | | |
| | | LOS | | | | | | D | | |
| | | V/C | | | | | | 0.55 | | |

**Table 5.3-E3:** SR 63 @ Access 3 - Scenario 3, Capacity Analyses Summary

SR 63 @ Lawton Avenue

*No-Build*

According to the analyses, the intersection of SR 63 and Lawton Avenue is expected to operate with overall acceptable levels of service in the opening year (2027) and future year (2047) no-build scenarios. Table 5.3-F1 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 No-Build** | AM | Delay | 9.7 | 5.1 | 9.9 | 5.2 | | 61.8 | 45.3 | 8.6 |
| | | LOS | A | A | A | A | | E | D | A |
| | | V/C | 0.61 | 0.52 | 0.48 | 0.15 | | 0.66 | 0.21 | |
| | PM | Delay | 21.6 | 3.8 | 11.9 | 4.6 | | 71.8 | 52.1 | 11.3 |
| | | LOS | C | A | B | A | | E | D | B |
| | | V/C | 0.66 | 0.38 | 0.66 | 0.10 | | 0.77 | 0.37 | |
| **2047 No-Build** | AM | Delay | 12.5 | 5.6 | 10.5 | 5.2 | | 65.9 | 45.6 | 9.3 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.67 | 0.57 | 0.52 | 0.15 | | 0.74 | 0.23 | |
| | PM | Delay | 32.4 | 4.1 | 13.3 | 4.6 | | 79.4 | 52.7 | 12.7 |
| | | LOS | C | A | B | A | | E | D | D |
| | | V/C | 0.74 | 0.42 | 0.72 | 0.10 | | 0.85 | 0.42 | |

**Table 5.3-F1:** SR 63 @ Lawton Ave - No-Build, Capacity Analyses Summary

*Build Scenario 1*

According to the analyses, the intersection of SR 63 and Lawton Avenue is expected to operate with overall acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-F2 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 Build** Scenario 1 | AM | Delay | 10.6 | 5.5 | 10.1 | 5.2 | | 61.8 | 45.3 | 8.8 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.63 | 0.56 | 0.50 | 0.15 | | 0.66 | 0.21 | |
| | PM | Delay | 29.6 | 4.0 | 13.0 | 4.6 | | 71.8 | 52.1 | 12.1 |
| | | LOS | C | A | B | A | | E | D | B |
| | | V/C | 0.72 | 0.40 | 0.71 | 0.10 | | 0.77 | 0.37 | |
| **2047 Build** Scenario 1 | AM | Delay | 13.9 | 6.2 | 10.7 | 5.2 | | 65.9 | 45.6 | 9.7 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.69 | 0.62 | 0.54 | 0.15 | | 0.74 | 0.23 | |
| | PM | Delay | 42.9 | 4.3 | 14.7 | 4.6 | | 79.4 | 52.7 | 13.8 |
| | | LOS | D | A | B | A | | E | D | B |
| | | V/C | 0.80 | 0.44 | 0.77 | 0.10 | | 0.85 | 0.42 | |

**Table 5.3-F2:** SR 63 @ Lawton Ave - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, the intersection of SR 63 and Lawton Avenue is expected to operate with overall acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-F3 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 Build** Scenario 2 | AM | Delay | 10.6 | 5.5 | 10.1 | 5.2 | | 61.8 | 45.3 | 8.8 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.63 | 0.56 | 0.50 | 0.15 | | 0.66 | 0.21 | |
| | PM | Delay | 29.6 | 4.0 | 13.0 | 4.6 | | 71.8 | 52.1 | 12.1 |
| | | LOS | C | A | B | A | | E | D | B |
| | | V/C | 0.72 | 0.40 | 0.71 | 0.10 | | 0.77 | 0.37 | |
| **2047 Build** Scenario 2 | AM | Delay | 13.9 | 6.2 | 10.7 | 5.2 | | 65.9 | 45.6 | 9.7 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.69 | 0.62 | 0.54 | 0.15 | | 0.74 | 0.23 | |
| | PM | Delay | 42.9 | 4.3 | 14.7 | 4.6 | | 79.4 | 52.7 | 13.8 |
| | | LOS | D | A | B | A | | E | D | B |
| | | V/C | 0.80 | 0.44 | 0.77 | 0.10 | | 0.85 | 0.42 | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | 17.3 | 6.4 | 11.2 | 5.2 | | 65.9 | 45.6 | 10.2 |
| | | LOS | B | A | B | A | | E | D | B |
| | | V/C | 0.73 | 0.63 | 0.57 | 0.15 | | 0.74 | 0.23 | |
| | PM | Delay | 50.1 | 4.4 | 15.6 | 4.6 | | 79.4 | 52.7 | 14.5 |
| | | LOS | D | A | B | A | | E | D | B |
| | | V/C | 0.84 | 0.47 | 0.80 | 0.10 | | 0.85 | 0.42 | |

**Table 5.3-F3:** SR 63 @ Lawton Ave - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, the intersection of SR 63 and Lawton Avenue is expected to operate with overall acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-F4 summarizes the analyses performed.

| | | | Eastbound | | Westbound | | Northbound | Southbound | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | THRU | RT | | LT | RT | |
| **2027 Build** Scenario 3 | AM | Delay | 10.6 | 5.5 | 10.1 | 5.2 | | 61.8 | 45.3 | 8.8 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.63 | 0.56 | 0.50 | 0.15 | | 0.66 | 0.21 | |
| | PM | Delay | 29.6 | 4.0 | 13.0 | 4.6 | | 71.8 | 52.1 | 12.1 |
| | | LOS | C | A | B | A | | E | D | B |
| | | V/C | 0.72 | 0.40 | 0.71 | 0.10 | | 0.77 | 0.37 | |
| **2047 Build** Scenario 3 | AM | Delay | 13.9 | 6.2 | 10.7 | 5.2 | | 65.9 | 45.6 | 9.7 |
| | | LOS | B | A | B | A | | E | D | A |
| | | V/C | 0.69 | 0.62 | 0.54 | 0.15 | | 0.74 | 0.23 | |
| | PM | Delay | 42.9 | 4.3 | 14.7 | 4.6 | | 79.4 | 52.7 | 13.8 |
| | | LOS | D | A | B | A | | E | D | B |
| | | V/C | 0.80 | 0.44 | 0.77 | 0.10 | | 0.85 | 0.42 | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | 17.3 | 6.4 | 11.2 | 5.2 | | 65.9 | 45.6 | 10.2 |
| | | LOS | B | A | B | A | | E | D | B |
| | | V/C | 0.73 | 0.63 | 0.57 | 0.15 | | 0.74 | 0.23 | |
| | PM | Delay | 50.1 | 4.4 | 15.6 | 4.6 | | 79.4 | 52.7 | 14.5 |
| | | LOS | D | A | B | A | | E | D | B |
| | | V/C | 0.84 | 0.47 | 0.80 | 0.10 | | 0.85 | 0.42 | |

**Table 5.3-F4:** SR 63 @ Lawton Ave - Scenario 3, Capacity Analyses Summary

Intersection A

*Build Scenario 1*

According to the analyses, Intersection A is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-G1 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 | AM | Delay | | 7.5 | | | 0.0 | | | 10.4 | | | 9.0 | | |
| | | LOS | | A | | | A | | | B | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.09 | | | 0.02 | | |
| | PM | Delay | | 7.4 | | | 0.0 | | | 11.0 | | | 8.7 | | |
| | | LOS | | A | | | A | | | B | | | A | | |
| | | V/C | | 0.01 | | | 0.00 | | | 0.07 | | | 0.01 | | |
| **2047 Build** Scenario 1 | AM | Delay | | 7.5 | | | 0.0 | | | 10.4 | | | 9.0 | | |
| | | LOS | | A | | | A | | | B | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.09 | | | 0.02 | | |
| | PM | Delay | | 7.4 | | | 0.0 | | | 11.0 | | | 8.7 | | |
| | | LOS | | A | | | A | | | B | | | A | | |
| | | V/C | | 0.01 | | | 0.00 | | | 0.07 | | | 0.01 | | |

**Table 5.3-G1:** Intersection A - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, Intersection A is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-G2 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 | AM | Delay | 7.3 | | | 0.0 | | | 9.0 | | | 8.8 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.04 | | | 0.02 | | | |
| | PM | Delay | 7.3 | | | 0.0 | | | 9.2 | | | 8.9 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.02 | | | 0.01 | | | |
| **2047 Build** Scenario 2 | AM | Delay | 7.3 | | | 0.0 | | | 9.0 | | | 8.8 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.04 | | | 0.02 | | | |
| | PM | Delay | 7.3 | | | 0.0 | | | 9.2 | | | 8.9 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.02 | | | 0.01 | | | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | 7.3 | | | 0.0 | | | 9.1 | | | 8.8 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.04 | | | 0.02 | | | |
| | PM | Delay | 7.3 | | | 0.0 | | | 9.3 | | | 9.0 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.02 | | | 0.01 | | | |

**Table 5.3-G2:** Intersection A - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, Intersection A is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-G3 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 | AM | Delay | 7.4 | | | 0.0 | | | 9.9 | | | 8.8 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.08 | | | 0.02 | | | |
| | PM | Delay | 7.4 | | | 0.0 | | | 10.1 | | | 8.7 | | | |
| | | LOS | A | | | A | | | B | | | A | | | |
| | | V/C | 0.01 | | | 0.00 | | | 0.05 | | | 0.01 | | | |
| **2047 Build** Scenario 3 | AM | Delay | 7.4 | | | 0.0 | | | 9.9 | | | 8.8 | | | |
| | | LOS | A | | | A | | | A | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.08 | | | 0.02 | | | |
| | PM | Delay | 7.4 | | | 0.0 | | | 10.1 | | | 8.7 | | | |
| | | LOS | A | | | A | | | B | | | A | | | |
| | | V/C | 0.01 | | | 0.00 | | | 0.05 | | | 0.01 | | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | 7.5 | | | 0.0 | | | 10.9 | | | 9.1 | | | |
| | | LOS | A | | | A | | | B | | | A | | | |
| | | V/C | 0.00 | | | 0.00 | | | 0.09 | | | 0.02 | | | |
| | PM | Delay | 7.7 | | | 0.0 | | | 12.8 | | | 9.3 | | | |
| | | LOS | A | | | A | | | B | | | A | | | |
| | | V/C | 0.01 | | | 0.00 | | | 0.07 | | | 0.01 | | | |

**Table 5.3-G3:** Intersection A - Scenario 3, Capacity Analyses Summary

Intersection B

*Build Scenario 1*

According to the analyses, Intersection B is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-H1 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 | AM | Delay | | 8.8 | | | 8.6 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 8.9 | | | 8.7 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| **2047 Build** Scenario 1 | AM | Delay | | 8.8 | | | 8.6 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 8.9 | | | 8.7 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.01 | | | 0.00 | | | 0.00 | | |

**Table 5.3-H1:** Intersection B - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, Intersection B is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-H2 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 | AM | Delay | | 8.7 | | | 8.4 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 8.8 | | | 8.4 | | | 0.0 | | | 7.2 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| **2047 Build** Scenario 2 | AM | Delay | | 8.7 | | | 8.4 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 8.8 | | | 8.4 | | | 0.0 | | | 7.2 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | | 8.9 | | | 8.5 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 9.2 | | | 8.5 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |

**Table 5.3-H2:** Intersection B - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, Intersection B is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-H3 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 | AM | Delay | | 8.7 | | | 8.4 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 8.8 | | | 8.4 | | | 0.0 | | | 7.2 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| **2047 Build** Scenario 3 | AM | Delay | | 8.7 | | | 8.4 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 8.8 | | | 8.4 | | | 0.0 | | | 7.2 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | | 8.9 | | | 8.5 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.01 | | | 0.01 | | | 0.00 | | | 0.00 | | |
| | PM | Delay | | 9.2 | | | 8.5 | | | 0.0 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |

**Table 5.3-H3:** Intersection B - Scenario 3, Capacity Analyses Summary

Intersection C

*Build Scenario 1*

According to the analyses, Intersection C is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 1. Table 5.3-I1 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 1 | AM | Delay | | 7.3 | | | 7.2 | | | 7.5 | | | 6.8 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.04 | | | 0.04 | | | 0.04 | | | 0.05 | | |
| | PM | Delay | | 7.7 | | | 7.2 | | | 7.6 | | | 7.1 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.14 | | | 0.03 | | | 0.03 | | | 0.05 | | |
| **2047 Build** Scenario 1 | AM | Delay | | 7.3 | | | 7.2 | | | 7.5 | | | 6.8 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.04 | | | 0.04 | | | 0.04 | | | 0.05 | | |
| | PM | Delay | | 7.7 | | | 7.2 | | | 7.6 | | | 7.1 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.14 | | | 0.03 | | | 0.03 | | | 0.05 | | |

**Table 5.3-I1:** Intersection C - Scenario 1, Capacity Analyses Summary

*Build Scenario 2*

According to the analyses, Intersection C is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-I2 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 | AM | Delay | | 6.9 | | | 7.4 | | | 7.3 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.03 | | | 0.05 | | | 0.04 | | | 0.07 | | |
| | PM | Delay | | 7.4 | | | 7.5 | | | 7.5 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.06 | | | 0.03 | | | 0.11 | | | 0.06 | | |
| **2047 Build** Scenario 2 | AM | Delay | | 6.9 | | | 7.4 | | | 7.3 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.03 | | | 0.05 | | | 0.04 | | | 0.07 | | |
| | PM | Delay | | 7.4 | | | 7.5 | | | 7.5 | | | 7.3 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.06 | | | 0.03 | | | 0.11 | | | 0.06 | | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | | 7.0 | | | 7.5 | | | 7.4 | | | 7.4 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.04 | | | 0.05 | | | 0.06 | | | 0.08 | | |
| | PM | Delay | | 7.4 | | | 7.6 | | | 7.9 | | | 7.6 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.06 | | | 0.03 | | | 0.16 | | | 0.08 | | |

**Table 5.3-I2:** Intersection C - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, Intersection C is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-I3 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 | AM | Delay | | 7.2 | | | 7.3 | | | 7.4 | | | 7.0 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.03 | | | 0.04 | | | 0.05 | | | 0.07 | | |
| | PM | Delay | | 7.6 | | | 7.3 | | | 7.5 | | | 7.1 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.08 | | | 0.03 | | | 0.09 | | | 0.06 | | |
| **2047 Build** Scenario 3 | AM | Delay | | 7.2 | | | 7.3 | | | 7.4 | | | 7.0 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.03 | | | 0.04 | | | 0.05 | | | 0.07 | | |
| | PM | Delay | | 7.6 | | | 7.3 | | | 7.5 | | | 7.1 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.08 | | | 0.03 | | | 0.09 | | | 0.06 | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | | 7.3 | | | 7.6 | | | 8.0 | | | 7.4 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.11 | | | 0.04 | | | 0.12 | | | 0.09 | | |
| | PM | Delay | | 8.8 | | | 8.1 | | | 9.9 | | | 8.1 | | |
| | | LOS | | A | | | A | | | A | | | A | | |
| | | V/C | | 0.26 | | | 0.03 | | | 0.32 | | | 0.10 | | |

**Table 5.3-I3:** Intersection C - Scenario 3, Capacity Analyses Summary

Intersection D

*Build Scenario 2*

According to the analyses, Intersection D is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 2. Table 5.3-J1 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | | RT | | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 2 | AM | Delay | 9.0 | | | | 7.4 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.05 | | | | 0.01 | | | | | | |
| | PM | Delay | 8.8 | | | | 7.4 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.03 | | | | 0.03 | | | | | | |
| **2047 Build** Scenario 2 | AM | Delay | 9.0 | | | | 7.4 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.05 | | | | 0.01 | | | | | | |
| | PM | Delay | 8.8 | | | | 7.4 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.03 | | | | 0.03 | | | | | | |
| **2047 Build** Scenario 2 with Commercial | AM | Delay | 9.2 | | | | 7.5 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.05 | | | | 0.01 | | | | | | |
| | PM | Delay | 9.0 | | | | 7.5 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.03 | | | | 0.03 | | | | | | |

**Table 5.3-J1:** Intersection D - Scenario 2, Capacity Analyses Summary

*Build Scenario 3*

According to the analyses, Intersection D is expected to operate with acceptable levels of service in the opening year (2027) and future year (2047) build Scenario 3. Table 5.3-J2 summarizes the analyses performed.

| | | | Eastbound | | | Westbound | Northbound | | | Southbound | | | INT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | | RT | | LT | THRU | RT | LT | THRU | RT | |
| **2027 Build** Scenario 3 | AM | Delay | 8.6 | | | | 7.3 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.02 | | | | 0.01 | | | | | | |
| | PM | Delay | 8.7 | | | | 7.3 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.01 | | | | 0.02 | | | | | | |
| **2047 Build** Scenario 3 | AM | Delay | 8.6 | | | | 7.3 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.02 | | | | 0.01 | | | | | | |
| | PM | Delay | 8.7 | | | | 7.3 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.01 | | | | 0.02 | | | | | | |
| **2047 Build** Scenario 3 with Commercial | AM | Delay | 9.2 | | | | 7.5 | | | | | | |
| | | LOS | A | | | | A | | | | | | |
| | | V/C | 0.02 | | | | 0.01 | | | | | | |
| | PM | Delay | 10.1 | | | | 7.7 | | | | | | |
| | | LOS | B | | | | A | | | | | | |
| | | V/C | 0.01 | | | | 0.02 | | | | | | |

**Table 5.3-J2:** Intersection D - Scenario 3, Capacity Analyses Summary

## 5.4 QUEUING ANALYSES

The projected traffic volumes were analyzed in a queuing analyses, using Synchro software, at the study intersections. Existing signal timings have been implemented in the analyses at all signalized study intersections as a baseline.

The analyses utilize the intersection peak hour factors and turning movement heavy vehicle percentages as observed in the traffic count data. The queuing analyses compares no-build and build expected queue lengths to the existing storage lengths of each turning movement at an intersection. Queuing analyses reports, providing 95th percentile queue lengths, can be found in Appendix G.

Cincinnati-Dayton Road @ Todhunter Road

According to the analyses, queue lengths are not expected to exceed capacity in any of the no-build and build scenarios for the intersection of Cincinnati-Dayton Road and Todhunter Road. Table 5.4-A summarizes the queuing analyses performed.

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | | RT | | | | LT | THRU | RT | LT | THRU | RT |
| **No-Build** | 95th % Queue (ft) | AM Peak | 34 | | 14 | | | | 12 | 80 | | | 134 | 27 |
| | | PM Peak | 138 | | 37 | | | | 33 | 154 | | | 217 | 42 |
| | Existing Storage Length (ft) | | (150) | | (150) | | | | (100) | (1200) | | | (1200) | (125) |
| **Build Scenario 1** (Baseline) | 95th % Queue (ft) | AM Peak | 76 | | 37 | | | | 16 | 84 | | | 138 | 28 |
| | | PM Peak | 141 | | 44 | | | | 36 | 158 | | | 229 | 43 |
| | Existing Storage Length (ft) | | (150) | | (150) | | | | (100) | (1200) | | | (1200) | (125) |
| **Build Scenario 2** (Baseline) | 95th % Queue (ft) | AM Peak | 76 | | 37 | | | | 16 | 84 | | | 138 | 28 |
| | | PM Peak | 141 | | 44 | | | | 36 | 158 | | | 229 | 43 |
| | Existing Storage Length (ft) | | (150) | | (150) | | | | (100) | (1200) | | | (1200) | (125) |
| **Build Scenario 2 with Commerical** (Baseline) | 95th % Queue (ft) | AM Peak | 77 | | 41 | | | | 18 | 85 | | | 145 | 28 |
| | | PM Peak | 143 | | 48 | | | | 39 | 163 | | | 238 | 44 |
| | Existing Storage Length (ft) | | (150) | | (150) | | | | (100) | (1200) | | | (1200) | (125) |
| **Build Scenario 3** (Baseline) | 95th % Queue (ft) | AM Peak | 76 | | 37 | | | | 16 | 84 | | | 138 | 28 |
| | | PM Peak | 141 | | 44 | | | | 36 | 158 | | | 229 | 43 |
| | Existing Storage Length (ft) | | (150) | | (150) | | | | (100) | (1200) | | | (1200) | (125) |
| **Build Scenario 3 with Commercial** (Baseline) | 95th % Queue (ft) | AM Peak | 77 | | 41 | | | | 18 | 85 | | | 145 | 28 |
| | | PM Peak | 143 | | 48 | | | | 39 | 163 | | | 238 | 44 |
| | Existing Storage Length (ft) | | (150) | | (150) | | | | (100) | (1200) | | | (1200) | (125) |

**Table 5.4-A:** Cincinati-Dayton Rd @ Todhunter Rd, Queuing Analyses Summary

Cincinnati-Dayton Road @ Overbrook Court / Access 2

According to the analyses, queue lengths are not expected to exceed capacity in any of the build scenarios for the eastbound and southbound approaches at the Cincinnati-Dayton Road and Overbrook Court / Access 2 intersection. Table 5.4-B summarizes the queuing analyses performed.

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| **Build Scenario 1** (Alternative 1) | 95th % Queue (ft) | AM Peak | | 37 | | **211** | 27 | | 5 | 124 | 5 | 9 | 151 | 17 |
| | | PM Peak | | 96 | | **181** | 29 | | 14 | **266** | 109 | 19 | 167 | 11 |
| | Existing Storage Length (ft) | | | (250) | | (125) | (125) | | (250) | (250) | (200) | (550) | (550) | (125) |
| **Build Scenario 2** (Alternative 1) | 95th % Queue (ft) | AM Peak | | 45 | | 89 | 33 | | 2 | 9 | 1 | 5 | 86 | 10 |
| | | PM Peak | | 108 | | 97 | 33 | | 18 | **276** | 61 | 13 | 114 | 8 |
| | Existing Storage Length (ft) | | | (250) | | (125) | (125) | | (250) | (250) | (200) | (550) | (550) | (125) |
| **Build Scenario 2 with Commerical** (Alternative 1) | 95th % Queue (ft) | AM Peak | | 45 | | 89 | 40 | | 2 | 9 | 1 | 8 | 86 | 10 |
| | | PM Peak | | 109 | | 87 | 51 | | 18 | **265** | 55 | 17 | 108 | 8 |
| | Existing Storage Length (ft) | | | (250) | | (125) | (125) | | (250) | (250) | (200) | (550) | (550) | (125) |
| **Build Scenario 3** (Alternative 1) | 95th % Queue (ft) | AM Peak | | 39 | | **188** | 28 | | 3 | 126 | 3 | 8 | 135 | 16 |
| | | PM Peak | | 99 | | **165** | 30 | | 17 | **288** | 77 | 17 | 156 | 11 |
| | Existing Storage Length (ft) | | | (250) | | (125) | (125) | | (250) | (250) | (200) | (550) | (550) | (125) |
| **Build Scenario 3 with Commercial** (Alternative 1) | 95th % Queue (ft) | AM Peak | | 37 | | **220** | 32 | | 5 | 125 | 11 | 14 | 154 | 18 |
| | | PM Peak | | 84 | | **262** | 39 | | 16 | **276** | **208** | 39 | 212 | 15 |
| | Existing Storage Length (ft) | | | (250) | | (125) | (125) | | (250) | (250) | (200) | (550) | (550) | (125) |

**Table 5.4-B:** Cincinnati-Dayton Rd @ Access 2, Queuing Analyses Summary

*Westbound Approach*

In Build Scenario 1 and 3, both with and without the commercial development, the westbound left turning movement is expected to experience a queue lengths slightly greater than the available 125-ft storage length. The 125-ft is the measurement from the stop bar to the nearside curb line for the existing mixed use development to the northeast of the intersection.

In Build Scenario 2, both with and without the commercial development, the storage length is expected to be acceptable for the expected queue lengths of the westbound left turning movement.

*Northbound Approach*

In all build scenarios, the northbound through movement is expected to experience queue length slightly greater than the available 250-foot storage length. The 250-ft is the measurement to the nearest access driveway. In the Build Scenario 3 with Commercial development, the northbound right turning movement is expected to experience queues slightly greater than the available 200-ft storage length.

SR 63 @ Cincinnati-Dayton Road

According to the analyses, queue lengths are expected to exceed capacity in all of the no-build and build scenarios at the SR 63 and Cincinnati-Dayton Road intersection. Due to poor levels of service at the intersection, and the proposed development having an impact that degrades the level of service, alternative configurations to the roadway geometry and signal timings were analyzed (see section 5.3 for capacity analyses). Table 5.4-C1 summarizes the queuing analyses performed for the baseline analyses. Table 5.4-C2 summarizes the queuing analyses performed for the Alternative 1 analyses. Table 5.4-C3 summarizes the queuing analyses performed for the Alternative 2 analyses.

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| **No-Build** | 95th % Queue (ft) | AM Peak | 159 | **778** | 84 | 100 | 404 | **253** | 109 | **193** | | 230 | 153 | 128 |
| | | PM Peak | 328 | 424 | 92 | 326 | 585 | **316** | 166 | **315** | | 336 | 350 | 242 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | | (350) | (350) | (880) |
| **Build Scenario 1** (Baseline) | 95th % Queue (ft) | AM Peak | 189 | **783** | 84 | 100 | 404 | **317** | 108 | **197** | | **416** | 187 | 188 |
| | | PM Peak | **454** | 424 | 92 | 326 | 585 | **510** | 169 | **352** | | **466** | **392** | 301 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | | (350) | (350) | (880) |
| **Build Scenario 2** (Baseline) | 95th % Queue (ft) | AM Peak | 172 | **808** | 86 | 118 | 426 | **258** | 108 | **198** | | 228 | 168 | 162 |
| | | PM Peak | 403 | 441 | 92 | 348 | 600 | **330** | 167 | **353** | | **351** | **372** | 269 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | | (350) | (350) | (880) |
| **Build Scenario 2 with Commerical** (Baseline) | 95th % Queue (ft) | AM Peak | 185 | **840** | 86 | 134 | 445 | **258** | 107 | **206** | | 231 | 166 | 161 |
| | | PM Peak | 377 | **474** | 92 | 410 | 644 | **321** | 166 | **375** | | 336 | **355** | 256 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | | (350) | (350) | (880) |
| **Build Scenario 3** (Baseline) | 95th % Queue (ft) | AM Peak | 189 | **802** | 86 | 118 | 426 | **258** | 108 | **197** | | **416** | 169 | 163 |
| | | PM Peak | **454** | 424 | 92 | 348 | 600 | **330** | 167 | **352** | | **466** | **372** | 269 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | | (350) | (350) | (880) |
| **Build Scenario 3 with Commercial** (Baseline) | 95th % Queue (ft) | AM Peak | 272 | **802** | 86 | 133 | 445 | **258** | 107 | **206** | | **493** | 167 | 161 |
| | | PM Peak | **568** | 410 | 92 | 410 | 644 | **321** | 166 | **371** | | **654** | **355** | 256 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | | (350) | (350) | (880) |

**Table 5.4-C1:** SR 63 @ Cincinnati-Dayton Rd - Baseline, Queuing Analyses Summary

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| **Build Scenario 1** (Alternative 1) | 95th % Queue (ft) | AM Peak | 91 | **621** | 69 | 140 | 311 | **248** | 121 | **176** | 161 | **428** | 201 | 170 |
| | | PM Peak | 197 | 445 | 95 | 314 | 534 | **480** | 149 | **221** | 128 | **409** | **393** | 234 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | (175) | (350) | (350) | (880) |
| **Build Scenario 2** (Alternative 1) | 95th % Queue (ft) | AM Peak | 87 | **548** | 65 | 162 | 387 | **274** | 134 | 166 | 165 | 291 | 206 | 171 |
| | | PM Peak | 171 | **457** | 94 | 288 | 565 | **372** | **177** | **180** | 140 | 316 | **400** | 236 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | (175) | (350) | (350) | (880) |
| **Build Scenario 2 with Commerical** (Alternative 1) | 95th % Queue (ft) | AM Peak | 87 | **621** | 66 | 168 | 394 | **271** | 134 | 166 | **184** | 291 | 205 | 170 |
| | | PM Peak | 169 | **474** | 92 | 224 | 536 | **235** | 173 | 173 | 174 | 323 | **409** | 235 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | (175) | (350) | (350) | (880) |
| **Build Scenario 3** (Alternative 1) | 95th % Queue (ft) | AM Peak | 91 | **635** | 70 | 166 | 324 | **217** | 121 | **177** | 159 | **421** | 188 | 152 |
| | | PM Peak | 197 | 445 | 95 | 336 | 563 | **318** | 145 | **221** | 128 | **409** | **377** | 222 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | (175) | (350) | (350) | (880) |
| **Build Scenario 3 with Commercial** (Alternative 1) | 95th % Queue (ft) | AM Peak | 111 | **658** | 73 | 190 | 344 | **222** | 118 | **197** | 158 | **496** | 180 | 144 |
| | | PM Peak | 247 | **481** | 99 | 388 | 650 | **323** | 147 | **262** | 124 | **585** | 324 | 208 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | (175) | (350) | (350) | (880) |

**Table 5.4-C2:** SR 63 @ Cincinnati-Dayton Rd - Alternative 1, Queuing Analyses Summary

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| **Build Scenario 1** (Alternative 2) | 95th % Queue (ft) | AM Peak | 109 | **618** | 69 | 176 | 329 | **212** | 126 | **181** | 154 | 250 | 183 | 144 |
| | | PM Peak | 232 | 420 | 94 | 374 | 595 | **305** | 170 | **246** | 120 | 289 | **369** | 210 |
| | Existing Storage Length (ft) | | (450) | (450) | (125) | (670) | (670) | (125) | (175) | (175) | (175) | (350) | (350) | (300) |

**Table 5.4-C3:** SR 63 @ Cincinnati-Dayton Rd - Alternative 2, Queuing Analyses Summary

Based on the queuing analyses performed, Build Scenario 2 is expected to have the least impact on the intersection of SR 63 and Cincinnati-Dayton Road. The Alternative 1 improvements are expected to adequately mitigate the impact of the proposed development in the Scenario 2 conditions.

SR 63 @ Access 3

According to the analyses, queue lengths are not expected to exceed capacity in any of Buil Scenario 2 for the intersection of SR 63 and Access 3. Table 5.4-D summarizes the queuing analyses performed.

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| **Build Scenario 2** (Alternative 1) | 95th % Queue (ft) | AM Peak | 2 | 693 | | | 228 | 9 | | | | 124 | | 33 |
| | | PM Peak | 2 | 19 | | | 491 | 18 | | | | 90 | | 28 |
| | Existing Storage Length (ft) | | (175) | (1000) | | | (1000) | (175) | | | | (250) | | (250) |
| **Build Scenario 2 with Commerical** (Alternative 1) | 95th % Queue (ft) | AM Peak | 9 | 697 | | | 339 | 22 | | | | 165 | | 38 |
| | | PM Peak | 104 | 25 | | | 788 | 48 | | | | **265** | | 149 |
| | Existing Storage Length (ft) | | (175) | (1000) | | | (1000) | (175) | | | | (250) | | (250) |

**Table 5.4-D:** SR 63 @ Access 3, Queuing Analyses Summary

SR 63 @ Lawton Avenue

According to the analyses, queue lengths are expected to slightly exceed capacity in the no-build and build scenarios for the intersection of SR 63 and Lawton Avenue for the westbound through and eastbound through turning movements. The impacts of the are marginal for the eastbound approach. The westbound approach is expected to have an additional 200-ft of queuing. Though analyses wasn't performed, optimizing signal timing splits reducing the side-street approach times and increasing the mainline approach times are expected to mitigate this impact. Table 5.4-D summarizes the queuing analyses performed for the baseline analyses.

| 2047 | | | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| **No-Build** | 95th % Queue (ft) | AM Peak | 69 | **292** | | | 329 | 43 | | | | 72 | | 44 |
| | | PM Peak | 165 | 194 | | | 727 | 31 | | | | 92 | | 68 |
| | Existing Storage Length (ft) | | (200) | (200) | | | (730) | (730) | | | | (400) | | (400) |
| **Build Scenario 1** (Baseline) | 95th % Queue (ft) | AM Peak | 80 | **337** | | | 346 | 43 | | | | 72 | | 44 |
| | | PM Peak | 165 | **212** | | | **895** | 31 | | | | 92 | | 68 |
| | Existing Storage Length (ft) | | (200) | (200) | | | (730) | (730) | | | | (400) | | (400) |
| **Build Scenario 2** (Baseline) | 95th % Queue (ft) | AM Peak | 80 | **337** | | | 346 | 43 | | | | 72 | | 44 |
| | | PM Peak | 165 | **212** | | | **895** | 31 | | | | 92 | | 68 |
| | Existing Storage Length (ft) | | (200) | (200) | | | (730) | (730) | | | | (400) | | (400) |
| **Build Scenario 2 with Commerical** (Baseline) | 95th % Queue (ft) | AM Peak | 100 | **355** | | | 379 | 43 | | | | 72 | | 44 |
| | | PM Peak | 165 | **232** | | | **948** | 31 | | | | 92 | | 68 |
| | Existing Storage Length (ft) | | (200) | (200) | | | (730) | (730) | | | | (400) | | (400) |
| **Build Scenario 3** (Baseline) | 95th % Queue (ft) | AM Peak | 80 | **337** | | | 346 | 43 | | | | 72 | | 44 |
| | | PM Peak | 165 | **212** | | | **895** | 31 | | | | 92 | | 68 |
| | Existing Storage Length (ft) | | (200) | (200) | | | (730) | (730) | | | | (400) | | (400) |
| **Build Scenario 3 with Commercial** (Baseline) | 95th % Queue (ft) | AM Peak | 100 | **355** | | | 379 | 43 | | | | 72 | | 44 |
| | | PM Peak | 165 | **232** | | | **948** | 31 | | | | 92 | | 68 |
| | Existing Storage Length (ft) | | (200) | (200) | | | (730) | (730) | | | | (400) | | (400) |

**Table 5.4-E:** SR 63 @ Lawton Ave - Baseline, Queuing Analyses Summary

## 5.5 SIGNAL WARRANT ANALYSES

Signal warrant analyses were performed at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2, and the intersection of SR 63 @ Access 3. Opening year (2027) build volumes have been analyzed utilizing ODOT's signal warrant analyses excel spreadsheet, which is based on Section 4C.01 of the OMUTCD. Volume calculation projection spreadsheets are provided as an attachment with this report. Signal warrant analyses reports are provided in Appendix H of this report. Warrant 1 (Eight-Hour Vehicular Volume), Warrant 2 (Four-Hour Vehicular Volume), and Warrant 3 (Peak Hour) have been analyzed.

Cincinnati-Dayton Road @ Overbrook Court / Access 2

*Scenario 1*

- Warrants 1, 2, and 3 are all met in the opening year (2027).

*Scenario 2*

- Warrants 1, 2 and 3 are all not met in the opening year (2027) without the commercial development using the 100% volume thresholds. However the 70% thresholds for Warrant 1 and 2 are met, which are applicable for major streets with speeds at or over 45 miles per hour.
- Additional analyses were performed for the future year (2047) with the commercial development. Warrant 1 is met with the commercial development.

*Scenario 3*

- Warrants 1 and 2 are met in the opening year (2027).

SR 63 @ Access 3

*Scenario 2*

- Warrants 1, 2 and 3 are all not met in the opening year (2027) without the commercial development using the 100% volume thresholds. However the 70% thresholds for Warrant 2 is met, which is applicable for major streets with speeds at or over 45 miles per hour.
- Additional analyses were performed for the future year (2047) with the commercial development. Warrant 1, 2, and 3 are met with the commercial development.

## 6.1 FINDINGS

The following findings were made during the traffic impact study process:

1. Turn lane warrant analyses indicated that a southbound left turn lane is warranted at the intersection of Cincinnati-Dayton Road and Access 1 for all build scenarios. The calculated length is 175-feet, including a 50-foot taper, for all build scenarios.
    - The supplemental Access 1 turn lane warrant analyses indicated that the southbound left turn lane is warranted. The calculated length is 225-feet, including a 50-foot taper if Access 1 is connected to the existing commercial access that is approximately 1,070 feet north of Overbrook Court.
2. Turn lane warrant analyses indicated that a northbound right turn lane is not warranted at the intersection of Cincinnati-Dayton Road and Access 1 for all build scenarios.
    - The supplemental Access 1 turn lane warrant analyses indicated that the northbound right turn lane is not warranted if Access 1 is connected to the existing commercial access that is approximately 1,070 feet north of Overbrook Court.
3. Turn lane warrant analyses indicated that a southbound left turn lane is warranted at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 for all build scenarios. The calculated length according to the ODOT Location and Design Manual is 175-feet, including a 50-foot taper, for all build scenarios. However, based on the queuing analysis in the signalized condition, this turn lane should be 275-feet long, including a 50-foot diverging taper.
4. Turn lane warrant analyses indicated that a northbound right turn lane is warranted at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 for all build scenarios. Turn lane lengths vary between each build scenario.
    - Scenario 1 - 325-feet, including a 50-foot taper
    - Scenario 2 - 275-feet, including a 50-foot taper
    - Scenario 2 with Commercial - 225-feet, including a 50-foot taper
    - Scenario 3 - 275-feet, including a 50-foot taper
    - Scenario 3 with Commercial - 325-feet, including a 50-foot taper

    Note that an existing turn lane of 250-feet, including a 50-foot taper exists at this location. This turn lane extends to a nearby access drive, with no more available space for further extension.
5. Turn lane warrant analyses indicated that an eastbound left turn lane is warranted at the intersection of SR 63 and Access 3 for Build Scenario 2. The calculated length according to the ODOT Location and Design Manual is 325-feet, including a 50-foot taper. However, based on calculations for a signalized condition, this turn lane should be 600-feet, including a 50-foot taper.

6. Turn lane warrant analyses indicated that a westbound right turn lane is warranted at the intersection of SR 63 and Access 3 for all build scenarios. Turn lane lengths vary between each build scenario.

    - Scenario 2 - 300-feet, including a 50-foot taper
    - Scenario 2 with Commercial - 350-feet, including a 50-foot taper
    - Scenario 3 - 300-feet, including a 50-foot taper
    - Scenario 3 with Commercial - 350-feet, including a 50-foot taper

    However, based on calculations for a signalized condition, this turn lane is not needed for the proposed development. With a future commercial development, a westbound right turn lane of up to 800-feet may be needed.

7. Turn lane warrant analyses indicated that no turn lanes are warranted at any of the internal study intersections.

8. Sight distance review indicated the required sight distance (430-feet) is available to the south from the proposed Access 1 location. The required sight distance of 565-feet is not available to the north from the proposed Access 1 location.

    - Additional sight distance review indicated that the required sight distance is available at approximately 150-feet to 200-feet north of the originally proposed Access 1 location. At this location, required sight distance is still available to the south.

9. Sight distance review indicated the required sight distance (530-feet) is available to the east from the proposed Access 3 location. The required sight distance of 790-feet is not available when looking to the west. However, it should be noted that this driveway location has been previously established within the limited access right of way.

10. Capacity analyses indicated that acceptable levels of service are expected at the following intersections for all no-build and build scenarios in the opening year (2027) and future year (2047):

    - Cincinnati-Dayton Road @ Todhunter Road
    - Cincinnati-Dayton Road @ Access 1
    - SR 63 @ Lawton Avenue
    - Intersection A
    - Intersection B
    - Intersection C
    - Intersection D

11. Capacity analyses indicated that the supplemental Access 1 location is expected to operate with acceptable levels of service in the no-build scenarios for the opening year (2027) and future year (2047). The westbound approach is expected to operate with failing levels of service in the PM peak hour for all build scenarios, with delays just over the failing threshold. It should be noted that drivers that want to turn left to go south have the opportunity to use the commercial road parallel to Cincinnati-Dayton Road to access the proposed traffic signal at Overbrook Court.

12. Capacity analyses indicated that the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 is expected to operate with overall acceptable levels of service in the opening year (2027) and future year (2047) No-Build scenarios. The westbound approach is expected to experience marginally failing levels of service in the future year No-Build PM peak.
    - All baseline build scenario analyses, which use existing roadway conditions. are expected to experience increasing failing levels of service for the westbound approach.
    - Alternative 1 analyses, which implements a traffic signal at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2, indicated acceptable levels of service for all build scenarios in the opening year and future year.
13. Capacity analyses indicated that the intersection of SR 63 and Cincinnati-Dayton Road is expected to operate with overall unacceptable levels of service in the opening year (2027) and future year (2047) No-Build scenarios.
    - All baseline build scenario analyses, which use existing roadway conditions. are expected to experience increasing failing levels of service.
    - Alternative 1 analyses, which implement a second eastbound left turn lane, adds an independent northbound right turn lane, adds northbound right and southbound right overlap phasing, and optimized split timings, are expected to mitigate the impacts of the proposed development in the opening year and future year for all build scenarios except Scenario 3 with Commercial Development.
    - Alternative 2 for the build Scenario 3 with commercial development, implements the Alternative 1 improvements, and adds an additional southbound left turn lane. These improvements are expected to mitigate the impacts of the commercial development.
14. Capacity analyses indicated that the intersection of SR 63 and Access 3 is expected to operate with failing levels of service in the opening year (2027) and future year (2047) Build Scenario 2 Baseline. Alternative 1 analyses, which implement a traffic signal, is expected to operate with acceptable levels of service. Opening year and future year Build Scenario 3 is expected to operate with acceptable levels of service. While the analyses included in this study include a westbound right turn lane in the signalized analyses, further analyses indicate that a westbound right turn lane is not needed for capacity purposes for the proposed development. With the addition of the future commercial development, the westbound right turn lane and potentially an additional eastbound left turn lane may be needed.
15. Queuing analyses indicated that the proposed development has minimal impact on the expected 95th percentile queue lengths at the following intersections in the future year (2047):
    - Cincinnati-Dayton Road @ Todhunter Road
    - Cincinnati-Dayton Road @ Overbrook Court / Access 2 (Alternative 1)
    - SR 63 @ Access 3 (Alternative 1)
    - SR 63 @ Lawton Avenue

16. Queuing analysis at the intersection of SR 63 and Cincinnati-Dayton Road indicated that 95th percentile queue lengths are expected to exceed the existing storage lengths in the future year (2047) No-Build scenarios for various turning movements. Build Scenario 2 is expected to have the lowest impact on queue lengths, most notably for the southbound left turn movement.
17. Signal warrants indicated that warrants 1, 2, and 3 are met at the intersection of Cincinnati-Dayton Road and Overbrook Court / Access 2 for Scenario 1. Warrants 1 and 2 are met for Scenarios 2 and 3.
18. Signal warrants indicated that warrant 2 is met at the intersection of SR 63 and Access 3 in the opening year (2027) Scenario 2.
    - Additional warrants were performed for the commercial development in the future year (2047). Warrants 1, 2, and 3 are all met.

## 6.2 RECOMMENDATIONS

The following improvements are recommended as a result of this traffic impact study:

1. Cincinnati-Dayton Road and Access 1
    - Access 1 should be located at the existing north access location approximately 1,070 feet north of Overbrook Court, due to sight distance requirement issues.
    - Modify pavement markings to provide a southbound left turn lane of 225-feet, including a 50-foot taper.
2. Cincinnati-Dayton Road and Overbrook Court / Access 2
    - Construct a traffic signal.
        - ◊ The traffic signal should operate as a 2-phase signal with optimized signal timings. Coordination of the signal should be provided with the nearby intersection of SR 63 and Cincinnati-Dayton Road.
    - Modify pavement marking to provide a southbound left turn lane of 275-feet, including a 50-foot taper.
    - Modify pavement markings to provide a northbound left turn lane of 350-feet, including a 50-foot taper.
    - Retain the existing 250-foot (including taper) northbound right turn lane.
    - Construct the westbound approach to have one left turn lane and one thru-right lane.
3. SR 63 and Cincinnati-Dayton Road
    - Convert the northbound thru-right lane to a thru-only lane. Construct a northbound right turn lane of 185-feet, including a 50-foot taper. The length of this turn lane is limited by grading issues farther to the south and sidewalk access to the adjacent park.
    - Construct an additional eastbound left turn lane providing 200-feet of storage in each lane. According to ODOT L&D Manual Figure 401-12, the total length of the turn lane from the initial diverging taper to the stop bar should be 500-feet.
    - Optimize traffic signal split timings
        - ◊ The northbound and southbound right turn lanes should operate as permitted-overlap, overlapping with the westbound and eastbound left turn phases, respectively.

Note that these improvements only mitigate the impact of the proposed residential development. Also, it is anticipated that the future commercial development would generate additional improvements at this intersection such as an additional southbound left turn lane. The intersection of SR 63 and Cincinnati-Dayton Road currently operates at failing levels of service. The recent SR 63 Corridor Study, performed by Burgess & Niple, identified potential solutions to improve the

intersection to acceptable levels of service. An alternative approach to constructing the mitigating improvements outlined above would be to construct the ultimate improvements at this intersection with the developer contributing a portion in commensurate with the development's impact to the intersection.

4. SR 63 and Access 3

   If Scenario 2 is implemented (full access on SR 63), the following improvements should be constructed:

   - Construct a full access along SR 63. The intersection should be operated by a traffic signal. The intersection should be at the established location within the limited access right of way.
   - Construct an eastbound left turn lane of 600-feet, including a 50-foot taper.
     - ◊ The eastbound left turning movement should operate as protected-permitted.
   - Construct the southbound approach to have separate left turn and right turn lanes.
     - ◊ The southbound right turning movement should operate as permitted-overlap, overlapping with the eastbound left phase.

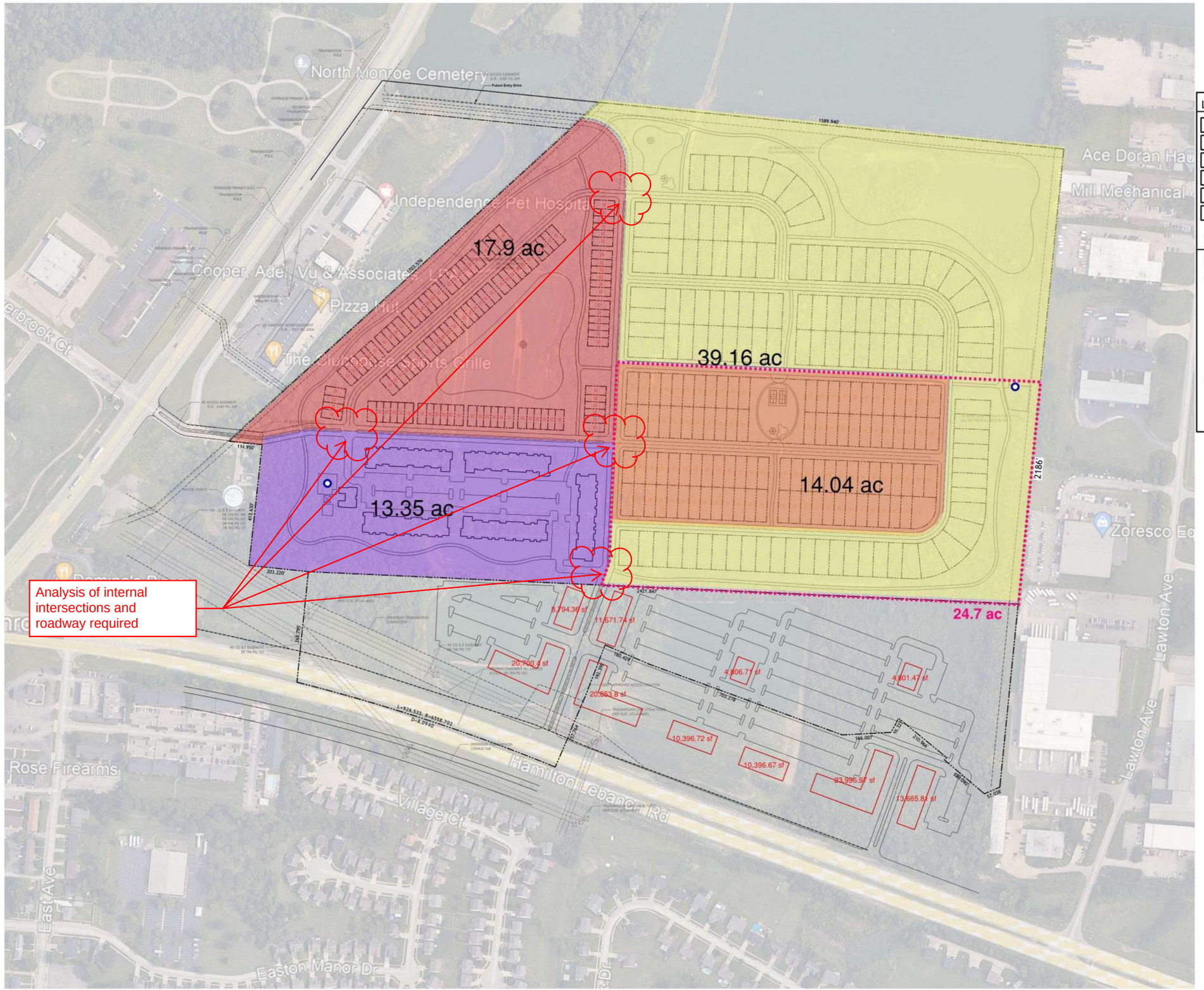
   If Scenario 3 is implemented (right-in / right-out access on SR 63), the following improvements should be constructed:

   - Construct a westbound right turn lane of 300-feet, including a 50-foot taper. Note that the length of this turn lane may need to be extended as part of the future commercial development.

5. Intersection A
   - The eastbound and westbound approaches should be free flowing
   - The northbound and southbound approaches should be stop-controlled.
6. Intersection B
   - The northbound and southbound approaches should be free flowing
   - The eastbound and westbound approaches should be stop-controlled.
7. Intersection C
   - The intersection should operate as all-way stop controlled.
8. Intersection D
   - The northbound and southbound approaches should be free flowing
   - The eastbound approach should be stop-controlled.

Conceptual improvement sketches are included in Appendix I.

# Preliminary Site Plan




N

0 75 150 300
37.5 112.5 225
SCALE: 1"=150'

## LEGEND

- OPEN SPACE/ TRAIL
- SINGLE FAMILY HOMES
- SINGLE FAMILY HOMES
- TOWNHOMES
- MULTI-FAMILY
- RIGHT-OF WAY

## SITE SUMMARY

| | |
|---|---|
| LOT SIZE: | ±84.54 AC |
| ZONING: | C-2 GENERAL COMMERCIAL DISTRICT<br>L-1 LIGHT INDUSTRIAL DISTRICT |
| UNITS: | 240 UNITS - 3 STORY MULTI-FAMILY<br>48 UNITS / BUILDING |
| | 111 TOWNHOMES<br>END LOT SIZE = 30'X70' = 2,100 SF<br>MIDDLE LOT SIZE = 24'X70' = 1,680 SF |
| | 99 SINGLE FAMILY HOMES (SFH)<br>AVG. LOT SIZE = 38'X110'<br>4,180 SF., 0.06 AC |
| | 111 SINGLE FAMILY HOMES (SFH)<br>AVG. LOT SIZE = 50'X120'<br>6,000 SF., 0.15 AC |
| TOTAL UNITS: | 240 MULTI-FAMILY UNITS<br>321 SINGLE FAMILY HOMES |
| | Dog Park |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Project
BRIDGE DEVELOPMENT
MONROE, OH

US-63
MONROE, OH

Sheet
CONCEPTUAL
SITE PLAN

Issued for
2024.12.04 CONCEPT PLAN

Project Number
24-XXX

Sheet Number
SK-1

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# Cornerstone Monroe Farms - Ratterman Property Traffic Volume Submittal

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# Traffic Volumes Submittal

Project # 180753.003

TO: Lindsey S. Kieres, PE, PTOE (Goodhue for City of Monroe), Bree Hetzel, PE (ODOT)

CC: John Nierzwicki, PE (Contour), FILE

FROM: Mark W. Nolt, PE, PTOE

DATE: June 9, 2025

RE: Traffic Volumes Submittal – Cornerstone Monroe Farms – Ratterman Property - TIS

The following outlines the preliminary traffic volume projections as required by the City of Monroe and the ODOT District 8 staff for the preparation of a traffic impact study being prepared in conjunction with the planned construction of the Cornerstone Monroe Farms – Ratterman Property development. The development is planned to be located in the northeast quadrant of the intersection of SR 63 (Hamilton Lebanon Road) and Cincinnati-Dayton Road (Main Street) in Monroe, Ohio. The opening year for the project is planned to be 2027. A conceptual site plan for the development is attached to this memo.

The Cornerstone Monroe Farms – Ratterman Property development is planned to be a residential development, with 240 apartment units, 111 townhome units, and 210 single-family homes. There is also the potential for an adjacent future commercial development along SR 63, which for the purposes of this study, is assumed to include approximately 130,000 square feet of retail space. The development is planned to have the following access locations:

- Access 1 – Along Cincinnati-Dayton Road between Todhunter Road and Overbrook Court.
- Access 2 – Via the east leg of the Cincinnati-Dayton Road and Overbrook Court intersection.
- Access 3 – Potential future access along SR 63 between Cincinnati-Dayton Road and Lawton Avenue

Per the February 7, 2025, traffic study scoping meeting with the City of Monroe staff and ODOT District 8 staff, the study intersections are as follows:

- Cincinnati-Dayton Road (Main Street) @ Todhunter Road
- Cincinnati-Dayton Road (Main Street) @ Access 1
- Cincinnati-Dayton Road (Main Street) @ Overbrook Court / Access 2
- SR 63 (Hamilton Lebanon Road) @ Cincinnati-Dayton Road (Main Street)
- SR 63 (Hamilton Lebanon Road) @ Access 3
- SR 63 (Hamilton Lebanon Road) @ Lawton Avenue
- Up to four internal development intersections

Data Collection

Turning movement counts were collected by the Kleingers Group from 5:30 to 9:00 AM and from 3:30 to 7:00 PM on Tuesday, March 22, 2022, at the following intersections:

- Cincinnati-Dayton Road @ Todhunter Road
- Cincinnati-Dayton Road @ Overbrook Court

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Turning movement counts were collected by Burgess & Niple from 6:00 AM to 6:00 PM on Thursday, September 12, 2024, at the following intersections:

- SR 63 @ Cincinnati-Dayton Road
- SR 63 @ Lawton Avenue

The peak hours were independently determined at each study intersection based on the counted data. Table A summarizes the peak hours to be used at each study intersection.

| Intersection | AM Peak Hour | PM Peak Hour |
|---|---|---|
| Cin-Day Rd @ Todhunter Rd | 7:15 to 8:15 | 4:15 to 5:15 |
| Cin-Day Rd @ Overbrook Ct | 7:15 to 8:15 | 4:15 to 5:15 |
| SR 63 @ Cin-Day Rd | 7:15 to 8:15 | 4:45 to 5:45 |
| SR 63 @ Lawton Ave | 7:00 to 8:00 | 4:30 to 5:30 |

**Table A:** Study Intersection Peak Hours

Traffic count summaries are attached to this memo. Counted traffic volumes are presented in Figure 3A.

Background Traffic Volumes

The Counted Traffic Volumes (Figure 3A) have been adjusted to design hour traffic volumes based on ODOT's peak hour to design hour factors. For the traffic counts performed by The Kleingers Group, a peak hour to design hour factor of 1.18 was applied. For the traffic counts performed by Burgess & Niple, a peak hour to design hour factor of 1.09 was applied. Design hour traffic volumes were projected to the opening year (2027) and future year (2047) based on an annual linear growth rate of 0.5%, as agreed upon in the scoping meeting with the City of Monroe and ODOT. An excel spreadsheet workbook is included with this memo, detailing the calculations performed. Opening year (2027) and future year (2047) background traffic volumes are presented in Figures 4A and 4B respectively.

Wawa Development Added Traffic

A recent traffic study was performed by The Kleingers Group for a Wawa gas station and convenience store, located between Lawton Avenue and American Way. The projected traffic volumes from that development have been included in the volume calculations. Primary trips to and from the Wawa development have been distributed at the study intersections based on turning movement counts. Distributed pass-by trips for the Wawa development are presented in Figure 4C. Distributed primary trips for the Wawa development are presented in Figure 4D.

No-Build Traffic Volumes

The Wawa development traffic volumes have been added to the opening year (2027) and future year (2047) background traffic volumes to develop 2027 and 2047 No-Build Traffic Volumes, presented in Figures 4E and 4F, respectively.

Trip Generation

Trip generation has been performed for the Cornerstone Monroe Farms – Ratterman Property development using ITE Trip generation data. OTISS Pro reports detailing the baseline trip generation performed are attached to this report. Table B summarizes the baseline trip generation performed before reductions.



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| Development | LUC | Size | Units | Total Traffic | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak Hour (7-9 am) | | | PM Peak Hour (4-6 pm) | | | Daily | | |
| | | | | Enter | Exit | Total | Enter | Exit | Total | Enter | Exit | Total |
| *Detached Housing* | *210* | 210 | DU | 37 | 110 | 147 | 126 | 74 | 200 | 998 | 998 | 1,996 |
| *Apartments* | *220* | 240 | DU | 23 | 74 | 97 | 78 | 46 | 124 | 807 | 807 | 1,614 |
| *Townhomes* | *220* | 111 | DU | 14 | 44 | 58 | 43 | 25 | 68 | 393 | 393 | 786 |
| **Residential** | | | | **74** | **228** | **302** | **247** | **145** | **392** | **2,198** | **2,198** | **4,396** |
| *Commercial* | *821* | 130 | ksf | 139 | 85 | 224 | 331 | 344 | 675 | 4,389 | 4,389 | 8,778 |
| **Retail** | | | | **139** | **85** | **224** | **331** | **344** | **675** | **4,389** | **4,389** | **8,778** |
| **TOTAL** | | | | **213** | **313** | **526** | **578** | **489** | **1,067** | **6,587** | **6,587** | **13,174** |

**Table B:** Baseline ITE Trip Generation Summary

With the potential addition of commercial development, internal capture reductions are allowable. Internal capture has been estimated using internal capture rates from the ITE Trip Generation Handbook, 3rd Edition. Per the scoping meeting with the City of Monroe and ODOT, a maximum of 20% internal capture was agreed upon for land uses. Internal capture calculations are attached to this memo. Table C summarizes the external site-generated trips after internal reduction.

| Development | LUC | Size | Units | Total Traffic | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak Hour (7-9 am) | | | PM Peak Hour (4-6 pm) | | |
| | | | | Enter | Exit | Total | Enter | Exit | Total |
| *Detached Housing* | *210* | 210 | DU | 37 | 109 | 146 | 101 | 59 | 160 |
| *Apartments* | *220* | 240 | DU | 23 | 73 | 96 | 63 | 37 | 99 |
| *Townhomes* | *220* | 111 | DU | 14 | 44 | 57 | 34 | 20 | 54 |
| **Residential** | | | | **73** | **226** | **299** | **198** | **116** | **314** |
| *Commercial* | *821* | 130 | ksf | 137 | 84 | 221 | 302 | 295 | 597 |
| **Retail** | | | | **137** | **84** | **221** | **302** | **295** | **597** |
| **TOTAL** | | | | **210** | **310** | **520** | **500** | **411** | **911** |

**Table C:** External Trips After Internal Capture

Pass-by trips have been separated from the total external trips based on pass-by rates from ITE. A 40% pass-by rate has been applied to the external commercial development trips for the PM peak hour only. Table D summarizes the calculations performed.

| Development | LUC | Size | Units | Total Traffic | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak Hour (7-9 am) | | | PM Peak Hour (4-6 pm) | | |
| | | | | Enter | Exit | Total | Enter | Exit | Total |
| *Commercial* | *821* | 130 | ksf | 0 | 0 | 0 | 121 | 118 | 239 |

**Table D:** Pass-By Trip Generation Summary

Pass-by trips have been removed from the external site-generated trips, resulting in primary site-generated trips. Table E summarizes the calculations performed.

| Development | LUC | Size | Units | Total Traffic | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM Peak Hour (7-9 am) | | | PM Peak Hour (4-6 pm) | | |
| | | | | Enter | Exit | Total | Enter | Exit | Total |
| *Detached Housing* | *210* | 210 | DU | 37 | 109 | 146 | 101 | 59 | 160 |
| *Apartments* | *220* | 240 | DU | 23 | 73 | 96 | 63 | 37 | 99 |
| *Townhomes* | *220* | 111 | DU | 14 | 44 | 57 | 34 | 20 | 54 |
| **Residential** | | | | **73** | **226** | **299** | **198** | **116** | **314** |
| *Commercial* | *821* | 130 | ksf | 137 | 84 | 221 | 181 | 177 | 358 |
| **Retail** | | | | **137** | **84** | **221** | **181** | **177** | **358** |
| **TOTAL** | | | | **210** | **310** | **520** | **379** | **293** | **672** |

**Table E:** Primary Trip Generation Summary



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Regional Trip Distribution

A regional trip distribution has been developed for proposed development based on its location to nearby dense urban areas and its location to major highways. The regional distribution for the proposed development is presented in Figure 4G.

The regional trip distributions will be applied to three trip distribution scenarios. The scenarios are as follows:

- Scenario 1 – No Access to SR 63
- Scenario 2 – Full Access to SR 63
- Scenario 3 – Right-In / Right-Out (RIRO) Access to SR 63

Trip Distributions – Scenario 1

The regional trip distributions for the proposed development have been applied to study intersections based on Scenario 1 (No Access to SR 63). Distributions for the single family detached, apartments, and townhomes are presented in Figures 5A, 5B, and 5C, respectively.

Build Traffic Volumes – Scenario 1

The site-generated trips for single family detached, apartments, and townhomes from Table A have been distributed according to Figures 5A, 5B, and 5C respectively. Calculations are provided with an attached excel spreadsheet. The distributed trips have been added to the 2027 and 2047 No-Build traffic volumes to produce the 2027 and 2047 Build Scenario 1 traffic volumes, presented in Figures 5D and 5E, respectively.

Trip Distribution – Scenario 2

The regional trip distributions for the proposed development have been applied to study intersections based on Scenario 2 (Full Access to SR 63). Distributions for the single family detached, apartments, and townhomes are presented in Figures 6A, 6B, and 6C, respectively.

Distributions for the commercial primary trips are presented in Figures 6D.

Distributions for commercial pass-by trips are based on counted through traffic along SR 63 and Cincinnati-Dayton Road, instead of the regional trip distributions. Pass-by rates are only available for the PM peak for LUC 821. Distributions for commercial pass-by trips for the PM peak are presented in Figures 6E.

Build Traffic Volumes – Scenario 2

The site-generated trips for single family detached, apartments, and townhomes from Table A have been distributed according to Figures 6A, 6B, and 6C respectively. Calculations are provided with an attached excel spreadsheet. The distributed trips have been added to the 2027 and 2047 No-Build traffic volumes to produce the 2027 and 2047 Build Scenario 2 traffic volumes, presented in Figures 6F and 6G, respectively.

Build Traffic Volumes – Scenario 2 with Commercial

The site-generated external trips for single family detached, apartments, and townhomes from Table D have been distributed according to Figures 6A, 6B, and 6C respectively. The primary commercial trips from Table D have been distributed according to Figure 6D. The pass-by commercial trips have been distributed according to Figure 6E. Calculations are provided with an attached excel spreadsheet. The distributed trips have been added to the 2047 No-Build traffic volumes to produce the 2047 Build Scenario 2 traffic volumes with Commercial, presented in Figure 6H.



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Trip Distribution – Scenario 3

The regional trip distributions for the proposed development have been applied to study intersections based on Scenario 3 (RIRO Access to SR 63). Distributions for the single family detached, apartments, and townhomes are presented in Figures 7A, 7B, and 7C, respectively.

Distributions for the commercial primary trips are presented in Figures 7D.

Distributions for commercial pass-by trips are based on counted through traffic along SR 63 and Cincinnati-Dayton Road, instead of the regional trip distributions. Pass-by rates are only available for the PM peak for LUC 821. Distributions for commercial pass-by trips for the PM peak are presented in Figures 7E.

Build Traffic Volumes – Scenario 3

The site-generated trips for single family detached, apartments, and townhomes from Table A have been distributed according to Figures 7A, 7B, and 7C respectively. Calculations are provided with an attached excel spreadsheet. The distributed trips have been added to the 2027 and 2047 No-Build traffic volumes to produce the 2027 and 2047 Build Scenario 3 traffic volumes, presented in Figures 7F and 7G, respectively.

Build Traffic Volumes – Scenario 3 with Commercial

The site-generated external trips for single family detached, apartments, and townhomes from Table D have been distributed according to Figures 7A, 7B, and 7C respectively. The primary commercial trips from Table D have been distributed according to Figure 7D. The pass-by commercial trips have been distributed according to Figure 7E. Calculations are provided with an attached excel spreadsheet. The distributed trips have been added to the 2047 No-Build traffic volumes to produce the 2047 Build Scenario 3 traffic volumes with Commercial, presented in Figure 7H.

Analyses

The following scenarios will be analyzed in the study:

- 2027 No-Build
- 2027 Build Scenario 1
- 2027 Build Scenario 2
- 2027 Build Scenario 3
- 2047 No-Build
- 2047 Build Scenario 1
- 2047 Build Scenario 2
- 2047 Build Scenario 2 with Commercial
- 2047 Build Scenario 3
- 2047 Build Scenario 3 with Commercial

Turn lane warrant analyses will be performed at the three main access points to the development site in accordance with the ODOT Location and Design Manual, 11th Edition. Turn lane warrant analyses will also be performed at any internal site intersections, where applicable. The length of any warranted turn lane will also be determined based on this manual.



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Capacity analyses at each study intersection will be performed using Synchro capacity analyses software. Heavy vehicle percentages will be applied by movement at the study intersections. Peak hour factors will be applied per intersection at the study intersections based on counted data. Capacity analyses will be performed for the AM and PM peak hours as described previously.

Queuing analysis will be performed at the signalized study intersections utilizing Synchro's HCM 95$^{th}$ percentile queue output and comparison to the existing storage to generate queue storage ratios (QSR). Turn lane lengths at signalized intersections will be determined based on these calculations.

Signal warrant analyses will be performed at study intersections if the capacity analyses indicate the need for a signal. Signal warrant analyses will be performed per the OMUTCD using the ODOT spreadsheet for 100% volume thresholds and will incorporate right-turn reductions.

Sight Distance evaluation will be performed via field evaluation for the proposed access point to Cincinnati Dayton Road between Overbrook Court and Todhunter Road and for the future access point to SR 63 based on the ODOT Location and Design Manual, 11$^{th}$ Edition. Where field evaluation is insufficient to confirm available sight distance, sight distance profiles will be provided using GIS data.

The proposed access point locations in relation to adjacent driveways and intersections will be discussed. The type of access will also be discussed.

Conceptual sketches of the recommended roadway improvements will be provided as part of the traffic impact study. While the conceptual sketches will not be prepared using survey data, potential impacts to right of way, utilities, drainage, and slopes will be noted.

This is intended to be a concurrence document. Please review the assumptions and proposed methodology outlined above and respond whether you concur with the approach and/or have comments.

Thank you in advance for your time and input. We greatly appreciate it.



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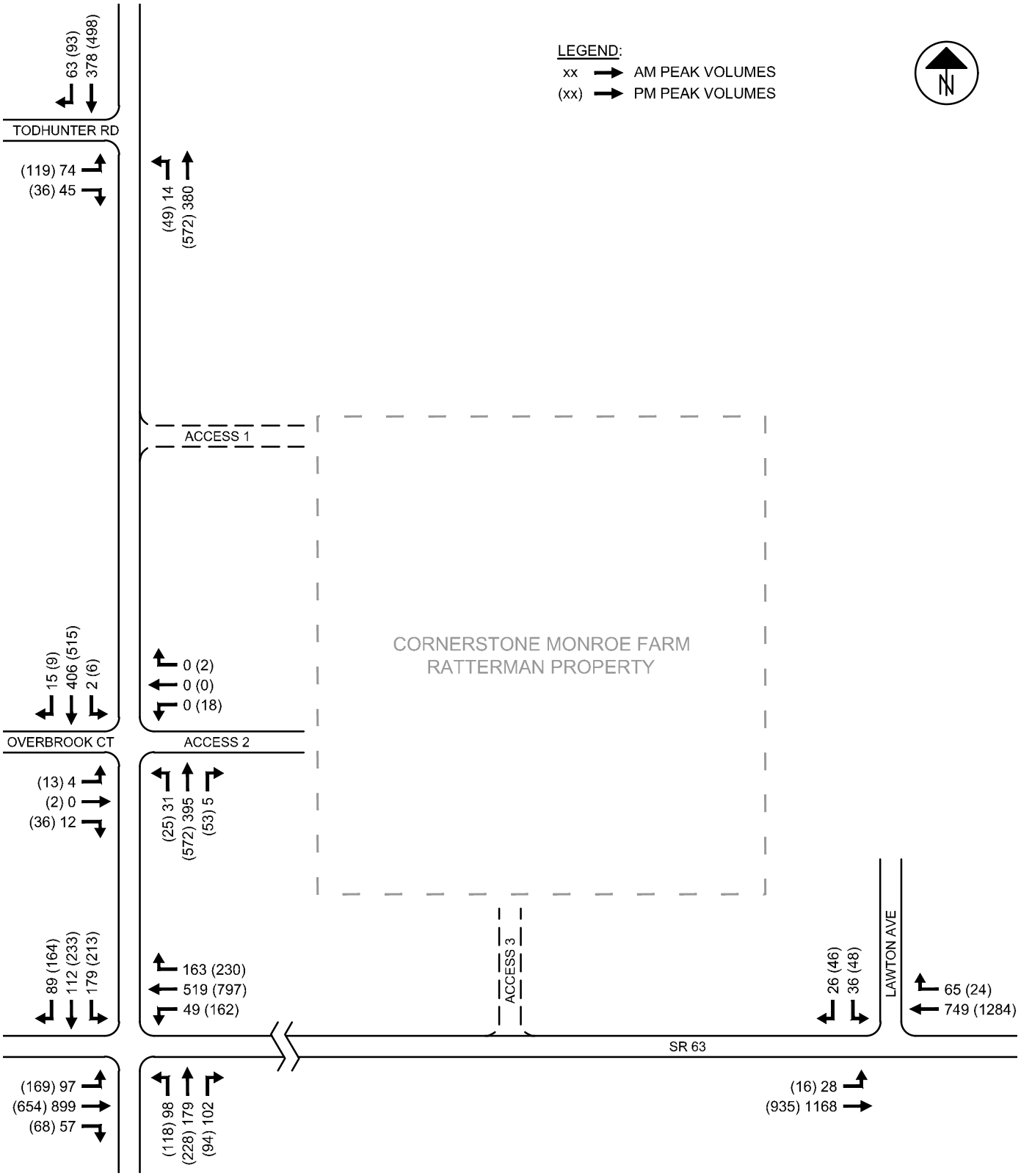
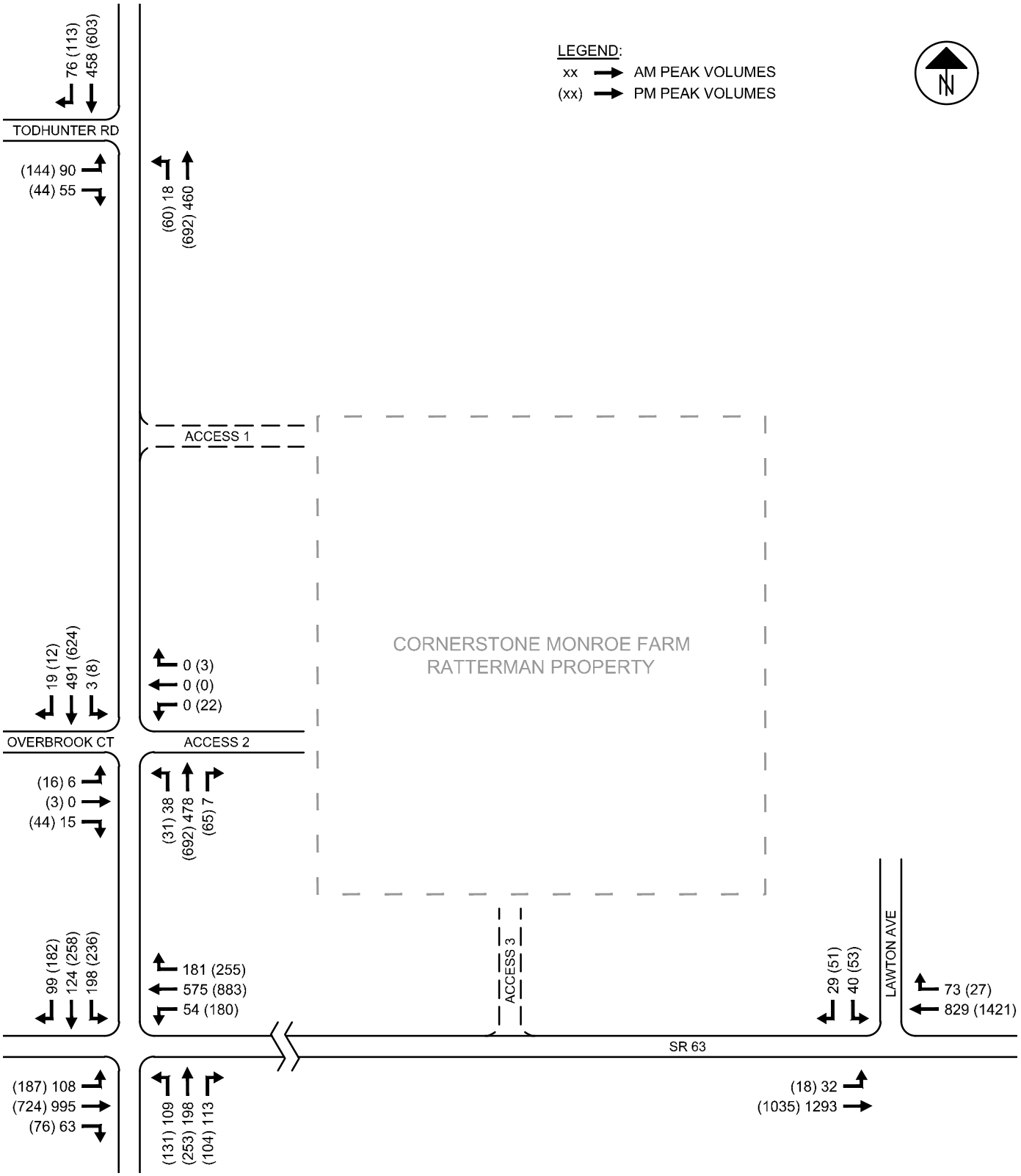


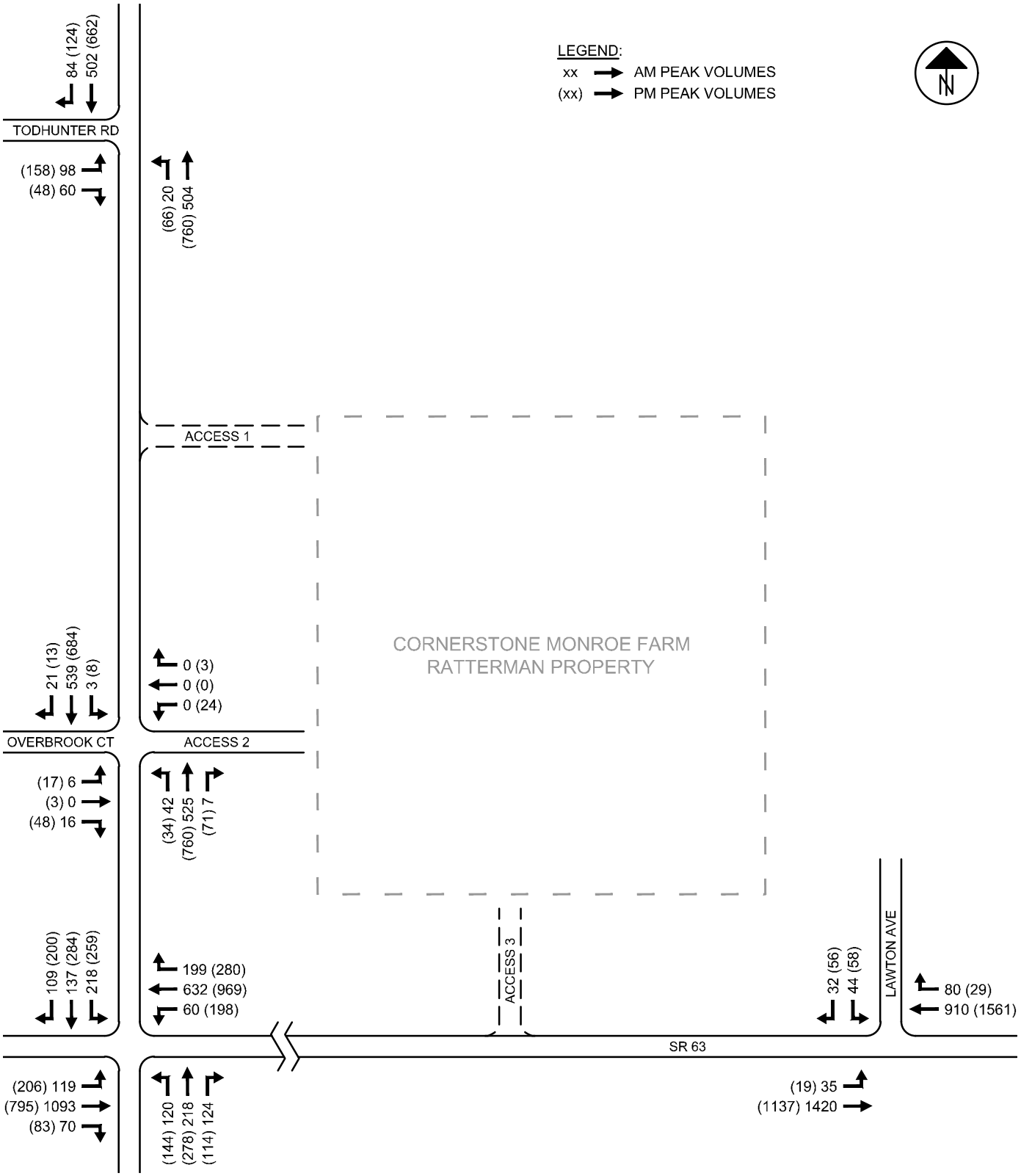

COUNTED TRAFFIC VOLUMES

FIGURE 3A
JUNE 9, 2025



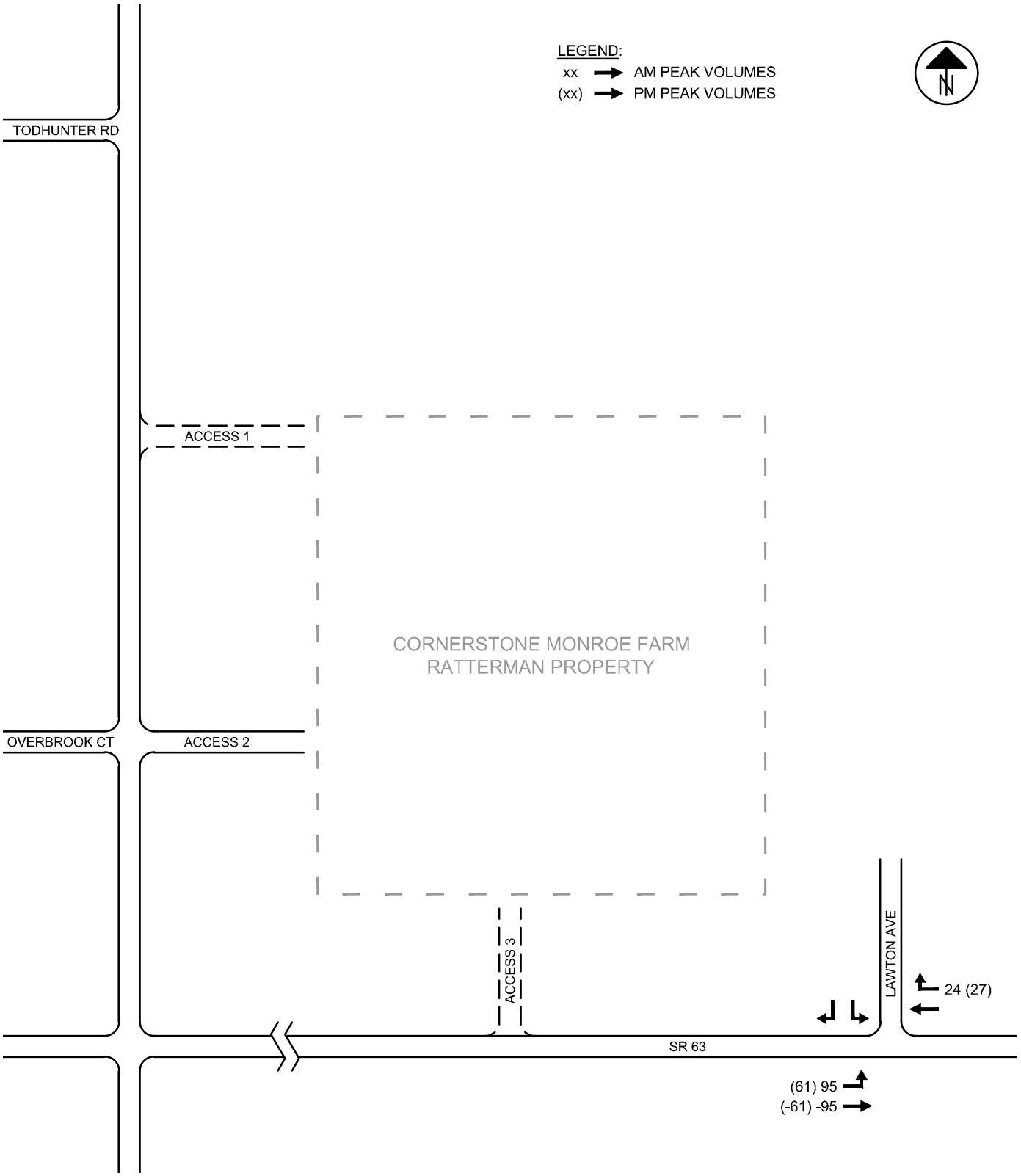

2027 BACKGROUND TRAFFIC VOLUMES

FIGURE 4A
JUNE 9, 2025



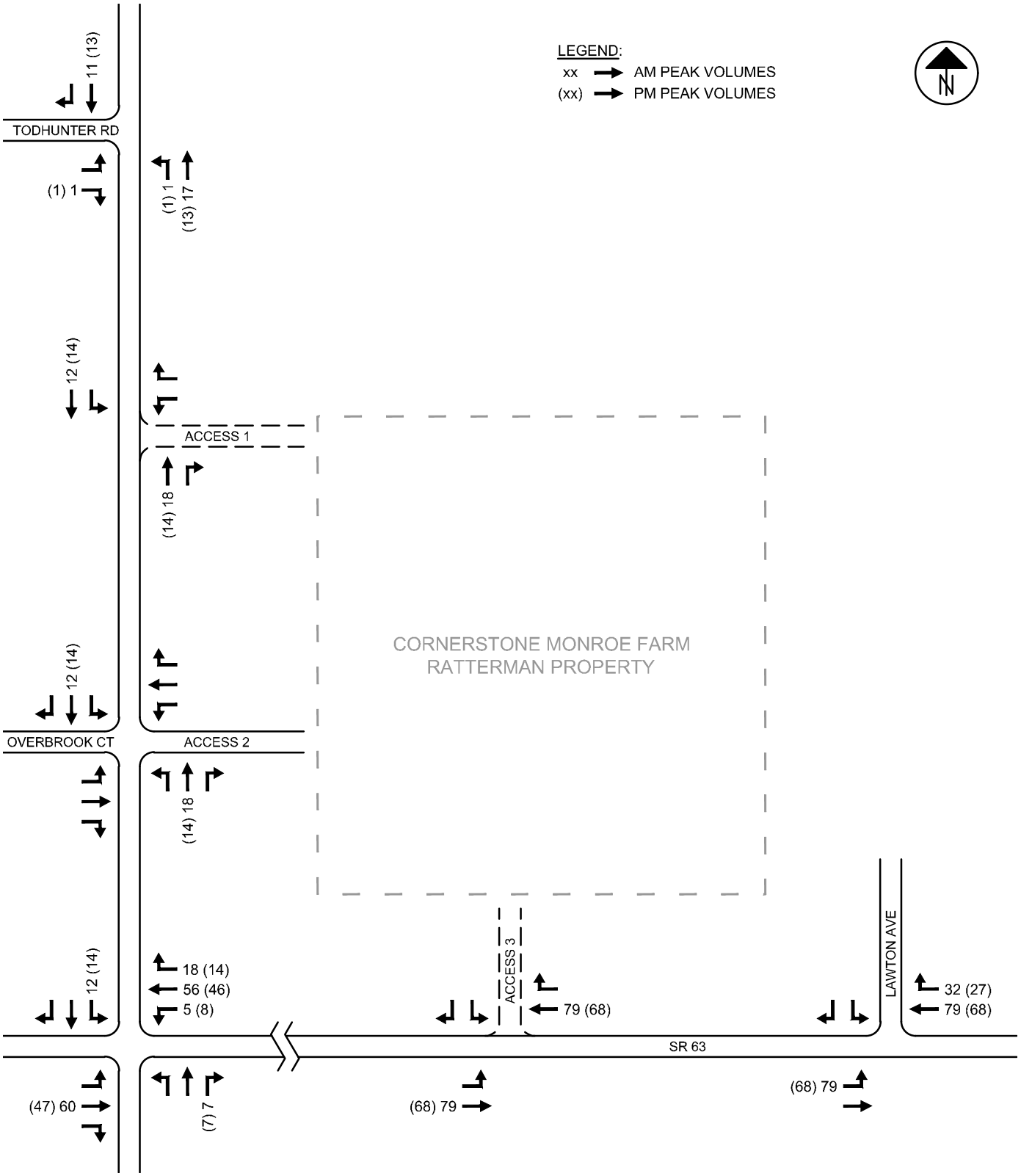

2047 BACKGROUND TRAFFIC VOLUMES

FIGURE 4B
JUNE 9, 2025




**WAWA PASS-BY TRIPS**

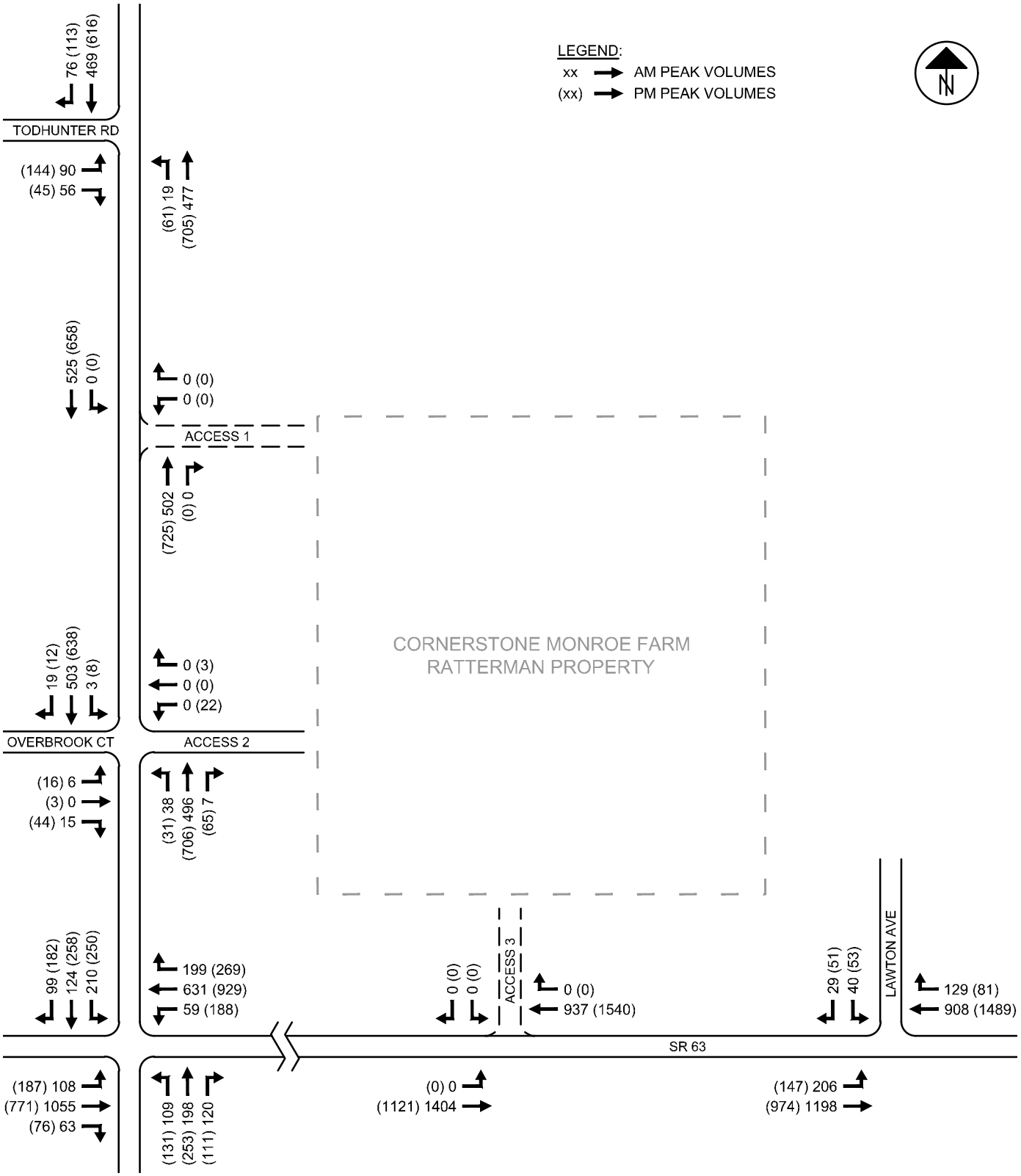
**FIGURE 4C**
**JUNE 9, 2025**




**WAWA PRIMARY TRIPS**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

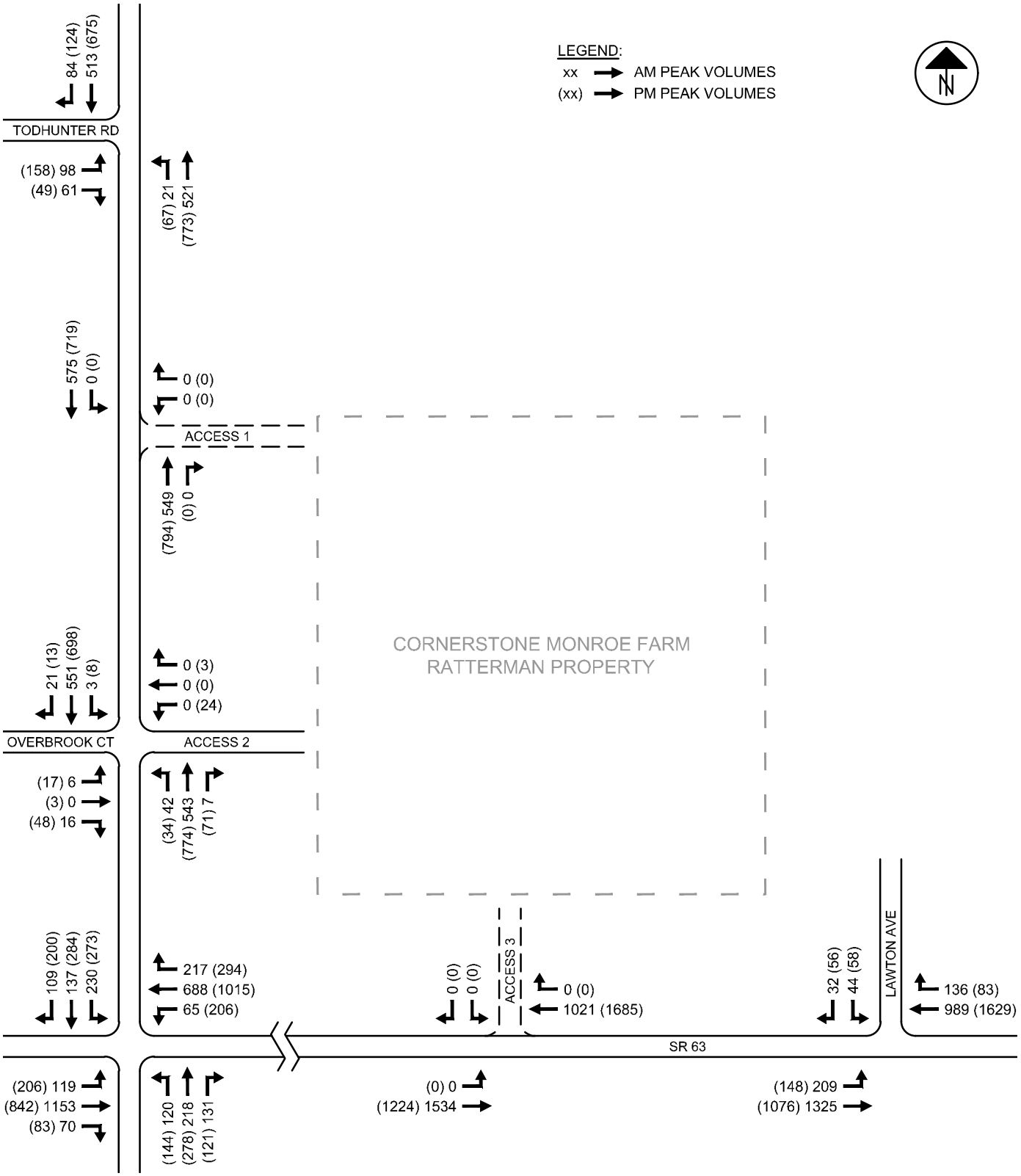
**FIGURE 4D**
**JUNE 9, 2025**



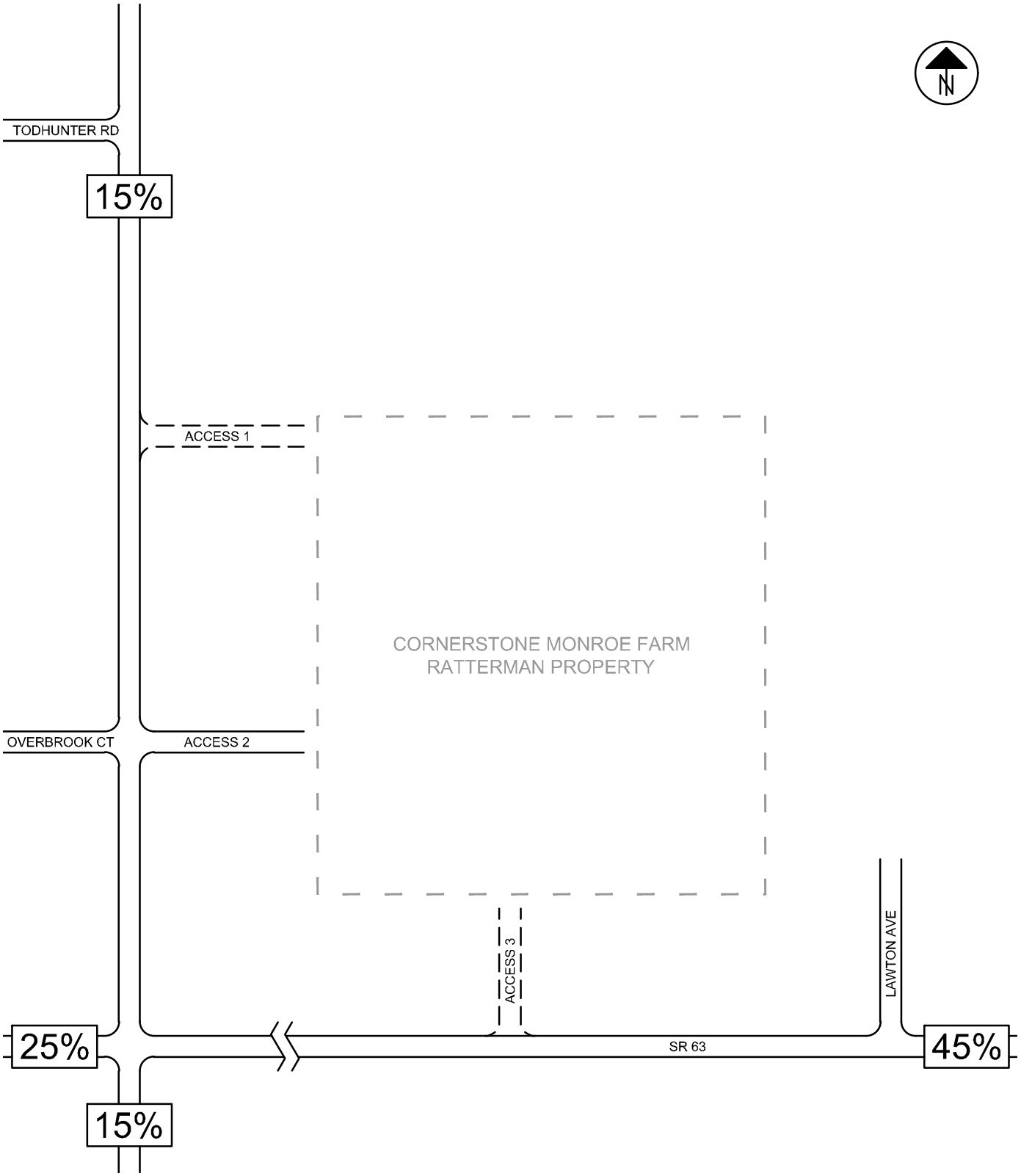

**2027 NO-BUILD TRAFFIC VOLUMES**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

**FIGURE 4E**
**JUNE 9, 2025**



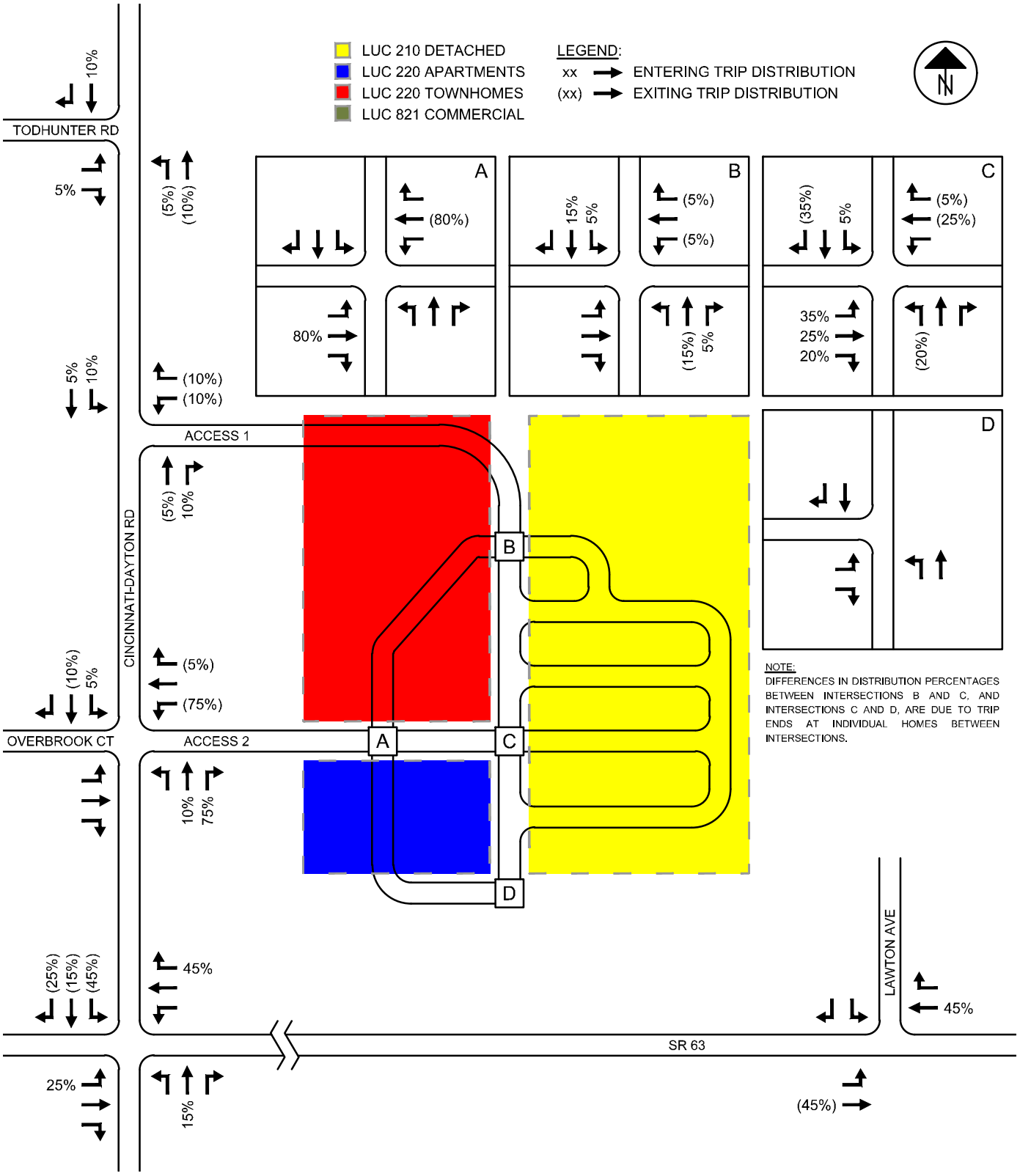

**2047 NO-BUILD TRAFFIC VOLUMES**




**REGIONAL TRIP DISTRIBUTION**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

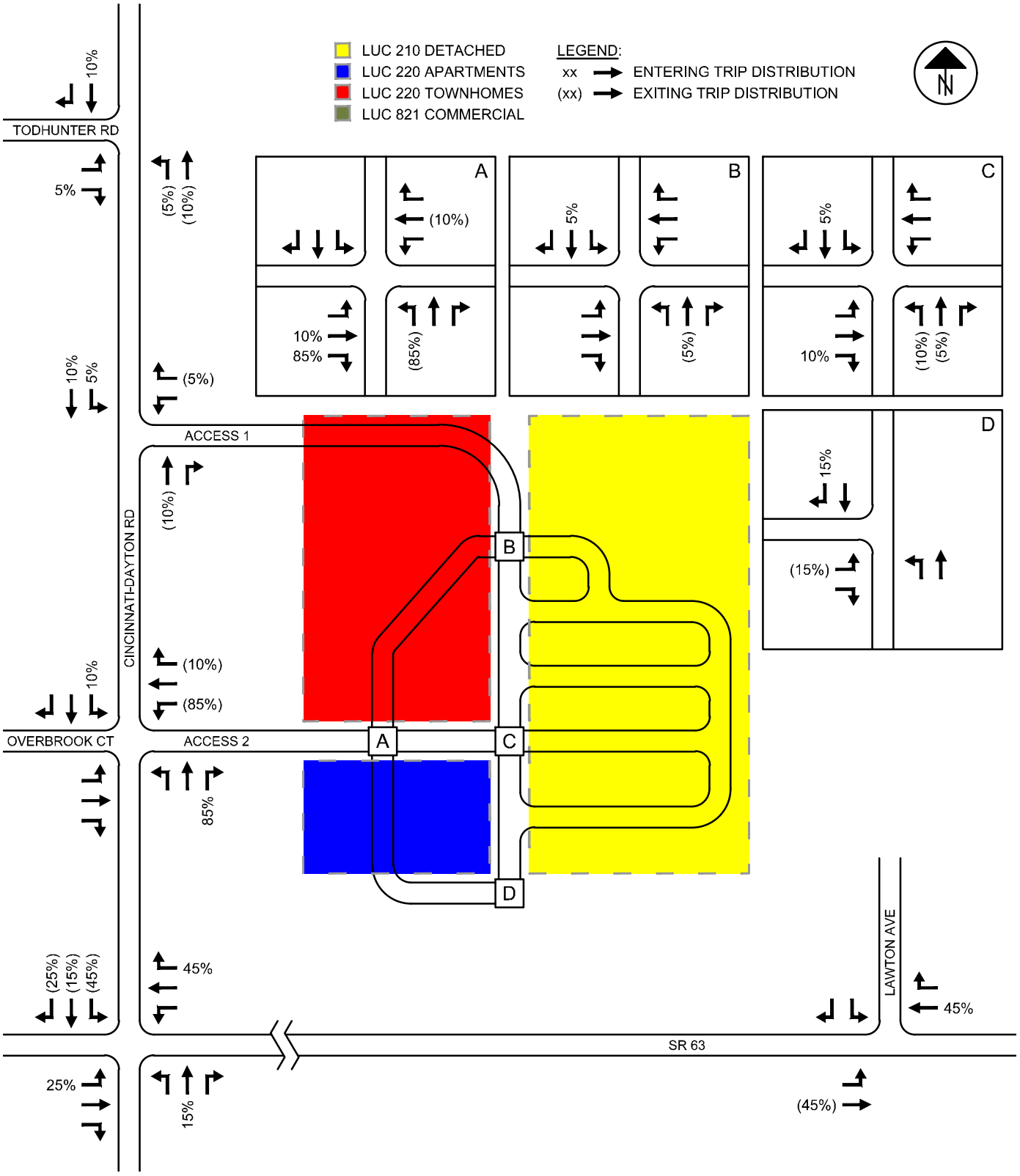
**FIGURE 4G**
**JUNE 9, 2025**



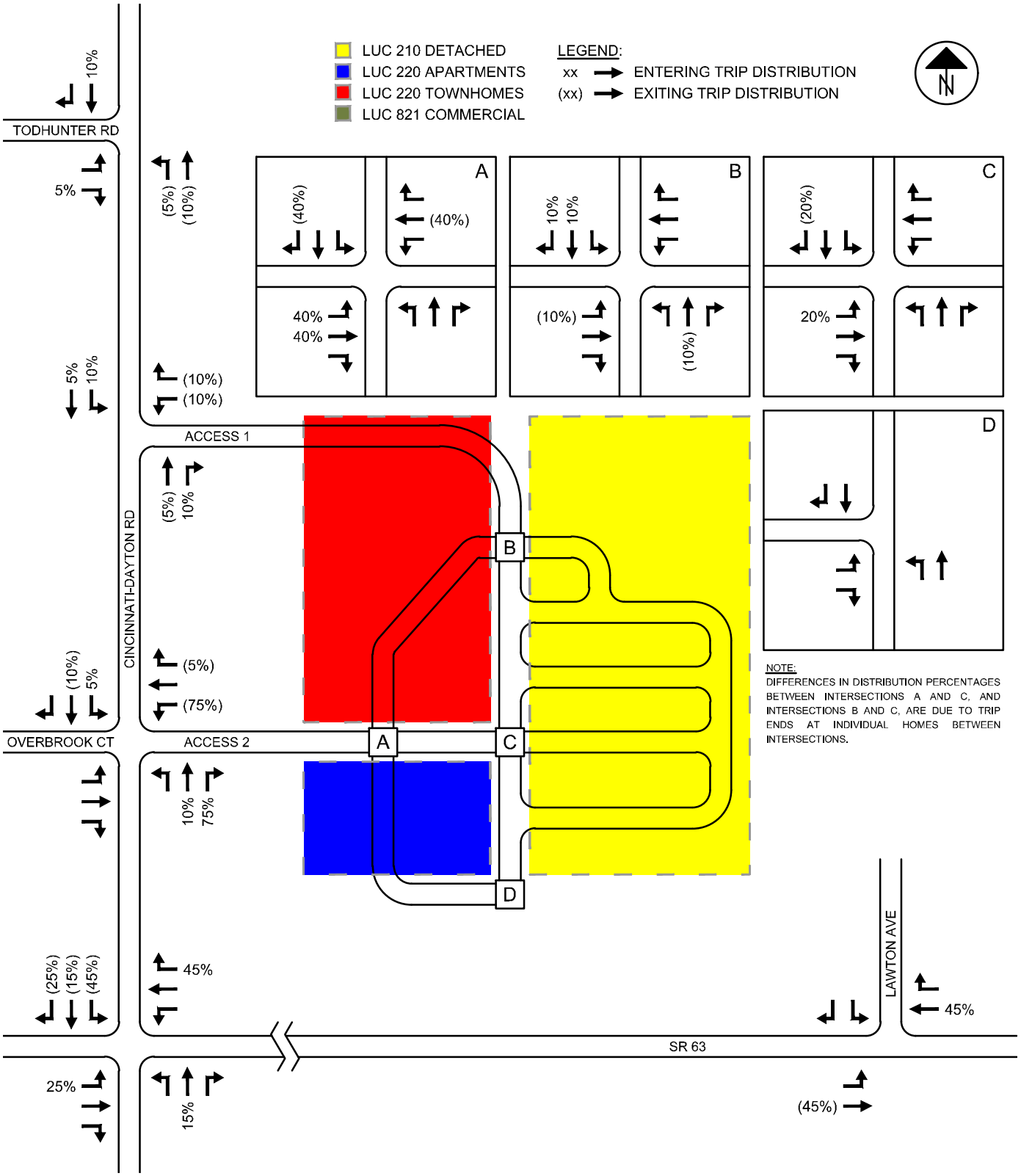

**TRIP DISTRIBUTION - SCENARIO 1 (DETACHED HOUSING)**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

**FIGURE 5A**
**JUNE 9, 2025**



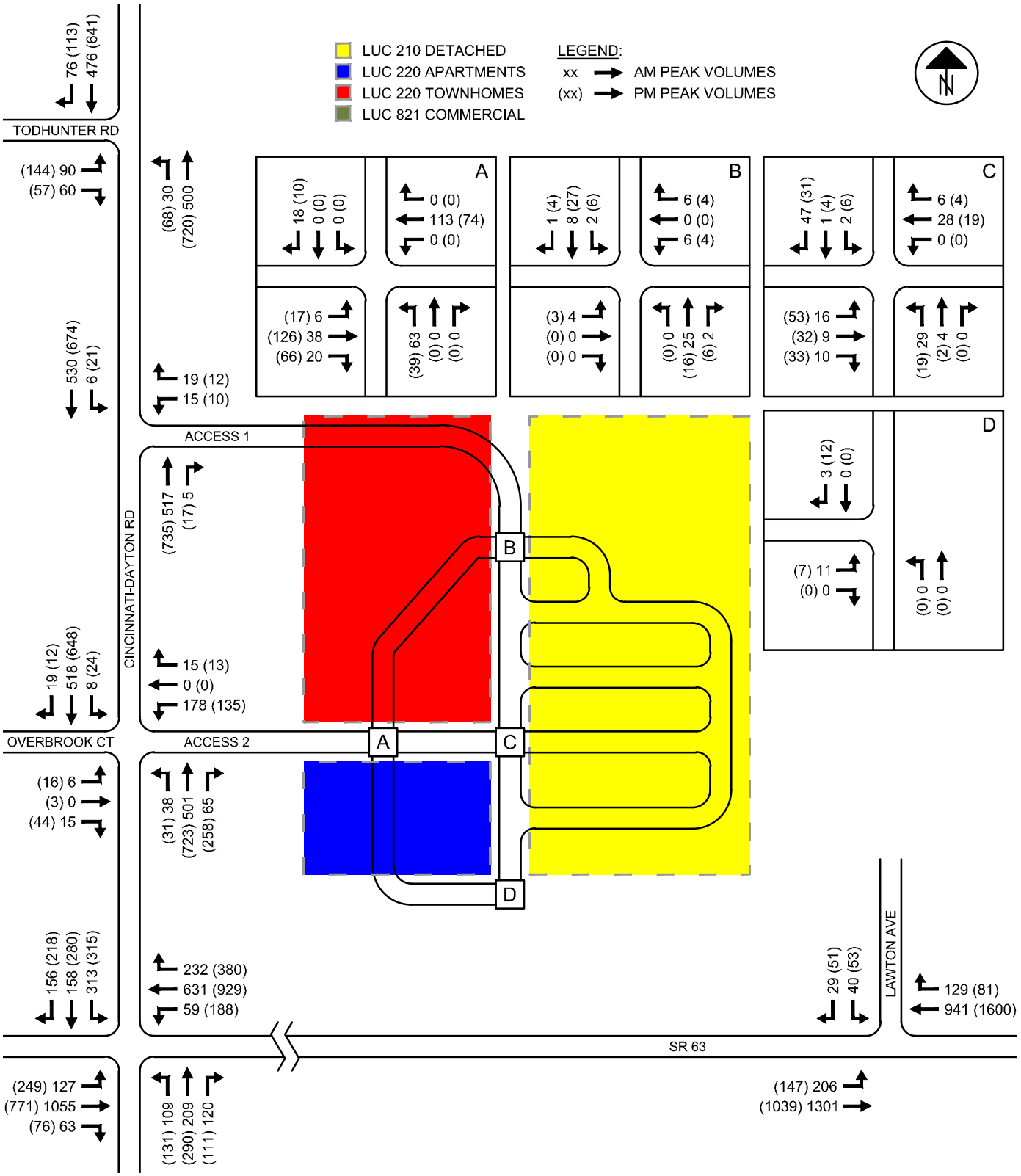

TRIP DISTRIBUTION - SCENARIO 1 (APARTMENTS)



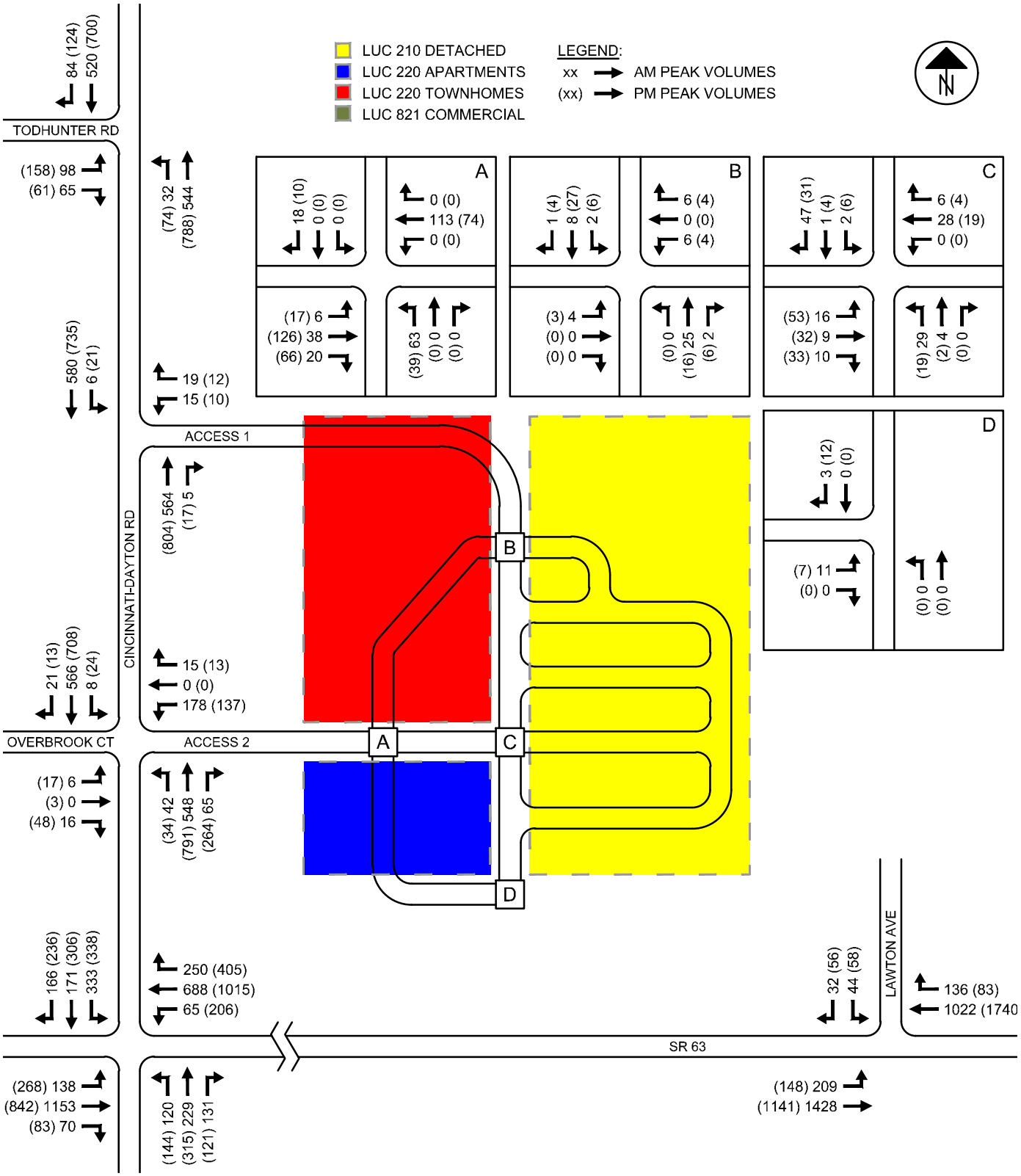

**TRIP DISTRIBUTION - SCENARIO 1 (TOWNHOMES)**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

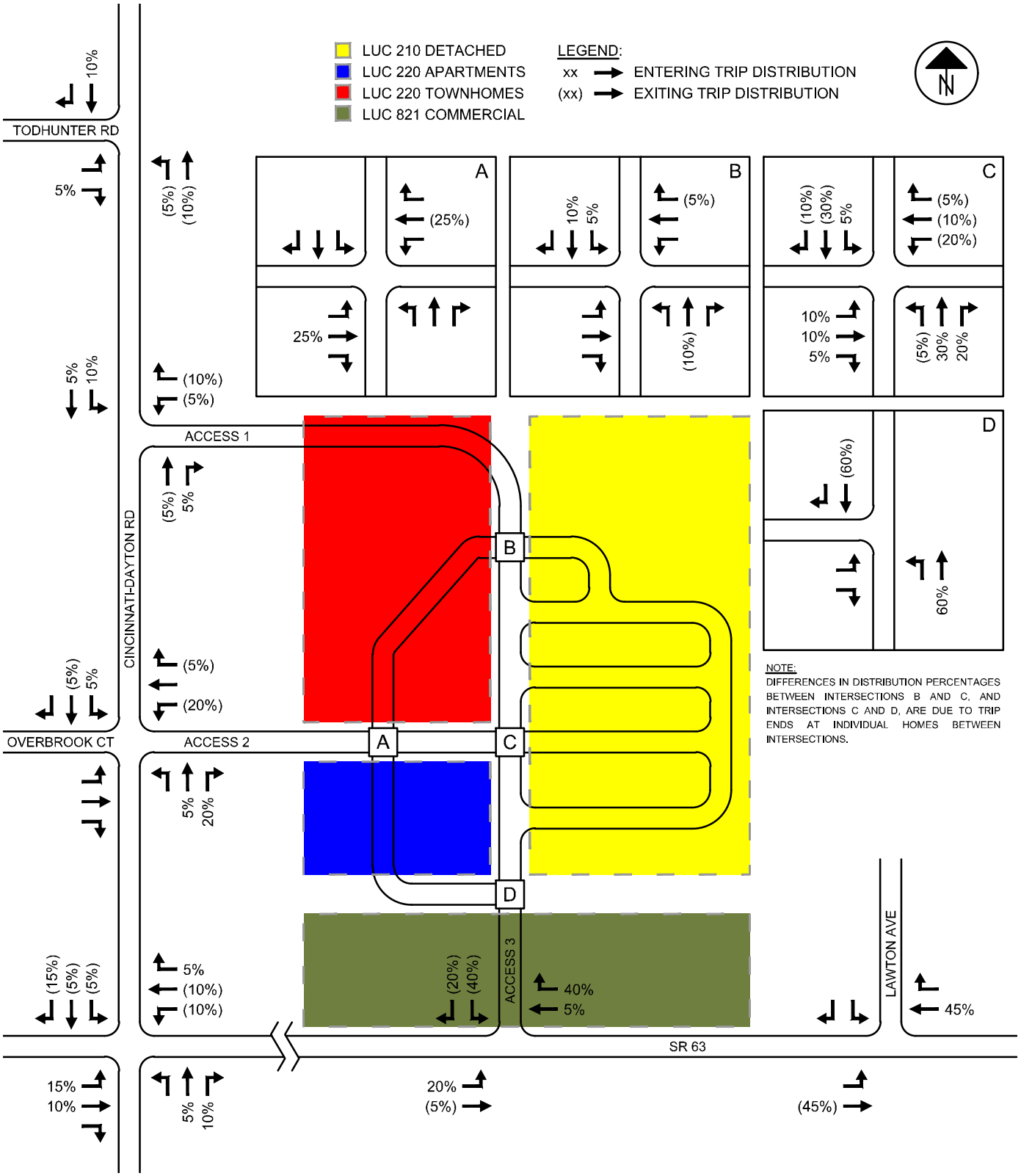
**FIGURE 5C**
**JUNE 9, 2025**



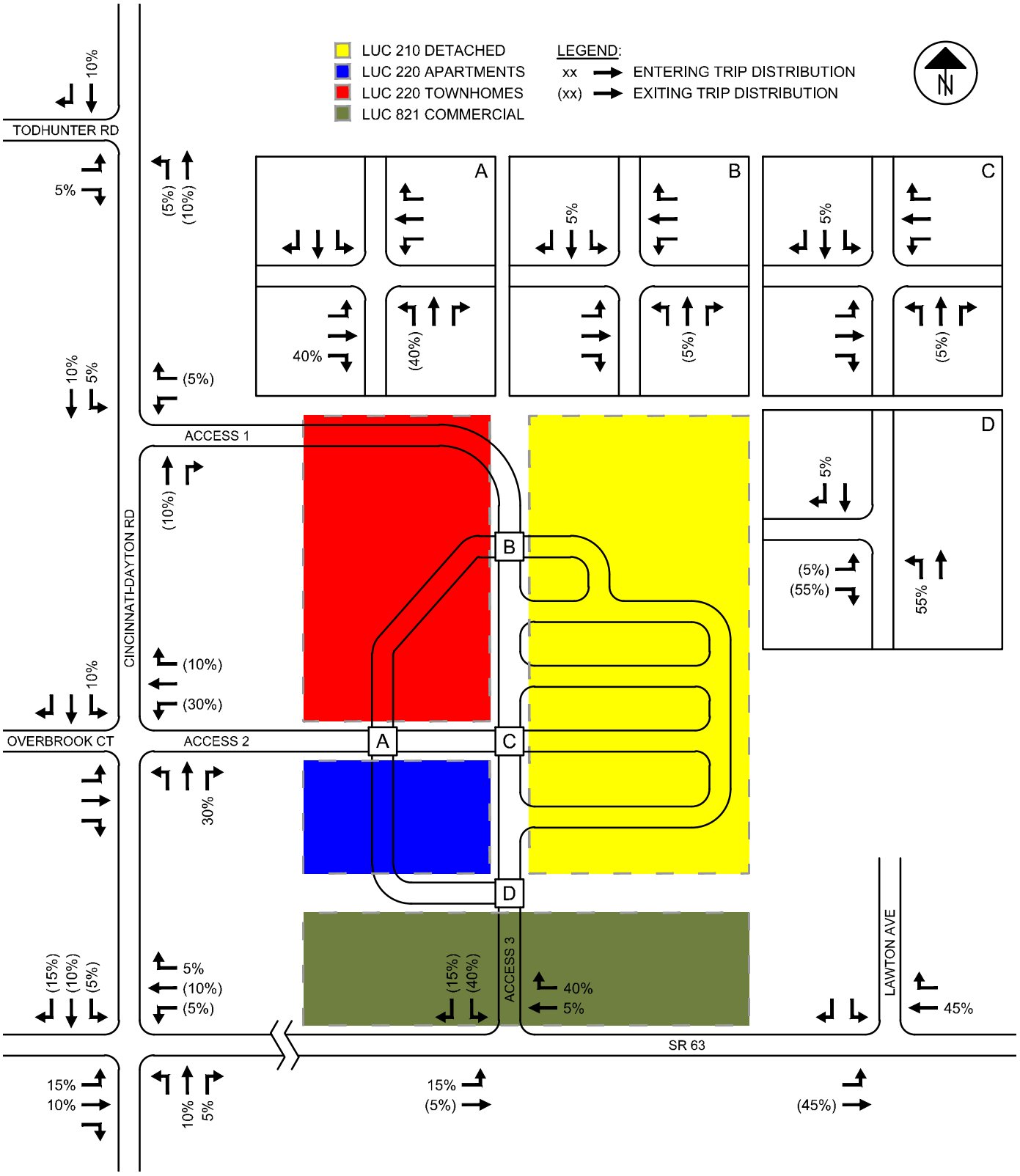

2027 BUILD TRAFFIC VOLUMES - SCENARIO 1



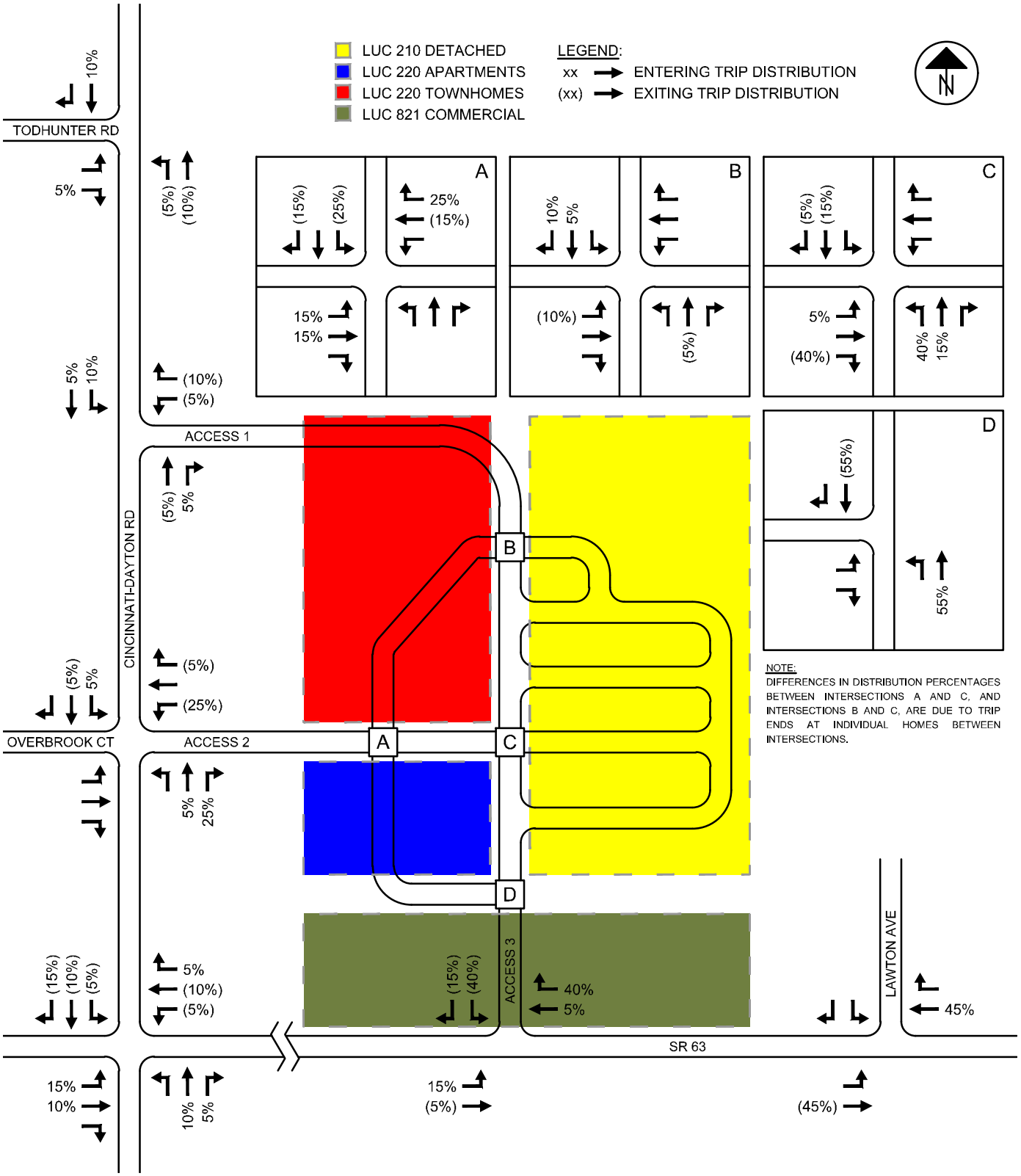

**2047 BUILD TRAFFIC VOLUMES - SCENARIO 1**




**TRIP DISTRIBUTION - SCENARIO 2 (DETACHED HOUSING)**



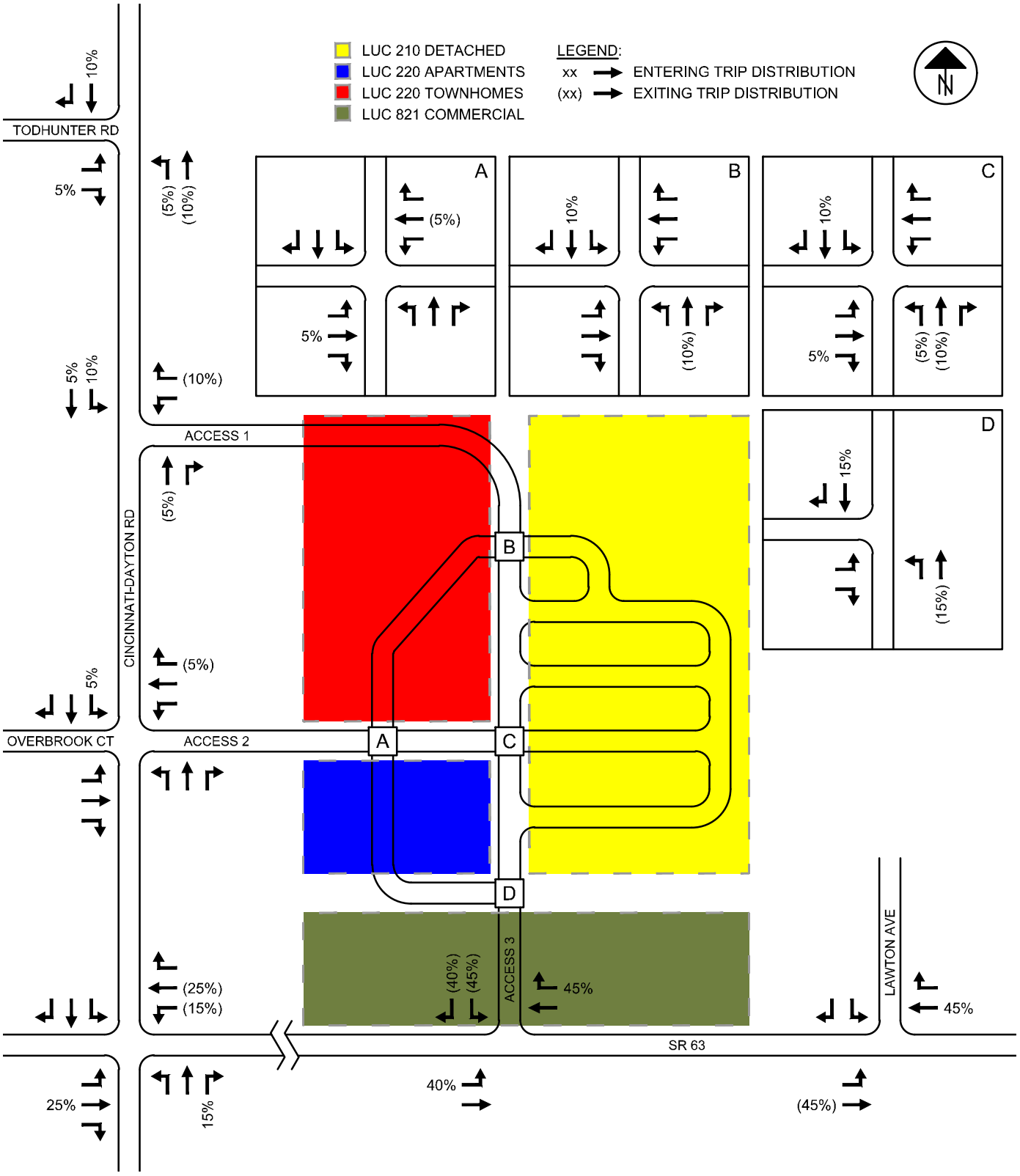

TRIP DISTRIBUTION - SCENARIO 2 (APARTMENTS)




**TRIP DISTRIBUTION - SCENARIO 2 (TOWNHOMES)**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

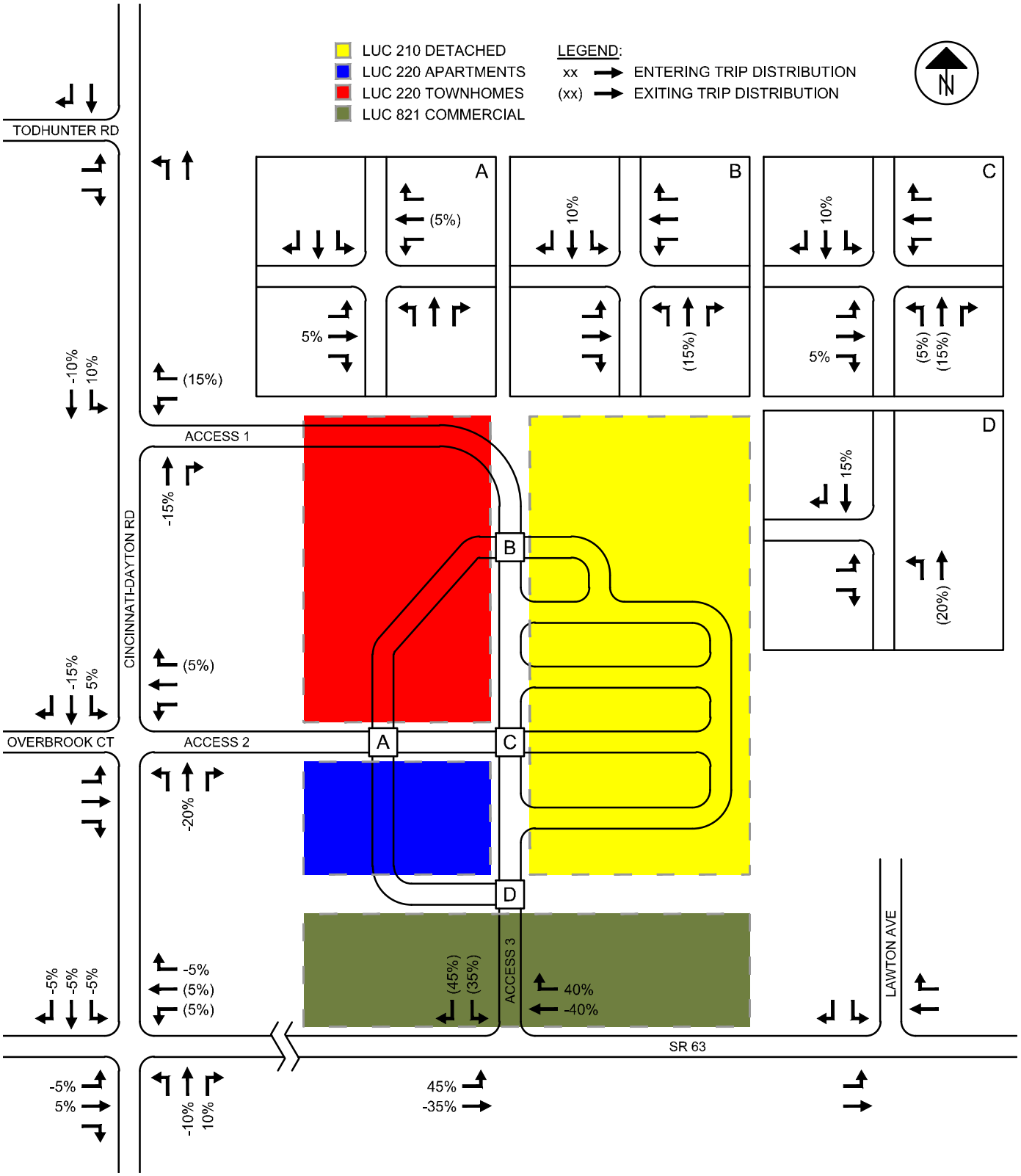
**FIGURE 6C**
**JUNE 9, 2025**



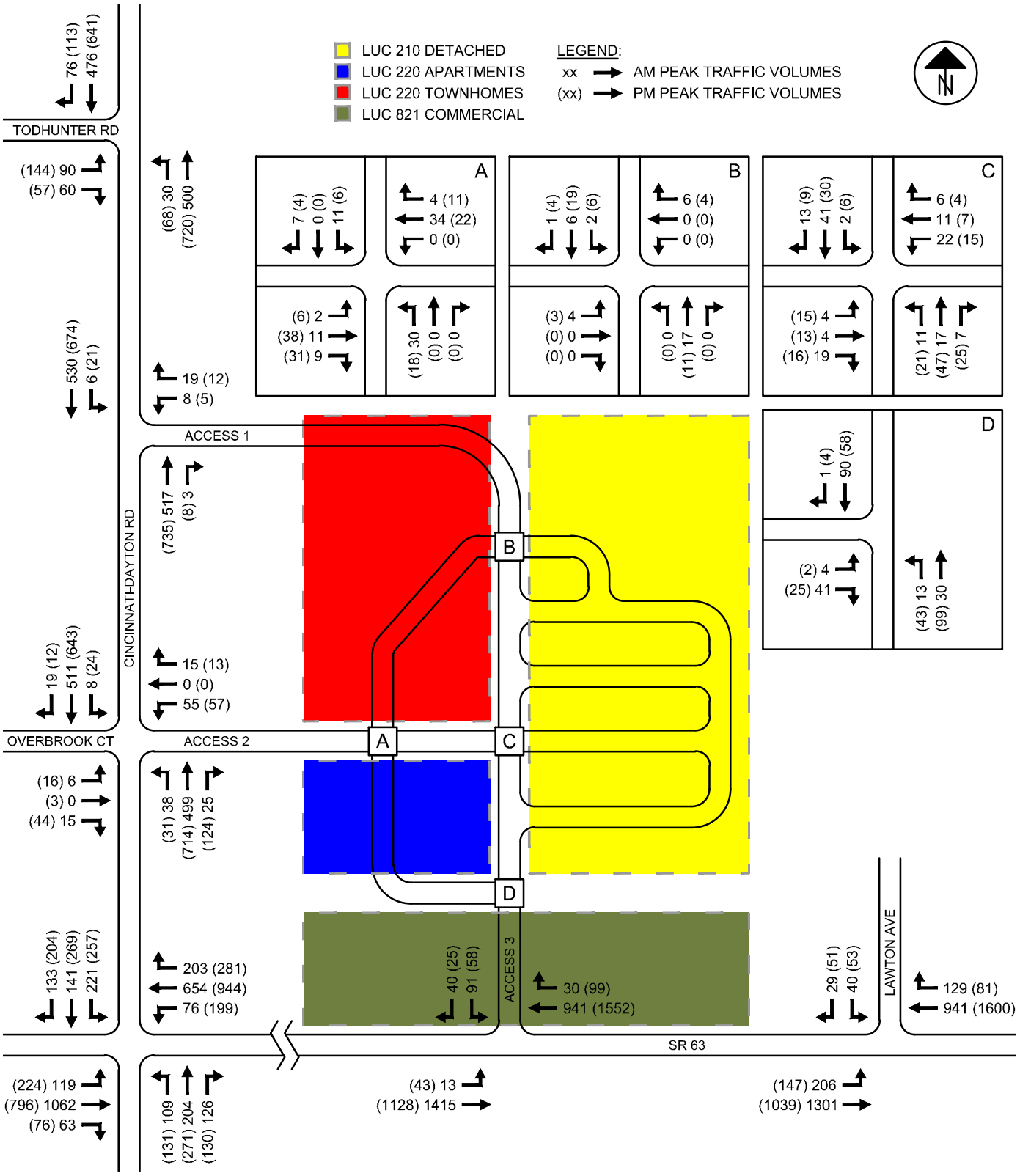

**TRIP DISTRIBUTION - SCENARIO 2 (PRIMARY COMMERCIAL)**

THE KLEINGERS GROUP
Civil Engineering ► Land Surveying ► Landscape Architecture

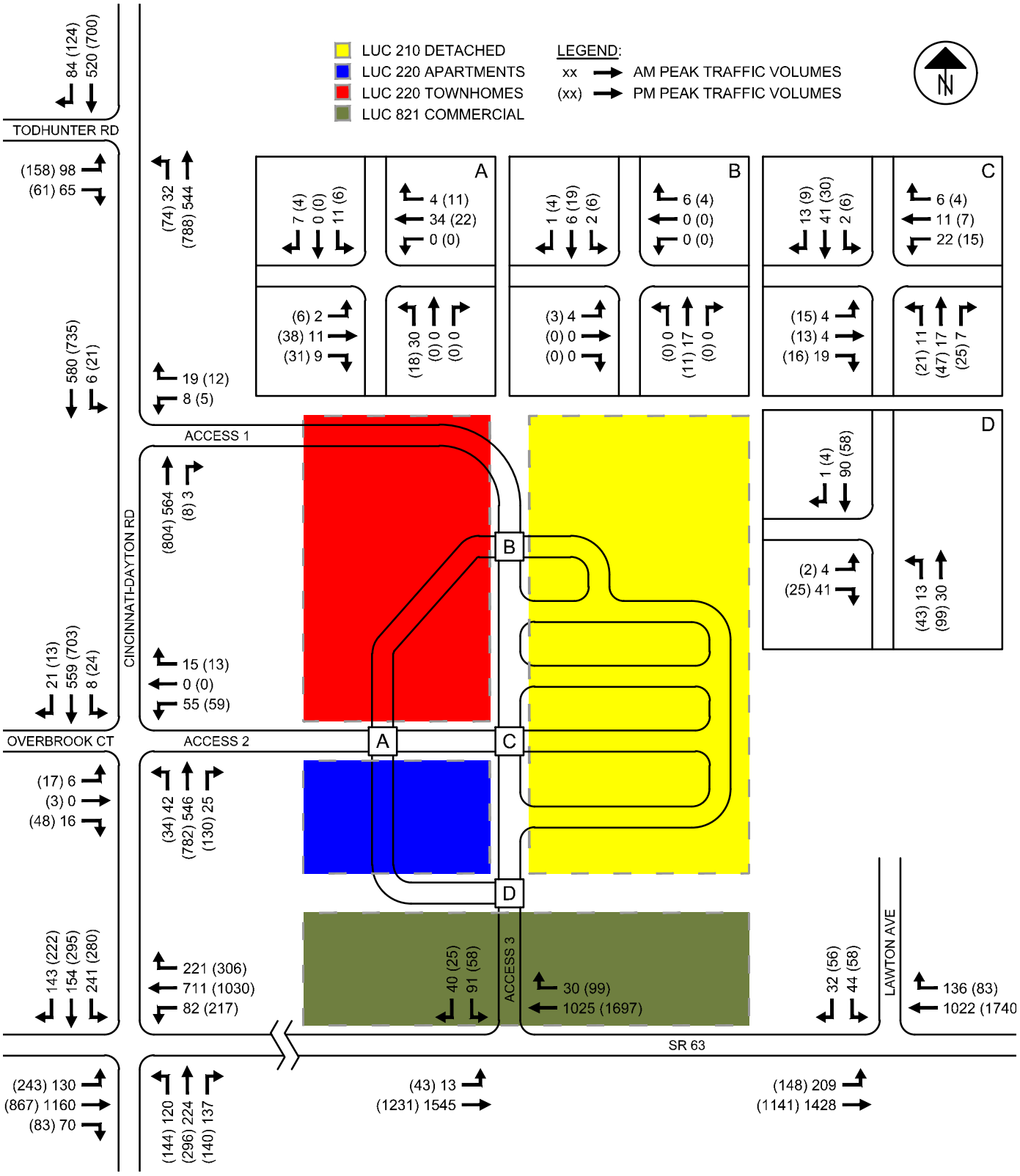
**FIGURE 6D**
**JUNE 9, 2025**



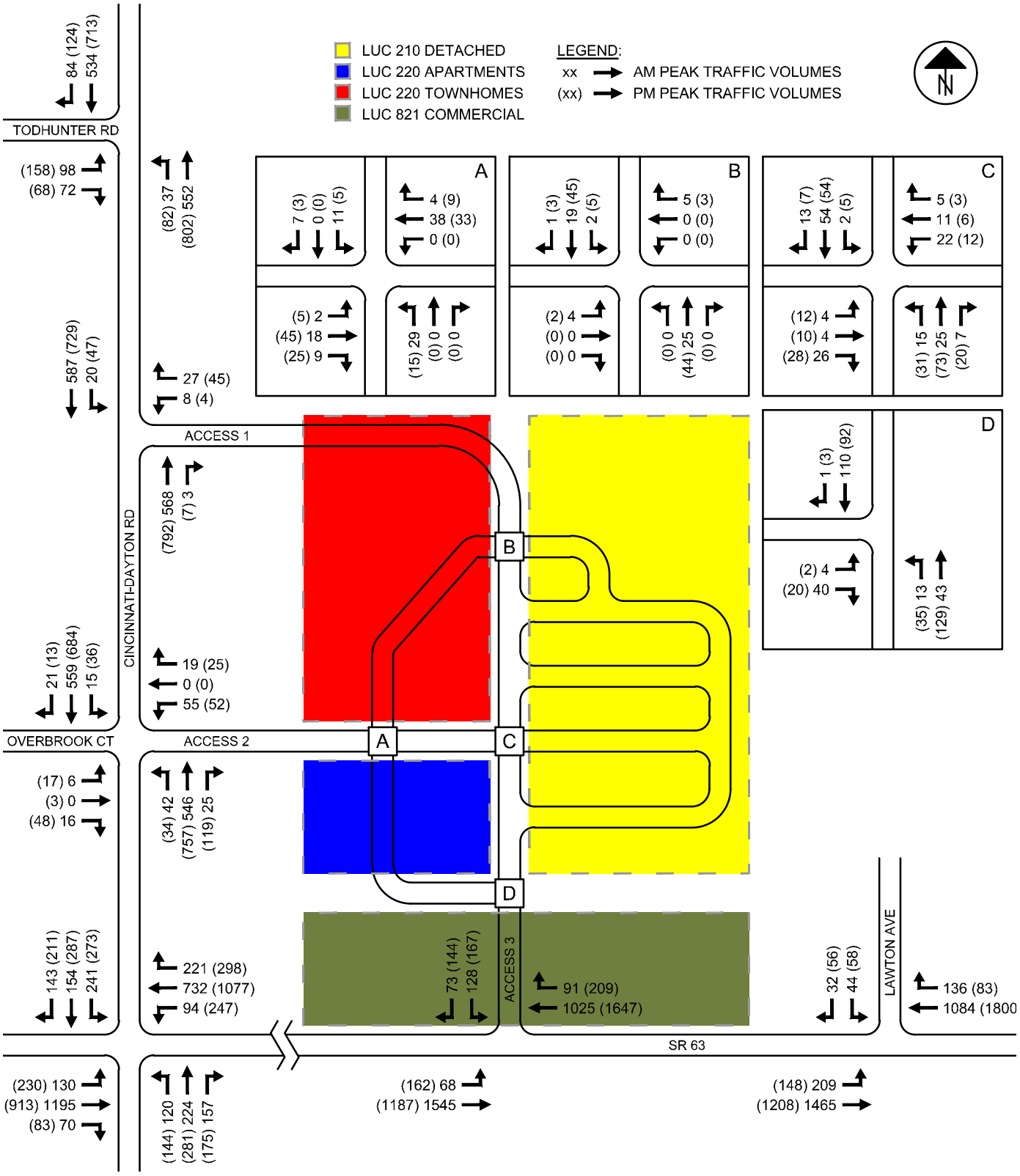

TRIP DISTRIBUTION - SCENARIO 2 (PM PASS-BY COMMERCIAL)



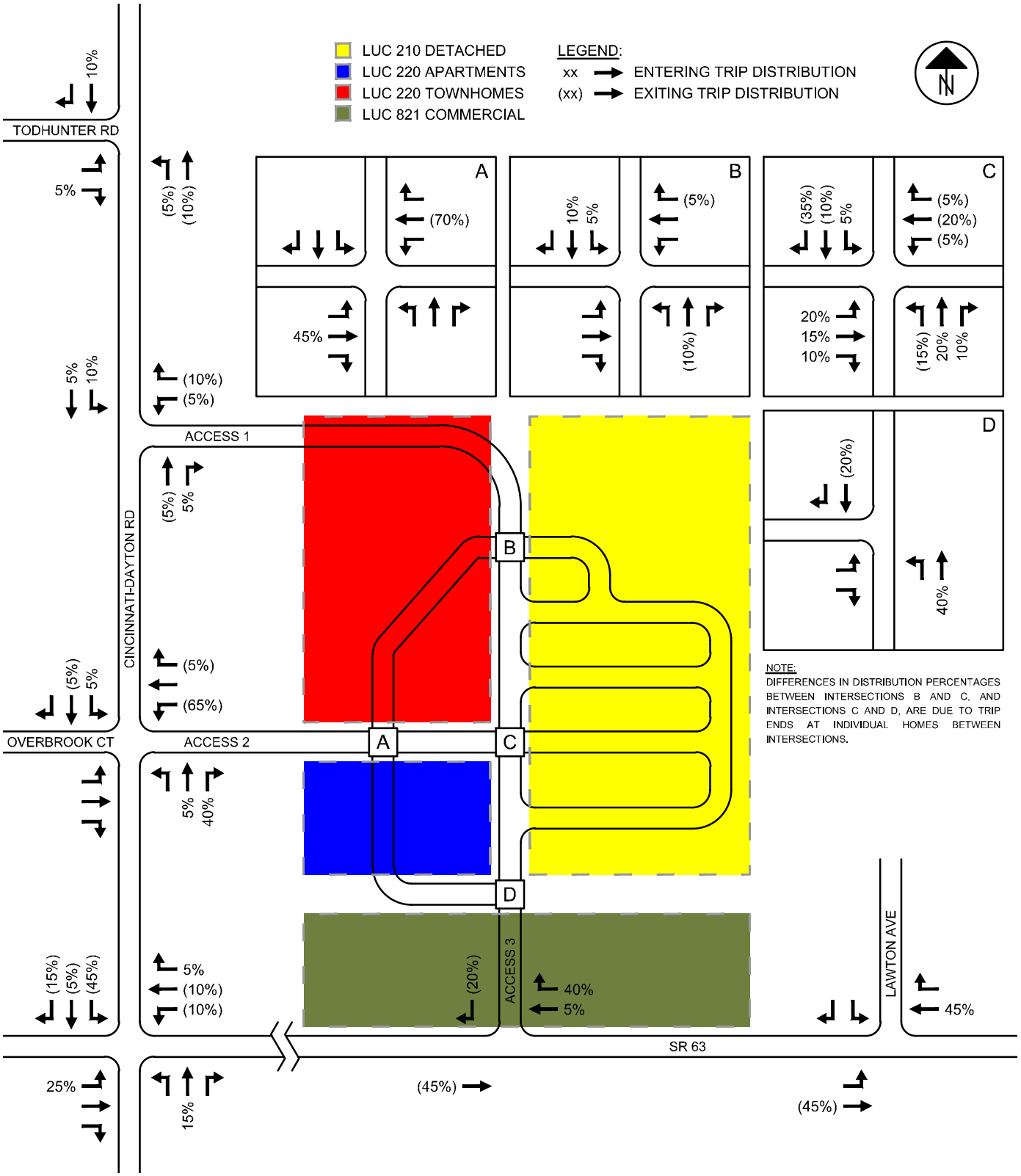

2027 BUILD TRAFFIC VOLUMES - SCENARIO 2



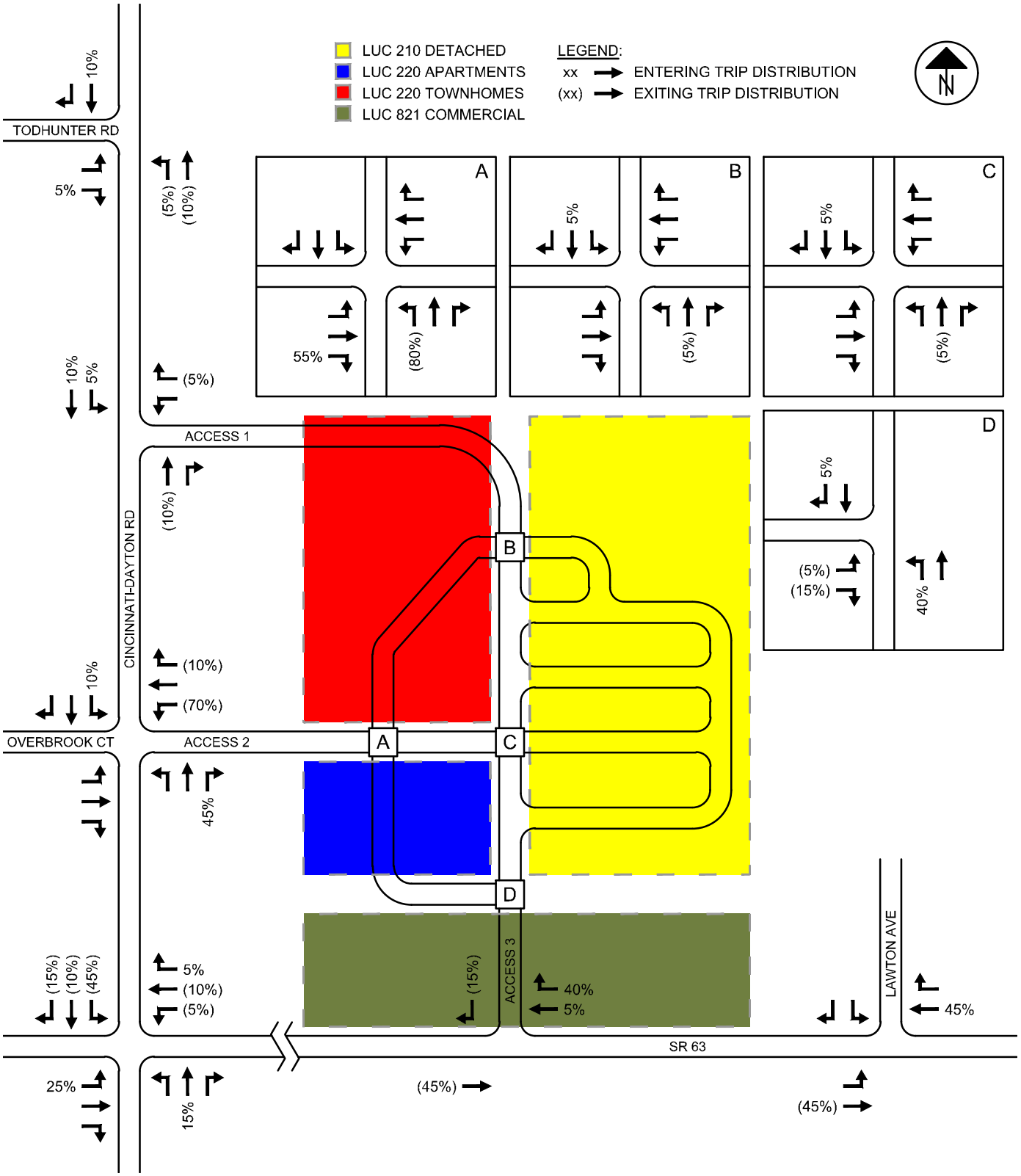

2047 BUILD TRAFFIC VOLUMES - SCENARIO 2



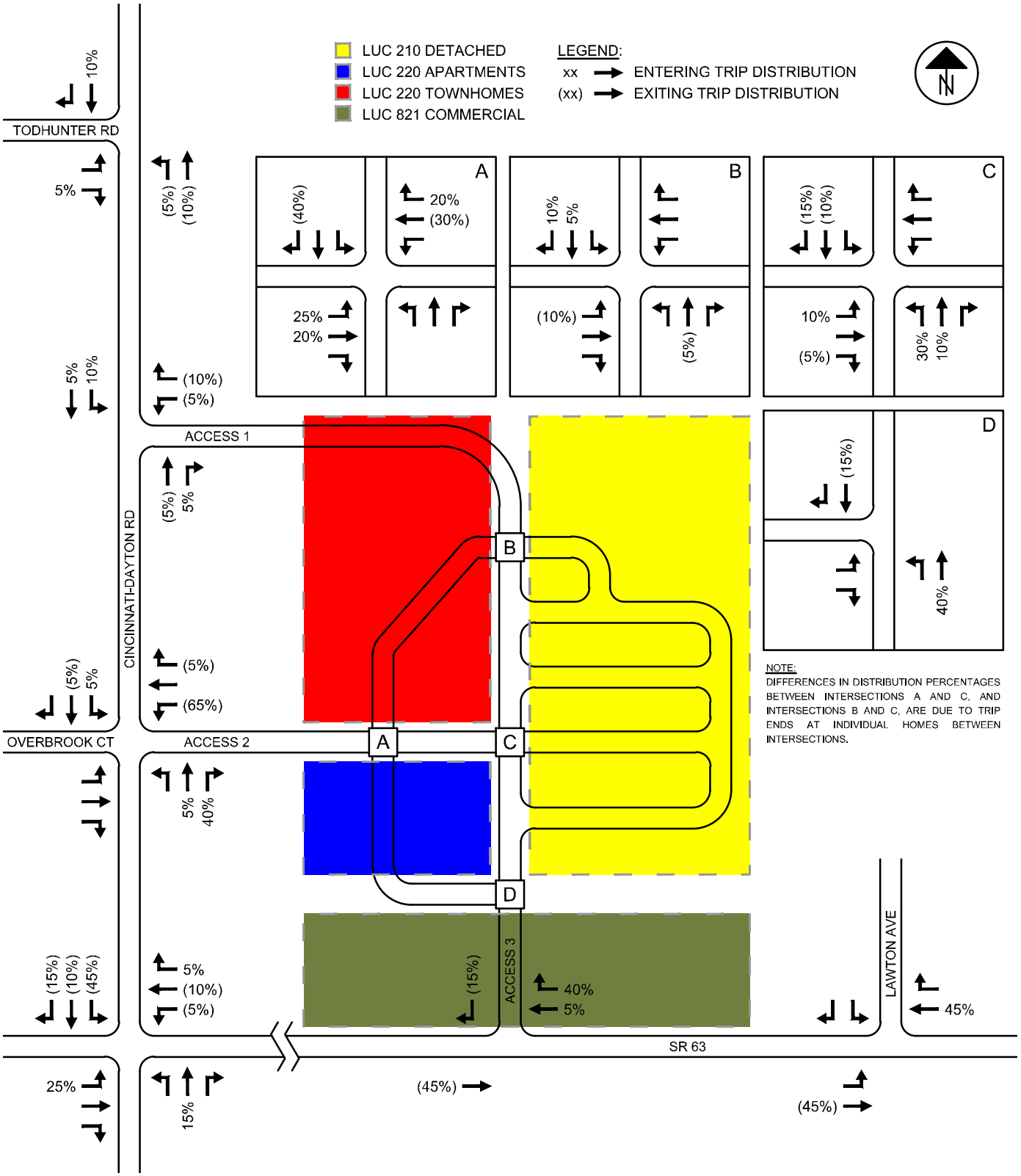

**2047 BUILD TRAFFIC VOLUMES - SCENARIO 2 WITH COMMERCIAL**



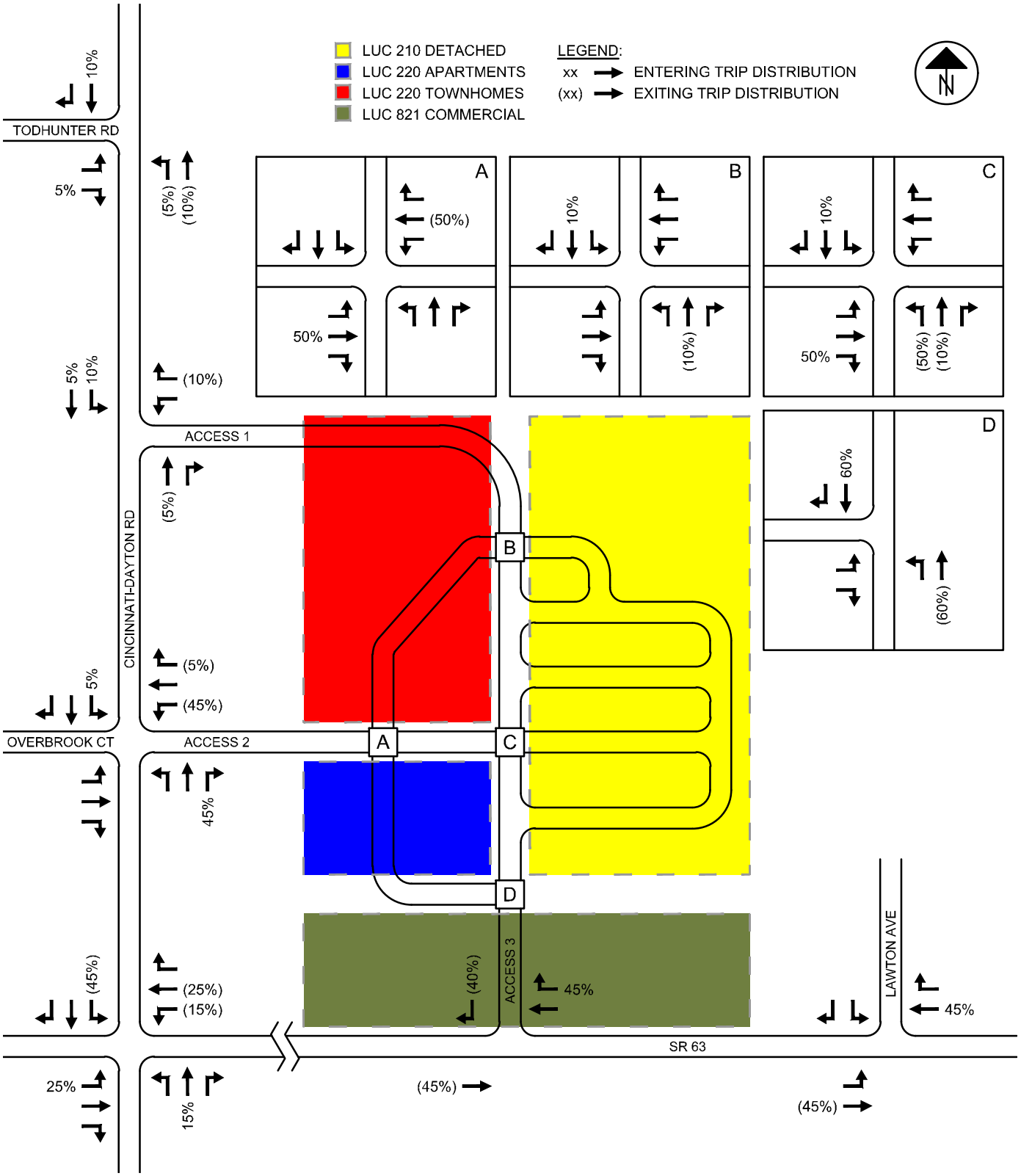

**TRIP DISTRIBUTION - SCENARIO 3 (DETACHED HOUSING)**



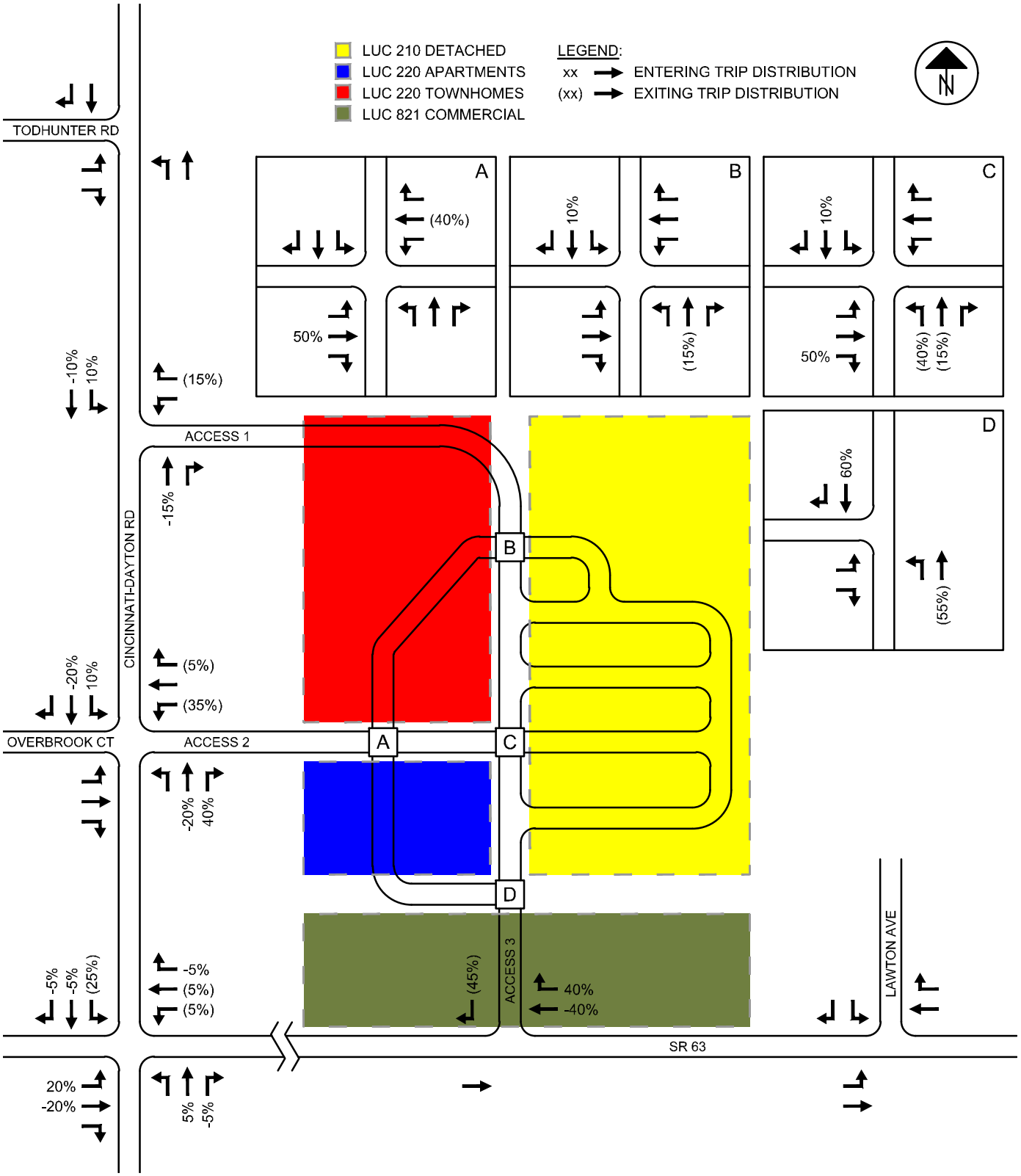

TRIP DISTRIBUTION - SCENARIO 3 (APARTMENTS)



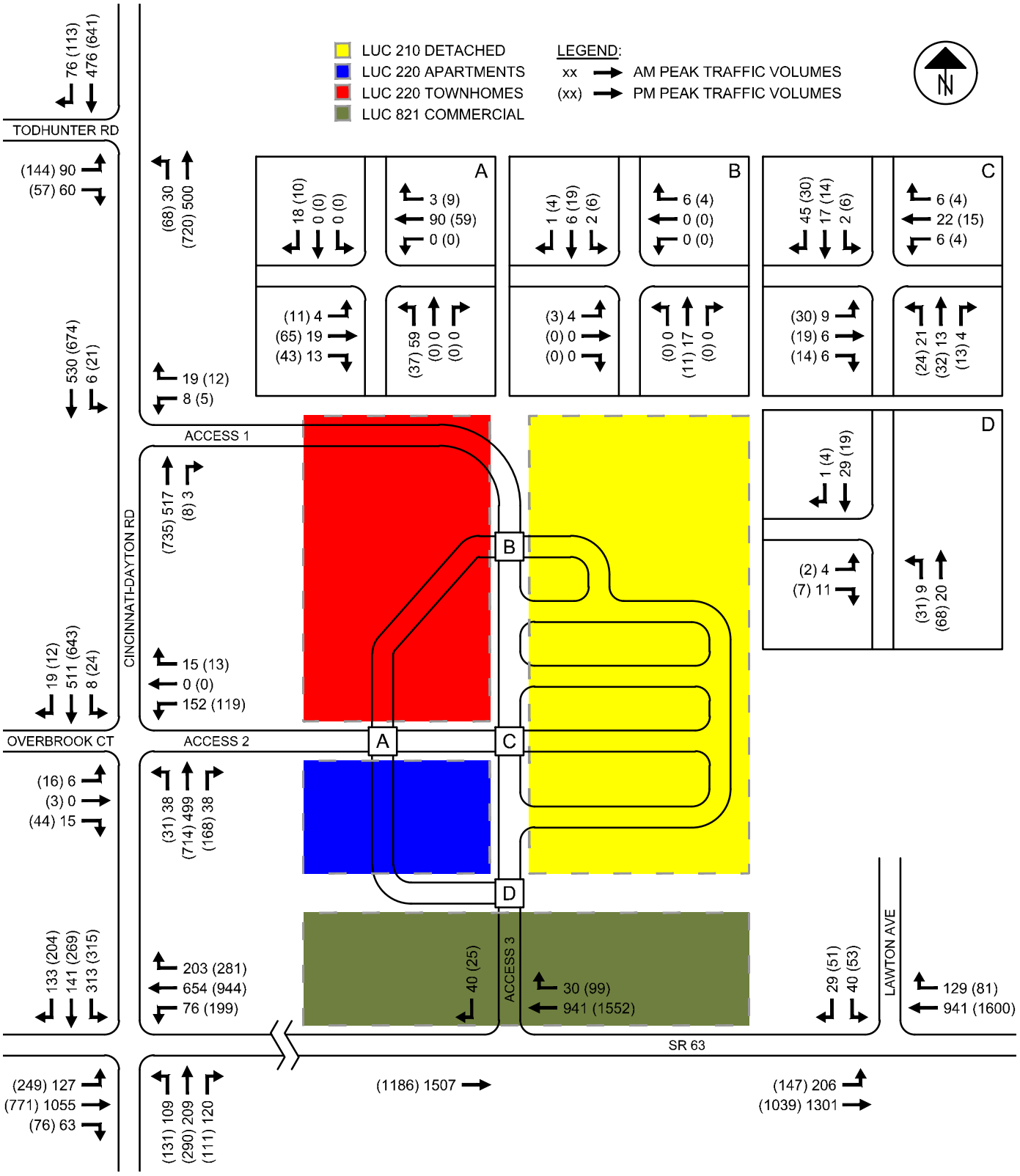

**TRIP DISTRIBUTION - SCENARIO 3 (TOWNHOMES)**



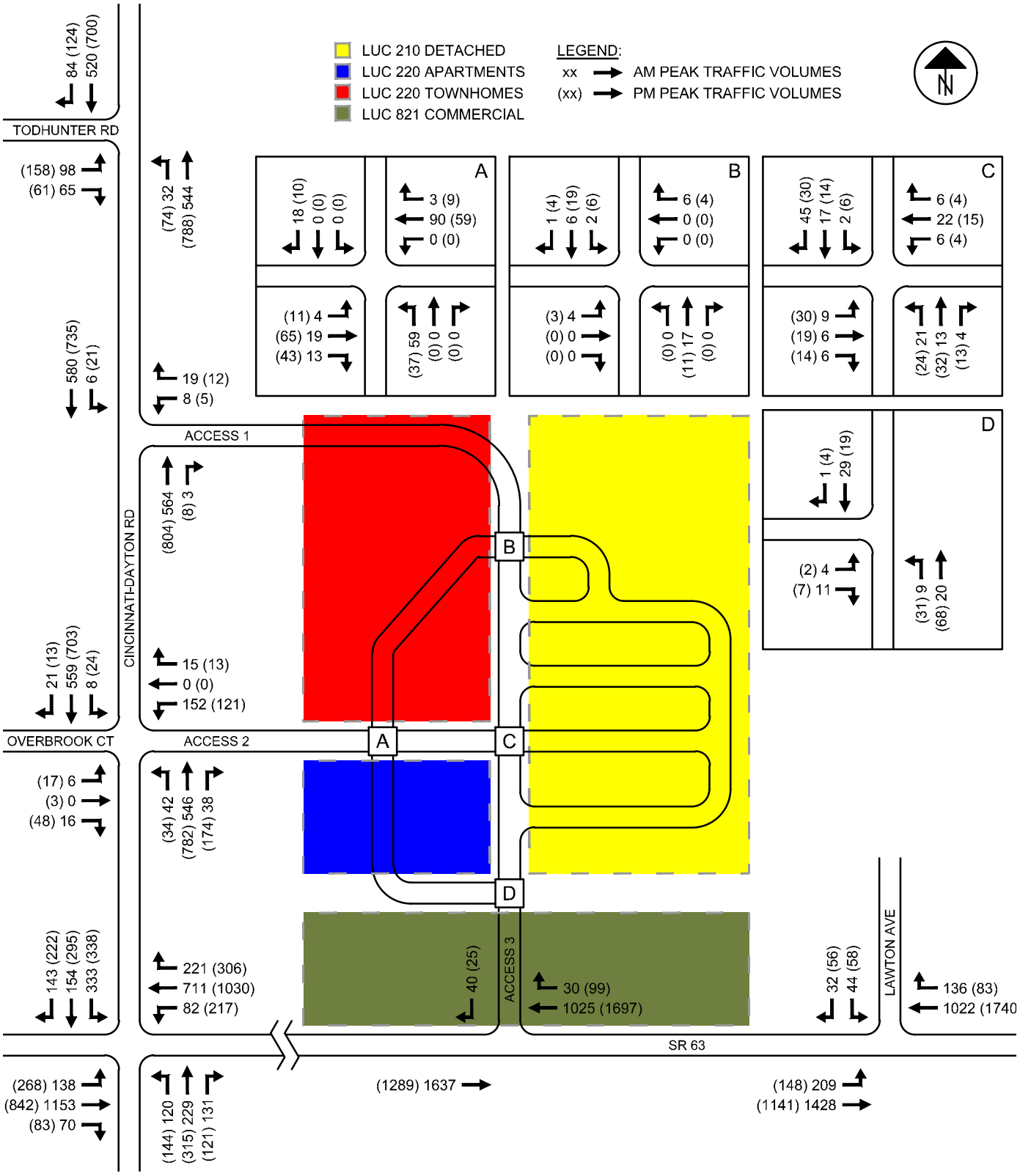

TRIP DISTRIBUTION - SCENARIO 3 (PRIMARY COMMERCIAL)



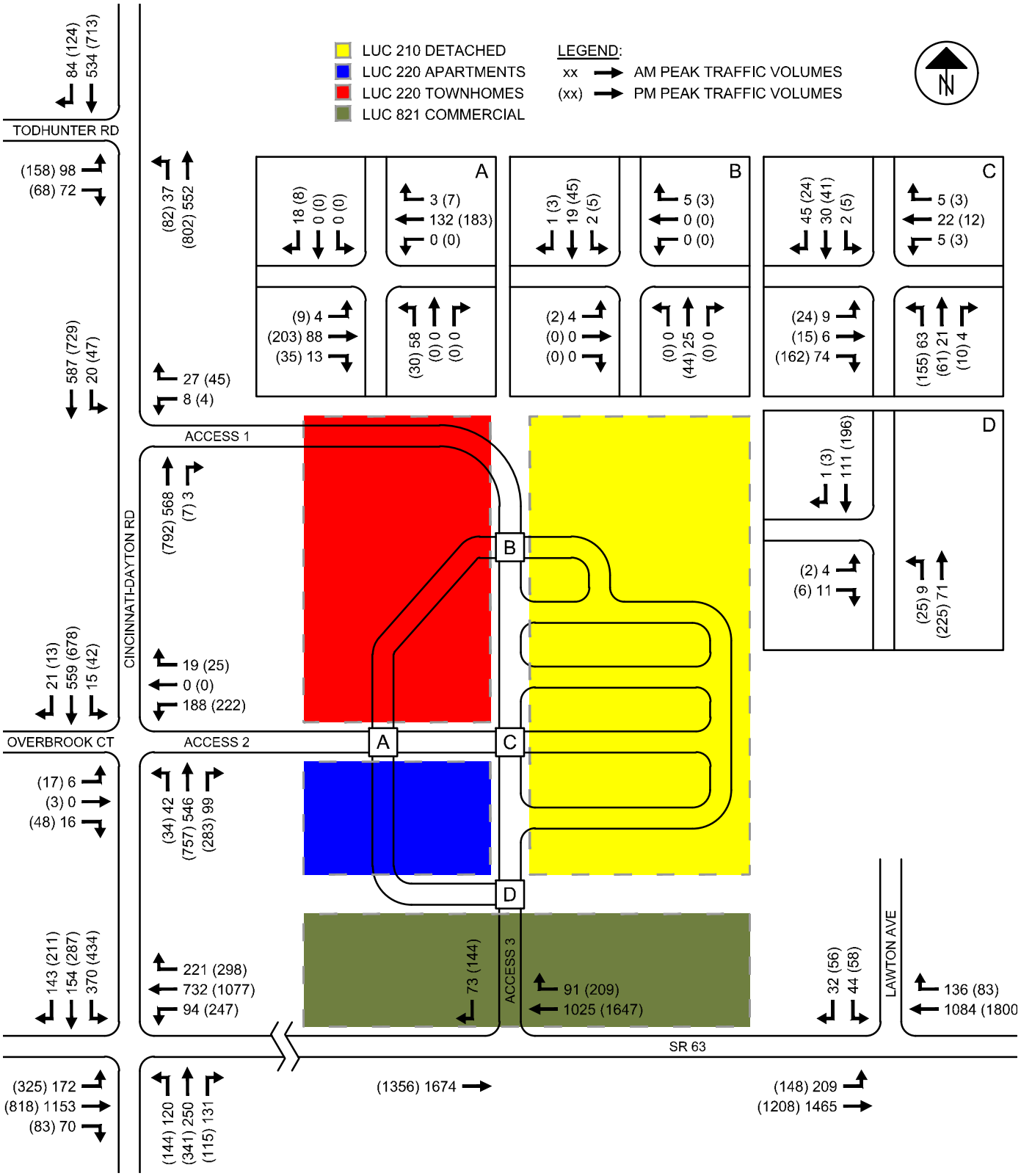

TRIP DISTRIBUTION - SCENARIO 3 (PM PASS-BY COMMERCIAL)



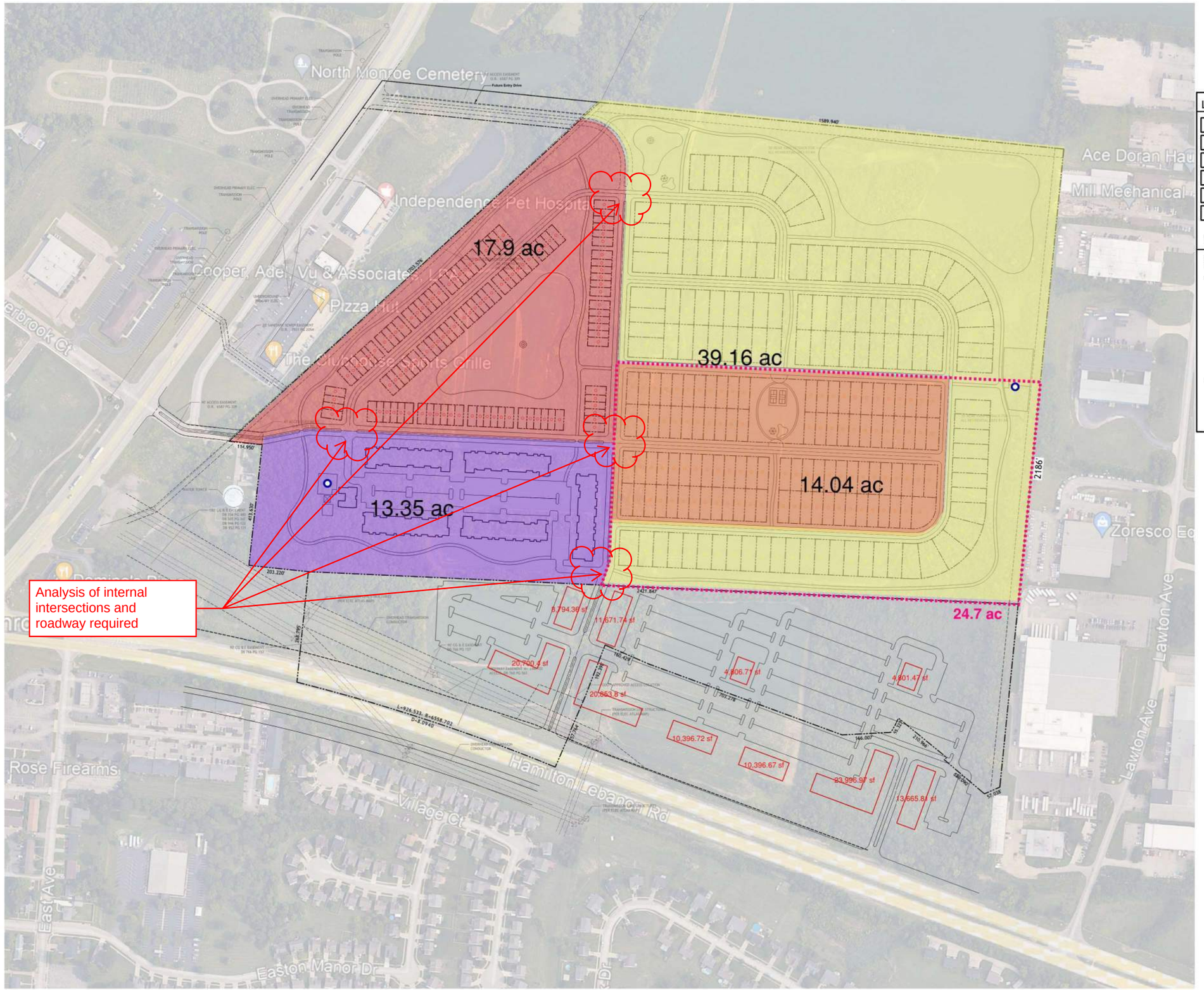

2027 BUILD TRAFFIC VOLUMES - SCENARIO 3




2047 BUILD TRAFFIC VOLUMES - SCENARIO 3




**2047 BUILD TRAFFIC VOLUMES - SCENARIO 3 WITH COMMERCIAL**




0 75 150 300
37.5 112.5 225
SCALE: 1"=150'

## LEGEND

- OPEN SPACE/ TRAIL
- SINGLE FAMILY HOMES
- SINGLE FAMILY HOMES
- TOWNHOMES
- MULTI-FAMILY
- RIGHT-OF WAY

## SITE SUMMARY

| | |
|---|---|
| LOT SIZE: | ±84.54 AC |
| ZONING: | C-2 GENERAL COMMERCIAL DISTRICT<br>L-1 LIGHT INDUSTRIAL DISTRICT |
| UNITS: | 240 UNITS - 3 STORY MULTI-FAMILY<br>48 UNITS / BUILDING |
| | 111 TOWNHOMES<br>END LOT SIZE = 30'X70' = 2,100 SF<br>MIDDLE LOT SIZE = 24'X70' = 1,680 SF |
| | 99 SINGLE FAMILY HOMES (SFH)<br>AVG. LOT SIZE = 38'X110'<br>4,180 SF., 0.06 AC |
| | 111 SINGLE FAMILY HOMES (SFH)<br>AVG. LOT SIZE = 50'X120'<br>6,000 SF., 0.15 AC |
| TOTAL UNITS: | 240 MULTI-FAMILY UNITS<br>321 SINGLE FAMILY HOMES |
| | Dog Park |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DESIGN • ENGINEERING
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J2 Design Studio
Landscape Architecture | Urban Design
693 East 82nd Street
312.213.7686
Indianapolis, IN 46240
J2-designstudio.com


Project
BRIDGE DEVELOPMENT
MONROE, OH

US-63
MONROE, OH

Sheet
CONCEPTUAL
SITE PLAN

Issued for
2024.12.04 CONCEPT PLAN

Project Number
24-XXX

Sheet Number
SK-1

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G:\Shared drives\J2 Design Studio\5_Projects\Monroe OH Land Planning\5_Graphics\1_SD\x-layout-ARF.dwg // 12/5/2024 3:27:34 PM // Julie Smith

## Todhunter Rd @ Cincinnati Dayton Rd - TMC

Tue Mar 22, 2022
Full Length (5:30 AM-9 AM, 3:30 PM-7 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933800, Location: 39.457171, -84.352094

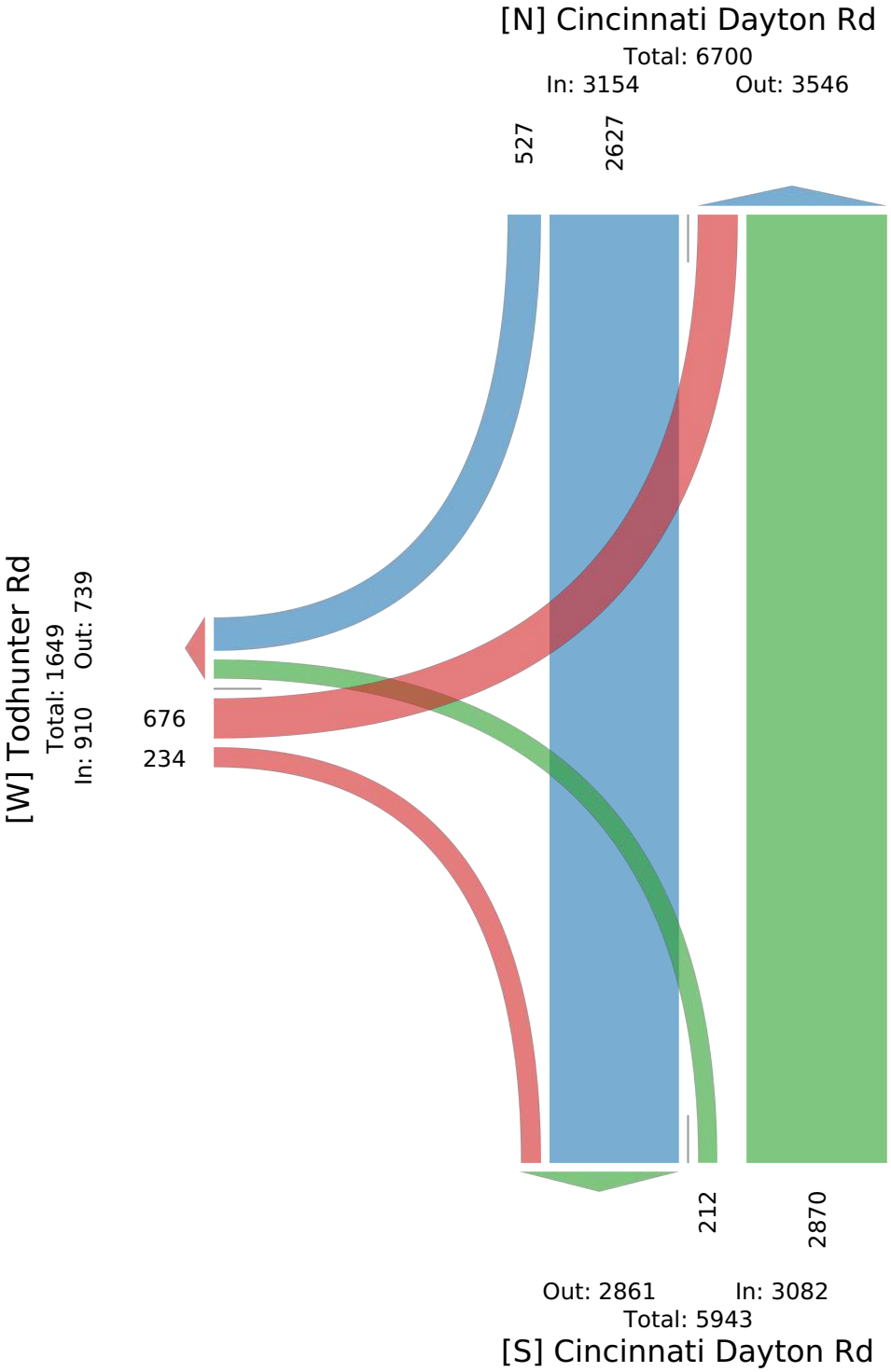
Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg / Direction | Todhunter Rd Eastbound | | | | Cincinnati Dayton Rd Northbound | | | | Cincinnati Dayton Rd Southbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | L | R | U | App | L | T | U | App | T | R | U | App | Int |
| 2022-03-22 5:30AM | 23 | 4 | 0 | **27** | 1 | 39 | 0 | **40** | 53 | 15 | 0 | **68** | **135** |
| 5:45AM | 26 | 3 | 0 | **29** | 0 | 64 | 0 | **64** | 48 | 24 | 0 | **72** | **165** |
| Hourly Total | 49 | 7 | 0 | **56** | 1 | 103 | 0 | **104** | 101 | 39 | 0 | **140** | **300** |
| 6:00AM | 51 | 4 | 0 | **55** | 2 | 84 | 0 | **86** | 70 | 13 | 0 | **83** | **224** |
| 6:15AM | 56 | 6 | 0 | **62** | 2 | 68 | 0 | **70** | 61 | 15 | 0 | **76** | **208** |
| 6:30AM | 23 | 12 | 0 | **35** | 4 | 109 | 0 | **113** | 95 | 25 | 0 | **120** | **268** |
| 6:45AM | 18 | 8 | 0 | **26** | 3 | 86 | 0 | **89** | 80 | 27 | 0 | **107** | **222** |
| Hourly Total | 148 | 30 | 0 | **178** | 11 | 347 | 0 | **358** | 306 | 80 | 0 | **386** | **922** |
| 7:00AM | 9 | 7 | 0 | **16** | 4 | 71 | 0 | **75** | 93 | 14 | 0 | **107** | **198** |
| 7:15AM | 23 | 15 | 0 | **38** | 5 | 80 | 0 | **85** | 88 | 17 | 0 | **105** | **228** |
| 7:30AM | 24 | 10 | 0 | **34** | 2 | 106 | 0 | **108** | 95 | 16 | 0 | **111** | **253** |
| 7:45AM | 12 | 14 | 0 | **26** | 5 | 117 | 0 | **122** | 94 | 11 | 0 | **105** | **253** |
| Hourly Total | 68 | 46 | 0 | **114** | 16 | 374 | 0 | **390** | 370 | 58 | 0 | **428** | **932** |
| 8:00AM | 15 | 6 | 0 | **21** | 2 | 77 | 0 | **79** | 101 | 19 | 0 | **120** | **220** |
| 8:15AM | 22 | 12 | 0 | **34** | 5 | 87 | 0 | **92** | 85 | 11 | 0 | **96** | **222** |
| 8:30AM | 24 | 12 | 0 | **36** | 6 | 92 | 0 | **98** | 86 | 8 | 0 | **94** | **228** |
| 8:45AM | 14 | 7 | 0 | **21** | 7 | 112 | 0 | **119** | 90 | 12 | 0 | **102** | **242** |
| Hourly Total | 75 | 37 | 0 | **112** | 20 | 368 | 0 | **388** | 362 | 50 | 0 | **412** | **912** |
| 3:30PM | 26 | 7 | 0 | **33** | 10 | 124 | 0 | **134** | 129 | 25 | 0 | **154** | **321** |
| 3:45PM | 26 | 6 | 0 | **32** | 12 | 124 | 0 | **136** | 128 | 18 | 0 | **146** | **314** |
| Hourly Total | 52 | 13 | 0 | **65** | 22 | 248 | 0 | **270** | 257 | 43 | 0 | **300** | **635** |
| 4:00PM | 46 | 11 | 0 | **57** | 13 | 161 | 0 | **174** | 124 | 23 | 0 | **147** | **378** |
| 4:15PM | 32 | 9 | 0 | **41** | 10 | 125 | 0 | **135** | 121 | 21 | 0 | **142** | **318** |
| 4:30PM | 27 | 7 | 0 | **34** | 14 | 137 | 0 | **151** | 118 | 33 | 0 | **151** | **336** |
| 4:45PM | 24 | 9 | 0 | **33** | 15 | 141 | 0 | **156** | 117 | 20 | 0 | **137** | **326** |
| Hourly Total | 129 | 36 | 0 | **165** | 52 | 564 | 0 | **616** | 480 | 97 | 0 | **577** | **1358** |
| 5:00PM | 36 | 11 | 0 | **47** | 10 | 169 | 0 | **179** | 142 | 19 | 0 | **161** | **387** |
| 5:15PM | 17 | 7 | 0 | **24** | 16 | 116 | 0 | **132** | 91 | 29 | 0 | **120** | **276** |
| 5:30PM | 21 | 9 | 0 | **30** | 12 | 110 | 0 | **122** | 132 | 21 | 0 | **153** | **305** |
| 5:45PM | 17 | 10 | 0 | **27** | 15 | 134 | 0 | **149** | 92 | 21 | 0 | **113** | **289** |
| Hourly Total | 91 | 37 | 0 | **128** | 53 | 529 | 0 | **582** | 457 | 90 | 0 | **547** | **1257** |
| 6:00PM | 20 | 10 | 0 | **30** | 16 | 82 | 0 | **98** | 90 | 18 | 0 | **108** | **236** |
| 6:15PM | 18 | 6 | 0 | **24** | 9 | 89 | 0 | **98** | 79 | 20 | 0 | **99** | **221** |
| 6:30PM | 10 | 6 | 0 | **16** | 8 | 91 | 0 | **99** | 61 | 18 | 0 | **79** | **194** |
| 6:45PM | 16 | 6 | 0 | **22** | 4 | 75 | 0 | **79** | 64 | 14 | 0 | **78** | **179** |
| Hourly Total | 64 | 28 | 0 | **92** | 37 | 337 | 0 | **374** | 294 | 70 | 0 | **364** | **830** |
| **Total** | 676 | 234 | 0 | **910** | 212 | 2870 | 0 | **3082** | 2627 | 527 | 0 | **3154** | **7146** |
| **% Approach** | 74.3% | 25.7% | 0% | **-** | 6.9% | 93.1% | 0% | **-** | 83.3% | 16.7% | 0% | **-** | - |
| **% Total** | 9.5% | 3.3% | 0% | **12.7%** | 3.0% | 40.2% | 0% | **43.1%** | 36.8% | 7.4% | 0% | **44.1%** | - |
| **Lights and Motorcycles** | 666 | 227 | 0 | **893** | 202 | 2619 | 0 | **2821** | 2386 | 523 | 0 | **2909** | 6623 |
| **% Lights and Motorcycles** | 98.5% | 97.0% | 0% | **98.1%** | 95.3% | 91.3% | 0% | **91.5%** | 90.8% | 99.2% | 0% | **92.2%** | 92.7% |
| **Heavy** | 10 | 7 | 0 | **17** | 10 | 251 | 0 | **261** | 241 | 4 | 0 | **245** | 523 |
| **% Heavy** | 1.5% | 3.0% | 0% | **1.9%** | 4.7% | 8.7% | 0% | **8.5%** | 9.2% | 0.8% | 0% | **7.8%** | 7.3% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Todhunter Rd @ Cincinnati Dayton Rd - TMC**
Tue Mar 22, 2022
Full Length (5:30 AM-9 AM, 3:30 PM-7 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933800, Location: 39.457171, -84.352094

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## Todhunter Rd @ Cincinnati Dayton Rd - TMC

Tue Mar 22, 2022
AM Peak, Forced Peak (7:15 AM - 8:15 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933800, Location: 39.457171, -84.352094

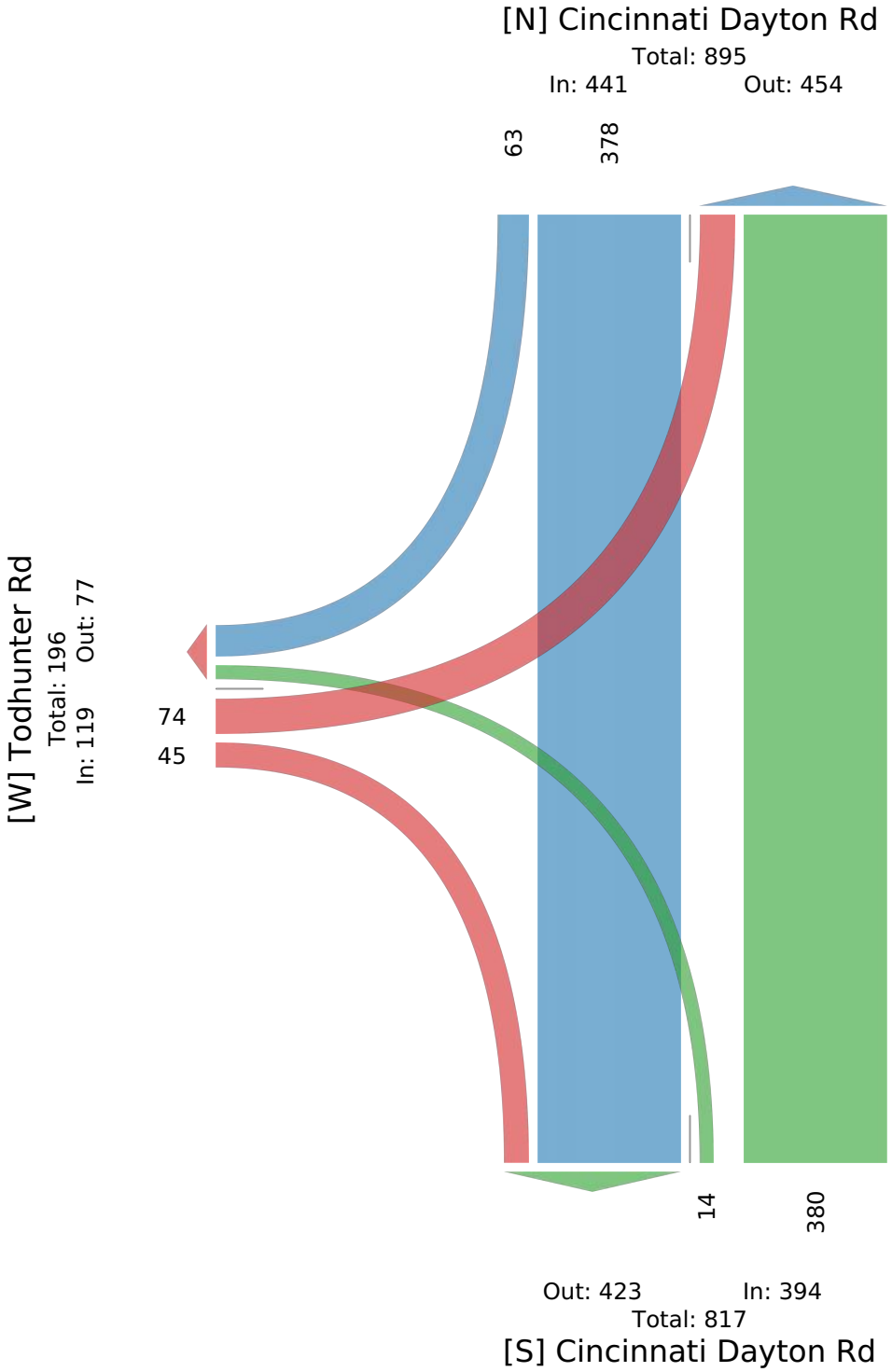
Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | Todhunter Rd | | | | Cincinnati Dayton Rd | | | | Cincinnati Dayton Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | Northbound | | | | Southbound | | | | |
| Time | L | R | U | **App** | L | T | U | **App** | T | R | U | **App** | **Int** |
| 2022-03-22 7:15AM | 23 | 15 | 0 | **38** | 5 | 80 | 0 | **85** | 88 | 17 | 0 | **105** | **228** |
| 7:30AM | 24 | 10 | 0 | **34** | 2 | 106 | 0 | **108** | 95 | 16 | 0 | **111** | **253** |
| 7:45AM | 12 | 14 | 0 | **26** | 5 | 117 | 0 | **122** | 94 | 11 | 0 | **105** | **253** |
| 8:00AM | 15 | 6 | 0 | **21** | 2 | 77 | 0 | **79** | 101 | 19 | 0 | **120** | **220** |
| **Total** | 74 | 45 | 0 | **119** | 14 | 380 | 0 | **394** | 378 | 63 | 0 | **441** | **954** |
| **% Approach** | 62.2% | 37.8% | 0% | **-** | 3.6% | 96.4% | 0% | **-** | 85.7% | 14.3% | 0% | **-** | - |
| **% Total** | 7.8% | 4.7% | 0% | **12.5%** | 1.5% | 39.8% | 0% | **41.3%** | 39.6% | 6.6% | 0% | **46.2%** | - |
| **PHF** | 0.771 | 0.750 | - | **0.783** | 0.700 | 0.812 | - | **0.807** | 0.936 | 0.829 | - | **0.919** | 0.943 |
| **Lights and Motorcycles** | 71 | 44 | 0 | **115** | 11 | 319 | 0 | **330** | 322 | 63 | 0 | **385** | 830 |
| **% Lights and Motorcycles** | 95.9% | 97.8% | 0% | **96.6%** | 78.6% | 83.9% | 0% | **83.8%** | 85.2% | 100% | 0% | **87.3%** | 87.0% |
| **Heavy** | 3 | 1 | 0 | **4** | 3 | 61 | 0 | **64** | 56 | 0 | 0 | **56** | 124 |
| **% Heavy** | 4.1% | 2.2% | 0% | **3.4%** | 21.4% | 16.1% | 0% | **16.2%** | 14.8% | 0% | 0% | **12.7%** | 13.0% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Todhunter Rd @ Cincinnati Dayton Rd - TMC**
Tue Mar 22, 2022
AM Peak, Forced Peak (7:15 AM - 8:15 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933800, Location: 39.457171, -84.352094

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## Todhunter Rd @ Cincinnati Dayton Rd - TMC

Tue Mar 22, 2022
PM Peak, Forced Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933800, Location: 39.457171, -84.352094

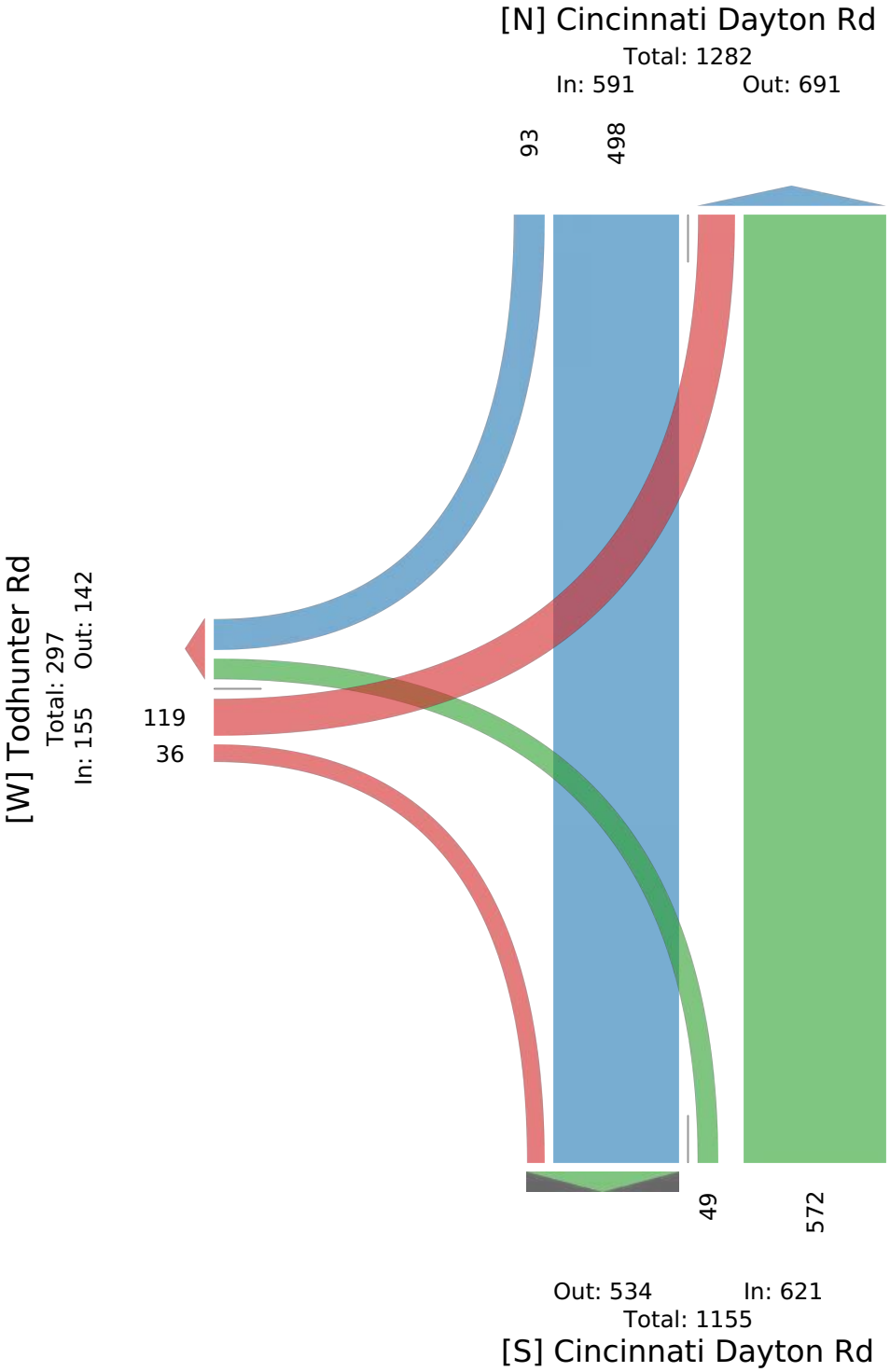
Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | Todhunter Rd | | | | Cincinnati Dayton Rd | | | | Cincinnati Dayton Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | Northbound | | | | Southbound | | | | |
| Time | L | R | U | **App** | L | T | U | **App** | T | R | U | **App** | **Int** |
| 2022-03-22 4:15PM | 32 | 9 | 0 | **41** | 10 | 125 | 0 | **135** | 121 | 21 | 0 | **142** | **318** |
| 4:30PM | 27 | 7 | 0 | **34** | 14 | 137 | 0 | **151** | 118 | 33 | 0 | **151** | **336** |
| 4:45PM | 24 | 9 | 0 | **33** | 15 | 141 | 0 | **156** | 117 | 20 | 0 | **137** | **326** |
| 5:00PM | 36 | 11 | 0 | **47** | 10 | 169 | 0 | **179** | 142 | 19 | 0 | **161** | **387** |
| **Total** | 119 | 36 | 0 | **155** | 49 | 572 | 0 | **621** | 498 | 93 | 0 | **591** | **1367** |
| **% Approach** | 76.8% | 23.2% | 0% | **-** | 7.9% | 92.1% | 0% | **-** | 84.3% | 15.7% | 0% | **-** | - |
| **% Total** | 8.7% | 2.6% | 0% | **11.3%** | 3.6% | 41.8% | 0% | **45.4%** | 36.4% | 6.8% | 0% | **43.2%** | - |
| **PHF** | 0.826 | 0.818 | - | **0.824** | 0.817 | 0.846 | - | **0.867** | 0.877 | 0.705 | - | **0.918** | 0.883 |
| **Lights and Motorcycles** | 118 | 34 | 0 | **152** | 49 | 545 | 0 | **594** | 483 | 92 | 0 | **575** | 1321 |
| **% Lights and Motorcycles** | 99.2% | 94.4% | 0% | **98.1%** | 100% | 95.3% | 0% | **95.7%** | 97.0% | 98.9% | 0% | **97.3%** | 96.6% |
| **Heavy** | 1 | 2 | 0 | **3** | 0 | 27 | 0 | **27** | 15 | 1 | 0 | **16** | 46 |
| **% Heavy** | 0.8% | 5.6% | 0% | **1.9%** | 0% | 4.7% | 0% | **4.3%** | 3.0% | 1.1% | 0% | **2.7%** | 3.4% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Todhunter Rd @ Cincinnati Dayton Rd - TMC**
Tue Mar 22, 2022
PM Peak, Forced Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933800, Location: 39.457171, -84.352094

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## Overbrook Ct @ Cincinnati Dayton Rd - TMC

Tue Mar 22, 2022
Full Length (5:30 AM-9 AM, 3:30 PM-7 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933798, Location: 39.447114, -84.358956

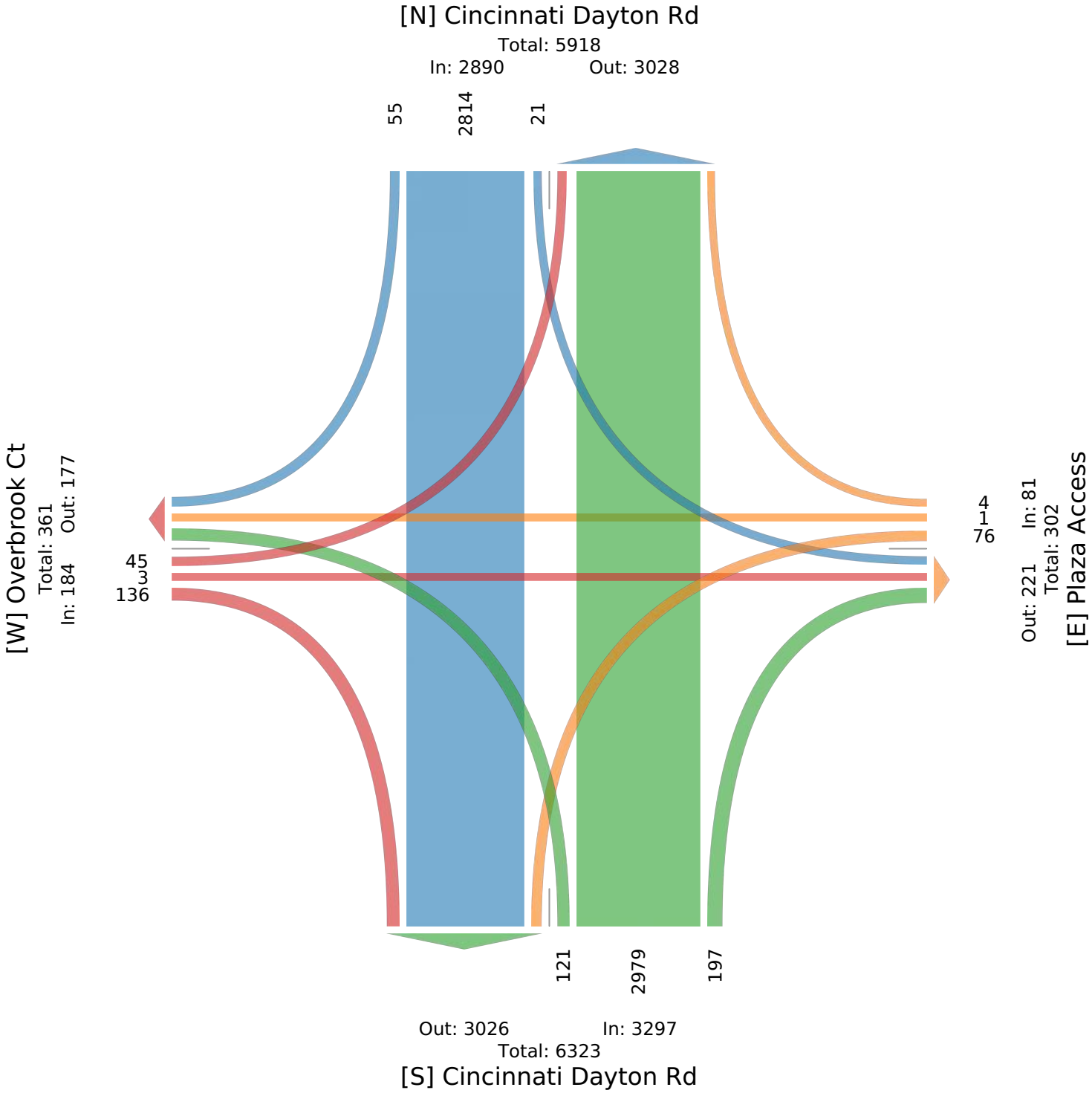
Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | Overbrook Ct | | | | | Plaza Access | | | | | Cincinnati Dayton Rd | | | | | Cincinnati Dayton Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | | Westbound | | | | | Northbound | | | | | Southbound | | | | | |
| Time | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | Int |
| 2022-03-22 5:30AM | 0 | 0 | 1 | 0 | **1** | 1 | 0 | 0 | 0 | **1** | 0 | 37 | 0 | 0 | **37** | 0 | 56 | 0 | 0 | **56** | **95** |
| 5:45AM | 0 | 0 | 2 | 0 | **2** | 2 | 0 | 0 | 0 | **2** | 2 | 61 | 2 | 0 | **65** | 0 | 52 | 0 | 0 | **52** | **121** |
| Hourly Total | 0 | 0 | 3 | 0 | **3** | 3 | 0 | 0 | 0 | **3** | 2 | 98 | 2 | 0 | **102** | 0 | 108 | 0 | 0 | **108** | **216** |
| 6:00AM | 0 | 0 | 4 | 0 | **4** | 0 | 0 | 0 | 0 | **0** | 1 | 93 | 0 | 0 | **94** | 0 | 65 | 0 | 0 | **65** | **163** |
| 6:15AM | 0 | 0 | 4 | 0 | **4** | 1 | 0 | 0 | 0 | **1** | 0 | 76 | 1 | 0 | **77** | 0 | 71 | 0 | 0 | **71** | **153** |
| 6:30AM | 0 | 0 | 1 | 0 | **1** | 0 | 0 | 0 | 0 | **0** | 1 | 109 | 1 | 0 | **111** | 0 | 99 | 0 | 0 | **99** | **211** |
| 6:45AM | 0 | 0 | 2 | 0 | **2** | 2 | 0 | 0 | 0 | **2** | 1 | 94 | 0 | 0 | **95** | 0 | 91 | 0 | 0 | **91** | **190** |
| Hourly Total | 0 | 0 | 11 | 0 | **11** | 3 | 0 | 0 | 0 | **3** | 3 | 372 | 2 | 0 | **377** | 0 | 326 | 0 | 0 | **326** | **717** |
| 7:00AM | 0 | 0 | 4 | 0 | **4** | 1 | 0 | 0 | 0 | **1** | 1 | 76 | 1 | 0 | **78** | 1 | 95 | 2 | 0 | **98** | **181** |
| 7:15AM | 2 | 0 | 5 | 0 | **7** | 0 | 0 | 0 | 0 | **0** | 2 | 89 | 3 | 0 | **94** | 0 | 102 | 2 | 0 | **104** | **205** |
| 7:30AM | 1 | 0 | 1 | 0 | **2** | 0 | 0 | 0 | 0 | **0** | 5 | 113 | 0 | 0 | **118** | 1 | 92 | 4 | 0 | **97** | **217** |
| 7:45AM | 0 | 0 | 3 | 0 | **3** | 0 | 0 | 0 | 0 | **0** | 18 | 116 | 2 | 0 | **136** | 0 | 107 | 8 | 0 | **115** | **254** |
| Hourly Total | 3 | 0 | 13 | 0 | **16** | 1 | 0 | 0 | 0 | **1** | 26 | 394 | 6 | 0 | **426** | 2 | 396 | 16 | 0 | **414** | **857** |
| 8:00AM | 1 | 0 | 3 | 0 | **4** | 0 | 0 | 0 | 0 | **0** | 6 | 77 | 0 | 0 | **83** | 1 | 105 | 1 | 0 | **107** | **194** |
| 8:15AM | 2 | 0 | 6 | 0 | **8** | 0 | 0 | 0 | 0 | **0** | 2 | 91 | 2 | 0 | **95** | 1 | 92 | 5 | 0 | **98** | **201** |
| 8:30AM | 2 | 0 | 6 | 0 | **8** | 1 | 0 | 0 | 0 | **1** | 4 | 102 | 4 | 0 | **110** | 0 | 92 | 4 | 0 | **96** | **215** |
| 8:45AM | 4 | 0 | 6 | 0 | **10** | 0 | 0 | 1 | 0 | **1** | 14 | 109 | 10 | 0 | **133** | 0 | 90 | 4 | 0 | **94** | **238** |
| Hourly Total | 9 | 0 | 21 | 0 | **30** | 1 | 0 | 1 | 0 | **2** | 26 | 379 | 16 | 0 | **421** | 2 | 379 | 14 | 0 | **395** | **848** |
| 3:30PM | 2 | 0 | 6 | 0 | **8** | 1 | 0 | 0 | 0 | **1** | 8 | 131 | 7 | 0 | **146** | 3 | 135 | 2 | 0 | **140** | **295** |
| 3:45PM | 4 | 0 | 2 | 0 | **6** | 7 | 0 | 0 | 0 | **7** | 5 | 145 | 9 | 0 | **159** | 1 | 135 | 2 | 0 | **138** | **310** |
| Hourly Total | 6 | 0 | 8 | 0 | **14** | 8 | 0 | 0 | 0 | **8** | 13 | 276 | 16 | 0 | **305** | 4 | 270 | 4 | 0 | **278** | **605** |
| 4:00PM | 4 | 0 | 4 | 0 | **8** | 2 | 0 | 0 | 0 | **2** | 4 | 161 | 12 | 0 | **177** | 2 | 141 | 6 | 0 | **149** | **336** |
| 4:15PM | 3 | 1 | 8 | 0 | **12** | 6 | 0 | 1 | 0 | **7** | 4 | 131 | 10 | 0 | **145** | 1 | 125 | 5 | 0 | **131** | **295** |
| 4:30PM | 1 | 0 | 6 | 0 | **7** | 3 | 0 | 1 | 0 | **4** | 7 | 139 | 12 | 0 | **158** | 0 | 118 | 1 | 0 | **119** | **288** |
| 4:45PM | 1 | 1 | 6 | 0 | **8** | 4 | 0 | 0 | 0 | **4** | 3 | 154 | 19 | 0 | **176** | 3 | 122 | 2 | 0 | **127** | **315** |
| Hourly Total | 9 | 2 | 24 | 0 | **35** | 15 | 0 | 2 | 0 | **17** | 18 | 585 | 53 | 0 | **656** | 6 | 506 | 14 | 0 | **526** | **1234** |
| 5:00PM | 8 | 0 | 16 | 0 | **24** | 5 | 0 | 0 | 0 | **5** | 11 | 148 | 12 | 0 | **171** | 2 | 150 | 1 | 0 | **153** | **353** |
| 5:15PM | 2 | 0 | 10 | 0 | **12** | 7 | 0 | 0 | 0 | **7** | 2 | 138 | 23 | 0 | **163** | 1 | 103 | 1 | 0 | **105** | **287** |
| 5:30PM | 5 | 1 | 10 | 0 | **16** | 7 | 0 | 0 | 0 | **7** | 5 | 106 | 16 | 0 | **127** | 0 | 142 | 0 | 0 | **142** | **292** |
| 5:45PM | 1 | 0 | 7 | 0 | **8** | 8 | 0 | 0 | 0 | **8** | 1 | 129 | 16 | 0 | **146** | 1 | 98 | 2 | 0 | **101** | **263** |
| Hourly Total | 16 | 1 | 43 | 0 | **60** | 27 | 0 | 0 | 0 | **27** | 19 | 521 | 67 | 0 | **607** | 4 | 493 | 4 | 0 | **501** | **1195** |
| 6:00PM | 0 | 0 | 4 | 0 | **4** | 2 | 0 | 1 | 0 | **3** | 4 | 95 | 9 | 0 | **108** | 3 | 96 | 1 | 0 | **100** | **215** |
| 6:15PM | 0 | 0 | 5 | 0 | **5** | 3 | 1 | 0 | 0 | **4** | 3 | 92 | 8 | 0 | **103** | 0 | 93 | 0 | 0 | **93** | **205** |
| 6:30PM | 1 | 0 | 2 | 0 | **3** | 5 | 0 | 0 | 0 | **5** | 3 | 94 | 7 | 0 | **104** | 0 | 71 | 1 | 0 | **72** | **184** |
| 6:45PM | 1 | 0 | 2 | 0 | **3** | 8 | 0 | 0 | 0 | **8** | 4 | 73 | 11 | 0 | **88** | 0 | 76 | 1 | 0 | **77** | **176** |
| Hourly Total | 2 | 0 | 13 | 0 | **15** | 18 | 1 | 1 | 0 | **20** | 14 | 354 | 35 | 0 | **403** | 3 | 336 | 3 | 0 | **342** | **780** |
| **Total** | 45 | 3 | 136 | 0 | **184** | 76 | 1 | 4 | 0 | **81** | 121 | 2979 | 197 | 0 | **3297** | 21 | 2814 | 55 | 0 | **2890** | **6452** |
| **% Approach** | 24.5% | 1.6% | 73.9% | 0% | - | 93.8% | 1.2% | 4.9% | 0% | - | 3.7% | 90.4% | 6.0% | 0% | - | 0.7% | 97.4% | 1.9% | 0% | - | - |
| **% Total** | 0.7% | 0% | 2.1% | 0% | **2.9%** | 1.2% | 0% | 0.1% | 0% | **1.3%** | 1.9% | 46.2% | 3.1% | 0% | **51.1%** | 0.3% | 43.6% | 0.9% | 0% | **44.8%** | - |
| **Lights and Motorcycles** | 44 | 3 | 126 | 0 | **173** | 76 | 1 | 4 | 0 | **81** | 119 | 2722 | 197 | 0 | **3038** | 21 | 2573 | 47 | 0 | **2641** | 5933 |
| **% Lights and Motorcycles** | 97.8% | 100% | 92.6% | 0% | **94.0%** | 100% | 100% | 100% | 0% | **100%** | 98.3% | 91.4% | 100% | 0% | **92.1%** | 100% | 91.4% | 85.5% | 0% | **91.4%** | 92.0% |
| **Heavy** | 1 | 0 | 10 | 0 | **11** | 0 | 0 | 0 | 0 | **0** | 2 | 257 | 0 | 0 | **259** | 0 | 241 | 8 | 0 | **249** | 519 |
| **% Heavy** | 2.2% | 0% | 7.4% | 0% | **6.0%** | 0% | 0% | 0% | 0% | **0%** | 1.7% | 8.6% | 0% | 0% | **7.9%** | 0% | 8.6% | 14.5% | 0% | **8.6%** | 8.0% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Overbrook Ct @ Cincinnati Dayton Rd - TMC**
Tue Mar 22, 2022
Full Length (5:30 AM-9 AM, 3:30 PM-7 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933798, Location: 39.447114, -84.358956

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## Overbrook Ct @ Cincinnati Dayton Rd - TMC

Tue Mar 22, 2022
AM Peak, Forced Peak (7:15 AM - 8:15 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933798, Location: 39.447114, -84.358956

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | Overbrook Ct | | | | | Plaza Access | | | | | Cincinnati Dayton Rd | | | | | Cincinnati Dayton Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | | Westbound | | | | | Northbound | | | | | Southbound | | | | | |
| Time | L | T | R | U | **App** | L | T | R | U | **App** | L | T | R | U | **App** | L | T | R | U | **App** | **Int** |
| 2022-03-22 7:15AM | 2 | 0 | 5 | 0 | **7** | 0 | 0 | 0 | 0 | **0** | 2 | 89 | 3 | 0 | **94** | 0 | 102 | 2 | 0 | **104** | **205** |
| 7:30AM | 1 | 0 | 1 | 0 | **2** | 0 | 0 | 0 | 0 | **0** | 5 | 113 | 0 | 0 | **118** | 1 | 92 | 4 | 0 | **97** | **217** |
| 7:45AM | 0 | 0 | 3 | 0 | **3** | 0 | 0 | 0 | 0 | **0** | 18 | 116 | 2 | 0 | **136** | 0 | 107 | 8 | 0 | **115** | **254** |
| 8:00AM | 1 | 0 | 3 | 0 | **4** | 0 | 0 | 0 | 0 | **0** | 6 | 77 | 0 | 0 | **83** | 1 | 105 | 1 | 0 | **107** | **194** |
| **Total** | 4 | 0 | 12 | 0 | **16** | 0 | 0 | 0 | 0 | **0** | 31 | 395 | 5 | 0 | **431** | 2 | 406 | 15 | 0 | **423** | **870** |
| **% Approach** | 25.0% | 0% | 75.0% | 0% | **-** | 0% | 0% | 0% | 0% | **-** | 7.2% | 91.6% | 1.2% | 0% | **-** | 0.5% | 96.0% | 3.5% | 0% | **-** | - |
| **% Total** | 0.5% | 0% | 1.4% | 0% | **1.8%** | 0% | 0% | 0% | 0% | **0%** | 3.6% | 45.4% | 0.6% | 0% | **49.5%** | 0.2% | 46.7% | 1.7% | 0% | **48.6%** | - |
| **PHF** | 0.500 | - | 0.600 | - | **0.571** | - | - | - | - | **-** | 0.431 | 0.851 | 0.417 | - | **0.792** | 0.500 | 0.949 | 0.469 | - | **0.920** | 0.856 |
| **Lights and Motorcycles** | 3 | 0 | 11 | 0 | **14** | 0 | 0 | 0 | 0 | **0** | 31 | 330 | 5 | 0 | **366** | 2 | 354 | 14 | 0 | **370** | 750 |
| **% Lights and Motorcycles** | 75.0% | 0% | 91.7% | 0% | **87.5%** | 0% | 0% | 0% | 0% | **-** | 100% | 83.5% | 100% | 0% | **84.9%** | 100% | 87.2% | 93.3% | 0% | **87.5%** | 86.2% |
| **Heavy** | 1 | 0 | 1 | 0 | **2** | 0 | 0 | 0 | 0 | **0** | 0 | 65 | 0 | 0 | **65** | 0 | 52 | 1 | 0 | **53** | 120 |
| **% Heavy** | 25.0% | 0% | 8.3% | 0% | **12.5%** | 0% | 0% | 0% | 0% | **-** | 0% | 16.5% | 0% | 0% | **15.1%** | 0% | 12.8% | 6.7% | 0% | **12.5%** | 13.8% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Overbrook Ct @ Cincinnati Dayton Rd - TMC**
Tue Mar 22, 2022
AM Peak, Forced Peak (7:15 AM - 8:15 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933798, Location: 39.447114, -84.358956

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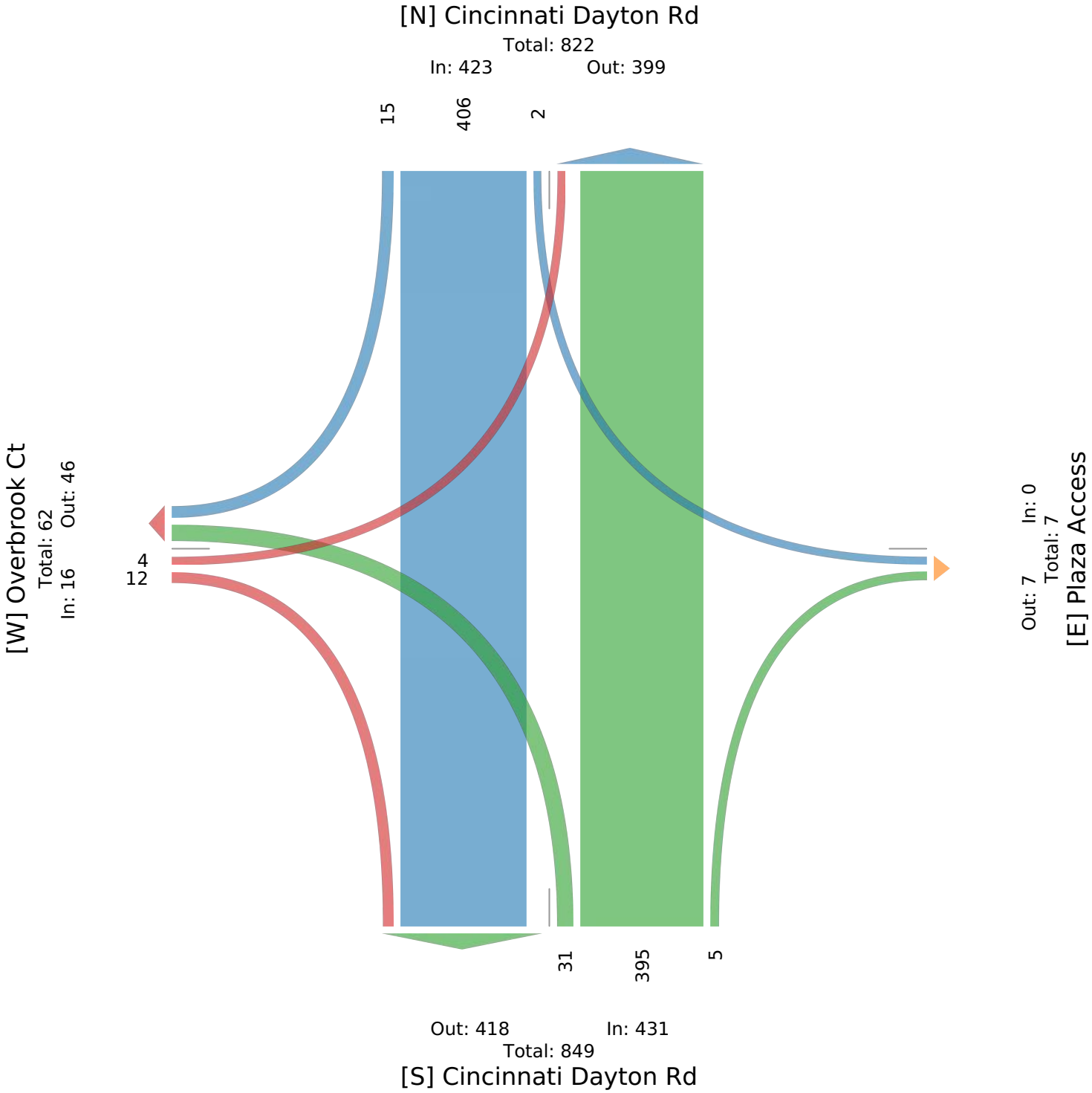


## Overbrook Ct @ Cincinnati Dayton Rd - TMC

Tue Mar 22, 2022
PM Peak, Forced Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933798, Location: 39.447114, -84.358956

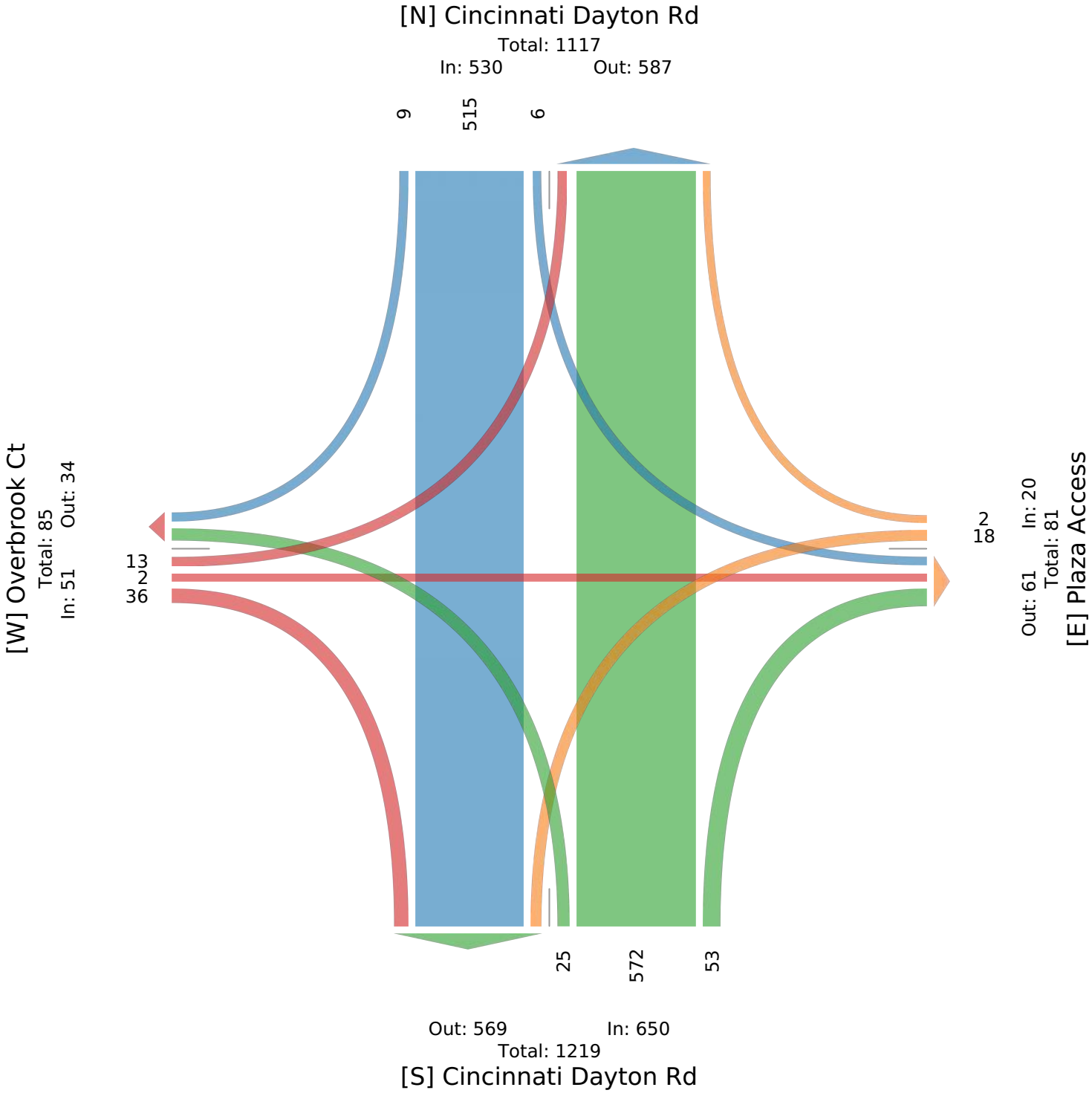
Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | Overbrook Ct | | | | | Plaza Access | | | | | Cincinnati Dayton Rd | | | | | Cincinnati Dayton Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | | Westbound | | | | | Northbound | | | | | Southbound | | | | | |
| Time | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | Int |
| 2022-03-22 4:15PM | 3 | 1 | 8 | 0 | **12** | 6 | 0 | 1 | 0 | **7** | 4 | 131 | 10 | 0 | **145** | 1 | 125 | 5 | 0 | **131** | **295** |
| 4:30PM | 1 | 0 | 6 | 0 | **7** | 3 | 0 | 1 | 0 | **4** | 7 | 139 | 12 | 0 | **158** | 0 | 118 | 1 | 0 | **119** | **288** |
| 4:45PM | 1 | 1 | 6 | 0 | **8** | 4 | 0 | 0 | 0 | **4** | 3 | 154 | 19 | 0 | **176** | 3 | 122 | 2 | 0 | **127** | **315** |
| 5:00PM | 8 | 0 | 16 | 0 | **24** | 5 | 0 | 0 | 0 | **5** | 11 | 148 | 12 | 0 | **171** | 2 | 150 | 1 | 0 | **153** | **353** |
| **Total** | 13 | 2 | 36 | 0 | **51** | 18 | 0 | 2 | 0 | **20** | 25 | 572 | 53 | 0 | **650** | 6 | 515 | 9 | 0 | **530** | **1251** |
| **% Approach** | 25.5% | 3.9% | 70.6% | 0% | **-** | 90.0% | 0% | 10.0% | 0% | **-** | 3.8% | 88.0% | 8.2% | 0% | **-** | 1.1% | 97.2% | 1.7% | 0% | **-** | - |
| **% Total** | 1.0% | 0.2% | 2.9% | 0% | **4.1%** | 1.4% | 0% | 0.2% | 0% | **1.6%** | 2.0% | 45.7% | 4.2% | 0% | **52.0%** | 0.5% | 41.2% | 0.7% | 0% | **42.4%** | - |
| **PHF** | 0.406 | 0.500 | 0.563 | - | **0.531** | 0.750 | - | 0.500 | - | **0.714** | 0.568 | 0.929 | 0.697 | - | **0.923** | 0.500 | 0.858 | 0.450 | - | **0.866** | 0.886 |
| **Lights and Motorcycles** | 13 | 2 | 34 | 0 | **49** | 18 | 0 | 2 | 0 | **20** | 24 | 546 | 53 | 0 | **623** | 6 | 501 | 7 | 0 | **514** | 1206 |
| **% Lights and Motorcycles** | 100% | 100% | 94.4% | 0% | **96.1%** | 100% | 0% | 100% | 0% | **100%** | 96.0% | 95.5% | 100% | 0% | **95.8%** | 100% | 97.3% | 77.8% | 0% | **97.0%** | 96.4% |
| **Heavy** | 0 | 0 | 2 | 0 | **2** | 0 | 0 | 0 | 0 | **0** | 1 | 26 | 0 | 0 | **27** | 0 | 14 | 2 | 0 | **16** | 45 |
| **% Heavy** | 0% | 0% | 5.6% | 0% | **3.9%** | 0% | 0% | 0% | 0% | **0%** | 4.0% | 4.5% | 0% | 0% | **4.2%** | 0% | 2.7% | 22.2% | 0% | **3.0%** | 3.6% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Overbrook Ct @ Cincinnati Dayton Rd - TMC**
Tue Mar 22, 2022
PM Peak, Forced Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 933798, Location: 39.447114, -84.358956

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC

Thu Sep 12, 2024
Full Length (6 AM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

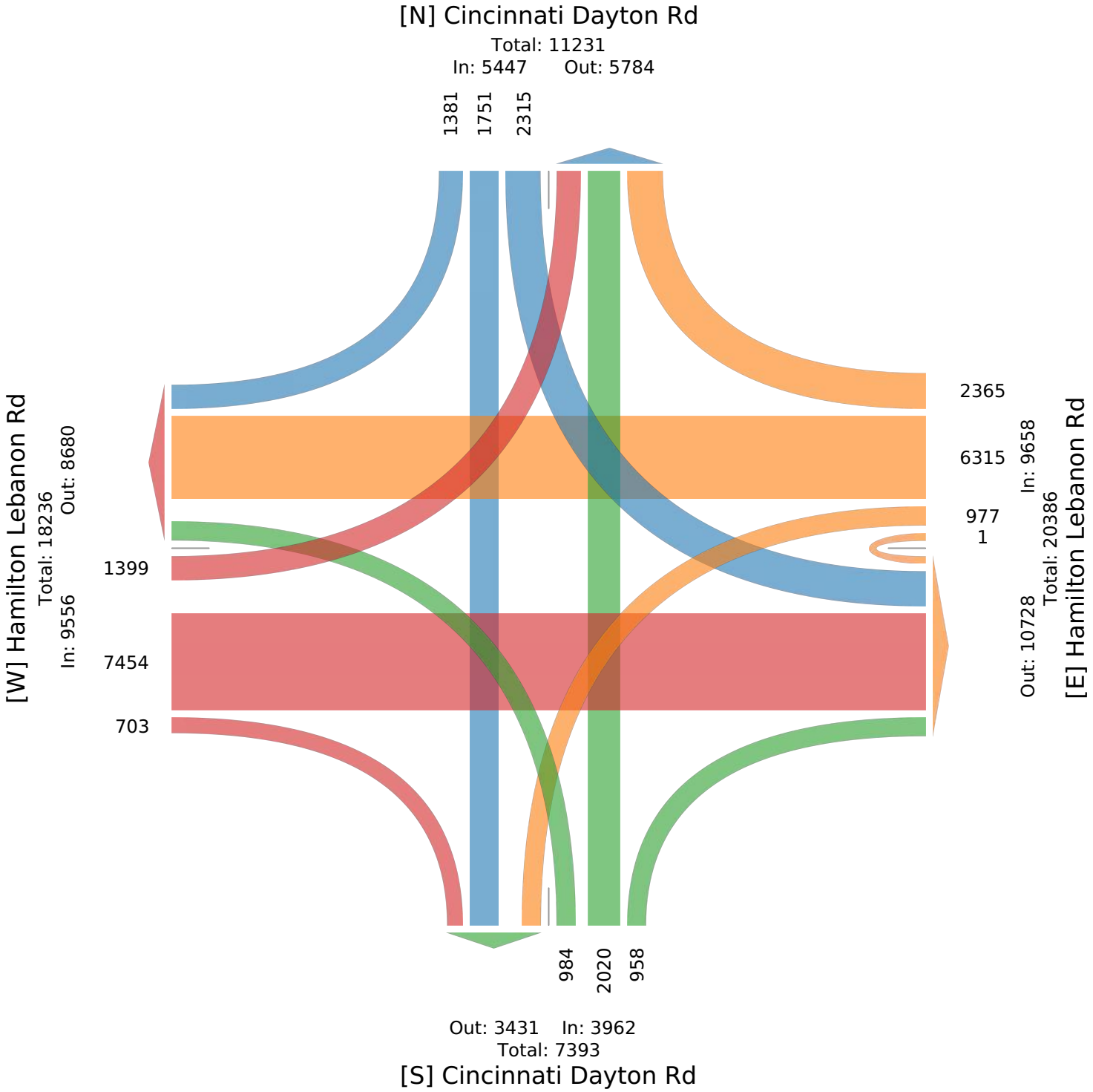
| Leg | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | | Westbound | | | | | Northbound | | | | | Eastbound | | | | | |
| Time | R | T | L | U | **App** | R | T | L | U | **App** | R | T | L | U | **App** | R | T | L | U | **App** | **Int** |
| 2024-09-12 6:00AM | 11 | 14 | 33 | 0 | **58** | 30 | 66 | 4 | 0 | **100** | 8 | 12 | 4 | 0 | **24** | 8 | 153 | 10 | 0 | **171** | **353** |
| 6:15AM | 14 | 15 | 24 | 0 | **53** | 41 | 88 | 2 | 0 | **131** | 18 | 23 | 6 | 0 | **47** | 4 | 179 | 17 | 0 | **200** | **431** |
| 6:30AM | 25 | 28 | 55 | 0 | **108** | 40 | 105 | 3 | 0 | **148** | 35 | 28 | 11 | 0 | **74** | 5 | 221 | 13 | 0 | **239** | **569** |
| 6:45AM | 20 | 21 | 34 | 0 | **75** | 28 | 100 | 10 | 0 | **138** | 18 | 31 | 22 | 0 | **71** | 13 | 206 | 15 | 0 | **234** | **518** |
| Hourly Total | 70 | 78 | 146 | 0 | **294** | 139 | 359 | 19 | 0 | **517** | 79 | 94 | 43 | 0 | **216** | 30 | 759 | 55 | 0 | **844** | **1871** |
| 7:00AM | 19 | 12 | 48 | 0 | **79** | 40 | 105 | 3 | 0 | **148** | 30 | 19 | 17 | 0 | **66** | 10 | 192 | 15 | 0 | **217** | **510** |
| 7:15AM | 14 | 25 | 47 | 0 | **86** | 42 | 124 | 12 | 0 | **178** | 24 | 35 | 39 | 0 | **98** | 16 | 214 | 12 | 0 | **242** | **604** |
| 7:30AM | 14 | 30 | 47 | 0 | **91** | 36 | 146 | 10 | 0 | **192** | 30 | 44 | 19 | 0 | **93** | 14 | 269 | 19 | 0 | **302** | **678** |
| 7:45AM | 31 | 22 | 40 | 0 | **93** | 51 | 136 | 14 | 0 | **201** | 20 | 60 | 16 | 0 | **96** | 19 | 229 | 32 | 0 | **280** | **670** |
| Hourly Total | 78 | 89 | 182 | 0 | **349** | 169 | 511 | 39 | 0 | **719** | 104 | 158 | 91 | 0 | **353** | 59 | 904 | 78 | 0 | **1041** | **2462** |
| 8:00AM | 30 | 35 | 45 | 0 | **110** | 34 | 113 | 13 | 0 | **160** | 28 | 40 | 24 | 0 | **92** | 8 | 187 | 34 | 0 | **229** | **591** |
| 8:15AM | 24 | 31 | 40 | 0 | **95** | 34 | 123 | 11 | 0 | **168** | 22 | 41 | 30 | 0 | **93** | 15 | 144 | 20 | 0 | **179** | **535** |
| 8:30AM | 23 | 35 | 45 | 0 | **103** | 54 | 82 | 11 | 0 | **147** | 29 | 38 | 32 | 0 | **99** | 24 | 161 | 15 | 0 | **200** | **549** |
| 8:45AM | 19 | 32 | 49 | 0 | **100** | 46 | 99 | 10 | 0 | **155** | 30 | 63 | 16 | 0 | **109** | 12 | 168 | 35 | 0 | **215** | **579** |
| Hourly Total | 96 | 133 | 179 | 0 | **408** | 168 | 417 | 45 | 0 | **630** | 109 | 182 | 102 | 0 | **393** | 59 | 660 | 104 | 0 | **823** | **2254** |
| 9:00AM | 16 | 28 | 27 | 0 | **71** | 31 | 69 | 14 | 0 | **114** | 24 | 21 | 7 | 0 | **52** | 14 | 154 | 24 | 0 | **192** | **429** |
| 9:15AM | 18 | 34 | 38 | 0 | **90** | 47 | 98 | 10 | 0 | **155** | 24 | 35 | 9 | 0 | **68** | 14 | 140 | 23 | 0 | **177** | **490** |
| 9:30AM | 20 | 32 | 43 | 0 | **95** | 48 | 99 | 15 | 0 | **162** | 19 | 32 | 9 | 0 | **60** | 9 | 132 | 22 | 0 | **163** | **480** |
| 9:45AM | 26 | 29 | 43 | 0 | **98** | 39 | 97 | 11 | 0 | **147** | 11 | 46 | 9 | 0 | **66** | 9 | 106 | 16 | 0 | **131** | **442** |
| Hourly Total | 80 | 123 | 151 | 0 | **354** | 165 | 363 | 50 | 0 | **578** | 78 | 134 | 34 | 0 | **246** | 46 | 532 | 85 | 0 | **663** | **1841** |
| 10:00AM | 29 | 22 | 24 | 0 | **75** | 38 | 81 | 9 | 0 | **128** | 11 | 28 | 11 | 0 | **50** | 9 | 139 | 25 | 0 | **173** | **426** |
| 10:15AM | 27 | 27 | 43 | 0 | **97** | 36 | 83 | 10 | 0 | **129** | 16 | 35 | 12 | 0 | **63** | 13 | 109 | 24 | 0 | **146** | **435** |
| 10:30AM | 25 | 27 | 50 | 0 | **102** | 52 | 85 | 15 | 0 | **152** | 21 | 36 | 14 | 0 | **71** | 12 | 121 | 18 | 0 | **151** | **476** |
| 10:45AM | 26 | 37 | 45 | 0 | **108** | 40 | 84 | 12 | 0 | **136** | 7 | 35 | 15 | 0 | **57** | 12 | 131 | 30 | 0 | **173** | **474** |
| Hourly Total | 107 | 113 | 162 | 0 | **382** | 166 | 333 | 46 | 0 | **545** | 55 | 134 | 52 | 0 | **241** | 46 | 500 | 97 | 0 | **643** | **1811** |
| 11:00AM | 18 | 27 | 53 | 0 | **98** | 50 | 90 | 16 | 0 | **156** | 15 | 38 | 12 | 0 | **65** | 9 | 118 | 26 | 0 | **153** | **472** |
| 11:15AM | 26 | 35 | 54 | 0 | **115** | 45 | 114 | 13 | 0 | **172** | 16 | 36 | 9 | 0 | **61** | 21 | 126 | 19 | 0 | **166** | **514** |
| 11:30AM | 21 | 44 | 55 | 0 | **120** | 69 | 126 | 15 | 0 | **210** | 18 | 43 | 25 | 0 | **86** | 16 | 95 | 13 | 0 | **124** | **540** |
| 11:45AM | 28 | 32 | 53 | 0 | **113** | 60 | 138 | 20 | 1 | **219** | 21 | 46 | 16 | 0 | **83** | 19 | 113 | 26 | 0 | **158** | **573** |
| Hourly Total | 93 | 138 | 215 | 0 | **446** | 224 | 468 | 64 | 1 | **757** | 70 | 163 | 62 | 0 | **295** | 65 | 452 | 84 | 0 | **601** | **2099** |
| 12:00PM | 22 | 28 | 48 | 0 | **98** | 51 | 127 | 18 | 0 | **196** | 17 | 48 | 15 | 0 | **80** | 12 | 174 | 43 | 0 | **229** | **603** |
| 12:15PM | 40 | 57 | 56 | 0 | **153** | 59 | 137 | 24 | 0 | **220** | 15 | 42 | 21 | 0 | **78** | 15 | 150 | 28 | 0 | **193** | **644** |
| 12:30PM | 28 | 36 | 58 | 0 | **122** | 58 | 140 | 20 | 0 | **218** | 13 | 20 | 19 | 0 | **52** | 9 | 132 | 32 | 0 | **173** | **565** |
| 12:45PM | 19 | 24 | 47 | 0 | **90** | 61 | 140 | 17 | 0 | **218** | 15 | 47 | 23 | 0 | **85** | 17 | 125 | 49 | 0 | **191** | **584** |
| Hourly Total | 109 | 145 | 209 | 0 | **463** | 229 | 544 | 79 | 0 | **852** | 60 | 157 | 78 | 0 | **295** | 53 | 581 | 152 | 0 | **786** | **2396** |
| 1:00PM | 40 | 20 | 45 | 0 | **105** | 51 | 130 | 23 | 0 | **204** | 24 | 34 | 13 | 0 | **71** | 15 | 142 | 29 | 0 | **186** | **566** |
| 1:15PM | 33 | 31 | 45 | 0 | **109** | 42 | 139 | 21 | 0 | **202** | 21 | 60 | 20 | 0 | **101** | 12 | 133 | 33 | 0 | **178** | **590** |
| 1:30PM | 28 | 48 | 52 | 0 | **128** | 52 | 130 | 21 | 0 | **203** | 16 | 26 | 18 | 0 | **60** | 8 | 127 | 33 | 0 | **168** | **559** |
| 1:45PM | 38 | 36 | 42 | 0 | **116** | 50 | 143 | 16 | 0 | **209** | 21 | 45 | 19 | 0 | **85** | 20 | 131 | 27 | 0 | **178** | **588** |
| Hourly Total | 139 | 135 | 184 | 0 | **458** | 195 | 542 | 81 | 0 | **818** | 82 | 165 | 70 | 0 | **317** | 55 | 533 | 122 | 0 | **710** | **2303** |
| 2:00PM | 39 | 35 | 58 | 0 | **132** | 59 | 136 | 24 | 0 | **219** | 19 | 42 | 22 | 0 | **83** | 13 | 163 | 31 | 0 | **207** | **641** |
| 2:15PM | 31 | 34 | 59 | 0 | **124** | 41 | 131 | 21 | 0 | **193** | 17 | 40 | 29 | 0 | **86** | 16 | 147 | 36 | 0 | **199** | **602** |
| 2:30PM | 35 | 45 | 57 | 0 | **137** | 58 | 149 | 30 | 0 | **237** | 13 | 38 | 23 | 0 | **74** | 15 | 163 | 37 | 0 | **215** | **663** |
| 2:45PM | 46 | 46 | 59 | 0 | **151** | 57 | 118 | 19 | 0 | **194** | 22 | 52 | 26 | 0 | **100** | 27 | 149 | 42 | 0 | **218** | **663** |
| Hourly Total | 151 | 160 | 233 | 0 | **544** | 215 | 534 | 94 | 0 | **843** | 71 | 172 | 100 | 0 | **343** | 71 | 622 | 146 | 0 | **839** | **2569** |
| 3:00PM | 39 | 59 | 68 | 0 | **166** | 67 | 194 | 27 | 0 | **288** | 23 | 45 | 24 | 0 | **92** | 14 | 141 | 43 | 0 | **198** | **744** |
| 3:15PM | 41 | 54 | 51 | 0 | **146** | 59 | 175 | 41 | 0 | **275** | 17 | 39 | 28 | 0 | **84** | 13 | 144 | 27 | 0 | **184** | **689** |
| 3:30PM | 37 | 52 | 68 | 0 | **157** | 53 | 161 | 36 | 0 | **250** | 12 | 54 | 29 | 0 | **95** | 15 | 188 | 39 | 0 | **242** | **744** |
| 3:45PM | 33 | 52 | 68 | 0 | **153** | 61 | 193 | 40 | 0 | **294** | 20 | 56 | 28 | 0 | **104** | 32 | 159 | 48 | 0 | **239** | **790** |
| Hourly Total | 150 | 217 | 255 | 0 | **622** | 240 | 723 | 144 | 0 | **1107** | 72 | 194 | 109 | 0 | **375** | 74 | 632 | 157 | 0 | **863** | **2967** |
| 4:00PM | 43 | 47 | 60 | 0 | **150** | 64 | 180 | 39 | 0 | **283** | 18 | 58 | 26 | 0 | **102** | 27 | 166 | 40 | 0 | **233** | **768** |
| 4:15PM | 31 | 52 | 38 | 0 | **121** | 44 | 183 | 42 | 0 | **269** | 24 | 61 | 28 | 0 | **113** | 27 | 186 | 41 | 0 | **254** | **757** |
| 4:30PM | 32 | 43 | 46 | 0 | **121** | 73 | 180 | 41 | 0 | **294** | 30 | 65 | 34 | 0 | **129** | 11 | 152 | 39 | 0 | **202** | **746** |
| 4:45PM | 44 | 59 | 50 | 0 | **153** | 61 | 207 | 29 | 0 | **297** | 26 | 71 | 21 | 0 | **118** | 17 | 173 | 39 | 0 | **229** | **797** |

| Leg<br>Direction | Cincinnati Dayton Rd<br>Southbound | | | | | Hamilton Lebanon Rd<br>Westbound | | | | | Cincinnati Dayton Rd<br>Northbound | | | | | Hamilton Lebanon Rd<br>Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | R | T | L | U | **App** | R | T | L | U | **App** | R | T | L | U | **App** | R | T | L | U | **App** | **Int** |
| Hourly Total | 150 | 201 | 194 | 0 | **545** | 242 | 750 | 151 | 0 | **1143** | 98 | 255 | 109 | 0 | **462** | 82 | 677 | 159 | 0 | **918** | **3068** |
| 5:00PM | 43 | 68 | 64 | 0 | **175** | 59 | 226 | 35 | 0 | **320** | 21 | 51 | 24 | 0 | **96** | 10 | 167 | 52 | 0 | **229** | **820** |
| 5:15PM | 38 | 57 | 46 | 0 | **141** | 66 | 178 | 45 | 0 | **289** | 16 | 52 | 46 | 0 | **114** | 20 | 159 | 32 | 0 | **211** | **755** |
| 5:30PM | 39 | 49 | 53 | 0 | **141** | 44 | 186 | 53 | 0 | **283** | 31 | 54 | 27 | 0 | **112** | 21 | 155 | 46 | 0 | **222** | **758** |
| 5:45PM | 38 | 45 | 42 | 0 | **125** | 44 | 181 | 32 | 0 | **257** | 12 | 55 | 37 | 0 | **104** | 12 | 121 | 30 | 0 | **163** | **649** |
| Hourly Total | 158 | 219 | 205 | 0 | **582** | 213 | 771 | 165 | 0 | **1149** | 80 | 212 | 134 | 0 | **426** | 63 | 602 | 160 | 0 | **825** | **2982** |
| **Total** | 1381 | 1751 | 2315 | 0 | **5447** | 2365 | 6315 | 977 | 1 | **9658** | 958 | 2020 | 984 | 0 | **3962** | 703 | 7454 | 1399 | 0 | **9556** | **28623** |
| **% Approach** | 25.4% | 32.1% | 42.5% | 0% | **-** | 24.5% | 65.4% | 10.1% | 0% | **-** | 24.2% | 51.0% | 24.8% | 0% | **-** | 7.4% | 78.0% | 14.6% | 0% | **-** | - |
| **% Total** | 4.8% | 6.1% | 8.1% | 0% | **19.0%** | 8.3% | 22.1% | 3.4% | 0% | **33.7%** | 3.3% | 7.1% | 3.4% | 0% | **13.8%** | 2.5% | 26.0% | 4.9% | 0% | **33.4%** | - |
| **Lights** | 1307 | 1709 | 1944 | 0 | **4960** | 1930 | 5302 | 943 | 1 | **8176** | 926 | 1972 | 957 | 0 | **3855** | 666 | 6507 | 1332 | 0 | **8505** | 25496 |
| **% Lights** | 94.6% | 97.6% | 84.0% | 0% | **91.1%** | 81.6% | 84.0% | 96.5% | 100% | **84.7%** | 96.7% | 97.6% | 97.3% | 0% | **97.3%** | 94.7% | 87.3% | 95.2% | 0% | **89.0%** | 89.1% |
| **Articulated Trucks** | 18 | 7 | 202 | 0 | **227** | 280 | 548 | 11 | 0 | **839** | 10 | 6 | 2 | 0 | **18** | 2 | 516 | 16 | 0 | **534** | 1618 |
| **% Articulated Trucks** | 1.3% | 0.4% | 8.7% | 0% | **4.2%** | 11.8% | 8.7% | 1.1% | 0% | **8.7%** | 1.0% | 0.3% | 0.2% | 0% | **0.5%** | 0.3% | 6.9% | 1.1% | 0% | **5.6%** | 5.7% |
| **Buses and Single-Unit Trucks** | 56 | 35 | 169 | 0 | **260** | 155 | 465 | 23 | 0 | **643** | 22 | 42 | 25 | 0 | **89** | 35 | 431 | 51 | 0 | **517** | 1509 |
| **% Buses and Single-Unit Trucks** | 4.1% | 2.0% | 7.3% | 0% | **4.8%** | 6.6% | 7.4% | 2.4% | 0% | **6.7%** | 2.3% | 2.1% | 2.5% | 0% | **2.2%** | 5.0% | 5.8% | 3.6% | 0% | **5.4%** | 5.3% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC**
Thu Sep 12, 2024
Full Length (6 AM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC

Thu Sep 12, 2024
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

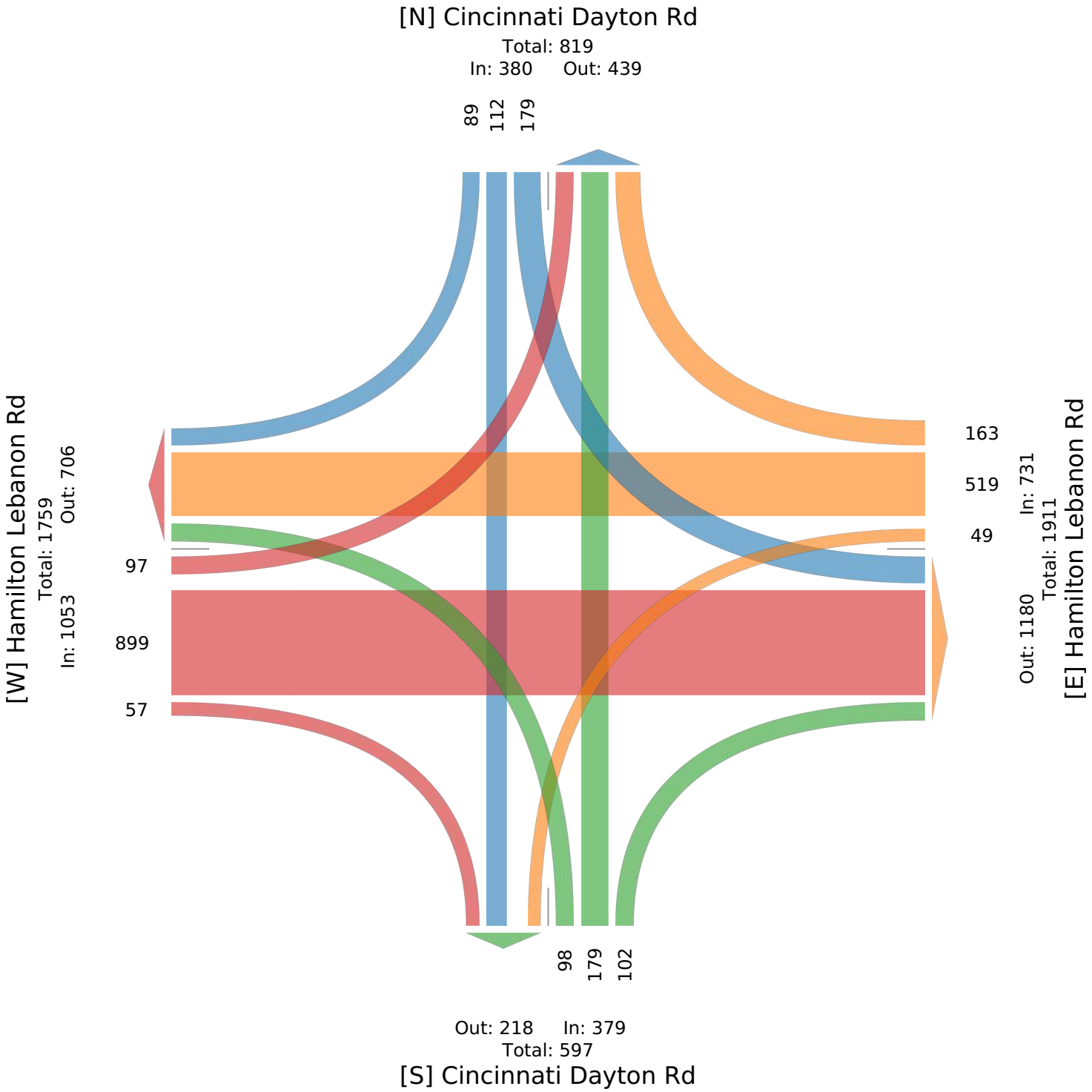
Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

| Leg | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | | Westbound | | | | | Northbound | | | | | Eastbound | | | | | |
| Time | R | T | L | U | **App** | R | T | L | U | **App** | R | T | L | U | **App** | R | T | L | U | **App** | **Int** |
| 2024-09-12 7:15AM | 14 | 25 | 47 | 0 | **86** | 42 | 124 | 12 | 0 | **178** | 24 | 35 | 39 | 0 | **98** | 16 | 214 | 12 | 0 | **242** | **604** |
| 7:30AM | 14 | 30 | 47 | 0 | **91** | 36 | 146 | 10 | 0 | **192** | 30 | 44 | 19 | 0 | **93** | 14 | 269 | 19 | 0 | **302** | **678** |
| 7:45AM | 31 | 22 | 40 | 0 | **93** | 51 | 136 | 14 | 0 | **201** | 20 | 60 | 16 | 0 | **96** | 19 | 229 | 32 | 0 | **280** | **670** |
| 8:00AM | 30 | 35 | 45 | 0 | **110** | 34 | 113 | 13 | 0 | **160** | 28 | 40 | 24 | 0 | **92** | 8 | 187 | 34 | 0 | **229** | **591** |
| **Total** | 89 | 112 | 179 | 0 | **380** | 163 | 519 | 49 | 0 | **731** | 102 | 179 | 98 | 0 | **379** | 57 | 899 | 97 | 0 | **1053** | **2543** |
| **% Approach** | 23.4% | 29.5% | 47.1% | 0% | **-** | 22.3% | 71.0% | 6.7% | 0% | **-** | 26.9% | 47.2% | 25.9% | 0% | **-** | 5.4% | 85.4% | 9.2% | 0% | **-** | - |
| **% Total** | 3.5% | 4.4% | 7.0% | 0% | **14.9%** | 6.4% | 20.4% | 1.9% | 0% | **28.7%** | 4.0% | 7.0% | 3.9% | 0% | **14.9%** | 2.2% | 35.4% | 3.8% | 0% | **41.4%** | - |
| **PHF** | 0.718 | 0.800 | 0.952 | - | **0.864** | 0.799 | 0.889 | 0.875 | - | **0.909** | 0.850 | 0.746 | 0.628 | - | **0.967** | 0.750 | 0.836 | 0.713 | - | **0.872** | 0.938 |
| **Lights** | 84 | 109 | 148 | 0 | **341** | 133 | 443 | 46 | 0 | **622** | 102 | 177 | 97 | 0 | **376** | 49 | 802 | 91 | 0 | **942** | 2281 |
| **% Lights** | 94.4% | 97.3% | 82.7% | 0% | **89.7%** | 81.6% | 85.4% | 93.9% | 0% | **85.1%** | 100% | 98.9% | 99.0% | 0% | **99.2%** | 86.0% | 89.2% | 93.8% | 0% | **89.5%** | 89.7% |
| **Articulated Trucks** | 3 | 2 | 20 | 0 | **25** | 13 | 42 | 0 | 0 | **55** | 0 | 0 | 0 | 0 | **0** | 0 | 50 | 2 | 0 | **52** | 132 |
| **% Articulated Trucks** | 3.4% | 1.8% | 11.2% | 0% | **6.6%** | 8.0% | 8.1% | 0% | 0% | **7.5%** | 0% | 0% | 0% | 0% | **0%** | 0% | 5.6% | 2.1% | 0% | **4.9%** | 5.2% |
| **Buses and Single-Unit Trucks** | 2 | 1 | 11 | 0 | **14** | 17 | 34 | 3 | 0 | **54** | 0 | 2 | 1 | 0 | **3** | 8 | 47 | 4 | 0 | **59** | 130 |
| **% Buses and Single-Unit Trucks** | 2.2% | 0.9% | 6.1% | 0% | **3.7%** | 10.4% | 6.6% | 6.1% | 0% | **7.4%** | 0% | 1.1% | 1.0% | 0% | **0.8%** | 14.0% | 5.2% | 4.1% | 0% | **5.6%** | 5.1% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC**
Thu Sep 12, 2024
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC

Thu Sep 12, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

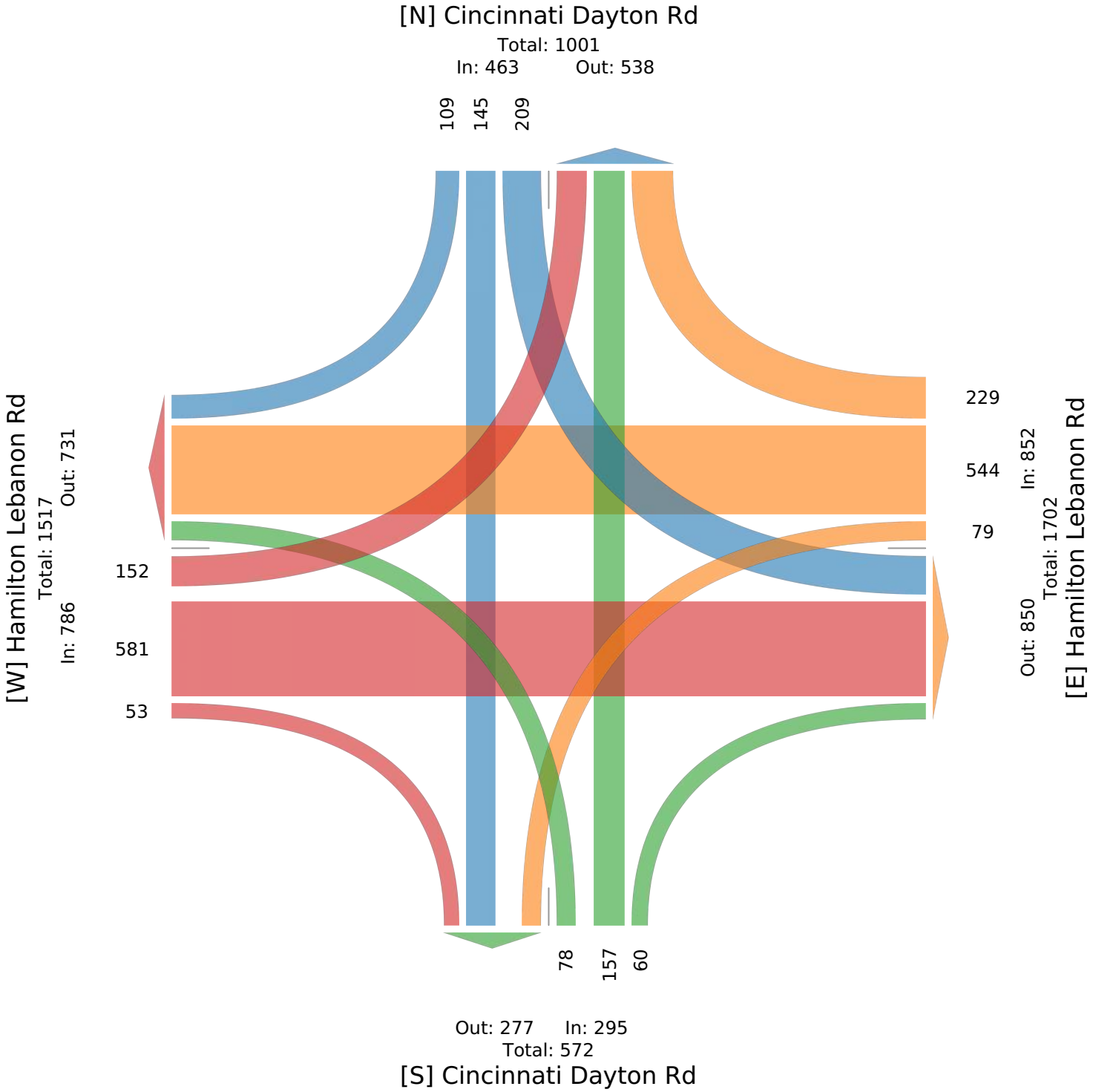
Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

| Leg | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | | Westbound | | | | | Northbound | | | | | Eastbound | | | | | |
| Time | R | T | L | U | App | R | T | L | U | App | R | T | L | U | App | R | T | L | U | App | Int |
| 2024-09-12 12:00PM | 22 | 28 | 48 | 0 | **98** | 51 | 127 | 18 | 0 | **196** | 17 | 48 | 15 | 0 | **80** | 12 | 174 | 43 | 0 | **229** | **603** |
| 12:15PM | 40 | 57 | 56 | 0 | **153** | 59 | 137 | 24 | 0 | **220** | 15 | 42 | 21 | 0 | **78** | 15 | 150 | 28 | 0 | **193** | **644** |
| 12:30PM | 28 | 36 | 58 | 0 | **122** | 58 | 140 | 20 | 0 | **218** | 13 | 20 | 19 | 0 | **52** | 9 | 132 | 32 | 0 | **173** | **565** |
| 12:45PM | 19 | 24 | 47 | 0 | **90** | 61 | 140 | 17 | 0 | **218** | 15 | 47 | 23 | 0 | **85** | 17 | 125 | 49 | 0 | **191** | **584** |
| **Total** | 109 | 145 | 209 | 0 | **463** | 229 | 544 | 79 | 0 | **852** | 60 | 157 | 78 | 0 | **295** | 53 | 581 | 152 | 0 | **786** | **2396** |
| **% Approach** | 23.5% | 31.3% | 45.1% | 0% | **-** | 26.9% | 63.8% | 9.3% | 0% | **-** | 20.3% | 53.2% | 26.4% | 0% | **-** | 6.7% | 73.9% | 19.3% | 0% | **-** | - |
| **% Total** | 4.5% | 6.1% | 8.7% | 0% | **19.3%** | 9.6% | 22.7% | 3.3% | 0% | **35.6%** | 2.5% | 6.6% | 3.3% | 0% | **12.3%** | 2.2% | 24.2% | 6.3% | 0% | **32.8%** | - |
| **PHF** | 0.681 | 0.636 | 0.901 | - | **0.757** | 0.939 | 0.971 | 0.823 | - | **0.968** | 0.882 | 0.818 | 0.848 | - | **0.868** | 0.779 | 0.835 | 0.776 | - | **0.858** | 0.930 |
| **Lights** | 101 | 142 | 169 | 0 | **412** | 167 | 431 | 76 | 0 | **674** | 57 | 153 | 77 | 0 | **287** | 51 | 496 | 145 | 0 | **692** | 2065 |
| **% Lights** | 92.7% | 97.9% | 80.9% | 0% | **89.0%** | 72.9% | 79.2% | 96.2% | 0% | **79.1%** | 95.0% | 97.5% | 98.7% | 0% | **97.3%** | 96.2% | 85.4% | 95.4% | 0% | **88.0%** | 86.2% |
| **Articulated Trucks** | 1 | 2 | 20 | 0 | **23** | 37 | 58 | 1 | 0 | **96** | 1 | 0 | 0 | 0 | **1** | 0 | 58 | 0 | 0 | **58** | 178 |
| **% Articulated Trucks** | 0.9% | 1.4% | 9.6% | 0% | **5.0%** | 16.2% | 10.7% | 1.3% | 0% | **11.3%** | 1.7% | 0% | 0% | 0% | **0.3%** | 0% | 10.0% | 0% | 0% | **7.4%** | 7.4% |
| **Buses and Single-Unit Trucks** | 7 | 1 | 20 | 0 | **28** | 25 | 55 | 2 | 0 | **82** | 2 | 4 | 1 | 0 | **7** | 2 | 27 | 7 | 0 | **36** | 153 |
| **% Buses and Single-Unit Trucks** | 6.4% | 0.7% | 9.6% | 0% | **6.0%** | 10.9% | 10.1% | 2.5% | 0% | **9.6%** | 3.3% | 2.5% | 1.3% | 0% | **2.4%** | 3.8% | 4.6% | 4.6% | 0% | **4.6%** | 6.4% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC**
Thu Sep 12, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC

Thu Sep 12, 2024
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

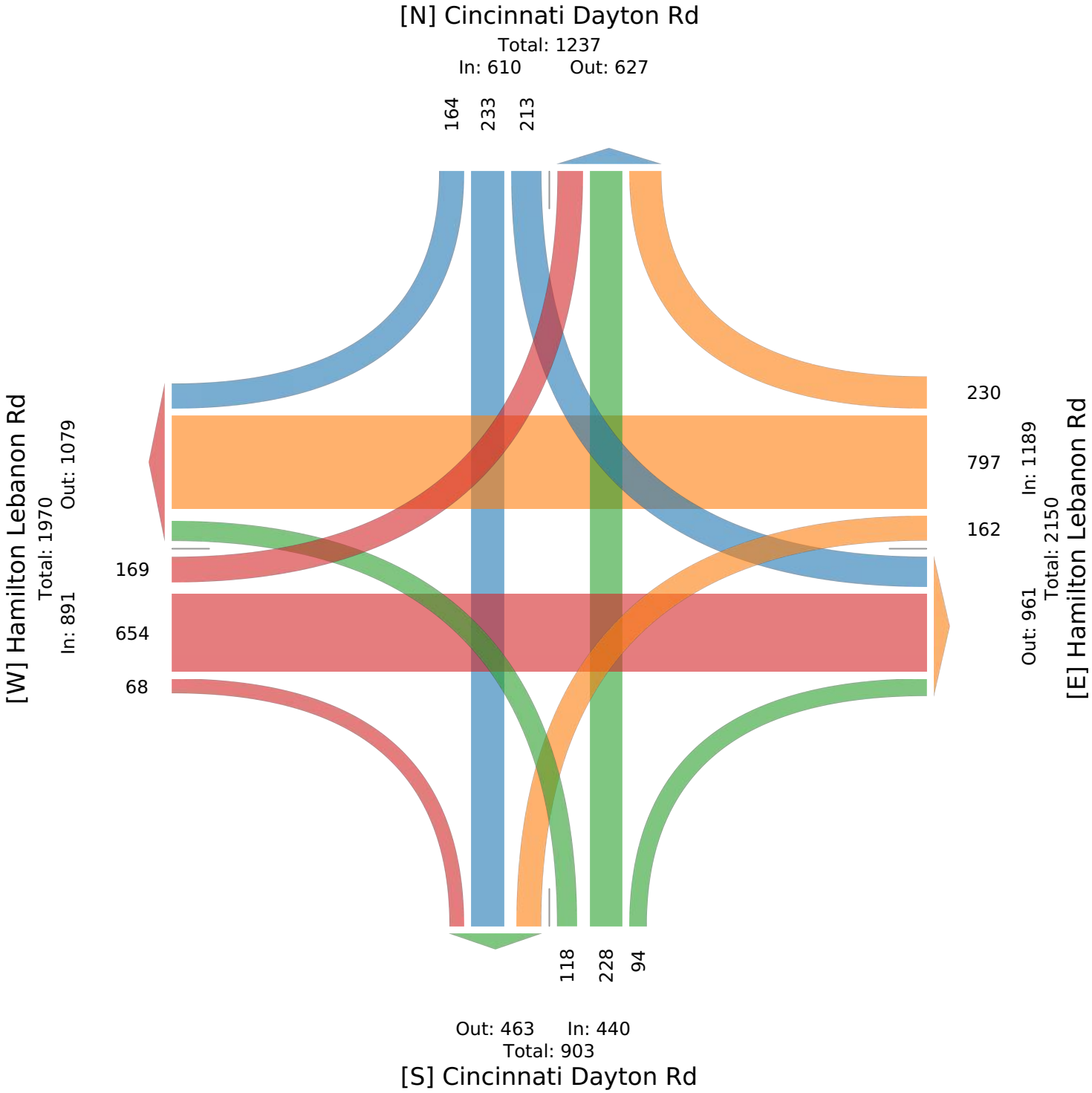
Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

| Leg | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | Cincinnati Dayton Rd | | | | | Hamilton Lebanon Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | | Westbound | | | | | Northbound | | | | | Eastbound | | | | | |
| Time | R | T | L | U | App | R | T | L | U | App | R | T | L | U | App | R | T | L | U | App | Int |
| 2024-09-12 4:45PM | 44 | 59 | 50 | 0 | **153** | 61 | 207 | 29 | 0 | **297** | 26 | 71 | 21 | 0 | **118** | 17 | 173 | 39 | 0 | **229** | **797** |
| 5:00PM | 43 | 68 | 64 | 0 | **175** | 59 | 226 | 35 | 0 | **320** | 21 | 51 | 24 | 0 | **96** | 10 | 167 | 52 | 0 | **229** | **820** |
| 5:15PM | 38 | 57 | 46 | 0 | **141** | 66 | 178 | 45 | 0 | **289** | 16 | 52 | 46 | 0 | **114** | 20 | 159 | 32 | 0 | **211** | **755** |
| 5:30PM | 39 | 49 | 53 | 0 | **141** | 44 | 186 | 53 | 0 | **283** | 31 | 54 | 27 | 0 | **112** | 21 | 155 | 46 | 0 | **222** | **758** |
| **Total** | 164 | 233 | 213 | 0 | **610** | 230 | 797 | 162 | 0 | **1189** | 94 | 228 | 118 | 0 | **440** | 68 | 654 | 169 | 0 | **891** | **3130** |
| **% Approach** | 26.9% | 38.2% | 34.9% | 0% | **-** | 19.3% | 67.0% | 13.6% | 0% | **-** | 21.4% | 51.8% | 26.8% | 0% | **-** | 7.6% | 73.4% | 19.0% | 0% | **-** | - |
| **% Total** | 5.2% | 7.4% | 6.8% | 0% | **19.5%** | 7.3% | 25.5% | 5.2% | 0% | **38.0%** | 3.0% | 7.3% | 3.8% | 0% | **14.1%** | 2.2% | 20.9% | 5.4% | 0% | **28.5%** | - |
| **PHF** | 0.932 | 0.857 | 0.832 | - | **0.871** | 0.871 | 0.882 | 0.764 | - | **0.929** | 0.758 | 0.803 | 0.641 | - | **0.932** | 0.810 | 0.945 | 0.813 | - | **0.973** | 0.954 |
| **Lights** | 162 | 233 | 204 | 0 | **599** | 212 | 760 | 161 | 0 | **1133** | 91 | 227 | 118 | 0 | **436** | 66 | 616 | 164 | 0 | **846** | 3014 |
| **% Lights** | 98.8% | 100% | 95.8% | 0% | **98.2%** | 92.2% | 95.4% | 99.4% | 0% | **95.3%** | 96.8% | 99.6% | 100% | 0% | **99.1%** | 97.1% | 94.2% | 97.0% | 0% | **94.9%** | 96.3% |
| **Articulated Trucks** | 1 | 0 | 4 | 0 | **5** | 14 | 22 | 1 | 0 | **37** | 0 | 0 | 0 | 0 | **0** | 0 | 30 | 1 | 0 | **31** | 73 |
| **% Articulated Trucks** | 0.6% | 0% | 1.9% | 0% | **0.8%** | 6.1% | 2.8% | 0.6% | 0% | **3.1%** | 0% | 0% | 0% | 0% | **0%** | 0% | 4.6% | 0.6% | 0% | **3.5%** | 2.3% |
| **Buses and Single-Unit Trucks** | 1 | 0 | 5 | 0 | **6** | 4 | 15 | 0 | 0 | **19** | 3 | 1 | 0 | 0 | **4** | 2 | 8 | 4 | 0 | **14** | 43 |
| **% Buses and Single-Unit Trucks** | 0.6% | 0% | 2.3% | 0% | **1.0%** | 1.7% | 1.9% | 0% | 0% | **1.6%** | 3.2% | 0.4% | 0% | 0% | **0.9%** | 2.9% | 1.2% | 2.4% | 0% | **1.6%** | 1.4% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Cincinnati Dayton Rd - TMC**
Thu Sep 12, 2024
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224607, Location: 39.444979, -84.361112

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Lawton Ave - TMC

Thu Sep 12, 2024
Full Length (6 AM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

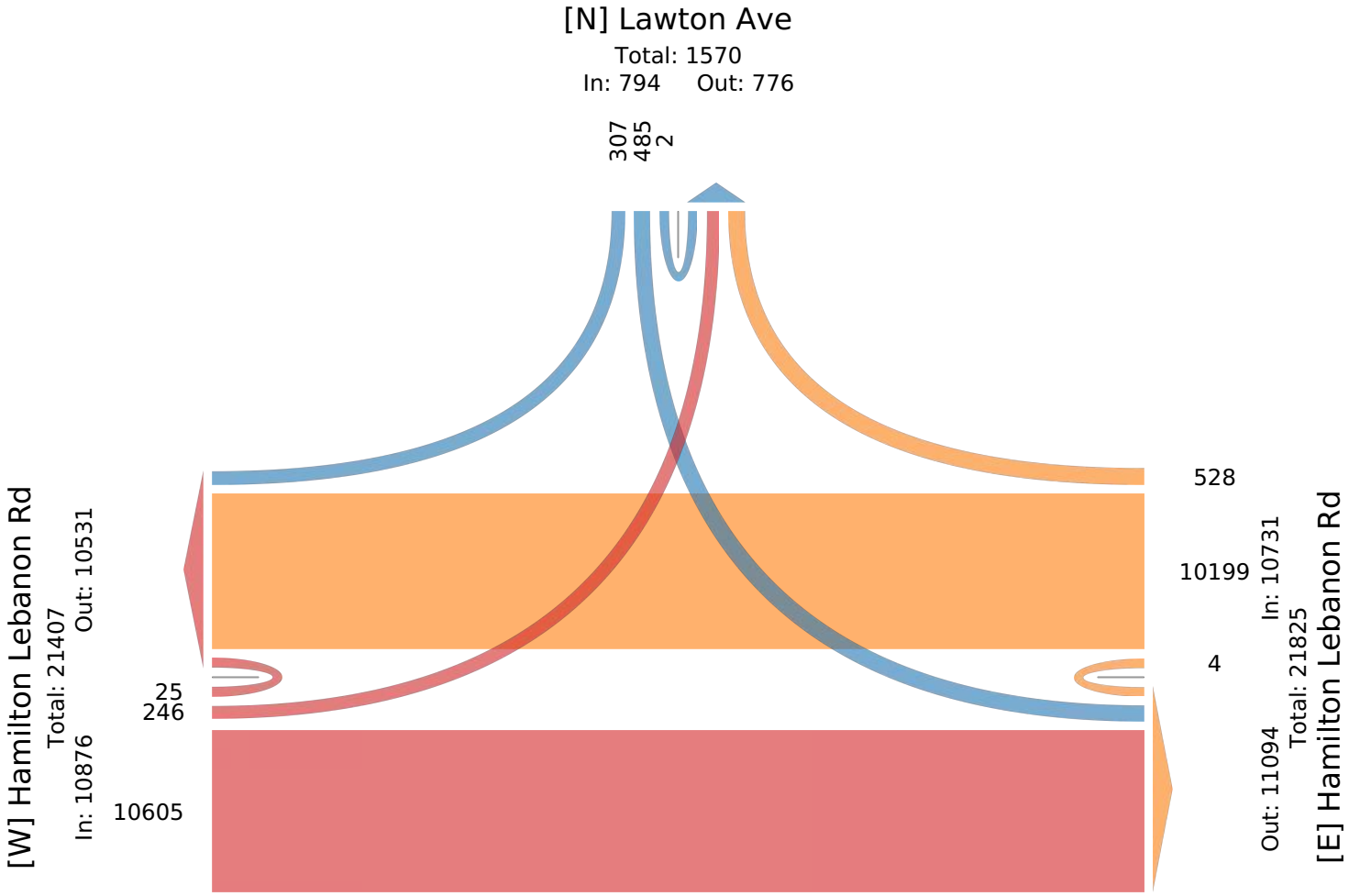
| Leg | Lawton Ave | | | | Hamilton Lebanon Rd | | | | Hamilton Lebanon Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | Westbound | | | | Eastbound | | | | |
| Time | R | L | U | **App** | R | T | U | **App** | T | L | U | **App** | **Int** |
| 2024-09-12 6:00AM | 1 | 2 | 0 | **3** | 10 | 106 | 0 | **116** | 198 | 8 | 0 | **206** | **325** |
| 6:15AM | 0 | 3 | 0 | **3** | 16 | 143 | 0 | **159** | 228 | 11 | 0 | **239** | **401** |
| 6:30AM | 0 | 2 | 0 | **2** | 24 | 147 | 0 | **171** | 291 | 26 | 1 | **318** | **491** |
| 6:45AM | 4 | 4 | 0 | **8** | 39 | 142 | 0 | **181** | 239 | 29 | 0 | **268** | **457** |
| Hourly Total | 5 | 11 | 0 | **16** | 89 | 538 | 0 | **627** | 956 | 74 | 1 | **1031** | **1674** |
| 7:00AM | 4 | 10 | 0 | **14** | 27 | 158 | 0 | **185** | 277 | 5 | 0 | **282** | **481** |
| 7:15AM | 8 | 12 | 0 | **20** | 13 | 190 | 0 | **203** | 286 | 7 | 0 | **293** | **516** |
| 7:30AM | 12 | 2 | 0 | **14** | 12 | 198 | 0 | **210** | 347 | 3 | 0 | **350** | **574** |
| 7:45AM | 2 | 12 | 0 | **14** | 13 | 203 | 0 | **216** | 258 | 13 | 0 | **271** | **501** |
| Hourly Total | 26 | 36 | 0 | **62** | 65 | 749 | 0 | **814** | 1168 | 28 | 0 | **1196** | **2072** |
| 8:00AM | 3 | 10 | 0 | **13** | 18 | 163 | 0 | **181** | 256 | 3 | 0 | **259** | **453** |
| 8:15AM | 6 | 9 | 0 | **15** | 8 | 182 | 0 | **190** | 210 | 3 | 0 | **213** | **418** |
| 8:30AM | 2 | 3 | 0 | **5** | 13 | 157 | 0 | **170** | 234 | 4 | 1 | **239** | **414** |
| 8:45AM | 2 | 1 | 0 | **3** | 8 | 173 | 0 | **181** | 251 | 4 | 1 | **256** | **440** |
| Hourly Total | 13 | 23 | 0 | **36** | 47 | 675 | 0 | **722** | 951 | 14 | 2 | **967** | **1725** |
| 9:00AM | 3 | 5 | 0 | **8** | 7 | 105 | 0 | **112** | 188 | 4 | 0 | **192** | **312** |
| 9:15AM | 1 | 12 | 0 | **13** | 11 | 157 | 0 | **168** | 217 | 1 | 0 | **218** | **399** |
| 9:30AM | 6 | 11 | 0 | **17** | 7 | 165 | 0 | **172** | 179 | 2 | 0 | **181** | **370** |
| 9:45AM | 3 | 10 | 0 | **13** | 9 | 147 | 0 | **156** | 162 | 5 | 1 | **168** | **337** |
| Hourly Total | 13 | 38 | 0 | **51** | 34 | 574 | 0 | **608** | 746 | 12 | 1 | **759** | **1418** |
| 10:00AM | 2 | 3 | 0 | **5** | 10 | 141 | 0 | **151** | 175 | 1 | 1 | **177** | **333** |
| 10:15AM | 5 | 7 | 0 | **12** | 15 | 147 | 0 | **162** | 168 | 2 | 0 | **170** | **344** |
| 10:30AM | 0 | 14 | 0 | **14** | 12 | 158 | 0 | **170** | 185 | 0 | 1 | **186** | **370** |
| 10:45AM | 2 | 5 | 0 | **7** | 5 | 155 | 0 | **160** | 176 | 5 | 0 | **181** | **348** |
| Hourly Total | 9 | 29 | 0 | **38** | 42 | 601 | 0 | **643** | 704 | 8 | 2 | **714** | **1395** |
| 11:00AM | 6 | 14 | 0 | **20** | 9 | 156 | 1 | **166** | 196 | 2 | 1 | **199** | **385** |
| 11:15AM | 3 | 7 | 0 | **10** | 8 | 184 | 0 | **192** | 199 | 7 | 1 | **207** | **409** |
| 11:30AM | 8 | 14 | 0 | **22** | 8 | 228 | 0 | **236** | 176 | 3 | 0 | **179** | **437** |
| 11:45AM | 9 | 12 | 0 | **21** | 18 | 232 | 0 | **250** | 177 | 3 | 1 | **181** | **452** |
| Hourly Total | 26 | 47 | 0 | **73** | 43 | 800 | 1 | **844** | 748 | 15 | 3 | **766** | **1683** |
| 12:00PM | 8 | 16 | 0 | **24** | 10 | 208 | 1 | **219** | 243 | 8 | 0 | **251** | **494** |
| 12:15PM | 3 | 14 | 0 | **17** | 18 | 212 | 0 | **230** | 217 | 3 | 0 | **220** | **467** |
| 12:30PM | 6 | 14 | 0 | **20** | 8 | 233 | 0 | **241** | 195 | 4 | 0 | **199** | **460** |
| 12:45PM | 8 | 10 | 0 | **18** | 15 | 233 | 0 | **248** | 195 | 6 | 2 | **203** | **469** |
| Hourly Total | 25 | 54 | 0 | **79** | 51 | 886 | 1 | **938** | 850 | 21 | 2 | **873** | **1890** |
| 1:00PM | 3 | 7 | 0 | **10** | 9 | 231 | 0 | **240** | 212 | 4 | 1 | **217** | **467** |
| 1:15PM | 2 | 8 | 0 | **10** | 11 | 205 | 1 | **217** | 202 | 6 | 0 | **208** | **435** |
| 1:30PM | 4 | 15 | 0 | **19** | 8 | 219 | 1 | **228** | 186 | 7 | 0 | **193** | **440** |
| 1:45PM | 7 | 11 | 0 | **18** | 11 | 238 | 0 | **249** | 194 | 3 | 0 | **197** | **464** |
| Hourly Total | 16 | 41 | 0 | **57** | 39 | 893 | 2 | **934** | 794 | 20 | 1 | **815** | **1806** |
| 2:00PM | 8 | 10 | 0 | **18** | 11 | 220 | 0 | **231** | 245 | 2 | 3 | **250** | **499** |
| 2:15PM | 7 | 5 | 0 | **12** | 9 | 227 | 0 | **236** | 214 | 2 | 0 | **216** | **464** |
| 2:30PM | 5 | 16 | 0 | **21** | 16 | 253 | 0 | **269** | 234 | 6 | 1 | **241** | **531** |
| 2:45PM | 5 | 10 | 0 | **15** | 23 | 219 | 0 | **242** | 219 | 9 | 1 | **229** | **486** |
| Hourly Total | 25 | 41 | 0 | **66** | 59 | 919 | 0 | **978** | 912 | 19 | 5 | **936** | **1980** |
| 3:00PM | 25 | 26 | 1 | **52** | 5 | 281 | 0 | **286** | 235 | 6 | 2 | **243** | **581** |
| 3:15PM | 16 | 20 | 1 | **37** | 5 | 291 | 0 | **296** | 201 | 3 | 1 | **205** | **538** |
| 3:30PM | 18 | 20 | 0 | **38** | 1 | 242 | 0 | **243** | 273 | 5 | 0 | **278** | **559** |
| 3:45PM | 9 | 7 | 0 | **16** | 7 | 308 | 0 | **315** | 244 | 2 | 0 | **246** | **577** |
| Hourly Total | 68 | 73 | 2 | **143** | 18 | 1122 | 0 | **1140** | 953 | 16 | 3 | **972** | **2255** |
| 4:00PM | 14 | 17 | 0 | **31** | 4 | 303 | 0 | **307** | 231 | 0 | 1 | **232** | **570** |
| 4:15PM | 9 | 10 | 0 | **19** | 5 | 286 | 0 | **291** | 235 | 2 | 1 | **238** | **548** |
| 4:30PM | 17 | 9 | 0 | **26** | 7 | 320 | 0 | **327** | 235 | 7 | 1 | **243** | **596** |
| 4:45PM | 11 | 10 | 0 | **21** | 12 | 303 | 0 | **315** | 234 | 4 | 1 | **239** | **575** |

| Leg | Lawton Ave | | | | Hamilton Lebanon Rd | | | | Hamilton Lebanon Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | Westbound | | | | Eastbound | | | | |
| Time | R | L | U | **App** | R | T | U | **App** | T | L | U | **App** | **Int** |
| Hourly Total | 51 | 46 | 0 | **97** | 28 | 1212 | 0 | **1240** | 935 | 13 | 4 | **952** | **2289** |
| 5:00PM | 9 | 21 | 0 | **30** | 3 | 330 | 0 | **333** | 258 | 3 | 0 | **261** | **624** |
| 5:15PM | 9 | 8 | 0 | **17** | 2 | 331 | 0 | **333** | 208 | 2 | 0 | **210** | **560** |
| 5:30PM | 11 | 6 | 0 | **17** | 1 | 286 | 0 | **287** | 229 | 1 | 0 | **230** | **534** |
| 5:45PM | 1 | 11 | 0 | **12** | 7 | 283 | 0 | **290** | 193 | 0 | 1 | **194** | **496** |
| Hourly Total | 30 | 46 | 0 | **76** | 13 | 1230 | 0 | **1243** | 888 | 6 | 1 | **895** | **2214** |
| **Total** | 307 | 485 | 2 | **794** | 528 | 10199 | 4 | **10731** | 10605 | 246 | 25 | **10876** | **22401** |
| **% Approach** | 38.7% | 61.1% | 0.3% | **-** | 4.9% | 95.0% | 0% | **-** | 97.5% | 2.3% | 0.2% | **-** | - |
| **% Total** | 1.4% | 2.2% | 0% | **3.5%** | 2.4% | 45.5% | 0% | **47.9%** | 47.3% | 1.1% | 0.1% | **48.6%** | - |
| **Lights** | 278 | 315 | 2 | **595** | 336 | 8708 | 4 | **9048** | 9250 | 214 | 25 | **9489** | 19132 |
| **% Lights** | 90.6% | 64.9% | 100% | **74.9%** | 63.6% | 85.4% | 100% | **84.3%** | 87.2% | 87.0% | 100% | **87.2%** | 85.4% |
| **Articulated Trucks** | 24 | 134 | 0 | **158** | 140 | 862 | 0 | **1002** | 732 | 19 | 0 | **751** | 1911 |
| **% Articulated Trucks** | 7.8% | 27.6% | 0% | **19.9%** | 26.5% | 8.5% | 0% | **9.3%** | 6.9% | 7.7% | 0% | **6.9%** | 8.5% |
| **Buses and Single-Unit Trucks** | 5 | 36 | 0 | **41** | 52 | 629 | 0 | **681** | 623 | 13 | 0 | **636** | 1358 |
| **% Buses and Single-Unit Trucks** | 1.6% | 7.4% | 0% | **5.2%** | 9.8% | 6.2% | 0% | **6.3%** | 5.9% | 5.3% | 0% | **5.8%** | 6.1% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Lawton Ave - TMC**
Thu Sep 12, 2024
Full Length (6 AM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Lawton Ave - TMC

Thu Sep 12, 2024
AM Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

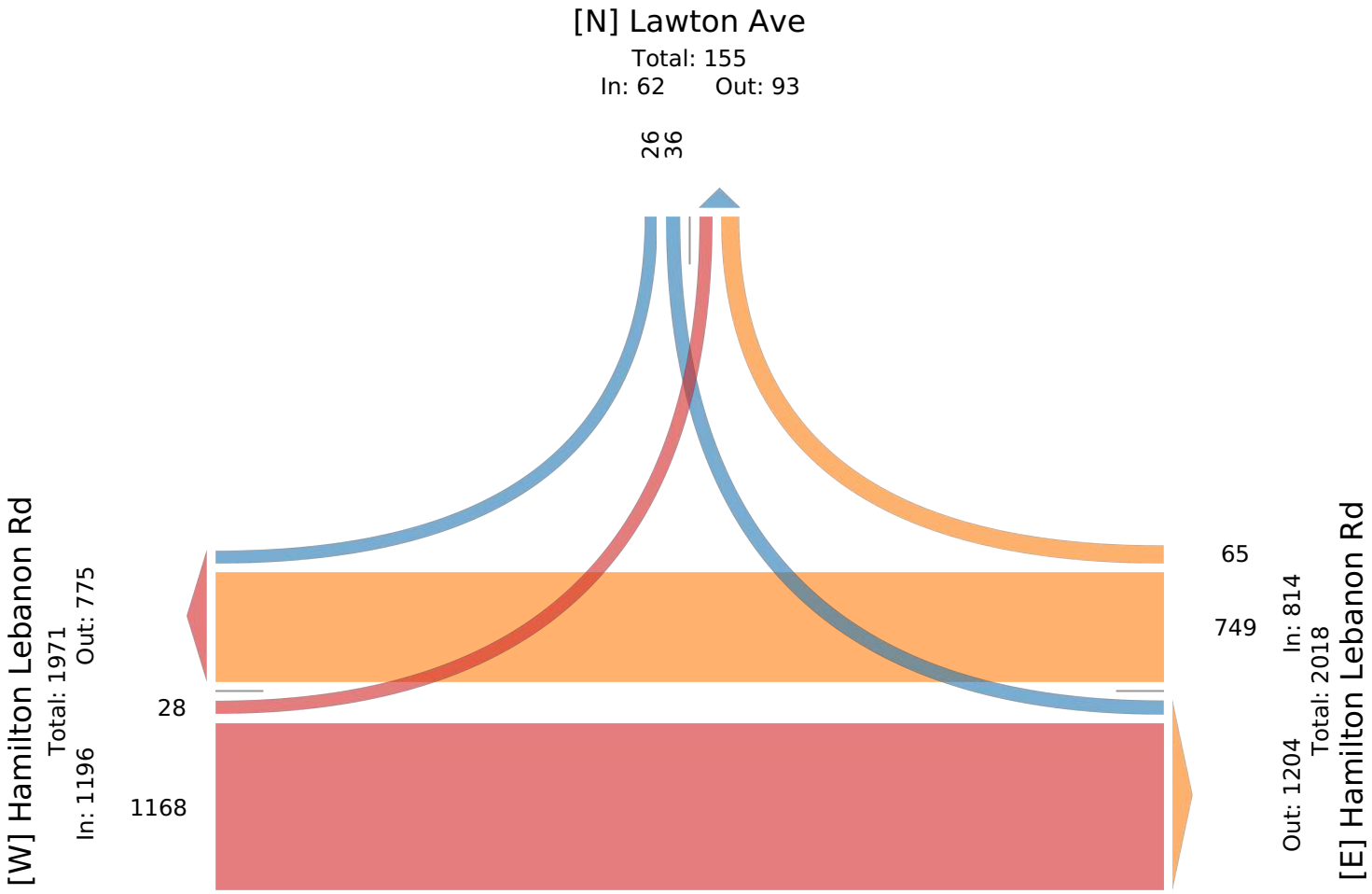
Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

| Leg | Lawton Ave | | | | Hamilton Lebanon Rd | | | | Hamilton Lebanon Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | Westbound | | | | Eastbound | | | | |
| Time | R | L | U | **App** | R | T | U | **App** | T | L | U | **App** | **Int** |
| 2024-09-12 7:00AM | 4 | 10 | 0 | **14** | 27 | 158 | 0 | **185** | 277 | 5 | 0 | **282** | **481** |
| 7:15AM | 8 | 12 | 0 | **20** | 13 | 190 | 0 | **203** | 286 | 7 | 0 | **293** | **516** |
| 7:30AM | 12 | 2 | 0 | **14** | 12 | 198 | 0 | **210** | 347 | 3 | 0 | **350** | **574** |
| 7:45AM | 2 | 12 | 0 | **14** | 13 | 203 | 0 | **216** | 258 | 13 | 0 | **271** | **501** |
| **Total** | 26 | 36 | 0 | **62** | 65 | 749 | 0 | **814** | 1168 | 28 | 0 | **1196** | **2072** |
| **% Approach** | 41.9% | 58.1% | 0% | **-** | 8.0% | 92.0% | 0% | **-** | 97.7% | 2.3% | 0% | **-** | - |
| **% Total** | 1.3% | 1.7% | 0% | **3.0%** | 3.1% | 36.1% | 0% | **39.3%** | 56.4% | 1.4% | 0% | **57.7%** | - |
| **PHF** | 0.542 | 0.750 | - | **0.775** | 0.602 | 0.922 | - | **0.942** | 0.841 | 0.538 | - | **0.854** | 0.902 |
| **Lights** | 22 | 21 | 0 | **43** | 53 | 633 | 0 | **686** | 1045 | 24 | 0 | **1069** | 1798 |
| **% Lights** | 84.6% | 58.3% | 0% | **69.4%** | 81.5% | 84.5% | 0% | **84.3%** | 89.5% | 85.7% | 0% | **89.4%** | 86.8% |
| **Articulated Trucks** | 4 | 7 | 0 | **11** | 11 | 60 | 0 | **71** | 53 | 3 | 0 | **56** | 138 |
| **% Articulated Trucks** | 15.4% | 19.4% | 0% | **17.7%** | 16.9% | 8.0% | 0% | **8.7%** | 4.5% | 10.7% | 0% | **4.7%** | 6.7% |
| **Buses and Single-Unit Trucks** | 0 | 8 | 0 | **8** | 1 | 56 | 0 | **57** | 70 | 1 | 0 | **71** | 136 |
| **% Buses and Single-Unit Trucks** | 0% | 22.2% | 0% | **12.9%** | 1.5% | 7.5% | 0% | **7.0%** | 6.0% | 3.6% | 0% | **5.9%** | 6.6% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Lawton Ave - TMC**
Thu Sep 12, 2024
AM Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Lawton Ave - TMC

Thu Sep 12, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

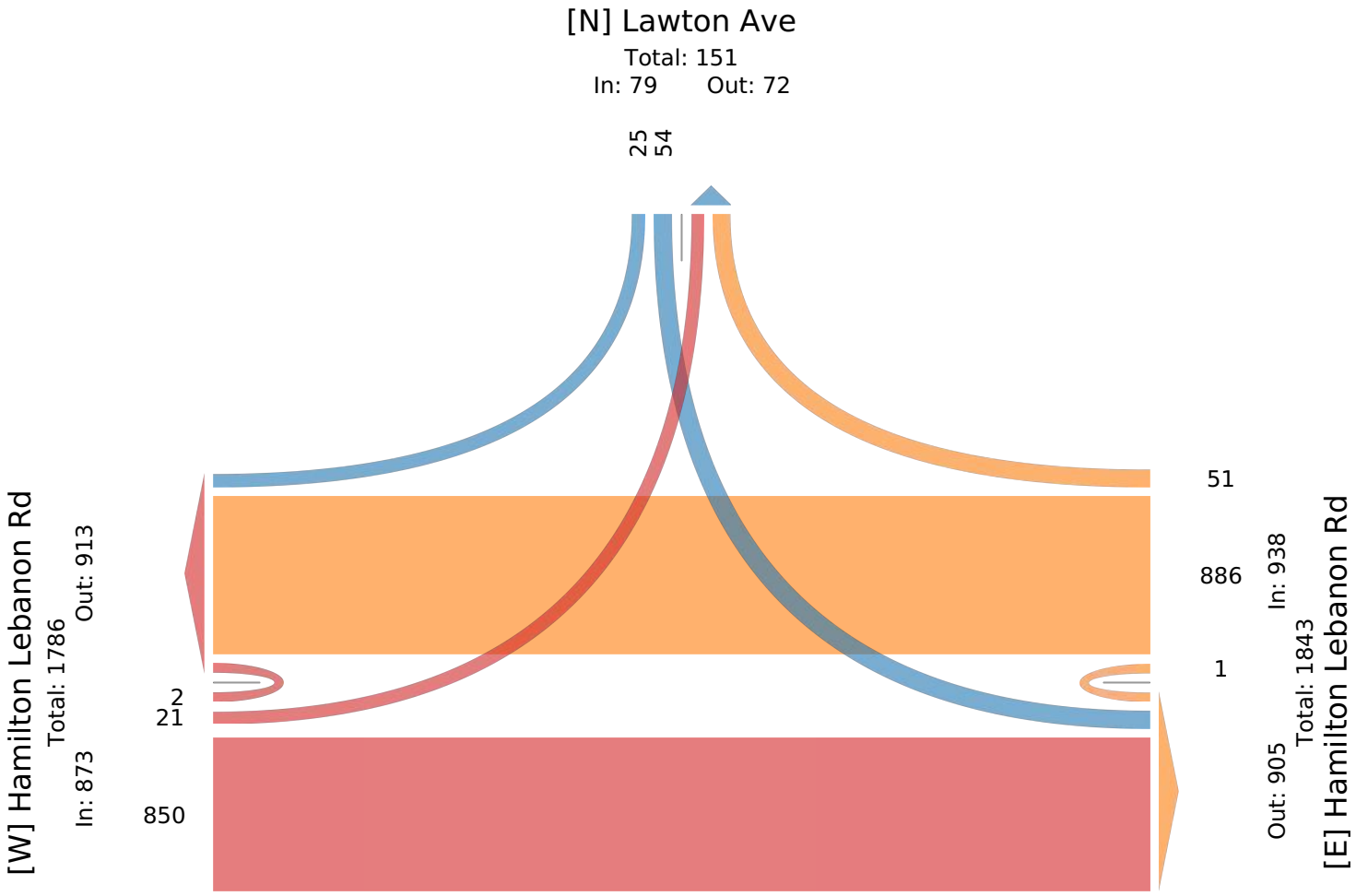
Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

| Leg | Lawton Ave | | | | Hamilton Lebanon Rd | | | | Hamilton Lebanon Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | Westbound | | | | Eastbound | | | | |
| Time | R | L | U | **App** | R | T | U | **App** | T | L | U | **App** | **Int** |
| 2024-09-12 12:00PM | 8 | 16 | 0 | **24** | 10 | 208 | 1 | **219** | 243 | 8 | 0 | **251** | **494** |
| 12:15PM | 3 | 14 | 0 | **17** | 18 | 212 | 0 | **230** | 217 | 3 | 0 | **220** | **467** |
| 12:30PM | 6 | 14 | 0 | **20** | 8 | 233 | 0 | **241** | 195 | 4 | 0 | **199** | **460** |
| 12:45PM | 8 | 10 | 0 | **18** | 15 | 233 | 0 | **248** | 195 | 6 | 2 | **203** | **469** |
| **Total** | 25 | 54 | 0 | **79** | 51 | 886 | 1 | **938** | 850 | 21 | 2 | **873** | **1890** |
| **% Approach** | 31.6% | 68.4% | 0% | **-** | 5.4% | 94.5% | 0.1% | **-** | 97.4% | 2.4% | 0.2% | **-** | - |
| **% Total** | 1.3% | 2.9% | 0% | **4.2%** | 2.7% | 46.9% | 0.1% | **49.6%** | 45.0% | 1.1% | 0.1% | **46.2%** | - |
| **PHF** | 0.781 | 0.844 | - | **0.823** | 0.708 | 0.951 | 0.250 | **0.946** | 0.874 | 0.656 | 0.250 | **0.870** | 0.956 |
| **Lights** | 20 | 37 | 0 | **57** | 31 | 714 | 1 | **746** | 720 | 18 | 2 | **740** | 1543 |
| **% Lights** | 80.0% | 68.5% | 0% | **72.2%** | 60.8% | 80.6% | 100% | **79.5%** | 84.7% | 85.7% | 100% | **84.8%** | 81.6% |
| **Articulated Trucks** | 5 | 13 | 0 | **18** | 16 | 98 | 0 | **114** | 80 | 1 | 0 | **81** | 213 |
| **% Articulated Trucks** | 20.0% | 24.1% | 0% | **22.8%** | 31.4% | 11.1% | 0% | **12.2%** | 9.4% | 4.8% | 0% | **9.3%** | 11.3% |
| **Buses and Single-Unit Trucks** | 0 | 4 | 0 | **4** | 4 | 74 | 0 | **78** | 50 | 2 | 0 | **52** | 134 |
| **% Buses and Single-Unit Trucks** | 0% | 7.4% | 0% | **5.1%** | 7.8% | 8.4% | 0% | **8.3%** | 5.9% | 9.5% | 0% | **6.0%** | 7.1% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Lawton Ave - TMC**
Thu Sep 12, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## Hamilton Lebanon Rd & Lawton Ave - TMC

Thu Sep 12, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

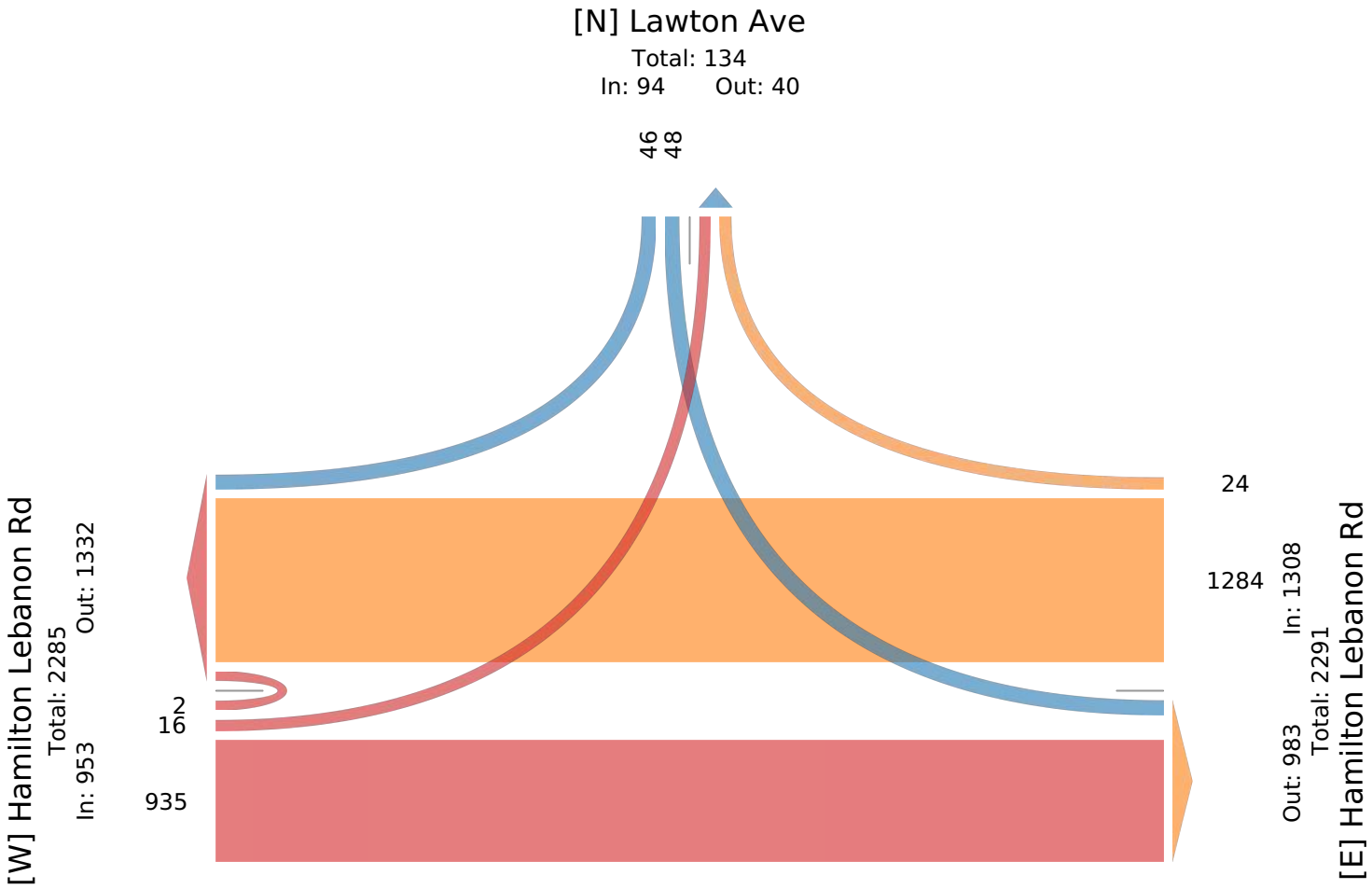
Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US

| Leg | Lawton Ave | | | | Hamilton Lebanon Rd | | | | Hamilton Lebanon Rd | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Southbound | | | | Westbound | | | | Eastbound | | | | |
| Time | R | L | U | **App** | R | T | U | **App** | T | L | U | **App** | **Int** |
| 2024-09-12 4:30PM | 17 | 9 | 0 | **26** | 7 | 320 | 0 | **327** | 235 | 7 | 1 | **243** | **596** |
| 4:45PM | 11 | 10 | 0 | **21** | 12 | 303 | 0 | **315** | 234 | 4 | 1 | **239** | **575** |
| 5:00PM | 9 | 21 | 0 | **30** | 3 | 330 | 0 | **333** | 258 | 3 | 0 | **261** | **624** |
| 5:15PM | 9 | 8 | 0 | **17** | 2 | 331 | 0 | **333** | 208 | 2 | 0 | **210** | **560** |
| **Total** | 46 | 48 | 0 | **94** | 24 | 1284 | 0 | **1308** | 935 | 16 | 2 | **953** | **2355** |
| **% Approach** | 48.9% | 51.1% | 0% | **-** | 1.8% | 98.2% | 0% | **-** | 98.1% | 1.7% | 0.2% | **-** | - |
| **% Total** | 2.0% | 2.0% | 0% | **4.0%** | 1.0% | 54.5% | 0% | **55.5%** | 39.7% | 0.7% | 0.1% | **40.5%** | - |
| **PHF** | 0.676 | 0.571 | - | **0.783** | 0.500 | 0.970 | - | **0.982** | 0.906 | 0.571 | 0.500 | **0.913** | 0.944 |
| **Lights** | 40 | 36 | 0 | **76** | 15 | 1219 | 0 | **1234** | 874 | 12 | 2 | **888** | 2198 |
| **% Lights** | 87.0% | 75.0% | 0% | **80.9%** | 62.5% | 94.9% | 0% | **94.3%** | 93.5% | 75.0% | 100% | **93.2%** | 93.3% |
| **Articulated Trucks** | 5 | 9 | 0 | **14** | 8 | 45 | 0 | **53** | 32 | 0 | 0 | **32** | 99 |
| **% Articulated Trucks** | 10.9% | 18.8% | 0% | **14.9%** | 33.3% | 3.5% | 0% | **4.1%** | 3.4% | 0% | 0% | **3.4%** | 4.2% |
| **Buses and Single-Unit Trucks** | 1 | 3 | 0 | **4** | 1 | 20 | 0 | **21** | 29 | 4 | 0 | **33** | 58 |
| **% Buses and Single-Unit Trucks** | 2.2% | 6.3% | 0% | **4.3%** | 4.2% | 1.6% | 0% | **1.6%** | 3.1% | 25.0% | 0% | **3.5%** | 2.5% |

*L: Left, R: Right, T: Thru, U: U-Turn

**Hamilton Lebanon Rd & Lawton Ave - TMC**
Thu Sep 12, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 1224573, Location: 39.442052, -84.347435

Provided by: Burgess & Niple, Inc
330 Rush Alley, Suite 700, Columbus, OH, 43215, US



## PROJECT DETAILS

| | | | |
|---|---|---|---|
| Project Name: | Cornerstone Monroe - 04-15-2025 | Type of Project: | |
| Project No: | | City: | |
| Country: | | Built-up Area(Sq.ft): | |
| Analyst Name: | Travis Hunt | Clients Name: | |
| Date: | 12/28/2024 | ZIP/Postal Code: | |
| State/Province: | | No. of Scenarios: | 6 |
| Analysis Region: | | | |

## SCENARIO SUMMARY

| Scenarios | Name | No. of Land Uses | Phases of Development | No. of Years to Project Traffic | User Group | Estimated New Vehicle Trips | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Entry | Exit | Total |
| Scenario - 1 | Daily Trips | 3 | 1 | 0 | | 2198 | 2198 | 4396 |
| Scenario - 2 | AM Peak | 3 | 1 | 0 | | 74 | 228 | 302 |
| Scenario - 3 | PM Peak | 3 | 1 | 0 | | 247 | 145 | 392 |
| Scenario - 4 | AM Peak with Commercial | 4 | 1 | 0 | | 213 | 313 | 526 |
| Scenario - 5 | Daily Trips with Commercial | 4 | 1 | 0 | | 6587 | 6587 | 13174 |
| Scenario - 6 | PM Peak with Commercial | 4 | 1 | 0 | | 578 | 489 | 1067 |

## Scenario - 1

Scenario Name: Daily Trips
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method / Rate/Equation | Entry / Split% | Exit / Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close | General Urban/Suburban | Dwelling Units | 240 | Weekday | Best Fit (LIN) | 807 | 807 | 1614 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | T = 6.41(X) + 75.31 | 50% | 50% | |
| 210 - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 210 | Weekday | Best Fit (LOG) | 998 | 998 | 1996 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | Ln(T) =0.92Ln(X) + 2.68 | 50% | 50% | |
| 220(1) - Multifamily Housing (Low-Rise) - Not | General Urban/Suburban | Dwelling Units | 111 | Weekday | Best Fit (LIN) | 393 | 393 | 786 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | T = 6.41(X) + 75.31 | 50% | 50% | |

## VEHICLE TO PERSON TRIP CONVERSION

**BASELINE SITE VEHICLE CHARACTERISTICS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 50 | 50 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 50 | 50 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 50 | 50 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|---|---|---|---|---|---|---|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 807 | 807 | 0 | 0 | 807 | 807 |
| | 1614 | | 0 | | 1614 | |
| 210 - Single-Family Detached Housing | 998 | 998 | 0 | 0 | 998 | 998 |
| | 1996 | | 0 | | 1996 | |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 393 | 393 | 0 | 0 | 393 | 393 |
| | 786 | | 0 | | 786 | |

## NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|---|---|---|---|
| | Entry | Exit | Total |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 807 | 807 | 1614 |
| 210 - Single-Family Detached Housing | 998 | 998 | 1996 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 393 | 393 | 786 |

## RESULTS

| Site Totals | Entry | Exit | Total |
|---|---|---|---|
| Vehicle Trips Before Reduction | 2198 | 2198 | 4396 |
| External Vehicle Trips | 2198 | 2198 | 4396 |
| New Vehicle Trips | 2198 | 2198 | 4396 |

## Scenario - 2

Scenario Name: AM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method<br>Rate/Equation | Entry<br>Split% | Exit<br>Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close | General Urban/Suburban | Dwelling Units | 240 | Weekday, Peak Hour of Adjacent Street Traffic, | Best Fit (LIN) | 23 | 74 | 97 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | T = 0.31(X) + 22.85 | 24% | 76% | |
| 210 - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 210 | Weekday, Peak Hour of Adjacent Street Traffic, | Best Fit (LOG) | 37 | 110 | 147 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | Ln(T) =0.91Ln(X) + 0.12 | 25% | 75% | |
| 220(1) - Multifamily Housing (Low-Rise) - Not | General Urban/Suburban | Dwelling Units | 111 | Weekday, Peak Hour of Adjacent Street Traffic, | Best Fit (LIN) | 14 | 44 | 58 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | T = 0.31(X) + 22.85 | 24% | 76% | |

## VEHICLE TO PERSON TRIP CONVERSION

**BASELINE SITE VEHICLE CHARACTERISTICS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 24 | 76 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 25 | 75 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 24 | 76 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|---|---|---|---|---|---|---|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 23 | 74 | 0 | 0 | 23 | 74 |
| | 97 | | 0 | | 97 | |
| 210 - Single-Family Detached Housing | 37 | 110 | 0 | 0 | 37 | 110 |
| | 147 | | 0 | | 147 | |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 14 | 44 | 0 | 0 | 14 | 44 |
| | 58 | | 0 | | 58 | |

## NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|---|---|---|---|
| | Entry | Exit | Total |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 23 | 74 | 97 |
| 210 - Single-Family Detached Housing | 37 | 110 | 147 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 14 | 44 | 58 |

## RESULTS

| Site Totals | Entry | Exit | Total |
|---|---|---|---|
| Vehicle Trips Before Reduction | 74 | 228 | 302 |
| External Vehicle Trips | 74 | 228 | 302 |
| New Vehicle Trips | 74 | 228 | 302 |

## Scenario - 3

Scenario Name: PM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method<br>Rate/Equation | Entry<br>Split% | Exit<br>Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close | General Urban/Suburban | Dwelling Units | 240 | Weekday, Peak Hour of Adjacent Street Traffic, | Best Fit (LIN) | 78 | 46 | 124 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | T = 0.43(X) + 20.55 | 63% | 37% | |
| 210 - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 210 | Weekday, Peak Hour of Adjacent Street Traffic, | Best Fit (LOG) | 126 | 74 | 200 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | Ln(T) =0.94Ln(X) + 0.27 | 63% | 37% | |
| 220(1) - Multifamily Housing (Low-Rise) - Not | General Urban/Suburban | Dwelling Units | 111 | Weekday, Peak Hour of Adjacent Street Traffic, | Best Fit (LIN) | 43 | 25 | 68 |
| Data Source: Trip Generation Manual, 11th Ed | | | | | T = 0.43(X) + 20.55 | 63% | 37% | |

## VEHICLE TO PERSON TRIP CONVERSION

**BASELINE SITE VEHICLE CHARACTERISTICS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 63 | 37 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 63 | 37 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 63 | 37 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|---|---|---|---|---|---|---|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 78 | 46 | 0 | 0 | 78 | 46 |
| | 124 | | 0 | | 124 | |
| 210 - Single-Family Detached Housing | 126 | 74 | 0 | 0 | 126 | 74 |
| | 200 | | 0 | | 200 | |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 43 | 25 | 0 | 0 | 43 | 25 |
| | 68 | | 0 | | 68 | |

## NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|---|---|---|---|
| | Entry | Exit | Total |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 78 | 46 | 124 |
| 210 - Single-Family Detached Housing | 126 | 74 | 200 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 43 | 25 | 68 |

## RESULTS

| Site Totals | Entry | Exit | Total |
|---|---|---|---|
| Vehicle Trips Before Reduction | 247 | 145 | 392 |
| External Vehicle Trips | 247 | 145 | 392 |
| New Vehicle Trips | 247 | 145 | 392 |

## Scenario - 4

Scenario Name: AM Peak with Commercial
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method / Rate/Equation | Entry Split% | Exit Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close | General | Dwelling Units | 240 | Weekday, Peak Hour of | Best Fit (LIN) | 23 | 74 | 97 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | T = 0.31(X) + 22.85 | 24% | 76% | |
| 210 - Single-Family Detached Housing | General | Dwelling Units | 210 | Weekday, Peak Hour of | Best Fit (LOG) | 37 | 110 | 147 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | Ln(T) =0.91Ln(X) + 0.12 | 25% | 75% | |
| 220(1) - Multifamily Housing (Low-Rise) - Not | General | Dwelling Units | 111 | Weekday, Peak Hour of | Best Fit (LIN) | 14 | 44 | 58 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | T = 0.31(X) + 22.85 | 24% | 76% | |
| 821 - Shopping Plaza (40-150k) - Supermarket - | General | 1000 Sq. Ft. GLA | 130 | Weekday, Peak Hour of | Average | 139 | 85 | 224 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | 1.73 | 62% | 38% | |

## VEHICLE TO PERSON TRIP CONVERSION

**BASELINE SITE VEHICLE CHARACTERISTICS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 24 | 76 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 25 | 75 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 24 | 76 |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 100 | 100 | 1 | 1 | 62 | 38 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|---|---|---|---|---|---|---|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 23 | 74 | 0 | 0 | 23 | 74 |
| | 97 | | 0 | | 97 | |
| 210 - Single-Family Detached Housing | 37 | 110 | 0 | 0 | 37 | 110 |
| | 147 | | 0 | | 147 | |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 14 | 44 | 0 | 0 | 14 | 44 |
| | 58 | | 0 | | 58 | |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 139 | 85 | 0 | 0 | 139 | 85 |
| | 224 | | 0 | | 224 | |

## NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|---|---|---|---|
| | Entry | Exit | Total |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 23 | 74 | 97 |
| 210 - Single-Family Detached Housing | 37 | 110 | 147 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 14 | 44 | 58 |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 139 | 85 | 224 |

## RESULTS

| Site Totals | Entry | Exit | Total |
|---|---|---|---|
| Vehicle Trips Before Reduction | 213 | 313 | 526 |
| External Vehicle Trips | 213 | 313 | 526 |
| New Vehicle Trips | 213 | 313 | 526 |

## Scenario - 5

Scenario Name: Daily Trips with Commercial
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method / Rate/Equation | Entry / Split% | Exit / Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close | General | Dwelling Units | 240 | Weekday | Best Fit (LIN) | 807 | 807 | 1614 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | | T = 6.41(X) + 75.31 | 50% | 50% | |
| 210 - Single-Family Detached Housing | General | Dwelling Units | 210 | Weekday | Best Fit (LOG) | 998 | 998 | 1996 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | | Ln(T) =0.92Ln(X) + 2.68 | 50% | 50% | |
| 220(1) - Multifamily Housing (Low-Rise) - Not | General | Dwelling Units | 111 | Weekday | Best Fit (LIN) | 393 | 393 | 786 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | | T = 6.41(X) + 75.31 | 50% | 50% | |
| 821 - Shopping Plaza (40-150k) - Supermarket - | General | 1000 Sq. Ft. GLA | 130 | Weekday | Average | 4389 | 4389 | 8778 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | | 67.52 | 50% | 50% | |

## VEHICLE TO PERSON TRIP CONVERSION

**BASELINE SITE VEHICLE CHARACTERISTICS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 50 | 50 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 50 | 50 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 50 | 50 |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 100 | 100 | 1 | 1 | 50 | 50 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|---|---|---|---|---|---|---|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 807 | 807 | 0 | 0 | 807 | 807 |
| | 1614 | | 0 | | 1614 | |
| 210 - Single-Family Detached Housing | 998 | 998 | 0 | 0 | 998 | 998 |
| | 1996 | | 0 | | 1996 | |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 393 | 393 | 0 | 0 | 393 | 393 |
| | 786 | | 0 | | 786 | |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 4389 | 4389 | 0 | 0 | 4389 | 4389 |
| | 8778 | | 0 | | 8778 | |

## NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|---|---|---|---|
| | Entry | Exit | Total |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 807 | 807 | 1614 |
| 210 - Single-Family Detached Housing | 998 | 998 | 1996 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 393 | 393 | 786 |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 4389 | 4389 | 8778 |

## RESULTS

| Site Totals | Entry | Exit | Total |
|---|---|---|---|
| Vehicle Trips Before Reduction | 6587 | 6587 | 13174 |
| External Vehicle Trips | 6587 | 6587 | 13174 |
| New Vehicle Trips | 6587 | 6587 | 13174 |

## Scenario - 6

Scenario Name: PM Peak with Commercial
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method / Rate/Equation | Entry / Split% | Exit / Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close | General | Dwelling Units | 240 | Weekday, Peak Hour of | Best Fit (LIN) | 78 | 46 | 124 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | T = 0.43(X) + 20.55 | 63% | 37% | |
| 210 - Single-Family Detached Housing | General | Dwelling Units | 210 | Weekday, Peak Hour of | Best Fit (LOG) | 126 | 74 | 200 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | Ln(T) =0.94Ln(X) + 0.27 | 63% | 37% | |
| 220(1) - Multifamily Housing (Low-Rise) - Not | General | Dwelling Units | 111 | Weekday, Peak Hour of | Best Fit (LIN) | 43 | 25 | 68 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | T = 0.43(X) + 20.55 | 63% | 37% | |
| 821 - Shopping Plaza (40-150k) - Supermarket - | General | 1000 Sq. Ft. GLA | 130 | Weekday, Peak Hour of | Average | 331 | 344 | 675 |
| Data Source: Trip Generation Manual, 11th Ed | Urban/Suburban | | | Adjacent Street Traffic, | 5.19 | 49% | 51% | |

## VEHICLE TO PERSON TRIP CONVERSION

**BASELINE SITE VEHICLE CHARACTERISTICS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 63 | 37 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 63 | 37 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 63 | 37 |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 100 | 100 | 1 | 1 | 49 | 51 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|---|---|---|---|---|---|---|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 78 | 46 | 0 | 0 | 78 | 46 |
| | 124 | | 0 | | 124 | |
| 210 - Single-Family Detached Housing | 126 | 74 | 0 | 0 | 126 | 74 |
| | 200 | | 0 | | 200 | |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 43 | 25 | 0 | 0 | 43 | 25 |
| | 68 | | 0 | | 68 | |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 331 | 344 | 0 | 0 | 331 | 344 |
| | 675 | | 0 | | 675 | |

## NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|---|---|---|---|
| | Entry | Exit | Total |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 78 | 46 | 124 |
| 210 - Single-Family Detached Housing | 126 | 74 | 200 |
| 220(1) - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 43 | 25 | 68 |
| 821 - Shopping Plaza (40-150k) - Supermarket - No | 331 | 344 | 675 |

## RESULTS

| Site Totals | Entry | Exit | Total |
|---|---|---|---|
| Vehicle Trips Before Reduction | 578 | 489 | 1067 |
| External Vehicle Trips | 578 | 489 | 1067 |
| New Vehicle Trips | 578 | 489 | 1067 |

**The Kleingers Group**

*Project:* Cornerstone Monroe *Description:* Mixed-Use Development

*Project #:* 180753.003 *Time Period:* AM Peak *By:* AWS

**Development Type A: Residential**

ITE LU Code: 210 & 220

| | Total | Internal | External |
|---|---|---|---|
| Enter | 74 | 1 | 73 |
| Exit | 228 | 2 | 226 |
| Total | 302 | 3 | 299 |
| % | 100% | 1% | 99% |

Exit to External: 226 | Enter from External: 73

| To A from B %* | To A from B # | Balanced | From B to A %* | From B to A # |
|---|---|---|---|---|
| 2% | 1 | 1 | 14% | 12 |

| From A to B %* | From A to B # | Balanced | To B from A %* | To B from A # |
|---|---|---|---|---|
| 1% | 2 | 2 | 17% | 24 |

**Development Type B: Commercial/Retail**

ITE LU Code: 821

| | Total | Internal | External |
|---|---|---|---|
| Enter | 139 | 2 | 137 |
| Exit | 85 | 1 | 84 |
| Total | 224 | 3 | 221 |
| % | 100% | 1% | 99% |

Enter from External: 137 | Exit to External: 84

| From A to C %* | From A to C # | Balanced | To A from C %* | To A from C # |
|---|---|---|---|---|
| | 0 | 0 | | 0 |

To C from A: %* | # 0

From C to A: %* | # 0

| From B to D %* | From B to D # | Balanced | To B from D %* | To B from D # |
|---|---|---|---|---|
| | 0 | 0 | | 0 |

To D from B: %* | # 0

From D to B: %* | # 0

**Internally Captured Trips**

* % internally captured trips can be found on pages 57 & 58 of the ITE publication *Trip Generation Handbook, 3rd Edition*

**Development Type C:**

ITE LU Code:

| | Total | Internal | External |
|---|---|---|---|
| Enter | | 0 | 0 |
| Exit | | 0 | 0 |
| Total | 0 | 0 | 0 |
| % | 100% | | |

Exit to External: 0 | Enter from External: 0

| To C from D %* | To C from D # | Balanced | From D to C %* | From D to C # |
|---|---|---|---|---|
| | 0 | 0 | | 0 |

| From C to D %* | From C to D # | Balanced | To D from C %* | To D from C # |
|---|---|---|---|---|
| | 0 | 0 | | 0 |

**Development Type D:**

ITE LU Code:

| | Total | Internal | External |
|---|---|---|---|
| Enter | | 0 | 0 |
| Exit | | 0 | 0 |
| Total | 0 | 0 | 0 |
| % | 100% | | |

Enter from External: 0 | Exit to External: 0

4/24/2025

**The Kleingers Group**

*Project:* Cornerstone Monroe | *Description:* Mixed-Use Development

*Project #:* 180753.003 | *Time Period:* PM Peak | *By:* AWS

**Development Type A: Residential**

ITE LU Code: 210 & 220

| | Total | Internal | External |
|---|---|---|---|
| Enter | 247 | 49 | 198 |
| Exit | 145 | 29 | 116 |
| Total | 392 | 78 | 314 |
| % | 100% | 20% | 80% |

Exit to External: 116

Enter from External: 198

| %* | # | Balanced | %* | # |
|---|---|---|---|---|
| 20% | 49 | 49 | 20% | 69 |
| To A from B | | | From B to A | |
| From A to B | | | To B from A | |
| 20% | 29 | 29 | 10% | 33 |
| %* | # | Balanced | %* | # |

**Development Type B: Commercial/Retail**

ITE LU Code: 821

| | Total | Internal | External |
|---|---|---|---|
| Enter | 331 | 29 | 302 |
| Exit | 344 | 49 | 295 |
| Total | 675 | 78 | 597 |
| % | 100% | 12% | 88% |

Enter from External: 302

Exit to External: 295

| From A to C | | To A from C | |
|---|---|---|---|
| %* | | %* | |
| # | 0 | 0 | # |
| Balanced | 0 | 0 | Balanced |
| %* | | %* | |
| # | 0 | 0 | # |
| To C from A | | From C to A | |

| From B to D | | To B from D | |
|---|---|---|---|
| %* | | %* | |
| # | 0 | 0 | # |
| Balanced | 0 | 0 | Balanced |
| %* | | %* | |
| # | 0 | 0 | # |
| To D from B | | From D to B | |

**Internally Captured Trips**

* % internally captured trips can be found on pages 57 & 58 of the ITE publication *Trip Generation Handbook, 3rd Edition*

**Development Type C:**

ITE LU Code:

| | Total | Internal | External |
|---|---|---|---|
| Enter | | 0 | 0 |
| Exit | | 0 | 0 |
| Total | 0 | 0 | 0 |
| % | 100% | | |

Exit to External: 0

Enter from External: 0

| %* | # | Balanced | %* | # |
|---|---|---|---|---|
| | 0 | 0 | | 0 |
| To C from D | | | From D to C | |
| From C to D | | | To D from C | |
| | 0 | 0 | | 0 |
| %* | # | Balanced | %* | # |

**Development Type D:**

ITE LU Code:

| | Total | Internal | External |
|---|---|---|---|
| Enter | | 0 | 0 |
| Exit | | 0 | 0 |
| Total | 0 | 0 | 0 |
| % | 100% | | |

Enter from External: 0

Exit to External: 0

4/24/2025

# Supplemental Traffic Count Data

## 180753.003 - Cincinnati-Dayton Rd @ North Ac... - TMC

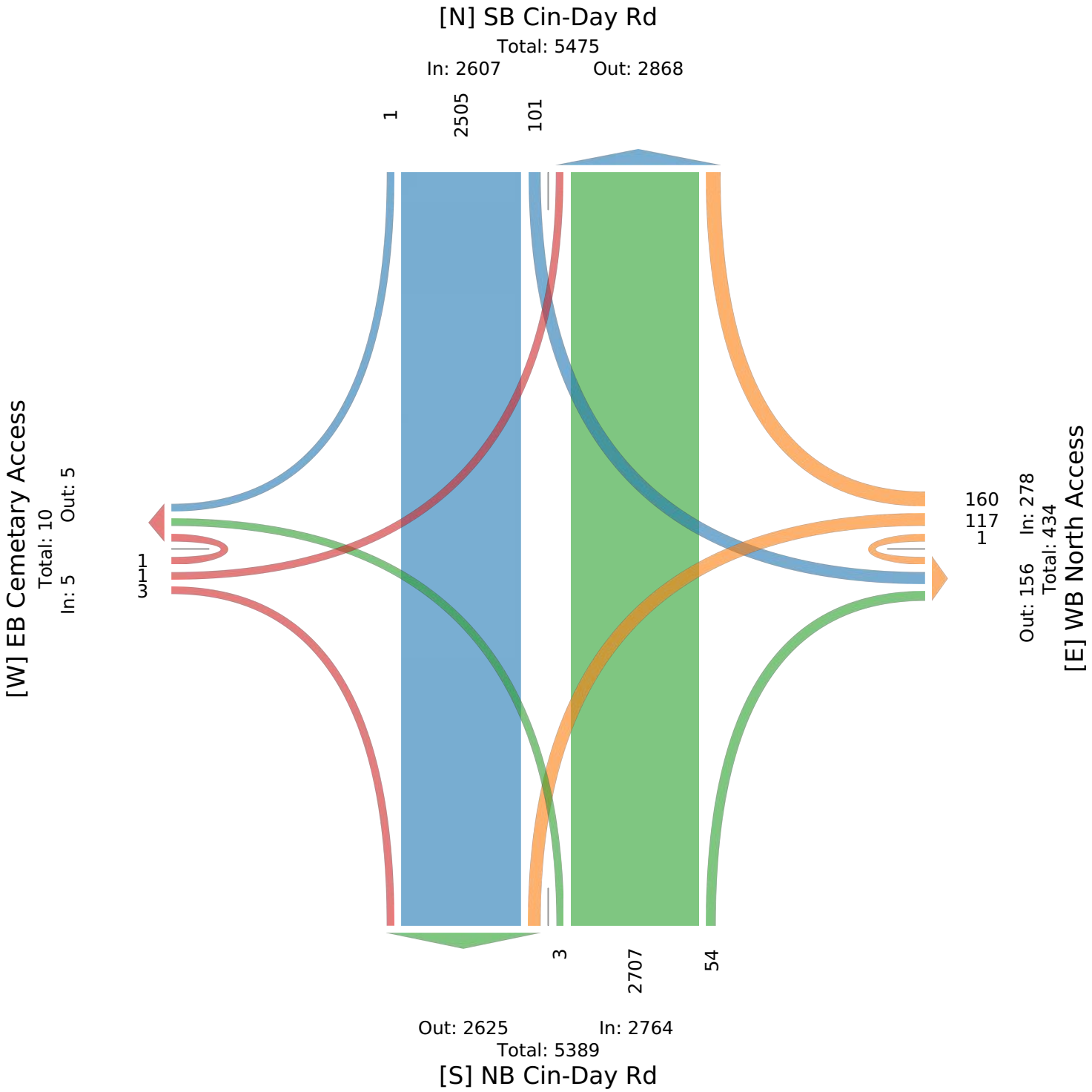
Tue Jun 24, 2025
Full Length (5:30 AM-9 AM, 3:30 PM-7 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1312743, Location: 39.44953, -84.356796

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | EB Cemetary Access | | | | | WB North Access | | | | | NB Cin-Day Rd | | | | | SB Cin-Day Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | | Westbound | | | | | Northbound | | | | | Southbound | | | | | |
| Time | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | Int |
| 2025-06-24 5:30AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 2 | 0 | **2** | 0 | 43 | 0 | 0 | **43** | 0 | 38 | 0 | 0 | **38** | **83** |
| 5:45AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 49 | 1 | 0 | **50** | 0 | 51 | 0 | 0 | **51** | **101** |
| Hourly Total | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 2 | 0 | **2** | 0 | 92 | 1 | 0 | **93** | 0 | 89 | 0 | 0 | **89** | **184** |
| 6:00AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 1 | 0 | **1** | 0 | 63 | 0 | 0 | **63** | 0 | 46 | 0 | 0 | **46** | **110** |
| 6:15AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 70 | 0 | 0 | **70** | 0 | 60 | 0 | 0 | **60** | **130** |
| 6:30AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 1 | 0 | **1** | 0 | 98 | 0 | 0 | **98** | 0 | 101 | 0 | 0 | **101** | **200** |
| 6:45AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 85 | 0 | 0 | **85** | 2 | 75 | 0 | 0 | **77** | **162** |
| Hourly Total | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 2 | 0 | **2** | 0 | 316 | 0 | 0 | **316** | 2 | 282 | 0 | 0 | **284** | **602** |
| 7:00AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 66 | 0 | 0 | **66** | 0 | 57 | 0 | 0 | **57** | **123** |
| 7:15AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 85 | 2 | 0 | **87** | 1 | 88 | 0 | 0 | **89** | **176** |
| 7:30AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 2 | 0 | **2** | 0 | 70 | 1 | 0 | **71** | 0 | 101 | 0 | 0 | **101** | **174** |
| 7:45AM | 0 | 0 | 0 | 0 | **0** | 1 | 0 | 1 | 0 | **2** | 0 | 109 | 2 | 0 | **111** | 5 | 95 | 0 | 0 | **100** | **213** |
| Hourly Total | 0 | 0 | 0 | 0 | **0** | 1 | 0 | 3 | 0 | **4** | 0 | 330 | 5 | 0 | **335** | 6 | 341 | 0 | 0 | **347** | **686** |
| 8:00AM | 0 | 0 | 0 | 1 | **1** | 4 | 0 | 3 | 0 | **7** | 0 | 73 | 1 | 0 | **74** | 3 | 83 | 0 | 0 | **86** | **168** |
| 8:15AM | 0 | 0 | 0 | 0 | **0** | 3 | 0 | 0 | 0 | **3** | 0 | 64 | 7 | 0 | **71** | 5 | 97 | 0 | 0 | **102** | **176** |
| 8:30AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 6 | 0 | **6** | 0 | 77 | 3 | 0 | **80** | 4 | 80 | 1 | 0 | **85** | **171** |
| 8:45AM | 1 | 0 | 0 | 0 | **1** | 2 | 0 | 3 | 0 | **5** | 0 | 85 | 0 | 0 | **85** | 5 | 97 | 0 | 0 | **102** | **193** |
| Hourly Total | 1 | 0 | 0 | 1 | **2** | 9 | 0 | 12 | 0 | **21** | 0 | 299 | 11 | 0 | **310** | 17 | 357 | 1 | 0 | **375** | **708** |
| 3:30PM | 0 | 0 | 0 | 0 | **0** | 12 | 0 | 8 | 0 | **20** | 0 | 140 | 2 | 0 | **142** | 7 | 150 | 0 | 0 | **157** | **319** |
| 3:45PM | 0 | 0 | 0 | 0 | **0** | 9 | 0 | 9 | 0 | **18** | 0 | 123 | 3 | 0 | **126** | 6 | 116 | 0 | 0 | **122** | **266** |
| Hourly Total | 0 | 0 | 0 | 0 | **0** | 21 | 0 | 17 | 0 | **38** | 0 | 263 | 5 | 0 | **268** | 13 | 266 | 0 | 0 | **279** | **585** |
| 4:00PM | 0 | 0 | 0 | 0 | **0** | 10 | 0 | 5 | 0 | **15** | 0 | 134 | 3 | 0 | **137** | 6 | 125 | 0 | 0 | **131** | **283** |
| 4:15PM | 0 | 0 | 0 | 0 | **0** | 5 | 0 | 9 | 0 | **14** | 1 | 121 | 5 | 0 | **127** | 2 | 110 | 0 | 0 | **112** | **253** |
| 4:30PM | 0 | 0 | 0 | 0 | **0** | 2 | 0 | 8 | 0 | **10** | 0 | 136 | 4 | 0 | **140** | 5 | 99 | 0 | 0 | **104** | **254** |
| 4:45PM | 0 | 0 | 1 | 0 | **1** | 7 | 0 | 6 | 0 | **13** | 1 | 123 | 1 | 0 | **125** | 7 | 110 | 0 | 0 | **117** | **256** |
| Hourly Total | 0 | 0 | 1 | 0 | **1** | 24 | 0 | 28 | 0 | **52** | 2 | 514 | 13 | 0 | **529** | 20 | 444 | 0 | 0 | **464** | **1046** |
| 5:00PM | 0 | 0 | 1 | 0 | **1** | 5 | 0 | 11 | 1 | **17** | 0 | 146 | 2 | 0 | **148** | 7 | 101 | 0 | 0 | **108** | **274** |
| 5:15PM | 0 | 0 | 0 | 0 | **0** | 7 | 0 | 8 | 0 | **15** | 0 | 143 | 2 | 0 | **145** | 5 | 111 | 0 | 0 | **116** | **276** |
| 5:30PM | 0 | 0 | 0 | 0 | **0** | 4 | 0 | 13 | 0 | **17** | 1 | 142 | 4 | 0 | **147** | 5 | 112 | 0 | 0 | **117** | **281** |
| 5:45PM | 0 | 0 | 0 | 0 | **0** | 12 | 0 | 11 | 0 | **23** | 0 | 101 | 3 | 0 | **104** | 4 | 107 | 0 | 0 | **111** | **238** |
| Hourly Total | 0 | 0 | 1 | 0 | **1** | 28 | 0 | 43 | 1 | **72** | 1 | 532 | 11 | 0 | **544** | 21 | 431 | 0 | 0 | **452** | **1069** |
| 6:00PM | 0 | 0 | 0 | 0 | **0** | 10 | 0 | 10 | 0 | **20** | 0 | 110 | 0 | 0 | **110** | 6 | 81 | 0 | 0 | **87** | **217** |
| 6:15PM | 0 | 0 | 0 | 0 | **0** | 8 | 0 | 18 | 0 | **26** | 0 | 80 | 2 | 0 | **82** | 7 | 87 | 0 | 0 | **94** | **202** |
| 6:30PM | 0 | 0 | 1 | 0 | **1** | 6 | 0 | 11 | 0 | **17** | 0 | 94 | 4 | 0 | **98** | 6 | 72 | 0 | 0 | **78** | **194** |
| 6:45PM | 0 | 0 | 0 | 0 | **0** | 10 | 0 | 14 | 0 | **24** | 0 | 77 | 2 | 0 | **79** | 3 | 55 | 0 | 0 | **58** | **161** |
| Hourly Total | 0 | 0 | 1 | 0 | **1** | 34 | 0 | 53 | 0 | **87** | 0 | 361 | 8 | 0 | **369** | 22 | 295 | 0 | 0 | **317** | **774** |
| **Total** | 1 | 0 | 3 | 1 | **5** | 117 | 0 | 160 | 1 | **278** | 3 | 2707 | 54 | 0 | **2764** | 101 | 2505 | 1 | 0 | **2607** | **5654** |
| **% Approach** | 20.0% | 0% | 60.0% | 20.0% | - | 42.1% | 0% | 57.6% | 0.4% | - | 0.1% | 97.9% | 2.0% | 0% | - | 3.9% | 96.1% | 0% | 0% | - | - |
| **% Total** | 0% | 0% | 0.1% | 0% | **0.1%** | 2.1% | 0% | 2.8% | 0% | **4.9%** | 0.1% | 47.9% | 1.0% | 0% | **48.9%** | 1.8% | 44.3% | 0% | 0% | **46.1%** | - |
| **Lights and Motorcycles** | 1 | 0 | 3 | 1 | **5** | 116 | 0 | 158 | 1 | **275** | 3 | 2506 | 52 | 0 | **2561** | 101 | 2306 | 1 | 0 | **2408** | 5249 |
| **% Lights and Motorcycles** | 100% | 0% | 100% | 100% | **100%** | 99.1% | 0% | 98.8% | 100% | **98.9%** | 100% | 92.6% | 96.3% | 0% | **92.7%** | 100% | 92.1% | 100% | 0% | **92.4%** | 92.8% |
| **Heavy** | 0 | 0 | 0 | 0 | **0** | 1 | 0 | 2 | 0 | **3** | 0 | 201 | 2 | 0 | **203** | 0 | 199 | 0 | 0 | **199** | 405 |
| **% Heavy** | 0% | 0% | 0% | 0% | **0%** | 0.9% | 0% | 1.3% | 0% | **1.1%** | 0% | 7.4% | 3.7% | 0% | **7.3%** | 0% | 7.9% | 0% | 0% | **7.6%** | 7.2% |

*L: Left, R: Right, T: Thru, U: U-Turn

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## 180753.003 - Cincinnati-Dayton Rd @ North Ac... - TMC

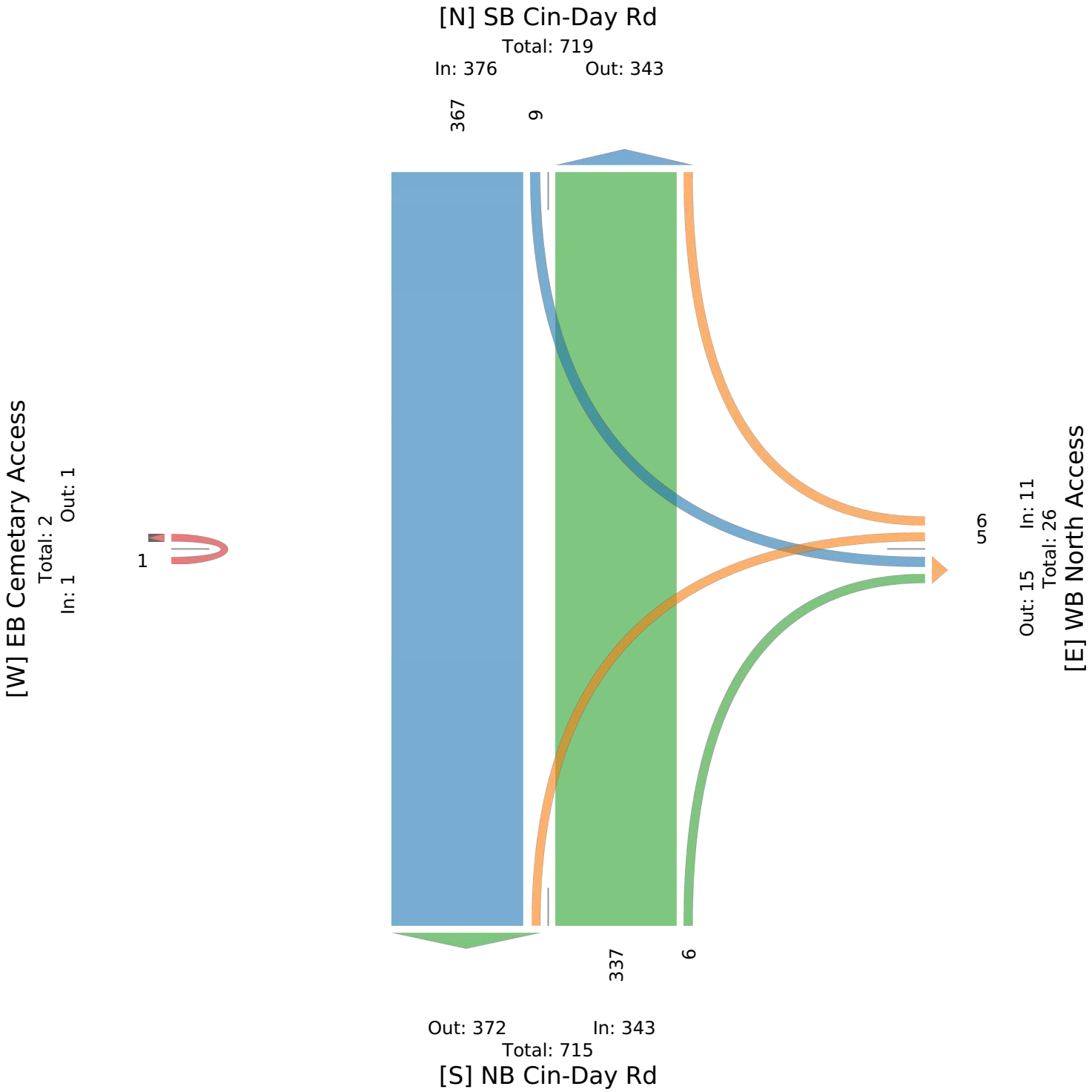
Tue Jun 24, 2025
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1312743, Location: 39.44953, -84.356796

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | EB Cemetary Access | | | | | WB North Access | | | | | NB Cin-Day Rd | | | | | SB Cin-Day Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | | Westbound | | | | | Northbound | | | | | Southbound | | | | | |
| Time | L | T | R | U | **App** | L | T | R | U | **App** | L | T | R | U | **App** | L | T | R | U | **App** | **Int** |
| 2025-06-24 7:15AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 85 | 2 | 0 | **87** | 1 | 88 | 0 | 0 | **89** | **176** |
| 7:30AM | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 2 | 0 | **2** | 0 | 70 | 1 | 0 | **71** | 0 | 101 | 0 | 0 | **101** | **174** |
| 7:45AM | 0 | 0 | 0 | 0 | **0** | 1 | 0 | 1 | 0 | **2** | 0 | 109 | 2 | 0 | **111** | 5 | 95 | 0 | 0 | **100** | **213** |
| 8:00AM | 0 | 0 | 0 | 1 | **1** | 4 | 0 | 3 | 0 | **7** | 0 | 73 | 1 | 0 | **74** | 3 | 83 | 0 | 0 | **86** | **168** |
| **Total** | 0 | 0 | 0 | 1 | **1** | 5 | 0 | 6 | 0 | **11** | 0 | 337 | 6 | 0 | **343** | 9 | 367 | 0 | 0 | **376** | **731** |
| **% Approach** | 0% | 0% | 0% | 100% | **-** | 45.5% | 0% | 54.5% | 0% | **-** | 0% | 98.3% | 1.7% | 0% | **-** | 2.4% | 97.6% | 0% | 0% | **-** | **-** |
| **% Total** | 0% | 0% | 0% | 0.1% | **0.1%** | 0.7% | 0% | 0.8% | 0% | **1.5%** | 0% | 46.1% | 0.8% | 0% | **46.9%** | 1.2% | 50.2% | 0% | 0% | **51.4%** | **-** |
| **PHF** | - | - | - | 0.250 | **0.250** | 0.313 | - | 0.500 | - | **0.393** | - | 0.773 | 0.750 | - | **0.773** | 0.450 | 0.908 | - | - | **0.931** | 0.858 |
| **Lights and Motorcycles** | 0 | 0 | 0 | 1 | **1** | 5 | 0 | 5 | 0 | **10** | 0 | 304 | 6 | 0 | **310** | 9 | 320 | 0 | 0 | **329** | 650 |
| **% Lights and Motorcycles** | 0% | 0% | 0% | 100% | **100%** | 100% | 0% | 83.3% | 0% | **90.9%** | 0% | 90.2% | 100% | 0% | **90.4%** | 100% | 87.2% | 0% | 0% | **87.5%** | 88.9% |
| **Heavy** | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 1 | 0 | **1** | 0 | 33 | 0 | 0 | **33** | 0 | 47 | 0 | 0 | **47** | 81 |
| **% Heavy** | 0% | 0% | 0% | 0% | **0%** | 0% | 0% | 16.7% | 0% | **9.1%** | 0% | 9.8% | 0% | 0% | **9.6%** | 0% | 12.8% | 0% | 0% | **12.5%** | 11.1% |

*L: Left, R: Right, T: Thru, U: U-Turn

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



## 180753.003 - Cincinnati-Dayton Rd @ North Ac... - TMC

Tue Jun 24, 2025
PM Peak (3:30 PM - 4:30 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1312743, Location: 39.44953, -84.356796

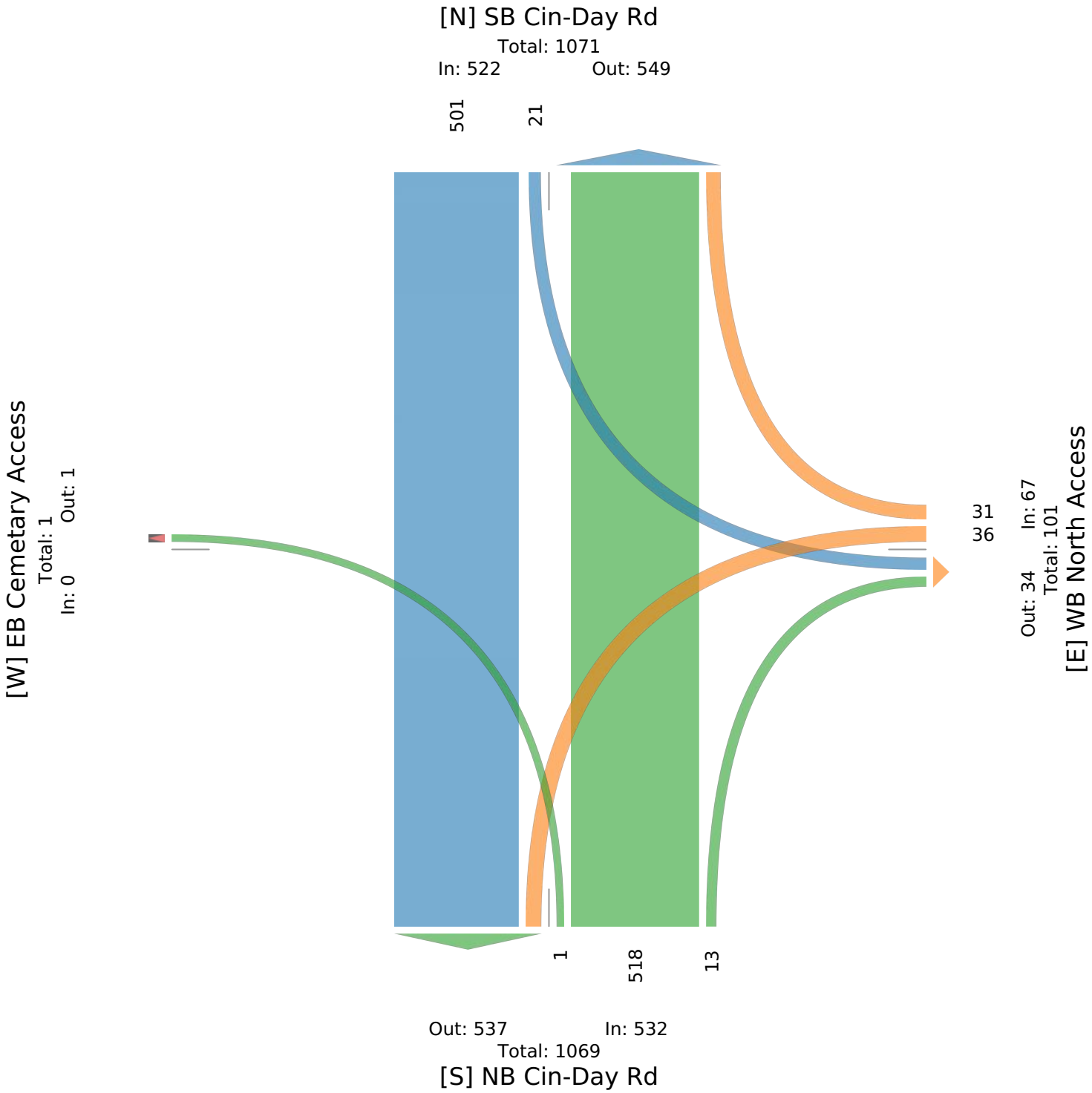
Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

| Leg | EB Cemetary Access | | | | | WB North Access | | | | | NB Cin-Day Rd | | | | | SB Cin-Day Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Eastbound | | | | | Westbound | | | | | Northbound | | | | | Southbound | | | | | |
| Time | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | L | T | R | U | App | Int |
| 2025-06-24 3:30PM | 0 | 0 | 0 | 0 | **0** | 12 | 0 | 8 | 0 | **20** | 0 | 140 | 2 | 0 | **142** | 7 | 150 | 0 | 0 | **157** | **319** |
| 3:45PM | 0 | 0 | 0 | 0 | **0** | 9 | 0 | 9 | 0 | **18** | 0 | 123 | 3 | 0 | **126** | 6 | 116 | 0 | 0 | **122** | **266** |
| 4:00PM | 0 | 0 | 0 | 0 | **0** | 10 | 0 | 5 | 0 | **15** | 0 | 134 | 3 | 0 | **137** | 6 | 125 | 0 | 0 | **131** | **283** |
| 4:15PM | 0 | 0 | 0 | 0 | **0** | 5 | 0 | 9 | 0 | **14** | 1 | 121 | 5 | 0 | **127** | 2 | 110 | 0 | 0 | **112** | **253** |
| **Total** | 0 | 0 | 0 | 0 | **0** | 36 | 0 | 31 | 0 | **67** | 1 | 518 | 13 | 0 | **532** | 21 | 501 | 0 | 0 | **522** | **1121** |
| **% Approach** | 0% | 0% | 0% | 0% | **-** | 53.7% | 0% | 46.3% | 0% | **-** | 0.2% | 97.4% | 2.4% | 0% | **-** | 4.0% | 96.0% | 0% | 0% | **-** | - |
| **% Total** | 0% | 0% | 0% | 0% | **0%** | 3.2% | 0% | 2.8% | 0% | **6.0%** | 0.1% | 46.2% | 1.2% | 0% | **47.5%** | 1.9% | 44.7% | 0% | 0% | **46.6%** | - |
| **PHF** | - | - | - | - | **-** | 0.750 | - | 0.861 | - | **0.838** | 0.250 | 0.925 | 0.650 | - | **0.937** | 0.750 | 0.835 | - | - | **0.831** | 0.879 |
| **Lights and Motorcycles** | 0 | 0 | 0 | 0 | **0** | 36 | 0 | 30 | 0 | **66** | 1 | 475 | 13 | 0 | **489** | 21 | 481 | 0 | 0 | **502** | 1057 |
| **% Lights and Motorcycles** | 0% | 0% | 0% | 0% | **-** | 100% | 0% | 96.8% | 0% | **98.5%** | 100% | 91.7% | 100% | 0% | **91.9%** | 100% | 96.0% | 0% | 0% | **96.2%** | 94.3% |
| **Heavy** | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 1 | 0 | **1** | 0 | 43 | 0 | 0 | **43** | 0 | 20 | 0 | 0 | **20** | 64 |
| **% Heavy** | 0% | 0% | 0% | 0% | **-** | 0% | 0% | 3.2% | 0% | **1.5%** | 0% | 8.3% | 0% | 0% | **8.1%** | 0% | 4.0% | 0% | 0% | **3.8%** | 5.7% |

*L: Left, R: Right, T: Thru, U: U-Turn

**180753.003 - Cincinnati-Dayton Rd @ North Ac... - TMC**
Tue Jun 24, 2025
PM Peak (3:30 PM - 4:30 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1312743, Location: 39.44953, -84.356796

Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

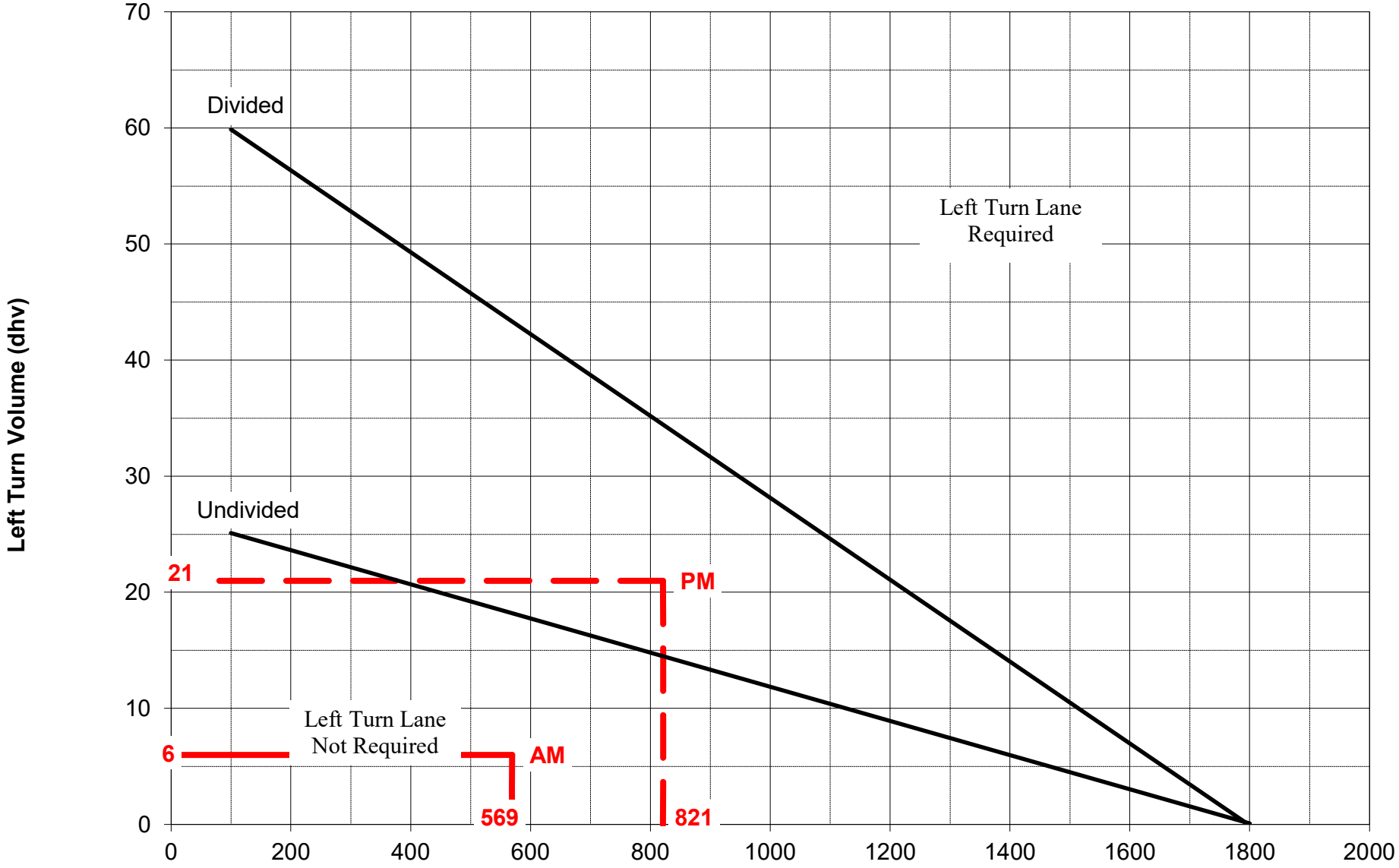


# Turn Lane Warrant Analyses

# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 1
Cin-Day @ Access 1

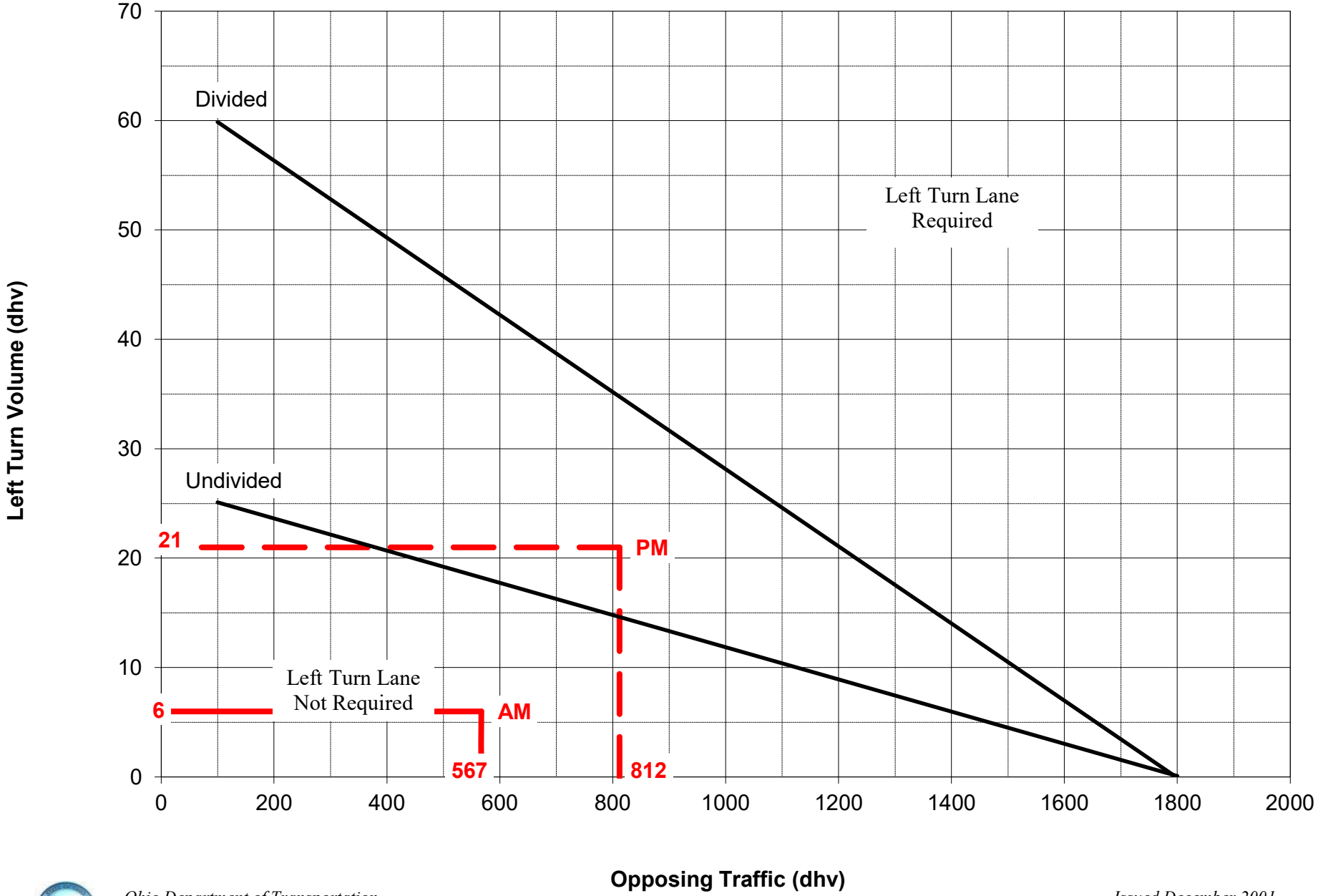
STREET TYPE = UNDIVIDED
AM = NOT WARRANTED PM = WARRANTED



# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 2
Cin-Day @ Access 1

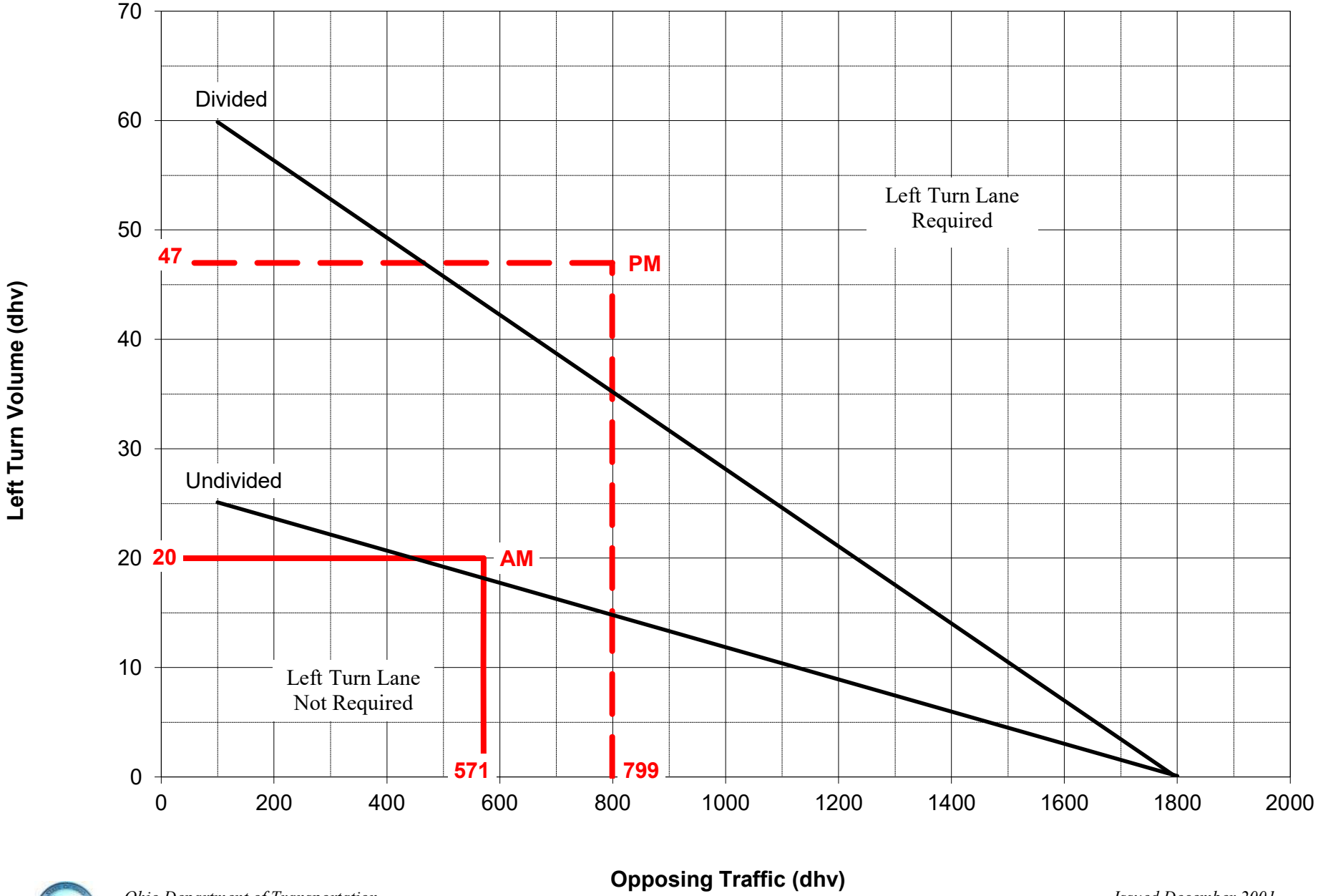
STREET TYPE = UNDIVIDED
AM = NOT WARRANTED PM = WARRANTED



# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 2 w Comm
Cin-Day @ Access 1

STREET TYPE = UNDIVIDED
AM = WARRANTED PM = WARRANTED



# 4-Lane Highway Left Turn Lane Warrant

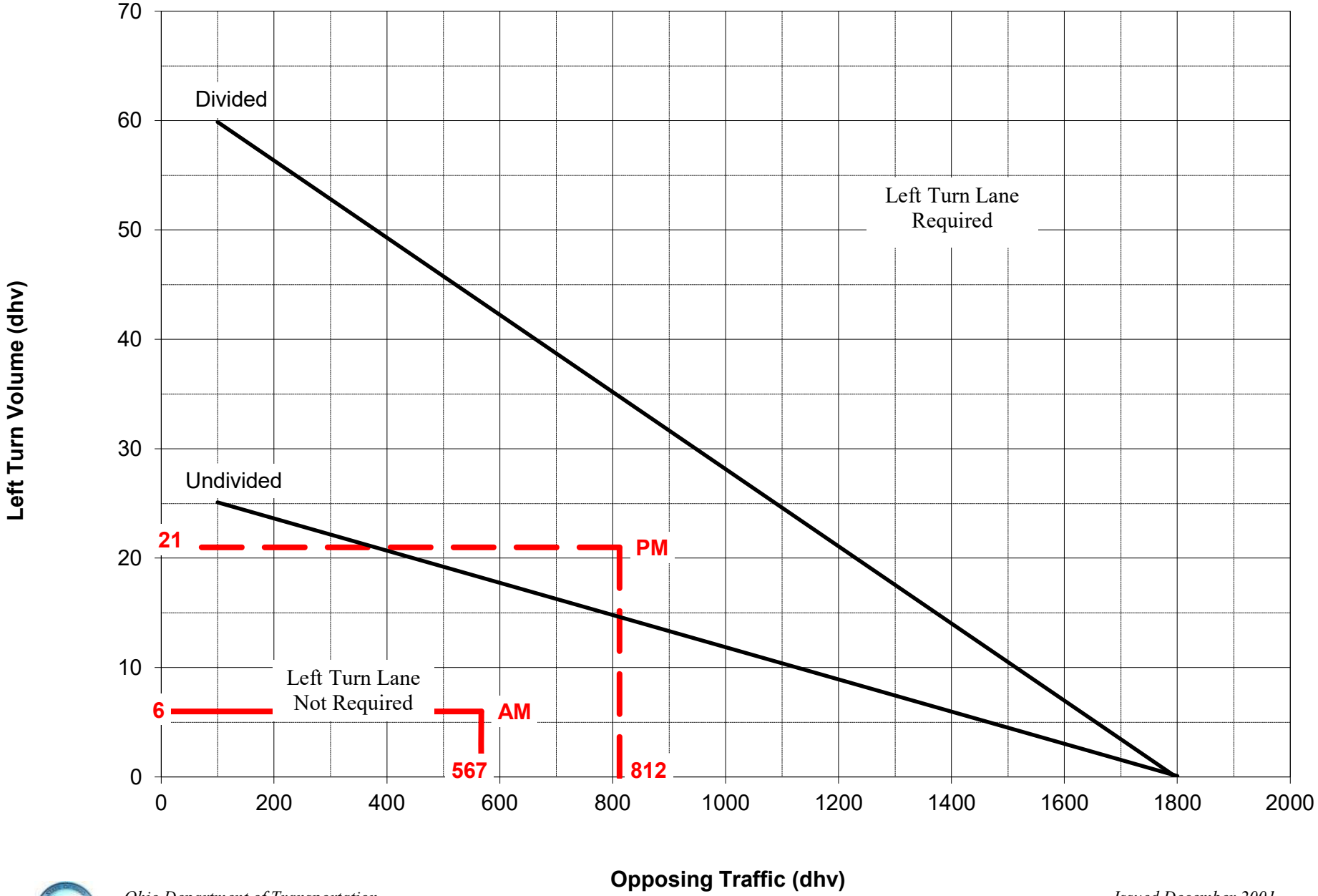
Study Year: 2047

Scenario 3

Cin-Day @ Access 1

STREET TYPE = UNDIVIDED

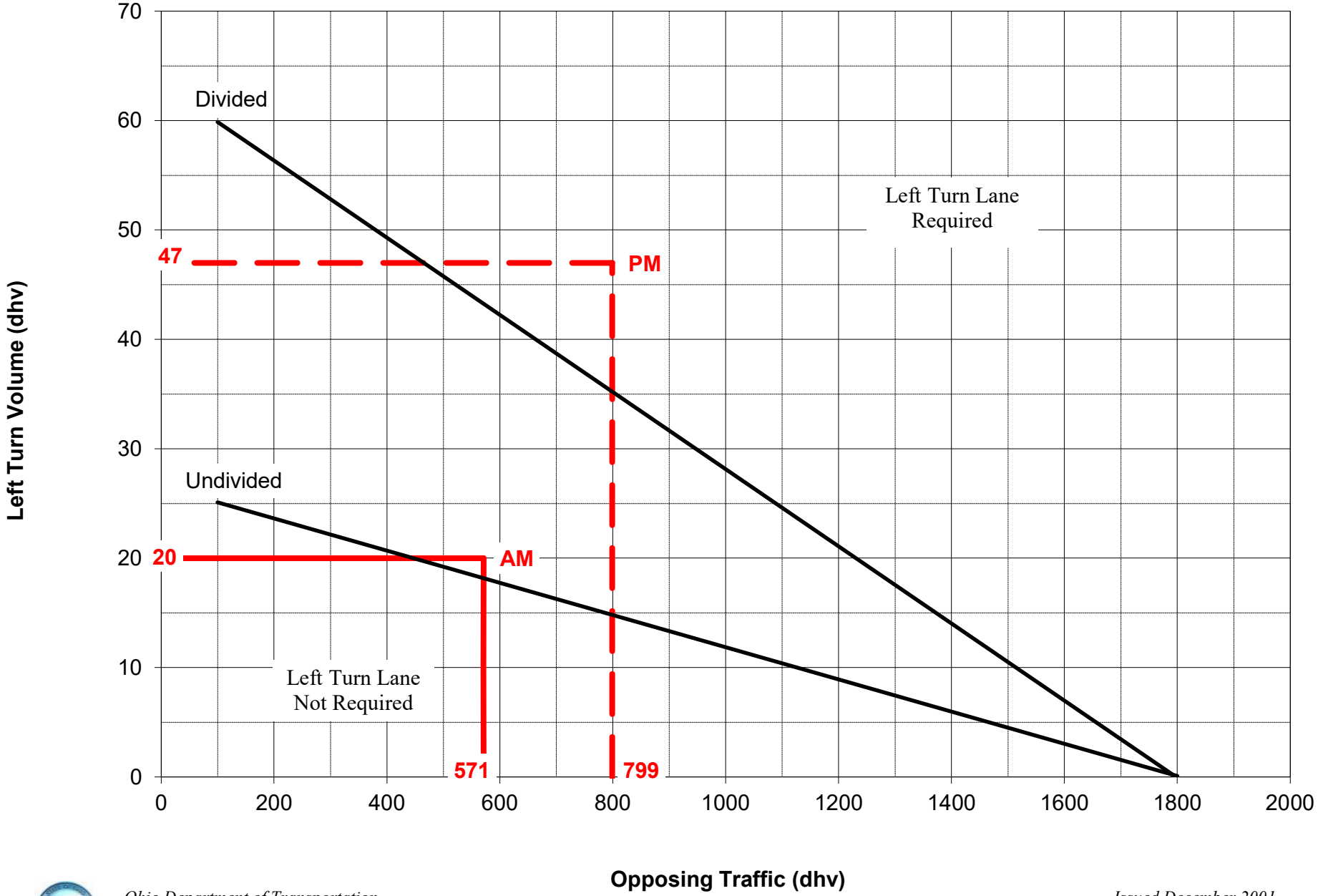
AM = NOT WARRANTED PM = WARRANTED



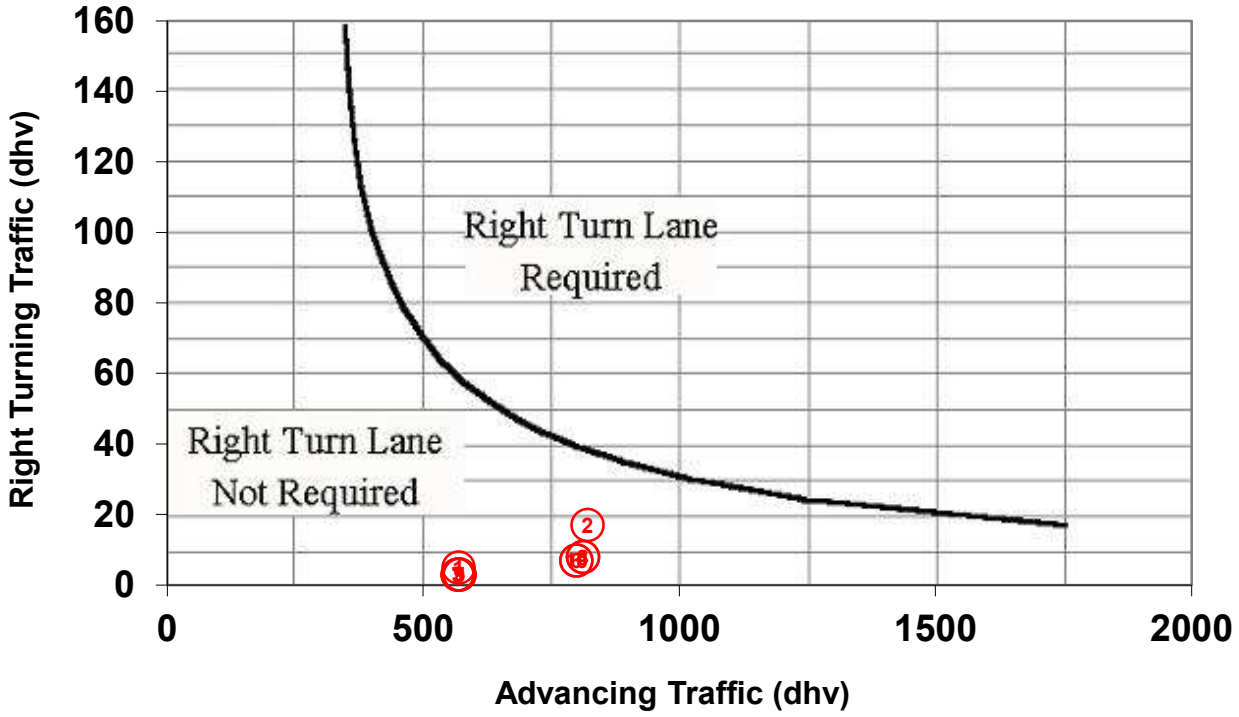
# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 3 w Comm
Cin-Day @ Access 1

STREET TYPE = UNDIVIDED
AM = WARRANTED PM = WARRANTED



**4 Lane Highway Right Turn Lane Warrant**
(>40 mph or 70 kph Posted Speed)




| REQ | Intersection | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 Cin-Day @ Access 1, Scenario 1 AM | 569 | 5 | NO |
| 2 | 2047 Cin-Day @ Access 1, Scenario 1 PM | 821 | 17 | NO |
| 3 | 2047 Cin-Day @ Access 1, Scenario 2 AM | 567 | 3 | NO |
| 4 | 2047 Cin-Day @ Access 1, Scenario 2 PM | 812 | 8 | NO |
| 5 | 2047 Cin-Day @ Access 1, Scenario 2 w/ comm AM | 571 | 3 | NO |
| 6 | 2047 Cin-Day @ Access 1, Scenario 2 w/ comm PM | 799 | 7 | NO |
| 7 | 2047 Cin-Day @ Access 1, Scenario 3 AM | 567 | 3 | NO |
| 8 | 2047 Cin-Day @ Access 1, Scenario 3 PM | 812 | 8 | NO |
| 9 | 2047 Cin-Day @ Access 1, Scenario 3 w/ comm AM | 571 | 3 | NO |
| 10 | 2047 Cin-Day @ Access 1, Scenario 3 w/ comm PM | 799 | 7 | NO |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
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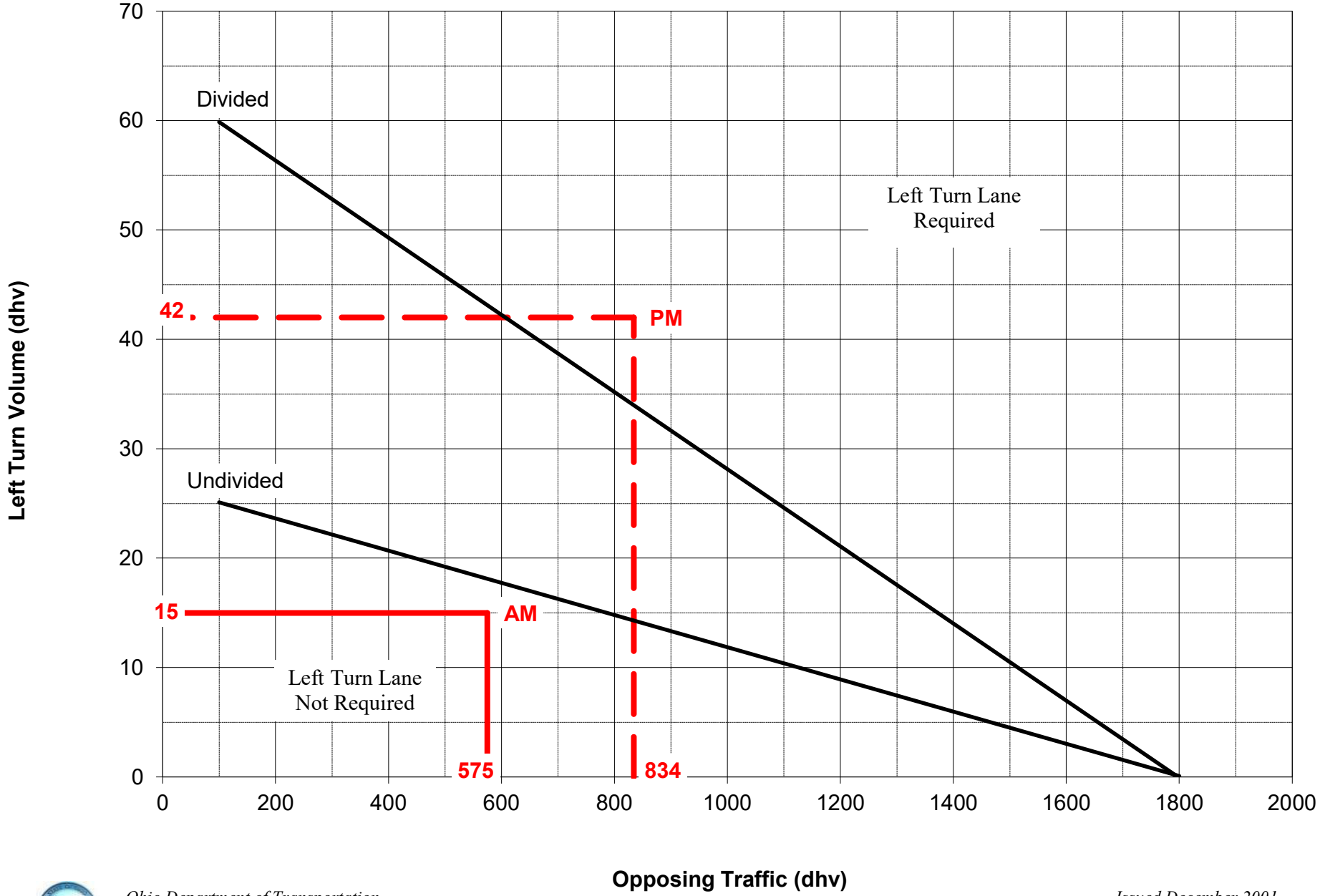
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |

# 4-Lane Highway Left Turn Lane Warrant

**Study Year: 2047**
**Supplemental Scenario 1**
**Cin-Day @ Access 1**

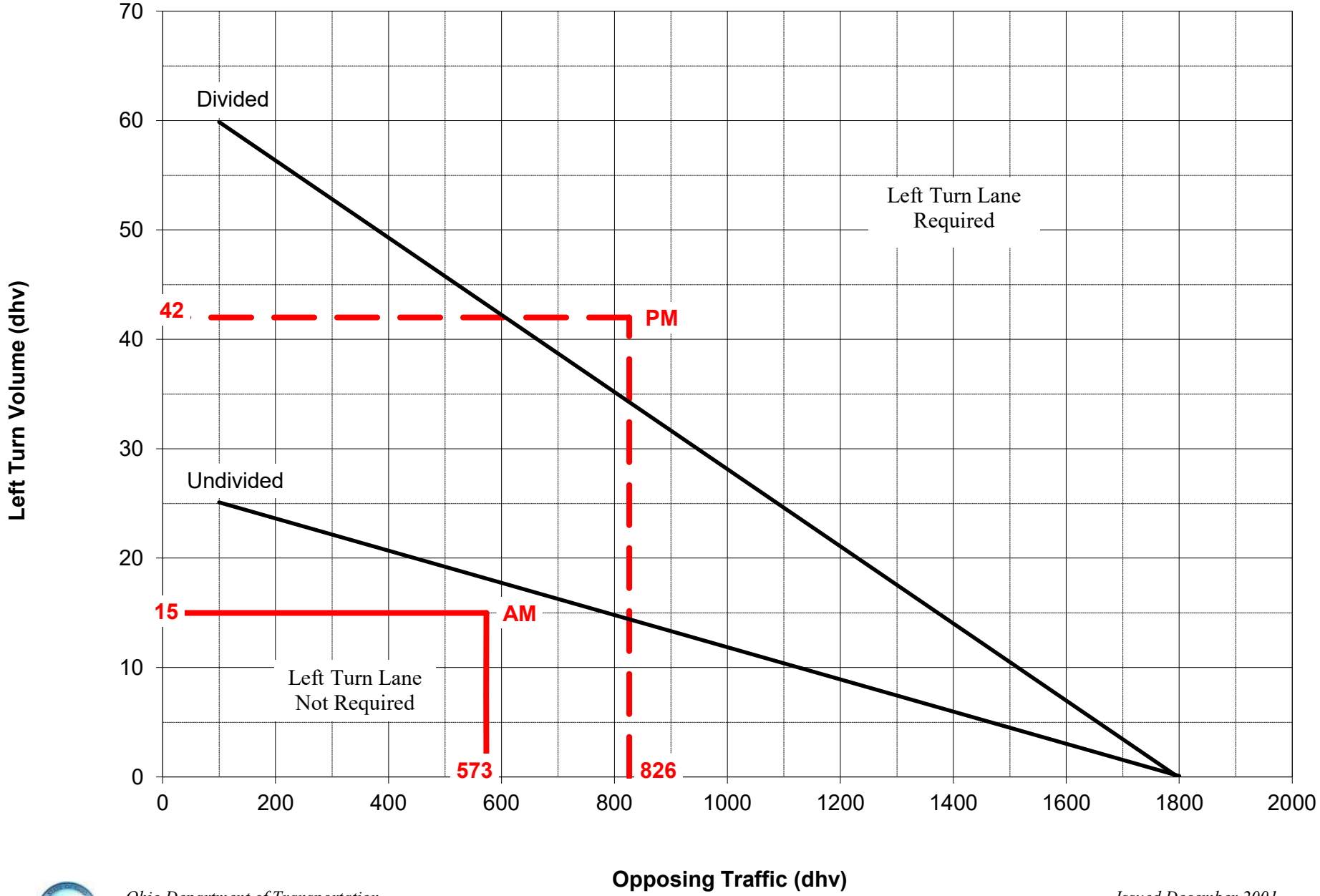
**STREET TYPE = UNDIVIDED**
**AM = NOT WARRANTED PM = WARRANTED**



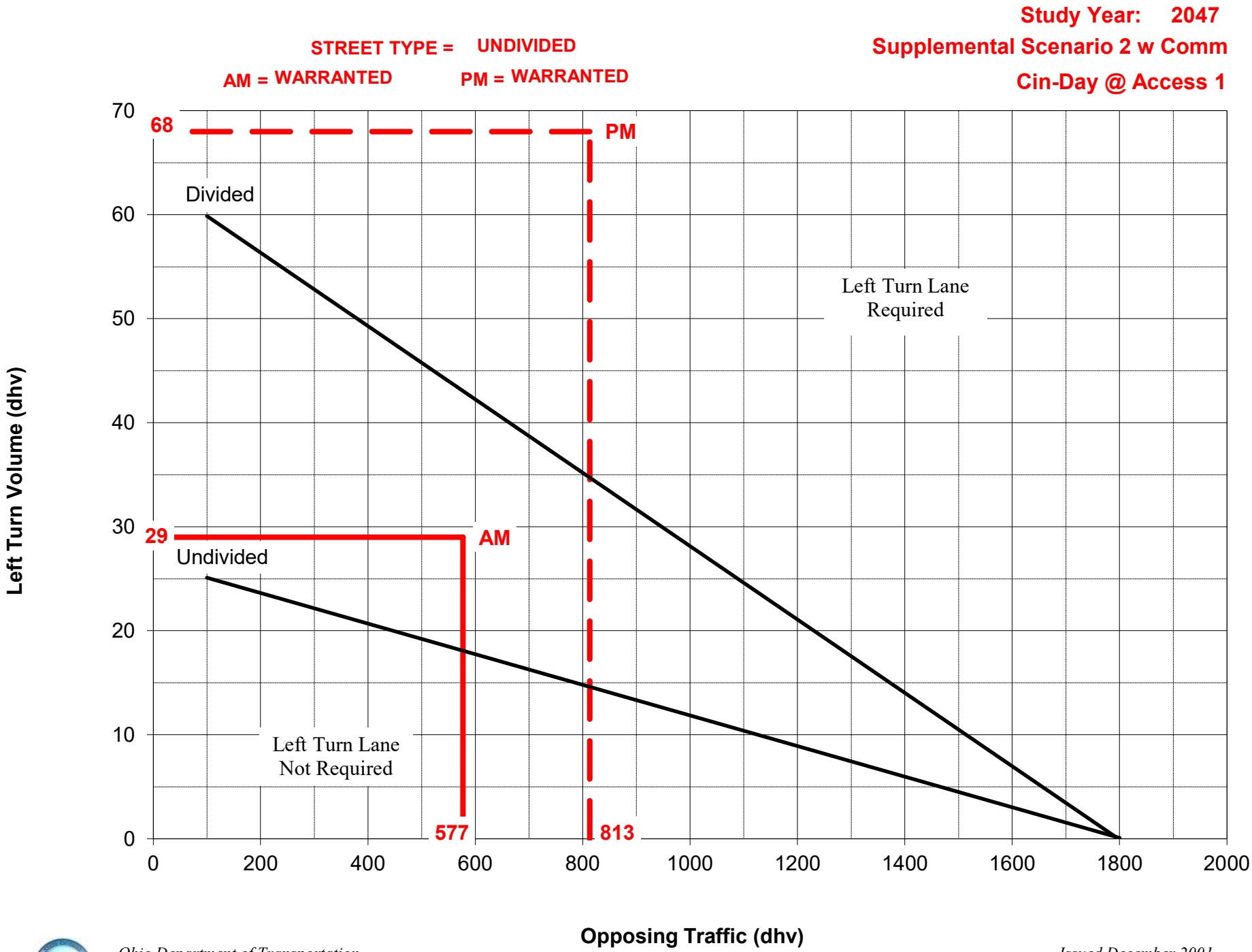
# 4-Lane Highway Left Turn Lane Warrant

**Study Year: 2047**
**Supplemental Scenario 2**
**Cin-Day @ Access 1**

**STREET TYPE = UNDIVIDED**
**AM = NOT WARRANTED PM = WARRANTED**



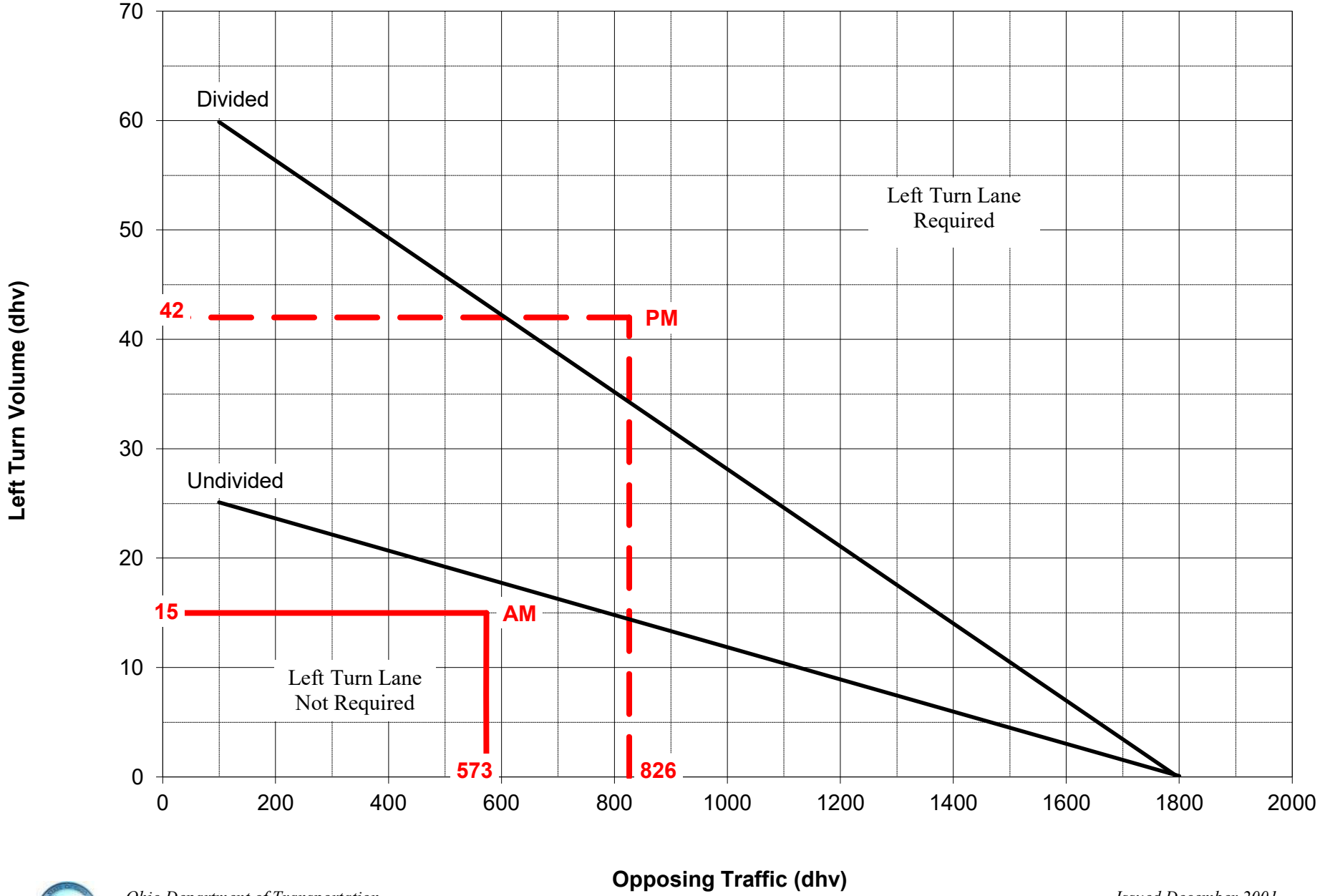
# 4-Lane Highway Left Turn Lane Warrant



# 4-Lane Highway Left Turn Lane Warrant

**Study Year: 2047**
**Supplemental Scenario 3**
**Cin-Day @ Access 1**

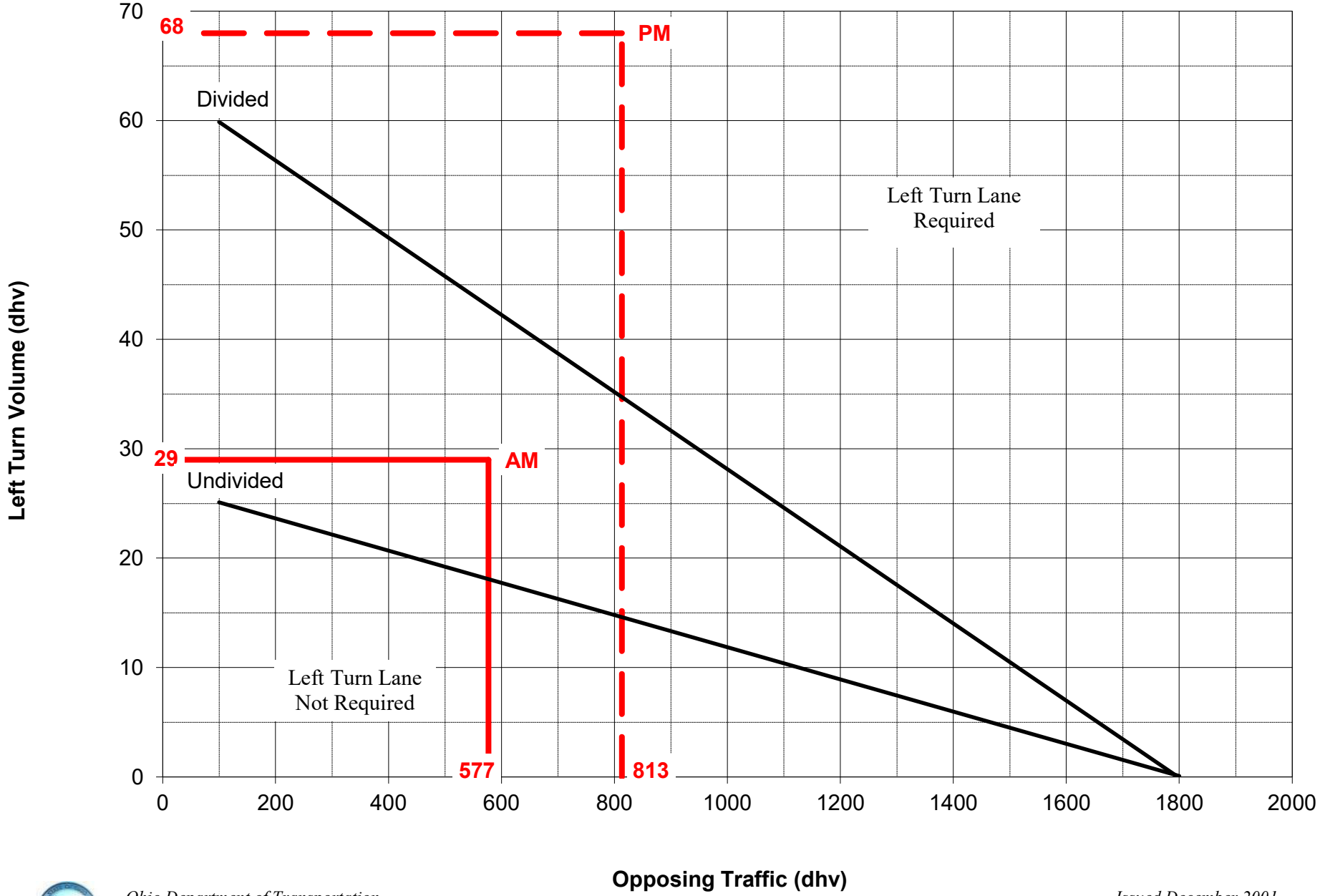
**STREET TYPE = UNDIVIDED**
**AM = NOT WARRANTED PM = WARRANTED**



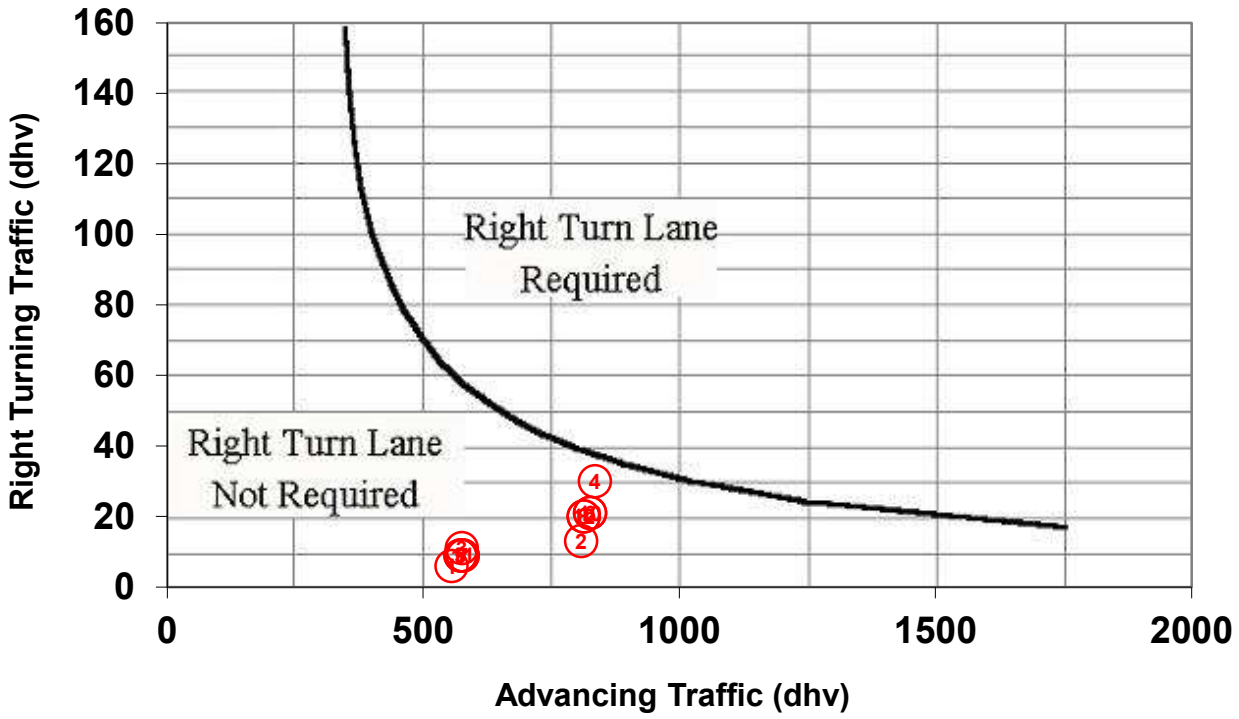
# 4-Lane Highway Left Turn Lane Warrant

**Study Year: 2047**
**Supplemental Scenario 3 w Comm**
**Cin-Day @ Access 1**

**STREET TYPE = UNDIVIDED**
**AM = WARRANTED PM = WARRANTED**



**4 Lane Highway Right Turn Lane Warrant**
(>40 mph or 70 kph Posted Speed)




| REQ | Intersection - Supplemental | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 Cin-Day @ Access 1, No-Build AM | 555 | 6 | NO |
| 2 | 2047 Cin-Day @ Access 1, No-Build PM | 808 | 13 | NO |
| 3 | 2047 Cin-Day @ Access 1, Scenario 1 AM | 575 | 11 | NO |
| 4 | 2047 Cin-Day @ Access 1, Scenario 1 PM | 835 | 30 | NO |
| 5 | 2047 Cin-Day @ Access 1, Scenario 2 AM | 573 | 9 | NO |
| 6 | 2047 Cin-Day @ Access 1, Scenario 2 PM | 826 | 21 | NO |
| 7 | 2047 Cin-Day @ Access 1, Scenario 2 w/ comm AM | 577 | 9 | NO |
| 8 | 2047 Cin-Day @ Access 1, Scenario 2 w/ comm PM | 813 | 20 | NO |
| 9 | 2047 Cin-Day @ Access 1, Scenario 3 AM | 573 | 9 | NO |
| 10 | 2047 Cin-Day @ Access 1, Scenario 3 PM | 826 | 21 | NO |
| 11 | 2047 Cin-Day @ Access 1, Scenario 3 w/ comm AM | 577 | 9 | NO |
| 12 | 2047 Cin-Day @ Access 1, Scenario 3 w/ comm PM | 813 | 20 | NO |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
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| 19 | | | | |
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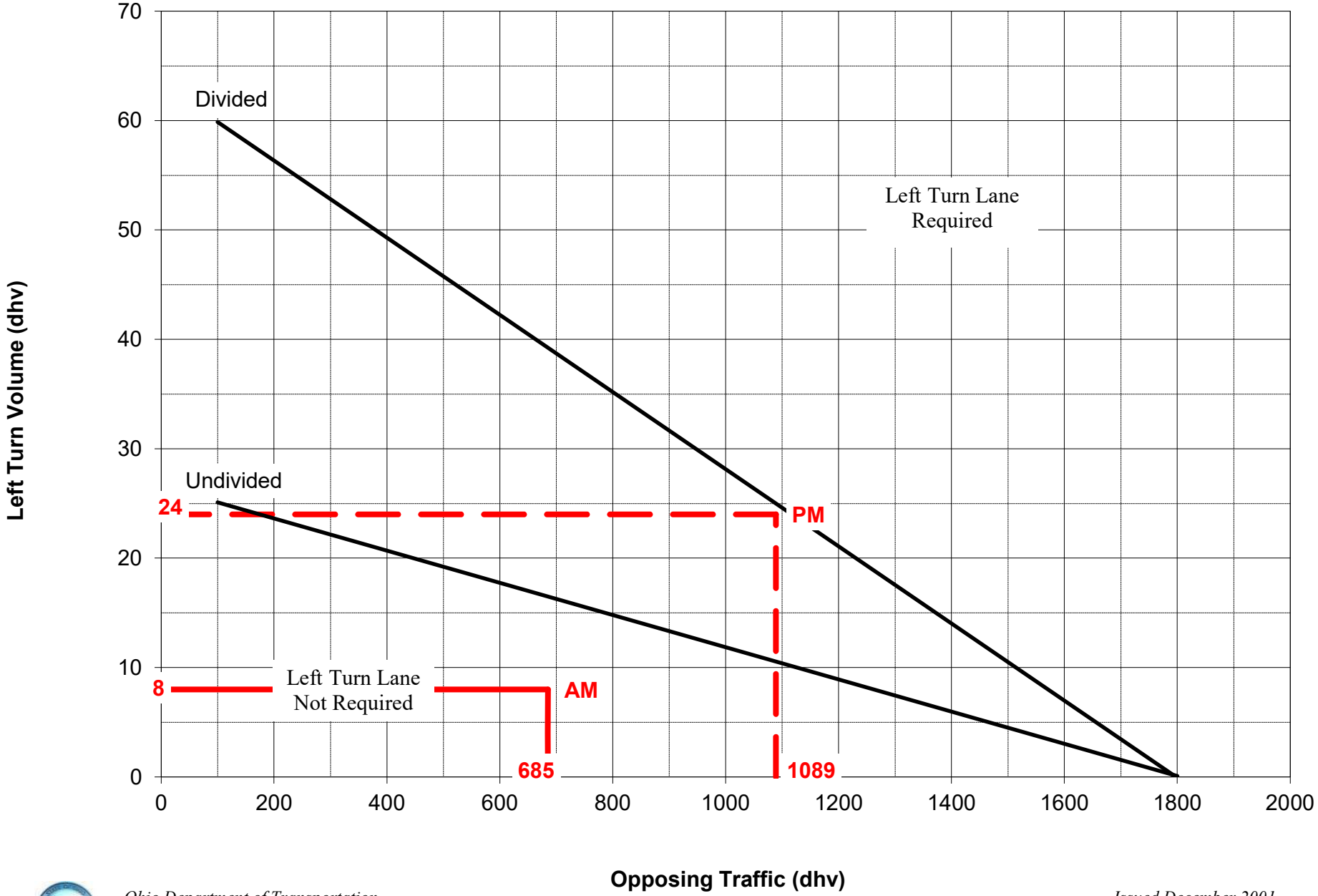
# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 1
Cin-Day @ Access 2

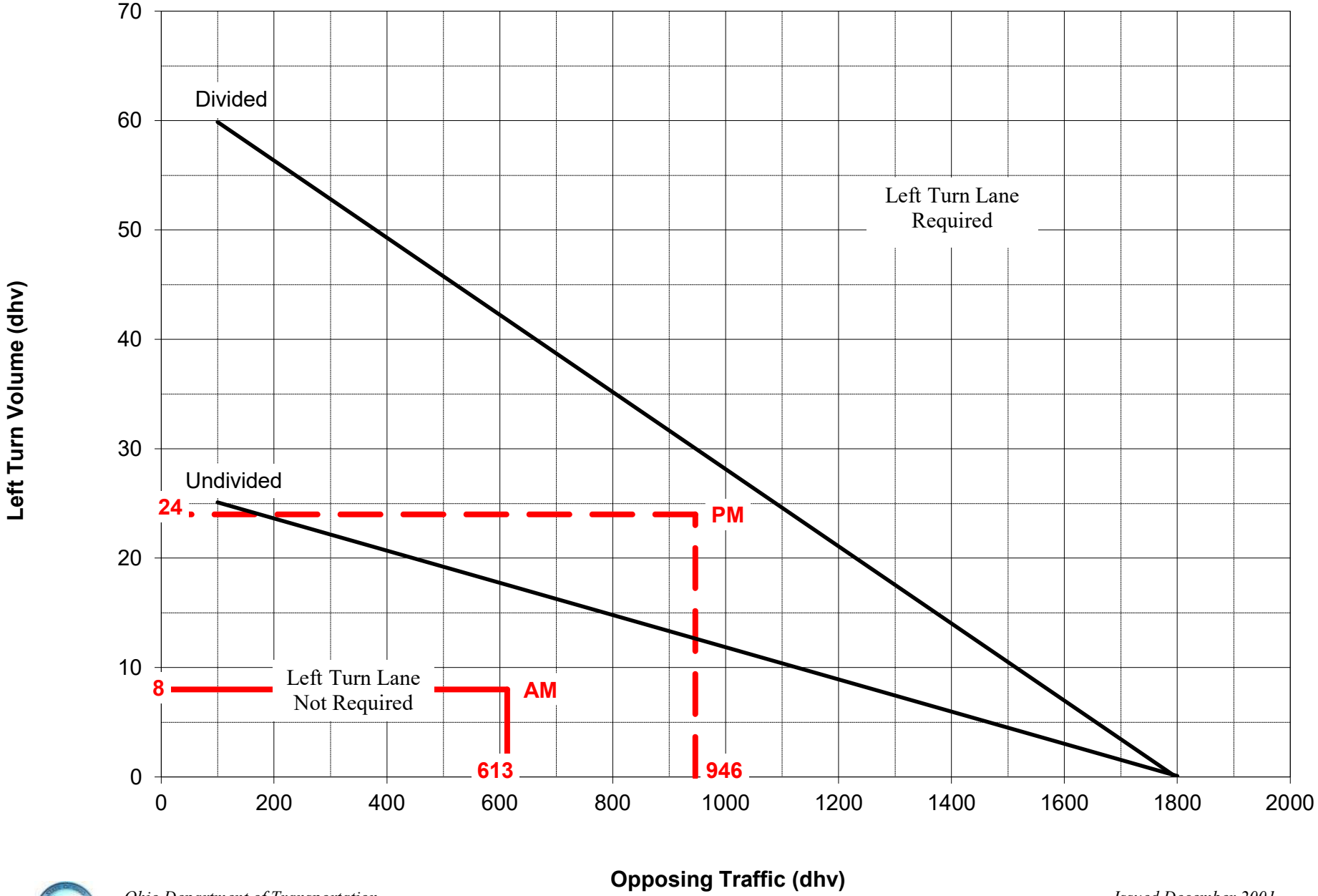
STREET TYPE = UNDIVIDED
AM = NOT WARRANTED PM = WARRANTED



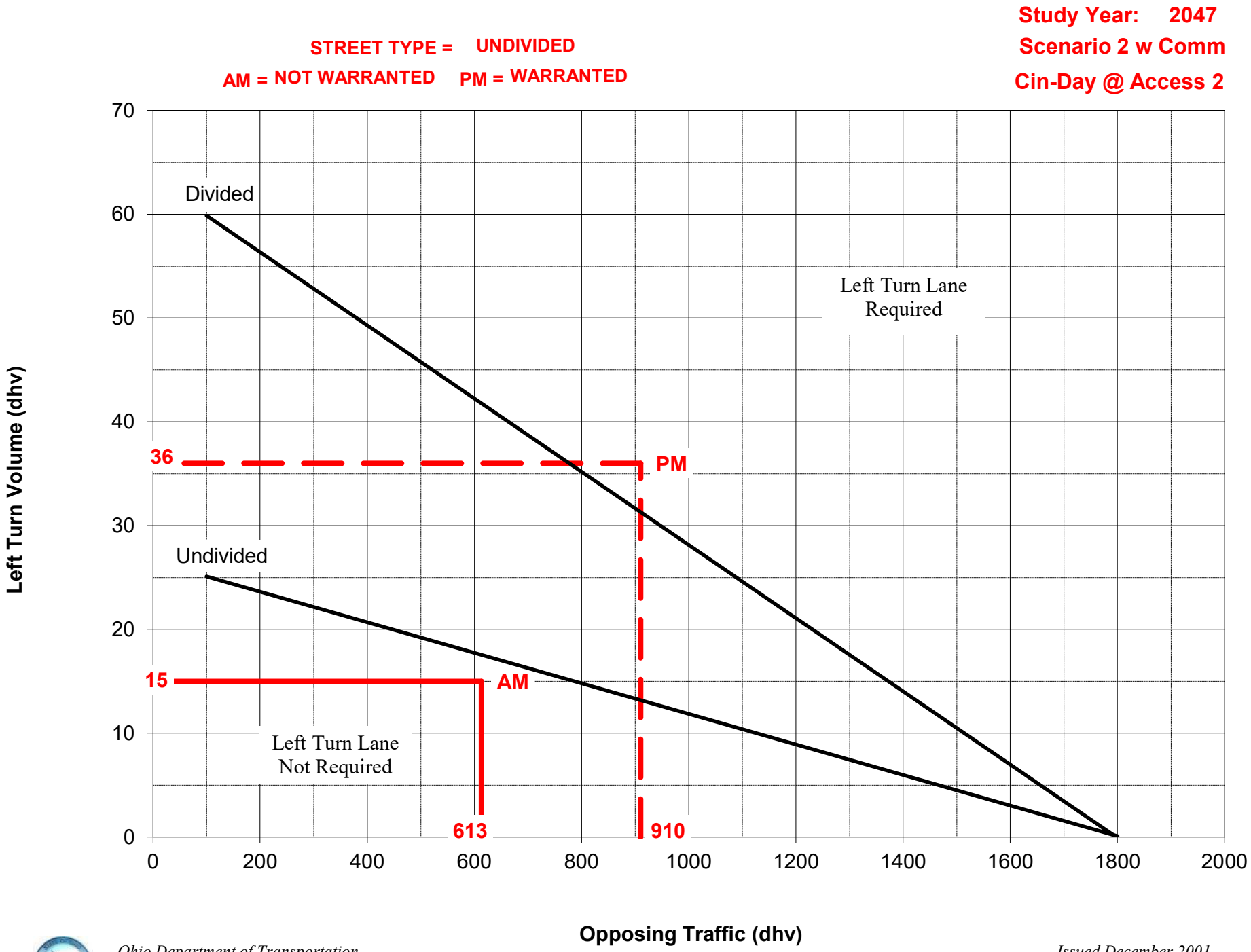
# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 2
Cin-Day @ Access 2

STREET TYPE = UNDIVIDED
AM = NOT WARRANTED PM = WARRANTED



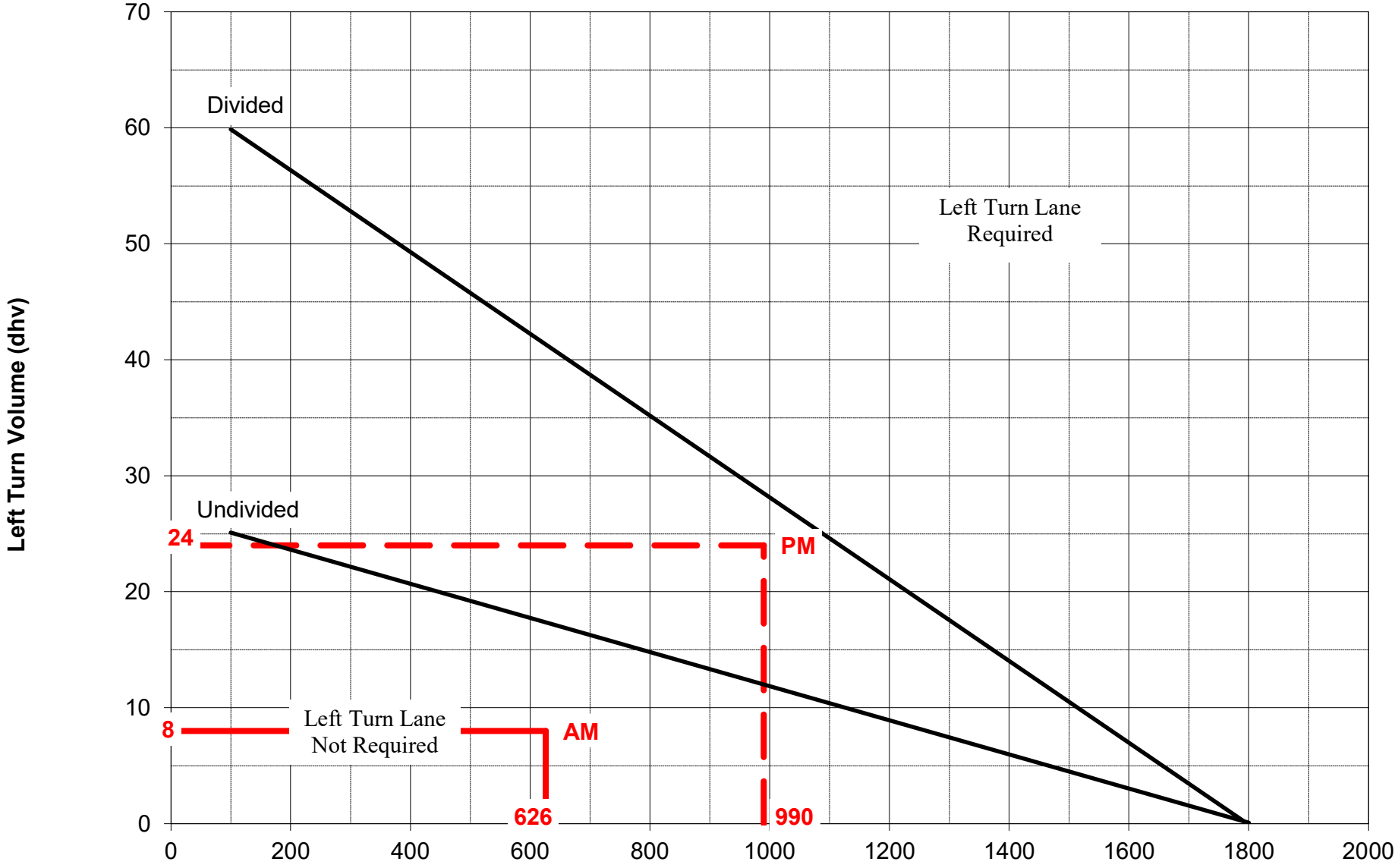
# 4-Lane Highway Left Turn Lane Warrant



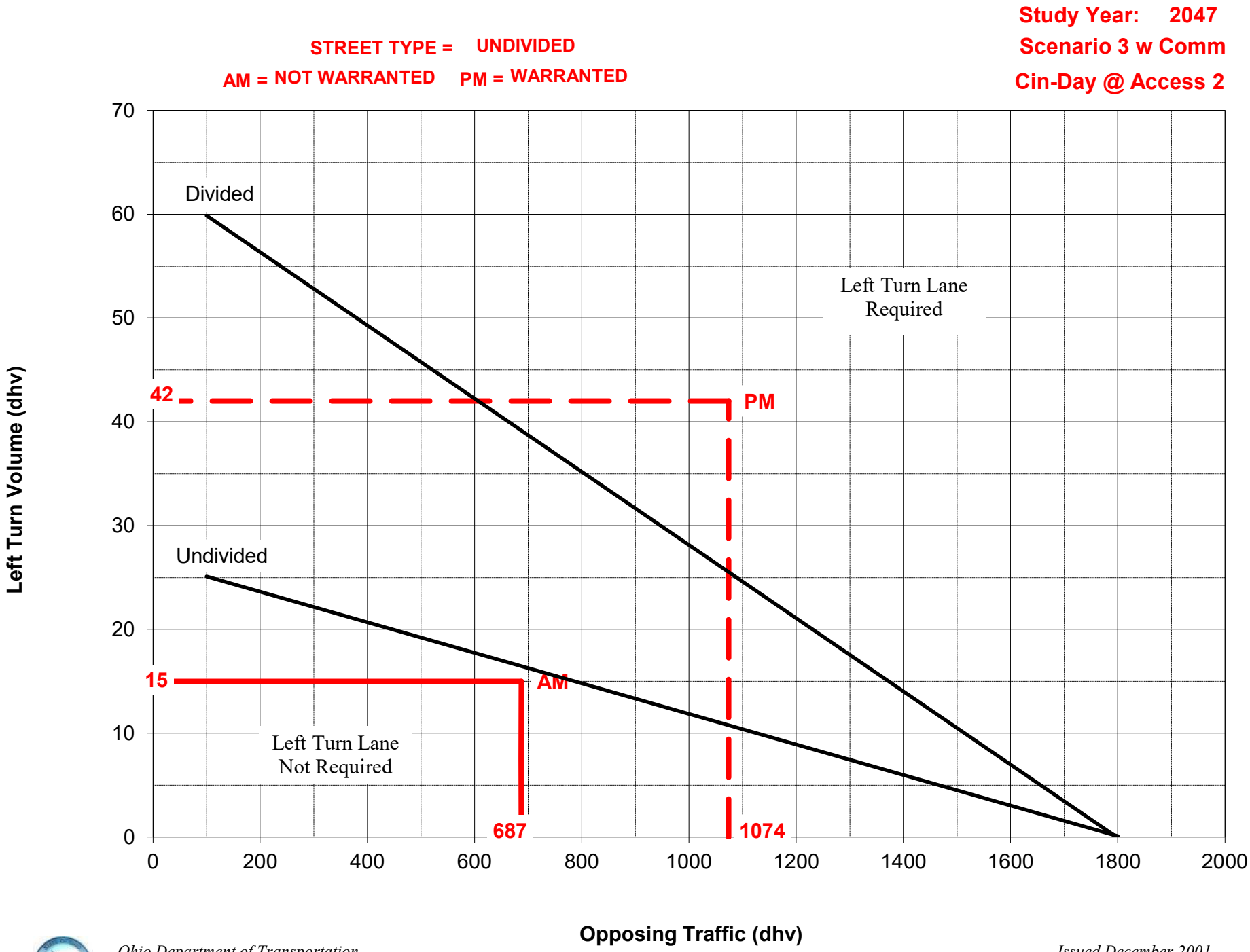
# 4-Lane Highway Left Turn Lane Warrant

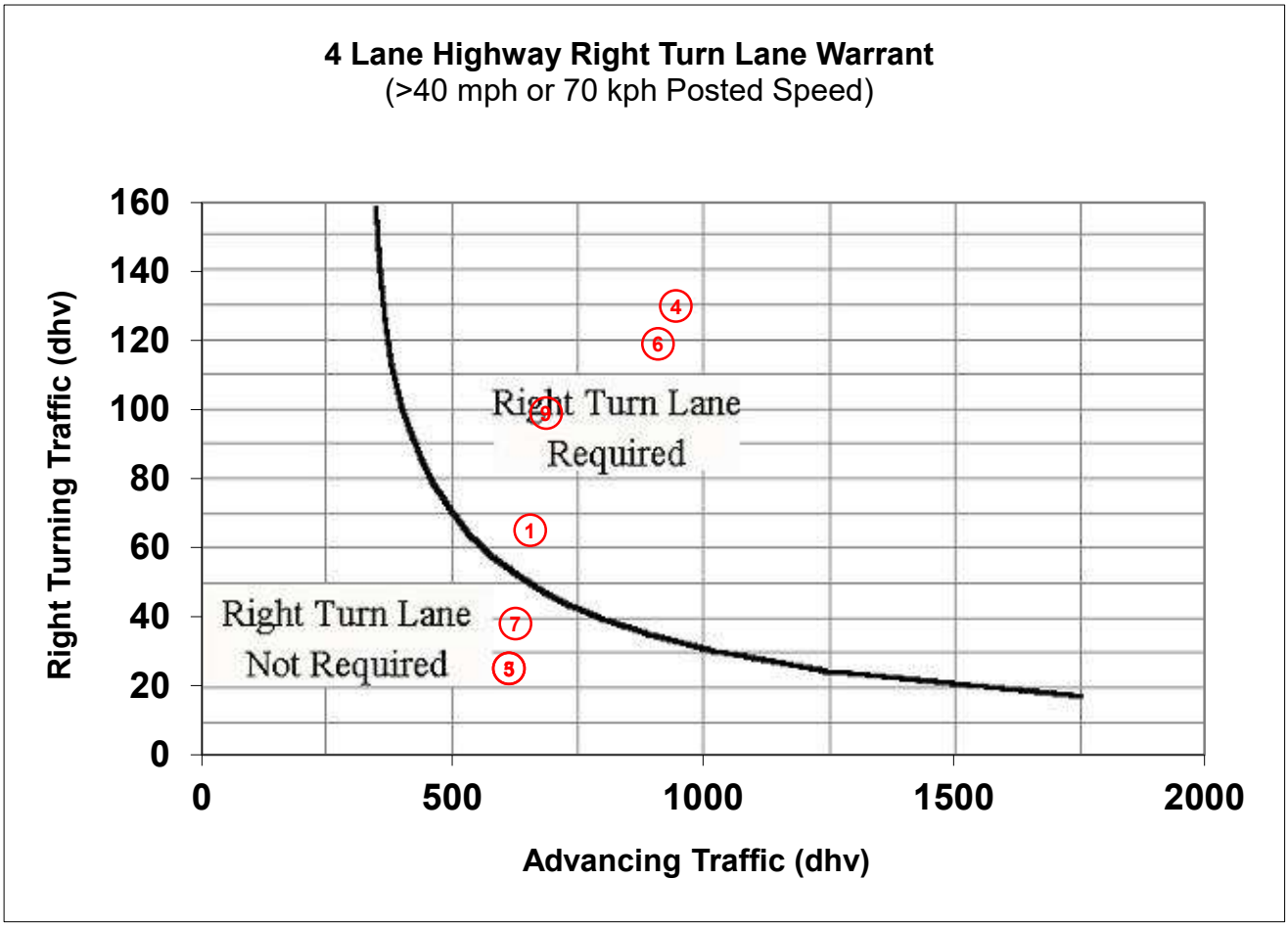
Study Year: 2047
Scenario 3
Cin-Day @ Access 2

STREET TYPE = UNDIVIDED
AM = NOT WARRANTED PM = WARRANTED



# 4-Lane Highway Left Turn Lane Warrant






| REQ | Intersection | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 Cin-Day @ Access 2, Scenario 1 AM | 655 | 65 | YES |
| 2 | 2047 Cin-Day @ Access 2, Scenario 1 PM | 1089 | 264 | YES |
| 3 | 2047 Cin-Day @ Access 2, Scenario 2 AM | 613 | 25 | NO |
| 4 | 2047 Cin-Day @ Access 2, Scenario 2 PM | 946 | 130 | YES |
| 5 | 2047 Cin-Day @ Access 2, Scenario 2 w/ comm AM | 613 | 25 | NO |
| 6 | 2047 Cin-Day @ Access 2, Scenario 2 w/ comm PM | 910 | 119 | YES |
| 7 | 2047 Cin-Day @ Access 2, Scenario 3 AM | 626 | 38 | NO |
| 8 | 2047 Cin-Day @ Access 2, Scenario 3 PM | 990 | 174 | YES |
| 9 | 2047 Cin-Day @ Access 2, Scenario 3 w/ comm AM | 687 | 99 | YES |
| 10 | 2047 Cin-Day @ Access 2, Scenario 3 w/ comm PM | 1074 | 283 | YES |
| 11 | | | | |
| 12 | | | | |
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# 4-Lane Highway Left Turn Lane Warrant

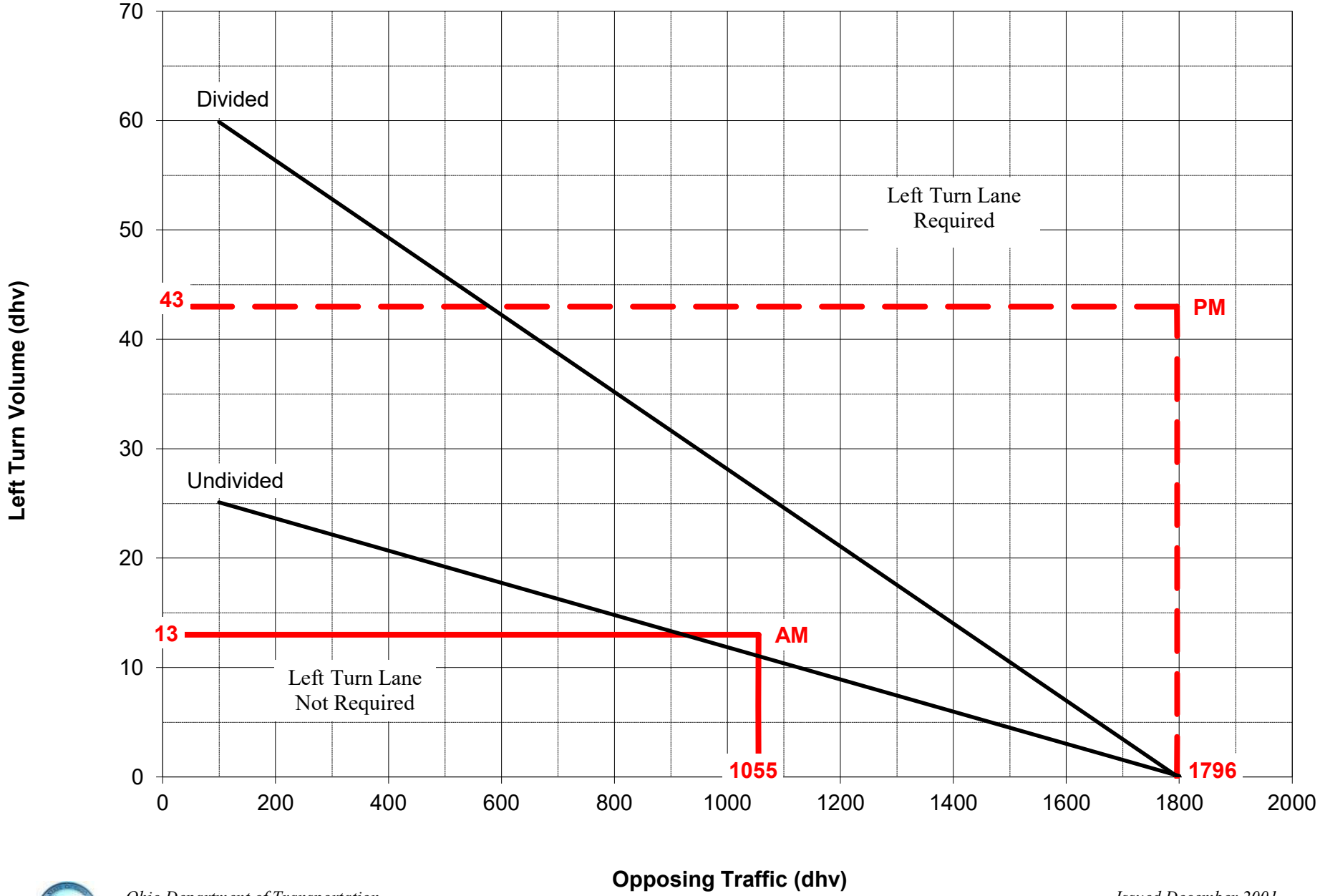
Study Year: 2047

Scenario 2

SR 63 @ Access 3

STREET TYPE = DIVIDED

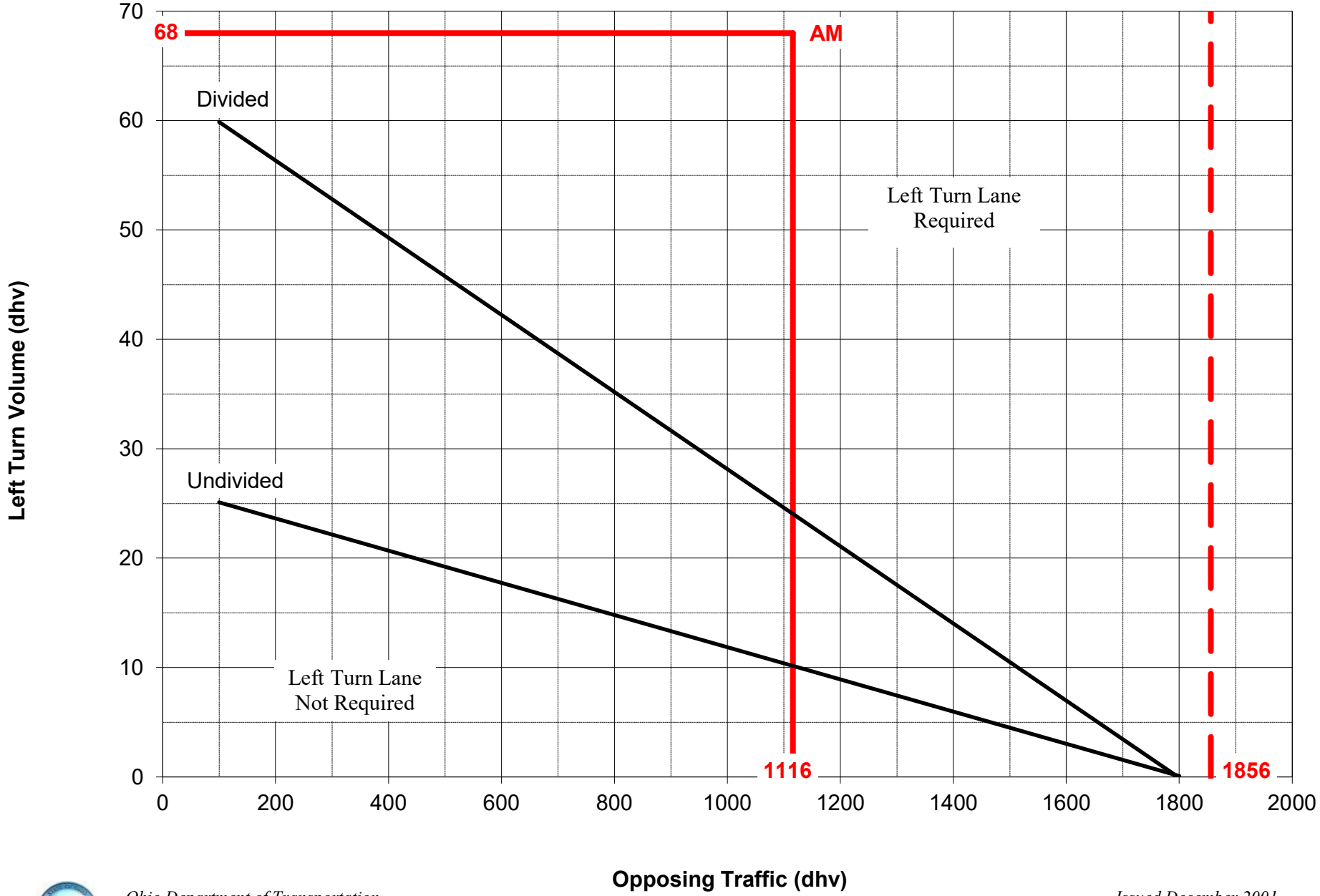
AM = NOT WARRANTED PM = WARRANTED

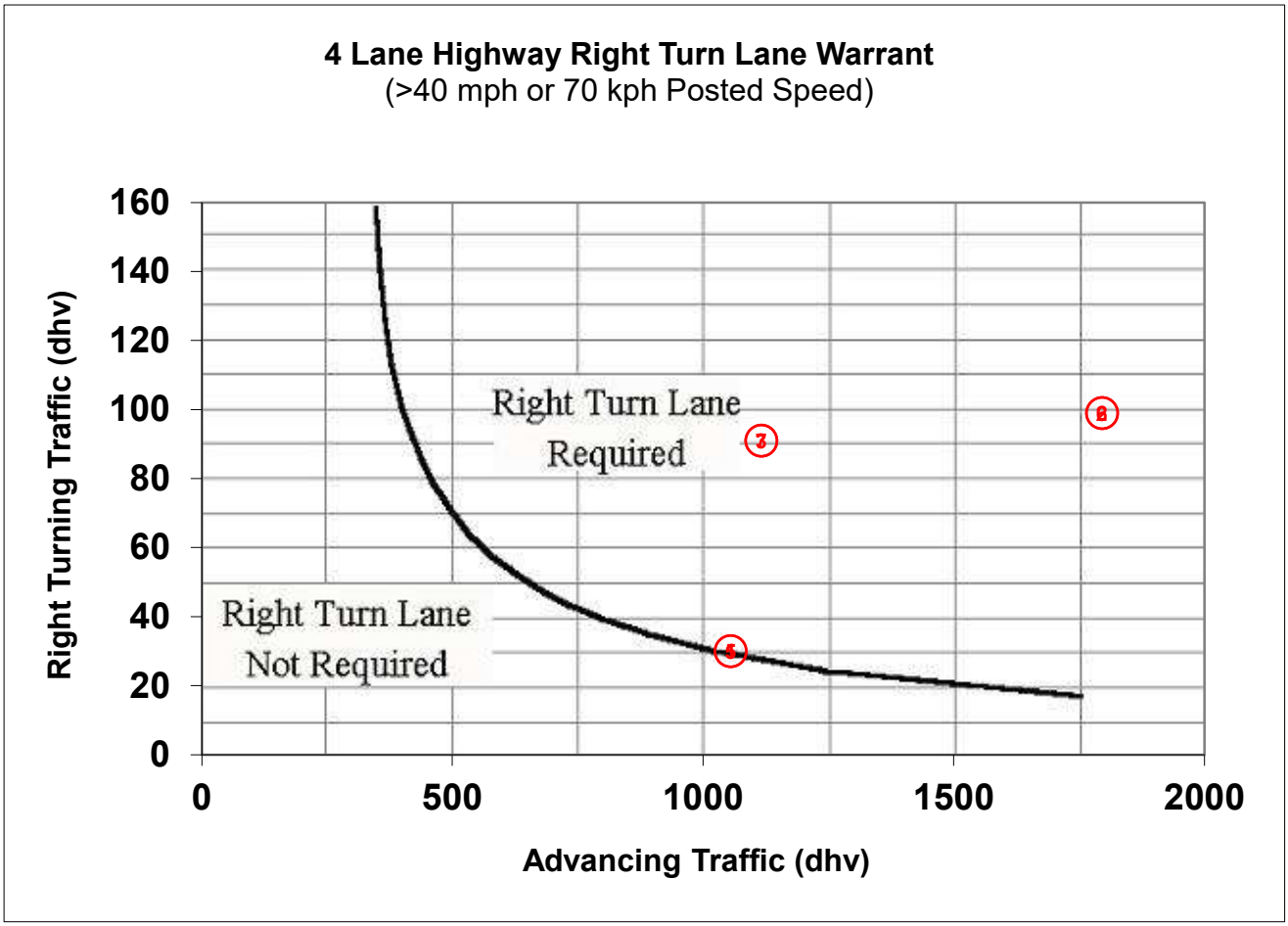


# 4-Lane Highway Left Turn Lane Warrant

Study Year: 2047
Scenario 2 w Comm
SR 63 @ Access 3

STREET TYPE = DIVIDED
AM = WARRANTED PM = WARRANTED






| REQ | Intersection | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 SR 63 @ Access 3, Scenario 2 AM | 1055 | 30 | Marginal |
| 2 | 2047 SR 63 @ Access 3, Scenario 2 PM | 1796 | 99 | YES |
| 3 | 2047 SR 63 @ Access 3, Scenario 2 w/ comm AM | 1116 | 91 | YES |
| 4 | 2047 SR 63 @ Access 3, Scenario 2 w/ comm PM | 1856 | 209 | YES |
| 5 | 2047 SR 63 @ Access 3, Scenario 3 AM | 1055 | 30 | Marginal |
| 6 | 2047 SR 63 @ Access 3, Scenario 3 PM | 1796 | 99 | YES |
| 7 | 2047 SR 63 @ Access 3, Scenario 3 w/ comm AM | 1116 | 91 | YES |
| 8 | 2047 SR 63 @ Access 3, Scenario 3 w/ comm PM | 1856 | 209 | YES |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
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| 19 | | | | |
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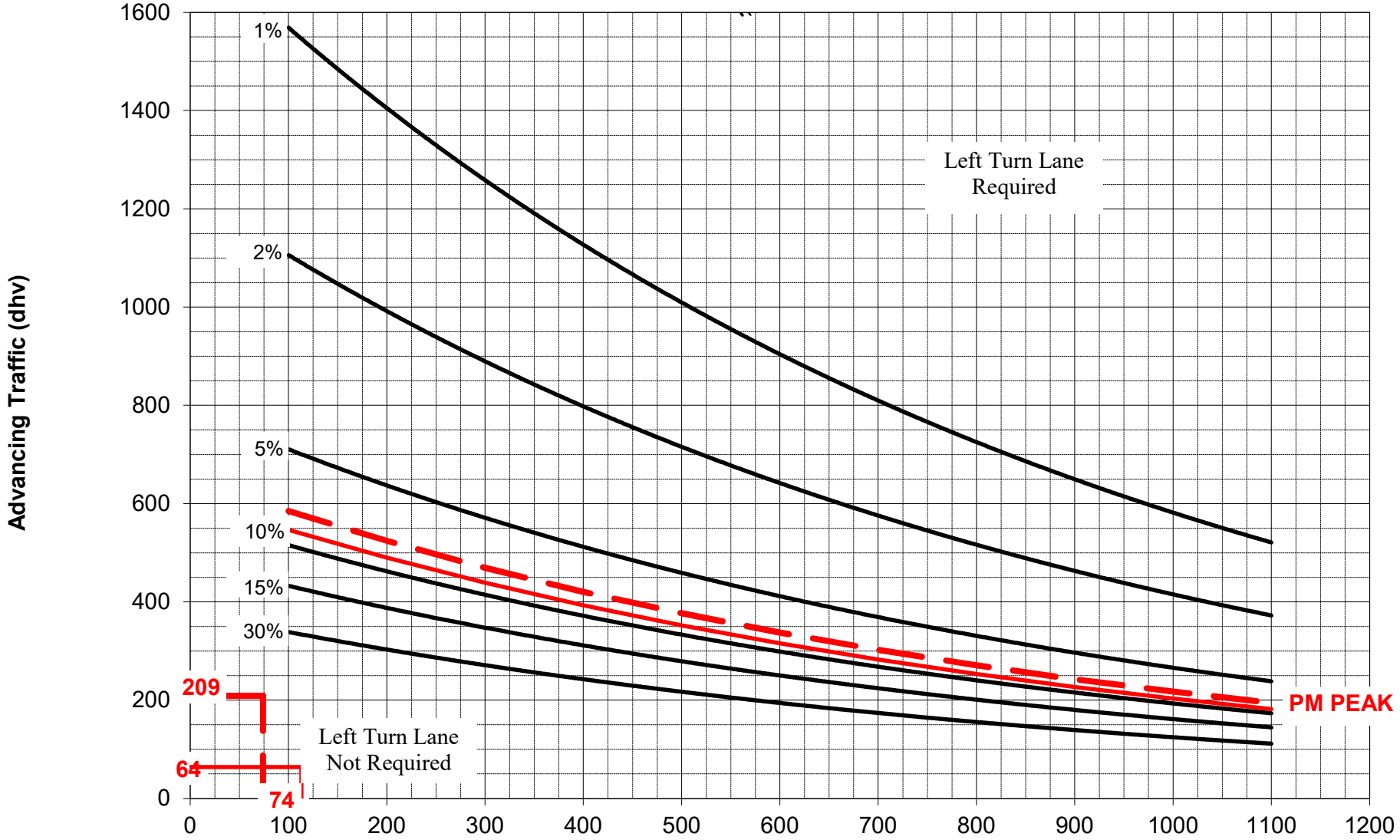
# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 6 | % Left Turns = 9.4% | NOT WARRANTED

**PM Peak:** # Left Turns = 17 | % Left Turns = 8.1% | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 1
EBL Intersection A

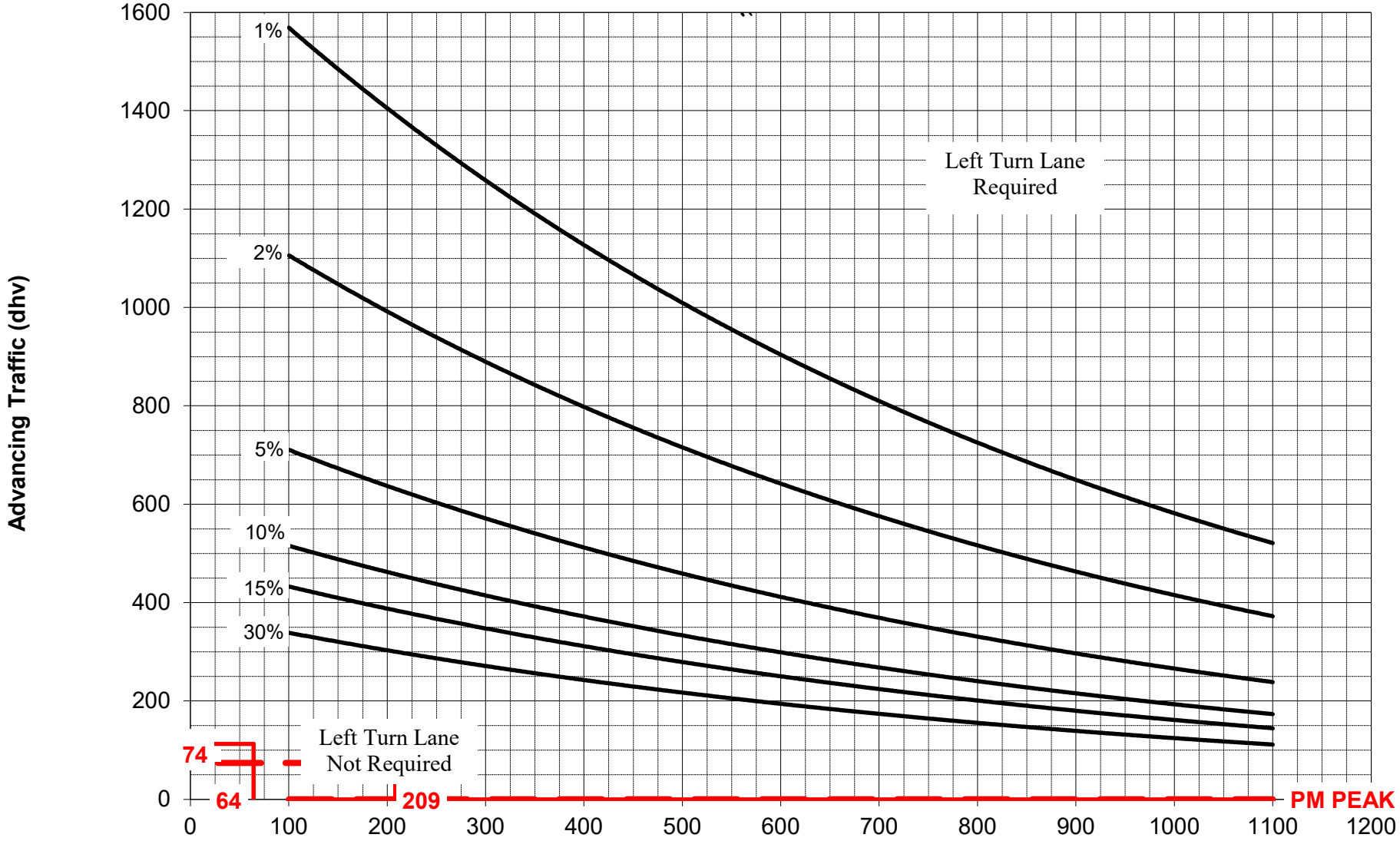


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
Scenario 1
WBL Intersection A

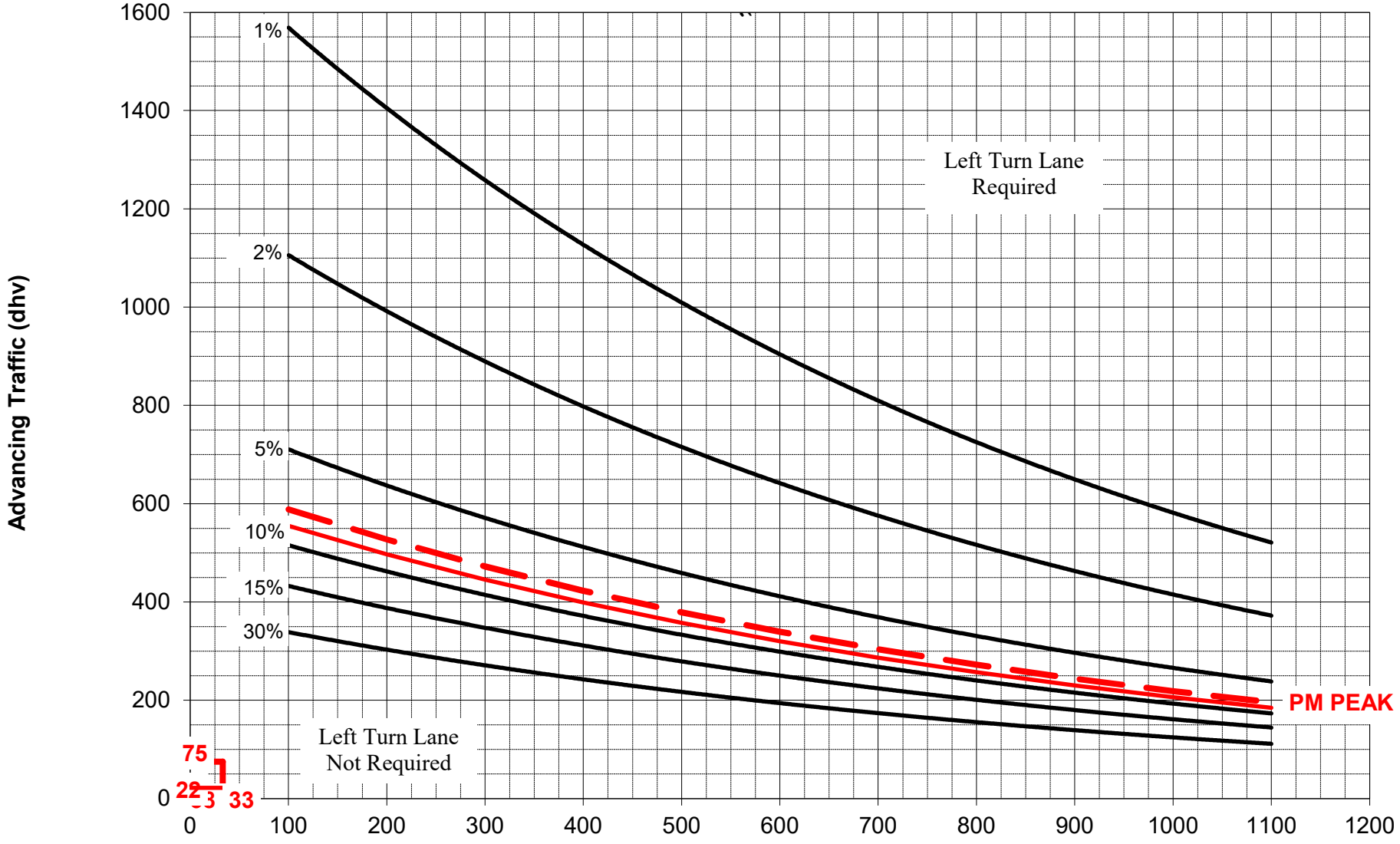


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2; % Left Turns = 9.1%; NOT WARRANTED

**PM Peak:** # Left Turns = 6; % Left Turns = 8.0%; NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 2
EBL Intersection A

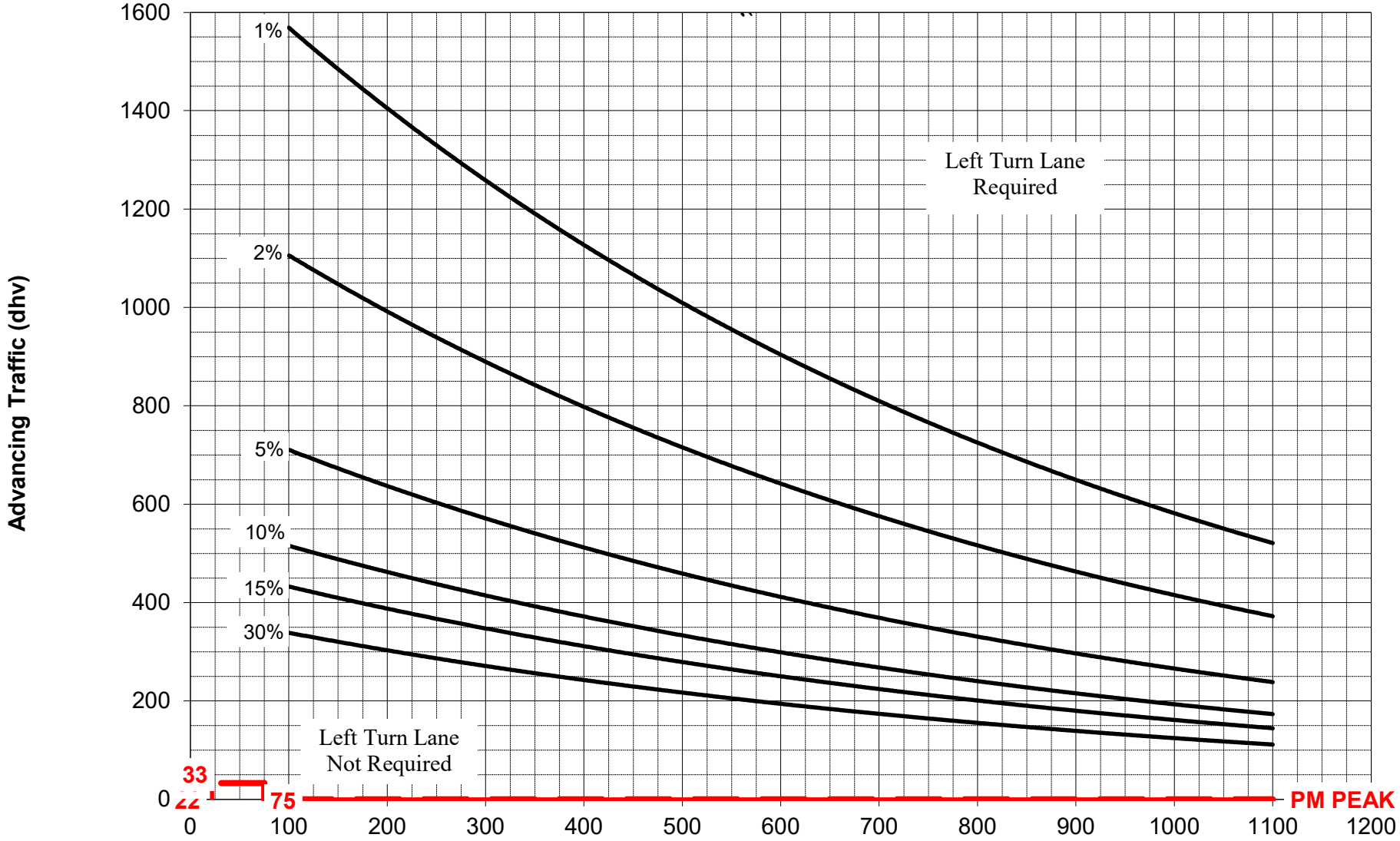


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
Scenario 2
WBL Intersection A

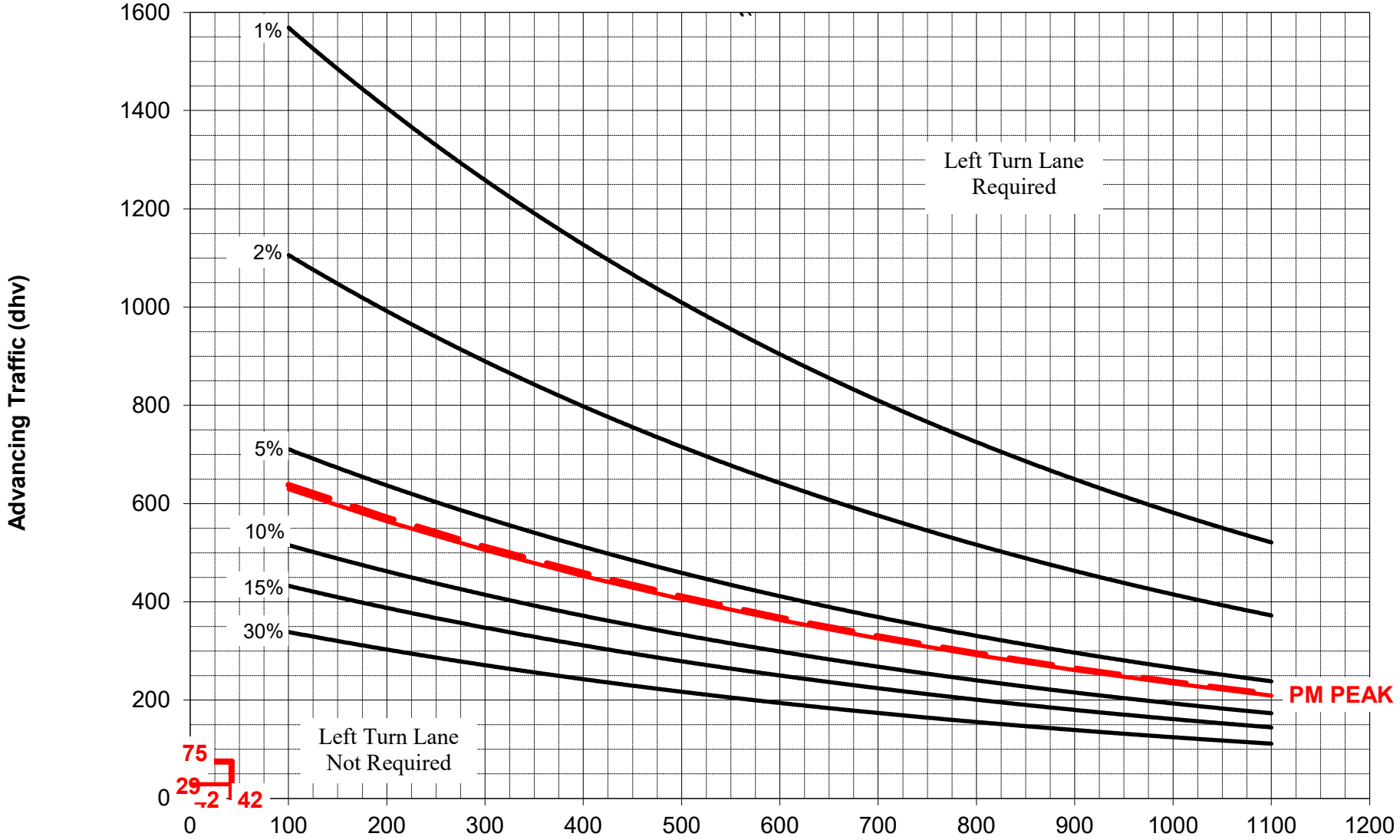


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2; % Left Turns = 6.9%; NOT WARRANTED

**PM Peak:** # Left Turns = 5; % Left Turns = 6.7%; NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 2 w Comm
EBL Intersection A

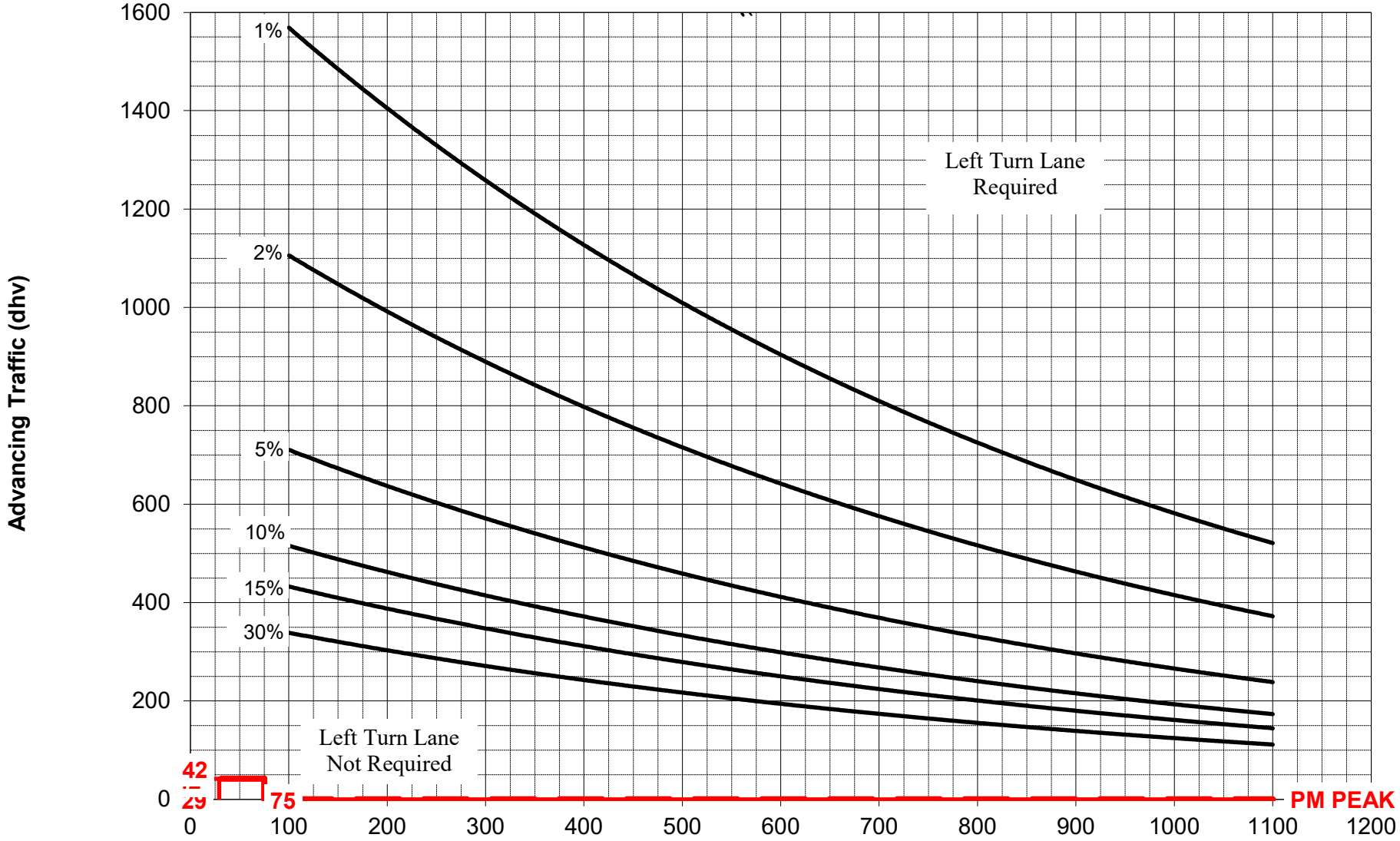


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
**Scenario 2 w Comm**
**WBL Intersection A**

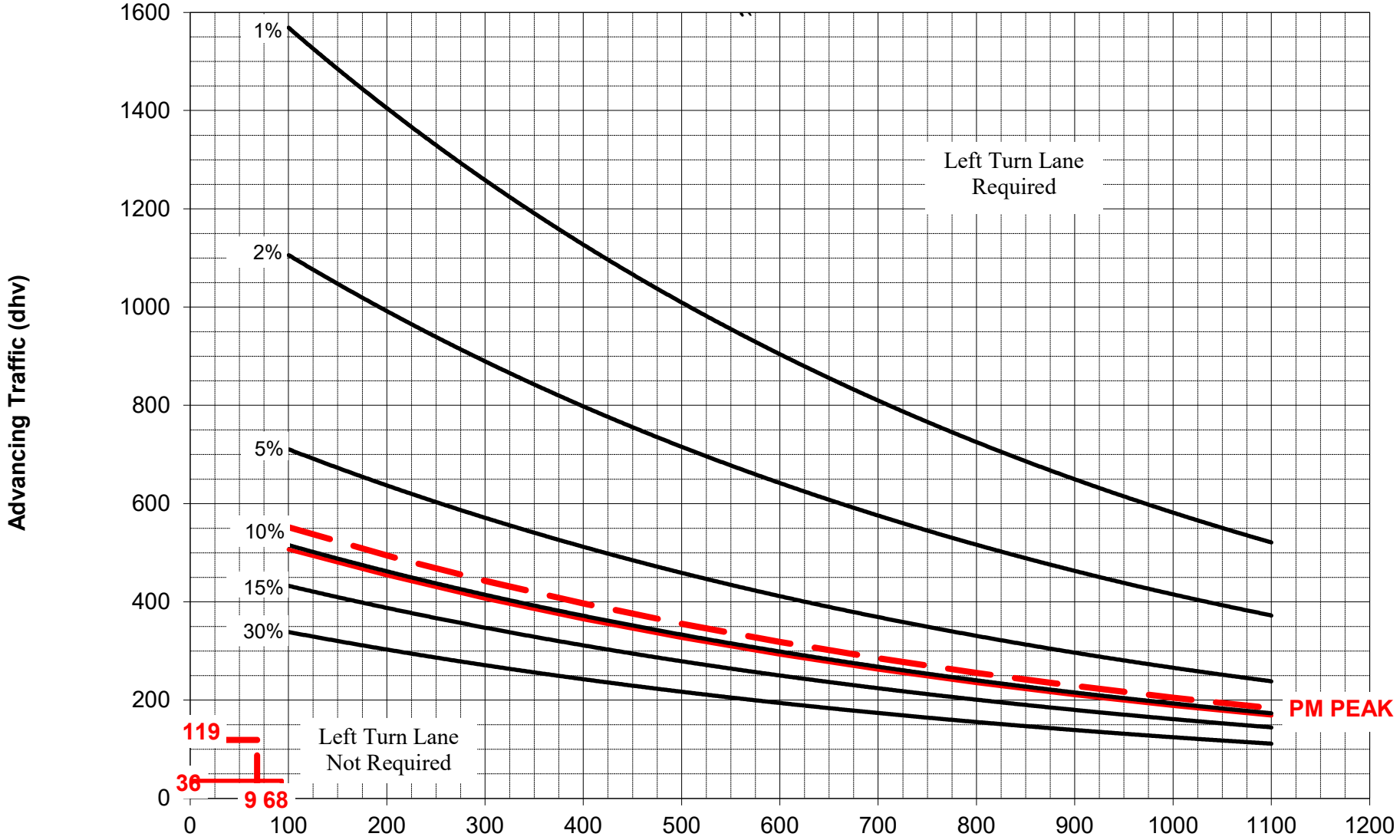


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 4, % Left Turns = 11.1%, NOT WARRANTED

**PM Peak:** # Left Turns = 11, % Left Turns = 9.2%, NOT WARRANTED

**Volumes Analyzed:** 2047, Scenario 3, EBL Intersection A

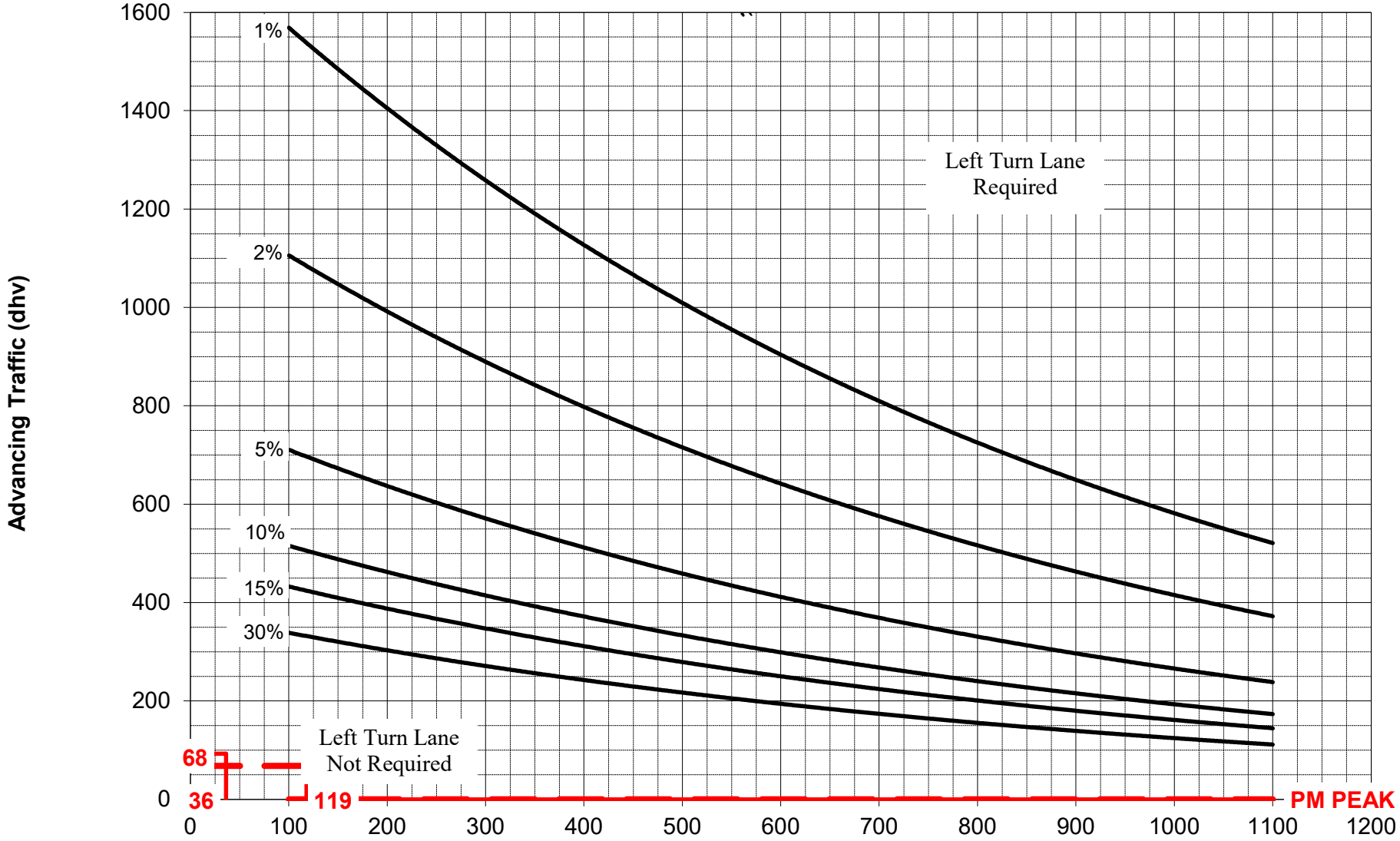


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
**Scenario 3**
**WBL Intersection A**

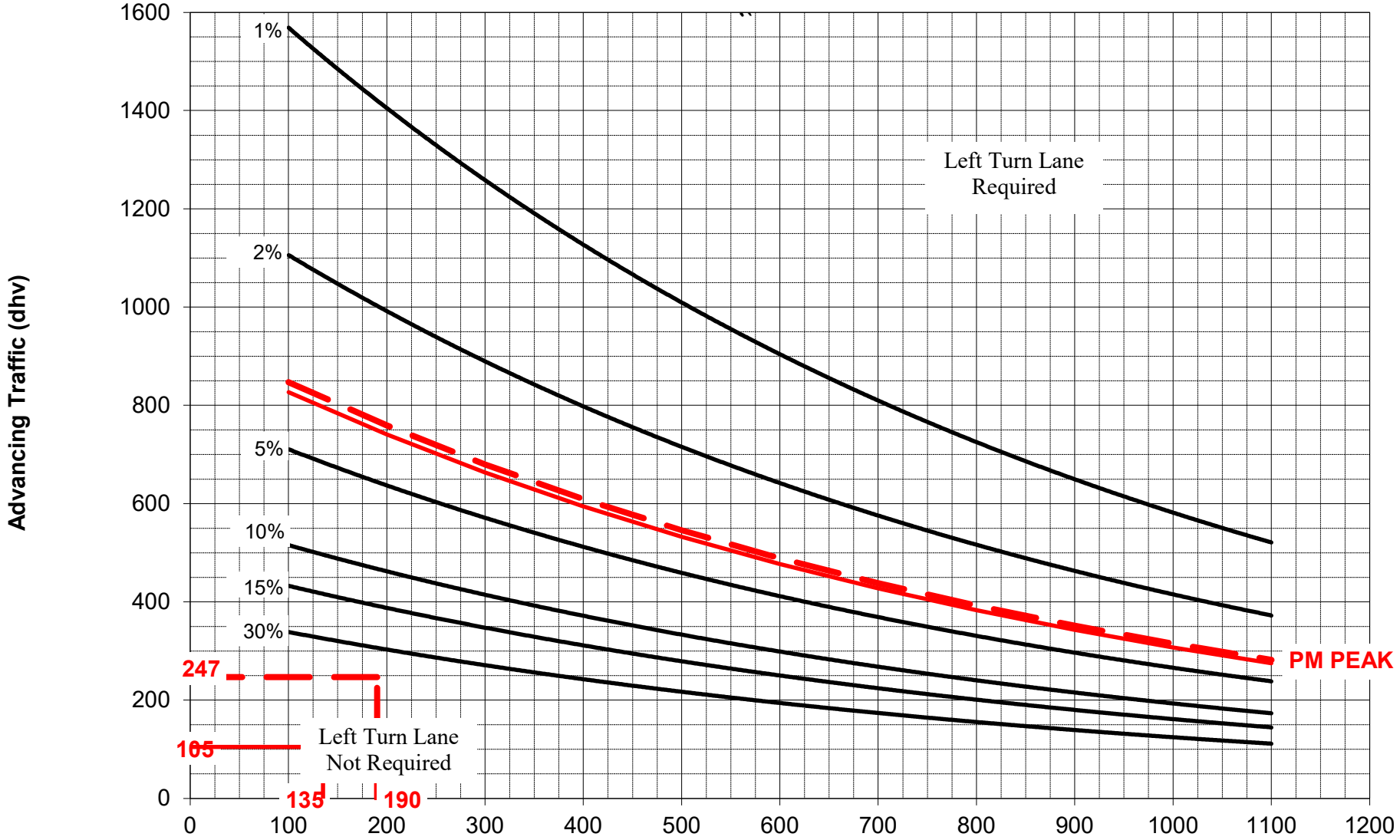


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 4 | % Left Turns = 3.8% | NOT WARRANTED

**PM Peak:** # Left Turns = 9 | % Left Turns = 3.6% | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 3 w Comm
EBL Intersection A

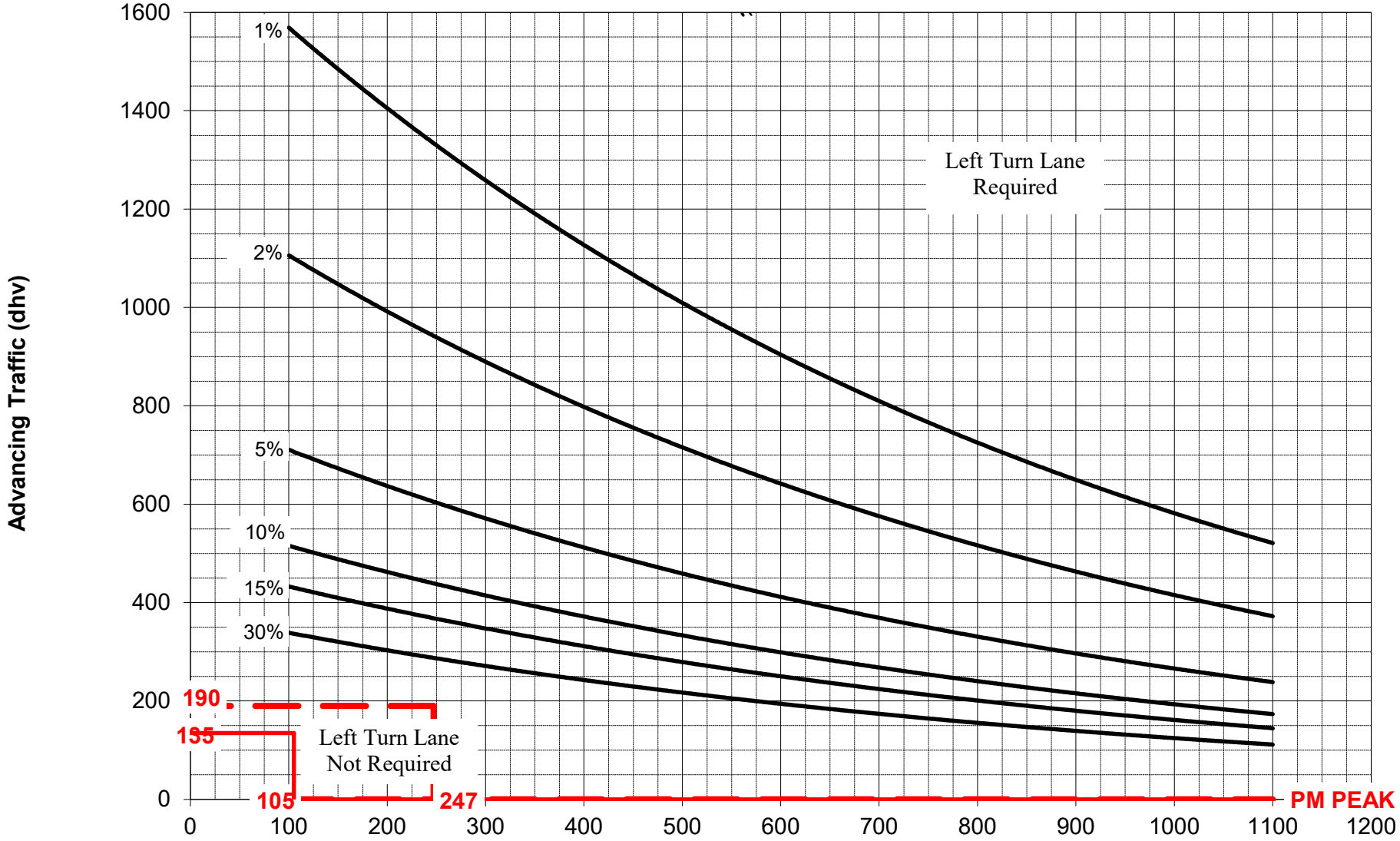


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

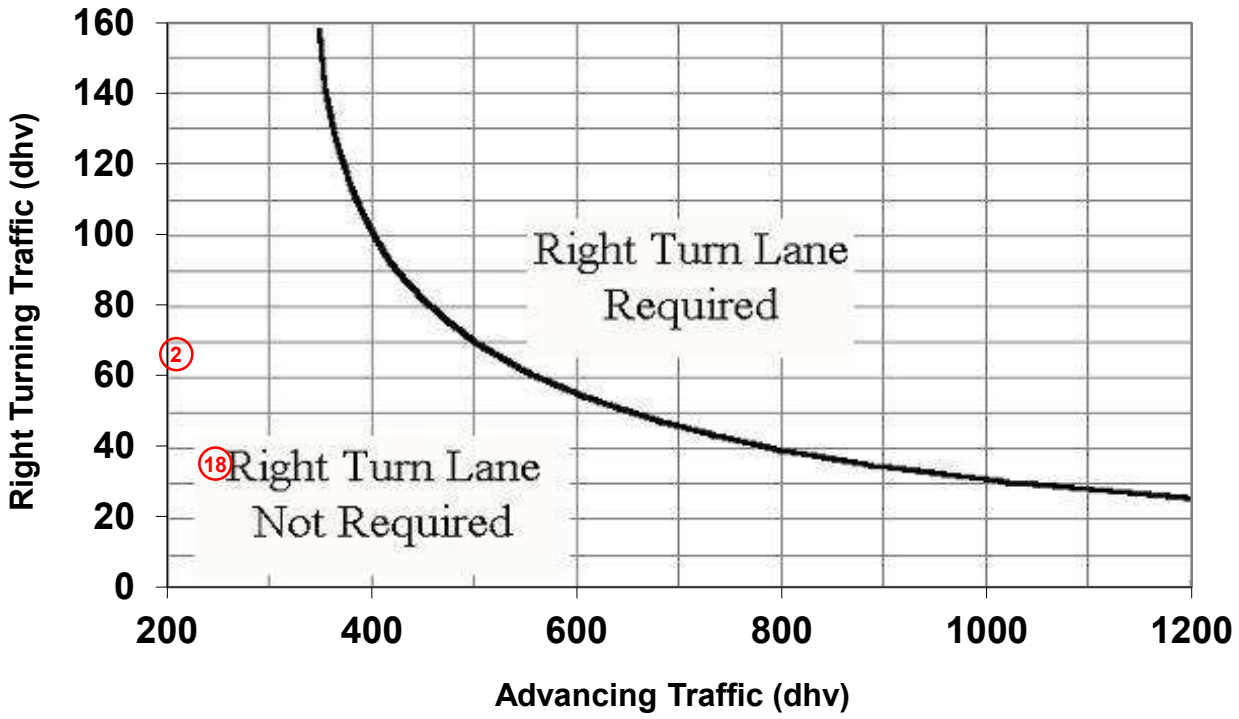
**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
**Scenario 3 w Comm**
**WBL Intersection A**



**2-Lane Highway Right Turn Lane Warrant**
=< 40 mph or 70 kph Posted Speed



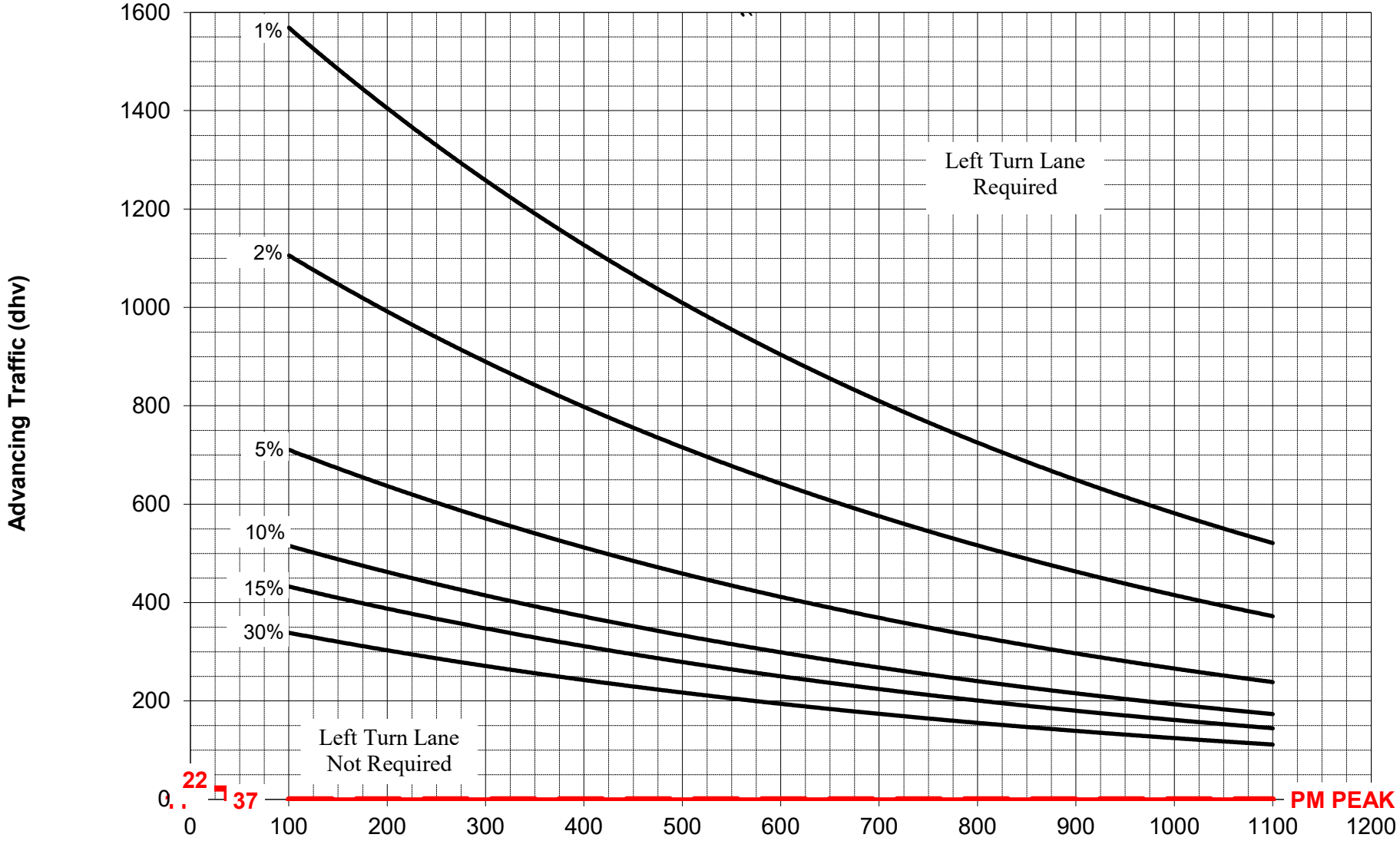

| REQ | Intersection A | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 Scenario 1 - Eastbound - AM | 64 | 20 | NO |
| 2 | 2047 Scenario 1 - Eastbound - PM | 209 | 66 | NO |
| 3 | 2047 Scenario 1 - Westbound - AM | 113 | 0 | NO |
| 4 | 2047 Scenario 1 - Westbound - PM | 74 | 0 | NO |
| 5 | 2047 Scenario 2 - Eastbound - AM | 22 | 9 | NO |
| 6 | 2047 Scenario 2 - Eastbound - PM | 75 | 31 | NO |
| 7 | 2047 Scenario 2 - Westbound - AM | 38 | 4 | NO |
| 8 | 2047 Scenario 2 - Westbound - PM | 33 | 11 | NO |
| 9 | 2047 Scenario 2 with C - Eastbound - AM | 29 | 9 | NO |
| 10 | 2047 Scenario 2 with C - Eastbound - PM | 75 | 25 | NO |
| 11 | 2047 Scenario 2 with C - Westbound - AM | 42 | 4 | NO |
| 12 | 2047 Scenario 2 with C - Westbound - PM | 42 | 9 | NO |
| 13 | 2047 Scenario 3 - Eastbound - AM | 36 | 13 | NO |
| 14 | 2047 Scenario 3 - Eastbound - PM | 119 | 43 | NO |
| 15 | 2047 Scenario 3 - Westbound - AM | 93 | 3 | NO |
| 16 | 2047 Scenario 3 - Westbound - PM | 68 | 9 | NO |
| 17 | 2047 Scenario 3 with C - Eastbound - AM | 105 | 13 | NO |
| 18 | 2047 Scenario 3 with C - Eastbound - PM | 247 | 35 | NO |
| 19 | 2047 Scenario 3 with C - Westbound - AM | 135 | 3 | NO |
| 20 | 2047 Scenario 3 with C - Westbound - PM | 190 | 7 | NO |

# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
Scenario 1
NBL Intersection B

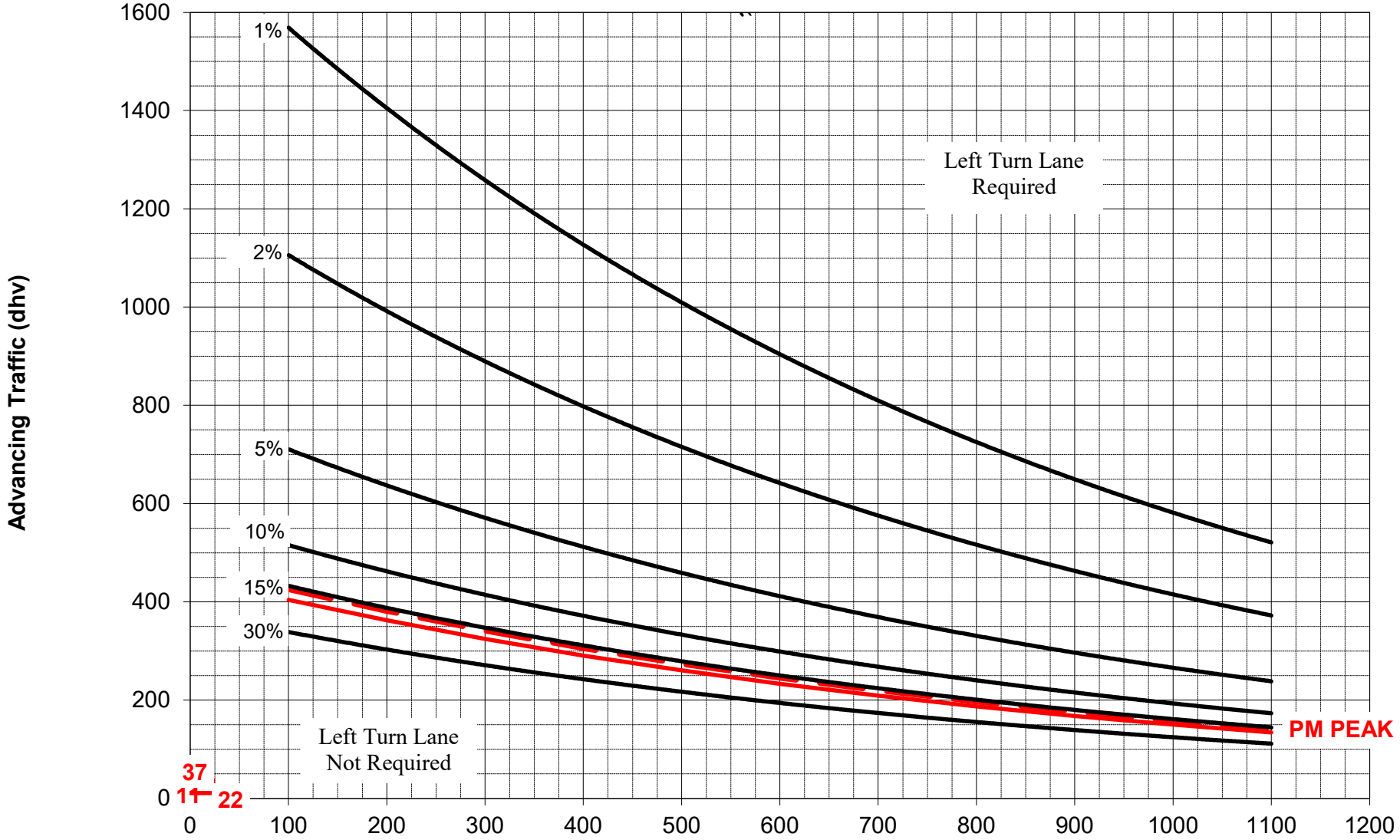


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2 | % Left Turns = 18.2% | NOT WARRANTED

**PM Peak:** # Left Turns = 6 | % Left Turns = 16.2 | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 1
SBL Intersection B

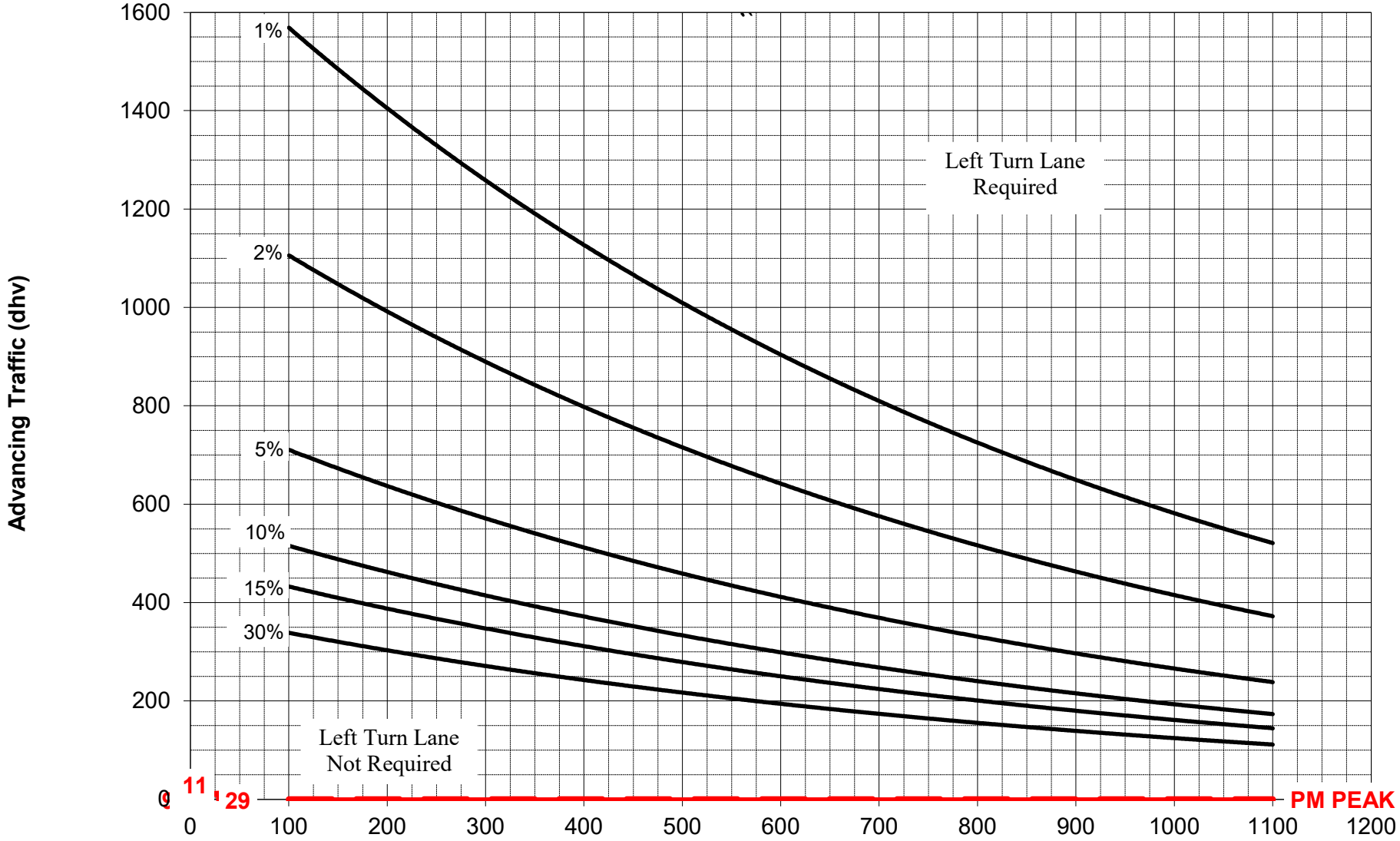


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
Scenario 2
NBL Intersection B

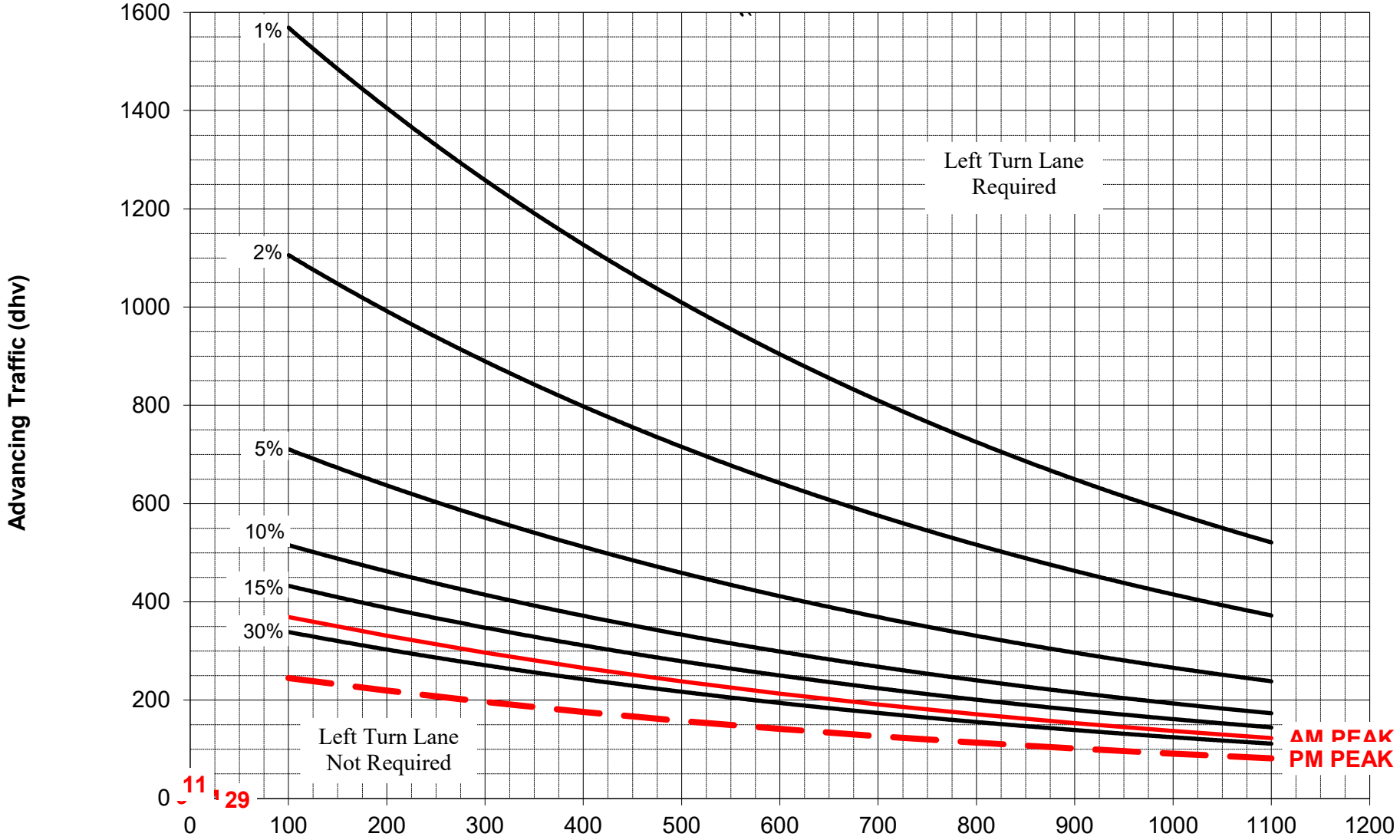


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2 | % Left Turns = 22.2% | NOT WARRANTED

**PM Peak:** # Left Turns = 6 | % Left Turns = 54.5 | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 2
SBL Intersection B

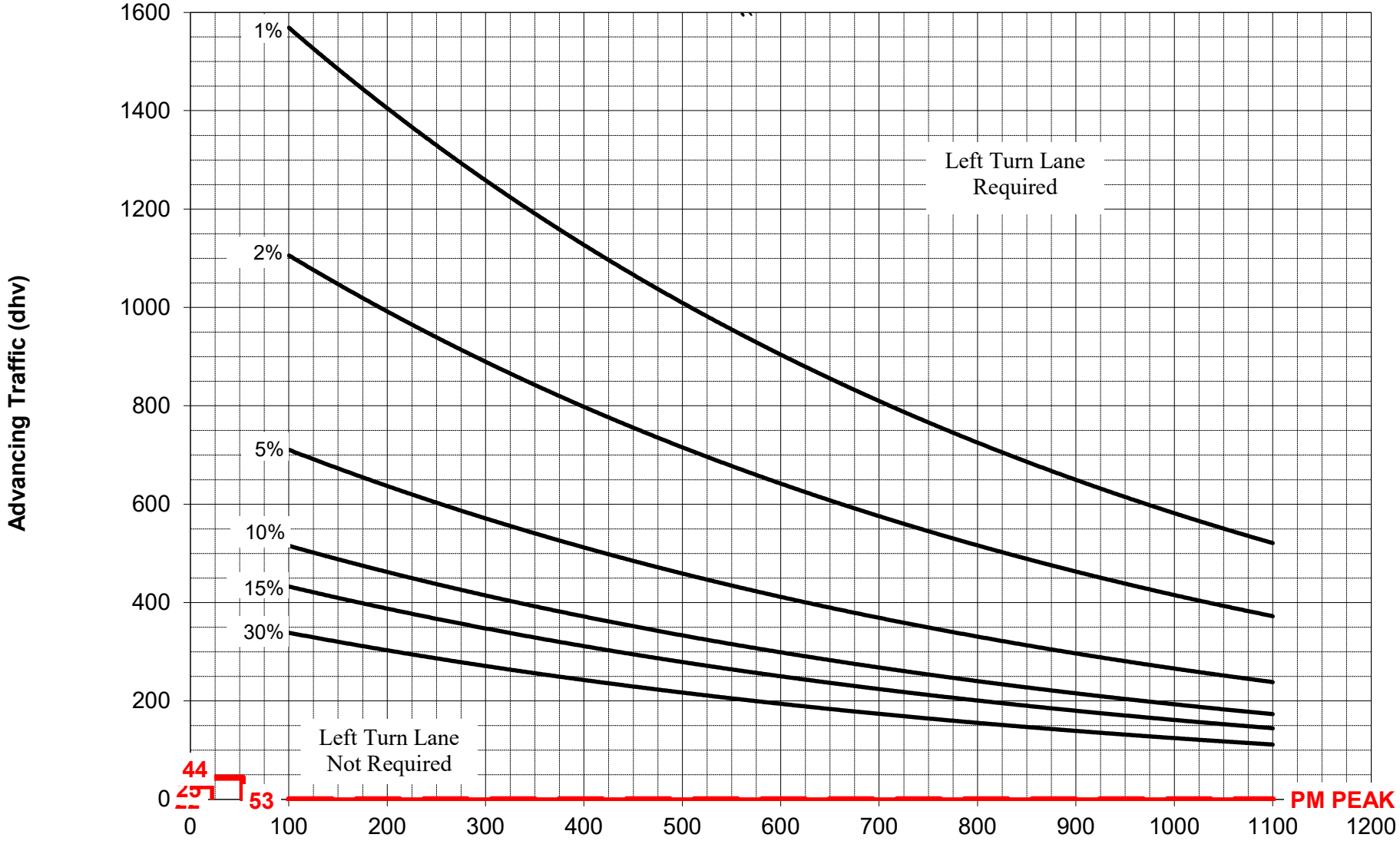


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
**Scenario 2 w Comm**
**NBL Intersection B**

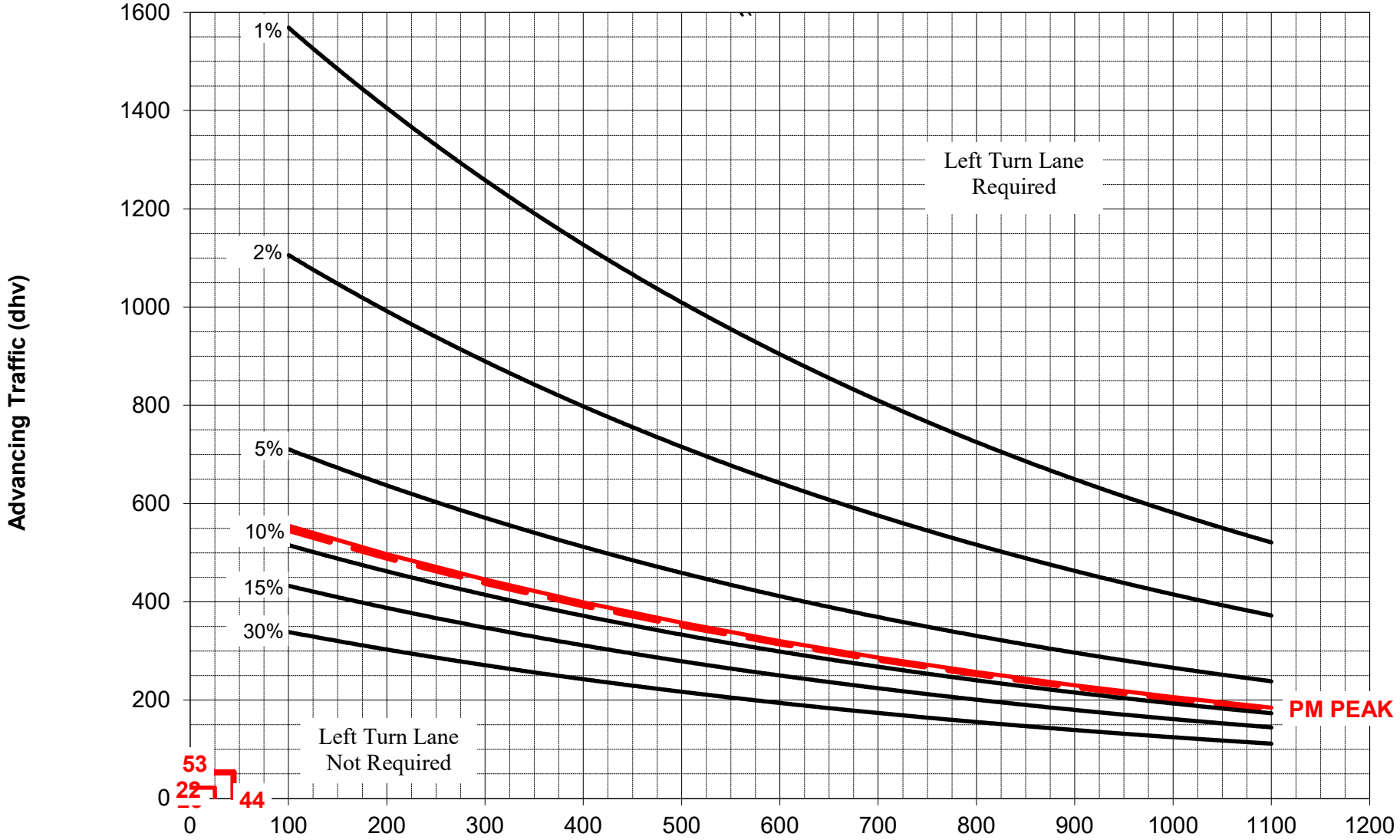


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2 | % Left Turns = 9.1% | NOT WARRANTED

**PM Peak:** # Left Turns = 5 | % Left Turns = 9.4% | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 2 w Comm
SBL Intersection B

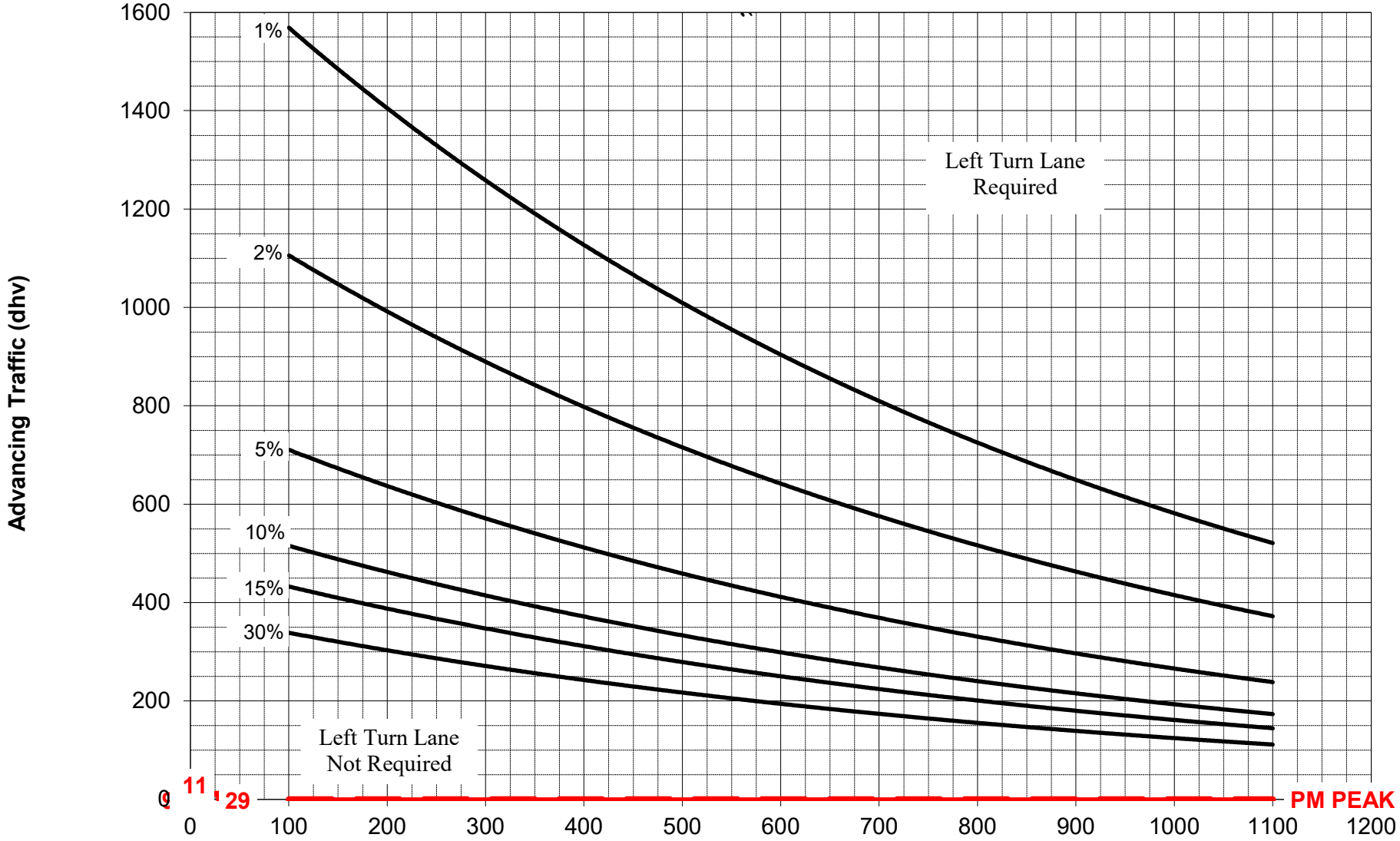


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
Scenario 3
NBL Intersection B

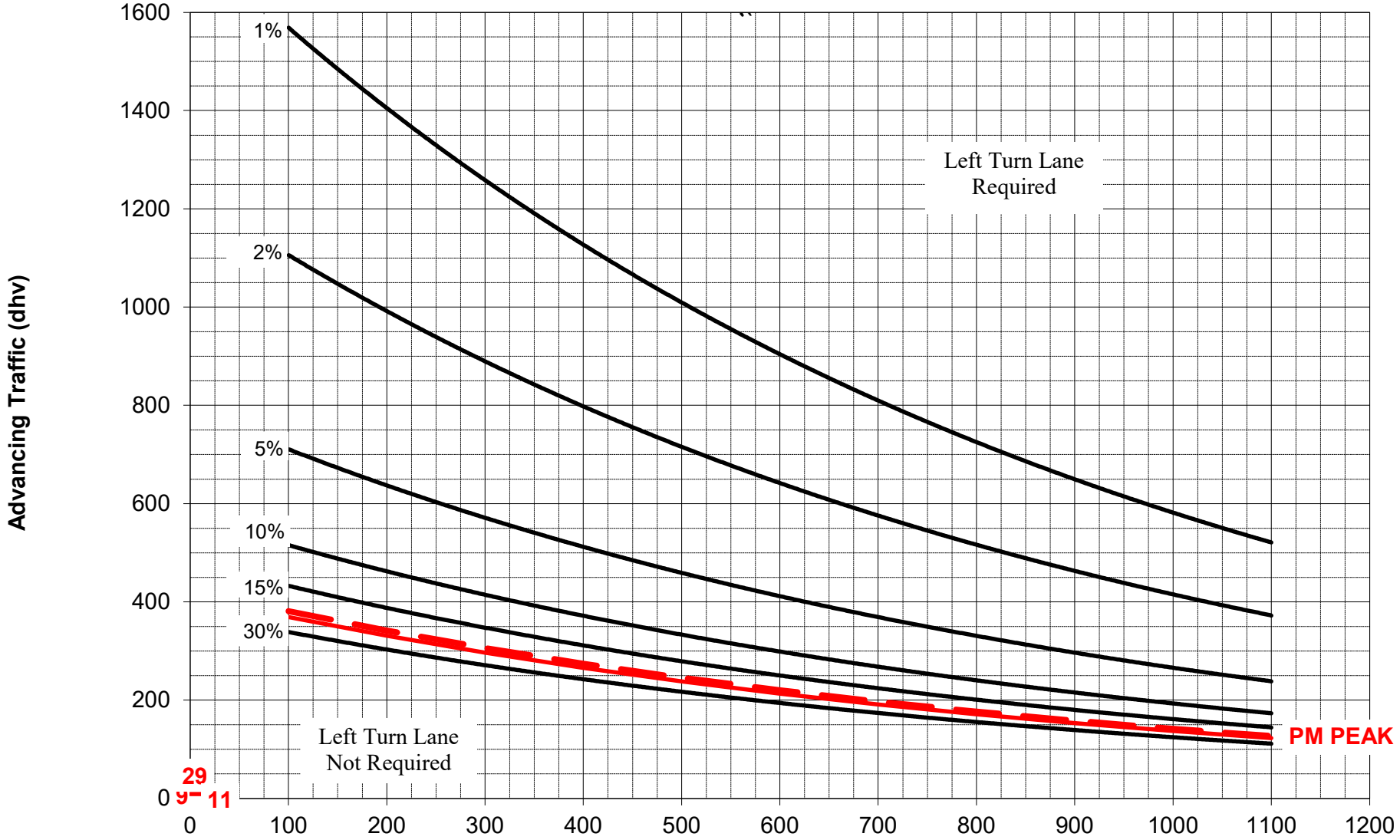


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2; % Left Turns = 22.2%; NOT WARRANTED

**PM Peak:** # Left Turns = 6; % Left Turns = 20.7; NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 3
SBL Intersection B

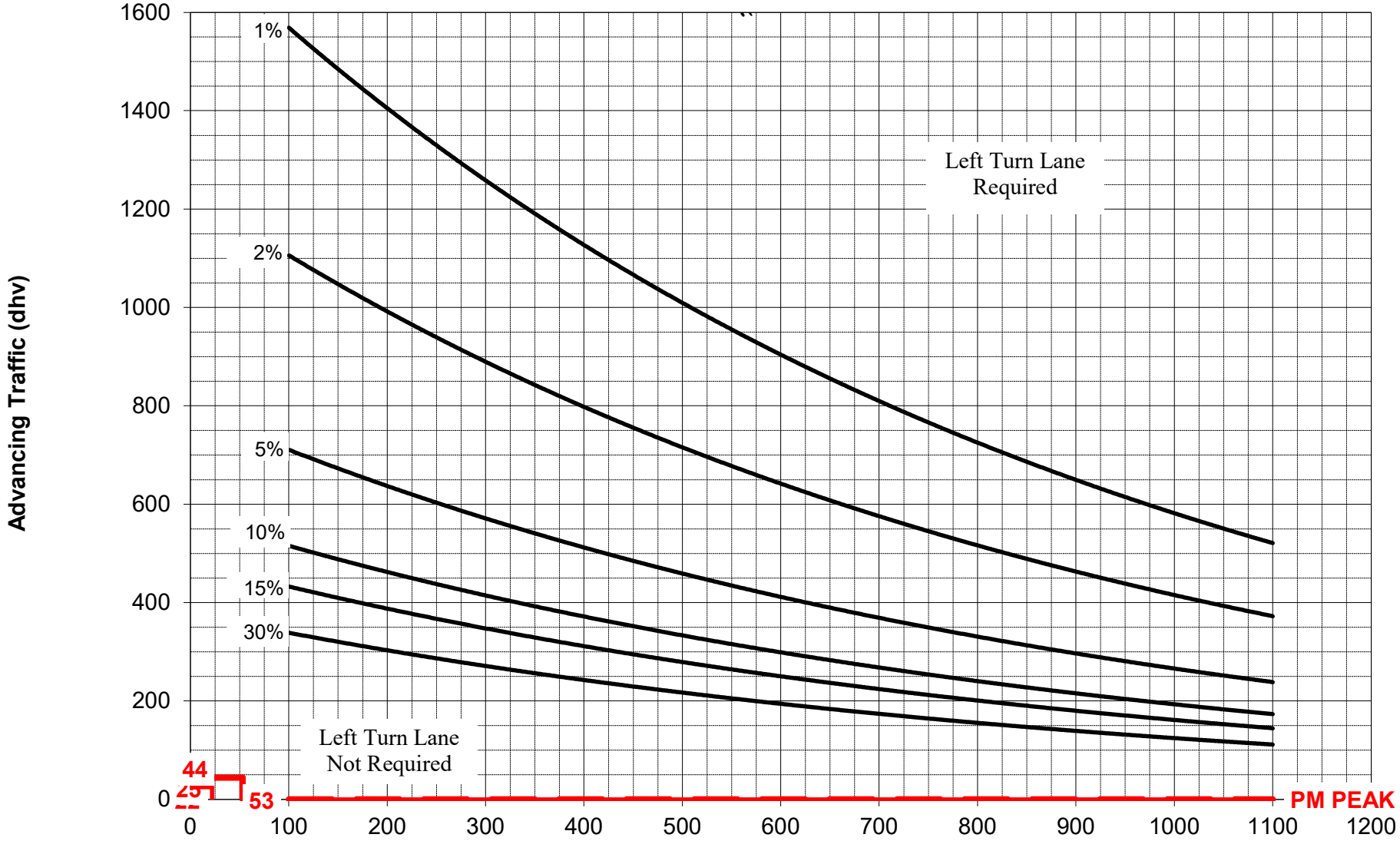


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**PM Peak:** # Left Turns = 0 | % Left Turns = 0.0% | #DIV/0!

**Volumes Analyzed:** 2047
Scenario 3 w Comm
NBL Intersection B

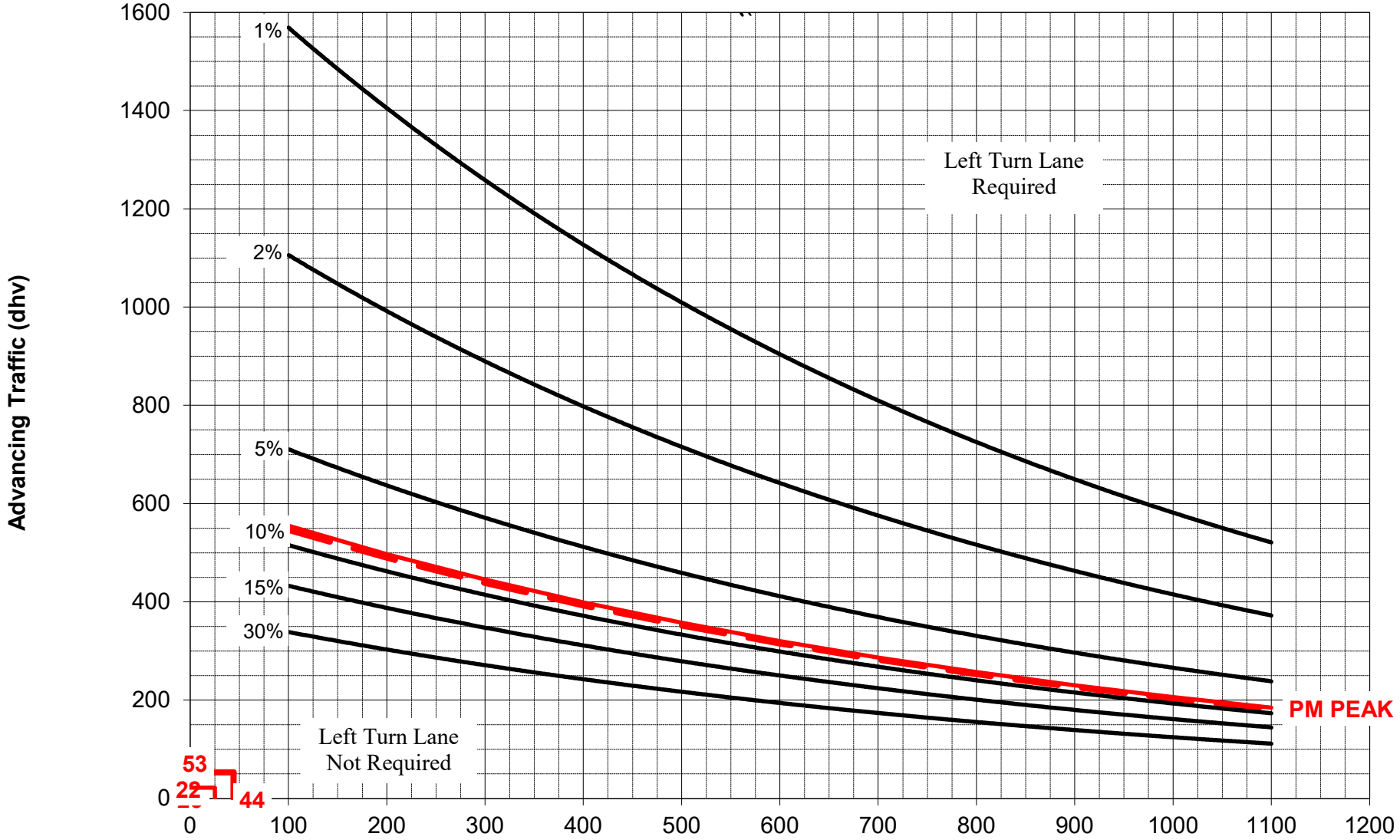


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 2 | % Left Turns = 9.1% | NOT WARRANTED

**PM Peak:** # Left Turns = 5 | % Left Turns = 9.4% | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 3 w Comm
SBL Intersection B



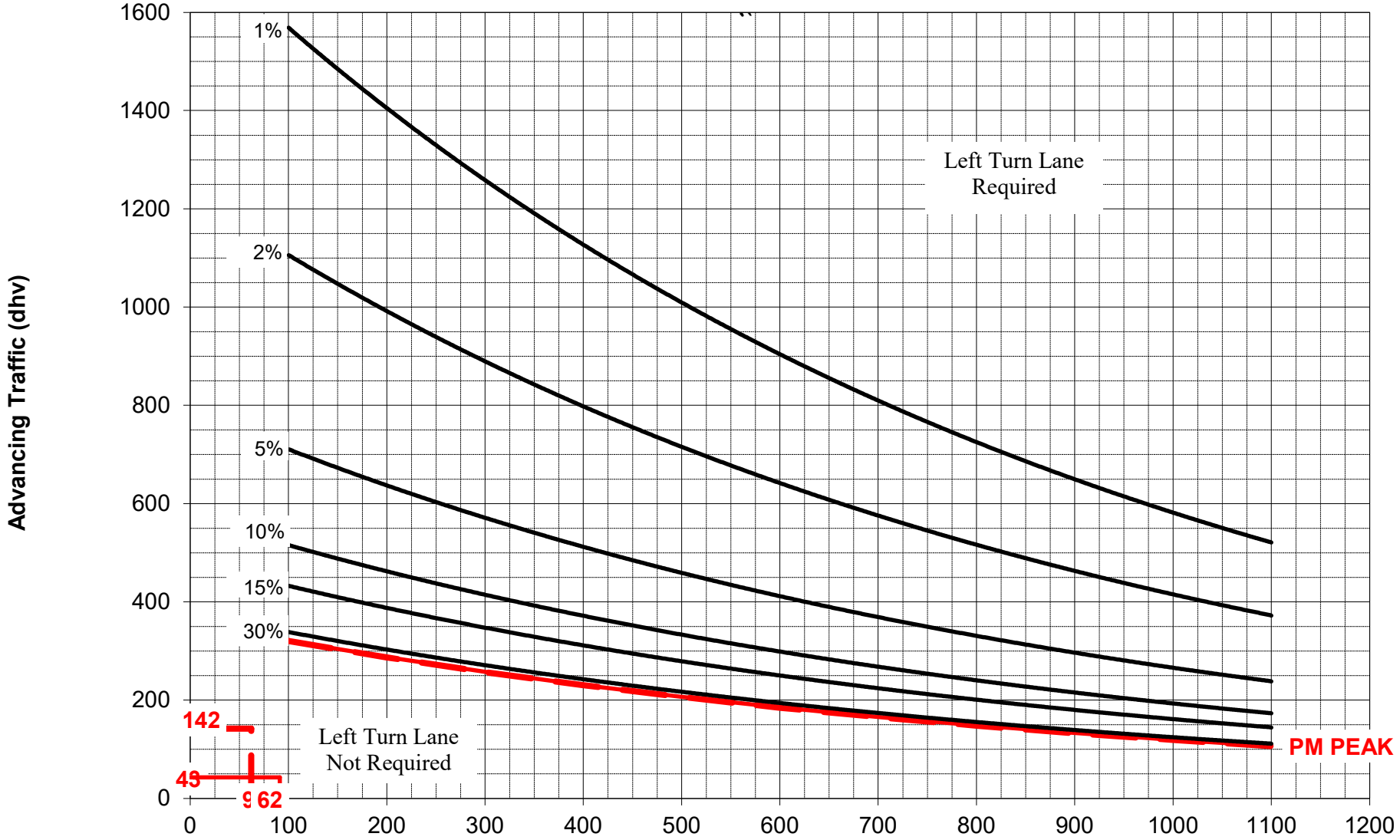
| REQ | Intersection B | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 Scenario 1 - Northbound - AM | 27 | 2 | NO |
| 2 | 2047 Scenario 1 - Northbound - PM | 22 | 6 | NO |
| 3 | 2047 Scenario 1 - Southbound - AM | 11 | 1 | NO |
| 4 | 2047 Scenario 1 - Southbound - PM | 37 | 4 | NO |
| 5 | 2047 Scenario 2 - Northbound - AM | 17 | 0 | NO |
| 6 | 2047 Scenario 2 - Northbound - PM | 11 | 0 | NO |
| 7 | 2047 Scenario 2 - Southbound - AM | 9 | 1 | NO |
| 8 | 2047 Scenario 2 - Southbound - PM | 29 | 4 | NO |
| 9 | 2047 Scenario 2 with C - Northbound - AM | 25 | 0 | NO |
| 10 | 2047 Scenario 2 with C - Northbound - PM | 44 | 0 | NO |
| 11 | 2047 Scenario 2 with C - Southbound - AM | 22 | 1 | NO |
| 12 | 2047 Scenario 2 with C - Southbound - PM | 53 | 3 | NO |
| 13 | 2047 Scenario 3 - Northbound - AM | 17 | 0 | NO |
| 14 | 2047 Scenario 3 - Northbound - PM | 11 | 0 | NO |
| 15 | 2047 Scenario 3 - Southbound - AM | 9 | 1 | NO |
| 16 | 2047 Scenario 3 - Southbound - PM | 29 | 4 | NO |
| 17 | 2047 Scenario 3 with C - Northbound - AM | 25 | 0 | NO |
| 18 | 2047 Scenario 3 with C - Northbound - PM | 44 | 0 | NO |
| 19 | 2047 Scenario 3 with C - Southbound - AM | 22 | 1 | NO |
| 20 | 2047 Scenario 3 with C - Southbound - PM | 53 | 3 | NO |

# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 13 | % Left Turns = 30.2% | NOT WARRANTED

**PM Peak:** # Left Turns = 43 | % Left Turns = 30.3 | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 2
NBL Intersection D

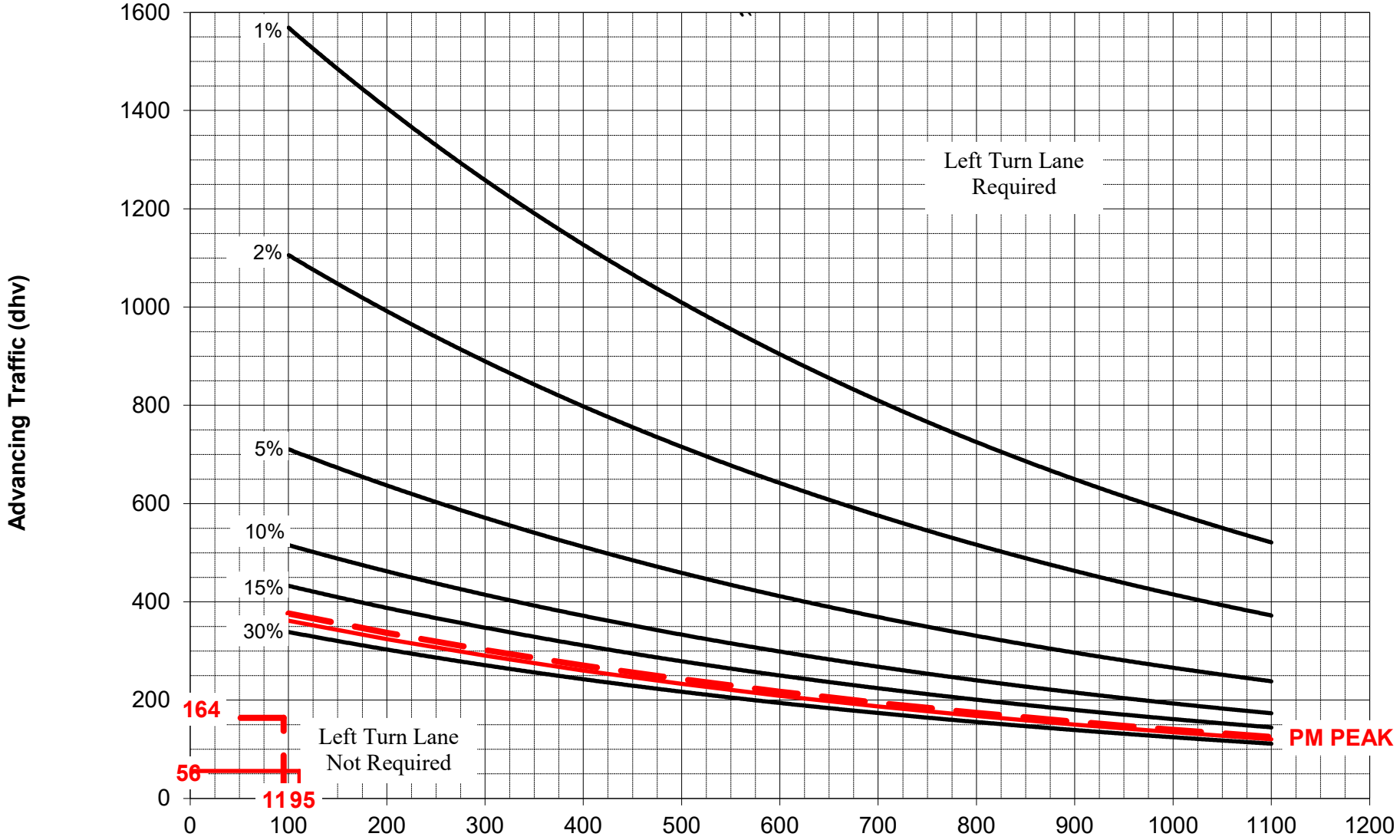


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 13 | % Left Turns = 23.2% | NOT WARRANTED

**PM Peak:** # Left Turns = 35 | % Left Turns = 21.3 | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 2 w Comm
NBL Intersection D

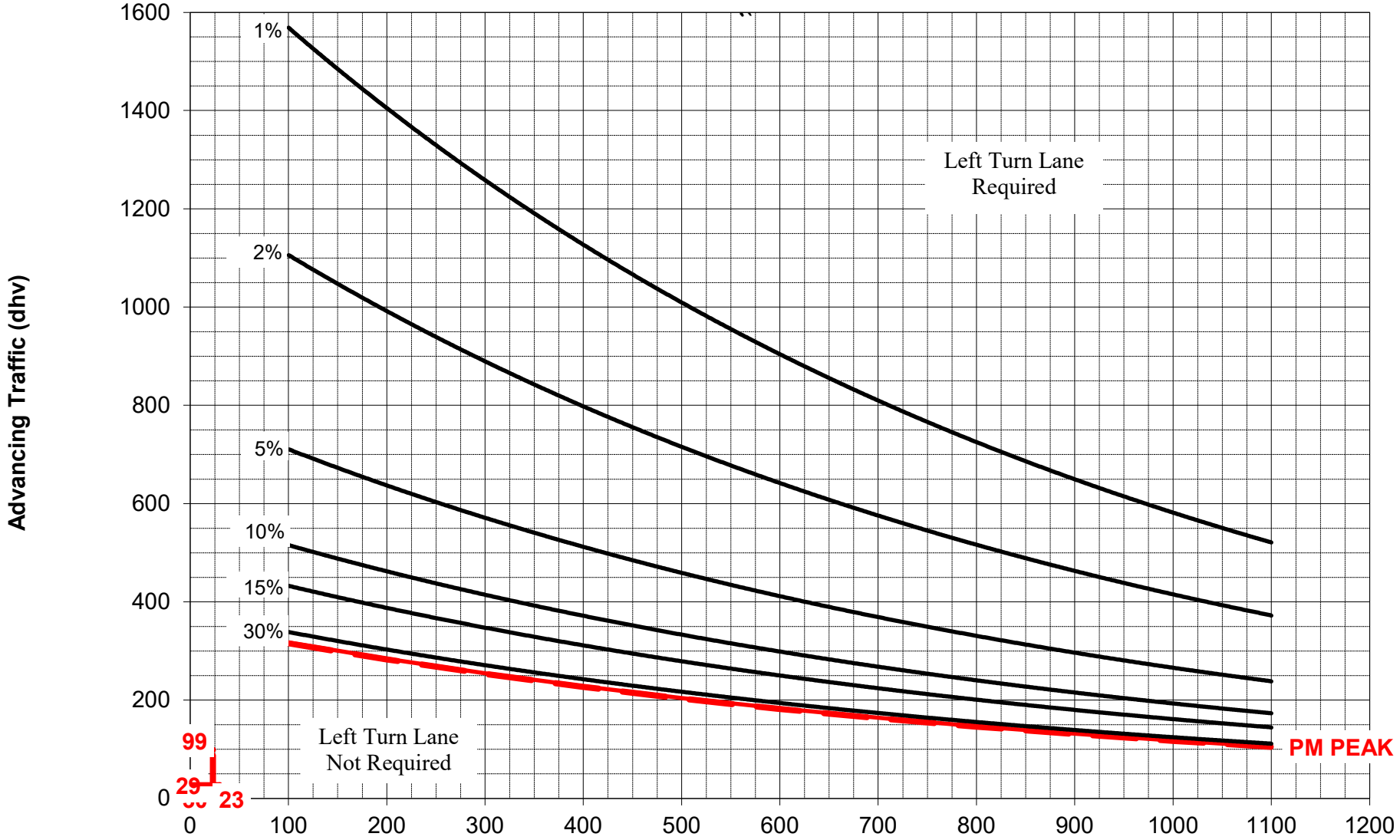


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

**AM Peak:** # Left Turns = 9 | % Left Turns = 31.0% | NOT WARRANTED

**PM Peak:** # Left Turns = 31 | % Left Turns = 31.3 | NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 3
NBL Intersection D

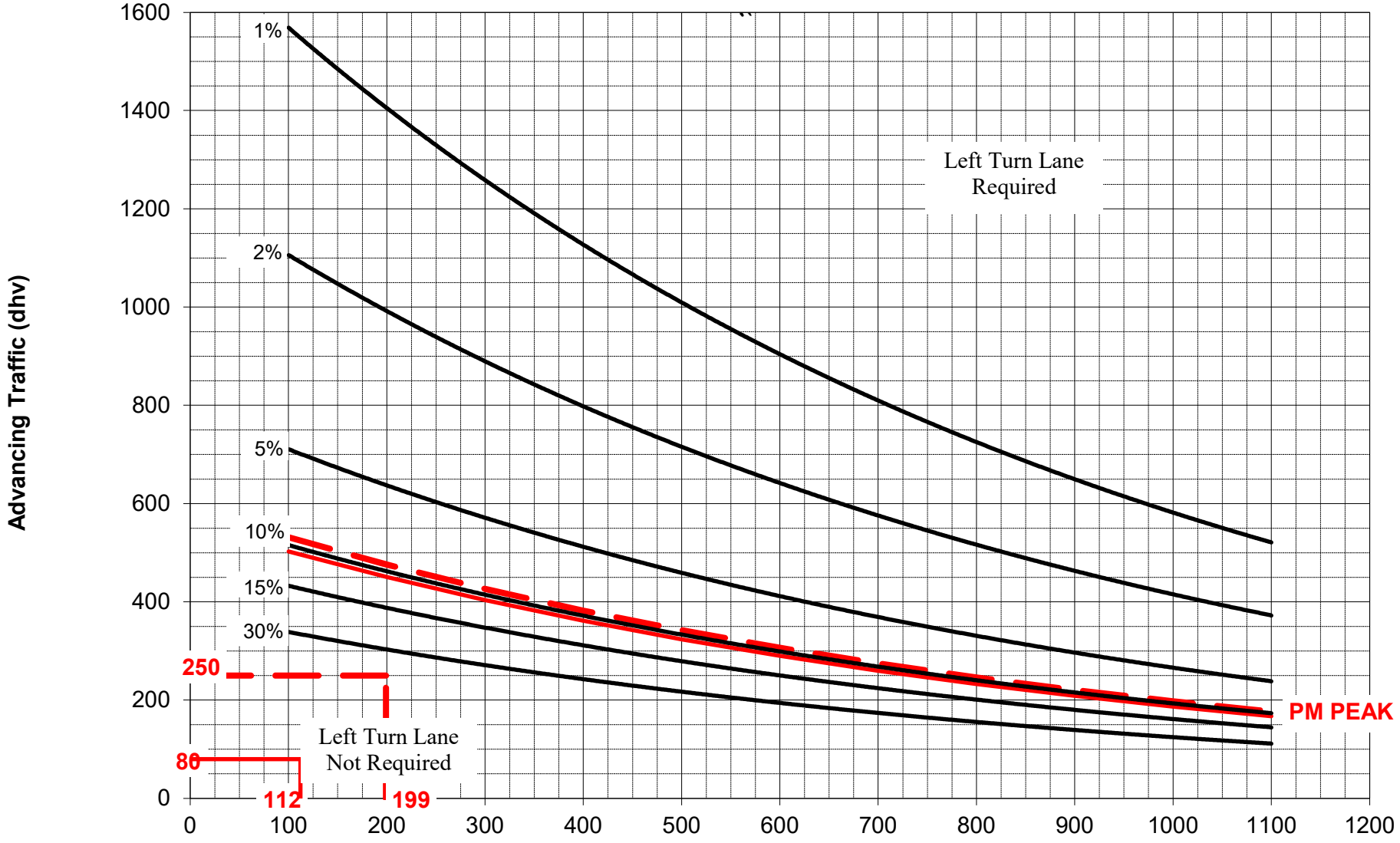


# 2-Lane Highway Left Turn Lane Warrant (<=40MPH)

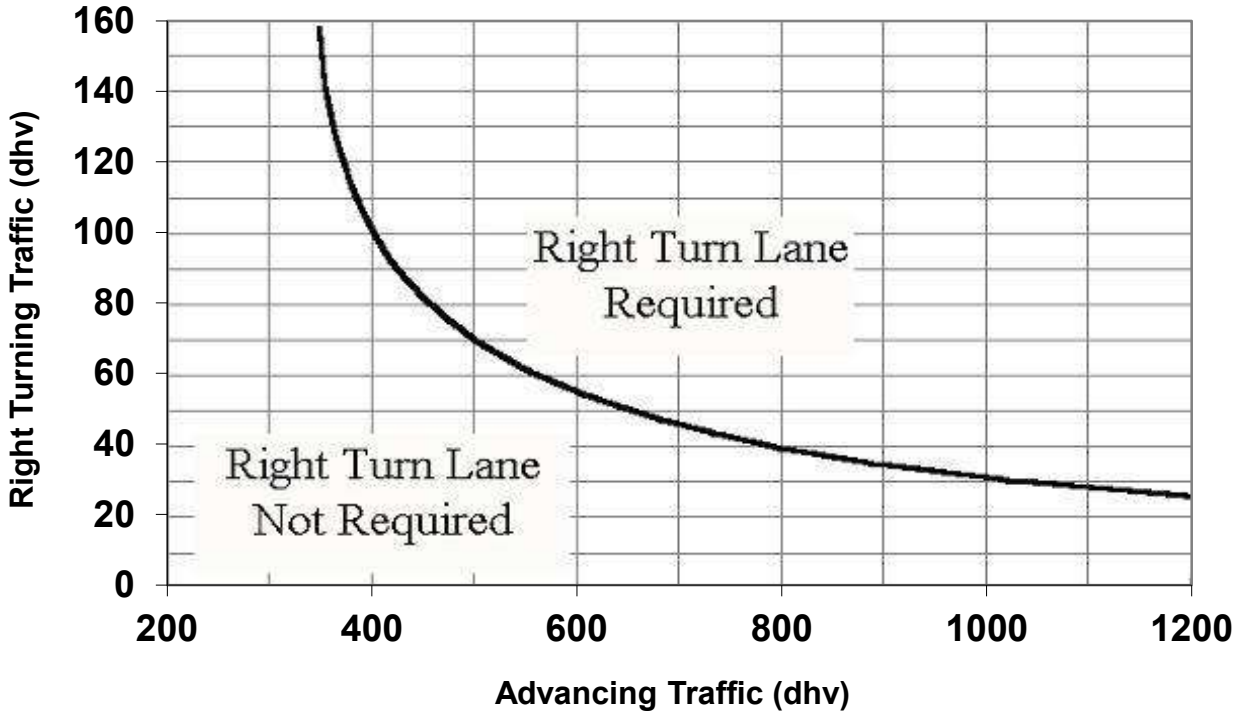
**AM Peak:** # Left Turns = 9; % Left Turns = 11.3%; NOT WARRANTED

**PM Peak:** # Left Turns = 25; % Left Turns = 10.0; NOT WARRANTED

**Volumes Analyzed:** 2047
Scenario 3 w Comm
NBL Intersection D

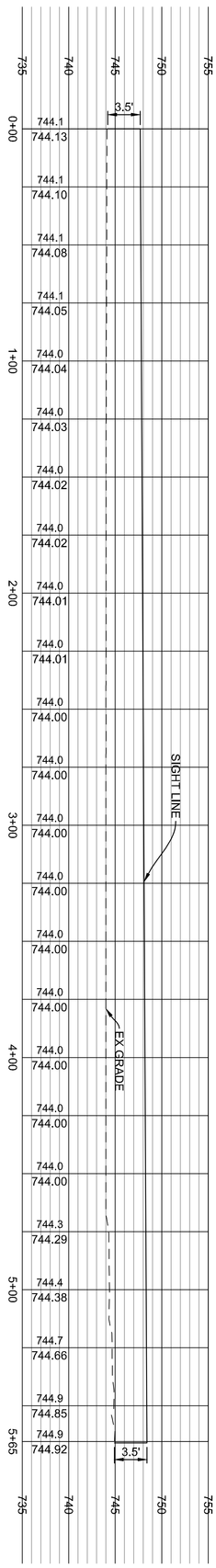


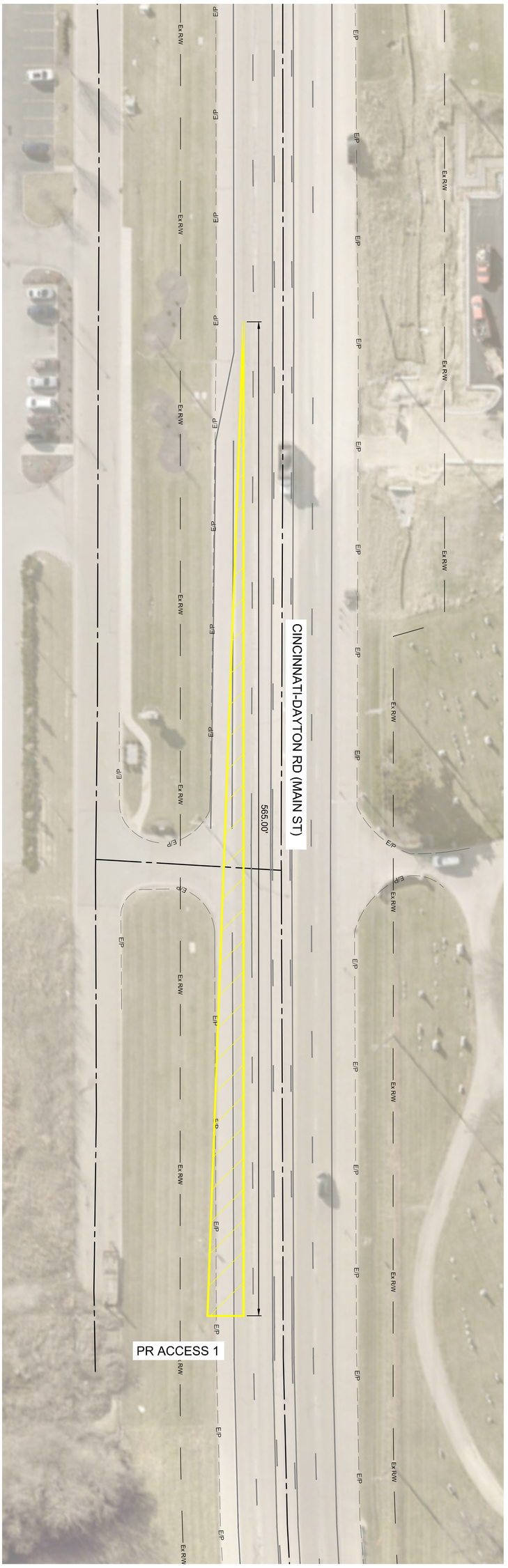
**2-Lane Highway Right Turn Lane Warrant**
=< 40 mph or 70 kph Posted Speed




| REQ | Intersection D | Advancing Traffic Volume | Right Turning Traffic | Result |
|---|---|---|---|---|
| 1 | 2047 Scenario 1 - Southbound - AM | 3 | 3 | NO |
| 2 | 2047 Scenario 1 - Southbound - PM | 12 | 12 | NO |
| 3 | 2047 Scenario 2 - Southbound - AM | 91 | 1 | NO |
| 4 | 2047 Scenario 2 - Southbound - PM | 62 | 4 | NO |
| 5 | 2047 Scenario 2 with C - Southbound - AM | 111 | 1 | NO |
| 6 | 2047 Scenario 2 with C - Southbound - PM | 95 | 3 | NO |
| 7 | 2047 Scenario 3 - Southbound - AM | 30 | 1 | NO |
| 8 | 2047 Scenario 3 - Southbound - PM | 23 | 4 | NO |
| 9 | 2047 Scenario 3 with C - Southbound - AM | 112 | 1 | NO |
| 10 | 2047 Scenario 3 with C - Southbound - PM | 199 | 3 | NO |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |

# Sight Distance Profiles

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NOT FOR CONSTRUCTION

# CORNERSTONE MONROE - TRAFFIC IMPACT STUDY

## CIN-DAY RD @ ACCESS 1 - RIGHT TURN

0 15 30 60

| CALCULATED | CHECKED |
|---|---|
| AWS | MWN |

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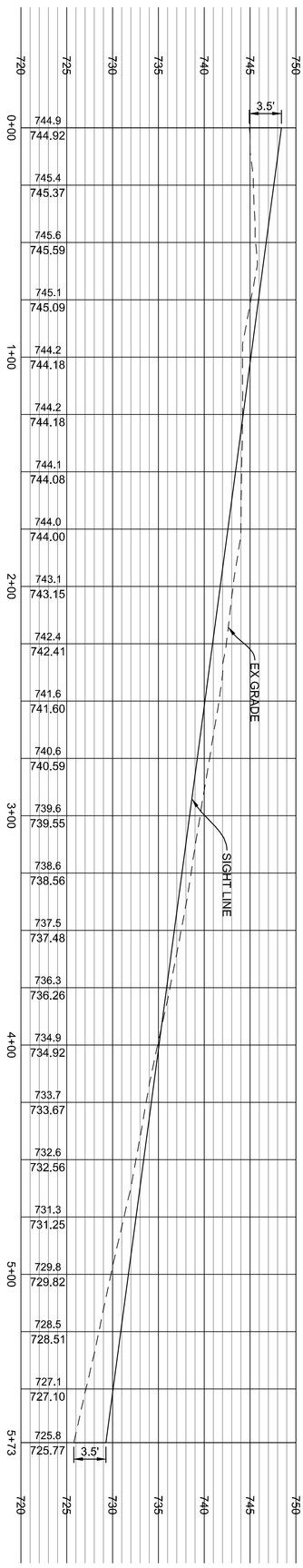


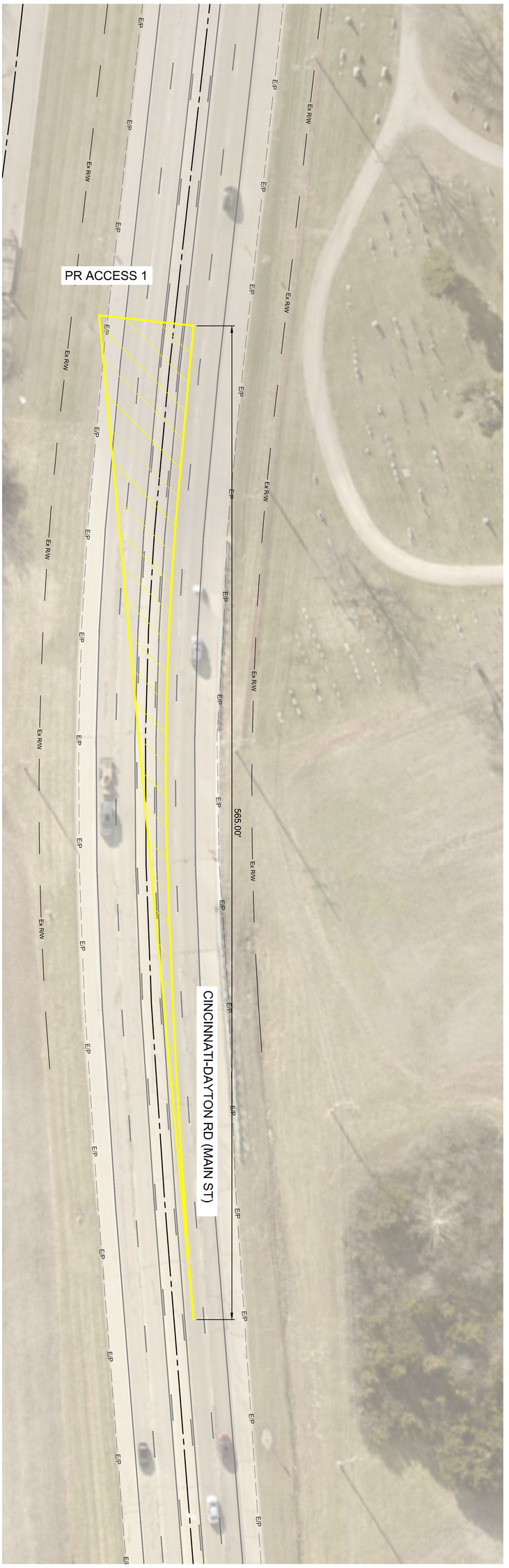






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# CORNERSTONE MONROE - TRAFFIC IMPACT STUDY

## CIN-DAY RD @ ACCESS 1 - LEFT TURN

0 15 30 60

CALCULATED AWS | CHECKED MWN

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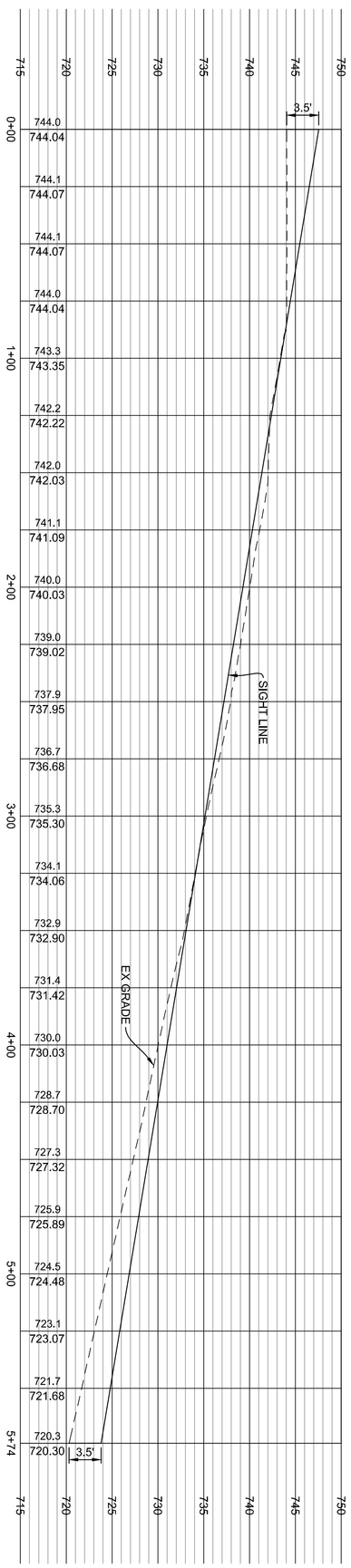


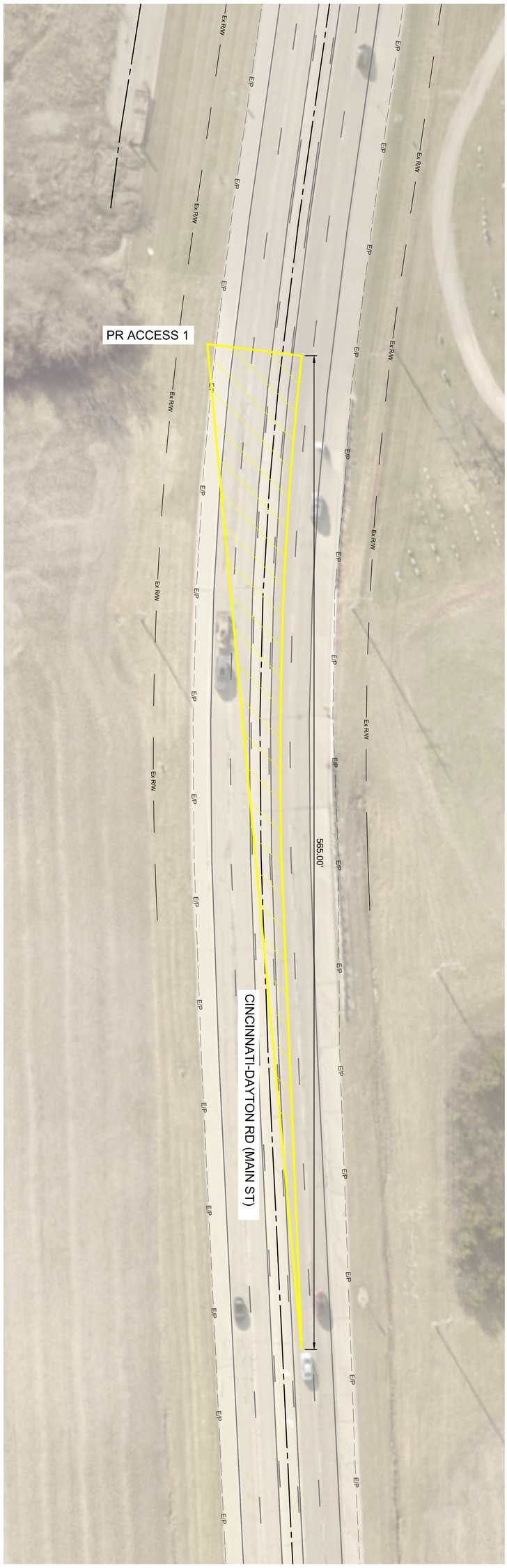


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| | | | | | |
|---|---|---|---|---|---|
| 3 / 8 | NOT FOR CONSTRUCTION | **CORNERSTONE MONROE - TRAFFIC IMPACT STUDY**<br>**CIN-DAY RD @ ACCESS 1 - LEFT TURN - 100FT N OF PLANNED LOCATION** | 0 15 30 60<br>CALCULATED AWS<br>CHECKED MWN | | THE KLEINGERS GROUP<br>CIVIL ENGINEERING<br>SURVEYING<br>LANDSCAPE ARCHITECTURE<br>www.kleingers.com |

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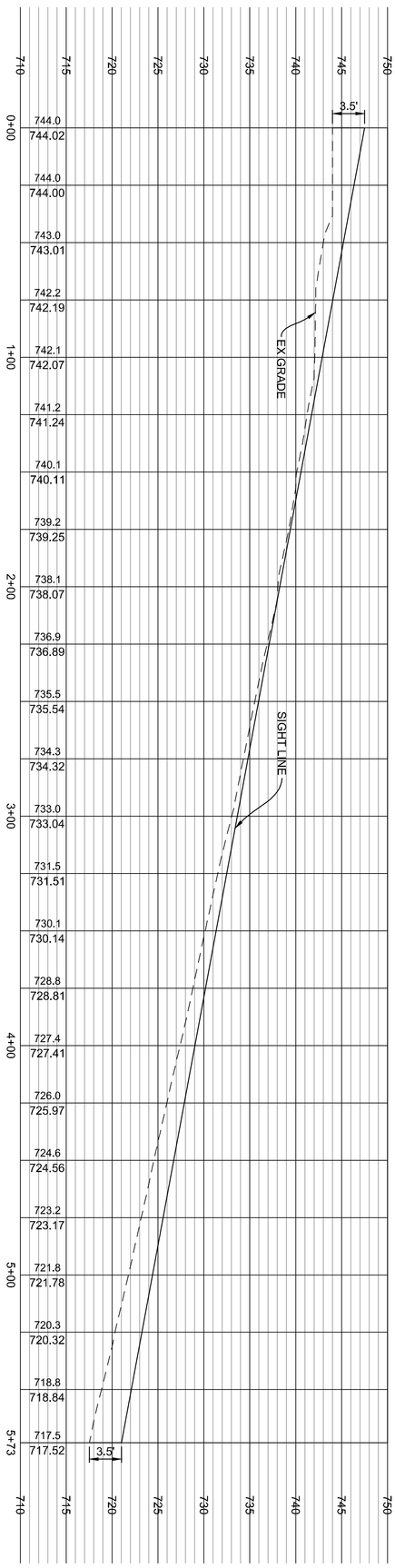


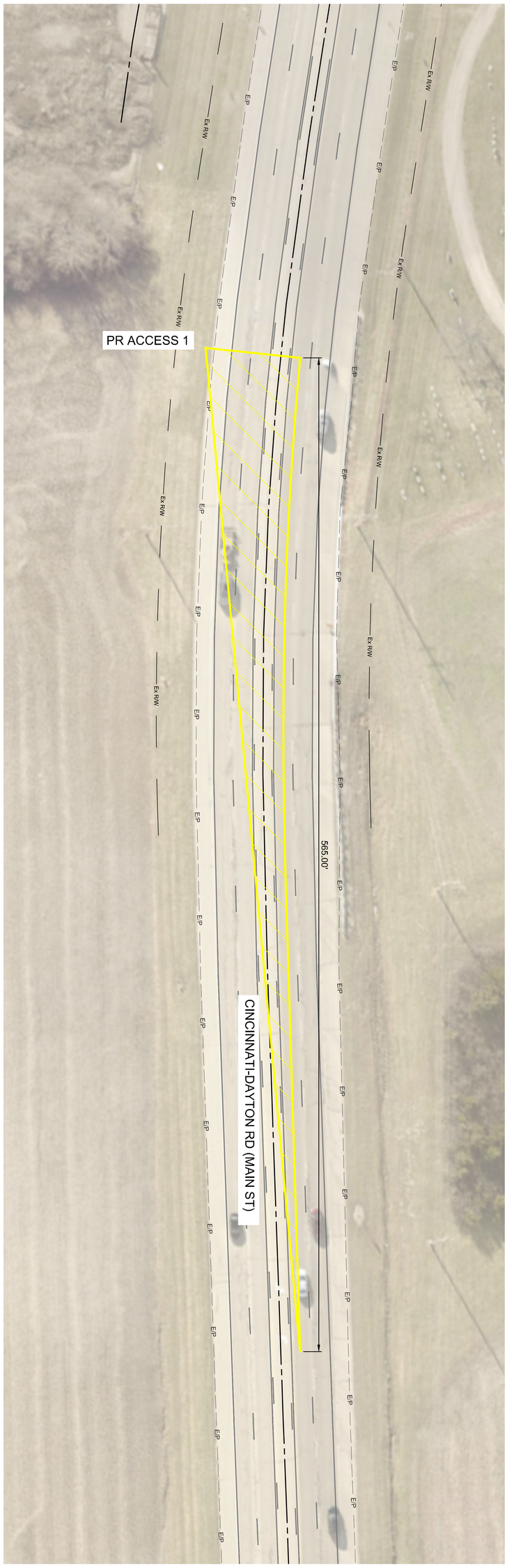




4
8

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# CORNERSTONE MONROE - TRAFFIC IMPACT STUDY

## CIN-DAY RD @ ACCESS 1 - LEFT TURN - 150FT N OF PLANNED LOCATION

0 15 30 60

CALCULATED AWS

CHECKED MWN

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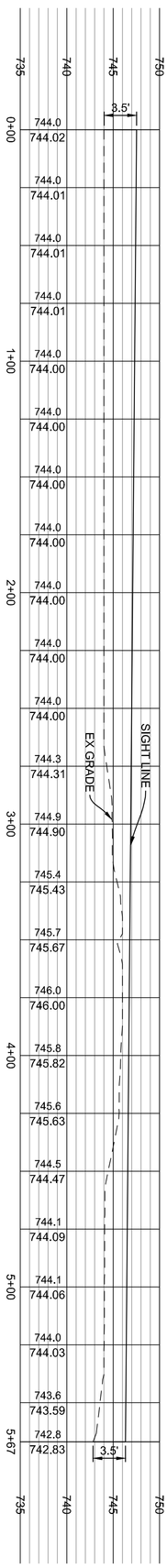


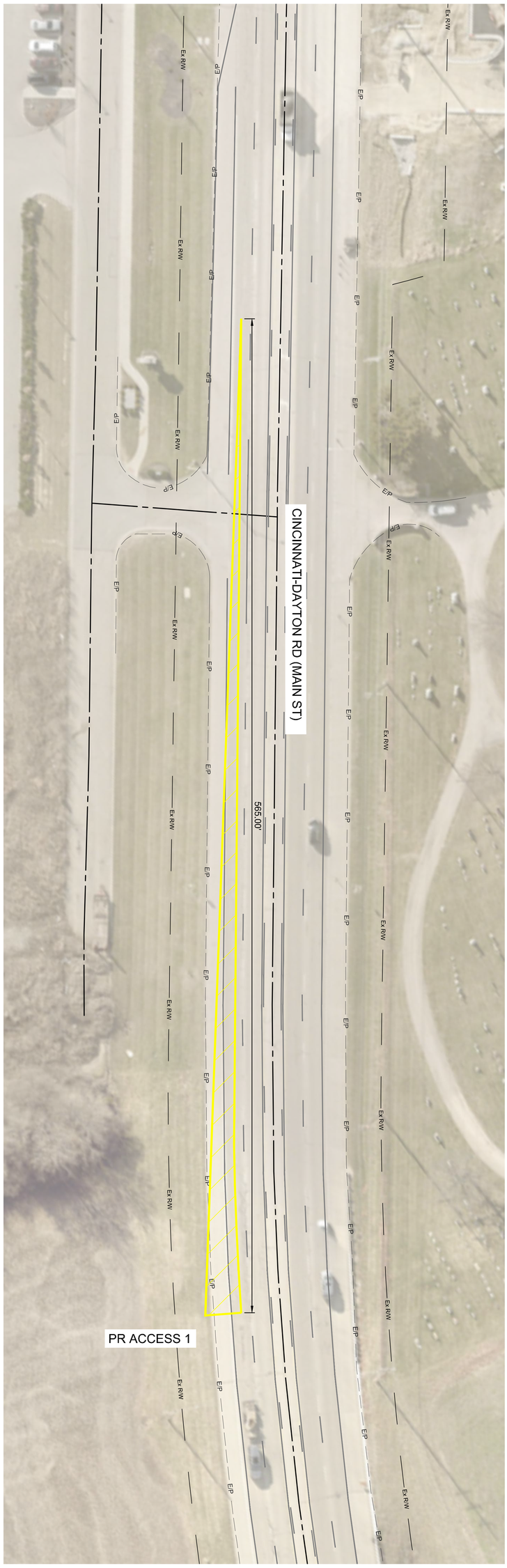




5
8

NOT FOR CONSTRUCTION

**CORNERSTONE MONROE - TRAFFIC IMPACT STUDY**

**CIN-DAY RD @ ACCESS 1 - RIGHT TURN - 200FT N OF PLANNED LOCATION**

0 15 30 60

CALCULATED AWS | CHECKED MWN

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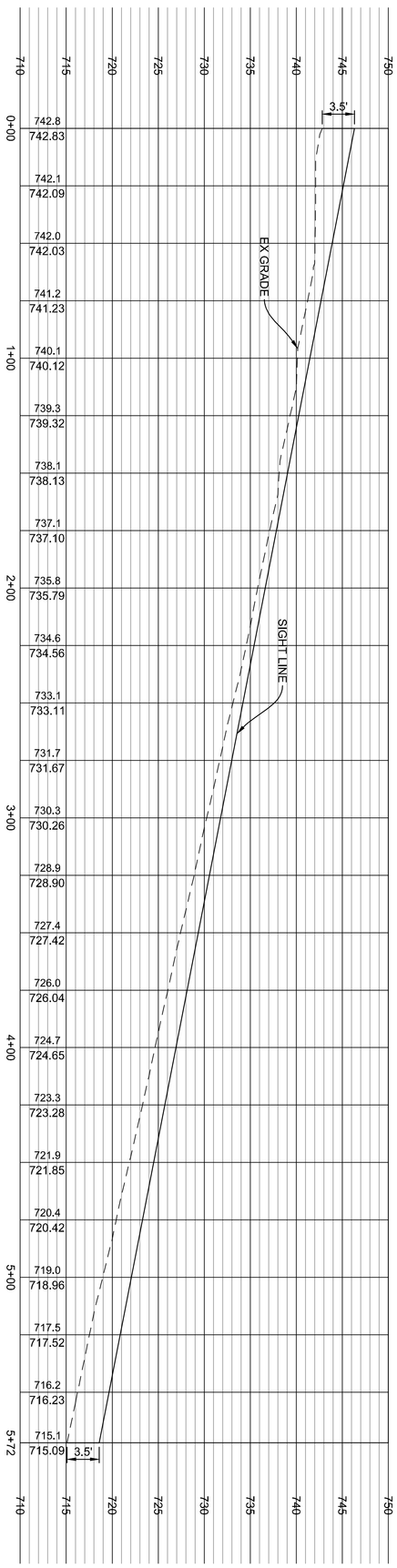


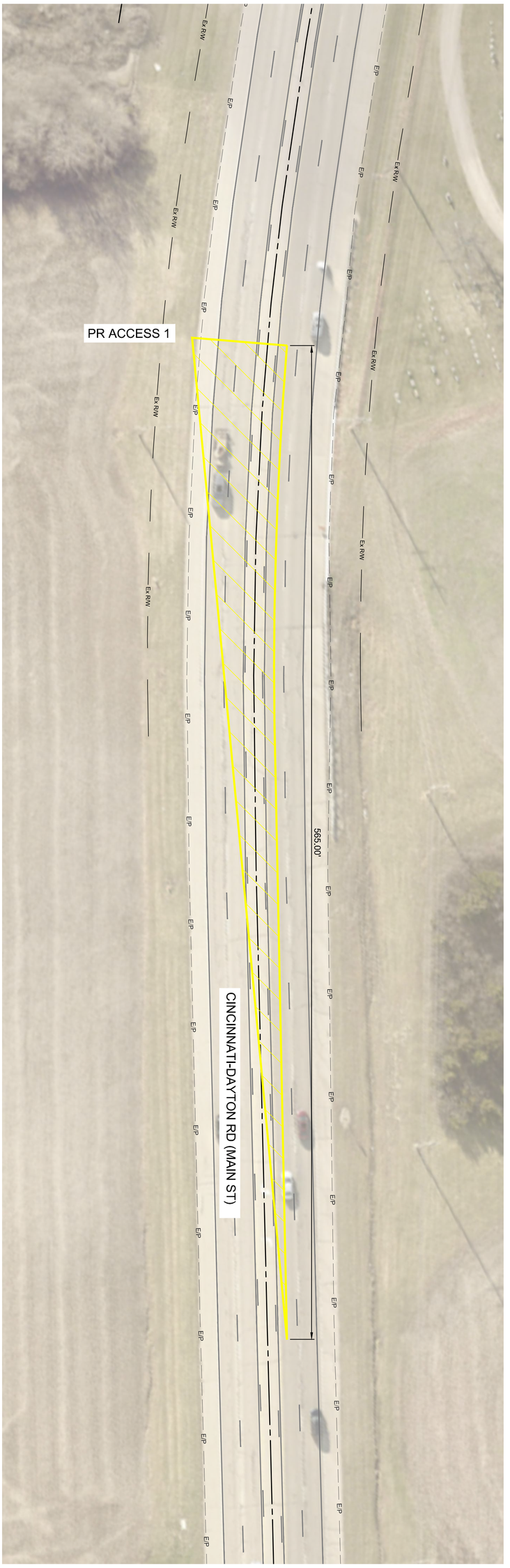


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NOT FOR CONSTRUCTION

# CORNERSTONE MONROE - TRAFFIC IMPACT STUDY

## CIN-DAY RD @ ACCESS 1 - LEFT TURN - 200FT N OF PLANNED LOCATION

0 15 30 60

CALCULATED AWS | CHECKED MWN

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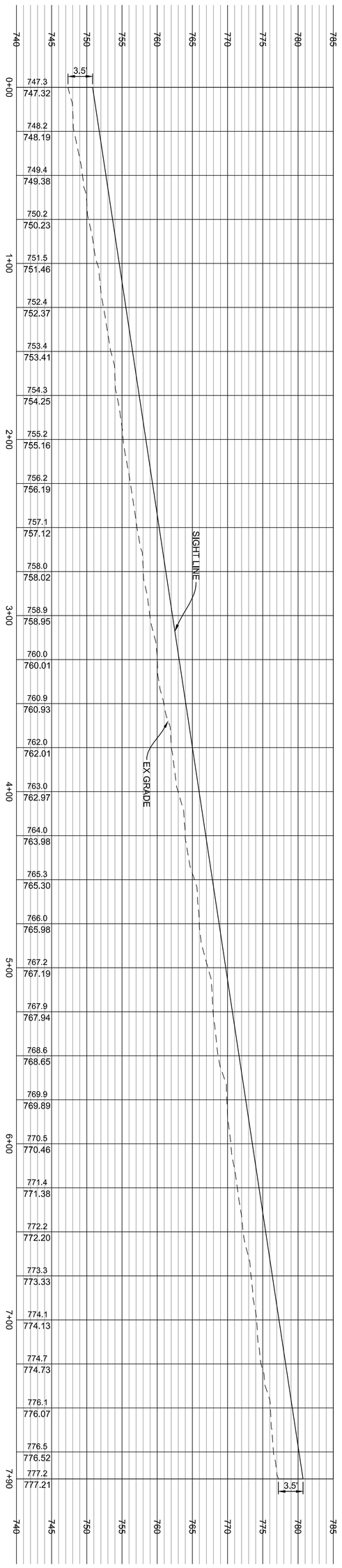


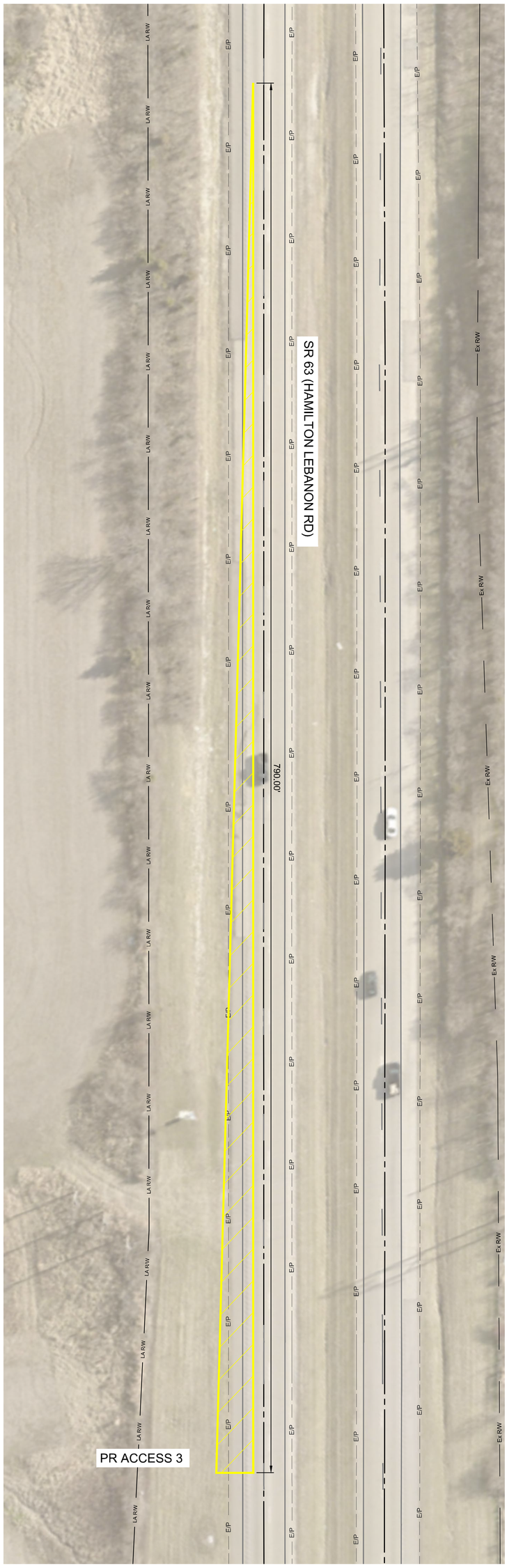




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# CORNERSTONE MONROE - TRAFFIC IMPACT STUDY

## SR 63 @ ACCESS 3 - RIGHT TURN

0 10 20 40

CALCULATED AWS

CHECKED MWN

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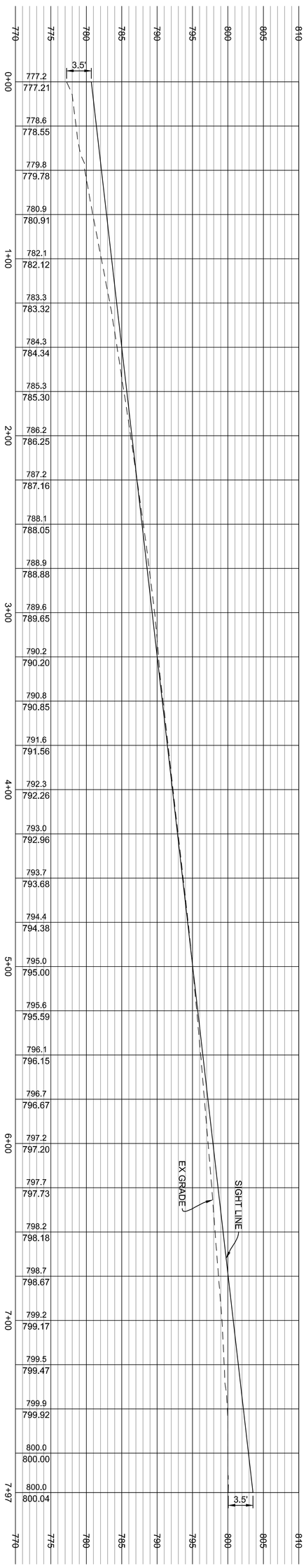


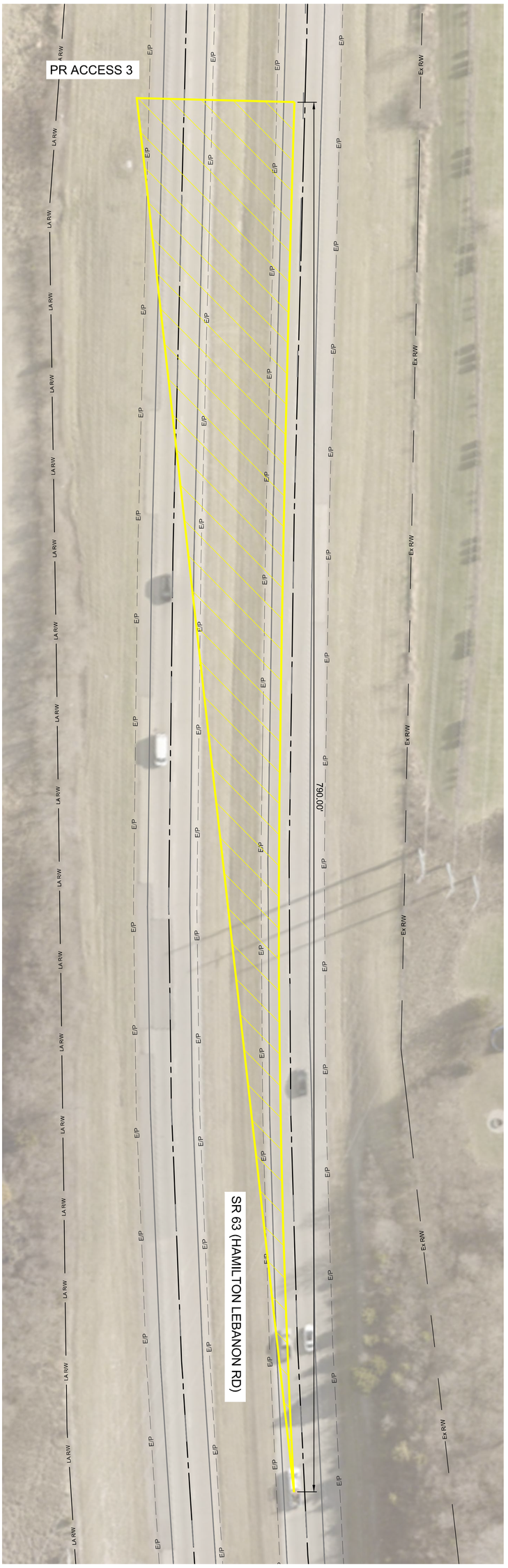




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# CORNERSTONE MONROE - TRAFFIC IMPACT STUDY

## SR 63 @ ACCESS 3 - LEFT TURN

0 15 30 60

CALCULATED AWS | CHECKED MWN

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# Synchro Capacity Analyses Reports

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 90 | 56 | 19 | 477 | 469 | 76 |
| Future Volume (veh/h) | 90 | 56 | 19 | 477 | 469 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 96 | 60 | 20 | 507 | 499 | 81 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 234 | 204 | 300 | 1665 | 1101 | 759 |
| Arrive On Green | 0.13 | 0.13 | 0.00 | 0.53 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 96 | 60 | 20 | 507 | 499 | 81 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.6 | 2.0 | 0.1 | 4.7 | 6.3 | 1.5 |
| Cycle Q Clear(g_c), s | 2.6 | 2.0 | 0.1 | 4.7 | 6.3 | 1.5 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 234 | 204 | 300 | 1665 | 1101 | 759 |
| V/C Ratio(X) | 0.41 | 0.29 | 0.07 | 0.30 | 0.45 | 0.11 |
| Avail Cap(c_a), veh/h | 774 | 692 | 674 | 3983 | 2630 | 1519 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.7 | 26.1 | 14.8 | 6.9 | 13.2 | 7.5 |
| Incr Delay (d2), s/veh | 1.2 | 0.8 | 0.1 | 0.1 | 0.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.1 | 1.0 | 1.8 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.9 | 26.9 | 14.9 | 7.0 | 13.5 | 7.5 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 156 | | | 527 | 580 | |
| Approach Delay, s/veh | 23.8 | | | 7.3 | 12.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.2 | | 16.0 | 9.5 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 6.7 | | 4.6 | 2.1 | 8.3 |
| Green Ext Time (p_c), s | | 3.5 | | 0.4 | 0.0 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.8 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 15 | 0 | 0 | 0 | 38 | 496 | 7 | 3 | 503 | 19 |
| Future Vol, veh/h | 6 | 0 | 15 | 0 | 0 | 0 | 38 | 496 | 7 | 3 | 503 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 17 | 0 | 0 | 0 | 44 | 577 | 8 | 3 | 585 | 22 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 968 | 1264 | 293 | 964 | 1278 | 289 | 607 | 0 | 0 | 585 | 0 | 0 |
| Stage 1 | 591 | 591 | - | 665 | 665 | - | - | - | - | - | - | - |
| Stage 2 | 377 | 673 | - | 299 | 613 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 177 | 168 | 686 | 210 | 165 | 708 | 967 | - | - | 986 | - | - |
| Stage 1 | 407 | 493 | - | 416 | 456 | - | - | - | - | - | - | - |
| Stage 2 | 558 | 452 | - | 685 | 481 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 170 | 160 | 686 | 197 | 157 | 708 | 967 | - | - | 986 | - | - |
| Mov Cap-2 Maneuver | 170 | 160 | - | 197 | 157 | - | - | - | - | - | - | - |
| Stage 1 | 388 | 492 | - | 397 | 435 | - | - | - | - | - | - | - |
| Stage 2 | 533 | 431 | - | 666 | 480 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 15.5 | 0 | 0.6 | 0 |
| HCM LOS | C | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 967 | - | - | 367 | - | 986 | - | - |
| HCM Lane V/C Ratio | 0.046 | - | - | 0.067 | - | 0.004 | - | - |
| HCM Control Delay (s) | 8.9 | - | - | 15.5 | 0 | 8.7 | - | - |
| HCM Lane LOS | A | - | - | C | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | - | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 108 | 1055 | 63 | 59 | 631 | 199 | 109 | 198 | 120 | 210 | 124 | 99 |
| Future Volume (veh/h) | 108 | 1055 | 63 | 59 | 631 | 199 | 109 | 198 | 120 | 210 | 124 | 99 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 115 | 1122 | 0 | 63 | 671 | 0 | 116 | 211 | 128 | 223 | 132 | 105 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 97 | 1434 | | 72 | 1339 | | 277 | 247 | 144 | 268 | 352 | 292 |
| Arrive On Green | 0.06 | 0.43 | 0.00 | 0.04 | 0.42 | 0.00 | 0.05 | 0.11 | 0.11 | 0.12 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2164 | 1257 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 115 | 1122 | 0 | 63 | 671 | 0 | 116 | 172 | 167 | 223 | 132 | 105 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1644 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 6.8 | 34.9 | 0.0 | 4.4 | 18.6 | 0.0 | 5.8 | 11.4 | 12.0 | 14.8 | 7.4 | 7.1 |
| Cycle Q Clear(g_c), s | 6.8 | 34.9 | 0.0 | 4.4 | 18.6 | 0.0 | 5.8 | 11.4 | 12.0 | 14.8 | 7.4 | 7.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.76 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 97 | 1434 | | 72 | 1339 | | 277 | 203 | 188 | 268 | 352 | 292 |
| V/C Ratio(X) | 1.18 | 0.78 | | 0.87 | 0.50 | | 0.42 | 0.84 | 0.89 | 0.83 | 0.37 | 0.36 |
| Avail Cap(c_a), veh/h | 197 | 1434 | | 168 | 1339 | | 320 | 366 | 338 | 291 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.6 | 29.1 | 0.0 | 57.2 | 25.6 | 0.0 | 45.0 | 52.1 | 52.4 | 39.8 | 42.4 | 42.3 |
| Incr Delay (d2), s/veh | 112.9 | 4.3 | 0.0 | 25.6 | 1.3 | 0.0 | 1.0 | 9.2 | 13.3 | 17.2 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.9 | 13.7 | 0.0 | 2.4 | 6.8 | 0.0 | 3.2 | 5.6 | 5.7 | 6.8 | 3.4 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 169.5 | 33.4 | 0.0 | 82.8 | 26.9 | 0.0 | 46.0 | 61.3 | 65.7 | 57.0 | 43.0 | 43.0 |
| LnGrp LOS | F | C | | F | C | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1237 | | | 734 | | | 455 | | | 460 | |
| Approach Delay, s/veh | | 46.0 | | | 31.7 | | | 59.0 | | | 49.8 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.3 | 61.5 | 14.1 | 31.1 | 15.0 | 59.7 | 23.2 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 36.9 | 7.8 | 9.4 | 8.8 | 20.6 | 16.8 | 14.0 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 0.9 | 0.1 | 3.2 | 0.1 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.0 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 206 | 1198 | 908 | 129 | 40 | 29 |
| Future Volume (veh/h) | 206 | 1198 | 908 | 129 | 40 | 29 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 229 | 1331 | 1009 | 143 | 44 | 32 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 377 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 229 | 1331 | 1009 | 143 | 44 | 32 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.8 | 16.2 | 17.4 | 3.6 | 3.9 | 2.3 |
| Cycle Q Clear(g_c), s | 4.8 | 16.2 | 17.4 | 3.6 | 3.9 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 377 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.61 | 0.52 | 0.48 | 0.15 | 0.66 | 0.21 |
| Avail Cap(c_a), veh/h | 450 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.0 | 4.4 | 9.1 | 4.9 | 51.0 | 44.7 |
| Incr Delay (d2), s/veh | 1.7 | 0.7 | 0.8 | 0.3 | 10.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 3.5 | 5.0 | 1.1 | 1.4 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.7 | 5.1 | 9.9 | 5.2 | 61.8 | 45.3 |
| LnGrp LOS | A | A | A | A | E | D |
| Approach Vol, veh/h | | 1560 | 1152 | | 76 | |
| Approach Delay, s/veh | | 5.8 | 9.3 | | 54.8 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 18.2 | | 5.9 | 6.8 | 19.4 |
| Green Ext Time (p_c), s | | 12.6 | | 0.1 | 0.3 | 8.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.6 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 144 | 45 | 61 | 705 | 616 | 113 |
| Future Volume (veh/h) | 144 | 45 | 61 | 705 | 616 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 164 | 51 | 69 | 801 | 700 | 128 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 245 | 282 | 316 | 1889 | 1141 | 731 |
| Arrive On Green | 0.14 | 0.14 | 0.05 | 0.54 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 164 | 51 | 69 | 801 | 700 | 128 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 4.9 | 1.6 | 1.3 | 7.6 | 9.3 | 2.6 |
| Cycle Q Clear(g_c), s | 4.9 | 1.6 | 1.3 | 7.6 | 9.3 | 2.6 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 245 | 282 | 316 | 1889 | 1141 | 731 |
| V/C Ratio(X) | 0.67 | 0.18 | 0.22 | 0.42 | 0.61 | 0.18 |
| Avail Cap(c_a), veh/h | 736 | 706 | 649 | 4097 | 2725 | 1443 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.8 | 19.2 | 11.5 | 7.5 | 15.9 | 8.8 |
| Incr Delay (d2), s/veh | 3.2 | 0.3 | 0.3 | 0.2 | 0.5 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.0 | 0.4 | 1.8 | 3.1 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 26.0 | 19.5 | 11.8 | 7.7 | 16.4 | 8.9 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 215 | | | 870 | 828 | |
| Approach Delay, s/veh | 24.4 | | | 8.0 | 15.3 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.0 | | 16.6 | 12.3 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 9.6 | | 6.9 | 3.3 | 11.3 |
| Green Ext Time (p_c), s | | 6.0 | | 0.5 | 0.1 | 5.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.0 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 16 | 3 | 44 | 22 | 0 | 3 | 31 | 706 | 65 | 8 | 638 | 12 |
| Future Vol, veh/h | 16 | 3 | 44 | 22 | 0 | 3 | 31 | 706 | 65 | 8 | 638 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 18 | 3 | 49 | 25 | 0 | 3 | 35 | 793 | 73 | 9 | 717 | 13 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1202 | 1671 | 359 | 1241 | 1611 | 397 | 730 | 0 | 0 | 866 | 0 | 0 |
| Stage 1 | 735 | 735 | - | 863 | 863 | - | - | - | - | - | - | - |
| Stage 2 | 467 | 936 | - | 378 | 748 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 140 | 95 | 626 | 131 | 103 | 602 | 857 | - | - | 773 | - | - |
| Stage 1 | 377 | 424 | - | 316 | 370 | - | - | - | - | - | - | - |
| Stage 2 | 545 | 342 | - | 616 | 418 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 134 | 90 | 626 | 113 | 98 | 602 | 857 | - | - | 773 | - | - |
| Mov Cap-2 Maneuver | 134 | 90 | - | 113 | 98 | - | - | - | - | - | - | - |
| Stage 1 | 362 | 419 | - | 303 | 355 | - | - | - | - | - | - | - |
| Stage 2 | 520 | 328 | - | 556 | 413 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 22 | 42 | 0.4 | 0.1 |
| HCM LOS | C | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 857 | - | - | 282 | 125 | 773 | - | - |
| HCM Lane V/C Ratio | 0.041 | - | - | 0.251 | 0.225 | 0.012 | - | - |
| HCM Control Delay (s) | 9.4 | - | - | 22 | 42 | 9.7 | - | - |
| HCM Lane LOS | A | - | - | C | E | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1 | 0.8 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 187 | 771 | 76 | 188 | 929 | 269 | 131 | 253 | 111 | 250 | 258 | 182 |
| Future Volume (veh/h) | 187 | 771 | 76 | 188 | 929 | 269 | 131 | 253 | 111 | 250 | 258 | 182 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 197 | 812 | 0 | 198 | 978 | 0 | 138 | 266 | 117 | 263 | 272 | 192 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 198 | 1280 | | 200 | 1289 | | 196 | 266 | 114 | 290 | 365 | 309 |
| Arrive On Green | 0.11 | 0.37 | 0.00 | 0.11 | 0.37 | 0.00 | 0.05 | 0.11 | 0.11 | 0.13 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2423 | 1037 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 197 | 812 | 0 | 198 | 978 | 0 | 138 | 193 | 190 | 263 | 272 | 192 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1684 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 13.9 | 24.2 | 0.0 | 13.9 | 30.8 | 0.0 | 5.9 | 13.6 | 13.7 | 16.4 | 17.1 | 13.9 |
| Cycle Q Clear(g_c), s | 13.9 | 24.2 | 0.0 | 13.9 | 30.8 | 0.0 | 5.9 | 13.6 | 13.7 | 16.4 | 17.1 | 13.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.62 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 198 | 1280 | | 200 | 1289 | | 196 | 195 | 185 | 290 | 365 | 309 |
| V/C Ratio(X) | 0.99 | 0.63 | | 0.99 | 0.76 | | 0.70 | 0.99 | 1.03 | 0.91 | 0.75 | 0.62 |
| Avail Cap(c_a), veh/h | 236 | 1280 | | 238 | 1289 | | 207 | 195 | 185 | 334 | 400 | 339 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.4 | 32.3 | 0.0 | 55.4 | 34.4 | 0.0 | 50.9 | 55.6 | 55.7 | 41.4 | 47.4 | 46.1 |
| Incr Delay (d2), s/veh | 53.1 | 2.4 | 0.0 | 52.8 | 4.2 | 0.0 | 9.7 | 61.9 | 74.1 | 25.0 | 6.8 | 3.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.9 | 10.0 | 0.0 | 8.9 | 13.0 | 0.0 | 2.0 | 9.5 | 9.7 | 8.9 | 8.5 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 108.6 | 34.7 | 0.0 | 108.2 | 38.6 | 0.0 | 60.6 | 117.5 | 129.8 | 66.4 | 54.2 | 49.1 |
| LnGrp LOS | F | C | | F | D | | E | F | F | E | D | D |
| Approach Vol, veh/h | | 1009 | | | 1176 | | | 521 | | | 727 | |
| Approach Delay, s/veh | | 49.1 | | | 50.3 | | | 106.9 | | | 57.3 | |
| Approach LOS | | D | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.3 | 55.8 | 14.2 | 32.7 | 22.3 | 55.8 | 24.9 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 15.9 | 26.2 | 7.9 | 19.1 | 15.9 | 32.8 | 18.4 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 4.6 | 0.0 | 1.5 | 0.1 | 4.3 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.0 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 147 | 974 | 1489 | 81 | 53 | 51 |
| Future Volume (veh/h) | 147 | 974 | 1489 | 81 | 53 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 156 | 1036 | 1584 | 86 | 56 | 54 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 238 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 156 | 1036 | 1584 | 86 | 56 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 10.5 | 31.1 | 2.5 | 4.6 | 4.2 |
| Cycle Q Clear(g_c), s | 3.5 | 10.5 | 31.1 | 2.5 | 4.6 | 4.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 238 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.66 | 0.38 | 0.66 | 0.10 | 0.77 | 0.37 |
| Avail Cap(c_a), veh/h | 262 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.5 | 3.4 | 10.5 | 4.3 | 56.3 | 50.5 |
| Incr Delay (d2), s/veh | 5.1 | 0.4 | 1.4 | 0.2 | 15.5 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 2.3 | 9.9 | 0.7 | 2.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.6 | 3.8 | 11.9 | 4.6 | 71.8 | 52.1 |
| LnGrp LOS | C | A | B | A | E | D |
| Approach Vol, veh/h | | 1192 | 1670 | | 110 | |
| Approach Delay, s/veh | | 6.2 | 11.5 | | 62.1 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | 12.5 | | 6.6 | 5.5 | 33.1 |
| Green Ext Time (p_c), s | 8.3 | | 0.2 | 0.1 | 15.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.3 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 98 | 61 | 21 | 521 | 513 | 84 |
| Future Volume (veh/h) | 98 | 61 | 21 | 521 | 513 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 104 | 65 | 22 | 554 | 546 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 239 | 214 | 280 | 1663 | 1094 | 760 |
| Arrive On Green | 0.14 | 0.14 | 0.00 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 104 | 65 | 22 | 554 | 546 | 89 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.9 | 2.0 | 0.1 | 5.3 | 7.1 | 1.6 |
| Cycle Q Clear(g_c), s | 2.9 | 2.0 | 0.1 | 5.3 | 7.1 | 1.6 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 214 | 280 | 1663 | 1094 | 760 |
| V/C Ratio(X) | 0.44 | 0.30 | 0.08 | 0.33 | 0.50 | 0.12 |
| Avail Cap(c_a), veh/h | 768 | 692 | 652 | 3956 | 2612 | 1515 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.8 | 22.2 | 15.7 | 7.1 | 13.7 | 7.5 |
| Incr Delay (d2), s/veh | 1.2 | 0.8 | 0.1 | 0.1 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 1.8 | 0.1 | 1.1 | 2.0 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.1 | 23.0 | 15.8 | 7.3 | 14.0 | 7.6 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 169 | | | 576 | 635 | |
| Approach Delay, s/veh | 22.4 | | | 7.6 | 13.1 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.3 | | 16.1 | 9.6 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.3 | | 4.9 | 2.1 | 9.1 |
| Green Ext Time (p_c), s | | 3.8 | | 0.4 | 0.0 | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.9 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 16 | 0 | 0 | 0 | 42 | 543 | 7 | 3 | 551 | 21 |
| Future Vol, veh/h | 6 | 0 | 16 | 0 | 0 | 0 | 42 | 543 | 7 | 3 | 551 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 19 | 0 | 0 | 0 | 49 | 631 | 8 | 3 | 641 | 24 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1061 | 1384 | 321 | 1056 | 1400 | 316 | 665 | 0 | 0 | 639 | 0 | 0 |
| Stage 1 | 647 | 647 | - | 729 | 729 | - | - | - | - | - | - | - |
| Stage 2 | 414 | 737 | - | 327 | 671 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 150 | 142 | 657 | 180 | 139 | 680 | 920 | - | - | 941 | - | - |
| Stage 1 | 375 | 465 | - | 380 | 426 | - | - | - | - | - | - | - |
| Stage 2 | 528 | 423 | - | 660 | 453 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 144 | 134 | 657 | 167 | 131 | 680 | 920 | - | - | 941 | - | - |
| Mov Cap-2 Maneuver | 144 | 134 | - | 167 | 131 | - | - | - | - | - | - | - |
| Stage 1 | 355 | 464 | - | 360 | 403 | - | - | - | - | - | - | - |
| Stage 2 | 500 | 401 | - | 639 | 452 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 16.7 | 0 | 0.6 | 0 |
| HCM LOS | C | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 920 | - | - | 333 | - | 941 | - | - |
| HCM Lane V/C Ratio | 0.053 | - | - | 0.077 | - | 0.004 | - | - |
| HCM Control Delay (s) | 9.1 | - | - | 16.7 | 0 | 8.8 | - | - |
| HCM Lane LOS | A | - | - | C | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.2 | - | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 119 | 1153 | 70 | 65 | 688 | 217 | 120 | 218 | 131 | 230 | 137 | 109 |
| Future Volume (veh/h) | 119 | 1153 | 70 | 65 | 688 | 217 | 120 | 218 | 131 | 230 | 137 | 109 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 127 | 1227 | 0 | 69 | 732 | 0 | 128 | 232 | 139 | 245 | 146 | 116 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 119 | 1363 | | 75 | 1234 | | 292 | 270 | 155 | 284 | 383 | 317 |
| Arrive On Green | 0.07 | 0.41 | 0.00 | 0.04 | 0.39 | 0.00 | 0.05 | 0.12 | 0.12 | 0.13 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2171 | 1251 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 127 | 1227 | 0 | 69 | 732 | 0 | 128 | 188 | 183 | 245 | 146 | 116 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1645 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 8.3 | 41.7 | 0.0 | 4.8 | 21.9 | 0.0 | 6.3 | 12.5 | 13.1 | 16.1 | 8.1 | 7.8 |
| Cycle Q Clear(g_c), s | 8.3 | 41.7 | 0.0 | 4.8 | 21.9 | 0.0 | 6.3 | 12.5 | 13.1 | 16.1 | 8.1 | 7.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.76 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 119 | 1363 | | 75 | 1234 | | 292 | 221 | 204 | 284 | 383 | 317 |
| V/C Ratio(X) | 1.06 | 0.90 | | 0.92 | 0.59 | | 0.44 | 0.85 | 0.89 | 0.86 | 0.38 | 0.37 |
| Avail Cap(c_a), veh/h | 197 | 1363 | | 168 | 1234 | | 328 | 366 | 339 | 292 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.8 | 32.9 | 0.0 | 57.2 | 29.2 | 0.0 | 43.9 | 51.5 | 51.8 | 38.5 | 41.0 | 40.9 |
| Incr Delay (d2), s/veh | 72.9 | 9.8 | 0.0 | 32.4 | 2.1 | 0.0 | 1.0 | 9.9 | 15.6 | 22.0 | 0.6 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.9 | 17.3 | 0.0 | 2.7 | 8.3 | 0.0 | 3.5 | 6.2 | 6.3 | 7.7 | 3.7 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 128.8 | 42.7 | 0.0 | 89.6 | 31.3 | 0.0 | 45.0 | 61.3 | 67.4 | 60.5 | 41.6 | 41.6 |
| LnGrp LOS | F | D | | F | C | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1354 | | | 801 | | | 499 | | | 507 | |
| Approach Delay, s/veh | | 50.7 | | | 36.4 | | | 59.4 | | | 50.7 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 58.9 | 14.5 | 33.1 | 16.6 | 55.8 | 24.4 | 23.2 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 6.8 | 43.7 | 8.3 | 10.1 | 10.3 | 23.9 | 18.1 | 15.1 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.1 | 0.1 | 2.9 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.5 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 209 | 1325 | 989 | 136 | 44 | 32 |
| Future Volume (veh/h) | 209 | 1325 | 989 | 136 | 44 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 232 | 1472 | 1099 | 151 | 49 | 36 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 348 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 232 | 1472 | 1099 | 151 | 49 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.9 | 19.3 | 19.7 | 3.8 | 4.4 | 2.5 |
| Cycle Q Clear(g_c), s | 4.9 | 19.3 | 19.7 | 3.8 | 4.4 | 2.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 348 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.67 | 0.57 | 0.52 | 0.15 | 0.74 | 0.23 |
| Avail Cap(c_a), veh/h | 421 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.5 | 4.7 | 9.5 | 4.9 | 51.2 | 44.8 |
| Incr Delay (d2), s/veh | 3.0 | 0.9 | 0.9 | 0.3 | 14.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 4.2 | 5.7 | 1.2 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 12.5 | 5.6 | 10.5 | 5.2 | 65.9 | 45.6 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1704 | 1250 | | 85 | |
| Approach Delay, s/veh | | 6.6 | 9.8 | | 57.3 | |
| Approach LOS | | A | A | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 21.3 | | 6.4 | 6.9 | 21.7 |
| Green Ext Time (p_c), s | 15.0 | | 0.1 | 0.3 | 9.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.3 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 49 | 67 | 773 | 675 | 124 |
| Future Volume (veh/h) | 158 | 49 | 67 | 773 | 675 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 180 | 56 | 76 | 878 | 767 | 141 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 246 | 291 | 301 | 1893 | 1133 | 729 |
| Arrive On Green | 0.14 | 0.14 | 0.05 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 180 | 56 | 76 | 878 | 767 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 5.4 | 1.7 | 1.5 | 8.6 | 10.6 | 3.0 |
| Cycle Q Clear(g_c), s | 5.4 | 1.7 | 1.5 | 8.6 | 10.6 | 3.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 246 | 291 | 301 | 1893 | 1133 | 729 |
| V/C Ratio(X) | 0.73 | 0.19 | 0.25 | 0.46 | 0.68 | 0.19 |
| Avail Cap(c_a), veh/h | 732 | 709 | 624 | 4070 | 2707 | 1436 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.1 | 19.1 | 11.9 | 7.7 | 16.5 | 9.0 |
| Incr Delay (d2), s/veh | 4.1 | 0.3 | 0.4 | 0.2 | 0.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 1.6 | 0.5 | 2.1 | 3.5 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.3 | 19.4 | 12.3 | 7.9 | 17.2 | 9.1 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 236 | | | 954 | 908 | |
| Approach Delay, s/veh | 25.4 | | | 8.3 | 15.9 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.3 | | 16.7 | 12.6 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 10.6 | | 7.4 | 3.5 | 12.6 |
| Green Ext Time (p_c), s | | 6.8 | | 0.6 | 0.1 | 5.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.5 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 3 | 48 | 24 | 0 | 3 | 34 | 774 | 71 | 8 | 698 | 13 |
| Future Vol, veh/h | 17 | 3 | 48 | 24 | 0 | 3 | 34 | 774 | 71 | 8 | 698 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 19 | 3 | 54 | 27 | 0 | 3 | 38 | 870 | 80 | 9 | 784 | 15 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1313 | 1828 | 392 | 1358 | 1763 | 435 | 799 | 0 | 0 | 950 | 0 | 0 |
| Stage 1 | 802 | 802 | - | 946 | 946 | - | - | - | - | - | - | - |
| Stage 2 | 511 | 1026 | - | 412 | 817 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 116 | 76 | 596 | 107 | 83 | 569 | 807 | - | - | 719 | - | - |
| Stage 1 | 344 | 395 | - | 281 | 338 | - | - | - | - | - | - | - |
| Stage 2 | 514 | 310 | - | 588 | 388 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 110 | 72 | 596 | 90 | 78 | 569 | 807 | - | - | 719 | - | - |
| Mov Cap-2 Maneuver | 110 | 72 | - | 90 | 78 | - | - | - | - | - | - | - |
| Stage 1 | 328 | 390 | - | 268 | 322 | - | - | - | - | - | - | - |
| Stage 2 | 487 | 295 | - | 524 | 383 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 26.1 | 56.7 | 0.4 | 0.1 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 807 | - | - | 246 | 99 | 719 | - | - |
| HCM Lane V/C Ratio | 0.047 | - | - | 0.311 | 0.306 | 0.013 | - | - |
| HCM Control Delay (s) | 9.7 | - | - | 26.1 | 56.7 | 10.1 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.3 | 1.2 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 206 | 842 | 83 | 206 | 1015 | 294 | 144 | 278 | 121 | 273 | 284 | 200 |
| Future Volume (veh/h) | 206 | 842 | 83 | 206 | 1015 | 294 | 144 | 278 | 121 | 273 | 284 | 200 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 886 | 0 | 217 | 1068 | 0 | 152 | 293 | 127 | 287 | 299 | 211 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 218 | 1205 | | 218 | 1212 | | 193 | 267 | 113 | 310 | 383 | 324 |
| Arrive On Green | 0.12 | 0.35 | 0.00 | 0.12 | 0.35 | 0.00 | 0.05 | 0.11 | 0.11 | 0.14 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2432 | 1030 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 217 | 886 | 0 | 217 | 1068 | 0 | 152 | 212 | 208 | 287 | 299 | 211 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1685 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 15.3 | 28.2 | 0.0 | 15.2 | 36.2 | 0.0 | 6.2 | 13.7 | 13.7 | 17.9 | 18.9 | 15.3 |
| Cycle Q Clear(g_c), s | 15.3 | 28.2 | 0.0 | 15.2 | 36.2 | 0.0 | 6.2 | 13.7 | 13.7 | 17.9 | 18.9 | 15.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.61 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 218 | 1205 | | 218 | 1212 | | 193 | 195 | 185 | 310 | 383 | 324 |
| V/C Ratio(X) | 1.00 | 0.74 | | 1.00 | 0.88 | | 0.79 | 1.09 | 1.13 | 0.92 | 0.78 | 0.65 |
| Avail Cap(c_a), veh/h | 236 | 1205 | | 238 | 1212 | | 200 | 195 | 185 | 334 | 400 | 339 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.8 | 35.5 | 0.0 | 54.8 | 38.2 | 0.0 | 51.8 | 55.7 | 55.7 | 40.8 | 47.1 | 45.6 |
| Incr Delay (d2), s/veh | 55.9 | 4.0 | 0.0 | 55.5 | 9.4 | 0.0 | 18.2 | 90.4 | 103.9 | 29.6 | 9.3 | 4.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.0 | 11.9 | 0.0 | 10.0 | 16.1 | 0.0 | 2.8 | 11.1 | 11.2 | 10.0 | 9.5 | 6.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 110.7 | 39.6 | 0.0 | 110.3 | 47.6 | 0.0 | 70.0 | 146.0 | 159.6 | 70.4 | 56.4 | 49.8 |
| LnGrp LOS | F | D | | F | D | | E | F | F | E | E | D |
| Approach Vol, veh/h | | 1103 | | | 1285 | | | 572 | | | 797 | |
| Approach Delay, s/veh | | 53.6 | | | 58.2 | | | 130.8 | | | 59.7 | |
| Approach LOS | | D | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | 53.1 | 14.5 | 33.9 | 23.7 | 53.0 | 26.3 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 17.2 | 30.2 | 8.2 | 20.9 | 17.3 | 38.2 | 19.9 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 4.4 | 0.0 | 1.4 | 0.1 | 2.6 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 68.2 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 148 | 1076 | 1629 | 83 | 58 | 56 |
| Future Volume (veh/h) | 148 | 1076 | 1629 | 83 | 58 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 157 | 1145 | 1733 | 88 | 62 | 60 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 213 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 157 | 1145 | 1733 | 88 | 62 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 12.1 | 36.9 | 2.6 | 5.1 | 4.7 |
| Cycle Q Clear(g_c), s | 3.5 | 12.1 | 36.9 | 2.6 | 5.1 | 4.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 213 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.74 | 0.42 | 0.72 | 0.10 | 0.85 | 0.42 |
| Avail Cap(c_a), veh/h | 238 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.2 | 3.6 | 11.4 | 4.3 | 56.6 | 50.7 |
| Incr Delay (d2), s/veh | 10.2 | 0.5 | 1.9 | 0.3 | 22.8 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 2.7 | 11.9 | 0.7 | 2.3 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 32.4 | 4.1 | 13.3 | 4.6 | 79.4 | 52.7 |
| LnGrp LOS | C | A | B | A | E | D |
| Approach Vol, veh/h | | 1302 | 1821 | | 122 | |
| Approach Delay, s/veh | | 7.5 | 12.9 | | 66.2 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | 14.1 | | 7.1 | 5.5 | 38.9 |
| Green Ext Time (p_c), s | 9.7 | | 0.3 | 0.1 | 16.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.7 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 5 | 0 | 6 | 0 | 502 | 6 | 9 | 525 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 5 | 0 | 6 | 0 | 502 | 6 | 9 | 525 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 175 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 6 | 0 | 7 | 0 | 584 | 7 | 10 | 610 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 922 | 1221 | 305 | 909 | 1214 | 292 | 610 | 0 | 0 | 591 | 0 | 0 |
| Stage 1 | 630 | 630 | - | 584 | 584 | - | - | - | - | - | - | - |
| Stage 2 | 292 | 591 | - | 325 | 630 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 225 | 179 | 691 | 230 | 180 | 662 | 965 | - | - | 981 | - | - |
| Stage 1 | 436 | 473 | - | 465 | 496 | - | - | - | - | - | - | - |
| Stage 2 | 692 | 493 | - | 661 | 473 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 221 | 177 | 691 | 228 | 178 | 662 | 965 | - | - | 981 | - | - |
| Mov Cap-2 Maneuver | 221 | 177 | - | 228 | 178 | - | - | - | - | - | - | - |
| Stage 1 | 436 | 468 | - | 465 | 496 | - | - | - | - | - | - | - |
| Stage 2 | 685 | 493 | - | 654 | 468 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 15.5 | 0 | 0.1 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 965 | - | - | - | 355 | 981 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.036 | 0.011 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 15.5 | 8.7 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 36 | 0 | 31 | 1 | 725 | 13 | 21 | 658 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 36 | 0 | 31 | 1 | 725 | 13 | 21 | 658 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 175 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 41 | 0 | 35 | 1 | 824 | 15 | 24 | 748 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1210 | 1637 | 374 | 1248 | 1622 | 412 | 748 | 0 | 0 | 839 | 0 | 0 |
| Stage 1 | 796 | 796 | - | 826 | 826 | - | - | - | - | - | - | - |
| Stage 2 | 414 | 841 | - | 422 | 796 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 138 | 100 | 623 | 130 | 102 | 586 | 856 | - | - | 791 | - | - |
| Stage 1 | 347 | 397 | - | 332 | 385 | - | - | - | - | - | - | - |
| Stage 2 | 586 | 379 | - | 580 | 397 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 127 | 97 | 623 | 127 | 99 | 586 | 856 | - | - | 791 | - | - |
| Mov Cap-2 Maneuver | 127 | 97 | - | 127 | 99 | - | - | - | - | - | - | - |
| Stage 1 | 347 | 385 | - | 332 | 385 | - | - | - | - | - | - | - |
| Stage 2 | 550 | 379 | - | 562 | 385 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 33.9 | 0 | 0.3 |
| HCM LOS | A | D | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 856 | - | - | - | 199 | 791 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.383 | 0.03 | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 0 | 33.9 | 9.7 | - | - |
| HCM Lane LOS | A | - | - | A | D | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 1.7 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 5 | 0 | 6 | 0 | 549 | 6 | 9 | 575 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 5 | 0 | 6 | 0 | 549 | 6 | 9 | 575 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 175 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 6 | 0 | 7 | 0 | 638 | 7 | 10 | 669 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1008 | 1334 | 335 | 993 | 1327 | 319 | 669 | 0 | 0 | 645 | 0 | 0 |
| Stage 1 | 689 | 689 | - | 638 | 638 | - | - | - | - | - | - | - |
| Stage 2 | 319 | 645 | - | 355 | 689 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 195 | 153 | 661 | 200 | 154 | 634 | 917 | - | - | 936 | - | - |
| Stage 1 | 402 | 445 | - | 431 | 469 | - | - | - | - | - | - | - |
| Stage 2 | 667 | 466 | - | 635 | 445 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 191 | 151 | 661 | 198 | 152 | 634 | 917 | - | - | 936 | - | - |
| Mov Cap-2 Maneuver | 191 | 151 | - | 198 | 152 | - | - | - | - | - | - | - |
| Stage 1 | 402 | 440 | - | 431 | 469 | - | - | - | - | - | - | - |
| Stage 2 | 660 | 466 | - | 628 | 440 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 16.8 | 0 | 0.1 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 917 | - | - | - | 317 | 936 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.04 | 0.011 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 16.8 | 8.9 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 36 | 0 | 31 | 1 | 794 | 13 | 21 | 719 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 36 | 0 | 31 | 1 | 794 | 13 | 21 | 719 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 175 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 41 | 0 | 35 | 1 | 902 | 15 | 24 | 817 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1318 | 1784 | 409 | 1361 | 1769 | 451 | 817 | 0 | 0 | 917 | 0 | 0 |
| Stage 1 | 865 | 865 | - | 904 | 904 | - | - | - | - | - | - | - |
| Stage 2 | 453 | 919 | - | 457 | 865 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 115 | 81 | 592 | 107 | 83 | 553 | 807 | - | - | 740 | - | - |
| Stage 1 | 315 | 369 | - | 298 | 354 | - | - | - | - | - | - | - |
| Stage 2 | 556 | 348 | - | 553 | 369 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 105 | 78 | 592 | 104 | 80 | 553 | 807 | - | - | 740 | - | - |
| Mov Cap-2 Maneuver | 105 | 78 | - | 104 | 80 | - | - | - | - | - | - | - |
| Stage 1 | 315 | 357 | - | 298 | 354 | - | - | - | - | - | - | - |
| Stage 2 | 520 | 348 | - | 535 | 357 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 43.5 | 0 | 0.3 |
| HCM LOS | A | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 807 | - | - | - | 167 | 740 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.456 | 0.032 | - | - |
| HCM Control Delay (s) | 9.5 | - | - | 0 | 43.5 | 10 | - | - |
| HCM Lane LOS | A | - | - | A | E | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 2.1 | 0.1 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 90 | 60 | 30 | 500 | 476 | 76 |
| Future Volume (veh/h) | 90 | 60 | 30 | 500 | 476 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 96 | 64 | 32 | 532 | 506 | 81 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 233 | 230 | 305 | 1686 | 1081 | 748 |
| Arrive On Green | 0.13 | 0.13 | 0.01 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 96 | 64 | 32 | 532 | 506 | 81 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.7 | 1.9 | 0.6 | 5.0 | 6.6 | 1.5 |
| Cycle Q Clear(g_c), s | 2.7 | 1.9 | 0.6 | 5.0 | 6.6 | 1.5 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 233 | 230 | 305 | 1686 | 1081 | 748 |
| V/C Ratio(X) | 0.41 | 0.28 | 0.11 | 0.32 | 0.47 | 0.11 |
| Avail Cap(c_a), veh/h | 759 | 706 | 657 | 3910 | 2582 | 1494 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.1 | 20.2 | 11.4 | 6.9 | 13.8 | 7.8 |
| Incr Delay (d2), s/veh | 1.2 | 0.7 | 0.1 | 0.1 | 0.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 1.8 | 0.2 | 1.1 | 1.9 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.3 | 20.9 | 11.6 | 7.0 | 14.1 | 7.9 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 160 | | | 564 | 587 | |
| Approach Delay, s/veh | 21.7 | | | 7.3 | 13.2 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.0 | | 16.1 | 10.3 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.0 | | 4.7 | 2.6 | 8.6 |
| Green Ext Time (p_c), s | | 3.7 | | 0.4 | 0.0 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.7 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 19 | 517 | 5 | 6 | 530 |
| Future Vol, veh/h | 15 | 19 | 517 | 5 | 6 | 530 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 16 | 21 | 562 | 5 | 7 | 576 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 867 | 284 | 0 | 0 | 567 | 0 |
| Stage 1 | 565 | - | - | - | - | - |
| Stage 2 | 302 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 292 | 713 | - | - | 1001 | - |
| Stage 1 | 532 | - | - | - | - | - |
| Stage 2 | 724 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 290 | 713 | - | - | 1001 | - |
| Mov Cap-2 Maneuver | 406 | - | - | - | - | - |
| Stage 1 | 532 | - | - | - | - | - |
| Stage 2 | 719 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.2 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 535 | 1001 | - |
| HCM Lane V/C Ratio | - | - | 0.069 | 0.007 | - |
| HCM Control Delay (s) | - | - | 12.2 | 8.6 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 19.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 15 | 178 | 0 | 15 | 38 | 501 | 65 | 8 | 518 | 19 |
| Future Vol, veh/h | 6 | 0 | 15 | 178 | 0 | 15 | 38 | 501 | 65 | 8 | 518 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 17 | 207 | 0 | 17 | 44 | 583 | 76 | 9 | 602 | 22 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1000 | 1367 | 301 | 990 | 1313 | 292 | 624 | 0 | 0 | 659 | 0 | 0 |
| Stage 1 | 620 | 620 | - | 671 | 671 | - | - | - | - | - | - | - |
| Stage 2 | 380 | 747 | - | 319 | 642 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 167 | 146 | 678 | ~ 201 | 157 | 704 | 953 | - | - | 925 | - | - |
| Stage 1 | 390 | 478 | - | 412 | 453 | - | - | - | - | - | - | - |
| Stage 2 | 555 | 418 | - | 667 | 467 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 156 | 138 | 678 | ~ 188 | 148 | 704 | 953 | - | - | 925 | - | - |
| Mov Cap-2 Maneuver | 156 | 138 | - | ~ 188 | 148 | - | - | - | - | - | - | - |
| Stage 1 | 372 | 473 | - | 393 | 432 | - | - | - | - | - | - | - |
| Stage 2 | 516 | 399 | - | 644 | 462 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 16.2 | 136.3 | 0.6 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 953 | - | - | 347 | 188 | 704 | 925 | - | - |
| HCM Lane V/C Ratio | 0.046 | - | - | 0.07 | 1.101 | 0.025 | 0.01 | - | - |
| HCM Control Delay (s) | 9 | - | - | 16.2 | 146.9 | 10.2 | 8.9 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 10.1 | 0.1 | 0 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 1055 | 63 | 59 | 631 | 232 | 109 | 209 | 120 | 313 | 158 | 156 |
| Future Volume (veh/h) | 127 | 1055 | 63 | 59 | 631 | 232 | 109 | 209 | 120 | 313 | 158 | 156 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 135 | 1122 | 0 | 63 | 671 | 0 | 116 | 222 | 128 | 333 | 168 | 166 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 132 | 1375 | | 72 | 1217 | | 269 | 259 | 144 | 291 | 386 | 319 |
| Arrive On Green | 0.08 | 0.42 | 0.00 | 0.04 | 0.38 | 0.00 | 0.05 | 0.12 | 0.12 | 0.14 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2205 | 1222 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 135 | 1122 | 0 | 63 | 671 | 0 | 116 | 177 | 173 | 333 | 168 | 166 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1650 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 9.2 | 36.1 | 0.0 | 4.4 | 19.8 | 0.0 | 5.8 | 11.7 | 12.4 | 16.7 | 9.5 | 11.5 |
| Cycle Q Clear(g_c), s | 9.2 | 36.1 | 0.0 | 4.4 | 19.8 | 0.0 | 5.8 | 11.7 | 12.4 | 16.7 | 9.5 | 11.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 132 | 1375 | | 72 | 1217 | | 269 | 209 | 194 | 291 | 386 | 319 |
| V/C Ratio(X) | 1.02 | 0.82 | | 0.87 | 0.55 | | 0.43 | 0.85 | 0.89 | 1.14 | 0.44 | 0.52 |
| Avail Cap(c_a), veh/h | 197 | 1375 | | 168 | 1217 | | 312 | 366 | 340 | 291 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.4 | 30.9 | 0.0 | 57.2 | 29.1 | 0.0 | 44.7 | 51.9 | 52.2 | 41.6 | 41.4 | 42.2 |
| Incr Delay (d2), s/veh | 61.1 | 5.5 | 0.0 | 25.6 | 1.8 | 0.0 | 1.1 | 9.2 | 13.7 | 97.1 | 0.8 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 14.4 | 0.0 | 2.4 | 7.4 | 0.0 | 3.2 | 5.8 | 5.9 | 9.3 | 4.3 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 116.5 | 36.4 | 0.0 | 82.8 | 30.9 | 0.0 | 45.8 | 61.1 | 65.9 | 138.7 | 42.2 | 43.5 |
| LnGrp LOS | F | D | | F | C | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1257 | | | 734 | | | 466 | | | 667 | |
| Approach Delay, s/veh | | 45.0 | | | 35.3 | | | 59.1 | | | 90.7 | |
| Approach LOS | | D | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.3 | 59.3 | 14.1 | 33.3 | 17.5 | 55.1 | 25.0 | 22.4 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 38.1 | 7.8 | 13.5 | 11.2 | 21.8 | 18.7 | 14.4 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.3 | 0.1 | 3.0 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.6 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 206 | 1301 | 941 | 129 | 40 | 29 |
| Future Volume (veh/h) | 206 | 1301 | 941 | 129 | 40 | 29 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 229 | 1446 | 1046 | 143 | 44 | 32 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 365 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 229 | 1446 | 1046 | 143 | 44 | 32 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.8 | 18.7 | 18.3 | 3.6 | 3.9 | 2.3 |
| Cycle Q Clear(g_c), s | 4.8 | 18.7 | 18.3 | 3.6 | 3.9 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 365 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.63 | 0.56 | 0.50 | 0.15 | 0.66 | 0.21 |
| Avail Cap(c_a), veh/h | 439 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 4.7 | 9.3 | 4.9 | 51.0 | 44.7 |
| Incr Delay (d2), s/veh | 2.1 | 0.9 | 0.9 | 0.3 | 10.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 4.0 | 5.3 | 1.1 | 1.4 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 10.6 | 5.5 | 10.1 | 5.2 | 61.8 | 45.3 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1675 | 1189 | | 76 | |
| Approach Delay, s/veh | | 6.2 | 9.6 | | 54.8 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 20.7 | | 5.9 | 6.8 | 20.3 |
| Green Ext Time (p_c), s | | 14.6 | | 0.1 | 0.3 | 9.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 8.8 |
| HCM 6th LOS | | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 38 | 20 | 0 | 113 | 0 | 63 | 0 | 0 | 0 | 0 | 18 |
| Future Vol, veh/h | 6 | 38 | 20 | 0 | 113 | 0 | 63 | 0 | 0 | 0 | 0 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 41 | 22 | 0 | 123 | 0 | 68 | 0 | 0 | 0 | 0 | 20 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 123 | 0 | 0 | 63 | 0 | 0 | 199 | 189 | 52 | 189 | 200 | 123 |
| Stage 1 | - | - | - | - | - | - | 66 | 66 | - | 123 | 123 | - |
| Stage 2 | - | - | - | - | - | - | 133 | 123 | - | 66 | 77 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1464 | - | - | 1540 | - | - | 760 | 706 | 1016 | 771 | 696 | 928 |
| Stage 1 | - | - | - | - | - | - | 945 | 840 | - | 881 | 794 | - |
| Stage 2 | - | - | - | - | - | - | 870 | 794 | - | 945 | 831 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1464 | - | - | 1540 | - | - | 741 | 702 | 1016 | 768 | 693 | 928 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 741 | 702 | - | 768 | 693 | - |
| Stage 1 | - | - | - | - | - | - | 940 | 836 | - | 877 | 794 | - |
| Stage 2 | - | - | - | - | - | - | 852 | 794 | - | 940 | 827 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 10.4 | 9 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 741 | 1464 | - | - | 1540 | - | - | 928 |
| HCM Lane V/C Ratio | 0.092 | 0.004 | - | - | - | - | - | 0.021 |
| HCM Control Delay (s) | 10.4 | 7.5 | 0 | - | 0 | - | - | 9 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 6 | 0 | 6 | 0 | 25 | 2 | 2 | 8 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 6 | 0 | 6 | 0 | 25 | 2 | 2 | 8 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 7 | 0 | 7 | 0 | 27 | 2 | 2 | 9 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 46 | 43 | 10 | 42 | 42 | 28 | 10 | 0 | 0 | 29 | 0 | 0 |
| Stage 1 | 14 | 14 | - | 28 | 28 | - | - | - | - | - | - | - |
| Stage 2 | 32 | 29 | - | 14 | 14 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 955 | 849 | 1071 | 961 | 850 | 1047 | 1610 | - | - | 1584 | - | - |
| Stage 1 | 1006 | 884 | - | 989 | 872 | - | - | - | - | - | - | - |
| Stage 2 | 984 | 871 | - | 1006 | 884 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 948 | 848 | 1071 | 960 | 849 | 1047 | 1610 | - | - | 1584 | - | - |
| Mov Cap-2 Maneuver | 948 | 848 | - | 960 | 849 | - | - | - | - | - | - | - |
| Stage 1 | 1006 | 883 | - | 989 | 872 | - | - | - | - | - | - | - |
| Stage 2 | 978 | 871 | - | 1005 | 883 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 8.6 | 0 | 1.3 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1610 | - | - | 948 | 1002 | 1584 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.013 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 8.6 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 16 | 9 | 10 | 0 | 28 | 6 | 29 | 4 | 0 | 2 | 1 | 47 |
| Future Vol, veh/h | 16 | 9 | 10 | 0 | 28 | 6 | 29 | 4 | 0 | 2 | 1 | 47 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 10 | 11 | 0 | 30 | 7 | 32 | 4 | 0 | 2 | 1 | 51 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.3 | 7.2 | 7.5 | 6.8 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 88% | 46% | 0% | 4% |
| Vol Thru, % | 12% | 26% | 82% | 2% |
| Vol Right, % | 0% | 29% | 18% | 94% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 33 | 35 | 34 | 50 |
| LT Vol | 29 | 16 | 0 | 2 |
| Through Vol | 4 | 9 | 28 | 1 |
| RT Vol | 0 | 10 | 6 | 47 |
| Lane Flow Rate | 36 | 38 | 37 | 54 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.043 | 0.043 | 0.041 | 0.053 |
| Departure Headway (Hd) | 4.282 | 4.038 | 4.013 | 3.535 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 834 | 884 | 889 | 1007 |
| Service Time | 2.32 | 2.076 | 2.052 | 1.578 |
| HCM Lane V/C Ratio | 0.043 | 0.043 | 0.042 | 0.054 |
| HCM Control Delay | 7.5 | 7.3 | 7.2 | 6.8 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.1 | 0.1 | 0.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 144 | 57 | 68 | 720 | 641 | 113 |
| Future Volume (veh/h) | 144 | 57 | 68 | 720 | 641 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 164 | 65 | 77 | 818 | 728 | 128 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 245 | 291 | 314 | 1895 | 1133 | 728 |
| Arrive On Green | 0.14 | 0.14 | 0.05 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 164 | 65 | 77 | 818 | 728 | 128 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 4.9 | 2.0 | 1.5 | 7.8 | 9.9 | 2.7 |
| Cycle Q Clear(g_c), s | 4.9 | 2.0 | 1.5 | 7.8 | 9.9 | 2.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 245 | 291 | 314 | 1895 | 1133 | 728 |
| V/C Ratio(X) | 0.67 | 0.22 | 0.25 | 0.43 | 0.64 | 0.18 |
| Avail Cap(c_a), veh/h | 732 | 709 | 635 | 4070 | 2707 | 1435 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.9 | 19.2 | 11.7 | 7.5 | 16.2 | 8.9 |
| Incr Delay (d2), s/veh | 3.1 | 0.4 | 0.4 | 0.2 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.0 | 0.5 | 1.9 | 3.3 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 26.1 | 19.6 | 12.1 | 7.7 | 16.9 | 9.0 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 229 | | | 895 | 856 | |
| Approach Delay, s/veh | 24.2 | | | 8.1 | 15.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.3 | | 16.7 | 12.6 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 9.8 | | 6.9 | 3.5 | 11.9 |
| Green Ext Time (p_c), s | | 6.2 | | 0.6 | 0.1 | 5.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.2 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 12 | 735 | 17 | 21 | 674 |
| Future Vol, veh/h | 10 | 12 | 735 | 17 | 21 | 674 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 11 | 13 | 799 | 18 | 23 | 733 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1221 | 409 | 0 | 0 | 817 | 0 |
| Stage 1 | 808 | - | - | - | - | - |
| Stage 2 | 413 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 172 | 592 | - | - | 807 | - |
| Stage 1 | 399 | - | - | - | - | - |
| Stage 2 | 636 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 167 | 592 | - | - | 807 | - |
| Mov Cap-2 Maneuver | 292 | - | - | - | - | - |
| Stage 1 | 399 | - | - | - | - | - |
| Stage 2 | 618 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.5 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 404 | 807 | - |
| HCM Lane V/C Ratio | - | - | 0.059 | 0.028 | - |
| HCM Control Delay (s) | - | - | 14.5 | 9.6 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 27.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 16 | 3 | 44 | 135 | 0 | 13 | 31 | 723 | 258 | 24 | 648 | 12 |
| Future Vol, veh/h | 16 | 3 | 44 | 135 | 0 | 13 | 31 | 723 | 258 | 24 | 648 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 18 | 3 | 49 | 152 | 0 | 15 | 35 | 812 | 290 | 27 | 728 | 13 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1258 | 1954 | 364 | 1302 | 1677 | 406 | 741 | 0 | 0 | 1102 | 0 | 0 |
| Stage 1 | 782 | 782 | - | 882 | 882 | - | - | - | - | - | - | - |
| Stage 2 | 476 | 1172 | - | 420 | 795 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 128 | 63 | 621 | ~ 118 | 94 | 594 | 849 | - | - | 629 | - | - |
| Stage 1 | 353 | 403 | - | 307 | 362 | - | - | - | - | - | - | - |
| Stage 2 | 539 | 264 | - | 581 | 398 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 117 | 58 | 621 | ~ 97 | 86 | 594 | 849 | - | - | 629 | - | - |
| Mov Cap-2 Maneuver | 117 | 58 | - | ~ 97 | 86 | - | - | - | - | - | - | - |
| Stage 1 | 339 | 386 | - | 294 | 347 | - | - | - | - | - | - | - |
| Stage 2 | 504 | 253 | - | 507 | 381 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 25.8 | $ 342.5 | 0.3 | 0.4 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 849 | - | - | 243 | 97 | 594 | 629 | - | - |
| HCM Lane V/C Ratio | 0.041 | - | - | 0.291 | 1.564 | 0.025 | 0.043 | - | - |
| HCM Control Delay (s) | 9.4 | - | - | 25.8 | $ 374.4 | 11.2 | 11 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.2 | 11.7 | 0.1 | 0.1 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 249 | 771 | 76 | 188 | 929 | 380 | 131 | 290 | 111 | 315 | 280 | 218 |
| Future Volume (veh/h) | 249 | 771 | 76 | 188 | 929 | 380 | 131 | 290 | 111 | 315 | 280 | 218 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 262 | 812 | 0 | 198 | 978 | 0 | 138 | 305 | 117 | 332 | 295 | 229 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1195 | | 200 | 1130 | | 207 | 277 | 104 | 334 | 411 | 348 |
| Arrive On Green | 0.13 | 0.35 | 0.00 | 0.11 | 0.33 | 0.00 | 0.05 | 0.11 | 0.11 | 0.16 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2527 | 949 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 262 | 812 | 0 | 198 | 978 | 0 | 138 | 213 | 209 | 332 | 295 | 229 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1699 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 25.2 | 0.0 | 13.9 | 33.1 | 0.0 | 5.9 | 13.7 | 13.7 | 19.7 | 18.3 | 16.5 |
| Cycle Q Clear(g_c), s | 16.7 | 25.2 | 0.0 | 13.9 | 33.1 | 0.0 | 5.9 | 13.7 | 13.7 | 19.7 | 18.3 | 16.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1195 | | 200 | 1130 | | 207 | 195 | 186 | 334 | 411 | 348 |
| V/C Ratio(X) | 1.11 | 0.68 | | 0.99 | 0.87 | | 0.67 | 1.09 | 1.12 | 0.99 | 0.72 | 0.66 |
| Avail Cap(c_a), veh/h | 236 | 1195 | | 238 | 1130 | | 218 | 195 | 186 | 334 | 411 | 348 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 34.9 | 0.0 | 55.4 | 39.6 | 0.0 | 50.2 | 55.7 | 55.7 | 41.2 | 45.2 | 44.5 |
| Incr Delay (d2), s/veh | 91.6 | 3.1 | 0.0 | 52.8 | 8.9 | 0.0 | 7.1 | 91.0 | 103.3 | 47.7 | 5.9 | 4.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 13.2 | 10.6 | 0.0 | 8.9 | 14.8 | 0.0 | 1.8 | 11.1 | 11.3 | 13.2 | 8.9 | 7.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 145.8 | 38.0 | 0.0 | 108.2 | 48.5 | 0.0 | 57.3 | 146.7 | 159.0 | 88.9 | 51.1 | 48.9 |
| LnGrp LOS | F | D | | F | D | | E | F | F | F | D | D |
| Approach Vol, veh/h | | 1074 | | | 1176 | | | 560 | | | 856 | |
| Approach Delay, s/veh | | 64.3 | | | 58.6 | | | 129.3 | | | 65.2 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.3 | 52.7 | 14.2 | 35.8 | 25.0 | 50.0 | 28.0 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 15.9 | 27.2 | 7.9 | 20.3 | 18.7 | 35.1 | 21.7 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 4.5 | 0.0 | 1.5 | 0.0 | 3.6 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 72.6 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 147 | 1039 | 1600 | 81 | 53 | 51 |
| Future Volume (veh/h) | 147 | 1039 | 1600 | 81 | 53 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 156 | 1105 | 1702 | 86 | 56 | 54 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 218 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 156 | 1105 | 1702 | 86 | 56 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 11.5 | 35.6 | 2.5 | 4.6 | 4.2 |
| Cycle Q Clear(g_c), s | 3.5 | 11.5 | 35.6 | 2.5 | 4.6 | 4.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 218 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.72 | 0.40 | 0.71 | 0.10 | 0.77 | 0.37 |
| Avail Cap(c_a), veh/h | 243 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.0 | 3.5 | 11.2 | 4.3 | 56.3 | 50.5 |
| Incr Delay (d2), s/veh | 8.6 | 0.4 | 1.8 | 0.2 | 15.5 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 2.5 | 11.5 | 0.7 | 2.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 4.0 | 13.0 | 4.6 | 71.8 | 52.1 |
| LnGrp LOS | C | A | B | A | E | D |
| Approach Vol, veh/h | | 1261 | 1788 | | 110 | |
| Approach Delay, s/veh | | 7.2 | 12.6 | | 62.1 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | 13.5 | | 6.6 | 5.5 | 37.6 |
| Green Ext Time (p_c), s | 9.2 | | 0.2 | 0.1 | 16.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.1 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 126 | 66 | 0 | 74 | 0 | 39 | 0 | 0 | 0 | 0 | 10 |
| Future Vol, veh/h | 17 | 126 | 66 | 0 | 74 | 0 | 39 | 0 | 0 | 0 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 137 | 72 | 0 | 80 | 0 | 42 | 0 | 0 | 0 | 0 | 11 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 80 | 0 | 0 | 209 | 0 | 0 | 295 | 289 | 173 | 289 | 325 | 80 |
| Stage 1 | - | - | - | - | - | - | 209 | 209 | - | 80 | 80 | - |
| Stage 2 | - | - | - | - | - | - | 86 | 80 | - | 209 | 245 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1518 | - | - | 1362 | - | - | 657 | 621 | 871 | 663 | 593 | 980 |
| Stage 1 | - | - | - | - | - | - | 793 | 729 | - | 929 | 828 | - |
| Stage 2 | - | - | - | - | - | - | 922 | 828 | - | 793 | 703 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1518 | - | - | 1362 | - | - | 643 | 612 | 871 | 656 | 585 | 980 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 643 | 612 | - | 656 | 585 | - |
| Stage 1 | - | - | - | - | - | - | 782 | 719 | - | 916 | 828 | - |
| Stage 2 | - | - | - | - | - | - | 912 | 828 | - | 782 | 693 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 11 | 8.7 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 643 | 1518 | - | - | 1362 | - | - | 980 |
| HCM Lane V/C Ratio | 0.066 | 0.012 | - | - | - | - | - | 0.011 |
| HCM Control Delay (s) | 11 | 7.4 | 0 | - | 0 | - | - | 8.7 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 4 | 0 | 4 | 0 | 16 | 6 | 6 | 27 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 4 | 0 | 4 | 0 | 16 | 6 | 6 | 27 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 0 | 0 | 4 | 0 | 4 | 0 | 17 | 7 | 7 | 29 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 68 | 69 | 31 | 66 | 68 | 21 | 33 | 0 | 0 | 24 | 0 | 0 |
| Stage 1 | 45 | 45 | - | 21 | 21 | - | - | - | - | - | - | - |
| Stage 2 | 23 | 24 | - | 45 | 47 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 925 | 822 | 1043 | 927 | 823 | 1056 | 1579 | - | - | 1591 | - | - |
| Stage 1 | 969 | 857 | - | 998 | 878 | - | - | - | - | - | - | - |
| Stage 2 | 995 | 875 | - | 969 | 856 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 919 | 819 | 1043 | 924 | 820 | 1056 | 1579 | - | - | 1591 | - | - |
| Mov Cap-2 Maneuver | 919 | 819 | - | 924 | 820 | - | - | - | - | - | - | - |
| Stage 1 | 969 | 854 | - | 998 | 878 | - | - | - | - | - | - | - |
| Stage 2 | 991 | 875 | - | 965 | 853 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.9 | 8.7 | 0 | 1.2 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1579 | - | - | 919 | 986 | 1591 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.004 | 0.009 | 0.004 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.9 | 8.7 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.5 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 53 | 32 | 33 | 0 | 19 | 4 | 19 | 2 | 0 | 6 | 4 | 31 |
| Future Vol, veh/h | 53 | 32 | 33 | 0 | 19 | 4 | 19 | 2 | 0 | 6 | 4 | 31 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 35 | 36 | 0 | 21 | 4 | 21 | 2 | 0 | 7 | 4 | 34 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.7 | 7.2 | 7.6 | 7.1 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 90% | 45% | 0% | 15% |
| Vol Thru, % | 10% | 27% | 83% | 10% |
| Vol Right, % | 0% | 28% | 17% | 76% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 21 | 118 | 23 | 41 |
| LT Vol | 19 | 53 | 0 | 6 |
| Through Vol | 2 | 32 | 19 | 4 |
| RT Vol | 0 | 33 | 4 | 31 |
| Lane Flow Rate | 23 | 128 | 25 | 45 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.028 | 0.142 | 0.028 | 0.047 |
| Departure Headway (Hd) | 4.416 | 3.992 | 4.045 | 3.791 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 802 | 897 | 879 | 932 |
| Service Time | 2.489 | 2.026 | 2.099 | 1.864 |
| HCM Lane V/C Ratio | 0.029 | 0.143 | 0.028 | 0.048 |
| HCM Control Delay | 7.6 | 7.7 | 7.2 | 7.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.5 | 0.1 | 0.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 98 | 65 | 32 | 544 | 520 | 84 |
| Future Volume (veh/h) | 98 | 65 | 32 | 544 | 520 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 104 | 69 | 34 | 579 | 553 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 237 | 238 | 289 | 1684 | 1074 | 749 |
| Arrive On Green | 0.14 | 0.14 | 0.01 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 104 | 69 | 34 | 579 | 553 | 89 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.9 | 2.1 | 0.8 | 5.6 | 7.4 | 1.7 |
| Cycle Q Clear(g_c), s | 2.9 | 2.1 | 0.8 | 5.6 | 7.4 | 1.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 237 | 238 | 289 | 1684 | 1074 | 749 |
| V/C Ratio(X) | 0.44 | 0.29 | 0.12 | 0.34 | 0.51 | 0.12 |
| Avail Cap(c_a), veh/h | 755 | 706 | 636 | 3887 | 2567 | 1491 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.2 | 20.2 | 11.1 | 7.1 | 14.2 | 7.9 |
| Incr Delay (d2), s/veh | 1.3 | 0.7 | 0.2 | 0.1 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.2 | 1.2 | 2.2 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.5 | 20.8 | 11.3 | 7.2 | 14.6 | 7.9 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 173 | | | 613 | 642 | |
| Approach Delay, s/veh | 21.8 | | | 7.5 | 13.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.2 | | 16.2 | 10.5 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.6 | | 4.9 | 2.8 | 9.4 |
| Green Ext Time (p_c), s | | 4.0 | | 0.4 | 0.0 | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.0 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 19 | 564 | 5 | 6 | 580 |
| Future Vol, veh/h | 15 | 19 | 564 | 5 | 6 | 580 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 16 | 21 | 613 | 5 | 7 | 630 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 945 | 309 | 0 | 0 | 618 | 0 |
| Stage 1 | 616 | - | - | - | - | - |
| Stage 2 | 329 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 260 | 687 | - | - | 958 | - |
| Stage 1 | 501 | - | - | - | - | - |
| Stage 2 | 701 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 258 | 687 | - | - | 958 | - |
| Mov Cap-2 Maneuver | 378 | - | - | - | - | - |
| Stage 1 | 501 | - | - | - | - | - |
| Stage 2 | 696 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.7 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 505 | 958 | - |
| HCM Lane V/C Ratio | - | - | 0.073 | 0.007 | - |
| HCM Control Delay (s) | - | - | 12.7 | 8.8 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 28.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 16 | 178 | 0 | 15 | 42 | 548 | 65 | 8 | 566 | 21 |
| Future Vol, veh/h | 6 | 0 | 16 | 178 | 0 | 15 | 42 | 548 | 65 | 8 | 566 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 19 | 207 | 0 | 17 | 49 | 637 | 76 | 9 | 658 | 24 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1093 | 1487 | 329 | 1082 | 1435 | 319 | 682 | 0 | 0 | 713 | 0 | 0 |
| Stage 1 | 676 | 676 | - | 735 | 735 | - | - | - | - | - | - | - |
| Stage 2 | 417 | 811 | - | 347 | 700 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 142 | 123 | 649 | ~ 172 | 133 | 677 | 907 | - | - | 883 | - | - |
| Stage 1 | 359 | 451 | - | 377 | 424 | - | - | - | - | - | - | - |
| Stage 2 | 526 | 391 | - | 642 | 440 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 132 | 115 | 649 | ~ 159 | 125 | 677 | 907 | - | - | 883 | - | - |
| Mov Cap-2 Maneuver | 132 | 115 | - | ~ 159 | 125 | - | - | - | - | - | - | - |
| Stage 1 | 340 | 446 | - | 357 | 401 | - | - | - | - | - | - | - |
| Stage 2 | 485 | 370 | - | 617 | 436 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.5 | 212.2 | 0.6 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 907 | - | - | 314 | 159 | 677 | 883 | - | - |
| HCM Lane V/C Ratio | 0.054 | - | - | 0.081 | 1.302 | 0.026 | 0.011 | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 17.5 | 229.2 | 10.5 | 9.1 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | 12.3 | 0.1 | 0 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 138 | 1153 | 70 | 65 | 688 | 250 | 120 | 229 | 131 | 333 | 171 | 166 |
| Future Volume (veh/h) | 138 | 1153 | 70 | 65 | 688 | 250 | 120 | 229 | 131 | 333 | 171 | 166 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 147 | 1227 | 0 | 69 | 732 | 0 | 128 | 244 | 139 | 354 | 182 | 177 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 147 | 1336 | | 75 | 1157 | | 283 | 282 | 155 | 292 | 398 | 329 |
| Arrive On Green | 0.09 | 0.40 | 0.00 | 0.04 | 0.36 | 0.00 | 0.05 | 0.13 | 0.13 | 0.14 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2212 | 1216 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 147 | 1227 | 0 | 69 | 732 | 0 | 128 | 194 | 189 | 354 | 182 | 177 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1651 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 10.2 | 42.3 | 0.0 | 4.8 | 22.8 | 0.0 | 6.3 | 12.9 | 13.5 | 16.7 | 10.3 | 12.3 |
| Cycle Q Clear(g_c), s | 10.2 | 42.3 | 0.0 | 4.8 | 22.8 | 0.0 | 6.3 | 12.9 | 13.5 | 16.7 | 10.3 | 12.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 147 | 1336 | | 75 | 1157 | | 283 | 227 | 211 | 292 | 398 | 329 |
| V/C Ratio(X) | 1.00 | 0.92 | | 0.92 | 0.63 | | 0.45 | 0.86 | 0.90 | 1.21 | 0.46 | 0.54 |
| Avail Cap(c_a), veh/h | 197 | 1336 | | 168 | 1157 | | 320 | 366 | 340 | 292 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.9 | 33.8 | 0.0 | 57.2 | 31.6 | 0.0 | 43.6 | 51.3 | 51.6 | 40.7 | 41.0 | 41.8 |
| Incr Delay (d2), s/veh | 57.3 | 11.5 | 0.0 | 32.4 | 2.6 | 0.0 | 1.1 | 10.8 | 16.4 | 123.5 | 0.8 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.6 | 17.8 | 0.0 | 2.7 | 8.7 | 0.0 | 3.5 | 6.4 | 6.6 | 11.4 | 4.7 | 4.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 112.2 | 45.3 | 0.0 | 89.6 | 34.2 | 0.0 | 44.7 | 62.1 | 68.0 | 164.2 | 41.9 | 43.2 |
| LnGrp LOS | F | D | | F | C | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1374 | | | 801 | | | 511 | | | 713 | |
| Approach Delay, s/veh | | 52.5 | | | 39.0 | | | 59.9 | | | 103.0 | |
| Approach LOS | | D | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 57.9 | 14.5 | 34.1 | 18.5 | 52.9 | 25.0 | 23.6 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 6.8 | 44.3 | 8.3 | 14.3 | 12.2 | 24.8 | 18.7 | 15.5 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.4 | 0.1 | 2.7 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 61.0 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 209 | 1428 | 1022 | 136 | 44 | 32 |
| Future Volume (veh/h) | 209 | 1428 | 1022 | 136 | 44 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 232 | 1587 | 1136 | 151 | 49 | 36 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 338 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 232 | 1587 | 1136 | 151 | 49 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.9 | 22.2 | 20.8 | 3.8 | 4.4 | 2.5 |
| Cycle Q Clear(g_c), s | 4.9 | 22.2 | 20.8 | 3.8 | 4.4 | 2.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 338 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.69 | 0.62 | 0.54 | 0.15 | 0.74 | 0.23 |
| Avail Cap(c_a), veh/h | 411 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.3 | 5.0 | 9.7 | 4.9 | 51.2 | 44.8 |
| Incr Delay (d2), s/veh | 3.6 | 1.1 | 1.0 | 0.3 | 14.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 4.8 | 6.0 | 1.2 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 6.2 | 10.7 | 5.2 | 65.9 | 45.6 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1819 | 1287 | | 85 | |
| Approach Delay, s/veh | | 7.1 | 10.1 | | 57.3 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 24.2 | | 6.4 | 6.9 | 22.8 |
| Green Ext Time (p_c), s | 17.2 | | 0.1 | 0.3 | 10.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.7 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 38 | 20 | 0 | 113 | 0 | 63 | 0 | 0 | 0 | 0 | 18 |
| Future Vol, veh/h | 6 | 38 | 20 | 0 | 113 | 0 | 63 | 0 | 0 | 0 | 0 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 41 | 22 | 0 | 123 | 0 | 68 | 0 | 0 | 0 | 0 | 20 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 123 | 0 | 0 | 63 | 0 | 0 | 199 | 189 | 52 | 189 | 200 | 123 |
| Stage 1 | - | - | - | - | - | - | 66 | 66 | - | 123 | 123 | - |
| Stage 2 | - | - | - | - | - | - | 133 | 123 | - | 66 | 77 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1464 | - | - | 1540 | - | - | 760 | 706 | 1016 | 771 | 696 | 928 |
| Stage 1 | - | - | - | - | - | - | 945 | 840 | - | 881 | 794 | - |
| Stage 2 | - | - | - | - | - | - | 870 | 794 | - | 945 | 831 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1464 | - | - | 1540 | - | - | 741 | 702 | 1016 | 768 | 693 | 928 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 741 | 702 | - | 768 | 693 | - |
| Stage 1 | - | - | - | - | - | - | 940 | 836 | - | 877 | 794 | - |
| Stage 2 | - | - | - | - | - | - | 852 | 794 | - | 940 | 827 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 10.4 | 9 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 741 | 1464 | - | - | 1540 | - | - | 928 |
| HCM Lane V/C Ratio | 0.092 | 0.004 | - | - | - | - | - | 0.021 |
| HCM Control Delay (s) | 10.4 | 7.5 | 0 | - | 0 | - | - | 9 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 6 | 0 | 6 | 0 | 25 | 2 | 2 | 8 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 6 | 0 | 6 | 0 | 25 | 2 | 2 | 8 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 7 | 0 | 7 | 0 | 27 | 2 | 2 | 9 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 46 | 43 | 10 | 42 | 42 | 28 | 10 | 0 | 0 | 29 | 0 | 0 |
| Stage 1 | 14 | 14 | - | 28 | 28 | - | - | - | - | - | - | - |
| Stage 2 | 32 | 29 | - | 14 | 14 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 955 | 849 | 1071 | 961 | 850 | 1047 | 1610 | - | - | 1584 | - | - |
| Stage 1 | 1006 | 884 | - | 989 | 872 | - | - | - | - | - | - | - |
| Stage 2 | 984 | 871 | - | 1006 | 884 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 948 | 848 | 1071 | 960 | 849 | 1047 | 1610 | - | - | 1584 | - | - |
| Mov Cap-2 Maneuver | 948 | 848 | - | 960 | 849 | - | - | - | - | - | - | - |
| Stage 1 | 1006 | 883 | - | 989 | 872 | - | - | - | - | - | - | - |
| Stage 2 | 978 | 871 | - | 1005 | 883 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 8.6 | 0 | 1.3 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1610 | - | - | 948 | 1002 | 1584 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.013 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 8.6 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 16 | 9 | 10 | 0 | 28 | 6 | 29 | 4 | 0 | 2 | 1 | 47 |
| Future Vol, veh/h | 16 | 9 | 10 | 0 | 28 | 6 | 29 | 4 | 0 | 2 | 1 | 47 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 10 | 11 | 0 | 30 | 7 | 32 | 4 | 0 | 2 | 1 | 51 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.3 | 7.2 | 7.5 | 6.8 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 88% | 46% | 0% | 4% |
| Vol Thru, % | 12% | 26% | 82% | 2% |
| Vol Right, % | 0% | 29% | 18% | 94% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 33 | 35 | 34 | 50 |
| LT Vol | 29 | 16 | 0 | 2 |
| Through Vol | 4 | 9 | 28 | 1 |
| RT Vol | 0 | 10 | 6 | 47 |
| Lane Flow Rate | 36 | 38 | 37 | 54 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.043 | 0.043 | 0.041 | 0.053 |
| Departure Headway (Hd) | 4.282 | 4.038 | 4.013 | 3.535 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 834 | 884 | 889 | 1007 |
| Service Time | 2.32 | 2.076 | 2.052 | 1.578 |
| HCM Lane V/C Ratio | 0.043 | 0.043 | 0.042 | 0.054 |
| HCM Control Delay | 7.5 | 7.3 | 7.2 | 6.8 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.1 | 0.1 | 0.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 61 | 74 | 788 | 700 | 124 |
| Future Volume (veh/h) | 158 | 61 | 74 | 788 | 700 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 180 | 69 | 84 | 895 | 795 | 141 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 247 | 297 | 299 | 1899 | 1127 | 726 |
| Arrive On Green | 0.14 | 0.14 | 0.06 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 180 | 69 | 84 | 895 | 795 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 5.5 | 2.1 | 1.6 | 8.9 | 11.2 | 3.0 |
| Cycle Q Clear(g_c), s | 5.5 | 2.1 | 1.6 | 8.9 | 11.2 | 3.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 247 | 297 | 299 | 1899 | 1127 | 726 |
| V/C Ratio(X) | 0.73 | 0.23 | 0.28 | 0.47 | 0.71 | 0.19 |
| Avail Cap(c_a), veh/h | 728 | 712 | 612 | 4047 | 2692 | 1430 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.3 | 19.2 | 12.1 | 7.8 | 16.8 | 9.1 |
| Incr Delay (d2), s/veh | 4.1 | 0.4 | 0.5 | 0.2 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.5 | 2.2 | 3.8 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.4 | 19.6 | 12.6 | 8.0 | 17.7 | 9.2 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 249 | | | 979 | 936 | |
| Approach Delay, s/veh | 25.2 | | | 8.4 | 16.4 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.5 | | 16.8 | 12.8 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 10.9 | | 7.5 | 3.6 | 13.2 |
| Green Ext Time (p_c), s | | 7.0 | | 0.6 | 0.1 | 6.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.8 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 12 | 804 | 17 | 21 | 735 |
| Future Vol, veh/h | 10 | 12 | 804 | 17 | 21 | 735 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 11 | 13 | 874 | 18 | 23 | 799 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1329 | 446 | 0 | 0 | 892 | 0 |
| Stage 1 | 883 | - | - | - | - | - |
| Stage 2 | 446 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 146 | 560 | - | - | 756 | - |
| Stage 1 | 365 | - | - | - | - | - |
| Stage 2 | 612 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 142 | 560 | - | - | 756 | - |
| Mov Cap-2 Maneuver | 266 | - | - | - | - | - |
| Stage 1 | 365 | - | - | - | - | - |
| Stage 2 | 594 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.3 | 0 | 0.3 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 373 | 756 | - |
| HCM Lane V/C Ratio | - | - | 0.064 | 0.03 | - |
| HCM Control Delay (s) | - | - | 15.3 | 9.9 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 40.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 3 | 48 | 137 | 0 | 13 | 34 | 791 | 264 | 24 | 708 | 13 |
| Future Vol, veh/h | 17 | 3 | 48 | 137 | 0 | 13 | 34 | 791 | 264 | 24 | 708 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 19 | 3 | 54 | 154 | 0 | 15 | 38 | 889 | 297 | 27 | 796 | 15 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1371 | 2112 | 398 | 1419 | 1830 | 445 | 811 | 0 | 0 | 1186 | 0 | 0 |
| Stage 1 | 850 | 850 | - | 965 | 965 | - | - | - | - | - | - | - |
| Stage 2 | 521 | 1262 | - | 454 | 865 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 105 | 50 | 590 | ~ 97 | 76 | 561 | 798 | - | - | 585 | - | - |
| Stage 1 | 322 | 375 | - | 274 | 331 | - | - | - | - | - | - | - |
| Stage 2 | 507 | 239 | - | 555 | 369 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 95 | 45 | 590 | ~ 77 | 69 | 561 | 798 | - | - | 585 | - | - |
| Mov Cap-2 Maneuver | 95 | 45 | - | ~ 77 | 69 | - | - | - | - | - | - | - |
| Stage 1 | 307 | 358 | - | 261 | 315 | - | - | - | - | - | - | - |
| Stage 2 | 470 | 228 | - | 476 | 352 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 32 | $ 531.6 | 0.3 | 0.4 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 798 | - | - | 208 | 77 | 561 | 585 | - | - |
| HCM Lane V/C Ratio | 0.048 | - | - | 0.367 | 1.999 | 0.026 | 0.046 | - | - |
| HCM Control Delay (s) | 9.7 | - | - | 32$ | 580.9 | 11.6 | 11.5 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 1.6 | 13.8 | 0.1 | 0.1 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 268 | 842 | 83 | 206 | 1015 | 405 | 144 | 315 | 121 | 338 | 306 | 236 |
| Future Volume (veh/h) | 268 | 842 | 83 | 206 | 1015 | 405 | 144 | 315 | 121 | 338 | 306 | 236 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 282 | 886 | 0 | 217 | 1068 | 0 | 152 | 332 | 127 | 356 | 322 | 248 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1159 | | 218 | 1130 | | 192 | 277 | 104 | 334 | 407 | 345 |
| Arrive On Green | 0.13 | 0.34 | 0.00 | 0.12 | 0.33 | 0.00 | 0.05 | 0.11 | 0.11 | 0.16 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2527 | 949 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 282 | 886 | 0 | 217 | 1068 | 0 | 152 | 232 | 227 | 356 | 322 | 248 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1699 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 28.7 | 0.0 | 15.2 | 37.5 | 0.0 | 6.2 | 13.7 | 13.7 | 19.7 | 20.3 | 18.1 |
| Cycle Q Clear(g_c), s | 16.7 | 28.7 | 0.0 | 15.2 | 37.5 | 0.0 | 6.2 | 13.7 | 13.7 | 19.7 | 20.3 | 18.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1159 | | 218 | 1130 | | 192 | 195 | 186 | 334 | 407 | 345 |
| V/C Ratio(X) | 1.20 | 0.76 | | 1.00 | 0.95 | | 0.79 | 1.19 | 1.22 | 1.07 | 0.79 | 0.72 |
| Avail Cap(c_a), veh/h | 236 | 1159 | | 238 | 1130 | | 199 | 195 | 186 | 334 | 407 | 345 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 37.0 | 0.0 | 54.8 | 41.1 | 0.0 | 51.7 | 55.7 | 55.7 | 41.4 | 46.2 | 45.3 |
| Incr Delay (d2), s/veh | 121.5 | 4.8 | 0.0 | 55.5 | 16.5 | 0.0 | 18.7 | 124.9 | 137.8 | 67.9 | 10.1 | 7.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.1 | 12.2 | 0.0 | 10.0 | 17.7 | 0.0 | 2.8 | 12.9 | 13.0 | 15.1 | 10.3 | 7.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 175.7 | 41.8 | 0.0 | 110.3 | 57.5 | 0.0 | 70.4 | 180.5 | 193.4 | 109.3 | 56.3 | 52.3 |
| LnGrp LOS | F | D | | F | E | | E | F | F | F | E | D |
| Approach Vol, veh/h | | 1168 | | | 1285 | | | 611 | | | 926 | |
| Approach Delay, s/veh | | 74.2 | | | 66.4 | | | 158.0 | | | 75.6 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | 51.4 | 14.5 | 35.5 | 25.0 | 50.0 | 28.0 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 17.2 | 30.7 | 8.2 | 22.3 | 18.7 | 39.5 | 21.7 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 4.3 | 0.0 | 1.4 | 0.0 | 1.9 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 84.8 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 148 | 1141 | 1740 | 83 | 58 | 56 |
| Future Volume (veh/h) | 148 | 1141 | 1740 | 83 | 58 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 157 | 1214 | 1851 | 88 | 62 | 60 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 196 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 157 | 1214 | 1851 | 88 | 62 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 13.3 | 42.3 | 2.6 | 5.1 | 4.7 |
| Cycle Q Clear(g_c), s | 3.5 | 13.3 | 42.3 | 2.6 | 5.1 | 4.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 196 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.80 | 0.44 | 0.77 | 0.10 | 0.85 | 0.42 |
| Avail Cap(c_a), veh/h | 221 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.8 | 3.7 | 12.2 | 4.3 | 56.6 | 50.7 |
| Incr Delay (d2), s/veh | 17.1 | 0.5 | 2.5 | 0.3 | 22.8 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 2.9 | 13.7 | 0.7 | 2.3 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 42.9 | 4.3 | 14.7 | 4.6 | 79.4 | 52.7 |
| LnGrp LOS | D | A | B | A | E | D |
| Approach Vol, veh/h | | 1371 | 1939 | | 122 | |
| Approach Delay, s/veh | | 8.7 | 14.2 | | 66.2 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | 15.3 | | 7.1 | 5.5 | 44.3 |
| Green Ext Time (p_c), s | 10.7 | | 0.3 | 0.1 | 15.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.8 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 126 | 66 | 0 | 74 | 0 | 39 | 0 | 0 | 0 | 0 | 10 |
| Future Vol, veh/h | 17 | 126 | 66 | 0 | 74 | 0 | 39 | 0 | 0 | 0 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 137 | 72 | 0 | 80 | 0 | 42 | 0 | 0 | 0 | 0 | 11 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 80 | 0 | 0 | 209 | 0 | 0 | 295 | 289 | 173 | 289 | 325 | 80 |
| Stage 1 | - | - | - | - | - | - | 209 | 209 | - | 80 | 80 | - |
| Stage 2 | - | - | - | - | - | - | 86 | 80 | - | 209 | 245 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1518 | - | - | 1362 | - | - | 657 | 621 | 871 | 663 | 593 | 980 |
| Stage 1 | - | - | - | - | - | - | 793 | 729 | - | 929 | 828 | - |
| Stage 2 | - | - | - | - | - | - | 922 | 828 | - | 793 | 703 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1518 | - | - | 1362 | - | - | 643 | 612 | 871 | 656 | 585 | 980 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 643 | 612 | - | 656 | 585 | - |
| Stage 1 | - | - | - | - | - | - | 782 | 719 | - | 916 | 828 | - |
| Stage 2 | - | - | - | - | - | - | 912 | 828 | - | 782 | 693 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 11 | 8.7 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 643 | 1518 | - | - | 1362 | - | - | 980 |
| HCM Lane V/C Ratio | 0.066 | 0.012 | - | - | - | - | - | 0.011 |
| HCM Control Delay (s) | 11 | 7.4 | 0 | - | 0 | - | - | 8.7 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 4 | 0 | 4 | 0 | 16 | 6 | 6 | 27 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 4 | 0 | 4 | 0 | 16 | 6 | 6 | 27 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 0 | 0 | 4 | 0 | 4 | 0 | 17 | 7 | 7 | 29 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 68 | 69 | 31 | 66 | 68 | 21 | 33 | 0 | 0 | 24 | 0 | 0 |
| Stage 1 | 45 | 45 | - | 21 | 21 | - | - | - | - | - | - | - |
| Stage 2 | 23 | 24 | - | 45 | 47 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 925 | 822 | 1043 | 927 | 823 | 1056 | 1579 | - | - | 1591 | - | - |
| Stage 1 | 969 | 857 | - | 998 | 878 | - | - | - | - | - | - | - |
| Stage 2 | 995 | 875 | - | 969 | 856 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 919 | 819 | 1043 | 924 | 820 | 1056 | 1579 | - | - | 1591 | - | - |
| Mov Cap-2 Maneuver | 919 | 819 | - | 924 | 820 | - | - | - | - | - | - | - |
| Stage 1 | 969 | 854 | - | 998 | 878 | - | - | - | - | - | - | - |
| Stage 2 | 991 | 875 | - | 965 | 853 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.9 | 8.7 | 0 | 1.2 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1579 | - | - | 919 | 986 | 1591 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.004 | 0.009 | 0.004 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.9 | 8.7 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.5 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 53 | 32 | 33 | 0 | 19 | 4 | 19 | 2 | 0 | 6 | 4 | 31 |
| Future Vol, veh/h | 53 | 32 | 33 | 0 | 19 | 4 | 19 | 2 | 0 | 6 | 4 | 31 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 35 | 36 | 0 | 21 | 4 | 21 | 2 | 0 | 7 | 4 | 34 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.7 | 7.2 | 7.6 | 7.1 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 90% | 45% | 0% | 15% |
| Vol Thru, % | 10% | 27% | 83% | 10% |
| Vol Right, % | 0% | 28% | 17% | 76% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 21 | 118 | 23 | 41 |
| LT Vol | 19 | 53 | 0 | 6 |
| Through Vol | 2 | 32 | 19 | 4 |
| RT Vol | 0 | 33 | 4 | 31 |
| Lane Flow Rate | 23 | 128 | 25 | 45 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.028 | 0.142 | 0.028 | 0.047 |
| Departure Headway (Hd) | 4.416 | 3.992 | 4.045 | 3.791 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 802 | 897 | 879 | 932 |
| Service Time | 2.489 | 2.026 | 2.099 | 1.864 |
| HCM Lane V/C Ratio | 0.029 | 0.143 | 0.028 | 0.048 |
| HCM Control Delay | 7.6 | 7.7 | 7.2 | 7.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.5 | 0.1 | 0.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 15 | 178 | 0 | 15 | 38 | 501 | 65 | 8 | 518 | 19 |
| Future Volume (veh/h) | 6 | 0 | 15 | 178 | 0 | 15 | 38 | 501 | 65 | 8 | 518 | 19 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 17 | 207 | 0 | 17 | 44 | 583 | 76 | 9 | 602 | 22 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 88 | 19 | 166 | 274 | 0 | 238 | 582 | 2244 | 1136 | 530 | 2325 | 1091 |
| Arrive On Green | 0.15 | 0.00 | 0.15 | 0.15 | 0.00 | 0.15 | 0.48 | 0.48 | 0.48 | 0.72 | 0.72 | 0.72 |
| Sat Flow, veh/h | 330 | 125 | 1105 | 1396 | 0 | 1585 | 801 | 3131 | 1585 | 775 | 3244 | 1522 |
| Grp Volume(v), veh/h | 24 | 0 | 0 | 207 | 0 | 17 | 44 | 583 | 76 | 9 | 602 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1559 | 0 | 0 | 1396 | 0 | 1585 | 801 | 1566 | 1585 | 775 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 15.8 | 0.0 | 1.1 | 3.9 | 13.3 | 3.1 | 0.6 | 7.7 | 0.5 |
| Cycle Q Clear(g_c), s | 1.5 | 0.0 | 0.0 | 17.3 | 0.0 | 1.1 | 11.6 | 13.3 | 3.1 | 13.8 | 7.7 | 0.5 |
| Prop In Lane | 0.29 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 273 | 0 | 0 | 274 | 0 | 238 | 582 | 2244 | 1136 | 530 | 2325 | 1091 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.00 | 0.76 | 0.00 | 0.07 | 0.08 | 0.26 | 0.07 | 0.02 | 0.26 | 0.02 |
| Avail Cap(c_a), veh/h | 654 | 0 | 0 | 623 | 0 | 634 | 582 | 2244 | 1136 | 530 | 2325 | 1091 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.72 | 0.72 | 0.72 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.0 | 0.0 | 0.0 | 50.5 | 0.0 | 43.8 | 14.1 | 12.3 | 9.6 | 9.4 | 5.9 | 4.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 4.2 | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 6.5 | 0.0 | 0.4 | 0.8 | 4.8 | 0.9 | 0.1 | 2.3 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.1 | 0.0 | 0.0 | 54.7 | 0.0 | 44.0 | 14.3 | 12.5 | 9.7 | 9.5 | 6.2 | 4.9 |
| LnGrp LOS | D | A | A | D | A | D | B | B | A | A | A | A |
| Approach Vol, veh/h | | 24 | | | 224 | | | 703 | | | 633 | |
| Approach Delay, s/veh | | 44.1 | | | 53.9 | | | 12.3 | | | 6.2 | |
| Approach LOS | | D | | | D | | | B | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 94.0 | | 26.0 | | 94.0 | | 26.0 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 58.0 | | 50.0 | | 58.0 | | 50.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 15.3 | | 3.5 | | 15.8 | | 19.3 | | | | |
| Green Ext Time (p_c), s | | 4.6 | | 0.1 | | 4.3 | | 0.7 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 16.2 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 1055 | 63 | 59 | 631 | 232 | 109 | 209 | 120 | 313 | 158 | 156 |
| Future Volume (veh/h) | 127 | 1055 | 63 | 59 | 631 | 232 | 109 | 209 | 120 | 313 | 158 | 156 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 135 | 1122 | 0 | 63 | 671 | 0 | 116 | 222 | 128 | 333 | 168 | 166 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 165 | 1355 | | 72 | 1285 | | 223 | 261 | 183 | 367 | 397 | 404 |
| Arrive On Green | 0.05 | 0.41 | 0.00 | 0.04 | 0.40 | 0.00 | 0.05 | 0.07 | 0.07 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 135 | 1122 | 0 | 63 | 671 | 0 | 116 | 222 | 128 | 333 | 168 | 166 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 4.8 | 36.4 | 0.0 | 4.4 | 19.1 | 0.0 | 5.8 | 7.4 | 8.8 | 22.7 | 10.4 | 11.7 |
| Cycle Q Clear(g_c), s | 4.8 | 36.4 | 0.0 | 4.4 | 19.1 | 0.0 | 5.8 | 7.4 | 8.8 | 22.7 | 10.4 | 11.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 1355 | | 72 | 1285 | | 223 | 261 | 183 | 367 | 397 | 404 |
| V/C Ratio(X) | 0.82 | 0.83 | | 0.87 | 0.52 | | 0.52 | 0.85 | 0.70 | 0.91 | 0.42 | 0.41 |
| Avail Cap(c_a), veh/h | 282 | 1355 | | 96 | 1285 | | 284 | 261 | 183 | 367 | 397 | 404 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.91 | 0.91 | 0.91 |
| Uniform Delay (d), s/veh | 56.5 | 31.6 | 0.0 | 57.2 | 27.1 | 0.0 | 49.6 | 55.0 | 51.1 | 46.1 | 48.7 | 43.6 |
| Incr Delay (d2), s/veh | 9.6 | 5.9 | 0.0 | 44.3 | 1.5 | 0.0 | 1.9 | 22.7 | 11.3 | 23.6 | 0.7 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 14.6 | 0.0 | 2.7 | 7.1 | 0.0 | 3.4 | 4.2 | 4.3 | 11.9 | 5.1 | 4.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.1 | 37.5 | 0.0 | 101.4 | 28.6 | 0.0 | 51.4 | 77.7 | 62.4 | 69.7 | 49.3 | 44.2 |
| LnGrp LOS | E | D | | F | C | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1257 | | | 734 | | | 466 | | | 667 | |
| Approach Delay, s/veh | | 40.6 | | | 34.8 | | | 67.0 | | | 58.3 | |
| Approach LOS | | D | | | C | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.3 | 58.6 | 14.1 | 34.0 | 14.2 | 57.7 | 31.0 | 17.1 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 8.7 | 49.6 | 11.9 | 23.6 | 12.1 | 46.2 | 24.7 | 10.8 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 38.4 | 7.8 | 13.7 | 6.8 | 21.1 | 24.7 | 10.8 |
| Green Ext Time (p_c), s | 0.0 | 5.3 | 0.1 | 1.0 | 0.2 | 4.2 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.9 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 16 | 3 | 44 | 135 | 0 | 13 | 31 | 723 | 258 | 24 | 648 | 12 |
| Future Volume (veh/h) | 16 | 3 | 44 | 135 | 0 | 13 | 31 | 723 | 258 | 24 | 648 | 12 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 18 | 3 | 49 | 152 | 0 | 15 | 35 | 812 | 290 | 27 | 728 | 13 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 65 | 25 | 126 | 215 | 0 | 180 | 549 | 2632 | 1203 | 446 | 2675 | 1012 |
| Arrive On Green | 0.11 | 0.11 | 0.11 | 0.11 | 0.00 | 0.11 | 1.00 | 1.00 | 1.00 | 0.76 | 0.76 | 0.76 |
| Sat Flow, veh/h | 255 | 221 | 1109 | 1352 | 0 | 1585 | 707 | 3469 | 1585 | 512 | 3526 | 1334 |
| Grp Volume(v), veh/h | 70 | 0 | 0 | 152 | 0 | 15 | 35 | 812 | 290 | 27 | 728 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1585 | 0 | 0 | 1352 | 0 | 1585 | 707 | 1735 | 1585 | 512 | 1763 | 1334 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 8.8 | 0.0 | 1.1 | 0.5 | 0.0 | 0.0 | 1.7 | 7.8 | 0.3 |
| Cycle Q Clear(g_c), s | 4.9 | 0.0 | 0.0 | 13.6 | 0.0 | 1.1 | 8.4 | 0.0 | 0.0 | 1.7 | 7.8 | 0.3 |
| Prop In Lane | 0.26 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 216 | 0 | 0 | 215 | 0 | 180 | 549 | 2632 | 1203 | 446 | 2675 | 1012 |
| V/C Ratio(X) | 0.32 | 0.00 | 0.00 | 0.71 | 0.00 | 0.08 | 0.06 | 0.31 | 0.24 | 0.06 | 0.27 | 0.01 |
| Avail Cap(c_a), veh/h | 559 | 0 | 0 | 516 | 0 | 533 | 549 | 2632 | 1203 | 446 | 2675 | 1012 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.51 | 0.51 | 0.51 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.3 | 0.0 | 0.0 | 55.1 | 0.0 | 49.6 | 0.3 | 0.0 | 0.0 | 3.8 | 4.6 | 3.7 |
| Incr Delay (d2), s/veh | 0.9 | 0.0 | 0.0 | 4.3 | 0.0 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 5.1 | 0.0 | 0.4 | 0.0 | 0.1 | 0.1 | 0.2 | 2.3 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.2 | 0.0 | 0.0 | 59.3 | 0.0 | 49.8 | 0.5 | 0.2 | 0.2 | 4.1 | 4.8 | 3.7 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 70 | | | 167 | | | 1137 | | | 768 | |
| Approach Delay, s/veh | | 52.2 | | | 58.5 | | | 0.2 | | | 4.8 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 102.8 | | 22.2 | | 102.8 | | 22.2 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 69.0 | | 44.0 | | 69.0 | | 44.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 10.4 | | 6.9 | | 9.8 | | 15.6 | | | | |
| Green Ext Time (p_c), s | | 7.9 | | 0.4 | | 5.8 | | 0.5 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 8.1 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 249 | 771 | 76 | 188 | 929 | 380 | 131 | 290 | 111 | 315 | 280 | 218 |
| Future Volume (veh/h) | 249 | 771 | 76 | 188 | 929 | 380 | 131 | 290 | 111 | 315 | 280 | 218 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 262 | 812 | 0 | 198 | 978 | 0 | 138 | 305 | 117 | 332 | 295 | 229 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 269 | 1222 | | 200 | 1350 | | 194 | 326 | 321 | 357 | 390 | 455 |
| Arrive On Green | 0.08 | 0.36 | 0.00 | 0.11 | 0.39 | 0.00 | 0.05 | 0.09 | 0.09 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 262 | 812 | 0 | 198 | 978 | 0 | 138 | 305 | 117 | 332 | 295 | 229 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 9.5 | 24.9 | 0.0 | 13.9 | 30.0 | 0.0 | 6.3 | 10.7 | 8.0 | 20.8 | 19.4 | 15.9 |
| Cycle Q Clear(g_c), s | 9.5 | 24.9 | 0.0 | 13.9 | 30.0 | 0.0 | 6.3 | 10.7 | 8.0 | 20.8 | 19.4 | 15.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 269 | 1222 | | 200 | 1350 | | 194 | 326 | 321 | 357 | 390 | 455 |
| V/C Ratio(X) | 0.98 | 0.66 | | 0.99 | 0.72 | | 0.71 | 0.94 | 0.36 | 0.93 | 0.76 | 0.50 |
| Avail Cap(c_a), veh/h | 348 | 1222 | | 264 | 1350 | | 207 | 401 | 354 | 371 | 431 | 489 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.94 | 0.94 | 0.94 |
| Uniform Delay (d), s/veh | 57.5 | 34.0 | 0.0 | 55.4 | 32.5 | 0.0 | 51.9 | 56.4 | 42.8 | 46.6 | 55.1 | 44.1 |
| Incr Delay (d2), s/veh | 37.3 | 2.9 | 0.0 | 46.7 | 3.4 | 0.0 | 10.1 | 26.5 | 0.7 | 28.0 | 6.4 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.4 | 10.4 | 0.0 | 8.6 | 12.5 | 0.0 | 1.8 | 6.0 | 3.2 | 12.5 | 10.4 | 6.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 94.8 | 36.9 | 0.0 | 102.1 | 35.9 | 0.0 | 62.0 | 82.9 | 43.5 | 74.7 | 61.5 | 44.9 |
| LnGrp LOS | F | D | | F | D | | E | F | D | E | E | D |
| Approach Vol, veh/h | | 1074 | | | 1176 | | | 560 | | | 856 | |
| Approach Delay, s/veh | | 51.0 | | | 47.0 | | | 69.5 | | | 62.1 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.4 | 53.7 | 14.5 | 34.4 | 18.1 | 58.0 | 29.2 | 19.8 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 20.5 | 38.3 | 9.2 | 30.8 | 14.7 | 44.1 | 23.9 | 16.1 |
| Max Q Clear Time (g_c+I1), s | 15.9 | 26.9 | 8.3 | 21.4 | 11.5 | 32.0 | 22.8 | 12.7 |
| Green Ext Time (p_c), s | 0.2 | 3.8 | 0.0 | 1.6 | 0.3 | 4.8 | 0.1 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 55.2 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 16 | 178 | 0 | 15 | 42 | 548 | 65 | 8 | 566 | 21 |
| Future Volume (veh/h) | 6 | 0 | 16 | 178 | 0 | 15 | 42 | 548 | 65 | 8 | 566 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 19 | 207 | 0 | 17 | 49 | 637 | 76 | 9 | 658 | 24 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 82 | 19 | 171 | 274 | 0 | 237 | 549 | 2245 | 1136 | 498 | 2325 | 1091 |
| Arrive On Green | 0.15 | 0.00 | 0.15 | 0.15 | 0.00 | 0.15 | 0.48 | 0.48 | 0.48 | 0.72 | 0.72 | 0.72 |
| Sat Flow, veh/h | 295 | 126 | 1143 | 1393 | 0 | 1585 | 759 | 3131 | 1585 | 737 | 3244 | 1522 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 207 | 0 | 17 | 49 | 637 | 76 | 9 | 658 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1564 | 0 | 0 | 1393 | 0 | 1585 | 759 | 1566 | 1585 | 737 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 15.6 | 0.0 | 1.1 | 4.6 | 14.7 | 3.1 | 0.6 | 8.6 | 0.5 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 0.0 | 17.3 | 0.0 | 1.1 | 13.2 | 14.7 | 3.1 | 15.3 | 8.6 | 0.5 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 272 | 0 | 0 | 274 | 0 | 237 | 549 | 2245 | 1136 | 498 | 2325 | 1091 |
| V/C Ratio(X) | 0.10 | 0.00 | 0.00 | 0.76 | 0.00 | 0.07 | 0.09 | 0.28 | 0.07 | 0.02 | 0.28 | 0.02 |
| Avail Cap(c_a), veh/h | 642 | 0 | 0 | 611 | 0 | 621 | 549 | 2245 | 1136 | 498 | 2325 | 1091 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.68 | 0.68 | 0.68 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.1 | 0.0 | 0.0 | 50.5 | 0.0 | 43.8 | 14.8 | 12.6 | 9.6 | 10.0 | 6.0 | 4.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 4.2 | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 6.5 | 0.0 | 0.4 | 0.9 | 5.6 | 0.9 | 0.1 | 2.5 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.2 | 0.0 | 0.0 | 54.7 | 0.0 | 44.0 | 15.1 | 12.9 | 9.7 | 10.1 | 6.3 | 4.9 |
| LnGrp LOS | D | A | A | D | A | D | B | B | A | B | A | A |
| Approach Vol, veh/h | | 26 | | | 224 | | | 762 | | | 691 | |
| Approach Delay, s/veh | | 44.2 | | | 53.9 | | | 12.7 | | | 6.3 | |
| Approach LOS | | D | | | D | | | B | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 94.0 | | 26.0 | | 94.0 | | 26.0 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 59.0 | | 49.0 | | 59.0 | | 49.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 16.7 | | 3.6 | | 17.3 | | 19.3 | | | | |
| Green Ext Time (p_c), s | | 5.2 | | 0.1 | | 4.8 | | 0.7 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 16.0 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 138 | 1153 | 70 | 65 | 688 | 250 | 120 | 229 | 131 | 333 | 171 | 166 |
| Future Volume (veh/h) | 138 | 1153 | 70 | 65 | 688 | 250 | 120 | 229 | 131 | 333 | 171 | 166 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 147 | 1227 | 0 | 69 | 732 | 0 | 128 | 244 | 139 | 354 | 182 | 177 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 166 | 1359 | | 75 | 1293 | | 242 | 278 | 193 | 354 | 376 | 387 |
| Arrive On Green | 0.05 | 0.41 | 0.00 | 0.04 | 0.41 | 0.00 | 0.06 | 0.08 | 0.08 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 147 | 1227 | 0 | 69 | 732 | 0 | 128 | 244 | 139 | 354 | 182 | 177 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 5.2 | 41.8 | 0.0 | 4.8 | 21.3 | 0.0 | 6.9 | 8.2 | 9.4 | 21.8 | 11.4 | 12.6 |
| Cycle Q Clear(g_c), s | 5.2 | 41.8 | 0.0 | 4.8 | 21.3 | 0.0 | 6.9 | 8.2 | 9.4 | 21.8 | 11.4 | 12.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 166 | 1359 | | 75 | 1293 | | 242 | 278 | 193 | 354 | 376 | 387 |
| V/C Ratio(X) | 0.89 | 0.90 | | 0.92 | 0.57 | | 0.53 | 0.88 | 0.72 | 1.00 | 0.48 | 0.46 |
| Avail Cap(c_a), veh/h | 293 | 1359 | | 88 | 1293 | | 283 | 278 | 193 | 354 | 376 | 387 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.91 | 0.91 | 0.91 |
| Uniform Delay (d), s/veh | 56.7 | 33.1 | 0.0 | 57.2 | 27.5 | 0.0 | 48.4 | 54.7 | 50.7 | 47.6 | 49.9 | 44.8 |
| Incr Delay (d2), s/veh | 14.6 | 10.0 | 0.0 | 66.2 | 1.8 | 0.0 | 1.8 | 25.4 | 12.3 | 45.4 | 0.9 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 17.3 | 0.0 | 3.4 | 7.9 | 0.0 | 3.7 | 4.7 | 4.7 | 5.4 | 5.6 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 71.3 | 43.1 | 0.0 | 123.4 | 29.3 | 0.0 | 50.1 | 80.1 | 63.1 | 93.0 | 50.8 | 45.6 |
| LnGrp LOS | E | D | | F | C | | D | F | E | F | D | D |
| Approach Vol, veh/h | | 1374 | | | 801 | | | 511 | | | 713 | |
| Approach Delay, s/veh | | 46.1 | | | 37.4 | | | 68.0 | | | 70.5 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 58.7 | 15.2 | 32.6 | 14.2 | 58.0 | 30.1 | 17.7 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 8.1 | 50.5 | 11.6 | 23.6 | 12.5 | 46.1 | 23.8 | 11.4 |
| Max Q Clear Time (g_c+I1), s | 16.8 | 43.8 | 8.9 | 14.6 | 7.2 | 23.3 | 23.8 | 11.4 |
| Green Ext Time (p_c), s | 0.0 | 4.0 | 0.1 | 1.0 | 0.2 | 4.6 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.5 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 3 | 48 | 137 | 0 | 13 | 34 | 791 | 264 | 24 | 708 | 13 |
| Future Volume (veh/h) | 17 | 3 | 48 | 137 | 0 | 13 | 34 | 791 | 264 | 24 | 708 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 19 | 3 | 54 | 154 | 0 | 15 | 38 | 889 | 297 | 27 | 796 | 15 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 65 | 25 | 133 | 217 | 0 | 187 | 509 | 2616 | 1195 | 414 | 2659 | 1006 |
| Arrive On Green | 0.12 | 0.12 | 0.12 | 0.12 | 0.00 | 0.12 | 1.00 | 1.00 | 1.00 | 0.75 | 0.75 | 0.75 |
| Sat Flow, veh/h | 248 | 211 | 1126 | 1346 | 0 | 1585 | 662 | 3469 | 1585 | 472 | 3526 | 1334 |
| Grp Volume(v), veh/h | 76 | 0 | 0 | 154 | 0 | 15 | 38 | 889 | 297 | 27 | 796 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1584 | 0 | 0 | 1346 | 0 | 1585 | 662 | 1735 | 1585 | 472 | 1763 | 1334 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 8.9 | 0.0 | 1.1 | 0.7 | 0.0 | 0.0 | 1.9 | 9.0 | 0.3 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 0.0 | 14.2 | 0.0 | 1.1 | 9.7 | 0.0 | 0.0 | 1.9 | 9.0 | 0.3 |
| Prop In Lane | 0.25 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 223 | 0 | 0 | 217 | 0 | 187 | 509 | 2616 | 1195 | 414 | 2659 | 1006 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.00 | 0.71 | 0.00 | 0.08 | 0.07 | 0.34 | 0.25 | 0.07 | 0.30 | 0.01 |
| Avail Cap(c_a), veh/h | 535 | 0 | 0 | 489 | 0 | 507 | 509 | 2616 | 1195 | 414 | 2659 | 1006 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.40 | 0.40 | 0.40 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.0 | 0.0 | 0.0 | 54.9 | 0.0 | 49.1 | 0.5 | 0.0 | 0.0 | 4.0 | 4.9 | 3.8 |
| Incr Delay (d2), s/veh | 0.9 | 0.0 | 0.0 | 4.3 | 0.0 | 0.2 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.0 | 5.1 | 0.0 | 0.4 | 0.0 | 0.1 | 0.1 | 0.2 | 2.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 0.0 | 0.0 | 59.2 | 0.0 | 49.3 | 0.6 | 0.1 | 0.2 | 4.3 | 5.2 | 3.8 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 76 | | | 169 | | | 1224 | | | 838 | |
| Approach Delay, s/veh | | 51.9 | | | 58.3 | | | 0.2 | | | 5.1 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 102.3 | | 22.7 | | 102.3 | | 22.7 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 71.0 | | 42.0 | | 71.0 | | 42.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.7 | | 7.3 | | 11.0 | | 16.2 | | | | |
| Green Ext Time (p_c), s | | 8.9 | | 0.4 | | 6.5 | | 0.5 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 7.9 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 268 | 842 | 83 | 206 | 1015 | 405 | 144 | 315 | 121 | 338 | 306 | 236 |
| Future Volume (veh/h) | 268 | 842 | 83 | 206 | 1015 | 405 | 144 | 315 | 121 | 338 | 306 | 236 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 282 | 886 | 0 | 217 | 1068 | 0 | 152 | 332 | 127 | 356 | 322 | 248 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 286 | 1144 | | 219 | 1291 | | 198 | 347 | 346 | 366 | 398 | 469 |
| Arrive On Green | 0.08 | 0.33 | 0.00 | 0.12 | 0.37 | 0.00 | 0.06 | 0.10 | 0.10 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 282 | 886 | 0 | 217 | 1068 | 0 | 152 | 332 | 127 | 356 | 322 | 248 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 10.3 | 28.9 | 0.0 | 15.2 | 34.9 | 0.0 | 7.3 | 11.6 | 8.6 | 21.7 | 21.2 | 17.1 |
| Cycle Q Clear(g_c), s | 10.3 | 28.9 | 0.0 | 15.2 | 34.9 | 0.0 | 7.3 | 11.6 | 8.6 | 21.7 | 21.2 | 17.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 286 | 1144 | | 219 | 1291 | | 198 | 347 | 346 | 366 | 398 | 469 |
| V/C Ratio(X) | 0.99 | 0.77 | | 0.99 | 0.83 | | 0.77 | 0.96 | 0.37 | 0.97 | 0.81 | 0.53 |
| Avail Cap(c_a), veh/h | 321 | 1144 | | 252 | 1291 | | 206 | 389 | 365 | 366 | 411 | 481 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.93 | 0.93 | 0.93 |
| Uniform Delay (d), s/veh | 57.2 | 37.5 | 0.0 | 54.8 | 35.6 | 0.0 | 51.0 | 56.2 | 41.3 | 46.4 | 55.6 | 43.7 |
| Incr Delay (d2), s/veh | 44.9 | 5.1 | 0.0 | 51.9 | 6.2 | 0.0 | 15.5 | 33.1 | 0.6 | 38.0 | 10.5 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 12.4 | 0.0 | 9.7 | 15.0 | 0.0 | 2.1 | 6.8 | 3.4 | 14.2 | 11.8 | 7.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 102.1 | 42.6 | 0.0 | 106.7 | 41.8 | 0.0 | 66.5 | 89.3 | 42.0 | 84.4 | 66.1 | 44.7 |
| LnGrp LOS | F | D | | F | D | | E | F | D | F | E | D |
| Approach Vol, veh/h | | 1168 | | | 1285 | | | 611 | | | 926 | |
| Approach Delay, s/veh | | 57.0 | | | 52.8 | | | 73.8 | | | 67.4 | |
| Approach LOS | | E | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | 50.9 | 15.6 | 34.9 | 18.7 | 55.8 | 30.0 | 20.5 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 19.3 | 39.7 | 9.9 | 29.5 | 13.7 | 45.7 | 23.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 17.2 | 30.9 | 9.3 | 23.2 | 12.3 | 36.9 | 23.7 | 13.6 |
| Green Ext Time (p_c), s | 0.1 | 3.6 | 0.0 | 1.4 | 0.1 | 4.3 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.6 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 25 | 0 | 517 | 11 | 15 | 530 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 25 | 0 | 517 | 11 | 15 | 530 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 23 | 0 | 29 | 0 | 601 | 13 | 17 | 616 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 951 | 1264 | 308 | 943 | 1251 | 301 | 616 | 0 | 0 | 614 | 0 | 0 |
| Stage 1 | 650 | 650 | - | 601 | 601 | - | - | - | - | - | - | - |
| Stage 2 | 301 | 614 | - | 342 | 650 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 214 | 168 | 688 | 217 | 171 | 652 | 960 | - | - | 961 | - | - |
| Stage 1 | 424 | 463 | - | 454 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 683 | 481 | - | 646 | 463 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 202 | 165 | 688 | 214 | 168 | 652 | 960 | - | - | 961 | - | - |
| Mov Cap-2 Maneuver | 202 | 165 | - | 214 | 168 | - | - | - | - | - | - | - |
| Stage 1 | 424 | 455 | - | 454 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 653 | 481 | - | 635 | 455 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 17.5 | 0 | 0.2 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 960 | - | - | - | 341 | 961 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.153 | 0.018 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 17.5 | 8.8 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.5 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 46 | 0 | 43 | 1 | 735 | 30 | 42 | 674 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 46 | 0 | 43 | 1 | 735 | 30 | 42 | 674 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 52 | 0 | 49 | 1 | 835 | 34 | 48 | 766 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1282 | 1733 | 383 | 1316 | 1699 | 418 | 766 | 0 | 0 | 869 | 0 | 0 |
| Stage 1 | 862 | 862 | - | 837 | 837 | - | - | - | - | - | - | - |
| Stage 2 | 420 | 871 | - | 479 | 862 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 122 | 87 | 615 | 115 | 91 | 581 | 843 | - | - | 771 | - | - |
| Stage 1 | 316 | 370 | - | 327 | 380 | - | - | - | - | - | - | - |
| Stage 2 | 581 | 367 | - | 537 | 370 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 106 | 82 | 615 | 109 | 85 | 581 | 843 | - | - | 771 | - | - |
| Mov Cap-2 Maneuver | 106 | 82 | - | 109 | 85 | - | - | - | - | - | - | - |
| Stage 1 | 316 | 347 | - | 327 | 380 | - | - | - | - | - | - | - |
| Stage 2 | 532 | 367 | - | 504 | 347 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 48.5 | 0 | 0.6 |
| HCM LOS | A | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 843 | - | - | - | 179 | 771 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.565 | 0.062 | - | - |
| HCM Control Delay (s) | 9.3 | - | - | 0 | 48.5 | 10 | - | - |
| HCM Lane LOS | A | - | - | A | E | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 3 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 25 | 0 | 564 | 11 | 15 | 580 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 25 | 0 | 564 | 11 | 15 | 580 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 23 | 0 | 29 | 0 | 656 | 13 | 17 | 674 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1036 | 1377 | 337 | 1027 | 1364 | 328 | 674 | 0 | 0 | 669 | 0 | 0 |
| Stage 1 | 708 | 708 | - | 656 | 656 | - | - | - | - | - | - | - |
| Stage 2 | 328 | 669 | - | 371 | 708 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 186 | 144 | 659 | 189 | 146 | 626 | 913 | - | - | 917 | - | - |
| Stage 1 | 392 | 436 | - | 421 | 460 | - | - | - | - | - | - | - |
| Stage 2 | 659 | 454 | - | 622 | 436 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 175 | 141 | 659 | 186 | 143 | 626 | 913 | - | - | 917 | - | - |
| Mov Cap-2 Maneuver | 175 | 141 | - | 186 | 143 | - | - | - | - | - | - | - |
| Stage 1 | 392 | 428 | - | 421 | 460 | - | - | - | - | - | - | - |
| Stage 2 | 628 | 454 | - | 610 | 428 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 19.2 | 0 | 0.2 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | - | 305 | 917 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.172 | 0.019 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 19.2 | 9 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.6 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 46 | 0 | 43 | 1 | 804 | 30 | 42 | 735 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 46 | 0 | 43 | 1 | 804 | 30 | 42 | 735 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 52 | 0 | 49 | 1 | 914 | 34 | 48 | 835 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1390 | 1881 | 418 | 1430 | 1847 | 457 | 835 | 0 | 0 | 948 | 0 | 0 |
| Stage 1 | 931 | 931 | - | 916 | 916 | - | - | - | - | - | - | - |
| Stage 2 | 459 | 950 | - | 514 | 931 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 102 | 70 | 584 | 95 | 74 | 548 | 794 | - | - | 720 | - | - |
| Stage 1 | 287 | 344 | - | 293 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 551 | 337 | - | 511 | 344 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 88 | 65 | 584 | 90 | 69 | 548 | 794 | - | - | 720 | - | - |
| Mov Cap-2 Maneuver | 88 | 65 | - | 90 | 69 | - | - | - | - | - | - | - |
| Stage 1 | 287 | 321 | - | 293 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 501 | 337 | - | 477 | 321 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 67.3 | 0 | 0.6 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 794 | - | - | - | 151 | 720 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.67 | 0.066 | - | - |
| HCM Control Delay (s) | 9.5 | - | - | 0 | 67.3 | 10.4 | - | - |
| HCM Lane LOS | A | - | - | A | F | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 3.8 | 0.2 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 90 | 60 | 30 | 500 | 476 | 76 |
| Future Volume (veh/h) | 90 | 60 | 30 | 500 | 476 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 96 | 64 | 32 | 532 | 506 | 81 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 233 | 230 | 305 | 1686 | 1081 | 748 |
| Arrive On Green | 0.13 | 0.13 | 0.01 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 96 | 64 | 32 | 532 | 506 | 81 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.7 | 1.9 | 0.6 | 5.0 | 6.6 | 1.5 |
| Cycle Q Clear(g_c), s | 2.7 | 1.9 | 0.6 | 5.0 | 6.6 | 1.5 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 233 | 230 | 305 | 1686 | 1081 | 748 |
| V/C Ratio(X) | 0.41 | 0.28 | 0.11 | 0.32 | 0.47 | 0.11 |
| Avail Cap(c_a), veh/h | 759 | 706 | 657 | 3910 | 2582 | 1494 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.1 | 20.2 | 11.4 | 6.9 | 13.8 | 7.8 |
| Incr Delay (d2), s/veh | 1.2 | 0.7 | 0.1 | 0.1 | 0.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 1.8 | 0.2 | 1.1 | 1.9 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.3 | 20.9 | 11.6 | 7.0 | 14.1 | 7.9 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 160 | | | 564 | 587 | |
| Approach Delay, s/veh | 21.7 | | | 7.3 | 13.2 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.0 | | 16.1 | 10.3 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.0 | | 4.7 | 2.6 | 8.6 |
| Green Ext Time (p_c), s | | 3.7 | | 0.4 | 0.0 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.7 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 19 | 517 | 3 | 6 | 530 |
| Future Vol, veh/h | 8 | 19 | 517 | 3 | 6 | 530 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 9 | 21 | 562 | 3 | 7 | 576 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 866 | 283 | 0 | 0 | 565 | 0 |
| Stage 1 | 564 | - | - | - | - | - |
| Stage 2 | 302 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 293 | 714 | - | - | 1003 | - |
| Stage 1 | 533 | - | - | - | - | - |
| Stage 2 | 724 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 291 | 714 | - | - | 1003 | - |
| Mov Cap-2 Maneuver | 407 | - | - | - | - | - |
| Stage 1 | 533 | - | - | - | - | - |
| Stage 2 | 719 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.5 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 584 | 1003 | - |
| HCM Lane V/C Ratio | - | - | 0.05 | 0.007 | - |
| HCM Control Delay (s) | - | - | 11.5 | 8.6 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 15 | 55 | 0 | 15 | 38 | 499 | 25 | 8 | 511 | 19 |
| Future Vol, veh/h | 6 | 0 | 15 | 55 | 0 | 15 | 38 | 499 | 25 | 8 | 511 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 17 | 64 | 0 | 17 | 44 | 580 | 29 | 9 | 594 | 22 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 990 | 1309 | 297 | 983 | 1302 | 290 | 616 | 0 | 0 | 609 | 0 | 0 |
| Stage 1 | 612 | 612 | - | 668 | 668 | - | - | - | - | - | - | - |
| Stage 2 | 378 | 697 | - | 315 | 634 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 170 | 158 | 682 | 203 | 160 | 707 | 960 | - | - | 966 | - | - |
| Stage 1 | 395 | 482 | - | 414 | 455 | - | - | - | - | - | - | - |
| Stage 2 | 557 | 441 | - | 671 | 471 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 159 | 149 | 682 | 190 | 151 | 707 | 960 | - | - | 966 | - | - |
| Mov Cap-2 Maneuver | 159 | 149 | - | 190 | 151 | - | - | - | - | - | - | - |
| Stage 1 | 377 | 478 | - | 395 | 434 | - | - | - | - | - | - | - |
| Stage 2 | 518 | 421 | - | 648 | 467 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 16 | 28.4 | 0.6 | 0.1 |
| HCM LOS | C | D | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 960 | - | - | 352 | 190 | 707 | 966 | - | - |
| HCM Lane V/C Ratio | 0.046 | - | - | 0.069 | 0.337 | 0.025 | 0.01 | - | - |
| HCM Control Delay (s) | 8.9 | - | - | 16 | 33.3 | 10.2 | 8.8 | - | - |
| HCM Lane LOS | A | - | - | C | D | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 1.4 | 0.1 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 119 | 1062 | 63 | 76 | 654 | 203 | 109 | 204 | 126 | 221 | 141 | 133 |
| Future Volume (veh/h) | 119 | 1062 | 63 | 76 | 654 | 203 | 109 | 204 | 126 | 221 | 141 | 133 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 127 | 1130 | 0 | 81 | 696 | 0 | 116 | 217 | 134 | 235 | 150 | 141 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 119 | 1390 | | 79 | 1267 | | 275 | 254 | 150 | 277 | 370 | 306 |
| Arrive On Green | 0.07 | 0.42 | 0.00 | 0.05 | 0.40 | 0.00 | 0.05 | 0.12 | 0.12 | 0.13 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2147 | 1271 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 127 | 1130 | 0 | 81 | 696 | 0 | 116 | 178 | 173 | 235 | 150 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1642 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 8.3 | 36.2 | 0.0 | 5.5 | 20.2 | 0.0 | 5.8 | 11.8 | 12.5 | 15.5 | 8.4 | 9.7 |
| Cycle Q Clear(g_c), s | 8.3 | 36.2 | 0.0 | 5.5 | 20.2 | 0.0 | 5.8 | 11.8 | 12.5 | 15.5 | 8.4 | 9.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.77 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 119 | 1390 | | 79 | 1267 | | 275 | 210 | 194 | 277 | 370 | 306 |
| V/C Ratio(X) | 1.06 | 0.81 | | 1.03 | 0.55 | | 0.42 | 0.85 | 0.89 | 0.85 | 0.40 | 0.46 |
| Avail Cap(c_a), veh/h | 197 | 1390 | | 168 | 1267 | | 318 | 366 | 338 | 291 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.8 | 30.6 | 0.0 | 57.3 | 27.9 | 0.0 | 44.6 | 51.9 | 52.2 | 39.2 | 41.8 | 42.3 |
| Incr Delay (d2), s/veh | 72.9 | 5.3 | 0.0 | 55.6 | 1.7 | 0.0 | 1.0 | 9.1 | 14.0 | 19.6 | 0.7 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.9 | 14.3 | 0.0 | 3.5 | 7.5 | 0.0 | 3.2 | 5.8 | 5.9 | 7.3 | 3.8 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 128.8 | 35.9 | 0.0 | 112.9 | 29.6 | 0.0 | 45.6 | 60.9 | 66.2 | 58.8 | 42.5 | 43.4 |
| LnGrp LOS | F | D | | F | C | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1257 | | | 777 | | | 467 | | | 526 | |
| Approach Delay, s/veh | | 45.2 | | | 38.3 | | | 59.1 | | | 50.0 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 59.8 | 14.1 | 32.3 | 16.6 | 57.0 | 23.9 | 22.5 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 7.5 | 38.2 | 7.8 | 11.7 | 10.3 | 22.2 | 17.5 | 14.5 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.1 | 0.1 | 3.1 | 0.1 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.4 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 13.7 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 13 | 1415 | 941 | 30 | 91 | 40 |
| Future Vol, veh/h | 13 | 1415 | 941 | 30 | 91 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 175 | - | - | 175 | 0 | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 1538 | 1023 | 33 | 99 | 43 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1056 | 0 | - | 0 | 1820 | 512 |
| Stage 1 | - | - | - | - | 1023 | - |
| Stage 2 | - | - | - | - | 797 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 655 | - | - | - | ~ 69 | 507 |
| Stage 1 | - | - | - | - | 308 | - |
| Stage 2 | - | - | - | - | 404 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 655 | - | - | - | ~ 68 | 507 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 68 | - |
| Stage 1 | - | - | - | - | 302 | - |
| Stage 2 | - | - | - | - | 404 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | 262.7 |
| HCM LOS | | | F |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 655 | - | - | - | 68 | 507 |
| HCM Lane V/C Ratio | 0.022 | - | - | - | 1.455 | 0.086 |
| HCM Control Delay (s) | 10.6 | - | - | - | $ 372.6 | 12.8 |
| HCM Lane LOS | B | - | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 8.3 | 0.3 |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 206 | 1301 | 941 | 129 | 40 | 29 |
| Future Volume (veh/h) | 206 | 1301 | 941 | 129 | 40 | 29 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 229 | 1446 | 1046 | 143 | 44 | 32 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 365 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 229 | 1446 | 1046 | 143 | 44 | 32 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.8 | 18.7 | 18.3 | 3.6 | 3.9 | 2.3 |
| Cycle Q Clear(g_c), s | 4.8 | 18.7 | 18.3 | 3.6 | 3.9 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 365 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.63 | 0.56 | 0.50 | 0.15 | 0.66 | 0.21 |
| Avail Cap(c_a), veh/h | 439 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 4.7 | 9.3 | 4.9 | 51.0 | 44.7 |
| Incr Delay (d2), s/veh | 2.1 | 0.9 | 0.9 | 0.3 | 10.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 4.0 | 5.3 | 1.1 | 1.4 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 10.6 | 5.5 | 10.1 | 5.2 | 61.8 | 45.3 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1675 | 1189 | | 76 | |
| Approach Delay, s/veh | | 6.2 | 9.6 | | 54.8 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 20.7 | | 5.9 | 6.8 | 20.3 |
| Green Ext Time (p_c), s | | 14.6 | | 0.1 | 0.3 | 9.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.8 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 2 | 11 | 9 | 0 | 34 | 4 | 30 | 0 | 0 | 11 | 0 | 7 |
| Future Vol, veh/h | 2 | 11 | 9 | 0 | 34 | 4 | 30 | 0 | 0 | 11 | 0 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 12 | 10 | 0 | 37 | 4 | 33 | 0 | 0 | 12 | 0 | 8 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 41 | 0 | 0 | 22 | 0 | 0 | 64 | 62 | 17 | 60 | 65 | 39 |
| Stage 1 | - | - | - | - | - | - | 21 | 21 | - | 39 | 39 | - |
| Stage 2 | - | - | - | - | - | - | 43 | 41 | - | 21 | 26 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1568 | - | - | 1593 | - | - | 930 | 829 | 1062 | 936 | 826 | 1033 |
| Stage 1 | - | - | - | - | - | - | 998 | 878 | - | 976 | 862 | - |
| Stage 2 | - | - | - | - | - | - | 971 | 861 | - | 998 | 874 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1568 | - | - | 1593 | - | - | 923 | 828 | 1062 | 935 | 825 | 1033 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 923 | 828 | - | 935 | 825 | - |
| Stage 1 | - | - | - | - | - | - | 997 | 877 | - | 975 | 862 | - |
| Stage 2 | - | - | - | - | - | - | 964 | 861 | - | 997 | 873 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 9 | 8.8 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 923 | 1568 | - | - | 1593 | - | - | 971 |
| HCM Lane V/C Ratio | 0.035 | 0.001 | - | - | - | - | - | 0.02 |
| HCM Control Delay (s) | 9 | 7.3 | 0 | - | 0 | - | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 18 | 0 | 2 | 7 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 34 | 30 | 8 | 30 | 30 | 18 | 8 | 0 | 0 | 18 | 0 | 0 |
| Stage 1 | 12 | 12 | - | 18 | 18 | - | - | - | - | - | - | - |
| Stage 2 | 22 | 18 | - | 12 | 12 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 973 | 863 | 1074 | 979 | 863 | 1061 | 1612 | - | - | 1599 | - | - |
| Stage 1 | 1009 | 886 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 996 | 880 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 966 | 862 | 1074 | 978 | 862 | 1061 | 1612 | - | - | 1599 | - | - |
| Mov Cap-2 Maneuver | 966 | 862 | - | 978 | 862 | - | - | - | - | - | - | - |
| Stage 1 | 1009 | 885 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 990 | 880 | - | 1008 | 885 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.7 | 8.4 | 0 | 1.6 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1612 | - | - | 966 | 1061 | 1599 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.006 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.7 | 8.4 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.3 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 4 | 19 | 22 | 11 | 6 | 11 | 17 | 7 | 2 | 41 | 13 |
| Future Vol, veh/h | 4 | 4 | 19 | 22 | 11 | 6 | 11 | 17 | 7 | 2 | 41 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 4 | 21 | 24 | 12 | 7 | 12 | 18 | 8 | 2 | 45 | 14 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 6.9 | 7.4 | 7.3 | 7.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 31% | 15% | 56% | 4% |
| Vol Thru, % | 49% | 15% | 28% | 73% |
| Vol Right, % | 20% | 70% | 15% | 23% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 35 | 27 | 39 | 56 |
| LT Vol | 11 | 4 | 22 | 2 |
| Through Vol | 17 | 4 | 11 | 41 |
| RT Vol | 7 | 19 | 6 | 13 |
| Lane Flow Rate | 38 | 29 | 42 | 61 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.043 | 0.031 | 0.049 | 0.067 |
| Departure Headway (Hd) | 4.048 | 3.745 | 4.148 | 3.956 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 881 | 949 | 858 | 902 |
| Service Time | 2.091 | 1.797 | 2.196 | 1.995 |
| HCM Lane V/C Ratio | 0.043 | 0.031 | 0.049 | 0.068 |
| HCM Control Delay | 7.3 | 6.9 | 7.4 | 7.3 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.1 | 0.2 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 41 | 13 | 30 | 90 | 1 |
| Future Vol, veh/h | 4 | 41 | 13 | 30 | 90 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 45 | 14 | 33 | 98 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 160 | 99 | 99 | 0 | - | 0 |
| Stage 1 | 99 | - | - | - | - | - |
| Stage 2 | 61 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 831 | 957 | 1494 | - | - | - |
| Stage 1 | 925 | - | - | - | - | - |
| Stage 2 | 962 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 823 | 957 | 1494 | - | - | - |
| Mov Cap-2 Maneuver | 823 | - | - | - | - | - |
| Stage 1 | 916 | - | - | - | - | - |
| Stage 2 | 962 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9 | 2.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1494 | - | 943 | - | - |
| HCM Lane V/C Ratio | 0.009 | - | 0.052 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 9 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 144 | 57 | 68 | 720 | 641 | 113 |
| Future Volume (veh/h) | 144 | 57 | 68 | 720 | 641 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 164 | 65 | 77 | 818 | 728 | 128 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 245 | 291 | 314 | 1895 | 1133 | 728 |
| Arrive On Green | 0.14 | 0.14 | 0.05 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 164 | 65 | 77 | 818 | 728 | 128 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 4.9 | 2.0 | 1.5 | 7.8 | 9.9 | 2.7 |
| Cycle Q Clear(g_c), s | 4.9 | 2.0 | 1.5 | 7.8 | 9.9 | 2.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 245 | 291 | 314 | 1895 | 1133 | 728 |
| V/C Ratio(X) | 0.67 | 0.22 | 0.25 | 0.43 | 0.64 | 0.18 |
| Avail Cap(c_a), veh/h | 732 | 709 | 635 | 4070 | 2707 | 1435 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.9 | 19.2 | 11.7 | 7.5 | 16.2 | 8.9 |
| Incr Delay (d2), s/veh | 3.1 | 0.4 | 0.4 | 0.2 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.0 | 0.5 | 1.9 | 3.3 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 26.1 | 19.6 | 12.1 | 7.7 | 16.9 | 9.0 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 229 | | | 895 | 856 | |
| Approach Delay, s/veh | 24.2 | | | 8.1 | 15.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.3 | | 16.7 | 12.6 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 9.8 | | 6.9 | 3.5 | 11.9 |
| Green Ext Time (p_c), s | | 6.2 | | 0.6 | 0.1 | 5.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.2 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 5 | 12 | 735 | 8 | 21 | 674 |
| Future Vol, veh/h | 5 | 12 | 735 | 8 | 21 | 674 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 5 | 13 | 799 | 9 | 23 | 733 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1217 | 404 | 0 | 0 | 808 | 0 |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 413 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 173 | 596 | - | - | 813 | - |
| Stage 1 | 401 | - | - | - | - | - |
| Stage 2 | 636 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 168 | 596 | - | - | 813 | - |
| Mov Cap-2 Maneuver | 293 | - | - | - | - | - |
| Stage 1 | 401 | - | - | - | - | - |
| Stage 2 | 618 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.2 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 457 | 813 | - |
| HCM Lane V/C Ratio | - | - | 0.04 | 0.028 | - |
| HCM Control Delay (s) | - | - | 13.2 | 9.6 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 16 | 3 | 44 | 57 | 0 | 13 | 31 | 714 | 124 | 24 | 643 | 12 |
| Future Vol, veh/h | 16 | 3 | 44 | 57 | 0 | 13 | 31 | 714 | 124 | 24 | 643 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 18 | 3 | 49 | 64 | 0 | 15 | 35 | 802 | 139 | 27 | 722 | 13 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1247 | 1787 | 361 | 1289 | 1661 | 401 | 735 | 0 | 0 | 941 | 0 | 0 |
| Stage 1 | 776 | 776 | - | 872 | 872 | - | - | - | - | - | - | - |
| Stage 2 | 471 | 1011 | - | 417 | 789 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 130 | 80 | 624 | 121 | 96 | 599 | 853 | - | - | 724 | - | - |
| Stage 1 | 356 | 406 | - | 312 | 366 | - | - | - | - | - | - | - |
| Stage 2 | 542 | 315 | - | 584 | 400 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 119 | 74 | 624 | 101 | 89 | 599 | 853 | - | - | 724 | - | - |
| Mov Cap-2 Maneuver | 119 | 74 | - | 101 | 89 | - | - | - | - | - | - | - |
| Stage 1 | 341 | 391 | - | 299 | 351 | - | - | - | - | - | - | - |
| Stage 2 | 507 | 302 | - | 513 | 385 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 24.2 | 74.1 | 0.3 | 0.4 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 853 | - | - | 257 | 101 | 599 | 724 | - | - |
| HCM Lane V/C Ratio | 0.041 | - | - | 0.275 | 0.634 | 0.024 | 0.037 | - | - |
| HCM Control Delay (s) | 9.4 | - | - | 24.2 | 88.5 | 11.2 | 10.2 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.1 | 3.1 | 0.1 | 0.1 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 224 | 796 | 76 | 199 | 944 | 281 | 131 | 271 | 130 | 257 | 269 | 204 |
| Future Volume (veh/h) | 224 | 796 | 76 | 199 | 944 | 281 | 131 | 271 | 130 | 257 | 269 | 204 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 236 | 838 | 0 | 209 | 994 | 0 | 138 | 285 | 137 | 271 | 283 | 215 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 235 | 1246 | | 210 | 1204 | | 192 | 257 | 121 | 297 | 372 | 315 |
| Arrive On Green | 0.13 | 0.36 | 0.00 | 0.12 | 0.35 | 0.00 | 0.05 | 0.11 | 0.11 | 0.14 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2349 | 1100 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 236 | 838 | 0 | 209 | 994 | 0 | 138 | 214 | 208 | 271 | 283 | 215 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1672 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.6 | 25.7 | 0.0 | 14.7 | 32.8 | 0.0 | 5.9 | 13.7 | 13.7 | 16.9 | 17.9 | 15.7 |
| Cycle Q Clear(g_c), s | 16.6 | 25.7 | 0.0 | 14.7 | 32.8 | 0.0 | 5.9 | 13.7 | 13.7 | 16.9 | 17.9 | 15.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.66 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 235 | 1246 | | 210 | 1204 | | 192 | 195 | 183 | 297 | 372 | 315 |
| V/C Ratio(X) | 1.00 | 0.67 | | 0.99 | 0.83 | | 0.72 | 1.10 | 1.14 | 0.91 | 0.76 | 0.68 |
| Avail Cap(c_a), veh/h | 236 | 1246 | | 238 | 1204 | | 203 | 195 | 183 | 334 | 400 | 339 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 33.6 | 0.0 | 55.1 | 37.4 | 0.0 | 51.0 | 55.7 | 55.7 | 41.2 | 47.3 | 46.4 |
| Incr Delay (d2), s/veh | 59.3 | 2.9 | 0.0 | 54.3 | 6.5 | 0.0 | 10.8 | 93.0 | 107.8 | 26.5 | 7.8 | 5.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.0 | 10.7 | 0.0 | 9.5 | 14.3 | 0.0 | 2.0 | 11.2 | 11.3 | 9.3 | 8.9 | 6.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 113.5 | 36.5 | 0.0 | 109.4 | 43.9 | 0.0 | 61.8 | 148.7 | 163.5 | 67.7 | 55.1 | 51.5 |
| LnGrp LOS | F | D | | F | D | | E | F | F | E | E | D |
| Approach Vol, veh/h | | 1074 | | | 1203 | | | 560 | | | 769 | |
| Approach Delay, s/veh | | 53.4 | | | 55.3 | | | 132.8 | | | 58.5 | |
| Approach LOS | | D | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | 54.6 | 14.2 | 33.1 | 24.9 | 52.7 | 25.4 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 16.7 | 27.7 | 7.9 | 19.9 | 18.6 | 34.8 | 18.9 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 4.6 | 0.0 | 1.5 | 0.0 | 3.7 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 67.5 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 21.9 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 43 | 1128 | 1552 | 99 | 58 | 25 |
| Future Vol, veh/h | 43 | 1128 | 1552 | 99 | 58 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 175 | - | - | 175 | 0 | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Mvmt Flow | 47 | 1226 | 1687 | 108 | 63 | 27 |

| Major/Minor | Major1 | | | Major2 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1795 | 0 | - | 0 | 2394 | 844 | | | |
| Stage 1 | - | - | - | - | 1687 | - | | | |
| Stage 2 | - | - | - | - | 707 | - | | | |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 | | | |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - | | | |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - | | | |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 | | | |
| Pot Cap-1 Maneuver | 340 | - | - | - | ~ 28 | 307 | | | |
| Stage 1 | - | - | - | - | 135 | - | | | |
| Stage 2 | - | - | - | - | 450 | - | | | |
| Platoon blocked, % | | - | - | - | | | | | |
| Mov Cap-1 Maneuver | 340 | - | - | - | ~ 24 | 307 | | | |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 24 | - | | | |
| Stage 1 | - | - | - | - | 116 | - | | | |
| Stage 2 | - | - | - | - | 450 | - | | | |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | $ 759.4 |
| HCM LOS | | | F |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 340 | - | - | - | 24 | 307 |
| HCM Lane V/C Ratio | 0.137 | - | - | - | 2.627 | 0.089 |
| HCM Control Delay (s) | 17.3 | - | - | - | $ 1079 | 17.9 |
| HCM Lane LOS | C | - | - | - | F | C |
| HCM 95th %tile Q(veh) | 0.5 | - | - | - | 7.9 | 0.3 |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 147 | 1039 | 1600 | 81 | 53 | 51 |
| Future Volume (veh/h) | 147 | 1039 | 1600 | 81 | 53 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 156 | 1105 | 1702 | 86 | 56 | 54 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 218 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 156 | 1105 | 1702 | 86 | 56 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 11.5 | 35.6 | 2.5 | 4.6 | 4.2 |
| Cycle Q Clear(g_c), s | 3.5 | 11.5 | 35.6 | 2.5 | 4.6 | 4.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 218 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.72 | 0.40 | 0.71 | 0.10 | 0.77 | 0.37 |
| Avail Cap(c_a), veh/h | 243 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.0 | 3.5 | 11.2 | 4.3 | 56.3 | 50.5 |
| Incr Delay (d2), s/veh | 8.6 | 0.4 | 1.8 | 0.2 | 15.5 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 2.5 | 11.5 | 0.7 | 2.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 4.0 | 13.0 | 4.6 | 71.8 | 52.1 |
| LnGrp LOS | C | A | B | A | E | D |
| Approach Vol, veh/h | | 1261 | 1788 | | 110 | |
| Approach Delay, s/veh | | 7.2 | 12.6 | | 62.1 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 13.5 | | 6.6 | 5.5 | 37.6 |
| Green Ext Time (p_c), s | | 9.2 | | 0.2 | 0.1 | 16.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.1 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 38 | 31 | 0 | 22 | 11 | 18 | 0 | 0 | 6 | 0 | 4 |
| Future Vol, veh/h | 6 | 38 | 31 | 0 | 22 | 11 | 18 | 0 | 0 | 6 | 0 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 41 | 34 | 0 | 24 | 12 | 20 | 0 | 0 | 7 | 0 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 36 | 0 | 0 | 75 | 0 | 0 | 104 | 108 | 58 | 102 | 119 | 30 |
| Stage 1 | - | - | - | - | - | - | 72 | 72 | - | 30 | 30 | - |
| Stage 2 | - | - | - | - | - | - | 32 | 36 | - | 72 | 89 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1575 | - | - | 1524 | - | - | 876 | 782 | 1008 | 879 | 771 | 1044 |
| Stage 1 | - | - | - | - | - | - | 938 | 835 | - | 987 | 870 | - |
| Stage 2 | - | - | - | - | - | - | 984 | 865 | - | 938 | 821 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1575 | - | - | 1524 | - | - | 869 | 778 | 1008 | 875 | 767 | 1044 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 869 | 778 | - | 875 | 767 | - |
| Stage 1 | - | - | - | - | - | - | 933 | 831 | - | 982 | 870 | - |
| Stage 2 | - | - | - | - | - | - | 980 | 865 | - | 933 | 817 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 9.2 | 8.9 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 869 | 1575 | - | - | 1524 | - | - | 936 |
| HCM Lane V/C Ratio | 0.023 | 0.004 | - | - | - | - | - | 0.012 |
| HCM Control Delay (s) | 9.2 | 7.3 | 0 | - | 0 | - | - | 8.9 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 12 | 0 | 7 | 21 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 51 | 49 | 23 | 49 | 51 | 12 | 25 | 0 | 0 | 12 | 0 | 0 |
| Stage 1 | 37 | 37 | - | 12 | 12 | - | - | - | - | - | - | - |
| Stage 2 | 14 | 12 | - | 37 | 39 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 948 | 843 | 1054 | 951 | 840 | 1069 | 1589 | - | - | 1607 | - | - |
| Stage 1 | 978 | 864 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1006 | 886 | - | 978 | 862 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 941 | 840 | 1054 | 948 | 837 | 1069 | 1589 | - | - | 1607 | - | - |
| Mov Cap-2 Maneuver | 941 | 840 | - | 948 | 837 | - | - | - | - | - | - | - |
| Stage 1 | 978 | 861 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1002 | 886 | - | 974 | 859 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 8.4 | 0 | 1.5 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1589 | - | - | 941 | 1069 | 1607 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.003 | 0.004 | 0.004 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 8.4 | 7.2 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 15 | 13 | 16 | 15 | 7 | 4 | 21 | 47 | 25 | 6 | 30 | 9 |
| Future Vol, veh/h | 15 | 13 | 16 | 15 | 7 | 4 | 21 | 47 | 25 | 6 | 30 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 14 | 17 | 16 | 8 | 4 | 23 | 51 | 27 | 7 | 33 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.4 | 7.5 | 7.5 | 7.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 23% | 34% | 58% | 13% |
| Vol Thru, % | 51% | 30% | 27% | 67% |
| Vol Right, % | 27% | 36% | 15% | 20% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 93 | 44 | 26 | 45 |
| LT Vol | 21 | 15 | 15 | 6 |
| Through Vol | 47 | 13 | 7 | 30 |
| RT Vol | 25 | 16 | 4 | 9 |
| Lane Flow Rate | 101 | 48 | 28 | 49 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.112 | 0.054 | 0.033 | 0.055 |
| Departure Headway (Hd) | 3.987 | 4.064 | 4.254 | 4.051 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 894 | 871 | 832 | 878 |
| Service Time | 2.035 | 2.137 | 2.33 | 2.107 |
| HCM Lane V/C Ratio | 0.113 | 0.055 | 0.034 | 0.056 |
| HCM Control Delay | 7.5 | 7.4 | 7.5 | 7.3 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.4 | 0.2 | 0.1 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.4 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 25 | 43 | 99 | 58 | 4 |
| Future Vol, veh/h | 2 | 25 | 43 | 99 | 58 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 27 | 47 | 108 | 63 | 4 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 267 | 65 | 67 | 0 | - | 0 |
| Stage 1 | 65 | - | - | - | - | - |
| Stage 2 | 202 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 722 | 999 | 1535 | - | - | - |
| Stage 1 | 958 | - | - | - | - | - |
| Stage 2 | 832 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 698 | 999 | 1535 | - | - | - |
| Mov Cap-2 Maneuver | 698 | - | - | - | - | - |
| Stage 1 | 926 | - | - | - | - | - |
| Stage 2 | 832 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 2.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1535 | - | 968 | - | - |
| HCM Lane V/C Ratio | 0.03 | - | 0.03 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 8.8 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 98 | 65 | 32 | 544 | 520 | 84 |
| Future Volume (veh/h) | 98 | 65 | 32 | 544 | 520 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 104 | 69 | 34 | 579 | 553 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 237 | 238 | 289 | 1684 | 1074 | 749 |
| Arrive On Green | 0.14 | 0.14 | 0.01 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 104 | 69 | 34 | 579 | 553 | 89 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.9 | 2.1 | 0.8 | 5.6 | 7.4 | 1.7 |
| Cycle Q Clear(g_c), s | 2.9 | 2.1 | 0.8 | 5.6 | 7.4 | 1.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 237 | 238 | 289 | 1684 | 1074 | 749 |
| V/C Ratio(X) | 0.44 | 0.29 | 0.12 | 0.34 | 0.51 | 0.12 |
| Avail Cap(c_a), veh/h | 755 | 706 | 636 | 3887 | 2567 | 1491 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.2 | 20.2 | 11.1 | 7.1 | 14.2 | 7.9 |
| Incr Delay (d2), s/veh | 1.3 | 0.7 | 0.2 | 0.1 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.2 | 1.2 | 2.2 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.5 | 20.8 | 11.3 | 7.2 | 14.6 | 7.9 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 173 | | | 613 | 642 | |
| Approach Delay, s/veh | 21.8 | | | 7.5 | 13.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.2 | | 16.2 | 10.5 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.6 | | 4.9 | 2.8 | 9.4 |
| Green Ext Time (p_c), s | | 4.0 | | 0.4 | 0.0 | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.0 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 19 | 564 | 3 | 6 | 580 |
| Future Vol, veh/h | 8 | 19 | 564 | 3 | 6 | 580 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 9 | 21 | 613 | 3 | 7 | 630 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 944 | 308 | 0 | 0 | 616 | 0 |
| Stage 1 | 615 | - | - | - | - | - |
| Stage 2 | 329 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 261 | 688 | - | - | 960 | - |
| Stage 1 | 502 | - | - | - | - | - |
| Stage 2 | 701 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 259 | 688 | - | - | 960 | - |
| Mov Cap-2 Maneuver | 379 | - | - | - | - | - |
| Stage 1 | 502 | - | - | - | - | - |
| Stage 2 | 696 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.9 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 554 | 960 | - |
| HCM Lane V/C Ratio | - | - | 0.053 | 0.007 | - |
| HCM Control Delay (s) | - | - | 11.9 | 8.8 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 16 | 55 | 0 | 15 | 42 | 546 | 25 | 8 | 559 | 21 |
| Future Vol, veh/h | 6 | 0 | 16 | 55 | 0 | 15 | 42 | 546 | 25 | 8 | 559 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 19 | 64 | 0 | 17 | 49 | 635 | 29 | 9 | 650 | 24 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1084 | 1430 | 325 | 1076 | 1425 | 318 | 674 | 0 | 0 | 664 | 0 | 0 |
| Stage 1 | 668 | 668 | - | 733 | 733 | - | - | - | - | - | - | - |
| Stage 2 | 416 | 762 | - | 343 | 692 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 144 | 133 | 653 | 174 | 134 | 678 | 913 | - | - | 921 | - | - |
| Stage 1 | 364 | 455 | - | 378 | 424 | - | - | - | - | - | - | - |
| Stage 2 | 527 | 412 | - | 646 | 443 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 133 | 125 | 653 | 161 | 126 | 678 | 913 | - | - | 921 | - | - |
| Mov Cap-2 Maneuver | 133 | 125 | - | 161 | 126 | - | - | - | - | - | - | - |
| Stage 1 | 344 | 450 | - | 358 | 401 | - | - | - | - | - | - | - |
| Stage 2 | 486 | 390 | - | 621 | 439 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.4 | 34.8 | 0.6 | 0.1 |
| HCM LOS | C | D | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | 316 | 161 | 678 | 921 | - | - |
| HCM Lane V/C Ratio | 0.053 | - | - | 0.081 | 0.397 | 0.026 | 0.01 | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 17.4 | 41.4 | 10.5 | 8.9 | - | - |
| HCM Lane LOS | A | - | - | C | E | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | 1.7 | 0.1 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 1160 | 70 | 82 | 711 | 221 | 120 | 224 | 137 | 241 | 154 | 143 |
| Future Volume (veh/h) | 130 | 1160 | 70 | 82 | 711 | 221 | 120 | 224 | 137 | 241 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 138 | 1234 | 0 | 87 | 756 | 0 | 128 | 238 | 146 | 256 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 137 | 1331 | | 80 | 1180 | | 289 | 276 | 163 | 289 | 396 | 327 |
| Arrive On Green | 0.08 | 0.40 | 0.00 | 0.05 | 0.37 | 0.00 | 0.05 | 0.13 | 0.13 | 0.14 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2149 | 1270 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 138 | 1234 | 0 | 87 | 756 | 0 | 128 | 195 | 189 | 256 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1642 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 9.5 | 42.8 | 0.0 | 5.6 | 23.5 | 0.0 | 6.3 | 12.9 | 13.6 | 16.5 | 9.2 | 10.4 |
| Cycle Q Clear(g_c), s | 9.5 | 42.8 | 0.0 | 5.6 | 23.5 | 0.0 | 6.3 | 12.9 | 13.6 | 16.5 | 9.2 | 10.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.77 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 1331 | | 80 | 1180 | | 289 | 228 | 211 | 289 | 396 | 327 |
| V/C Ratio(X) | 1.01 | 0.93 | | 1.09 | 0.64 | | 0.44 | 0.86 | 0.90 | 0.89 | 0.41 | 0.46 |
| Avail Cap(c_a), veh/h | 197 | 1331 | | 168 | 1180 | | 326 | 366 | 338 | 292 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.2 | 34.1 | 0.0 | 57.2 | 31.2 | 0.0 | 43.5 | 51.2 | 51.5 | 38.4 | 40.7 | 41.2 |
| Incr Delay (d2), s/veh | 58.4 | 12.5 | 0.0 | 75.5 | 2.7 | 0.0 | 1.1 | 10.8 | 16.8 | 26.2 | 0.7 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.2 | 18.2 | 0.0 | 4.0 | 9.0 | 0.0 | 3.5 | 6.5 | 6.6 | 8.3 | 4.2 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 113.7 | 46.6 | 0.0 | 132.7 | 33.9 | 0.0 | 44.5 | 62.1 | 68.3 | 64.5 | 41.4 | 42.2 |
| LnGrp LOS | F | D | | F | C | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1372 | | | 843 | | | 512 | | | 572 | |
| Approach Delay, s/veh | | 53.4 | | | 44.1 | | | 60.0 | | | 52.0 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 57.7 | 14.5 | 33.9 | 17.8 | 53.7 | 24.8 | 23.7 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 44.8 | 8.3 | 12.4 | 11.5 | 25.5 | 18.5 | 15.6 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.3 | 0.1 | 2.7 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.8 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 19.4 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 13 | 1545 | 1025 | 30 | 91 | 40 |
| Future Vol, veh/h | 13 | 1545 | 1025 | 30 | 91 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 175 | - | - | 175 | 0 | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 1679 | 1114 | 33 | 99 | 43 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1147 | 0 | - | 0 | 1982 | 557 |
| Stage 1 | - | - | - | - | 1114 | - |
| Stage 2 | - | - | - | - | 868 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 605 | - | - | - | ~ 54 | 474 |
| Stage 1 | - | - | - | - | 276 | - |
| Stage 2 | - | - | - | - | 371 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 605 | - | - | - | ~ 53 | 474 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 53 | - |
| Stage 1 | - | - | - | - | 270 | - |
| Stage 2 | - | - | - | - | 371 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | $ 404.3 |
| HCM LOS | | | F |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 605 | - | - | - | 53 | 474 |
| HCM Lane V/C Ratio | 0.023 | - | - | - | 1.866 | 0.092 |
| HCM Control Delay (s) | 11.1 | - | - | - | $ 576.1 | 13.4 |
| HCM Lane LOS | B | - | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 9.6 | 0.3 |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 209 | 1428 | 1022 | 136 | 44 | 32 |
| Future Volume (veh/h) | 209 | 1428 | 1022 | 136 | 44 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 232 | 1587 | 1136 | 151 | 49 | 36 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 338 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 232 | 1587 | 1136 | 151 | 49 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.9 | 22.2 | 20.8 | 3.8 | 4.4 | 2.5 |
| Cycle Q Clear(g_c), s | 4.9 | 22.2 | 20.8 | 3.8 | 4.4 | 2.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 338 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.69 | 0.62 | 0.54 | 0.15 | 0.74 | 0.23 |
| Avail Cap(c_a), veh/h | 411 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.3 | 5.0 | 9.7 | 4.9 | 51.2 | 44.8 |
| Incr Delay (d2), s/veh | 3.6 | 1.1 | 1.0 | 0.3 | 14.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 4.8 | 6.0 | 1.2 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 6.2 | 10.7 | 5.2 | 65.9 | 45.6 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1819 | 1287 | | 85 | |
| Approach Delay, s/veh | | 7.1 | 10.1 | | 57.3 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 24.2 | | 6.4 | 6.9 | 22.8 |
| Green Ext Time (p_c), s | 17.2 | | 0.1 | 0.3 | 10.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.7 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 2 | 11 | 9 | 0 | 34 | 4 | 30 | 0 | 0 | 11 | 0 | 7 |
| Future Vol, veh/h | 2 | 11 | 9 | 0 | 34 | 4 | 30 | 0 | 0 | 11 | 0 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 12 | 10 | 0 | 37 | 4 | 33 | 0 | 0 | 12 | 0 | 8 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 41 | 0 | 0 | 22 | 0 | 0 | 64 | 62 | 17 | 60 | 65 | 39 |
| Stage 1 | - | - | - | - | - | - | 21 | 21 | - | 39 | 39 | - |
| Stage 2 | - | - | - | - | - | - | 43 | 41 | - | 21 | 26 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1568 | - | - | 1593 | - | - | 930 | 829 | 1062 | 936 | 826 | 1033 |
| Stage 1 | - | - | - | - | - | - | 998 | 878 | - | 976 | 862 | - |
| Stage 2 | - | - | - | - | - | - | 971 | 861 | - | 998 | 874 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1568 | - | - | 1593 | - | - | 923 | 828 | 1062 | 935 | 825 | 1033 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 923 | 828 | - | 935 | 825 | - |
| Stage 1 | - | - | - | - | - | - | 997 | 877 | - | 975 | 862 | - |
| Stage 2 | - | - | - | - | - | - | 964 | 861 | - | 997 | 873 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 9 | 8.8 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 923 | 1568 | - | - | 1593 | - | - | 971 |
| HCM Lane V/C Ratio | 0.035 | 0.001 | - | - | - | - | - | 0.02 |
| HCM Control Delay (s) | 9 | 7.3 | 0 | - | 0 | - | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 18 | 0 | 2 | 7 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 34 | 30 | 8 | 30 | 30 | 18 | 8 | 0 | 0 | 18 | 0 | 0 |
| Stage 1 | 12 | 12 | - | 18 | 18 | - | - | - | - | - | - | - |
| Stage 2 | 22 | 18 | - | 12 | 12 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 973 | 863 | 1074 | 979 | 863 | 1061 | 1612 | - | - | 1599 | - | - |
| Stage 1 | 1009 | 886 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 996 | 880 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 966 | 862 | 1074 | 978 | 862 | 1061 | 1612 | - | - | 1599 | - | - |
| Mov Cap-2 Maneuver | 966 | 862 | - | 978 | 862 | - | - | - | - | - | - | - |
| Stage 1 | 1009 | 885 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 990 | 880 | - | 1008 | 885 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.7 | 8.4 | 0 | 1.6 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1612 | - | - | 966 | 1061 | 1599 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.006 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.7 | 8.4 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.3 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 4 | 19 | 22 | 11 | 6 | 11 | 17 | 7 | 2 | 41 | 13 |
| Future Vol, veh/h | 4 | 4 | 19 | 22 | 11 | 6 | 11 | 17 | 7 | 2 | 41 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 4 | 21 | 24 | 12 | 7 | 12 | 18 | 8 | 2 | 45 | 14 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 6.9 | 7.4 | 7.3 | 7.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 31% | 15% | 56% | 4% |
| Vol Thru, % | 49% | 15% | 28% | 73% |
| Vol Right, % | 20% | 70% | 15% | 23% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 35 | 27 | 39 | 56 |
| LT Vol | 11 | 4 | 22 | 2 |
| Through Vol | 17 | 4 | 11 | 41 |
| RT Vol | 7 | 19 | 6 | 13 |
| Lane Flow Rate | 38 | 29 | 42 | 61 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.043 | 0.031 | 0.049 | 0.067 |
| Departure Headway (Hd) | 4.048 | 3.745 | 4.148 | 3.956 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 881 | 949 | 858 | 902 |
| Service Time | 2.091 | 1.797 | 2.196 | 1.995 |
| HCM Lane V/C Ratio | 0.043 | 0.031 | 0.049 | 0.068 |
| HCM Control Delay | 7.3 | 6.9 | 7.4 | 7.3 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.1 | 0.2 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 41 | 13 | 30 | 90 | 1 |
| Future Vol, veh/h | 4 | 41 | 13 | 30 | 90 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 45 | 14 | 33 | 98 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 160 | 99 | 99 | 0 | - | 0 |
| Stage 1 | 99 | - | - | - | - | - |
| Stage 2 | 61 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 831 | 957 | 1494 | - | - | - |
| Stage 1 | 925 | - | - | - | - | - |
| Stage 2 | 962 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 823 | 957 | 1494 | - | - | - |
| Mov Cap-2 Maneuver | 823 | - | - | - | - | - |
| Stage 1 | 916 | - | - | - | - | - |
| Stage 2 | 962 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9 | 2.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1494 | - | 943 | - | - |
| HCM Lane V/C Ratio | 0.009 | - | 0.052 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 9 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 61 | 74 | 788 | 700 | 124 |
| Future Volume (veh/h) | 158 | 61 | 74 | 788 | 700 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 180 | 69 | 84 | 895 | 795 | 141 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 247 | 297 | 299 | 1899 | 1127 | 726 |
| Arrive On Green | 0.14 | 0.14 | 0.06 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 180 | 69 | 84 | 895 | 795 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 5.5 | 2.1 | 1.6 | 8.9 | 11.2 | 3.0 |
| Cycle Q Clear(g_c), s | 5.5 | 2.1 | 1.6 | 8.9 | 11.2 | 3.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 247 | 297 | 299 | 1899 | 1127 | 726 |
| V/C Ratio(X) | 0.73 | 0.23 | 0.28 | 0.47 | 0.71 | 0.19 |
| Avail Cap(c_a), veh/h | 728 | 712 | 612 | 4047 | 2692 | 1430 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.3 | 19.2 | 12.1 | 7.8 | 16.8 | 9.1 |
| Incr Delay (d2), s/veh | 4.1 | 0.4 | 0.5 | 0.2 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.5 | 2.2 | 3.8 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.4 | 19.6 | 12.6 | 8.0 | 17.7 | 9.2 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 249 | | | 979 | 936 | |
| Approach Delay, s/veh | 25.2 | | | 8.4 | 16.4 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.5 | | 16.8 | 12.8 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 10.9 | | 7.5 | 3.6 | 13.2 |
| Green Ext Time (p_c), s | | 7.0 | | 0.6 | 0.1 | 6.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.8 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 5 | 12 | 804 | 8 | 21 | 735 |
| Future Vol, veh/h | 5 | 12 | 804 | 8 | 21 | 735 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 5 | 13 | 874 | 9 | 23 | 799 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1325 | 442 | 0 | 0 | 883 | 0 |
| Stage 1 | 879 | - | - | - | - | - |
| Stage 2 | 446 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 147 | 563 | - | - | 762 | - |
| Stage 1 | 366 | - | - | - | - | - |
| Stage 2 | 612 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 143 | 563 | - | - | 762 | - |
| Mov Cap-2 Maneuver | 267 | - | - | - | - | - |
| Stage 1 | 366 | - | - | - | - | - |
| Stage 2 | 594 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.9 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 425 | 762 | - |
| HCM Lane V/C Ratio | - | - | 0.043 | 0.03 | - |
| HCM Control Delay (s) | - | - | 13.9 | 9.9 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 3 | 48 | 59 | 0 | 13 | 34 | 782 | 130 | 24 | 703 | 13 |
| Future Vol, veh/h | 17 | 3 | 48 | 59 | 0 | 13 | 34 | 782 | 130 | 24 | 703 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 19 | 3 | 54 | 66 | 0 | 15 | 38 | 879 | 146 | 27 | 790 | 15 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1360 | 1945 | 395 | 1406 | 1814 | 440 | 805 | 0 | 0 | 1025 | 0 | 0 |
| Stage 1 | 844 | 844 | - | 955 | 955 | - | - | - | - | - | - | - |
| Stage 2 | 516 | 1101 | - | 451 | 859 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 107 | 64 | 593 | 99 | 77 | 565 | 802 | - | - | 673 | - | - |
| Stage 1 | 324 | 377 | - | 278 | 335 | - | - | - | - | - | - | - |
| Stage 2 | 510 | 286 | - | 557 | 371 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 97 | 59 | 593 | 80 | 70 | 565 | 802 | - | - | 673 | - | - |
| Mov Cap-2 Maneuver | 97 | 59 | - | 80 | 70 | - | - | - | - | - | - | - |
| Stage 1 | 309 | 362 | - | 265 | 319 | - | - | - | - | - | - | - |
| Stage 2 | 473 | 273 | - | 482 | 356 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 29.7 | 122.2 | 0.3 | 0.3 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 802 | - | - | 221 | 80 | 565 | 673 | - | - |
| HCM Lane V/C Ratio | 0.048 | - | - | 0.346 | 0.829 | 0.026 | 0.04 | - | - |
| HCM Control Delay (s) | 9.7 | - | - | 29.7 | 146.6 | 11.5 | 10.6 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.5 | 4.2 | 0.1 | 0.1 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 243 | 867 | 83 | 217 | 1030 | 306 | 144 | 296 | 140 | 280 | 295 | 222 |
| Future Volume (veh/h) | 243 | 867 | 83 | 217 | 1030 | 306 | 144 | 296 | 140 | 280 | 295 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 256 | 913 | 0 | 228 | 1084 | 0 | 152 | 312 | 147 | 295 | 311 | 234 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1172 | | 228 | 1164 | | 189 | 259 | 119 | 317 | 390 | 330 |
| Arrive On Green | 0.13 | 0.34 | 0.00 | 0.13 | 0.34 | 0.00 | 0.05 | 0.11 | 0.11 | 0.15 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2363 | 1089 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 256 | 913 | 0 | 228 | 1084 | 0 | 152 | 233 | 226 | 295 | 311 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1674 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 29.8 | 0.0 | 16.0 | 37.8 | 0.0 | 6.2 | 13.7 | 13.7 | 18.4 | 19.7 | 17.1 |
| Cycle Q Clear(g_c), s | 16.7 | 29.8 | 0.0 | 16.0 | 37.8 | 0.0 | 6.2 | 13.7 | 13.7 | 18.4 | 19.7 | 17.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.65 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1172 | | 228 | 1164 | | 189 | 195 | 184 | 317 | 390 | 330 |
| V/C Ratio(X) | 1.09 | 0.78 | | 1.00 | 0.93 | | 0.81 | 1.20 | 1.23 | 0.93 | 0.80 | 0.71 |
| Avail Cap(c_a), veh/h | 236 | 1172 | | 238 | 1164 | | 196 | 195 | 184 | 334 | 400 | 339 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 37.0 | 0.0 | 54.5 | 40.2 | 0.0 | 51.9 | 55.7 | 55.7 | 40.6 | 47.0 | 46.0 |
| Incr Delay (d2), s/veh | 83.4 | 5.2 | 0.0 | 57.0 | 14.4 | 0.0 | 20.6 | 127.3 | 142.5 | 31.1 | 10.7 | 6.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.6 | 12.7 | 0.0 | 10.5 | 17.5 | 0.0 | 2.9 | 13.1 | 13.1 | 10.4 | 10.1 | 7.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 137.5 | 42.1 | 0.0 | 111.5 | 54.5 | 0.0 | 72.5 | 182.9 | 198.2 | 71.8 | 57.7 | 52.5 |
| LnGrp LOS | F | D | | F | D | | E | F | F | E | E | D |
| Approach Vol, veh/h | | 1169 | | | 1312 | | | 611 | | | 840 | |
| Approach Delay, s/veh | | 63.0 | | | 64.4 | | | 161.1 | | | 61.2 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 24.3 | 51.9 | 14.5 | 34.3 | 25.0 | 51.2 | 26.8 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 18.0 | 31.8 | 8.2 | 21.7 | 18.7 | 39.8 | 20.4 | 15.7 |
| Green Ext Time (p_c), s | 0.0 | 4.2 | 0.0 | 1.4 | 0.0 | 1.8 | 0.1 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 78.3 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 31.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 43 | 1231 | 1697 | 99 | 58 | 25 |
| Future Vol, veh/h | 43 | 1231 | 1697 | 99 | 58 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 175 | - | - | 175 | 0 | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Mvmt Flow | 47 | 1338 | 1845 | 108 | 63 | 27 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1953 | 0 | - | 0 | 2608 | 923 |
| Stage 1 | - | - | - | - | 1845 | - |
| Stage 2 | - | - | - | - | 763 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 295 | - | - | - | ~ 20 | 272 |
| Stage 1 | - | - | - | - | 111 | - |
| Stage 2 | - | - | - | - | 421 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 295 | - | - | - | ~ 17 | 272 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 17 | - |
| Stage 1 | - | - | - | - | 93 | - |
| Stage 2 | - | - | - | - | 421 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | $ 1178.2 |
| HCM LOS | | | F |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 295 | - | - | - | 17 | 272 |
| HCM Lane V/C Ratio | 0.158 | - | - | - | 3.708 | 0.1 |
| HCM Control Delay (s) | 19.5 | - | - | - | $ 1677.5 | 19.7 |
| HCM Lane LOS | C | - | - | - | F | C |
| HCM 95th %tile Q(veh) | 0.6 | - | - | - | 8.5 | 0.3 |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 148 | 1141 | 1740 | 83 | 58 | 56 |
| Future Volume (veh/h) | 148 | 1141 | 1740 | 83 | 58 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 157 | 1214 | 1851 | 88 | 62 | 60 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 196 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 157 | 1214 | 1851 | 88 | 62 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 13.3 | 42.3 | 2.6 | 5.1 | 4.7 |
| Cycle Q Clear(g_c), s | 3.5 | 13.3 | 42.3 | 2.6 | 5.1 | 4.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 196 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.80 | 0.44 | 0.77 | 0.10 | 0.85 | 0.42 |
| Avail Cap(c_a), veh/h | 221 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.8 | 3.7 | 12.2 | 4.3 | 56.6 | 50.7 |
| Incr Delay (d2), s/veh | 17.1 | 0.5 | 2.5 | 0.3 | 22.8 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 2.9 | 13.7 | 0.7 | 2.3 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 42.9 | 4.3 | 14.7 | 4.6 | 79.4 | 52.7 |
| LnGrp LOS | D | A | B | A | E | D |
| Approach Vol, veh/h | | 1371 | 1939 | | 122 | |
| Approach Delay, s/veh | | 8.7 | 14.2 | | 66.2 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 15.3 | | 7.1 | 5.5 | 44.3 |
| Green Ext Time (p_c), s | | 10.7 | | 0.3 | 0.1 | 15.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.8 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 38 | 31 | 0 | 22 | 11 | 18 | 0 | 0 | 6 | 0 | 4 |
| Future Vol, veh/h | 6 | 38 | 31 | 0 | 22 | 11 | 18 | 0 | 0 | 6 | 0 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 41 | 34 | 0 | 24 | 12 | 20 | 0 | 0 | 7 | 0 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 36 | 0 | 0 | 75 | 0 | 0 | 104 | 108 | 58 | 102 | 119 | 30 |
| Stage 1 | - | - | - | - | - | - | 72 | 72 | - | 30 | 30 | - |
| Stage 2 | - | - | - | - | - | - | 32 | 36 | - | 72 | 89 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1575 | - | - | 1524 | - | - | 876 | 782 | 1008 | 879 | 771 | 1044 |
| Stage 1 | - | - | - | - | - | - | 938 | 835 | - | 987 | 870 | - |
| Stage 2 | - | - | - | - | - | - | 984 | 865 | - | 938 | 821 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1575 | - | - | 1524 | - | - | 869 | 778 | 1008 | 875 | 767 | 1044 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 869 | 778 | - | 875 | 767 | - |
| Stage 1 | - | - | - | - | - | - | 933 | 831 | - | 982 | 870 | - |
| Stage 2 | - | - | - | - | - | - | 980 | 865 | - | 933 | 817 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 9.2 | 8.9 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 869 | 1575 | - | - | 1524 | - | - | 936 |
| HCM Lane V/C Ratio | 0.023 | 0.004 | - | - | - | - | - | 0.012 |
| HCM Control Delay (s) | 9.2 | 7.3 | 0 | - | 0 | - | - | 8.9 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 12 | 0 | 7 | 21 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 51 | 49 | 23 | 49 | 51 | 12 | 25 | 0 | 0 | 12 | 0 | 0 |
| Stage 1 | 37 | 37 | - | 12 | 12 | - | - | - | - | - | - | - |
| Stage 2 | 14 | 12 | - | 37 | 39 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 948 | 843 | 1054 | 951 | 840 | 1069 | 1589 | - | - | 1607 | - | - |
| Stage 1 | 978 | 864 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1006 | 886 | - | 978 | 862 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 941 | 840 | 1054 | 948 | 837 | 1069 | 1589 | - | - | 1607 | - | - |
| Mov Cap-2 Maneuver | 941 | 840 | - | 948 | 837 | - | - | - | - | - | - | - |
| Stage 1 | 978 | 861 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1002 | 886 | - | 974 | 859 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 8.4 | 0 | 1.5 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1589 | - | - | 941 | 1069 | 1607 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.003 | 0.004 | 0.004 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 8.4 | 7.2 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 15 | 13 | 16 | 15 | 7 | 4 | 21 | 47 | 25 | 6 | 30 | 9 |
| Future Vol, veh/h | 15 | 13 | 16 | 15 | 7 | 4 | 21 | 47 | 25 | 6 | 30 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 14 | 17 | 16 | 8 | 4 | 23 | 51 | 27 | 7 | 33 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.4 | 7.5 | 7.5 | 7.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 23% | 34% | 58% | 13% |
| Vol Thru, % | 51% | 30% | 27% | 67% |
| Vol Right, % | 27% | 36% | 15% | 20% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 93 | 44 | 26 | 45 |
| LT Vol | 21 | 15 | 15 | 6 |
| Through Vol | 47 | 13 | 7 | 30 |
| RT Vol | 25 | 16 | 4 | 9 |
| Lane Flow Rate | 101 | 48 | 28 | 49 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.112 | 0.054 | 0.033 | 0.055 |
| Departure Headway (Hd) | 3.987 | 4.064 | 4.254 | 4.051 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 894 | 871 | 832 | 878 |
| Service Time | 2.035 | 2.137 | 2.33 | 2.107 |
| HCM Lane V/C Ratio | 0.113 | 0.055 | 0.034 | 0.056 |
| HCM Control Delay | 7.5 | 7.4 | 7.5 | 7.3 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.4 | 0.2 | 0.1 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.4 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 25 | 43 | 99 | 58 | 4 |
| Future Vol, veh/h | 2 | 25 | 43 | 99 | 58 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 27 | 47 | 108 | 63 | 4 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 267 | 65 | 67 | 0 | - | 0 |
| Stage 1 | 65 | - | - | - | - | - |
| Stage 2 | 202 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 722 | 999 | 1535 | - | - | - |
| Stage 1 | 958 | - | - | - | - | - |
| Stage 2 | 832 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 698 | 999 | 1535 | - | - | - |
| Mov Cap-2 Maneuver | 698 | - | - | - | - | - |
| Stage 1 | 926 | - | - | - | - | - |
| Stage 2 | 832 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 2.2 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1535 | - | 968 | - | - |
| HCM Lane V/C Ratio | 0.03 | - | 0.03 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 8.8 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 15 | 55 | 0 | 15 | 38 | 499 | 25 | 8 | 511 | 19 |
| Future Volume (veh/h) | 6 | 0 | 15 | 55 | 0 | 15 | 38 | 499 | 25 | 8 | 511 | 19 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 17 | 64 | 0 | 17 | 44 | 580 | 29 | 9 | 594 | 22 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 54 | 14 | 72 | 155 | 0 | 102 | 672 | 2513 | 1272 | 712 | 2603 | 1222 |
| Arrive On Green | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 | 1.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.80 |
| Sat Flow, veh/h | 239 | 224 | 1124 | 1396 | 0 | 1585 | 807 | 3131 | 1585 | 812 | 3244 | 1522 |
| Grp Volume(v), veh/h | 24 | 0 | 0 | 64 | 0 | 17 | 44 | 580 | 29 | 9 | 594 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1587 | 0 | 0 | 1396 | 0 | 1585 | 807 | 1566 | 1585 | 812 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 1.2 | 0.4 | 0.0 | 0.0 | 0.3 | 5.3 | 0.3 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 0.0 | 4.9 | 0.0 | 1.2 | 5.7 | 0.0 | 0.0 | 0.3 | 5.3 | 0.3 |
| Prop In Lane | 0.29 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 141 | 0 | 0 | 155 | 0 | 102 | 672 | 2513 | 1272 | 712 | 2603 | 1222 |
| V/C Ratio(X) | 0.17 | 0.00 | 0.00 | 0.41 | 0.00 | 0.17 | 0.07 | 0.23 | 0.02 | 0.01 | 0.23 | 0.02 |
| Avail Cap(c_a), veh/h | 462 | 0 | 0 | 449 | 0 | 436 | 672 | 2513 | 1272 | 712 | 2603 | 1222 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.79 | 0.79 | 0.79 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.3 | 0.0 | 0.0 | 54.7 | 0.0 | 53.1 | 0.2 | 0.0 | 0.0 | 2.4 | 2.9 | 2.4 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 1.8 | 0.0 | 0.8 | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 2.0 | 0.0 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 | 1.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.9 | 0.0 | 0.0 | 56.5 | 0.0 | 53.9 | 0.3 | 0.2 | 0.0 | 2.4 | 3.1 | 2.4 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 24 | | | 81 | | | 653 | | | 625 | |
| Approach Delay, s/veh | | 53.9 | | | 55.9 | | | 0.2 | | | 3.0 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 104.3 | | 15.7 | | 104.3 | | 15.7 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 73.0 | | 35.0 | | 73.0 | | 35.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.7 | | 3.6 | | 7.3 | | 6.9 | | | | |
| Green Ext Time (p_c), s | | 4.5 | | 0.1 | | 4.3 | | 0.2 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 5.7 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 119 | 1062 | 63 | 76 | 654 | 203 | 109 | 204 | 126 | 221 | 141 | 133 |
| Future Volume (veh/h) | 119 | 1062 | 63 | 76 | 654 | 203 | 109 | 204 | 126 | 221 | 141 | 133 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 127 | 1130 | 0 | 81 | 696 | 0 | 116 | 217 | 134 | 235 | 150 | 141 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 164 | 1498 | | 79 | 1436 | | 235 | 289 | 201 | 290 | 310 | 331 |
| Arrive On Green | 0.05 | 0.45 | 0.00 | 0.02 | 0.15 | 0.00 | 0.05 | 0.08 | 0.08 | 0.04 | 0.06 | 0.06 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 127 | 1130 | 0 | 81 | 696 | 0 | 116 | 217 | 134 | 235 | 150 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 4.5 | 34.1 | 0.0 | 5.5 | 24.0 | 0.0 | 5.8 | 7.2 | 9.7 | 16.0 | 9.4 | 10.1 |
| Cycle Q Clear(g_c), s | 4.5 | 34.1 | 0.0 | 5.5 | 24.0 | 0.0 | 5.8 | 7.2 | 9.7 | 16.0 | 9.4 | 10.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 164 | 1498 | | 79 | 1436 | | 235 | 289 | 201 | 290 | 310 | 331 |
| V/C Ratio(X) | 0.77 | 0.75 | | 1.03 | 0.48 | | 0.49 | 0.75 | 0.67 | 0.81 | 0.48 | 0.43 |
| Avail Cap(c_a), veh/h | 259 | 1498 | | 128 | 1436 | | 290 | 299 | 206 | 306 | 310 | 331 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.86 | 0.86 | 0.00 | 1.00 | 1.00 | 1.00 | 0.98 | 0.98 | 0.98 |
| Uniform Delay (d), s/veh | 56.4 | 27.2 | 0.0 | 59.1 | 38.3 | 0.0 | 48.7 | 53.9 | 50.0 | 46.4 | 51.7 | 46.3 |
| Incr Delay (d2), s/veh | 7.6 | 3.6 | 0.0 | 69.9 | 1.0 | 0.0 | 1.6 | 9.8 | 7.7 | 14.1 | 1.2 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 13.1 | 0.0 | 3.9 | 10.4 | 0.0 | 3.4 | 3.6 | 4.3 | 7.8 | 4.6 | 4.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.0 | 30.8 | 0.0 | 129.0 | 39.3 | 0.0 | 50.3 | 63.7 | 57.7 | 60.5 | 52.8 | 47.2 |
| LnGrp LOS | E | C | | F | D | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1257 | | | 777 | | | 467 | | | 526 | |
| Approach Delay, s/veh | | 34.1 | | | 48.7 | | | 58.7 | | | 54.7 | |
| Approach LOS | | C | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 63.8 | 14.1 | 28.3 | 14.2 | 63.4 | 24.4 | 18.1 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 10.9 | 51.5 | 11.5 | 19.9 | 11.3 | 51.1 | 19.3 | 12.1 |
| Max Q Clear Time (g_c+I1), s | 7.5 | 36.1 | 7.8 | 12.1 | 6.5 | 26.0 | 18.0 | 11.7 |
| Green Ext Time (p_c), s | 0.0 | 6.5 | 0.1 | 0.7 | 0.1 | 4.4 | 0.1 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.2 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 13 | 1415 | 941 | 30 | 91 | 40 |
| Future Volume (veh/h) | 13 | 1415 | 941 | 30 | 91 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1737 | 1663 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 1538 | 1023 | 33 | 99 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Cap, veh/h | 197 | 1704 | 1631 | 818 | 624 | 555 |
| Arrive On Green | 1.00 | 1.00 | 0.52 | 0.52 | 0.35 | 0.35 |
| Sat Flow, veh/h | 551 | 3387 | 3243 | 1585 | 1781 | 1585 |
| Grp Volume(v), veh/h | 14 | 1538 | 1023 | 33 | 99 | 43 |
| Grp Sat Flow(s),veh/h/ln | 551 | 1650 | 1580 | 1585 | 1781 | 1585 |
| Q Serve(g_s), s | 1.7 | 0.0 | 27.8 | 1.2 | 4.6 | 2.2 |
| Cycle Q Clear(g_c), s | 33.7 | 0.0 | 27.8 | 1.2 | 4.6 | 2.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 197 | 1704 | 1631 | 818 | 624 | 555 |
| V/C Ratio(X) | 0.07 | 0.90 | 0.63 | 0.04 | 0.16 | 0.08 |
| Avail Cap(c_a), veh/h | 299 | 2310 | 2212 | 1110 | 624 | 555 |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.55 | 0.55 | 0.84 | 0.84 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.7 | 0.0 | 20.8 | 14.3 | 26.8 | 26.0 |
| Incr Delay (d2), s/veh | 0.1 | 2.4 | 0.3 | 0.0 | 0.5 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.6 | 9.4 | 0.4 | 2.0 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.8 | 2.4 | 21.1 | 14.3 | 27.4 | 26.3 |
| LnGrp LOS | A | A | C | B | C | C |
| Approach Vol, veh/h | | 1552 | 1056 | | 142 | |
| Approach Delay, s/veh | | 2.5 | 20.9 | | 27.0 | |
| Approach LOS | | A | C | | C | |

| Timer - Assigned Phs | 4 | 6 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 63.9 | 56.1 | 63.9 |
| Change Period (Y+Rc), s | 6.0 | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | 86.0 | 22.0 | 86.0 |
| Max Q Clear Time (g_c+I1), s | 35.7 | 6.6 | 29.8 |
| Green Ext Time (p_c), s | 16.1 | 0.3 | 8.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.8 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 16 | 3 | 44 | 57 | 0 | 13 | 31 | 714 | 124 | 24 | 643 | 12 |
| Future Volume (veh/h) | 16 | 3 | 44 | 57 | 0 | 13 | 31 | 714 | 124 | 24 | 643 | 12 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 18 | 3 | 49 | 64 | 0 | 15 | 35 | 802 | 139 | 27 | 722 | 13 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 51 | 15 | 71 | 144 | 0 | 101 | 597 | 2805 | 1281 | 539 | 2850 | 1078 |
| Arrive On Green | 0.06 | 0.06 | 0.06 | 0.06 | 0.00 | 0.06 | 1.00 | 1.00 | 1.00 | 0.81 | 0.81 | 0.81 |
| Sat Flow, veh/h | 235 | 243 | 1114 | 1352 | 0 | 1585 | 711 | 3469 | 1585 | 596 | 3526 | 1334 |
| Grp Volume(v), veh/h | 70 | 0 | 0 | 64 | 0 | 15 | 35 | 802 | 139 | 27 | 722 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1591 | 0 | 0 | 1352 | 0 | 1585 | 711 | 1735 | 1585 | 596 | 1763 | 1334 |
| Q Serve(g_s), s | 2.1 | 0.0 | 0.0 | 0.5 | 0.0 | 1.1 | 0.4 | 0.0 | 0.0 | 1.1 | 6.2 | 0.2 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 0.0 | 5.8 | 0.0 | 1.1 | 6.6 | 0.0 | 0.0 | 1.1 | 6.2 | 0.2 |
| Prop In Lane | 0.26 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 0 | 0 | 144 | 0 | 101 | 597 | 2805 | 1281 | 539 | 2850 | 1078 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.00 | 0.45 | 0.00 | 0.15 | 0.06 | 0.29 | 0.11 | 0.05 | 0.25 | 0.01 |
| Avail Cap(c_a), veh/h | 422 | 0 | 0 | 393 | 0 | 393 | 597 | 2805 | 1281 | 539 | 2850 | 1078 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.68 | 0.68 | 0.68 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.2 | 0.0 | 0.0 | 57.5 | 0.0 | 55.3 | 0.2 | 0.0 | 0.0 | 2.4 | 2.9 | 2.3 |
| Incr Delay (d2), s/veh | 2.9 | 0.0 | 0.0 | 2.2 | 0.0 | 0.7 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.0 | 2.1 | 0.0 | 0.5 | 0.0 | 0.1 | 0.0 | 0.1 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.2 | 0.0 | 0.0 | 59.7 | 0.0 | 56.0 | 0.3 | 0.2 | 0.1 | 2.6 | 3.1 | 2.3 |
| LnGrp LOS | E | A | A | E | A | E | A | A | A | A | A | A |
| Approach Vol, veh/h | | 70 | | | 79 | | | 976 | | | 762 | |
| Approach Delay, s/veh | | 60.2 | | | 59.0 | | | 0.2 | | | 3.1 | |
| Approach LOS | | E | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 109.1 | | 15.9 | | 109.1 | | 15.9 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 80.0 | | 33.0 | | 80.0 | | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.6 | | 7.3 | | 8.2 | | 7.8 | | | | |
| Green Ext Time (p_c), s | | 7.0 | | 0.3 | | 5.6 | | 0.2 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 6.0 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 224 | 796 | 76 | 199 | 944 | 281 | 131 | 271 | 130 | 257 | 269 | 204 |
| Future Volume (veh/h) | 224 | 796 | 76 | 199 | 944 | 281 | 131 | 271 | 130 | 257 | 269 | 204 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 236 | 838 | 0 | 209 | 994 | 0 | 138 | 285 | 137 | 271 | 283 | 215 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 242 | 1326 | | 212 | 1506 | | 169 | 316 | 327 | 300 | 315 | 378 |
| Arrive On Green | 0.07 | 0.39 | 0.00 | 0.04 | 0.14 | 0.00 | 0.05 | 0.09 | 0.09 | 0.04 | 0.06 | 0.06 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 236 | 838 | 0 | 209 | 994 | 0 | 138 | 285 | 137 | 271 | 283 | 215 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 8.6 | 24.7 | 0.0 | 14.7 | 33.9 | 0.0 | 6.7 | 9.9 | 9.5 | 16.6 | 18.8 | 15.3 |
| Cycle Q Clear(g_c), s | 8.6 | 24.7 | 0.0 | 14.7 | 33.9 | 0.0 | 6.7 | 9.9 | 9.5 | 16.6 | 18.8 | 15.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 242 | 1326 | | 212 | 1506 | | 169 | 316 | 327 | 300 | 315 | 378 |
| V/C Ratio(X) | 0.98 | 0.63 | | 0.99 | 0.66 | | 0.82 | 0.90 | 0.42 | 0.90 | 0.90 | 0.57 |
| Avail Cap(c_a), veh/h | 321 | 1326 | | 281 | 1506 | | 183 | 446 | 385 | 301 | 370 | 425 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.63 | 0.63 | 0.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 58.0 | 31.2 | 0.0 | 59.9 | 44.8 | 0.0 | 52.4 | 56.4 | 43.0 | 48.3 | 58.0 | 47.8 |
| Incr Delay (d2), s/veh | 38.9 | 2.3 | 0.0 | 34.6 | 1.4 | 0.0 | 22.7 | 16.7 | 0.9 | 28.0 | 21.3 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.9 | 10.1 | 0.0 | 9.0 | 16.0 | 0.0 | 2.2 | 5.2 | 3.8 | 10.3 | 11.3 | 6.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 96.9 | 33.5 | 0.0 | 94.5 | 46.3 | 0.0 | 75.1 | 73.1 | 43.8 | 76.3 | 79.3 | 49.1 |
| LnGrp LOS | F | C | | F | D | | E | E | D | E | E | D |
| Approach Vol, veh/h | | 1074 | | | 1203 | | | 560 | | | 769 | |
| Approach Delay, s/veh | | 47.4 | | | 54.7 | | | 66.4 | | | 69.8 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.2 | 57.5 | 15.0 | 29.4 | 17.1 | 63.5 | 24.9 | 19.4 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 21.7 | 40.7 | 9.7 | 26.7 | 13.7 | 48.7 | 18.7 | 17.7 |
| Max Q Clear Time (g_c+I1), s | 16.7 | 26.7 | 8.7 | 20.8 | 10.6 | 35.9 | 18.6 | 11.9 |
| Green Ext Time (p_c), s | 0.2 | 4.4 | 0.0 | 1.2 | 0.2 | 5.1 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 57.6 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 43 | 1128 | 1552 | 99 | 58 | 25 |
| Future Volume (veh/h) | 43 | 1128 | 1552 | 99 | 58 | 25 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1796 | 1826 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 47 | 1226 | 1687 | 108 | 63 | 27 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Cap, veh/h | 122 | 2090 | 2124 | 970 | 463 | 412 |
| Arrive On Green | 0.61 | 0.61 | 0.61 | 0.61 | 0.26 | 0.26 |
| Sat Flow, veh/h | 263 | 3503 | 3561 | 1585 | 1781 | 1585 |
| Grp Volume(v), veh/h | 47 | 1226 | 1687 | 108 | 63 | 27 |
| Grp Sat Flow(s),veh/h/ln | 263 | 1706 | 1735 | 1585 | 1781 | 1585 |
| Q Serve(g_s), s | 20.5 | 27.2 | 45.9 | 3.5 | 3.4 | 1.6 |
| Cycle Q Clear(g_c), s | 66.4 | 27.2 | 45.9 | 3.5 | 3.4 | 1.6 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 122 | 2090 | 2124 | 970 | 463 | 412 |
| V/C Ratio(X) | 0.38 | 0.59 | 0.79 | 0.11 | 0.14 | 0.07 |
| Avail Cap(c_a), veh/h | 151 | 2457 | 2498 | 1141 | 463 | 412 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.67 | 0.67 | 0.48 | 0.48 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.3 | 14.7 | 18.3 | 10.1 | 35.5 | 34.8 |
| Incr Delay (d2), s/veh | 1.3 | 0.2 | 0.8 | 0.0 | 0.6 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 9.3 | 16.1 | 1.1 | 1.6 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 44.7 | 14.8 | 19.1 | 10.1 | 36.1 | 35.1 |
| LnGrp LOS | D | B | B | B | D | D |
| Approach Vol, veh/h | | 1273 | 1795 | | 90 | |
| Approach Delay, s/veh | | 15.9 | 18.5 | | 35.8 | |
| Approach LOS | | B | B | | D | |

| Timer - Assigned Phs | | 4 | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 84.5 | | 40.5 | 84.5 |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | | 92.0 | | 21.0 | 92.0 |
| Max Q Clear Time (g_c+I1), s | | 68.4 | | 5.4 | 47.9 |
| Green Ext Time (p_c), s | | 10.2 | | 0.2 | 18.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.0 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 16 | 55 | 0 | 15 | 42 | 546 | 25 | 8 | 559 | 21 |
| Future Volume (veh/h) | 6 | 0 | 16 | 55 | 0 | 15 | 42 | 546 | 25 | 8 | 559 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 19 | 64 | 0 | 17 | 49 | 635 | 29 | 9 | 650 | 24 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 51 | 14 | 75 | 155 | 0 | 102 | 635 | 2512 | 1272 | 679 | 2603 | 1221 |
| Arrive On Green | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 | 1.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.80 |
| Sat Flow, veh/h | 208 | 220 | 1162 | 1393 | 0 | 1585 | 764 | 3131 | 1585 | 772 | 3244 | 1522 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 64 | 0 | 17 | 49 | 635 | 29 | 9 | 650 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1590 | 0 | 0 | 1393 | 0 | 1585 | 764 | 1566 | 1585 | 772 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 3.1 | 0.0 | 1.2 | 0.5 | 0.0 | 0.0 | 0.3 | 5.9 | 0.4 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 4.9 | 0.0 | 1.2 | 6.5 | 0.0 | 0.0 | 0.3 | 5.9 | 0.4 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 140 | 0 | 0 | 155 | 0 | 102 | 635 | 2512 | 1272 | 679 | 2603 | 1221 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.00 | 0.41 | 0.00 | 0.17 | 0.08 | 0.25 | 0.02 | 0.01 | 0.25 | 0.02 |
| Avail Cap(c_a), veh/h | 437 | 0 | 0 | 426 | 0 | 409 | 635 | 2512 | 1272 | 679 | 2603 | 1221 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.74 | 0.74 | 0.74 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.4 | 0.0 | 0.0 | 54.7 | 0.0 | 53.1 | 0.2 | 0.0 | 0.0 | 2.4 | 2.9 | 2.4 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 1.7 | 0.0 | 0.8 | 0.2 | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.0 | 0.0 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 | 1.3 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.0 | 0.0 | 0.0 | 56.4 | 0.0 | 53.9 | 0.4 | 0.2 | 0.0 | 2.4 | 3.2 | 2.4 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 26 | | | 81 | | | 713 | | | 683 | |
| Approach Delay, s/veh | | 54.0 | | | 55.9 | | | 0.2 | | | 3.1 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 104.3 | | 15.7 | | 104.3 | | 15.7 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 75.0 | | 33.0 | | 75.0 | | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.5 | | 3.8 | | 7.9 | | 6.9 | | | | |
| Green Ext Time (p_c), s | | 5.1 | | 0.1 | | 4.8 | | 0.2 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 5.5 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 1160 | 70 | 82 | 711 | 221 | 120 | 224 | 137 | 241 | 154 | 143 |
| Future Volume (veh/h) | 130 | 1160 | 70 | 82 | 711 | 221 | 120 | 224 | 137 | 241 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 138 | 1234 | 0 | 87 | 756 | 0 | 128 | 238 | 146 | 256 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 165 | 1509 | | 80 | 1448 | | 228 | 287 | 202 | 278 | 301 | 325 |
| Arrive On Green | 0.05 | 0.46 | 0.00 | 0.03 | 0.30 | 0.00 | 0.05 | 0.08 | 0.08 | 0.04 | 0.05 | 0.05 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 138 | 1234 | 0 | 87 | 756 | 0 | 128 | 238 | 146 | 256 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 4.9 | 38.9 | 0.0 | 5.6 | 23.5 | 0.0 | 5.9 | 7.9 | 9.7 | 15.7 | 10.3 | 10.9 |
| Cycle Q Clear(g_c), s | 4.9 | 38.9 | 0.0 | 5.6 | 23.5 | 0.0 | 5.9 | 7.9 | 9.7 | 15.7 | 10.3 | 10.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 1509 | | 80 | 1448 | | 228 | 287 | 202 | 278 | 301 | 325 |
| V/C Ratio(X) | 0.84 | 0.82 | | 1.09 | 0.52 | | 0.56 | 0.83 | 0.72 | 0.92 | 0.54 | 0.47 |
| Avail Cap(c_a), veh/h | 282 | 1509 | | 111 | 1448 | | 246 | 287 | 202 | 278 | 301 | 325 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.85 | 0.85 | 0.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 56.6 | 28.2 | 0.0 | 58.1 | 31.0 | 0.0 | 49.3 | 54.3 | 50.3 | 48.4 | 52.5 | 47.0 |
| Incr Delay (d2), s/veh | 10.5 | 5.0 | 0.0 | 101.4 | 1.1 | 0.0 | 2.4 | 18.0 | 12.1 | 33.1 | 2.0 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 15.2 | 0.0 | 4.6 | 9.5 | 0.0 | 3.8 | 4.3 | 4.9 | 3.3 | 5.2 | 4.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.1 | 33.3 | 0.0 | 159.5 | 32.1 | 0.0 | 51.7 | 72.3 | 62.5 | 81.5 | 54.4 | 48.0 |
| LnGrp LOS | E | C | | F | C | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1372 | | | 843 | | | 512 | | | 572 | |
| Approach Delay, s/veh | | 36.7 | | | 45.3 | | | 64.4 | | | 64.8 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 64.2 | 14.2 | 27.8 | 14.2 | 63.8 | 24.0 | 18.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 9.7 | 54.7 | 9.1 | 20.3 | 12.1 | 52.3 | 17.7 | 11.7 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 40.9 | 7.9 | 12.9 | 6.9 | 25.5 | 17.7 | 11.7 |
| Green Ext Time (p_c), s | 0.0 | 6.7 | 0.0 | 0.8 | 0.2 | 5.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.0 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 13 | 1545 | 1025 | 30 | 91 | 40 |
| Future Volume (veh/h) | 13 | 1545 | 1025 | 30 | 91 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1737 | 1663 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 1679 | 1114 | 33 | 99 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Cap, veh/h | 191 | 1831 | 1753 | 879 | 556 | 494 |
| Arrive On Green | 1.00 | 1.00 | 0.55 | 0.55 | 0.31 | 0.31 |
| Sat Flow, veh/h | 506 | 3387 | 3243 | 1585 | 1781 | 1585 |
| Grp Volume(v), veh/h | 14 | 1679 | 1114 | 33 | 99 | 43 |
| Grp Sat Flow(s),veh/h/ln | 506 | 1650 | 1580 | 1585 | 1781 | 1585 |
| Q Serve(g_s), s | 1.9 | 0.0 | 29.1 | 1.1 | 4.9 | 2.3 |
| Cycle Q Clear(g_c), s | 37.4 | 0.0 | 29.1 | 1.1 | 4.9 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 191 | 1831 | 1753 | 879 | 556 | 494 |
| V/C Ratio(X) | 0.07 | 0.92 | 0.64 | 0.04 | 0.18 | 0.09 |
| Avail Cap(c_a), veh/h | 269 | 2338 | 2238 | 1123 | 556 | 494 |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.45 | 0.45 | 0.80 | 0.80 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.0 | 0.0 | 18.4 | 12.1 | 30.1 | 29.2 |
| Incr Delay (d2), s/veh | 0.1 | 2.6 | 0.3 | 0.0 | 0.7 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.6 | 9.6 | 0.4 | 2.1 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 10.0 | 2.6 | 18.7 | 12.2 | 30.8 | 29.5 |
| LnGrp LOS | B | A | B | B | C | C |
| Approach Vol, veh/h | | 1693 | 1147 | | 142 | |
| Approach Delay, s/veh | | 2.6 | 18.5 | | 30.4 | |
| Approach LOS | | A | B | | C | |

| Timer - Assigned Phs | | | 4 | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | | 69.2 | | 50.8 | 69.2 |
| Change Period (Y+Rc), s | | | 6.0 | | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | | | 87.0 | | 21.0 | 87.0 |
| Max Q Clear Time (g_c+I1), s | | | 39.4 | | 6.9 | 31.1 |
| Green Ext Time (p_c), s | | | 18.5 | | 0.3 | 9.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.0 |
| HCM 6th LOS | | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 3 | 48 | 59 | 0 | 13 | 34 | 782 | 130 | 24 | 703 | 13 |
| Future Volume (veh/h) | 17 | 3 | 48 | 59 | 0 | 13 | 34 | 782 | 130 | 24 | 703 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 19 | 3 | 54 | 66 | 0 | 15 | 38 | 879 | 146 | 27 | 790 | 15 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 51 | 14 | 72 | 139 | 0 | 101 | 559 | 2804 | 1281 | 502 | 2850 | 1078 |
| Arrive On Green | 0.06 | 0.06 | 0.06 | 0.06 | 0.00 | 0.06 | 1.00 | 1.00 | 1.00 | 0.81 | 0.81 | 0.81 |
| Sat Flow, veh/h | 234 | 226 | 1129 | 1346 | 0 | 1585 | 666 | 3469 | 1585 | 550 | 3526 | 1334 |
| Grp Volume(v), veh/h | 76 | 0 | 0 | 66 | 0 | 15 | 38 | 879 | 146 | 27 | 790 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1588 | 0 | 0 | 1346 | 0 | 1585 | 666 | 1735 | 1585 | 550 | 1763 | 1334 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 0.6 | 0.0 | 1.1 | 0.5 | 0.0 | 0.0 | 1.2 | 6.9 | 0.3 |
| Cycle Q Clear(g_c), s | 5.8 | 0.0 | 0.0 | 6.4 | 0.0 | 1.1 | 7.4 | 0.0 | 0.0 | 1.2 | 6.9 | 0.3 |
| Prop In Lane | 0.25 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 0 | 0 | 139 | 0 | 101 | 559 | 2804 | 1281 | 502 | 2850 | 1078 |
| V/C Ratio(X) | 0.55 | 0.00 | 0.00 | 0.47 | 0.00 | 0.15 | 0.07 | 0.31 | 0.11 | 0.05 | 0.28 | 0.01 |
| Avail Cap(c_a), veh/h | 409 | 0 | 0 | 377 | 0 | 380 | 559 | 2804 | 1281 | 502 | 2850 | 1078 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.63 | 0.63 | 0.63 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.5 | 0.0 | 0.0 | 57.8 | 0.0 | 55.3 | 0.3 | 0.0 | 0.0 | 2.4 | 3.0 | 2.3 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 0.0 | 2.5 | 0.0 | 0.7 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 0.0 | 0.0 | 2.2 | 0.0 | 0.5 | 0.0 | 0.1 | 0.0 | 0.1 | 1.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.9 | 0.0 | 0.0 | 60.3 | 0.0 | 56.0 | 0.4 | 0.2 | 0.1 | 2.6 | 3.2 | 2.3 |
| LnGrp LOS | E | A | A | E | A | E | A | A | A | A | A | A |
| Approach Vol, veh/h | | 76 | | | 81 | | | 1063 | | | 832 | |
| Approach Delay, s/veh | | 60.9 | | | 59.5 | | | 0.2 | | | 3.2 | |
| Approach LOS | | E | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 109.0 | | 16.0 | | 109.0 | | 16.0 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 81.0 | | 32.0 | | 81.0 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.4 | | 7.8 | | 8.9 | | 8.4 | | | | |
| Green Ext Time (p_c), s | | 8.0 | | 0.4 | | 6.4 | | 0.2 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 6.0 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 243 | 867 | 83 | 217 | 1030 | 306 | 144 | 296 | 140 | 280 | 295 | 222 |
| Future Volume (veh/h) | 243 | 867 | 83 | 217 | 1030 | 306 | 144 | 296 | 140 | 280 | 295 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 256 | 913 | 0 | 228 | 1084 | 0 | 152 | 312 | 147 | 295 | 311 | 234 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 261 | 1261 | | 231 | 1457 | | 165 | 344 | 356 | 301 | 325 | 396 |
| Arrive On Green | 0.08 | 0.37 | 0.00 | 0.04 | 0.14 | 0.00 | 0.06 | 0.10 | 0.10 | 0.04 | 0.06 | 0.06 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 256 | 913 | 0 | 228 | 1084 | 0 | 152 | 312 | 147 | 295 | 311 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 9.3 | 28.6 | 0.0 | 16.0 | 37.5 | 0.0 | 7.1 | 10.9 | 10.0 | 16.7 | 20.7 | 16.6 |
| Cycle Q Clear(g_c), s | 9.3 | 28.6 | 0.0 | 16.0 | 37.5 | 0.0 | 7.1 | 10.9 | 10.0 | 16.7 | 20.7 | 16.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 261 | 1261 | | 231 | 1457 | | 165 | 344 | 356 | 301 | 325 | 396 |
| V/C Ratio(X) | 0.98 | 0.72 | | 0.99 | 0.74 | | 0.92 | 0.91 | 0.41 | 0.98 | 0.96 | 0.59 |
| Avail Cap(c_a), veh/h | 321 | 1261 | | 281 | 1457 | | 174 | 446 | 401 | 301 | 370 | 434 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.59 | 0.59 | 0.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 57.7 | 34.1 | 0.0 | 59.7 | 47.4 | 0.0 | 52.1 | 55.9 | 41.3 | 48.8 | 58.5 | 47.2 |
| Incr Delay (d2), s/veh | 41.5 | 3.6 | 0.0 | 35.4 | 2.1 | 0.0 | 44.5 | 18.6 | 0.8 | 45.6 | 33.4 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.4 | 11.9 | 0.0 | 9.9 | 17.8 | 0.0 | 3.4 | 5.8 | 4.0 | 4.8 | 13.4 | 7.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 99.2 | 37.8 | 0.0 | 95.1 | 49.5 | 0.0 | 96.5 | 74.5 | 42.0 | 94.4 | 91.8 | 49.0 |
| LnGrp LOS | F | D | | F | D | | F | E | D | F | F | D |
| Approach Vol, veh/h | | 1169 | | | 1312 | | | 611 | | | 840 | |
| Approach Delay, s/veh | | 51.2 | | | 57.4 | | | 72.2 | | | 80.8 | |
| Approach LOS | | D | | | E | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 24.5 | 55.1 | 15.4 | 30.0 | 17.8 | 61.8 | 25.0 | 20.4 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 21.7 | 40.7 | 9.7 | 26.7 | 13.7 | 48.7 | 18.7 | 17.7 |
| Max Q Clear Time (g_c+I1), s | 18.0 | 30.6 | 9.1 | 22.7 | 11.3 | 39.5 | 18.7 | 12.9 |
| Green Ext Time (p_c), s | 0.2 | 4.0 | 0.0 | 1.0 | 0.2 | 4.5 | 0.0 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 62.9 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 43 | 1231 | 1697 | 99 | 58 | 25 |
| Future Volume (veh/h) | 43 | 1231 | 1697 | 99 | 58 | 25 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1796 | 1826 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 47 | 1338 | 1845 | 108 | 63 | 27 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Cap, veh/h | 119 | 2249 | 2286 | 1044 | 379 | 338 |
| Arrive On Green | 0.66 | 0.66 | 0.66 | 0.66 | 0.21 | 0.21 |
| Sat Flow, veh/h | 225 | 3503 | 3561 | 1585 | 1781 | 1585 |
| Grp Volume(v), veh/h | 47 | 1338 | 1845 | 108 | 63 | 27 |
| Grp Sat Flow(s),veh/h/ln | 225 | 1706 | 1735 | 1585 | 1781 | 1585 |
| Q Serve(g_s), s | 24.0 | 27.5 | 48.4 | 3.1 | 3.6 | 1.7 |
| Cycle Q Clear(g_c), s | 72.4 | 27.5 | 48.4 | 3.1 | 3.6 | 1.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 119 | 2249 | 2286 | 1044 | 379 | 338 |
| V/C Ratio(X) | 0.40 | 0.59 | 0.81 | 0.10 | 0.17 | 0.08 |
| Avail Cap(c_a), veh/h | 134 | 2485 | 2526 | 1154 | 379 | 338 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.56 | 0.56 | 0.33 | 0.33 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.9 | 12.0 | 15.5 | 7.8 | 40.1 | 39.4 |
| Incr Delay (d2), s/veh | 1.2 | 0.2 | 0.6 | 0.0 | 0.9 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 8.9 | 16.1 | 0.9 | 1.7 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 43.1 | 12.1 | 16.2 | 7.8 | 41.1 | 39.8 |
| LnGrp LOS | D | B | B | A | D | D |
| Approach Vol, veh/h | | 1385 | 1953 | | 90 | |
| Approach Delay, s/veh | | 13.2 | 15.7 | | 40.7 | |
| Approach LOS | | B | B | | D | |

| Timer - Assigned Phs | 4 | 6 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 90.4 | 34.6 | 90.4 |
| Change Period (Y+Rc), s | 6.0 | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | 93.0 | 20.0 | 93.0 |
| Max Q Clear Time (g_c+I1), s | 74.4 | 5.6 | 50.4 |
| Green Ext Time (p_c), s | 10.0 | 0.2 | 21.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.3 |
| HCM 6th LOS | B |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 98 | 72 | 37 | 552 | 534 | 84 |
| Future Volume (veh/h) | 98 | 72 | 37 | 552 | 534 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 104 | 77 | 39 | 587 | 568 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 239 | 248 | 290 | 1690 | 1066 | 746 |
| Arrive On Green | 0.14 | 0.14 | 0.02 | 0.53 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 104 | 77 | 39 | 587 | 568 | 89 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.9 | 2.3 | 0.9 | 5.7 | 7.8 | 1.7 |
| Cycle Q Clear(g_c), s | 2.9 | 2.3 | 0.9 | 5.7 | 7.8 | 1.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 248 | 290 | 1690 | 1066 | 746 |
| V/C Ratio(X) | 0.44 | 0.31 | 0.13 | 0.35 | 0.53 | 0.12 |
| Avail Cap(c_a), veh/h | 749 | 709 | 625 | 3857 | 2547 | 1482 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.3 | 20.1 | 11.2 | 7.1 | 14.5 | 8.0 |
| Incr Delay (d2), s/veh | 1.3 | 0.7 | 0.2 | 0.1 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.2 | 1.3 | 2.3 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.6 | 20.8 | 11.4 | 7.3 | 14.9 | 8.1 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 181 | | | 626 | 657 | |
| Approach Delay, s/veh | 21.8 | | | 7.5 | 14.0 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.5 | | 16.3 | 10.8 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.7 | | 4.9 | 2.9 | 9.8 |
| Green Ext Time (p_c), s | | 4.1 | | 0.5 | 0.0 | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.2 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 27 | 568 | 3 | 20 | 587 |
| Future Vol, veh/h | 8 | 27 | 568 | 3 | 20 | 587 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 9 | 29 | 617 | 3 | 22 | 638 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 982 | 310 | 0 | 0 | 620 | 0 |
| Stage 1 | 619 | - | - | - | - | - |
| Stage 2 | 363 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 246 | 686 | - | - | 956 | - |
| Stage 1 | 499 | - | - | - | - | - |
| Stage 2 | 674 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 240 | 686 | - | - | 956 | - |
| Mov Cap-2 Maneuver | 365 | - | - | - | - | - |
| Stage 1 | 499 | - | - | - | - | - |
| Stage 2 | 658 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.8 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 571 | 956 | - |
| HCM Lane V/C Ratio | - | - | 0.067 | 0.023 | - |
| HCM Control Delay (s) | - | - | 11.8 | 8.9 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 16 | 55 | 0 | 19 | 42 | 546 | 25 | 15 | 559 | 21 |
| Future Vol, veh/h | 6 | 0 | 16 | 55 | 0 | 19 | 42 | 546 | 25 | 15 | 559 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 19 | 64 | 0 | 22 | 49 | 635 | 29 | 17 | 650 | 24 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1100 | 1446 | 325 | 1092 | 1441 | 318 | 674 | 0 | 0 | 664 | 0 | 0 |
| Stage 1 | 684 | 684 | - | 733 | 733 | - | - | - | - | - | - | - |
| Stage 2 | 416 | 762 | - | 359 | 708 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 140 | 131 | 653 | 169 | 131 | 678 | 913 | - | - | 921 | - | - |
| Stage 1 | 355 | 447 | - | 378 | 424 | - | - | - | - | - | - | - |
| Stage 2 | 527 | 412 | - | 632 | 436 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 128 | 122 | 653 | 155 | 122 | 678 | 913 | - | - | 921 | - | - |
| Mov Cap-2 Maneuver | 128 | 122 | - | 155 | 122 | - | - | - | - | - | - | - |
| Stage 1 | 336 | 439 | - | 358 | 401 | - | - | - | - | - | - | - |
| Stage 2 | 482 | 390 | - | 603 | 428 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.7 | 35.1 | 0.6 | 0.2 |
| HCM LOS | C | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | 308 | 155 | 678 | 921 | - | - |
| HCM Lane V/C Ratio | 0.053 | - | - | 0.083 | 0.413 | 0.033 | 0.019 | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 17.7 | 43.6 | 10.5 | 9 | - | - |
| HCM Lane LOS | A | - | - | C | E | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | 1.8 | 0.1 | 0.1 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 1195 | 70 | 94 | 732 | 221 | 120 | 224 | 157 | 241 | 154 | 143 |
| Future Volume (veh/h) | 130 | 1195 | 70 | 94 | 732 | 221 | 120 | 224 | 157 | 241 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 138 | 1271 | 0 | 100 | 779 | 0 | 128 | 238 | 167 | 256 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 137 | 1303 | | 82 | 1157 | | 297 | 275 | 185 | 289 | 409 | 339 |
| Arrive On Green | 0.08 | 0.39 | 0.00 | 0.05 | 0.36 | 0.00 | 0.05 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2031 | 1369 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 138 | 1271 | 0 | 100 | 779 | 0 | 128 | 207 | 198 | 256 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1624 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 9.5 | 45.5 | 0.0 | 5.7 | 24.7 | 0.0 | 6.2 | 13.7 | 14.4 | 16.5 | 9.1 | 10.3 |
| Cycle Q Clear(g_c), s | 9.5 | 45.5 | 0.0 | 5.7 | 24.7 | 0.0 | 6.2 | 13.7 | 14.4 | 16.5 | 9.1 | 10.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.84 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 1303 | | 82 | 1157 | | 297 | 241 | 220 | 289 | 409 | 339 |
| V/C Ratio(X) | 1.01 | 0.98 | | 1.22 | 0.67 | | 0.43 | 0.86 | 0.90 | 0.89 | 0.40 | 0.45 |
| Avail Cap(c_a), veh/h | 197 | 1303 | | 168 | 1157 | | 333 | 366 | 334 | 292 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.2 | 35.7 | 0.0 | 57.1 | 32.2 | 0.0 | 42.7 | 50.8 | 51.1 | 37.7 | 40.0 | 40.5 |
| Incr Delay (d2), s/veh | 58.4 | 19.7 | 0.0 | 131.2 | 3.1 | 0.0 | 1.0 | 12.3 | 18.8 | 26.1 | 0.6 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.2 | 20.5 | 0.0 | 5.4 | 9.5 | 0.0 | 3.5 | 6.9 | 7.0 | 8.2 | 4.1 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 113.7 | 55.5 | 0.0 | 188.3 | 35.3 | 0.0 | 43.7 | 63.0 | 69.9 | 63.8 | 40.6 | 41.4 |
| LnGrp LOS | F | E | | F | D | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1409 | | | 879 | | | 533 | | | 572 | |
| Approach Delay, s/veh | | 61.2 | | | 52.8 | | | 61.0 | | | 51.2 | |
| Approach LOS | | E | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 56.7 | 14.5 | 34.8 | 17.8 | 52.9 | 24.8 | 24.6 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 47.5 | 8.2 | 12.3 | 11.5 | 26.7 | 18.5 | 16.4 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.3 | 0.1 | 2.4 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 57.3 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 62.5 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 68 | 1545 | 1025 | 91 | 128 | 73 |
| Future Vol, veh/h | 68 | 1545 | 1025 | 91 | 128 | 73 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 175 | - | - | 275 | 0 | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Mvmt Flow | 74 | 1679 | 1114 | 99 | 139 | 79 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1213 | 0 | - | 0 | 2102 | 557 |
| Stage 1 | - | - | - | - | 1114 | - |
| Stage 2 | - | - | - | - | 988 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 571 | - | - | - | ~ 44 | 474 |
| Stage 1 | - | - | - | - | 276 | - |
| Stage 2 | - | - | - | - | 321 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 571 | - | - | - | ~ 38 | 474 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 38 | - |
| Stage 1 | - | - | - | - | 240 | - |
| Stage 2 | - | - | - | - | 321 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.5 | 0 | $ 906.8 |
| HCM LOS | | | F |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 571 | - | - | - | 38 | 474 |
| HCM Lane V/C Ratio | 0.129 | - | - | - | 3.661 | 0.167 |
| HCM Control Delay (s) | 12.2 | - | - | - | $ 1415.9 | 14.1 |
| HCM Lane LOS | B | - | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.4 | - | - | - | 15.9 | 0.6 |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 209 | 1465 | 1084 | 136 | 44 | 32 |
| Future Volume (veh/h) | 209 | 1465 | 1084 | 136 | 44 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 232 | 1628 | 1204 | 151 | 49 | 36 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 319 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 232 | 1628 | 1204 | 151 | 49 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.9 | 23.4 | 22.8 | 3.8 | 4.4 | 2.5 |
| Cycle Q Clear(g_c), s | 4.9 | 23.4 | 22.8 | 3.8 | 4.4 | 2.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 319 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.73 | 0.63 | 0.57 | 0.15 | 0.74 | 0.23 |
| Avail Cap(c_a), veh/h | 393 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.2 | 5.2 | 10.1 | 4.9 | 51.2 | 44.8 |
| Incr Delay (d2), s/veh | 5.1 | 1.2 | 1.2 | 0.3 | 14.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 5.1 | 6.7 | 1.2 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 6.4 | 11.2 | 5.2 | 65.9 | 45.6 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1860 | 1355 | | 85 | |
| Approach Delay, s/veh | | 7.7 | 10.5 | | 57.3 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 25.4 | | 6.4 | 6.9 | 24.8 |
| Green Ext Time (p_c), s | | 18.0 | | 0.1 | 0.3 | 10.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.2 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 2 | 18 | 9 | 0 | 38 | 4 | 29 | 0 | 0 | 11 | 0 | 7 |
| Future Vol, veh/h | 2 | 18 | 9 | 0 | 38 | 4 | 29 | 0 | 0 | 11 | 0 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 20 | 10 | 0 | 41 | 4 | 32 | 0 | 0 | 12 | 0 | 8 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 45 | 0 | 0 | 30 | 0 | 0 | 76 | 74 | 25 | 72 | 77 | 43 |
| Stage 1 | - | - | - | - | - | - | 29 | 29 | - | 43 | 43 | - |
| Stage 2 | - | - | - | - | - | - | 47 | 45 | - | 29 | 34 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1563 | - | - | 1583 | - | - | 914 | 816 | 1051 | 919 | 813 | 1027 |
| Stage 1 | - | - | - | - | - | - | 988 | 871 | - | 971 | 859 | - |
| Stage 2 | - | - | - | - | - | - | 967 | 857 | - | 988 | 867 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1563 | - | - | 1583 | - | - | 907 | 815 | 1051 | 918 | 812 | 1027 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 907 | 815 | - | 918 | 812 | - |
| Stage 1 | - | - | - | - | - | - | 987 | 870 | - | 970 | 859 | - |
| Stage 2 | - | - | - | - | - | - | 960 | 857 | - | 987 | 866 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.5 | 0 | 9.1 | 8.8 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 907 | 1563 | - | - | 1583 | - | - | 958 |
| HCM Lane V/C Ratio | 0.035 | 0.001 | - | - | - | - | - | 0.02 |
| HCM Control Delay (s) | 9.1 | 7.3 | 0 | - | 0 | - | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 25 | 0 | 2 | 19 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 25 | 0 | 2 | 19 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 27 | 0 | 2 | 21 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 56 | 53 | 22 | 53 | 53 | 27 | 22 | 0 | 0 | 27 | 0 | 0 |
| Stage 1 | 26 | 26 | - | 27 | 27 | - | - | - | - | - | - | - |
| Stage 2 | 30 | 27 | - | 26 | 26 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 941 | 838 | 1055 | 946 | 838 | 1048 | 1593 | - | - | 1587 | - | - |
| Stage 1 | 992 | 874 | - | 990 | 873 | - | - | - | - | - | - | - |
| Stage 2 | 987 | 873 | - | 992 | 874 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 935 | 837 | 1055 | 945 | 837 | 1048 | 1593 | - | - | 1587 | - | - |
| Mov Cap-2 Maneuver | 935 | 837 | - | 945 | 837 | - | - | - | - | - | - | - |
| Stage 1 | 992 | 873 | - | 990 | 873 | - | - | - | - | - | - | - |
| Stage 2 | 982 | 873 | - | 991 | 873 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.9 | 8.5 | 0 | 0.7 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1593 | - | - | 935 | 1048 | 1587 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.005 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.9 | 8.5 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.3 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 4 | 26 | 22 | 11 | 5 | 15 | 25 | 7 | 2 | 54 | 13 |
| Future Vol, veh/h | 4 | 4 | 26 | 22 | 11 | 5 | 15 | 25 | 7 | 2 | 54 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 4 | 28 | 24 | 12 | 5 | 16 | 27 | 8 | 2 | 59 | 14 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7 | 7.5 | 7.4 | 7.4 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 32% | 12% | 58% | 3% |
| Vol Thru, % | 53% | 12% | 29% | 78% |
| Vol Right, % | 15% | 76% | 13% | 19% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 47 | 34 | 38 | 69 |
| LT Vol | 15 | 4 | 22 | 2 |
| Through Vol | 25 | 4 | 11 | 54 |
| RT Vol | 7 | 26 | 5 | 13 |
| Lane Flow Rate | 51 | 37 | 41 | 75 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.058 | 0.038 | 0.048 | 0.083 |
| Departure Headway (Hd) | 4.103 | 3.748 | 4.218 | 4.002 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 868 | 945 | 842 | 891 |
| Service Time | 2.148 | 1.814 | 2.278 | 2.044 |
| HCM Lane V/C Ratio | 0.059 | 0.039 | 0.049 | 0.084 |
| HCM Control Delay | 7.4 | 7 | 7.5 | 7.4 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.2 | 0.1 | 0.2 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.4 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 40 | 13 | 43 | 110 | 1 |
| Future Vol, veh/h | 4 | 40 | 13 | 43 | 110 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 43 | 14 | 47 | 120 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 196 | 121 | 121 | 0 | - | 0 |
| Stage 1 | 121 | - | - | - | - | - |
| Stage 2 | 75 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 793 | 930 | 1467 | - | - | - |
| Stage 1 | 904 | - | - | - | - | - |
| Stage 2 | 948 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 785 | 930 | 1467 | - | - | - |
| Mov Cap-2 Maneuver | 785 | - | - | - | - | - |
| Stage 1 | 895 | - | - | - | - | - |
| Stage 2 | 948 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.2 | 1.7 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1467 | - | 915 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | 0.052 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | 9.2 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 68 | 82 | 802 | 713 | 124 |
| Future Volume (veh/h) | 158 | 68 | 82 | 802 | 713 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 180 | 77 | 93 | 911 | 810 | 141 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 246 | 304 | 301 | 1905 | 1121 | 723 |
| Arrive On Green | 0.14 | 0.14 | 0.06 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 180 | 77 | 93 | 911 | 810 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 5.5 | 2.4 | 1.8 | 9.1 | 11.5 | 3.0 |
| Cycle Q Clear(g_c), s | 5.5 | 2.4 | 1.8 | 9.1 | 11.5 | 3.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 246 | 304 | 301 | 1905 | 1121 | 723 |
| V/C Ratio(X) | 0.73 | 0.25 | 0.31 | 0.48 | 0.72 | 0.19 |
| Avail Cap(c_a), veh/h | 724 | 715 | 604 | 4027 | 2678 | 1423 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.4 | 19.2 | 12.2 | 7.8 | 17.1 | 9.2 |
| Incr Delay (d2), s/veh | 4.2 | 0.4 | 0.6 | 0.2 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.6 | 2.2 | 3.9 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.5 | 19.6 | 12.8 | 8.0 | 18.0 | 9.3 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 257 | | | 1004 | 951 | |
| Approach Delay, s/veh | 25.2 | | | 8.4 | 16.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.8 | | 16.8 | 13.1 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 11.1 | | 7.5 | 3.8 | 13.5 |
| Green Ext Time (p_c), s | | 7.1 | | 0.7 | 0.1 | 6.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.9 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 45 | 792 | 7 | 47 | 729 |
| Future Vol, veh/h | 4 | 45 | 792 | 7 | 47 | 729 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 4 | 49 | 861 | 8 | 51 | 792 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1363 | 435 | 0 | 0 | 869 | 0 |
| Stage 1 | 865 | - | - | - | - | - |
| Stage 2 | 498 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 139 | 569 | - | - | 771 | - |
| Stage 1 | 373 | - | - | - | - | - |
| Stage 2 | 576 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 130 | 569 | - | - | 771 | - |
| Mov Cap-2 Maneuver | 258 | - | - | - | - | - |
| Stage 1 | 373 | - | - | - | - | - |
| Stage 2 | 538 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.7 | 0 | 0.6 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 518 | 771 | - |
| HCM Lane V/C Ratio | - | - | 0.103 | 0.066 | - |
| HCM Control Delay (s) | - | - | 12.7 | 10 | - |
| HCM Lane LOS | - | - | B | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0.2 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 3 | 48 | 52 | 0 | 25 | 34 | 757 | 119 | 36 | 684 | 13 |
| Future Vol, veh/h | 17 | 3 | 48 | 52 | 0 | 25 | 34 | 757 | 119 | 36 | 684 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 200 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 19 | 3 | 54 | 58 | 0 | 28 | 38 | 851 | 134 | 40 | 769 | 15 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1351 | 1910 | 385 | 1393 | 1791 | 426 | 784 | 0 | 0 | 985 | 0 | 0 |
| Stage 1 | 849 | 849 | - | 927 | 927 | - | - | - | - | - | - | - |
| Stage 2 | 502 | 1061 | - | 466 | 864 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 109 | 67 | 602 | 101 | 80 | 577 | 817 | - | - | 697 | - | - |
| Stage 1 | 322 | 375 | - | 289 | 345 | - | - | - | - | - | - | - |
| Stage 2 | 520 | 299 | - | 546 | 369 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 96 | 60 | 602 | 81 | 72 | 577 | 817 | - | - | 697 | - | - |
| Mov Cap-2 Maneuver | 96 | 60 | - | 81 | 72 | - | - | - | - | - | - | - |
| Stage 1 | 307 | 354 | - | 275 | 329 | - | - | - | - | - | - | - |
| Stage 2 | 472 | 285 | - | 464 | 348 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 29.5 | 86.3 | 0.4 | 0.5 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 817 | - | - | 222 | 81 | 577 | 697 | - | - |
| HCM Lane V/C Ratio | 0.047 | - | - | 0.344 | 0.721 | 0.049 | 0.058 | - | - |
| HCM Control Delay (s) | 9.6 | - | - | 29.5 | 122.2 | 11.6 | 10.5 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.5 | 3.5 | 0.2 | 0.2 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 230 | 913 | 83 | 247 | 1077 | 298 | 144 | 281 | 175 | 273 | 287 | 211 |
| Future Volume (veh/h) | 230 | 913 | 83 | 247 | 1077 | 298 | 144 | 281 | 175 | 273 | 287 | 211 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 242 | 961 | 0 | 260 | 1134 | 0 | 152 | 296 | 184 | 287 | 302 | 222 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1167 | | 238 | 1177 | | 190 | 233 | 141 | 310 | 383 | 324 |
| Arrive On Green | 0.13 | 0.34 | 0.00 | 0.13 | 0.34 | 0.00 | 0.05 | 0.11 | 0.11 | 0.14 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2128 | 1288 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 242 | 961 | 0 | 260 | 1134 | 0 | 152 | 246 | 234 | 287 | 302 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1639 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 32.0 | 0.0 | 16.7 | 40.1 | 0.0 | 6.2 | 13.7 | 13.7 | 17.9 | 19.1 | 16.2 |
| Cycle Q Clear(g_c), s | 16.7 | 32.0 | 0.0 | 16.7 | 40.1 | 0.0 | 6.2 | 13.7 | 13.7 | 17.9 | 19.1 | 16.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.79 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1167 | | 238 | 1177 | | 190 | 195 | 180 | 310 | 383 | 324 |
| V/C Ratio(X) | 1.03 | 0.82 | | 1.09 | 0.96 | | 0.80 | 1.26 | 1.30 | 0.92 | 0.79 | 0.68 |
| Avail Cap(c_a), veh/h | 236 | 1167 | | 238 | 1177 | | 198 | 195 | 180 | 334 | 400 | 339 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 37.9 | 0.0 | 54.2 | 40.5 | 0.0 | 51.9 | 55.7 | 55.7 | 40.8 | 47.2 | 46.0 |
| Incr Delay (d2), s/veh | 66.0 | 6.6 | 0.0 | 85.7 | 18.8 | 0.0 | 19.5 | 152.5 | 171.1 | 29.6 | 9.9 | 5.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.5 | 13.9 | 0.0 | 12.9 | 19.2 | 0.0 | 2.9 | 14.4 | 14.2 | 10.0 | 9.7 | 6.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 120.1 | 44.5 | 0.0 | 139.9 | 59.3 | 0.0 | 71.4 | 208.2 | 226.8 | 70.4 | 57.0 | 51.3 |
| LnGrp LOS | F | D | | F | E | | E | F | F | E | E | D |
| Approach Vol, veh/h | | 1203 | | | 1394 | | | 632 | | | 811 | |
| Approach Delay, s/veh | | 59.7 | | | 74.4 | | | 182.2 | | | 60.2 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.0 | 51.7 | 14.5 | 33.9 | 25.0 | 51.7 | 26.3 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 18.7 | 34.0 | 8.2 | 21.1 | 18.7 | 42.1 | 19.9 | 15.7 |
| Green Ext Time (p_c), s | 0.0 | 3.8 | 0.0 | 1.5 | 0.0 | 0.4 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 84.0 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 685.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 162 | 1187 | 1647 | 209 | 167 | 144 |
| Future Vol, veh/h | 162 | 1187 | 1647 | 209 | 167 | 144 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 175 | - | - | 275 | 0 | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Mvmt Flow | 176 | 1290 | 1790 | 227 | 182 | 157 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 2017 | 0 | - | 0 | 2787 | 895 |
| Stage 1 | - | - | - | - | 1790 | - |
| Stage 2 | - | - | - | - | 997 | - |
| Critical Hdwy | 4.14 | - | - | - | 6.84 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.84 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.84 | - |
| Follow-up Hdwy | 2.22 | - | - | - | 3.52 | 3.32 |
| Pot Cap-1 Maneuver | 279 | - | - | - | ~ 15 | 284 |
| Stage 1 | - | - | - | - | ~ 119 | - |
| Stage 2 | - | - | - | - | 318 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 279 | - | - | - | ~ 6 | 284 |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 6 | - |
| Stage 1 | - | - | - | - | ~ 44 | - |
| Stage 2 | - | - | - | - | 318 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.5 | 0 | $ 7727.5 |
| HCM LOS | | | F |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 279 | - | - | - | 6 | 284 |
| HCM Lane V/C Ratio | 0.631 | - | - | - | 30.254 | 0.551 |
| HCM Control Delay (s) | 37.6 | - | - | - | $ 14362.9 | 32.2 |
| HCM Lane LOS | E | - | - | - | F | D |
| HCM 95th %tile Q(veh) | 3.9 | - | - | - | 24.7 | 3.1 |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 148 | 1208 | 1800 | 83 | 58 | 56 |
| Future Volume (veh/h) | 148 | 1208 | 1800 | 83 | 58 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 157 | 1285 | 1915 | 88 | 62 | 60 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 187 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 157 | 1285 | 1915 | 88 | 62 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 14.5 | 45.5 | 2.6 | 5.1 | 4.7 |
| Cycle Q Clear(g_c), s | 3.5 | 14.5 | 45.5 | 2.6 | 5.1 | 4.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 187 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.84 | 0.47 | 0.80 | 0.10 | 0.85 | 0.42 |
| Avail Cap(c_a), veh/h | 212 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.5 | 3.8 | 12.7 | 4.3 | 56.6 | 50.7 |
| Incr Delay (d2), s/veh | 22.6 | 0.6 | 2.9 | 0.3 | 22.8 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 3.2 | 14.8 | 0.7 | 2.3 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 50.1 | 4.4 | 15.6 | 4.6 | 79.4 | 52.7 |
| LnGrp LOS | D | A | B | A | E | D |
| Approach Vol, veh/h | | 1442 | 2003 | | 122 | |
| Approach Delay, s/veh | | 9.4 | 15.1 | | 66.2 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 16.5 | | 7.1 | 5.5 | 47.5 |
| Green Ext Time (p_c), s | | 11.8 | | 0.3 | 0.1 | 14.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.5 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 45 | 25 | 0 | 33 | 9 | 15 | 0 | 0 | 5 | 0 | 3 |
| Future Vol, veh/h | 5 | 45 | 25 | 0 | 33 | 9 | 15 | 0 | 0 | 5 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 49 | 27 | 0 | 36 | 10 | 16 | 0 | 0 | 5 | 0 | 3 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 46 | 0 | 0 | 76 | 0 | 0 | 116 | 119 | 63 | 114 | 127 | 41 |
| Stage 1 | - | - | - | - | - | - | 73 | 73 | - | 41 | 41 | - |
| Stage 2 | - | - | - | - | - | - | 43 | 46 | - | 73 | 86 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1562 | - | - | 1523 | - | - | 861 | 771 | 1002 | 863 | 764 | 1030 |
| Stage 1 | - | - | - | - | - | - | 937 | 834 | - | 974 | 861 | - |
| Stage 2 | - | - | - | - | - | - | 971 | 857 | - | 937 | 824 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1562 | - | - | 1523 | - | - | 857 | 769 | 1002 | 861 | 762 | 1030 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 857 | 769 | - | 861 | 762 | - |
| Stage 1 | - | - | - | - | - | - | 934 | 831 | - | 971 | 861 | - |
| Stage 2 | - | - | - | - | - | - | 968 | 857 | - | 934 | 822 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.5 | 0 | 9.3 | 9 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 857 | 1562 | - | - | 1523 | - | - | 917 |
| HCM Lane V/C Ratio | 0.019 | 0.003 | - | - | - | - | - | 0.009 |
| HCM Control Delay (s) | 9.3 | 7.3 | 0 | - | 0 | - | - | 9 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 0 | 5 | 45 | 3 |
| Future Vol, veh/h | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 0 | 5 | 45 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 48 | 0 | 5 | 49 | 3 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 111 | 109 | 51 | 109 | 110 | 48 | 52 | 0 | 0 | 48 | 0 | 0 |
| Stage 1 | 61 | 61 | - | 48 | 48 | - | - | - | - | - | - | - |
| Stage 2 | 50 | 48 | - | 61 | 62 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 867 | 781 | 1017 | 870 | 780 | 1021 | 1554 | - | - | 1559 | - | - |
| Stage 1 | 950 | 844 | - | 965 | 855 | - | - | - | - | - | - | - |
| Stage 2 | 963 | 855 | - | 950 | 843 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 863 | 779 | 1017 | 868 | 778 | 1021 | 1554 | - | - | 1559 | - | - |
| Mov Cap-2 Maneuver | 863 | 779 | - | 868 | 778 | - | - | - | - | - | - | - |
| Stage 1 | 950 | 841 | - | 965 | 855 | - | - | - | - | - | - | - |
| Stage 2 | 960 | 855 | - | 947 | 840 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.2 | 8.5 | 0 | 0.7 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1554 | - | - | 863 | 1021 | 1559 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.003 | 0.003 | 0.003 | - | - |
| HCM Control Delay (s) | 0 | - | - | 9.2 | 8.5 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.7 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 12 | 10 | 28 | 12 | 6 | 3 | 31 | 73 | 20 | 5 | 54 | 7 |
| Future Vol, veh/h | 12 | 10 | 28 | 12 | 6 | 3 | 31 | 73 | 20 | 5 | 54 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 11 | 30 | 13 | 7 | 3 | 34 | 79 | 22 | 5 | 59 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.4 | 7.6 | 7.9 | 7.6 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 25% | 24% | 57% | 8% |
| Vol Thru, % | 59% | 20% | 29% | 82% |
| Vol Right, % | 16% | 56% | 14% | 11% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 124 | 50 | 21 | 66 |
| LT Vol | 31 | 12 | 12 | 5 |
| Through Vol | 73 | 10 | 6 | 54 |
| RT Vol | 20 | 28 | 3 | 7 |
| Lane Flow Rate | 135 | 54 | 23 | 72 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.153 | 0.062 | 0.028 | 0.082 |
| Departure Headway (Hd) | 4.075 | 4.123 | 4.473 | 4.122 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 873 | 874 | 805 | 859 |
| Service Time | 2.134 | 2.123 | 2.474 | 2.194 |
| HCM Lane V/C Ratio | 0.155 | 0.062 | 0.029 | 0.084 |
| HCM Control Delay | 7.9 | 7.4 | 7.6 | 7.6 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.5 | 0.2 | 0.1 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.6 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 20 | 35 | 129 | 92 | 3 |
| Future Vol, veh/h | 2 | 20 | 35 | 129 | 92 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 22 | 38 | 140 | 100 | 3 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 318 | 102 | 103 | 0 | - | 0 |
| Stage 1 | 102 | - | - | - | - | - |
| Stage 2 | 216 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 675 | 953 | 1489 | - | - | - |
| Stage 1 | 922 | - | - | - | - | - |
| Stage 2 | 820 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 656 | 953 | 1489 | - | - | - |
| Mov Cap-2 Maneuver | 656 | - | - | - | - | - |
| Stage 1 | 896 | - | - | - | - | - |
| Stage 2 | 820 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9 | 1.6 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1489 | - | 915 | - | - |
| HCM Lane V/C Ratio | 0.026 | - | 0.026 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | 9 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 16 | 55 | 0 | 19 | 42 | 546 | 25 | 15 | 559 | 21 |
| Future Volume (veh/h) | 6 | 0 | 16 | 55 | 0 | 19 | 42 | 546 | 25 | 15 | 559 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 19 | 64 | 0 | 22 | 49 | 635 | 29 | 17 | 650 | 24 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 52 | 14 | 75 | 156 | 0 | 103 | 635 | 2511 | 1271 | 679 | 2602 | 1221 |
| Arrive On Green | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 | 1.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.80 |
| Sat Flow, veh/h | 209 | 219 | 1161 | 1393 | 0 | 1585 | 764 | 3131 | 1585 | 772 | 3244 | 1522 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 64 | 0 | 22 | 49 | 635 | 29 | 17 | 650 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1589 | 0 | 0 | 1393 | 0 | 1585 | 764 | 1566 | 1585 | 772 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 3.1 | 0.0 | 1.6 | 0.5 | 0.0 | 0.0 | 0.5 | 6.0 | 0.4 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 4.9 | 0.0 | 1.6 | 6.5 | 0.0 | 0.0 | 0.5 | 6.0 | 0.4 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 141 | 0 | 0 | 156 | 0 | 103 | 635 | 2511 | 1271 | 679 | 2602 | 1221 |
| V/C Ratio(X) | 0.18 | 0.00 | 0.00 | 0.41 | 0.00 | 0.21 | 0.08 | 0.25 | 0.02 | 0.03 | 0.25 | 0.02 |
| Avail Cap(c_a), veh/h | 437 | 0 | 0 | 426 | 0 | 409 | 635 | 2511 | 1271 | 679 | 2602 | 1221 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.74 | 0.74 | 0.74 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.3 | 0.0 | 0.0 | 54.6 | 0.0 | 53.2 | 0.2 | 0.0 | 0.0 | 2.4 | 2.9 | 2.4 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 1.7 | 0.0 | 1.0 | 0.2 | 0.2 | 0.0 | 0.1 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.0 | 0.0 | 0.7 | 0.0 | 0.1 | 0.0 | 0.1 | 1.3 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.0 | 0.0 | 0.0 | 56.4 | 0.0 | 54.3 | 0.4 | 0.2 | 0.0 | 2.5 | 3.2 | 2.4 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 26 | | | 86 | | | 713 | | | 691 | |
| Approach Delay, s/veh | | 54.0 | | | 55.8 | | | 0.2 | | | 3.1 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 104.2 | | 15.8 | | 104.2 | | 15.8 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 75.0 | | 33.0 | | 75.0 | | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.5 | | 3.8 | | 8.0 | | 6.9 | | | | |
| Green Ext Time (p_c), s | | 5.1 | | 0.1 | | 4.9 | | 0.3 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 5.6 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 1195 | 70 | 94 | 732 | 221 | 120 | 224 | 157 | 241 | 154 | 143 |
| Future Volume (veh/h) | 130 | 1195 | 70 | 94 | 732 | 221 | 120 | 224 | 157 | 241 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 138 | 1271 | 0 | 100 | 779 | 0 | 128 | 238 | 167 | 256 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 165 | 1505 | | 82 | 1448 | | 228 | 287 | 204 | 278 | 301 | 325 |
| Arrive On Green | 0.05 | 0.46 | 0.00 | 0.02 | 0.15 | 0.00 | 0.05 | 0.08 | 0.08 | 0.04 | 0.05 | 0.05 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 138 | 1271 | 0 | 100 | 779 | 0 | 128 | 238 | 167 | 256 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 4.9 | 40.9 | 0.0 | 5.7 | 27.1 | 0.0 | 5.9 | 7.9 | 9.7 | 15.7 | 10.3 | 10.9 |
| Cycle Q Clear(g_c), s | 4.9 | 40.9 | 0.0 | 5.7 | 27.1 | 0.0 | 5.9 | 7.9 | 9.7 | 15.7 | 10.3 | 10.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 1505 | | 82 | 1448 | | 228 | 287 | 204 | 278 | 301 | 325 |
| V/C Ratio(X) | 0.84 | 0.84 | | 1.22 | 0.54 | | 0.56 | 0.83 | 0.82 | 0.92 | 0.54 | 0.47 |
| Avail Cap(c_a), veh/h | 284 | 1505 | | 125 | 1448 | | 246 | 287 | 204 | 278 | 301 | 325 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.77 | 0.77 | 0.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 56.6 | 28.9 | 0.0 | 59.1 | 39.4 | 0.0 | 49.3 | 54.3 | 50.9 | 48.4 | 52.5 | 47.0 |
| Incr Delay (d2), s/veh | 10.5 | 6.0 | 0.0 | 142.4 | 1.1 | 0.0 | 2.4 | 18.0 | 22.6 | 33.3 | 2.0 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 16.1 | 0.0 | 5.7 | 11.7 | 0.0 | 3.8 | 4.3 | 6.2 | 3.3 | 5.2 | 4.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.1 | 34.9 | 0.0 | 201.4 | 40.5 | 0.0 | 51.7 | 72.3 | 73.6 | 81.7 | 54.4 | 48.0 |
| LnGrp LOS | E | C | | F | D | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1409 | | | 879 | | | 533 | | | 572 | |
| Approach Delay, s/veh | | 38.0 | | | 58.8 | | | 67.8 | | | 64.9 | |
| Approach LOS | | D | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 64.0 | 14.2 | 27.8 | 14.2 | 63.8 | 24.0 | 18.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 10.7 | 53.7 | 9.1 | 20.3 | 12.2 | 52.2 | 17.7 | 11.7 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 42.9 | 7.9 | 12.9 | 6.9 | 29.1 | 17.7 | 11.7 |
| Green Ext Time (p_c), s | 0.1 | 5.9 | 0.0 | 0.8 | 0.2 | 5.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.6 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 68 | 1545 | 1025 | 91 | 128 | 73 |
| Future Volume (veh/h) | 68 | 1545 | 1025 | 91 | 128 | 73 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1737 | 1663 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 74 | 1679 | 1114 | 99 | 139 | 79 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Cap, veh/h | 185 | 1855 | 1450 | 727 | 542 | 541 |
| Arrive On Green | 0.07 | 1.00 | 0.46 | 0.46 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3387 | 3243 | 1585 | 1781 | 1585 |
| Grp Volume(v), veh/h | 74 | 1679 | 1114 | 99 | 139 | 79 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1650 | 1580 | 1585 | 1781 | 1585 |
| Q Serve(g_s), s | 2.6 | 0.0 | 35.4 | 4.3 | 7.1 | 4.1 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 35.4 | 4.3 | 7.1 | 4.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 185 | 1855 | 1450 | 727 | 542 | 541 |
| V/C Ratio(X) | 0.40 | 0.90 | 0.77 | 0.14 | 0.26 | 0.15 |
| Avail Cap(c_a), veh/h | 194 | 2310 | 1869 | 938 | 542 | 541 |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.39 | 0.39 | 0.76 | 0.76 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.9 | 0.0 | 27.1 | 18.7 | 31.5 | 27.4 |
| Incr Delay (d2), s/veh | 0.5 | 2.0 | 1.1 | 0.1 | 1.1 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.5 | 12.5 | 1.5 | 3.1 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 23.4 | 2.0 | 28.3 | 18.8 | 32.6 | 28.0 |
| LnGrp LOS | C | A | C | B | C | C |
| Approach Vol, veh/h | | 1753 | 1213 | | 218 | |
| Approach Delay, s/veh | | 2.9 | 27.5 | | 30.9 | |
| Approach LOS | | A | C | | C | |

| Timer - Assigned Phs | 4 | 6 | 7 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.2 | 49.8 | 12.4 | 57.8 |
| Change Period (Y+Rc), s | 6.0 | 6.0 | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | 86.0 | 22.0 | 7.0 | 73.0 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 9.1 | 4.6 | 37.4 |
| Green Ext Time (p_c), s | 20.5 | 0.5 | 0.0 | 9.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.2 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 3 | 48 | 52 | 0 | 25 | 34 | 757 | 119 | 36 | 684 | 13 |
| Future Volume (veh/h) | 17 | 3 | 48 | 52 | 0 | 25 | 34 | 757 | 119 | 36 | 684 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 19 | 3 | 54 | 58 | 0 | 28 | 38 | 851 | 134 | 40 | 769 | 15 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 51 | 14 | 72 | 139 | 0 | 101 | 570 | 2804 | 1281 | 519 | 2850 | 1078 |
| Arrive On Green | 0.06 | 0.06 | 0.06 | 0.06 | 0.00 | 0.06 | 1.00 | 1.00 | 1.00 | 0.81 | 0.81 | 0.81 |
| Sat Flow, veh/h | 233 | 226 | 1126 | 1346 | 0 | 1585 | 679 | 3469 | 1585 | 571 | 3526 | 1334 |
| Grp Volume(v), veh/h | 76 | 0 | 0 | 58 | 0 | 28 | 38 | 851 | 134 | 40 | 769 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1585 | 0 | 0 | 1346 | 0 | 1585 | 679 | 1735 | 1585 | 571 | 1763 | 1334 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 0.5 | 0.0 | 0.0 | 1.8 | 6.7 | 0.3 |
| Cycle Q Clear(g_c), s | 5.8 | 0.0 | 0.0 | 5.7 | 0.0 | 2.1 | 7.2 | 0.0 | 0.0 | 1.8 | 6.7 | 0.3 |
| Prop In Lane | 0.25 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 0 | 0 | 139 | 0 | 101 | 570 | 2804 | 1281 | 519 | 2850 | 1078 |
| V/C Ratio(X) | 0.55 | 0.00 | 0.00 | 0.42 | 0.00 | 0.28 | 0.07 | 0.30 | 0.10 | 0.08 | 0.27 | 0.01 |
| Avail Cap(c_a), veh/h | 408 | 0 | 0 | 377 | 0 | 380 | 570 | 2804 | 1281 | 519 | 2850 | 1078 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.66 | 0.66 | 0.66 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.5 | 0.0 | 0.0 | 57.4 | 0.0 | 55.8 | 0.2 | 0.0 | 0.0 | 2.5 | 2.9 | 2.3 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 0.0 | 2.0 | 0.0 | 1.5 | 0.1 | 0.2 | 0.1 | 0.3 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 0.0 | 0.0 | 1.9 | 0.0 | 0.9 | 0.0 | 0.1 | 0.0 | 0.2 | 1.6 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.9 | 0.0 | 0.0 | 59.4 | 0.0 | 57.2 | 0.4 | 0.2 | 0.1 | 2.8 | 3.2 | 2.3 |
| LnGrp LOS | E | A | A | E | A | E | A | A | A | A | A | A |
| Approach Vol, veh/h | | 76 | | | 86 | | | 1023 | | | 824 | |
| Approach Delay, s/veh | | 60.9 | | | 58.7 | | | 0.2 | | | 3.1 | |
| Approach LOS | | E | | | E | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 109.0 | | 16.0 | | 109.0 | | 16.0 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 81.0 | | 32.0 | | 81.0 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.2 | | 7.8 | | 8.7 | | 7.7 | | | | |
| Green Ext Time (p_c), s | | 7.6 | | 0.4 | | 6.3 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 6.2 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 230 | 913 | 83 | 247 | 1077 | 298 | 144 | 281 | 175 | 273 | 287 | 211 |
| Future Volume (veh/h) | 230 | 913 | 83 | 247 | 1077 | 298 | 144 | 281 | 175 | 273 | 287 | 211 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 242 | 961 | 0 | 260 | 1134 | 0 | 152 | 296 | 184 | 287 | 302 | 222 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 246 | 1230 | | 262 | 1502 | | 156 | 370 | 395 | 284 | 322 | 387 |
| Arrive On Green | 0.07 | 0.36 | 0.00 | 0.05 | 0.14 | 0.00 | 0.05 | 0.10 | 0.10 | 0.04 | 0.06 | 0.06 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 242 | 961 | 0 | 260 | 1134 | 0 | 152 | 296 | 184 | 287 | 302 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 8.8 | 31.1 | 0.0 | 18.2 | 39.3 | 0.0 | 6.2 | 10.2 | 12.4 | 14.7 | 20.1 | 15.8 |
| Cycle Q Clear(g_c), s | 8.8 | 31.1 | 0.0 | 18.2 | 39.3 | 0.0 | 6.2 | 10.2 | 12.4 | 14.7 | 20.1 | 15.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 246 | 1230 | | 262 | 1502 | | 156 | 370 | 395 | 284 | 322 | 387 |
| V/C Ratio(X) | 0.98 | 0.78 | | 0.99 | 0.75 | | 0.98 | 0.80 | 0.47 | 1.01 | 0.94 | 0.57 |
| Avail Cap(c_a), veh/h | 293 | 1230 | | 295 | 1502 | | 163 | 418 | 417 | 284 | 340 | 401 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.36 | 0.36 | 0.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 58.0 | 35.8 | 0.0 | 59.4 | 47.2 | 0.0 | 53.1 | 54.7 | 39.7 | 49.8 | 58.3 | 47.5 |
| Incr Delay (d2), s/veh | 45.3 | 5.0 | 0.0 | 27.9 | 1.3 | 0.0 | 62.6 | 9.5 | 0.9 | 55.1 | 31.5 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.2 | 13.2 | 0.0 | 10.7 | 18.4 | 0.0 | 4.5 | 5.1 | 5.0 | 6.0 | 12.9 | 6.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 103.2 | 40.8 | 0.0 | 87.3 | 48.5 | 0.0 | 115.7 | 64.2 | 40.5 | 104.9 | 89.7 | 49.3 |
| LnGrp LOS | F | D | | F | D | | F | E | D | F | F | D |
| Approach Vol, veh/h | | 1203 | | | 1394 | | | 632 | | | 811 | |
| Approach Delay, s/veh | | 53.3 | | | 55.7 | | | 69.7 | | | 84.0 | |
| Approach LOS | | D | | | E | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.7 | 54.0 | 14.5 | 29.9 | 17.3 | 63.4 | 23.0 | 21.3 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 22.7 | 42.7 | 8.7 | 24.7 | 12.7 | 52.7 | 16.7 | 16.7 |
| Max Q Clear Time (g_c+I1), s | 20.2 | 33.1 | 8.2 | 22.1 | 10.8 | 41.3 | 16.7 | 14.4 |
| Green Ext Time (p_c), s | 0.2 | 4.1 | 0.0 | 0.6 | 0.1 | 5.5 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 62.9 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 162 | 1187 | 1647 | 209 | 167 | 144 |
| Future Volume (veh/h) | 162 | 1187 | 1647 | 209 | 167 | 144 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1796 | 1826 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 176 | 1290 | 1790 | 227 | 182 | 157 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Cap, veh/h | 179 | 2294 | 1902 | 869 | 356 | 412 |
| Arrive On Green | 0.06 | 0.67 | 0.55 | 0.55 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3503 | 3561 | 1585 | 1781 | 1585 |
| Grp Volume(v), veh/h | 176 | 1290 | 1790 | 227 | 182 | 157 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1706 | 1735 | 1585 | 1781 | 1585 |
| Q Serve(g_s), s | 7.3 | 24.9 | 60.2 | 9.4 | 11.4 | 10.2 |
| Cycle Q Clear(g_c), s | 7.3 | 24.9 | 60.2 | 9.4 | 11.4 | 10.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 179 | 2294 | 1902 | 869 | 356 | 412 |
| V/C Ratio(X) | 0.99 | 0.56 | 0.94 | 0.26 | 0.51 | 0.38 |
| Avail Cap(c_a), veh/h | 271 | 2539 | 1971 | 900 | 356 | 412 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.51 | 0.51 | 0.27 | 0.27 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.7 | 10.8 | 26.4 | 14.9 | 44.6 | 38.0 |
| Incr Delay (d2), s/veh | 28.8 | 0.1 | 3.1 | 0.0 | 5.2 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.8 | 7.9 | 22.8 | 3.2 | 5.6 | 9.8 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 66.5 | 10.9 | 29.5 | 14.9 | 49.8 | 40.7 |
| LnGrp LOS | E | B | C | B | D | D |
| Approach Vol, veh/h | | 1466 | 2017 | | 339 | |
| Approach Delay, s/veh | | 17.6 | 27.9 | | 45.5 | |
| Approach LOS | | B | C | | D | |

| Timer - Assigned Phs | | | 4 | | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | | 92.0 | | 33.0 | 15.5 | 76.5 |
| Change Period (Y+Rc), s | | | 6.0 | | 6.0 | 6.0 | 6.0 |
| Max Green Setting (Gmax), s | | | 95.0 | | 18.0 | 16.0 | 73.0 |
| Max Q Clear Time (g_c+I1), s | | | 26.9 | | 13.4 | 9.3 | 62.2 |
| Green Ext Time (p_c), s | | | 11.9 | | 0.5 | 0.2 | 8.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.5 |
| HCM 6th LOS | C |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 517 | 9 | 15 | 530 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 517 | 9 | 15 | 530 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 29 | 0 | 601 | 10 | 17 | 616 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 951 | 1261 | 308 | 943 | 1251 | 301 | 616 | 0 | 0 | 611 | 0 | 0 |
| Stage 1 | 650 | 650 | - | 601 | 601 | - | - | - | - | - | - | - |
| Stage 2 | 301 | 611 | - | 342 | 650 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 214 | 169 | 688 | 217 | 171 | 652 | 960 | - | - | 964 | - | - |
| Stage 1 | 424 | 463 | - | 454 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 683 | 482 | - | 646 | 463 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 202 | 166 | 688 | 214 | 168 | 652 | 960 | - | - | 964 | - | - |
| Mov Cap-2 Maneuver | 202 | 166 | - | 214 | 168 | - | - | - | - | - | - | - |
| Stage 1 | 424 | 455 | - | 454 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 653 | 482 | - | 635 | 455 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 15.6 | 0 | 0.2 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 960 | - | - | - | 383 | 964 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.115 | 0.018 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 15.6 | 8.8 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 735 | 21 | 42 | 674 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 735 | 21 | 42 | 674 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 47 | 0 | 49 | 1 | 835 | 24 | 48 | 766 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1282 | 1723 | 383 | 1316 | 1699 | 418 | 766 | 0 | 0 | 859 | 0 | 0 |
| Stage 1 | 862 | 862 | - | 837 | 837 | - | - | - | - | - | - | - |
| Stage 2 | 420 | 861 | - | 479 | 862 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 122 | 88 | 615 | 115 | 91 | 581 | 843 | - | - | 778 | - | - |
| Stage 1 | 316 | 370 | - | 327 | 380 | - | - | - | - | - | - | - |
| Stage 2 | 581 | 371 | - | 537 | 370 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 106 | 82 | 615 | 109 | 85 | 581 | 843 | - | - | 778 | - | - |
| Mov Cap-2 Maneuver | 106 | 82 | - | 109 | 85 | - | - | - | - | - | - | - |
| Stage 1 | 316 | 347 | - | 327 | 380 | - | - | - | - | - | - | - |
| Stage 2 | 532 | 371 | - | 504 | 347 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 42.8 | 0 | 0.6 |
| HCM LOS | A | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 843 | - | - | - | 187 | 778 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.51 | 0.061 | - | - |
| HCM Control Delay (s) | 9.3 | - | - | 0 | 42.8 | 9.9 | - | - |
| HCM Lane LOS | A | - | - | A | E | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 2.6 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 564 | 9 | 15 | 580 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 564 | 9 | 15 | 580 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 29 | 0 | 656 | 10 | 17 | 674 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1036 | 1374 | 337 | 1027 | 1364 | 328 | 674 | 0 | 0 | 666 | 0 | 0 |
| Stage 1 | 708 | 708 | - | 656 | 656 | - | - | - | - | - | - | - |
| Stage 2 | 328 | 666 | - | 371 | 708 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 186 | 144 | 659 | 189 | 146 | 626 | 913 | - | - | 919 | - | - |
| Stage 1 | 392 | 436 | - | 421 | 460 | - | - | - | - | - | - | - |
| Stage 2 | 659 | 456 | - | 622 | 436 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 175 | 141 | 659 | 186 | 143 | 626 | 913 | - | - | 919 | - | - |
| Mov Cap-2 Maneuver | 175 | 141 | - | 186 | 143 | - | - | - | - | - | - | - |
| Stage 1 | 392 | 428 | - | 421 | 460 | - | - | - | - | - | - | - |
| Stage 2 | 628 | 456 | - | 610 | 428 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 16.9 | 0 | 0.2 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | - | 346 | 919 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.128 | 0.019 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 16.9 | 9 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 804 | 21 | 42 | 735 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 804 | 21 | 42 | 735 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 47 | 0 | 49 | 1 | 914 | 24 | 48 | 835 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1390 | 1871 | 418 | 1430 | 1847 | 457 | 835 | 0 | 0 | 938 | 0 | 0 |
| Stage 1 | 931 | 931 | - | 916 | 916 | - | - | - | - | - | - | - |
| Stage 2 | 459 | 940 | - | 514 | 931 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 102 | 71 | 584 | 95 | 74 | 548 | 794 | - | - | 726 | - | - |
| Stage 1 | 287 | 344 | - | 293 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 551 | 340 | - | 511 | 344 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 88 | 66 | 584 | 90 | 69 | 548 | 794 | - | - | 726 | - | - |
| Mov Cap-2 Maneuver | 88 | 66 | - | 90 | 69 | - | - | - | - | - | - | - |
| Stage 1 | 287 | 321 | - | 293 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 501 | 340 | - | 477 | 321 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 58.3 | 0 | 0.6 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 794 | - | - | - | 157 | 726 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.608 | 0.066 | - | - |
| HCM Control Delay (s) | 9.5 | - | - | 0 | 58.3 | 10.3 | - | - |
| HCM Lane LOS | A | - | - | A | F | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 3.3 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 33 | 0 | 568 | 9 | 29 | 587 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 33 | 0 | 568 | 9 | 29 | 587 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 38 | 0 | 660 | 10 | 34 | 683 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1081 | 1421 | 342 | 1070 | 1411 | 330 | 683 | 0 | 0 | 670 | 0 | 0 |
| Stage 1 | 751 | 751 | - | 660 | 660 | - | - | - | - | - | - | - |
| Stage 2 | 330 | 670 | - | 410 | 751 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 172 | 135 | 654 | 175 | 137 | 624 | 906 | - | - | 916 | - | - |
| Stage 1 | 369 | 416 | - | 418 | 458 | - | - | - | - | - | - | - |
| Stage 2 | 657 | 454 | - | 589 | 416 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 157 | 130 | 654 | 170 | 132 | 624 | 906 | - | - | 916 | - | - |
| Mov Cap-2 Maneuver | 157 | 130 | - | 170 | 132 | - | - | - | - | - | - | - |
| Stage 1 | 369 | 401 | - | 418 | 458 | - | - | - | - | - | - | - |
| Stage 2 | 617 | 454 | - | 567 | 401 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 16.9 | 0 | 0.4 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 906 | - | - | - | 356 | 916 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.15 | 0.037 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 16.9 | 9.1 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.5 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 40 | 0 | 76 | 1 | 792 | 20 | 68 | 729 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 40 | 0 | 76 | 1 | 792 | 20 | 68 | 729 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 45 | 0 | 86 | 1 | 900 | 23 | 77 | 828 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1434 | 1907 | 414 | 1470 | 1884 | 450 | 828 | 0 | 0 | 923 | 0 | 0 |
| Stage 1 | 982 | 982 | - | 902 | 902 | - | - | - | - | - | - | - |
| Stage 2 | 452 | 925 | - | 568 | 982 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 94 | 68 | 587 | 89 | 70 | 554 | 799 | - | - | 736 | - | - |
| Stage 1 | 267 | 325 | - | 299 | 355 | - | - | - | - | - | - | - |
| Stage 2 | 557 | 346 | - | 475 | 325 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 73 | 61 | 587 | 82 | 63 | 554 | 799 | - | - | 736 | - | - |
| Mov Cap-2 Maneuver | 73 | 61 | - | 82 | 63 | - | - | - | - | - | - | - |
| Stage 1 | 267 | 291 | - | 299 | 355 | - | - | - | - | - | - | - |
| Stage 2 | 470 | 346 | - | 425 | 291 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 61.1 | 0 | 0.9 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 799 | - | - | - | 186 | 736 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.709 | 0.105 | - | - |
| HCM Control Delay (s) | 9.5 | - | - | 0 | 61.1 | 10.5 | - | - |
| HCM Lane LOS | A | - | - | A | F | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 4.4 | 0.3 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 90 | 60 | 30 | 500 | 476 | 76 |
| Future Volume (veh/h) | 90 | 60 | 30 | 500 | 476 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 96 | 64 | 32 | 532 | 506 | 81 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 233 | 230 | 305 | 1686 | 1081 | 748 |
| Arrive On Green | 0.13 | 0.13 | 0.01 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 96 | 64 | 32 | 532 | 506 | 81 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.7 | 1.9 | 0.6 | 5.0 | 6.6 | 1.5 |
| Cycle Q Clear(g_c), s | 2.7 | 1.9 | 0.6 | 5.0 | 6.6 | 1.5 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 233 | 230 | 305 | 1686 | 1081 | 748 |
| V/C Ratio(X) | 0.41 | 0.28 | 0.11 | 0.32 | 0.47 | 0.11 |
| Avail Cap(c_a), veh/h | 759 | 706 | 657 | 3910 | 2582 | 1494 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.1 | 20.2 | 11.4 | 6.9 | 13.8 | 7.8 |
| Incr Delay (d2), s/veh | 1.2 | 0.7 | 0.1 | 0.1 | 0.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 1.8 | 0.2 | 1.1 | 1.9 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.3 | 20.9 | 11.6 | 7.0 | 14.1 | 7.9 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 160 | | | 564 | 587 | |
| Approach Delay, s/veh | 21.7 | | | 7.3 | 13.2 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.0 | | 16.1 | 10.3 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.0 | | 4.7 | 2.6 | 8.6 |
| Green Ext Time (p_c), s | | 3.7 | | 0.4 | 0.0 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.7 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 19 | 517 | 3 | 6 | 530 |
| Future Vol, veh/h | 8 | 19 | 517 | 3 | 6 | 530 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 9 | 21 | 562 | 3 | 7 | 576 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 866 | 283 | 0 | 0 | 565 | 0 |
| Stage 1 | 564 | - | - | - | - | - |
| Stage 2 | 302 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 293 | 714 | - | - | 1003 | - |
| Stage 1 | 533 | - | - | - | - | - |
| Stage 2 | 724 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 291 | 714 | - | - | 1003 | - |
| Mov Cap-2 Maneuver | 407 | - | - | - | - | - |
| Stage 1 | 533 | - | - | - | - | - |
| Stage 2 | 719 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.5 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 584 | 1003 | - |
| HCM Lane V/C Ratio | - | - | 0.05 | 0.007 | - |
| HCM Control Delay (s) | - | - | 11.5 | 8.6 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 12.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 15 | 152 | 0 | 15 | 38 | 499 | 38 | 8 | 511 | 19 |
| Future Vol, veh/h | 6 | 0 | 15 | 152 | 0 | 15 | 38 | 499 | 38 | 8 | 511 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 17 | 177 | 0 | 17 | 44 | 580 | 44 | 9 | 594 | 22 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 990 | 1324 | 297 | 983 | 1302 | 290 | 616 | 0 | 0 | 624 | 0 | 0 |
| Stage 1 | 612 | 612 | - | 668 | 668 | - | - | - | - | - | - | - |
| Stage 2 | 378 | 712 | - | 315 | 634 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 170 | 155 | 682 | 203 | 160 | 707 | 960 | - | - | 953 | - | - |
| Stage 1 | 395 | 482 | - | 414 | 455 | - | - | - | - | - | - | - |
| Stage 2 | 557 | 434 | - | 671 | 471 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 159 | 146 | 682 | 190 | 151 | 707 | 960 | - | - | 953 | - | - |
| Mov Cap-2 Maneuver | 159 | 146 | - | 190 | 151 | - | - | - | - | - | - | - |
| Stage 1 | 377 | 478 | - | 395 | 434 | - | - | - | - | - | - | - |
| Stage 2 | 518 | 414 | - | 648 | 467 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 16 | 90.8 | 0.6 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 960 | - | - | 352 | 190 | 707 | 953 | - | - |
| HCM Lane V/C Ratio | 0.046 | - | - | 0.069 | 0.93 | 0.025 | 0.01 | - | - |
| HCM Control Delay (s) | 8.9 | - | - | 16 | 98.7 | 10.2 | 8.8 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 7.4 | 0.1 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 1055 | 63 | 76 | 654 | 203 | 109 | 209 | 120 | 313 | 141 | 133 |
| Future Volume (veh/h) | 127 | 1055 | 63 | 76 | 654 | 203 | 109 | 209 | 120 | 313 | 141 | 133 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 135 | 1122 | 0 | 81 | 696 | 0 | 116 | 222 | 128 | 333 | 150 | 141 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 132 | 1363 | | 79 | 1217 | | 274 | 259 | 144 | 291 | 386 | 319 |
| Arrive On Green | 0.08 | 0.41 | 0.00 | 0.05 | 0.38 | 0.00 | 0.05 | 0.12 | 0.12 | 0.14 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2205 | 1222 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 135 | 1122 | 0 | 81 | 696 | 0 | 116 | 177 | 173 | 333 | 150 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1650 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 9.2 | 36.3 | 0.0 | 5.5 | 20.7 | 0.0 | 5.8 | 11.7 | 12.4 | 16.7 | 8.4 | 9.6 |
| Cycle Q Clear(g_c), s | 9.2 | 36.3 | 0.0 | 5.5 | 20.7 | 0.0 | 5.8 | 11.7 | 12.4 | 16.7 | 8.4 | 9.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 132 | 1363 | | 79 | 1217 | | 274 | 209 | 194 | 291 | 386 | 319 |
| V/C Ratio(X) | 1.02 | 0.82 | | 1.03 | 0.57 | | 0.42 | 0.85 | 0.89 | 1.14 | 0.39 | 0.44 |
| Avail Cap(c_a), veh/h | 197 | 1363 | | 168 | 1217 | | 317 | 366 | 340 | 291 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.4 | 31.3 | 0.0 | 57.3 | 29.3 | 0.0 | 44.7 | 51.9 | 52.2 | 41.6 | 40.9 | 41.4 |
| Incr Delay (d2), s/veh | 61.1 | 5.7 | 0.0 | 55.6 | 2.0 | 0.0 | 1.0 | 9.2 | 13.7 | 97.1 | 0.6 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 14.5 | 0.0 | 3.5 | 7.8 | 0.0 | 3.2 | 5.8 | 5.9 | 9.3 | 3.8 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 116.5 | 37.1 | 0.0 | 112.9 | 31.3 | 0.0 | 45.7 | 61.1 | 65.9 | 138.7 | 41.6 | 42.4 |
| LnGrp LOS | F | D | | F | C | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1257 | | | 777 | | | 466 | | | 624 | |
| Approach Delay, s/veh | | 45.6 | | | 39.8 | | | 59.1 | | | 93.6 | |
| Approach LOS | | D | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 58.8 | 14.1 | 33.3 | 17.5 | 55.1 | 25.0 | 22.4 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 7.5 | 38.3 | 7.8 | 11.6 | 11.2 | 22.7 | 18.7 | 14.4 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.1 | 0.1 | 3.0 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 55.8 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1507 | 941 | 30 | 0 | 40 |
| Future Vol, veh/h | 0 | 1507 | 941 | 30 | 0 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 175 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1638 | 1023 | 33 | 0 | 43 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 512 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 0 | - | - | - | 0 | 507 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 507 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 12.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 507 |
| HCM Lane V/C Ratio | - | - | - | 0.086 |
| HCM Control Delay (s) | - | - | - | 12.8 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 206 | 1301 | 941 | 129 | 40 | 29 |
| Future Volume (veh/h) | 206 | 1301 | 941 | 129 | 40 | 29 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 229 | 1446 | 1046 | 143 | 44 | 32 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 365 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 229 | 1446 | 1046 | 143 | 44 | 32 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.8 | 18.7 | 18.3 | 3.6 | 3.9 | 2.3 |
| Cycle Q Clear(g_c), s | 4.8 | 18.7 | 18.3 | 3.6 | 3.9 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 365 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.63 | 0.56 | 0.50 | 0.15 | 0.66 | 0.21 |
| Avail Cap(c_a), veh/h | 439 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 4.7 | 9.3 | 4.9 | 51.0 | 44.7 |
| Incr Delay (d2), s/veh | 2.1 | 0.9 | 0.9 | 0.3 | 10.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 4.0 | 5.3 | 1.1 | 1.4 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 10.6 | 5.5 | 10.1 | 5.2 | 61.8 | 45.3 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1675 | 1189 | | 76 | |
| Approach Delay, s/veh | | 6.2 | 9.6 | | 54.8 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 20.7 | | 5.9 | 6.8 | 20.3 |
| Green Ext Time (p_c), s | | 14.6 | | 0.1 | 0.3 | 9.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.8 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 19 | 13 | 0 | 90 | 3 | 59 | 0 | 0 | 0 | 0 | 18 |
| Future Vol, veh/h | 4 | 19 | 13 | 0 | 90 | 3 | 59 | 0 | 0 | 0 | 0 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 21 | 14 | 0 | 98 | 3 | 64 | 0 | 0 | 0 | 0 | 20 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 101 | 0 | 0 | 35 | 0 | 0 | 146 | 137 | 28 | 136 | 143 | 100 |
| Stage 1 | - | - | - | - | - | - | 36 | 36 | - | 100 | 100 | - |
| Stage 2 | - | - | - | - | - | - | 110 | 101 | - | 36 | 43 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1491 | - | - | 1576 | - | - | 823 | 754 | 1047 | 835 | 748 | 956 |
| Stage 1 | - | - | - | - | - | - | 980 | 865 | - | 906 | 812 | - |
| Stage 2 | - | - | - | - | - | - | 895 | 811 | - | 980 | 859 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1491 | - | - | 1576 | - | - | 804 | 752 | 1047 | 833 | 746 | 956 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 804 | 752 | - | 833 | 746 | - |
| Stage 1 | - | - | - | - | - | - | 977 | 862 | - | 903 | 812 | - |
| Stage 2 | - | - | - | - | - | - | 877 | 811 | - | 977 | 856 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.8 | 0 | 9.9 | 8.8 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 804 | 1491 | - | - | 1576 | - | - | 956 |
| HCM Lane V/C Ratio | 0.08 | 0.003 | - | - | - | - | - | 0.02 |
| HCM Control Delay (s) | 9.9 | 7.4 | 0 | - | 0 | - | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 18 | 0 | 2 | 7 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 34 | 30 | 8 | 30 | 30 | 18 | 8 | 0 | 0 | 18 | 0 | 0 |
| Stage 1 | 12 | 12 | - | 18 | 18 | - | - | - | - | - | - | - |
| Stage 2 | 22 | 18 | - | 12 | 12 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 973 | 863 | 1074 | 979 | 863 | 1061 | 1612 | - | - | 1599 | - | - |
| Stage 1 | 1009 | 886 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 996 | 880 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 966 | 862 | 1074 | 978 | 862 | 1061 | 1612 | - | - | 1599 | - | - |
| Mov Cap-2 Maneuver | 966 | 862 | - | 978 | 862 | - | - | - | - | - | - | - |
| Stage 1 | 1009 | 885 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 990 | 880 | - | 1008 | 885 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.7 | 8.4 | 0 | 1.6 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1612 | - | - | 966 | 1061 | 1599 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.006 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.7 | 8.4 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 9 | 6 | 6 | 6 | 22 | 6 | 21 | 13 | 4 | 2 | 17 | 45 |
| Future Vol, veh/h | 9 | 6 | 6 | 6 | 22 | 6 | 21 | 13 | 4 | 2 | 17 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 7 | 7 | 7 | 24 | 7 | 23 | 14 | 4 | 2 | 18 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.2 | 7.3 | 7.4 | 7 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 43% | 18% | 3% |
| Vol Thru, % | 34% | 29% | 65% | 27% |
| Vol Right, % | 11% | 29% | 18% | 70% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 38 | 21 | 34 | 64 |
| LT Vol | 21 | 9 | 6 | 2 |
| Through Vol | 13 | 6 | 22 | 17 |
| RT Vol | 4 | 6 | 6 | 45 |
| Lane Flow Rate | 41 | 23 | 37 | 70 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.047 | 0.026 | 0.042 | 0.071 |
| Departure Headway (Hd) | 4.138 | 4.07 | 4.073 | 3.653 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 863 | 875 | 875 | 977 |
| Service Time | 2.175 | 2.114 | 2.115 | 1.691 |
| HCM Lane V/C Ratio | 0.048 | 0.026 | 0.042 | 0.072 |
| HCM Control Delay | 7.4 | 7.2 | 7.3 | 7 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.1 | 0.1 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 11 | 9 | 20 | 29 | 1 |
| Future Vol, veh/h | 4 | 11 | 9 | 20 | 29 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 12 | 10 | 22 | 32 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 75 | 33 | 33 | 0 | - | 0 |
| Stage 1 | 33 | - | - | - | - | - |
| Stage 2 | 42 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 928 | 1041 | 1579 | - | - | - |
| Stage 1 | 989 | - | - | - | - | - |
| Stage 2 | 980 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 922 | 1041 | 1579 | - | - | - |
| Mov Cap-2 Maneuver | 922 | - | - | - | - | - |
| Stage 1 | 983 | - | - | - | - | - |
| Stage 2 | 980 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.6 | 2.3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1579 | - | 1006 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | 0.016 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 8.6 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 144 | 57 | 68 | 720 | 641 | 113 |
| Future Volume (veh/h) | 144 | 57 | 68 | 720 | 641 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 164 | 65 | 77 | 818 | 728 | 128 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 245 | 291 | 314 | 1895 | 1133 | 728 |
| Arrive On Green | 0.14 | 0.14 | 0.05 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 164 | 65 | 77 | 818 | 728 | 128 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 4.9 | 2.0 | 1.5 | 7.8 | 9.9 | 2.7 |
| Cycle Q Clear(g_c), s | 4.9 | 2.0 | 1.5 | 7.8 | 9.9 | 2.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 245 | 291 | 314 | 1895 | 1133 | 728 |
| V/C Ratio(X) | 0.67 | 0.22 | 0.25 | 0.43 | 0.64 | 0.18 |
| Avail Cap(c_a), veh/h | 732 | 709 | 635 | 4070 | 2707 | 1435 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.9 | 19.2 | 11.7 | 7.5 | 16.2 | 8.9 |
| Incr Delay (d2), s/veh | 3.1 | 0.4 | 0.4 | 0.2 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.0 | 0.5 | 1.9 | 3.3 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 26.1 | 19.6 | 12.1 | 7.7 | 16.9 | 9.0 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 229 | | | 895 | 856 | |
| Approach Delay, s/veh | 24.2 | | | 8.1 | 15.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.3 | | 16.7 | 12.6 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 9.8 | | 6.9 | 3.5 | 11.9 |
| Green Ext Time (p_c), s | | 6.2 | | 0.6 | 0.1 | 5.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.2 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 5 | 12 | 735 | 8 | 21 | 674 |
| Future Vol, veh/h | 5 | 12 | 735 | 8 | 21 | 674 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 5 | 13 | 799 | 9 | 23 | 733 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1217 | 404 | 0 | 0 | 808 | 0 |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 413 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 173 | 596 | - | - | 813 | - |
| Stage 1 | 401 | - | - | - | - | - |
| Stage 2 | 636 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 168 | 596 | - | - | 813 | - |
| Mov Cap-2 Maneuver | 293 | - | - | - | - | - |
| Stage 1 | 401 | - | - | - | - | - |
| Stage 2 | 618 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.2 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 457 | 813 | - |
| HCM Lane V/C Ratio | - | - | 0.04 | 0.028 | - |
| HCM Control Delay (s) | - | - | 13.2 | 9.6 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 19.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 16 | 3 | 44 | 119 | 0 | 13 | 31 | 714 | 168 | 24 | 643 | 12 |
| Future Vol, veh/h | 16 | 3 | 44 | 119 | 0 | 13 | 31 | 714 | 168 | 24 | 643 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 18 | 3 | 49 | 134 | 0 | 15 | 35 | 802 | 189 | 27 | 722 | 13 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1247 | 1837 | 361 | 1289 | 1661 | 401 | 735 | 0 | 0 | 991 | 0 | 0 |
| Stage 1 | 776 | 776 | - | 872 | 872 | - | - | - | - | - | - | - |
| Stage 2 | 471 | 1061 | - | 417 | 789 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 130 | 75 | 624 | ~ 121 | 96 | 599 | 853 | - | - | 693 | - | - |
| Stage 1 | 356 | 406 | - | 312 | 366 | - | - | - | - | - | - | - |
| Stage 2 | 542 | 299 | - | 584 | 400 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 119 | 69 | 624 | ~ 101 | 89 | 599 | 853 | - | - | 693 | - | - |
| Mov Cap-2 Maneuver | 119 | 69 | - | ~ 101 | 89 | - | - | - | - | - | - | - |
| Stage 1 | 341 | 390 | - | 299 | 351 | - | - | - | - | - | - | - |
| Stage 2 | 507 | 287 | - | 512 | 384 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 24.6 | 250.3 | 0.3 | 0.4 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 853 | - | - | 254 | 101 | 599 | 693 | - | - |
| HCM Lane V/C Ratio | 0.041 | - | - | 0.279 | 1.324 | 0.024 | 0.039 | - | - |
| HCM Control Delay (s) | 9.4 | - | - | 24.6 | 276.4 | 11.2 | 10.4 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.1 | 9.4 | 0.1 | 0.1 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 249 | 771 | 76 | 199 | 944 | 281 | 131 | 290 | 111 | 315 | 269 | 204 |
| Future Volume (veh/h) | 249 | 771 | 76 | 199 | 944 | 281 | 131 | 290 | 111 | 315 | 269 | 204 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 262 | 812 | 0 | 209 | 994 | 0 | 138 | 305 | 117 | 332 | 283 | 215 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1174 | | 210 | 1130 | | 215 | 277 | 104 | 334 | 411 | 348 |
| Arrive On Green | 0.13 | 0.34 | 0.00 | 0.12 | 0.33 | 0.00 | 0.05 | 0.11 | 0.11 | 0.16 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2527 | 949 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 262 | 812 | 0 | 209 | 994 | 0 | 138 | 213 | 209 | 332 | 283 | 215 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1699 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 25.4 | 0.0 | 14.7 | 33.8 | 0.0 | 5.9 | 13.7 | 13.7 | 19.7 | 17.4 | 15.3 |
| Cycle Q Clear(g_c), s | 16.7 | 25.4 | 0.0 | 14.7 | 33.8 | 0.0 | 5.9 | 13.7 | 13.7 | 19.7 | 17.4 | 15.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1174 | | 210 | 1130 | | 215 | 195 | 186 | 334 | 411 | 348 |
| V/C Ratio(X) | 1.11 | 0.69 | | 0.99 | 0.88 | | 0.64 | 1.09 | 1.12 | 0.99 | 0.69 | 0.62 |
| Avail Cap(c_a), veh/h | 236 | 1174 | | 238 | 1130 | | 226 | 195 | 186 | 334 | 411 | 348 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 35.5 | 0.0 | 55.1 | 39.8 | 0.0 | 49.9 | 55.7 | 55.7 | 41.2 | 44.8 | 44.0 |
| Incr Delay (d2), s/veh | 91.6 | 3.4 | 0.0 | 54.3 | 9.8 | 0.0 | 5.7 | 91.0 | 103.3 | 47.7 | 4.8 | 3.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 13.2 | 10.7 | 0.0 | 9.5 | 15.2 | 0.0 | 1.6 | 11.1 | 11.3 | 13.2 | 8.4 | 6.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 145.8 | 38.9 | 0.0 | 109.4 | 49.7 | 0.0 | 55.6 | 146.7 | 159.0 | 88.9 | 49.6 | 47.3 |
| LnGrp LOS | F | D | | F | D | | E | F | F | F | D | D |
| Approach Vol, veh/h | | 1074 | | | 1203 | | | 560 | | | 830 | |
| Approach Delay, s/veh | | 64.9 | | | 60.0 | | | 128.8 | | | 64.7 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | 51.9 | 14.2 | 35.8 | 25.0 | 50.0 | 28.0 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 16.7 | 27.4 | 7.9 | 19.4 | 18.7 | 35.8 | 21.7 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 4.4 | 0.0 | 1.5 | 0.0 | 3.4 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 73.0 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1186 | 1552 | 99 | 0 | 25 |
| Future Vol, veh/h | 0 | 1186 | 1552 | 99 | 0 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 175 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1289 | 1687 | 108 | 0 | 27 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 844 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 0 | - | - | - | 0 | 307 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 307 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 17.9 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 307 |
| HCM Lane V/C Ratio | - | - | - | 0.089 |
| HCM Control Delay (s) | - | - | - | 17.9 |
| HCM Lane LOS | - | - | - | C |
| HCM 95th %tile Q(veh) | - | - | - | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 147 | 1039 | 1600 | 81 | 53 | 51 |
| Future Volume (veh/h) | 147 | 1039 | 1600 | 81 | 53 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 156 | 1105 | 1702 | 86 | 56 | 54 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 218 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 156 | 1105 | 1702 | 86 | 56 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 11.5 | 35.6 | 2.5 | 4.6 | 4.2 |
| Cycle Q Clear(g_c), s | 3.5 | 11.5 | 35.6 | 2.5 | 4.6 | 4.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 218 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.72 | 0.40 | 0.71 | 0.10 | 0.77 | 0.37 |
| Avail Cap(c_a), veh/h | 243 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.0 | 3.5 | 11.2 | 4.3 | 56.3 | 50.5 |
| Incr Delay (d2), s/veh | 8.6 | 0.4 | 1.8 | 0.2 | 15.5 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 2.5 | 11.5 | 0.7 | 2.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 4.0 | 13.0 | 4.6 | 71.8 | 52.1 |
| LnGrp LOS | C | A | B | A | E | D |
| Approach Vol, veh/h | | 1261 | 1788 | | 110 | |
| Approach Delay, s/veh | | 7.2 | 12.6 | | 62.1 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 13.5 | | 6.6 | 5.5 | 37.6 |
| Green Ext Time (p_c), s | | 9.2 | | 0.2 | 0.1 | 16.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.1 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 11 | 65 | 43 | 0 | 59 | 9 | 37 | 0 | 0 | 0 | 0 | 10 |
| Future Vol, veh/h | 11 | 65 | 43 | 0 | 59 | 9 | 37 | 0 | 0 | 0 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 71 | 47 | 0 | 64 | 10 | 40 | 0 | 0 | 0 | 0 | 11 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 74 | 0 | 0 | 118 | 0 | 0 | 194 | 193 | 95 | 188 | 211 | 69 |
| Stage 1 | - | - | - | - | - | - | 119 | 119 | - | 69 | 69 | - |
| Stage 2 | - | - | - | - | - | - | 75 | 74 | - | 119 | 142 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1526 | - | - | 1470 | - | - | 765 | 702 | 962 | 772 | 686 | 994 |
| Stage 1 | - | - | - | - | - | - | 885 | 797 | - | 941 | 837 | - |
| Stage 2 | - | - | - | - | - | - | 934 | 833 | - | 885 | 779 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1526 | - | - | 1470 | - | - | 752 | 696 | 962 | 767 | 681 | 994 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 752 | 696 | - | 767 | 681 | - |
| Stage 1 | - | - | - | - | - | - | 878 | 791 | - | 933 | 837 | - |
| Stage 2 | - | - | - | - | - | - | 924 | 833 | - | 878 | 773 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 10.1 | 8.7 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 752 | 1526 | - | - | 1470 | - | - | 994 |
| HCM Lane V/C Ratio | 0.053 | 0.008 | - | - | - | - | - | 0.011 |
| HCM Control Delay (s) | 10.1 | 7.4 | 0 | - | 0 | - | - | 8.7 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 12 | 0 | 7 | 21 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 51 | 49 | 23 | 49 | 51 | 12 | 25 | 0 | 0 | 12 | 0 | 0 |
| Stage 1 | 37 | 37 | - | 12 | 12 | - | - | - | - | - | - | - |
| Stage 2 | 14 | 12 | - | 37 | 39 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 948 | 843 | 1054 | 951 | 840 | 1069 | 1589 | - | - | 1607 | - | - |
| Stage 1 | 978 | 864 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1006 | 886 | - | 978 | 862 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 941 | 840 | 1054 | 948 | 837 | 1069 | 1589 | - | - | 1607 | - | - |
| Mov Cap-2 Maneuver | 941 | 840 | - | 948 | 837 | - | - | - | - | - | - | - |
| Stage 1 | 978 | 861 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1002 | 886 | - | 974 | 859 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 8.4 | 0 | 1.5 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1589 | - | - | 941 | 1069 | 1607 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.003 | 0.004 | 0.004 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 8.4 | 7.2 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 30 | 19 | 14 | 4 | 15 | 4 | 24 | 32 | 13 | 6 | 14 | 30 |
| Future Vol, veh/h | 30 | 19 | 14 | 4 | 15 | 4 | 24 | 32 | 13 | 6 | 14 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 33 | 21 | 15 | 4 | 16 | 4 | 26 | 35 | 14 | 7 | 15 | 33 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.6 | 7.3 | 7.5 | 7.1 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 35% | 48% | 17% | 12% |
| Vol Thru, % | 46% | 30% | 65% | 28% |
| Vol Right, % | 19% | 22% | 17% | 60% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 69 | 63 | 23 | 50 |
| LT Vol | 24 | 30 | 4 | 6 |
| Through Vol | 32 | 19 | 15 | 14 |
| RT Vol | 13 | 14 | 4 | 30 |
| Lane Flow Rate | 75 | 68 | 25 | 54 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.085 | 0.079 | 0.029 | 0.058 |
| Departure Headway (Hd) | 4.094 | 4.139 | 4.142 | 3.817 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 869 | 858 | 855 | 928 |
| Service Time | 2.152 | 2.199 | 2.212 | 1.882 |
| HCM Lane V/C Ratio | 0.086 | 0.079 | 0.029 | 0.058 |
| HCM Control Delay | 7.5 | 7.6 | 7.3 | 7.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.3 | 0.3 | 0.1 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 7 | 31 | 68 | 19 | 4 |
| Future Vol, veh/h | 2 | 7 | 31 | 68 | 19 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 8 | 34 | 74 | 21 | 4 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 165 | 23 | 25 | 0 | - | 0 |
| Stage 1 | 23 | - | - | - | - | - |
| Stage 2 | 142 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 826 | 1054 | 1589 | - | - | - |
| Stage 1 | 1000 | - | - | - | - | - |
| Stage 2 | 885 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 808 | 1054 | 1589 | - | - | - |
| Mov Cap-2 Maneuver | 808 | - | - | - | - | - |
| Stage 1 | 978 | - | - | - | - | - |
| Stage 2 | 885 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 2.3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1589 | - | 987 | - | - |
| HCM Lane V/C Ratio | 0.021 | - | 0.01 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 8.7 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 98 | 65 | 32 | 544 | 520 | 84 |
| Future Volume (veh/h) | 98 | 65 | 32 | 544 | 520 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 104 | 69 | 34 | 579 | 553 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 237 | 238 | 289 | 1684 | 1074 | 749 |
| Arrive On Green | 0.14 | 0.14 | 0.01 | 0.53 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 104 | 69 | 34 | 579 | 553 | 89 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.9 | 2.1 | 0.8 | 5.6 | 7.4 | 1.7 |
| Cycle Q Clear(g_c), s | 2.9 | 2.1 | 0.8 | 5.6 | 7.4 | 1.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 237 | 238 | 289 | 1684 | 1074 | 749 |
| V/C Ratio(X) | 0.44 | 0.29 | 0.12 | 0.34 | 0.51 | 0.12 |
| Avail Cap(c_a), veh/h | 755 | 706 | 636 | 3887 | 2567 | 1491 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.2 | 20.2 | 11.1 | 7.1 | 14.2 | 7.9 |
| Incr Delay (d2), s/veh | 1.3 | 0.7 | 0.2 | 0.1 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.2 | 1.2 | 2.2 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.5 | 20.8 | 11.3 | 7.2 | 14.6 | 7.9 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 173 | | | 613 | 642 | |
| Approach Delay, s/veh | 21.8 | | | 7.5 | 13.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.2 | | 16.2 | 10.5 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.6 | | 4.9 | 2.8 | 9.4 |
| Green Ext Time (p_c), s | | 4.0 | | 0.4 | 0.0 | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.0 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 19 | 564 | 3 | 6 | 580 |
| Future Vol, veh/h | 8 | 19 | 564 | 3 | 6 | 580 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 9 | 21 | 613 | 3 | 7 | 630 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 944 | 308 | 0 | 0 | 616 | 0 |
| Stage 1 | 615 | - | - | - | - | - |
| Stage 2 | 329 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 261 | 688 | - | - | 960 | - |
| Stage 1 | 502 | - | - | - | - | - |
| Stage 2 | 701 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 259 | 688 | - | - | 960 | - |
| Mov Cap-2 Maneuver | 379 | - | - | - | - | - |
| Stage 1 | 502 | - | - | - | - | - |
| Stage 2 | 696 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.9 | 0 | 0.1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 554 | 960 | - |
| HCM Lane V/C Ratio | - | - | 0.053 | 0.007 | - |
| HCM Control Delay (s) | - | - | 11.9 | 8.8 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 17.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 16 | 152 | 0 | 15 | 42 | 546 | 38 | 8 | 559 | 21 |
| Future Vol, veh/h | 6 | 0 | 16 | 152 | 0 | 15 | 42 | 546 | 38 | 8 | 559 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 19 | 177 | 0 | 17 | 49 | 635 | 44 | 9 | 650 | 24 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1084 | 1445 | 325 | 1076 | 1425 | 318 | 674 | 0 | 0 | 679 | 0 | 0 |
| Stage 1 | 668 | 668 | - | 733 | 733 | - | - | - | - | - | - | - |
| Stage 2 | 416 | 777 | - | 343 | 692 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 144 | 131 | 653 | ~ 174 | 134 | 678 | 913 | - | - | 909 | - | - |
| Stage 1 | 364 | 455 | - | 378 | 424 | - | - | - | - | - | - | - |
| Stage 2 | 527 | 405 | - | 646 | 443 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 133 | 123 | 653 | ~ 161 | 126 | 678 | 913 | - | - | 909 | - | - |
| Mov Cap-2 Maneuver | 133 | 123 | - | ~ 161 | 126 | - | - | - | - | - | - | - |
| Stage 1 | 344 | 450 | - | 358 | 401 | - | - | - | - | - | - | - |
| Stage 2 | 486 | 383 | - | 621 | 439 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.4 | 143.6 | 0.6 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | 316 | 161 | 678 | 909 | - | - |
| HCM Lane V/C Ratio | 0.053 | - | - | 0.081 | 1.098 | 0.026 | 0.01 | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 17.4 | 156.7 | 10.5 | 9 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | 9.2 | 0.1 | 0 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 138 | 1153 | 70 | 82 | 711 | 221 | 120 | 229 | 131 | 333 | 154 | 143 |
| Future Volume (veh/h) | 138 | 1153 | 70 | 82 | 711 | 221 | 120 | 229 | 131 | 333 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 147 | 1227 | 0 | 87 | 756 | 0 | 128 | 244 | 139 | 354 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 147 | 1327 | | 80 | 1157 | | 289 | 282 | 155 | 292 | 398 | 329 |
| Arrive On Green | 0.09 | 0.40 | 0.00 | 0.05 | 0.36 | 0.00 | 0.05 | 0.13 | 0.13 | 0.14 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2212 | 1216 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 147 | 1227 | 0 | 87 | 756 | 0 | 128 | 194 | 189 | 354 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1651 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 10.2 | 42.5 | 0.0 | 5.6 | 23.8 | 0.0 | 6.3 | 12.9 | 13.5 | 16.7 | 9.1 | 10.4 |
| Cycle Q Clear(g_c), s | 10.2 | 42.5 | 0.0 | 5.6 | 23.8 | 0.0 | 6.3 | 12.9 | 13.5 | 16.7 | 9.1 | 10.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 147 | 1327 | | 80 | 1157 | | 289 | 227 | 211 | 292 | 398 | 329 |
| V/C Ratio(X) | 1.00 | 0.92 | | 1.09 | 0.65 | | 0.44 | 0.86 | 0.90 | 1.21 | 0.41 | 0.46 |
| Avail Cap(c_a), veh/h | 197 | 1327 | | 168 | 1157 | | 325 | 366 | 340 | 292 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.9 | 34.2 | 0.0 | 57.2 | 31.9 | 0.0 | 43.6 | 51.3 | 51.6 | 40.7 | 40.6 | 41.1 |
| Incr Delay (d2), s/veh | 57.3 | 12.3 | 0.0 | 75.5 | 2.9 | 0.0 | 1.1 | 10.8 | 16.4 | 123.5 | 0.7 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.6 | 18.0 | 0.0 | 4.0 | 9.1 | 0.0 | 3.5 | 6.4 | 6.6 | 11.4 | 4.1 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 112.2 | 46.4 | 0.0 | 132.7 | 34.8 | 0.0 | 44.6 | 62.1 | 68.0 | 164.2 | 41.3 | 42.1 |
| LnGrp LOS | F | D | | F | C | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1374 | | | 843 | | | 511 | | | 670 | |
| Approach Delay, s/veh | | 53.5 | | | 44.9 | | | 59.9 | | | 106.4 | |
| Approach LOS | | D | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 57.5 | 14.5 | 34.1 | 18.5 | 52.9 | 25.0 | 23.6 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 44.5 | 8.3 | 12.4 | 12.2 | 25.8 | 18.7 | 15.5 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.3 | 0.1 | 2.6 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 62.8 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1637 | 1025 | 30 | 0 | 40 |
| Future Vol, veh/h | 0 | 1637 | 1025 | 30 | 0 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 175 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1779 | 1114 | 33 | 0 | 43 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 557 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 0 | - | - | - | 0 | 474 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 474 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 13.4 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 474 |
| HCM Lane V/C Ratio | - | - | - | 0.092 |
| HCM Control Delay (s) | - | - | - | 13.4 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 209 | 1428 | 1022 | 136 | 44 | 32 |
| Future Volume (veh/h) | 209 | 1428 | 1022 | 136 | 44 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 232 | 1587 | 1136 | 151 | 49 | 36 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 338 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 232 | 1587 | 1136 | 151 | 49 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.9 | 22.2 | 20.8 | 3.8 | 4.4 | 2.5 |
| Cycle Q Clear(g_c), s | 4.9 | 22.2 | 20.8 | 3.8 | 4.4 | 2.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 338 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.69 | 0.62 | 0.54 | 0.15 | 0.74 | 0.23 |
| Avail Cap(c_a), veh/h | 411 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.3 | 5.0 | 9.7 | 4.9 | 51.2 | 44.8 |
| Incr Delay (d2), s/veh | 3.6 | 1.1 | 1.0 | 0.3 | 14.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 4.8 | 6.0 | 1.2 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 6.2 | 10.7 | 5.2 | 65.9 | 45.6 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1819 | 1287 | | 85 | |
| Approach Delay, s/veh | | 7.1 | 10.1 | | 57.3 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 24.2 | | 6.4 | 6.9 | 22.8 |
| Green Ext Time (p_c), s | | 17.2 | | 0.1 | 0.3 | 10.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.7 |
| HCM 6th LOS | A |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 19 | 13 | 0 | 90 | 3 | 59 | 0 | 0 | 0 | 0 | 18 |
| Future Vol, veh/h | 4 | 19 | 13 | 0 | 90 | 3 | 59 | 0 | 0 | 0 | 0 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 21 | 14 | 0 | 98 | 3 | 64 | 0 | 0 | 0 | 0 | 20 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 101 | 0 | 0 | 35 | 0 | 0 | 146 | 137 | 28 | 136 | 143 | 100 |
| Stage 1 | - | - | - | - | - | - | 36 | 36 | - | 100 | 100 | - |
| Stage 2 | - | - | - | - | - | - | 110 | 101 | - | 36 | 43 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1491 | - | - | 1576 | - | - | 823 | 754 | 1047 | 835 | 748 | 956 |
| Stage 1 | - | - | - | - | - | - | 980 | 865 | - | 906 | 812 | - |
| Stage 2 | - | - | - | - | - | - | 895 | 811 | - | 980 | 859 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1491 | - | - | 1576 | - | - | 804 | 752 | 1047 | 833 | 746 | 956 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 804 | 752 | - | 833 | 746 | - |
| Stage 1 | - | - | - | - | - | - | 977 | 862 | - | 903 | 812 | - |
| Stage 2 | - | - | - | - | - | - | 877 | 811 | - | 977 | 856 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.8 | 0 | 9.9 | 8.8 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 804 | 1491 | - | - | 1576 | - | - | 956 |
| HCM Lane V/C Ratio | 0.08 | 0.003 | - | - | - | - | - | 0.02 |
| HCM Control Delay (s) | 9.9 | 7.4 | 0 | - | 0 | - | - | 8.8 |
| HCM Lane LOS | A | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 2 | 6 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 18 | 0 | 2 | 7 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 34 | 30 | 8 | 30 | 30 | 18 | 8 | 0 | 0 | 18 | 0 | 0 |
| Stage 1 | 12 | 12 | - | 18 | 18 | - | - | - | - | - | - | - |
| Stage 2 | 22 | 18 | - | 12 | 12 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 973 | 863 | 1074 | 979 | 863 | 1061 | 1612 | - | - | 1599 | - | - |
| Stage 1 | 1009 | 886 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 996 | 880 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 966 | 862 | 1074 | 978 | 862 | 1061 | 1612 | - | - | 1599 | - | - |
| Mov Cap-2 Maneuver | 966 | 862 | - | 978 | 862 | - | - | - | - | - | - | - |
| Stage 1 | 1009 | 885 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 990 | 880 | - | 1008 | 885 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.7 | 8.4 | 0 | 1.6 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1612 | - | - | 966 | 1061 | 1599 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.006 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.7 | 8.4 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 9 | 6 | 6 | 6 | 22 | 6 | 21 | 13 | 4 | 2 | 17 | 45 |
| Future Vol, veh/h | 9 | 6 | 6 | 6 | 22 | 6 | 21 | 13 | 4 | 2 | 17 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 7 | 7 | 7 | 24 | 7 | 23 | 14 | 4 | 2 | 18 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.2 | 7.3 | 7.4 | 7 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 43% | 18% | 3% |
| Vol Thru, % | 34% | 29% | 65% | 27% |
| Vol Right, % | 11% | 29% | 18% | 70% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 38 | 21 | 34 | 64 |
| LT Vol | 21 | 9 | 6 | 2 |
| Through Vol | 13 | 6 | 22 | 17 |
| RT Vol | 4 | 6 | 6 | 45 |
| Lane Flow Rate | 41 | 23 | 37 | 70 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.047 | 0.026 | 0.042 | 0.071 |
| Departure Headway (Hd) | 4.138 | 4.07 | 4.073 | 3.653 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 863 | 875 | 875 | 977 |
| Service Time | 2.175 | 2.114 | 2.115 | 1.691 |
| HCM Lane V/C Ratio | 0.048 | 0.026 | 0.042 | 0.072 |
| HCM Control Delay | 7.4 | 7.2 | 7.3 | 7 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.1 | 0.1 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 11 | 9 | 20 | 29 | 1 |
| Future Vol, veh/h | 4 | 11 | 9 | 20 | 29 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 12 | 10 | 22 | 32 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 75 | 33 | 33 | 0 | - | 0 |
| Stage 1 | 33 | - | - | - | - | - |
| Stage 2 | 42 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 928 | 1041 | 1579 | - | - | - |
| Stage 1 | 989 | - | - | - | - | - |
| Stage 2 | 980 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 922 | 1041 | 1579 | - | - | - |
| Mov Cap-2 Maneuver | 922 | - | - | - | - | - |
| Stage 1 | 983 | - | - | - | - | - |
| Stage 2 | 980 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.6 | 2.3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1579 | - | 1006 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | 0.016 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 8.6 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 61 | 74 | 788 | 700 | 124 |
| Future Volume (veh/h) | 158 | 61 | 74 | 788 | 700 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 180 | 69 | 84 | 895 | 795 | 141 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 247 | 297 | 299 | 1899 | 1127 | 726 |
| Arrive On Green | 0.14 | 0.14 | 0.06 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 180 | 69 | 84 | 895 | 795 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 5.5 | 2.1 | 1.6 | 8.9 | 11.2 | 3.0 |
| Cycle Q Clear(g_c), s | 5.5 | 2.1 | 1.6 | 8.9 | 11.2 | 3.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 247 | 297 | 299 | 1899 | 1127 | 726 |
| V/C Ratio(X) | 0.73 | 0.23 | 0.28 | 0.47 | 0.71 | 0.19 |
| Avail Cap(c_a), veh/h | 728 | 712 | 612 | 4047 | 2692 | 1430 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.3 | 19.2 | 12.1 | 7.8 | 16.8 | 9.1 |
| Incr Delay (d2), s/veh | 4.1 | 0.4 | 0.5 | 0.2 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.5 | 2.2 | 3.8 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.4 | 19.6 | 12.6 | 8.0 | 17.7 | 9.2 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 249 | | | 979 | 936 | |
| Approach Delay, s/veh | 25.2 | | | 8.4 | 16.4 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.5 | | 16.8 | 12.8 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 10.9 | | 7.5 | 3.6 | 13.2 |
| Green Ext Time (p_c), s | | 7.0 | | 0.6 | 0.1 | 6.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.8 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 5 | 12 | 804 | 8 | 21 | 735 |
| Future Vol, veh/h | 5 | 12 | 804 | 8 | 21 | 735 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 5 | 13 | 874 | 9 | 23 | 799 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1325 | 442 | 0 | 0 | 883 | 0 |
| Stage 1 | 879 | - | - | - | - | - |
| Stage 2 | 446 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 147 | 563 | - | - | 762 | - |
| Stage 1 | 366 | - | - | - | - | - |
| Stage 2 | 612 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 143 | 563 | - | - | 762 | - |
| Mov Cap-2 Maneuver | 267 | - | - | - | - | - |
| Stage 1 | 366 | - | - | - | - | - |
| Stage 2 | 594 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.9 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 425 | 762 | - |
| HCM Lane V/C Ratio | - | - | 0.043 | 0.03 | - |
| HCM Control Delay (s) | - | - | 13.9 | 9.9 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 29.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 3 | 48 | 121 | 0 | 13 | 34 | 782 | 174 | 24 | 703 | 13 |
| Future Vol, veh/h | 17 | 3 | 48 | 121 | 0 | 13 | 34 | 782 | 174 | 24 | 703 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 225 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 19 | 3 | 54 | 136 | 0 | 15 | 38 | 879 | 196 | 27 | 790 | 15 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1360 | 1995 | 395 | 1406 | 1814 | 440 | 805 | 0 | 0 | 1075 | 0 | 0 |
| Stage 1 | 844 | 844 | - | 955 | 955 | - | - | - | - | - | - | - |
| Stage 2 | 516 | 1151 | - | 451 | 859 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 107 | 60 | 593 | ~ 99 | 77 | 565 | 802 | - | - | 644 | - | - |
| Stage 1 | 324 | 377 | - | 278 | 335 | - | - | - | - | - | - | - |
| Stage 2 | 510 | 271 | - | 557 | 371 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 97 | 55 | 593 | ~ 80 | 70 | 565 | 802 | - | - | 644 | - | - |
| Mov Cap-2 Maneuver | 97 | 55 | - | ~ 80 | 70 | - | - | - | - | - | - | - |
| Stage 1 | 309 | 361 | - | 265 | 319 | - | - | - | - | - | - | - |
| Stage 2 | 473 | 258 | - | 481 | 355 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 30 | $ 408 | 0.3 | 0.4 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 802 | - | - | 219 | 80 | 565 | 644 | - | - |
| HCM Lane V/C Ratio | 0.048 | - | - | 0.349 | 1.699 | 0.026 | 0.042 | - | - |
| HCM Control Delay (s) | 9.7 | - | - | 30 | $ 450.6 | 11.5 | 10.8 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.5 | 11.4 | 0.1 | 0.1 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 268 | 842 | 83 | 217 | 1030 | 306 | 144 | 315 | 121 | 338 | 295 | 222 |
| Future Volume (veh/h) | 268 | 842 | 83 | 217 | 1030 | 306 | 144 | 315 | 121 | 338 | 295 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 282 | 886 | 0 | 228 | 1084 | 0 | 152 | 332 | 127 | 356 | 311 | 234 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1139 | | 228 | 1130 | | 199 | 277 | 104 | 334 | 407 | 345 |
| Arrive On Green | 0.13 | 0.33 | 0.00 | 0.13 | 0.33 | 0.00 | 0.05 | 0.11 | 0.11 | 0.16 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2527 | 949 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 282 | 886 | 0 | 228 | 1084 | 0 | 152 | 232 | 227 | 356 | 311 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1699 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 29.0 | 0.0 | 16.0 | 38.3 | 0.0 | 6.2 | 13.7 | 13.7 | 19.7 | 19.5 | 16.9 |
| Cycle Q Clear(g_c), s | 16.7 | 29.0 | 0.0 | 16.0 | 38.3 | 0.0 | 6.2 | 13.7 | 13.7 | 19.7 | 19.5 | 16.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1139 | | 228 | 1130 | | 199 | 195 | 186 | 334 | 407 | 345 |
| V/C Ratio(X) | 1.20 | 0.78 | | 1.00 | 0.96 | | 0.77 | 1.19 | 1.22 | 1.07 | 0.76 | 0.68 |
| Avail Cap(c_a), veh/h | 236 | 1139 | | 238 | 1130 | | 206 | 195 | 186 | 334 | 407 | 345 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 37.7 | 0.0 | 54.5 | 41.3 | 0.0 | 51.4 | 55.7 | 55.7 | 41.4 | 45.9 | 44.9 |
| Incr Delay (d2), s/veh | 121.5 | 5.3 | 0.0 | 57.0 | 18.6 | 0.0 | 15.2 | 124.9 | 137.8 | 67.9 | 8.3 | 5.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.1 | 12.4 | 0.0 | 10.5 | 18.4 | 0.0 | 2.6 | 12.9 | 13.0 | 15.1 | 9.7 | 7.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 175.7 | 42.9 | 0.0 | 111.5 | 60.0 | 0.0 | 66.6 | 180.5 | 193.4 | 109.3 | 54.2 | 50.1 |
| LnGrp LOS | F | D | | F | E | | E | F | F | F | D | D |
| Approach Vol, veh/h | | 1168 | | | 1312 | | | 611 | | | 901 | |
| Approach Delay, s/veh | | 75.0 | | | 68.9 | | | 157.0 | | | 74.9 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 24.3 | 50.7 | 14.5 | 35.5 | 25.0 | 50.0 | 28.0 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 18.0 | 31.0 | 8.2 | 21.5 | 18.7 | 40.3 | 21.7 | 15.7 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 1.5 | 0.0 | 1.5 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 85.5 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1289 | 1697 | 99 | 0 | 25 |
| Future Vol, veh/h | 0 | 1289 | 1697 | 99 | 0 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 175 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1401 | 1845 | 108 | 0 | 27 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 923 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 0 | - | - | - | 0 | 272 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 272 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 19.7 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 272 |
| HCM Lane V/C Ratio | - | - | - | 0.1 |
| HCM Control Delay (s) | - | - | - | 19.7 |
| HCM Lane LOS | - | - | - | C |
| HCM 95th %tile Q(veh) | - | - | - | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 148 | 1141 | 1740 | 83 | 58 | 56 |
| Future Volume (veh/h) | 148 | 1141 | 1740 | 83 | 58 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 157 | 1214 | 1851 | 88 | 62 | 60 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 196 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 157 | 1214 | 1851 | 88 | 62 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 13.3 | 42.3 | 2.6 | 5.1 | 4.7 |
| Cycle Q Clear(g_c), s | 3.5 | 13.3 | 42.3 | 2.6 | 5.1 | 4.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 196 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.80 | 0.44 | 0.77 | 0.10 | 0.85 | 0.42 |
| Avail Cap(c_a), veh/h | 221 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.8 | 3.7 | 12.2 | 4.3 | 56.6 | 50.7 |
| Incr Delay (d2), s/veh | 17.1 | 0.5 | 2.5 | 0.3 | 22.8 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 2.9 | 13.7 | 0.7 | 2.3 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 42.9 | 4.3 | 14.7 | 4.6 | 79.4 | 52.7 |
| LnGrp LOS | D | A | B | A | E | D |
| Approach Vol, veh/h | | 1371 | 1939 | | 122 | |
| Approach Delay, s/veh | | 8.7 | 14.2 | | 66.2 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 15.3 | | 7.1 | 5.5 | 44.3 |
| Green Ext Time (p_c), s | | 10.7 | | 0.3 | 0.1 | 15.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.8 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 11 | 65 | 43 | 0 | 59 | 9 | 37 | 0 | 0 | 0 | 0 | 10 |
| Future Vol, veh/h | 11 | 65 | 43 | 0 | 59 | 9 | 37 | 0 | 0 | 0 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 71 | 47 | 0 | 64 | 10 | 40 | 0 | 0 | 0 | 0 | 11 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 74 | 0 | 0 | 118 | 0 | 0 | 194 | 193 | 95 | 188 | 211 | 69 |
| Stage 1 | - | - | - | - | - | - | 119 | 119 | - | 69 | 69 | - |
| Stage 2 | - | - | - | - | - | - | 75 | 74 | - | 119 | 142 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1526 | - | - | 1470 | - | - | 765 | 702 | 962 | 772 | 686 | 994 |
| Stage 1 | - | - | - | - | - | - | 885 | 797 | - | 941 | 837 | - |
| Stage 2 | - | - | - | - | - | - | 934 | 833 | - | 885 | 779 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1526 | - | - | 1470 | - | - | 752 | 696 | 962 | 767 | 681 | 994 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 752 | 696 | - | 767 | 681 | - |
| Stage 1 | - | - | - | - | - | - | 878 | 791 | - | 933 | 837 | - |
| Stage 2 | - | - | - | - | - | - | 924 | 833 | - | 878 | 773 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.7 | 0 | 10.1 | 8.7 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 752 | 1526 | - | - | 1470 | - | - | 994 |
| HCM Lane V/C Ratio | 0.053 | 0.008 | - | - | - | - | - | 0.011 |
| HCM Control Delay (s) | 10.1 | 7.4 | 0 | - | 0 | - | - | 8.7 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 11 | 0 | 6 | 19 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 12 | 0 | 7 | 21 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 51 | 49 | 23 | 49 | 51 | 12 | 25 | 0 | 0 | 12 | 0 | 0 |
| Stage 1 | 37 | 37 | - | 12 | 12 | - | - | - | - | - | - | - |
| Stage 2 | 14 | 12 | - | 37 | 39 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 948 | 843 | 1054 | 951 | 840 | 1069 | 1589 | - | - | 1607 | - | - |
| Stage 1 | 978 | 864 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1006 | 886 | - | 978 | 862 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 941 | 840 | 1054 | 948 | 837 | 1069 | 1589 | - | - | 1607 | - | - |
| Mov Cap-2 Maneuver | 941 | 840 | - | 948 | 837 | - | - | - | - | - | - | - |
| Stage 1 | 978 | 861 | - | 1009 | 886 | - | - | - | - | - | - | - |
| Stage 2 | 1002 | 886 | - | 974 | 859 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 8.4 | 0 | 1.5 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1589 | - | - | 941 | 1069 | 1607 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.003 | 0.004 | 0.004 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 8.4 | 7.2 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 30 | 19 | 14 | 4 | 15 | 4 | 24 | 32 | 13 | 6 | 14 | 30 |
| Future Vol, veh/h | 30 | 19 | 14 | 4 | 15 | 4 | 24 | 32 | 13 | 6 | 14 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 33 | 21 | 15 | 4 | 16 | 4 | 26 | 35 | 14 | 7 | 15 | 33 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.6 | 7.3 | 7.5 | 7.1 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 35% | 48% | 17% | 12% |
| Vol Thru, % | 46% | 30% | 65% | 28% |
| Vol Right, % | 19% | 22% | 17% | 60% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 69 | 63 | 23 | 50 |
| LT Vol | 24 | 30 | 4 | 6 |
| Through Vol | 32 | 19 | 15 | 14 |
| RT Vol | 13 | 14 | 4 | 30 |
| Lane Flow Rate | 75 | 68 | 25 | 54 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.085 | 0.079 | 0.029 | 0.058 |
| Departure Headway (Hd) | 4.094 | 4.139 | 4.142 | 3.817 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 869 | 858 | 855 | 928 |
| Service Time | 2.152 | 2.199 | 2.212 | 1.882 |
| HCM Lane V/C Ratio | 0.086 | 0.079 | 0.029 | 0.058 |
| HCM Control Delay | 7.5 | 7.6 | 7.3 | 7.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.3 | 0.3 | 0.1 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 7 | 31 | 68 | 19 | 4 |
| Future Vol, veh/h | 2 | 7 | 31 | 68 | 19 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 8 | 34 | 74 | 21 | 4 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 165 | 23 | 25 | 0 | - | 0 |
| Stage 1 | 23 | - | - | - | - | - |
| Stage 2 | 142 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 826 | 1054 | 1589 | - | - | - |
| Stage 1 | 1000 | - | - | - | - | - |
| Stage 2 | 885 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 808 | 1054 | 1589 | - | - | - |
| Mov Cap-2 Maneuver | 808 | - | - | - | - | - |
| Stage 1 | 978 | - | - | - | - | - |
| Stage 2 | 885 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 2.3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1589 | - | 987 | - | - |
| HCM Lane V/C Ratio | 0.021 | - | 0.01 | - | - |
| HCM Control Delay (s) | 7.3 | 0 | 8.7 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 15 | 152 | 0 | 15 | 38 | 499 | 38 | 8 | 511 | 19 |
| Future Volume (veh/h) | 6 | 0 | 15 | 152 | 0 | 15 | 38 | 499 | 38 | 8 | 511 | 19 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 17 | 177 | 0 | 17 | 44 | 580 | 44 | 9 | 594 | 22 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 79 | 18 | 141 | 243 | 0 | 202 | 609 | 2314 | 1171 | 604 | 2397 | 1125 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.13 | 0.00 | 0.13 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Sat Flow, veh/h | 314 | 142 | 1108 | 1396 | 0 | 1585 | 807 | 3131 | 1585 | 801 | 3244 | 1522 |
| Grp Volume(v), veh/h | 24 | 0 | 0 | 177 | 0 | 17 | 44 | 580 | 44 | 9 | 594 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1564 | 0 | 0 | 1396 | 0 | 1585 | 807 | 1566 | 1585 | 801 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 13.2 | 0.0 | 1.1 | 2.2 | 7.1 | 0.9 | 0.4 | 7.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.5 | 0.0 | 0.0 | 14.7 | 0.0 | 1.1 | 9.2 | 7.1 | 0.9 | 7.6 | 7.0 | 0.5 |
| Prop In Lane | 0.29 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 0 | 0 | 243 | 0 | 202 | 609 | 2314 | 1171 | 604 | 2397 | 1125 |
| V/C Ratio(X) | 0.10 | 0.00 | 0.00 | 0.73 | 0.00 | 0.08 | 0.07 | 0.25 | 0.04 | 0.01 | 0.25 | 0.02 |
| Avail Cap(c_a), veh/h | 641 | 0 | 0 | 612 | 0 | 621 | 609 | 2314 | 1171 | 604 | 2397 | 1125 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.73 | 0.73 | 0.73 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.3 | 0.0 | 0.0 | 51.9 | 0.0 | 46.1 | 6.5 | 5.0 | 4.2 | 6.2 | 5.0 | 4.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 4.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 5.6 | 0.0 | 0.5 | 0.4 | 1.9 | 0.2 | 0.1 | 2.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.5 | 0.0 | 0.0 | 56.0 | 0.0 | 46.3 | 6.6 | 5.2 | 4.2 | 6.3 | 5.3 | 4.2 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 24 | | | 194 | | | 668 | | | 625 | |
| Approach Delay, s/veh | | 46.5 | | | 55.2 | | | 5.2 | | | 5.2 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 96.7 | | 23.3 | | 96.7 | | 23.3 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 59.0 | | 49.0 | | 59.0 | | 49.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.2 | | 3.5 | | 9.6 | | 16.7 | | | | |
| Green Ext Time (p_c), s | | 4.5 | | 0.1 | | 4.3 | | 0.6 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 12.3 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 1055 | 63 | 76 | 654 | 203 | 109 | 209 | 120 | 313 | 141 | 133 |
| Future Volume (veh/h) | 127 | 1055 | 63 | 76 | 654 | 203 | 109 | 209 | 120 | 313 | 141 | 133 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 135 | 1122 | 0 | 81 | 696 | 0 | 116 | 222 | 128 | 333 | 150 | 141 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 165 | 1346 | | 79 | 1288 | | 226 | 258 | 187 | 367 | 395 | 402 |
| Arrive On Green | 0.05 | 0.41 | 0.00 | 0.05 | 0.40 | 0.00 | 0.05 | 0.07 | 0.07 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 135 | 1122 | 0 | 81 | 696 | 0 | 116 | 222 | 128 | 333 | 150 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 4.8 | 36.6 | 0.0 | 5.5 | 20.0 | 0.0 | 5.9 | 7.4 | 8.7 | 22.7 | 9.3 | 9.9 |
| Cycle Q Clear(g_c), s | 4.8 | 36.6 | 0.0 | 5.5 | 20.0 | 0.0 | 5.9 | 7.4 | 8.7 | 22.7 | 9.3 | 9.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 1346 | | 79 | 1288 | | 226 | 258 | 187 | 367 | 395 | 402 |
| V/C Ratio(X) | 0.82 | 0.83 | | 1.03 | 0.54 | | 0.51 | 0.86 | 0.68 | 0.91 | 0.38 | 0.35 |
| Avail Cap(c_a), veh/h | 276 | 1346 | | 111 | 1288 | | 292 | 258 | 187 | 367 | 395 | 402 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.93 | 0.93 | 0.93 |
| Uniform Delay (d), s/veh | 56.5 | 31.9 | 0.0 | 57.3 | 27.3 | 0.0 | 49.6 | 55.1 | 50.8 | 46.3 | 48.2 | 42.9 |
| Incr Delay (d2), s/veh | 9.6 | 6.2 | 0.0 | 86.0 | 1.6 | 0.0 | 1.8 | 24.5 | 9.8 | 24.4 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 14.7 | 0.0 | 4.2 | 7.5 | 0.0 | 3.4 | 4.2 | 4.2 | 12.0 | 4.5 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.1 | 38.1 | 0.0 | 143.3 | 28.9 | 0.0 | 51.4 | 79.5 | 60.6 | 70.6 | 48.8 | 43.4 |
| LnGrp LOS | E | D | | F | C | | D | E | E | E | D | D |
| Approach Vol, veh/h | | 1257 | | | 777 | | | 466 | | | 624 | |
| Approach Delay, s/veh | | 41.1 | | | 40.8 | | | 67.3 | | | 59.2 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 58.2 | 14.1 | 33.9 | 14.2 | 57.8 | 31.0 | 17.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 9.7 | 48.7 | 12.3 | 23.1 | 11.9 | 46.5 | 24.7 | 10.7 |
| Max Q Clear Time (g_c+I1), s | 7.5 | 38.6 | 7.9 | 11.9 | 6.8 | 22.0 | 24.7 | 10.7 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.1 | 0.9 | 0.1 | 4.4 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.5 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 16 | 3 | 44 | 119 | 0 | 13 | 31 | 714 | 168 | 24 | 643 | 12 |
| Future Volume (veh/h) | 16 | 3 | 44 | 119 | 0 | 13 | 31 | 714 | 168 | 24 | 643 | 12 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 18 | 3 | 49 | 134 | 0 | 15 | 35 | 802 | 189 | 27 | 722 | 13 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 60 | 23 | 111 | 196 | 0 | 159 | 564 | 2678 | 1224 | 496 | 2721 | 1030 |
| Arrive On Green | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0.10 | 1.00 | 1.00 | 1.00 | 0.77 | 0.77 | 0.77 |
| Sat Flow, veh/h | 242 | 235 | 1112 | 1352 | 0 | 1585 | 711 | 3469 | 1585 | 568 | 3526 | 1334 |
| Grp Volume(v), veh/h | 70 | 0 | 0 | 134 | 0 | 15 | 35 | 802 | 189 | 27 | 722 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1589 | 0 | 0 | 1352 | 0 | 1585 | 711 | 1735 | 1585 | 568 | 1763 | 1334 |
| Q Serve(g_s), s | 0.1 | 0.0 | 0.0 | 7.1 | 0.0 | 1.1 | 0.5 | 0.0 | 0.0 | 1.4 | 7.3 | 0.3 |
| Cycle Q Clear(g_c), s | 5.0 | 0.0 | 0.0 | 12.0 | 0.0 | 1.1 | 7.8 | 0.0 | 0.0 | 1.4 | 7.3 | 0.3 |
| Prop In Lane | 0.26 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 195 | 0 | 0 | 196 | 0 | 159 | 564 | 2678 | 1224 | 496 | 2721 | 1030 |
| V/C Ratio(X) | 0.36 | 0.00 | 0.00 | 0.68 | 0.00 | 0.09 | 0.06 | 0.30 | 0.15 | 0.05 | 0.27 | 0.01 |
| Avail Cap(c_a), veh/h | 534 | 0 | 0 | 494 | 0 | 507 | 564 | 2678 | 1224 | 496 | 2721 | 1030 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.60 | 0.60 | 0.60 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 52.8 | 0.0 | 0.0 | 56.0 | 0.0 | 51.1 | 0.3 | 0.0 | 0.0 | 3.4 | 4.1 | 3.3 |
| Incr Delay (d2), s/veh | 1.1 | 0.0 | 0.0 | 4.2 | 0.0 | 0.3 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 4.5 | 0.0 | 0.4 | 0.0 | 0.1 | 0.1 | 0.2 | 2.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.0 | 0.0 | 0.0 | 60.1 | 0.0 | 51.4 | 0.4 | 0.2 | 0.2 | 3.6 | 4.3 | 3.3 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 70 | | | 149 | | | 1026 | | | 762 | |
| Approach Delay, s/veh | | 54.0 | | | 59.2 | | | 0.2 | | | 4.3 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 104.5 | | 20.5 | | 104.5 | | 20.5 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 71.0 | | 42.0 | | 71.0 | | 42.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.8 | | 7.0 | | 9.3 | | 14.0 | | | | |
| Green Ext Time (p_c), s | | 7.2 | | 0.4 | | 5.7 | | 0.5 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 8.0 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 249 | 771 | 76 | 199 | 944 | 281 | 131 | 290 | 111 | 315 | 269 | 204 |
| Future Volume (veh/h) | 249 | 771 | 76 | 199 | 944 | 281 | 131 | 290 | 111 | 315 | 269 | 204 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 262 | 812 | 0 | 209 | 994 | 0 | 138 | 305 | 117 | 332 | 283 | 215 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 268 | 1201 | | 212 | 1351 | | 201 | 325 | 330 | 357 | 390 | 455 |
| Arrive On Green | 0.08 | 0.35 | 0.00 | 0.12 | 0.39 | 0.00 | 0.05 | 0.09 | 0.09 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 262 | 812 | 0 | 209 | 994 | 0 | 138 | 305 | 117 | 332 | 283 | 215 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 9.5 | 25.1 | 0.0 | 14.6 | 30.6 | 0.0 | 6.3 | 10.7 | 7.9 | 20.8 | 18.5 | 14.9 |
| Cycle Q Clear(g_c), s | 9.5 | 25.1 | 0.0 | 14.6 | 30.6 | 0.0 | 6.3 | 10.7 | 7.9 | 20.8 | 18.5 | 14.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 268 | 1201 | | 212 | 1351 | | 201 | 325 | 330 | 357 | 390 | 455 |
| V/C Ratio(X) | 0.98 | 0.68 | | 0.99 | 0.74 | | 0.69 | 0.94 | 0.35 | 0.93 | 0.73 | 0.47 |
| Avail Cap(c_a), veh/h | 346 | 1201 | | 271 | 1351 | | 214 | 395 | 362 | 372 | 429 | 488 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 |
| Uniform Delay (d), s/veh | 57.5 | 34.7 | 0.0 | 55.0 | 32.7 | 0.0 | 51.6 | 56.4 | 42.1 | 46.7 | 54.7 | 43.6 |
| Incr Delay (d2), s/veh | 37.8 | 3.1 | 0.0 | 46.7 | 3.6 | 0.0 | 8.2 | 27.5 | 0.6 | 28.2 | 5.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.4 | 10.5 | 0.0 | 9.1 | 12.8 | 0.0 | 1.7 | 6.1 | 3.2 | 12.5 | 9.8 | 6.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 95.3 | 37.7 | 0.0 | 101.7 | 36.3 | 0.0 | 59.8 | 84.0 | 42.8 | 74.8 | 59.9 | 44.4 |
| LnGrp LOS | F | D | | F | D | | E | F | D | E | E | D |
| Approach Vol, veh/h | | 1074 | | | 1203 | | | 560 | | | 830 | |
| Approach Delay, s/veh | | 51.8 | | | 47.6 | | | 69.4 | | | 61.8 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | 52.9 | 14.5 | 34.4 | 18.1 | 58.0 | 29.2 | 19.7 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 21.0 | 37.9 | 9.2 | 30.7 | 14.6 | 44.3 | 24.0 | 15.9 |
| Max Q Clear Time (g_c+I1), s | 16.6 | 27.1 | 8.3 | 20.5 | 11.5 | 32.6 | 22.8 | 12.7 |
| Green Ext Time (p_c), s | 0.2 | 3.7 | 0.0 | 1.6 | 0.3 | 4.8 | 0.1 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 55.4 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 16 | 152 | 0 | 15 | 42 | 546 | 38 | 8 | 559 | 21 |
| Future Volume (veh/h) | 6 | 0 | 16 | 152 | 0 | 15 | 42 | 546 | 38 | 8 | 559 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 19 | 177 | 0 | 17 | 49 | 635 | 44 | 9 | 650 | 24 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 74 | 18 | 146 | 243 | 0 | 202 | 575 | 2314 | 1172 | 572 | 2398 | 1125 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.13 | 0.00 | 0.13 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Sat Flow, veh/h | 279 | 144 | 1147 | 1393 | 0 | 1585 | 764 | 3131 | 1585 | 761 | 3244 | 1522 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 177 | 0 | 17 | 49 | 635 | 44 | 9 | 650 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1569 | 0 | 0 | 1393 | 0 | 1585 | 764 | 1566 | 1585 | 761 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 13.0 | 0.0 | 1.1 | 2.7 | 8.0 | 0.9 | 0.5 | 7.8 | 0.5 |
| Cycle Q Clear(g_c), s | 1.7 | 0.0 | 0.0 | 14.7 | 0.0 | 1.1 | 10.5 | 8.0 | 0.9 | 8.4 | 7.8 | 0.5 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 238 | 0 | 0 | 243 | 0 | 202 | 575 | 2314 | 1172 | 572 | 2398 | 1125 |
| V/C Ratio(X) | 0.11 | 0.00 | 0.00 | 0.73 | 0.00 | 0.08 | 0.09 | 0.27 | 0.04 | 0.02 | 0.27 | 0.02 |
| Avail Cap(c_a), veh/h | 604 | 0 | 0 | 576 | 0 | 581 | 575 | 2314 | 1172 | 572 | 2398 | 1125 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.69 | 0.69 | 0.69 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.4 | 0.0 | 0.0 | 51.9 | 0.0 | 46.2 | 6.8 | 5.1 | 4.2 | 6.5 | 5.1 | 4.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 4.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.0 | 0.1 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 5.6 | 0.0 | 0.5 | 0.4 | 2.1 | 0.2 | 0.1 | 2.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.6 | 0.0 | 0.0 | 56.0 | 0.0 | 46.3 | 7.0 | 5.3 | 4.2 | 6.6 | 5.4 | 4.2 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 26 | | | 194 | | | 728 | | | 683 | |
| Approach Delay, s/veh | | 46.6 | | | 55.2 | | | 5.4 | | | 5.4 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 96.7 | | 23.3 | | 96.7 | | 23.3 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 62.0 | | 46.0 | | 62.0 | | 46.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.5 | | 3.7 | | 10.4 | | 16.7 | | | | |
| Green Ext Time (p_c), s | | 5.1 | | 0.1 | | 4.8 | | 0.6 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 11.9 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 138 | 1153 | 70 | 82 | 711 | 221 | 120 | 229 | 131 | 333 | 154 | 143 |
| Future Volume (veh/h) | 138 | 1153 | 70 | 82 | 711 | 221 | 120 | 229 | 131 | 333 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 147 | 1227 | 0 | 87 | 756 | 0 | 128 | 244 | 139 | 354 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 166 | 1343 | | 80 | 1287 | | 252 | 275 | 196 | 357 | 371 | 383 |
| Arrive On Green | 0.05 | 0.41 | 0.00 | 0.05 | 0.40 | 0.00 | 0.06 | 0.08 | 0.08 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 147 | 1227 | 0 | 87 | 756 | 0 | 128 | 244 | 139 | 354 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 5.2 | 42.1 | 0.0 | 5.6 | 22.2 | 0.0 | 7.4 | 8.2 | 9.3 | 22.1 | 10.2 | 10.8 |
| Cycle Q Clear(g_c), s | 5.2 | 42.1 | 0.0 | 5.6 | 22.2 | 0.0 | 7.4 | 8.2 | 9.3 | 22.1 | 10.2 | 10.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 166 | 1343 | | 80 | 1287 | | 252 | 275 | 196 | 357 | 371 | 383 |
| V/C Ratio(X) | 0.89 | 0.91 | | 1.09 | 0.59 | | 0.51 | 0.89 | 0.71 | 0.99 | 0.44 | 0.40 |
| Avail Cap(c_a), veh/h | 290 | 1343 | | 103 | 1287 | | 310 | 275 | 196 | 357 | 371 | 383 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 |
| Uniform Delay (d), s/veh | 56.7 | 33.6 | 0.0 | 57.2 | 28.0 | 0.0 | 47.9 | 54.8 | 50.5 | 47.4 | 49.6 | 44.2 |
| Incr Delay (d2), s/veh | 15.0 | 11.0 | 0.0 | 113.1 | 2.0 | 0.0 | 1.6 | 27.2 | 11.1 | 43.0 | 0.8 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 17.6 | 0.0 | 4.9 | 8.3 | 0.0 | 3.7 | 4.7 | 4.6 | 5.1 | 5.0 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 71.7 | 44.6 | 0.0 | 170.3 | 29.9 | 0.0 | 49.5 | 82.1 | 61.6 | 90.4 | 50.3 | 44.8 |
| LnGrp LOS | E | D | | F | C | | D | F | E | F | D | D |
| Approach Vol, veh/h | | 1374 | | | 843 | | | 511 | | | 670 | |
| Approach Delay, s/veh | | 47.5 | | | 44.4 | | | 68.3 | | | 70.3 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 58.1 | 15.7 | 32.3 | 14.2 | 57.8 | 30.4 | 17.6 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 9.2 | 49.2 | 13.3 | 22.1 | 12.4 | 46.0 | 24.1 | 11.3 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 44.1 | 9.4 | 12.8 | 7.2 | 24.2 | 24.1 | 11.3 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.1 | 0.9 | 0.2 | 4.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.4 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 3 | 48 | 121 | 0 | 13 | 34 | 782 | 174 | 24 | 703 | 13 |
| Future Volume (veh/h) | 17 | 3 | 48 | 121 | 0 | 13 | 34 | 782 | 174 | 24 | 703 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 19 | 3 | 54 | 136 | 0 | 15 | 38 | 879 | 196 | 27 | 790 | 15 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 61 | 23 | 118 | 198 | 0 | 166 | 524 | 2662 | 1216 | 460 | 2705 | 1023 |
| Arrive On Green | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0.10 | 1.00 | 1.00 | 1.00 | 0.77 | 0.77 | 0.77 |
| Sat Flow, veh/h | 236 | 224 | 1128 | 1346 | 0 | 1585 | 666 | 3469 | 1585 | 525 | 3526 | 1334 |
| Grp Volume(v), veh/h | 76 | 0 | 0 | 136 | 0 | 15 | 38 | 879 | 196 | 27 | 790 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1588 | 0 | 0 | 1346 | 0 | 1585 | 666 | 1735 | 1585 | 525 | 1763 | 1334 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 7.2 | 0.0 | 1.1 | 0.7 | 0.0 | 0.0 | 1.6 | 8.4 | 0.3 |
| Cycle Q Clear(g_c), s | 5.4 | 0.0 | 0.0 | 12.6 | 0.0 | 1.1 | 9.1 | 0.0 | 0.0 | 1.6 | 8.4 | 0.3 |
| Prop In Lane | 0.25 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 202 | 0 | 0 | 198 | 0 | 166 | 524 | 2662 | 1216 | 460 | 2705 | 1023 |
| V/C Ratio(X) | 0.38 | 0.00 | 0.00 | 0.69 | 0.00 | 0.09 | 0.07 | 0.33 | 0.16 | 0.06 | 0.29 | 0.01 |
| Avail Cap(c_a), veh/h | 510 | 0 | 0 | 466 | 0 | 482 | 524 | 2662 | 1216 | 460 | 2705 | 1023 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 52.5 | 0.0 | 0.0 | 55.8 | 0.0 | 50.6 | 0.4 | 0.0 | 0.0 | 3.6 | 4.4 | 3.4 |
| Incr Delay (d2), s/veh | 1.2 | 0.0 | 0.0 | 4.2 | 0.0 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.0 | 4.5 | 0.0 | 0.4 | 0.0 | 0.1 | 0.0 | 0.2 | 2.4 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.7 | 0.0 | 0.0 | 59.9 | 0.0 | 50.8 | 0.5 | 0.2 | 0.1 | 3.8 | 4.6 | 3.4 |
| LnGrp LOS | D | A | A | E | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 76 | | | 151 | | | 1113 | | | 832 | |
| Approach Delay, s/veh | | 53.7 | | | 59.0 | | | 0.2 | | | 4.6 | |
| Approach LOS | | D | | | E | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 103.9 | | 21.1 | | 103.9 | | 21.1 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 73.0 | | 40.0 | | 73.0 | | 40.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.1 | | 7.4 | | 10.4 | | 14.6 | | | | |
| Green Ext Time (p_c), s | | 8.2 | | 0.4 | | 6.4 | | 0.5 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 7.8 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 268 | 842 | 83 | 217 | 1030 | 306 | 144 | 315 | 121 | 338 | 295 | 222 |
| Future Volume (veh/h) | 268 | 842 | 83 | 217 | 1030 | 306 | 144 | 315 | 121 | 338 | 295 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 282 | 886 | 0 | 228 | 1084 | 0 | 152 | 332 | 127 | 356 | 311 | 234 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 286 | 1124 | | 229 | 1291 | | 205 | 347 | 356 | 366 | 395 | 467 |
| Arrive On Green | 0.08 | 0.33 | 0.00 | 0.13 | 0.37 | 0.00 | 0.06 | 0.10 | 0.10 | 0.06 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 282 | 886 | 0 | 228 | 1084 | 0 | 152 | 332 | 127 | 356 | 311 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 10.3 | 29.2 | 0.0 | 16.0 | 35.7 | 0.0 | 7.5 | 11.6 | 8.5 | 21.7 | 20.5 | 16.1 |
| Cycle Q Clear(g_c), s | 10.3 | 29.2 | 0.0 | 16.0 | 35.7 | 0.0 | 7.5 | 11.6 | 8.5 | 21.7 | 20.5 | 16.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 286 | 1124 | | 229 | 1291 | | 205 | 347 | 356 | 366 | 395 | 467 |
| V/C Ratio(X) | 0.99 | 0.79 | | 0.99 | 0.84 | | 0.74 | 0.96 | 0.36 | 0.97 | 0.79 | 0.50 |
| Avail Cap(c_a), veh/h | 321 | 1124 | | 252 | 1291 | | 214 | 389 | 375 | 366 | 408 | 478 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.94 | 0.94 | 0.94 |
| Uniform Delay (d), s/veh | 57.2 | 38.2 | 0.0 | 54.4 | 35.9 | 0.0 | 50.5 | 56.2 | 40.7 | 46.4 | 55.4 | 43.4 |
| Incr Delay (d2), s/veh | 44.9 | 5.6 | 0.0 | 53.4 | 6.7 | 0.0 | 12.4 | 33.1 | 0.6 | 38.2 | 9.0 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 12.6 | 0.0 | 10.3 | 15.4 | 0.0 | 1.8 | 6.8 | 3.4 | 14.2 | 11.2 | 7.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 102.1 | 43.8 | 0.0 | 107.8 | 42.5 | 0.0 | 62.9 | 89.3 | 41.3 | 84.6 | 64.4 | 44.2 |
| LnGrp LOS | F | D | | F | D | | E | F | D | F | E | D |
| Approach Vol, veh/h | | 1168 | | | 1312 | | | 611 | | | 901 | |
| Approach Delay, s/veh | | 57.9 | | | 53.9 | | | 72.7 | | | 67.1 | |
| Approach LOS | | E | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 24.4 | 50.1 | 15.8 | 34.7 | 18.7 | 55.8 | 30.0 | 20.5 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 19.7 | 39.7 | 10.1 | 29.3 | 13.7 | 45.7 | 23.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 18.0 | 31.2 | 9.5 | 22.5 | 12.3 | 37.7 | 23.7 | 13.6 |
| Green Ext Time (p_c), s | 0.1 | 3.5 | 0.0 | 1.4 | 0.1 | 4.1 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.9 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 98 | 72 | 37 | 552 | 534 | 84 |
| Future Volume (veh/h) | 98 | 72 | 37 | 552 | 534 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1841 | 1870 | 1589 | 1663 | 1678 | 1870 |
| Adj Flow Rate, veh/h | 104 | 77 | 39 | 587 | 568 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 4 | 2 | 21 | 16 | 15 | 2 |
| Cap, veh/h | 239 | 248 | 290 | 1690 | 1066 | 746 |
| Arrive On Green | 0.14 | 0.14 | 0.02 | 0.53 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1753 | 1585 | 1513 | 3243 | 3272 | 1585 |
| Grp Volume(v), veh/h | 104 | 77 | 39 | 587 | 568 | 89 |
| Grp Sat Flow(s),veh/h/ln | 1753 | 1585 | 1513 | 1580 | 1594 | 1585 |
| Q Serve(g_s), s | 2.9 | 2.3 | 0.9 | 5.7 | 7.8 | 1.7 |
| Cycle Q Clear(g_c), s | 2.9 | 2.3 | 0.9 | 5.7 | 7.8 | 1.7 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 248 | 290 | 1690 | 1066 | 746 |
| V/C Ratio(X) | 0.44 | 0.31 | 0.13 | 0.35 | 0.53 | 0.12 |
| Avail Cap(c_a), veh/h | 749 | 709 | 625 | 3857 | 2547 | 1482 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.3 | 20.1 | 11.2 | 7.1 | 14.5 | 8.0 |
| Incr Delay (d2), s/veh | 1.3 | 0.7 | 0.2 | 0.1 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.2 | 1.3 | 2.3 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 22.6 | 20.8 | 11.4 | 7.3 | 14.9 | 8.1 |
| LnGrp LOS | C | C | B | A | B | A |
| Approach Vol, veh/h | 181 | | | 626 | 657 | |
| Approach Delay, s/veh | 21.8 | | | 7.5 | 14.0 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.5 | | 16.3 | 10.8 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 7.7 | | 4.9 | 2.9 | 9.8 |
| Green Ext Time (p_c), s | | 4.1 | | 0.5 | 0.0 | 4.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 12.2 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 27 | 568 | 3 | 20 | 587 |
| Future Vol, veh/h | 8 | 27 | 568 | 3 | 20 | 587 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 17 | 2 | 2 | 13 |
| Mvmt Flow | 9 | 29 | 617 | 3 | 22 | 638 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 982 | 310 | 0 | 0 | 620 | 0 |
| Stage 1 | 619 | - | - | - | - | - |
| Stage 2 | 363 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 246 | 686 | - | - | 956 | - |
| Stage 1 | 499 | - | - | - | - | - |
| Stage 2 | 674 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 240 | 686 | - | - | 956 | - |
| Mov Cap-2 Maneuver | 365 | - | - | - | - | - |
| Stage 1 | 499 | - | - | - | - | - |
| Stage 2 | 658 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.8 | 0 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 571 | 956 | - |
| HCM Lane V/C Ratio | - | - | 0.067 | 0.023 | - |
| HCM Control Delay (s) | - | - | 11.8 | 8.9 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 34.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 0 | 16 | 188 | 0 | 19 | 42 | 546 | 99 | 15 | 559 | 21 |
| Future Vol, veh/h | 6 | 0 | 16 | 188 | 0 | 19 | 42 | 546 | 99 | 15 | 559 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 275 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Mvmt Flow | 7 | 0 | 19 | 219 | 0 | 22 | 49 | 635 | 115 | 17 | 650 | 24 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1100 | 1532 | 325 | 1092 | 1441 | 318 | 674 | 0 | 0 | 750 | 0 | 0 |
| Stage 1 | 684 | 684 | - | 733 | 733 | - | - | - | - | - | - | - |
| Stage 2 | 416 | 848 | - | 359 | 708 | - | - | - | - | - | - | - |
| Critical Hdwy | 8 | 6.54 | 7.06 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 7 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.75 | 4.02 | 3.38 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 140 | 116 | 653 | ~ 169 | 131 | 678 | 913 | - | - | 855 | - | - |
| Stage 1 | 355 | 447 | - | 378 | 424 | - | - | - | - | - | - | - |
| Stage 2 | 527 | 376 | - | 632 | 436 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 128 | 108 | 653 | ~ 155 | 121 | 678 | 913 | - | - | 855 | - | - |
| Mov Cap-2 Maneuver | 128 | 108 | - | ~ 155 | 121 | - | - | - | - | - | - | - |
| Stage 1 | 336 | 438 | - | 358 | 401 | - | - | - | - | - | - | - |
| Stage 2 | 482 | 356 | - | 602 | 427 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.7 | 249 | 0.6 | 0.2 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | 308 | 155 | 678 | 855 | - | - |
| HCM Lane V/C Ratio | 0.053 | - | - | 0.083 | 1.41 | 0.033 | 0.02 | - | - |
| HCM Control Delay (s) | 9.2 | - | - | 17.7 | 273.1 | 10.5 | 9.3 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.3 | 13.9 | 0.1 | 0.1 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 172 | 1153 | 70 | 94 | 732 | 221 | 120 | 250 | 131 | 370 | 154 | 143 |
| Future Volume (veh/h) | 172 | 1153 | 70 | 94 | 732 | 221 | 120 | 250 | 131 | 370 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 183 | 1227 | 0 | 100 | 779 | 0 | 128 | 266 | 139 | 394 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 183 | 1302 | | 82 | 1071 | | 295 | 305 | 155 | 292 | 410 | 339 |
| Arrive On Green | 0.11 | 0.39 | 0.00 | 0.05 | 0.34 | 0.00 | 0.05 | 0.13 | 0.13 | 0.14 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1725 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 2282 | 1157 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 183 | 1227 | 0 | 100 | 779 | 0 | 128 | 205 | 200 | 394 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1725 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1662 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 12.7 | 43.0 | 0.0 | 5.7 | 25.8 | 0.0 | 6.3 | 13.6 | 14.2 | 16.7 | 9.1 | 10.3 |
| Cycle Q Clear(g_c), s | 12.7 | 43.0 | 0.0 | 5.7 | 25.8 | 0.0 | 6.3 | 13.6 | 14.2 | 16.7 | 9.1 | 10.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.70 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 183 | 1302 | | 82 | 1071 | | 295 | 238 | 222 | 292 | 410 | 339 |
| V/C Ratio(X) | 1.00 | 0.94 | | 1.22 | 0.73 | | 0.43 | 0.86 | 0.90 | 1.35 | 0.40 | 0.45 |
| Avail Cap(c_a), veh/h | 197 | 1302 | | 168 | 1071 | | 331 | 366 | 342 | 292 | 506 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.6 | 35.0 | 0.0 | 57.1 | 35.0 | 0.0 | 42.9 | 50.9 | 51.2 | 40.2 | 40.0 | 40.4 |
| Incr Delay (d2), s/veh | 62.5 | 14.5 | 0.0 | 131.2 | 4.3 | 0.0 | 1.0 | 12.5 | 17.9 | 178.7 | 0.6 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.5 | 18.6 | 0.0 | 5.4 | 10.1 | 0.0 | 3.5 | 6.9 | 7.0 | 21.7 | 4.1 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 116.1 | 49.5 | 0.0 | 188.3 | 39.3 | 0.0 | 43.9 | 63.4 | 69.1 | 218.9 | 40.6 | 41.4 |
| LnGrp LOS | F | D | | F | D | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1410 | | | 879 | | | 533 | | | 710 | |
| Approach Delay, s/veh | | 58.2 | | | 56.3 | | | 60.9 | | | 139.7 | |
| Approach LOS | | E | | | E | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 56.6 | 14.5 | 34.8 | 21.0 | 49.6 | 25.0 | 24.3 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 13.7 | 34.7 | 10.7 | 34.7 | 15.7 | 32.7 | 18.7 | 26.7 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 45.0 | 8.3 | 12.3 | 14.7 | 27.8 | 18.7 | 16.2 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 1.3 | 0.0 | 2.1 | 0.0 | 1.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 74.5 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1674 | 1025 | 91 | 0 | 73 |
| Future Vol, veh/h | 0 | 1674 | 1025 | 91 | 0 | 73 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 275 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 11 | 16 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1820 | 1114 | 99 | 0 | 79 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 557 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 0 | - | - | - | 0 | 474 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 474 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 14.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 474 |
| HCM Lane V/C Ratio | - | - | - | 0.167 |
| HCM Control Delay (s) | - | - | - | 14.1 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0.6 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 209 | 1465 | 1084 | 136 | 44 | 32 |
| Future Volume (veh/h) | 209 | 1465 | 1084 | 136 | 44 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1737 | 1663 | 1618 | 1278 | 1678 |
| Adj Flow Rate, veh/h | 232 | 1628 | 1204 | 151 | 49 | 36 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 14 | 11 | 16 | 19 | 42 | 15 |
| Cap, veh/h | 319 | 2580 | 2097 | 985 | 66 | 155 |
| Arrive On Green | 0.05 | 0.78 | 0.66 | 0.66 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1612 | 3387 | 3243 | 1372 | 1217 | 1422 |
| Grp Volume(v), veh/h | 232 | 1628 | 1204 | 151 | 49 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1650 | 1580 | 1372 | 1217 | 1422 |
| Q Serve(g_s), s | 4.9 | 23.4 | 22.8 | 3.8 | 4.4 | 2.5 |
| Cycle Q Clear(g_c), s | 4.9 | 23.4 | 22.8 | 3.8 | 4.4 | 2.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 319 | 2580 | 2097 | 985 | 66 | 155 |
| V/C Ratio(X) | 0.73 | 0.63 | 0.57 | 0.15 | 0.74 | 0.23 |
| Avail Cap(c_a), veh/h | 393 | 2580 | 2097 | 985 | 133 | 233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.2 | 5.2 | 10.1 | 4.9 | 51.2 | 44.8 |
| Incr Delay (d2), s/veh | 5.1 | 1.2 | 1.2 | 0.3 | 14.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 5.1 | 6.7 | 1.2 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 6.4 | 11.2 | 5.2 | 65.9 | 45.6 |
| LnGrp LOS | B | A | B | A | E | D |
| Approach Vol, veh/h | | 1860 | 1355 | | 85 | |
| Approach Delay, s/veh | | 7.7 | 10.5 | | 57.3 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | 13.0 | 82.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 82.0 | | 14.0 | 13.0 | 64.0 |
| Max Q Clear Time (g_c+I1), s | | 25.4 | | 6.4 | 6.9 | 24.8 |
| Green Ext Time (p_c), s | | 18.0 | | 0.1 | 0.3 | 10.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.2 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 88 | 13 | 0 | 132 | 3 | 58 | 0 | 0 | 0 | 0 | 18 |
| Future Vol, veh/h | 4 | 88 | 13 | 0 | 132 | 3 | 58 | 0 | 0 | 0 | 0 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 96 | 14 | 0 | 143 | 3 | 63 | 0 | 0 | 0 | 0 | 20 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 146 | 0 | 0 | 110 | 0 | 0 | 266 | 257 | 103 | 256 | 263 | 145 |
| Stage 1 | - | - | - | - | - | - | 111 | 111 | - | 145 | 145 | - |
| Stage 2 | - | - | - | - | - | - | 155 | 146 | - | 111 | 118 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1436 | - | - | 1480 | - | - | 687 | 647 | 952 | 697 | 642 | 902 |
| Stage 1 | - | - | - | - | - | - | 894 | 804 | - | 858 | 777 | - |
| Stage 2 | - | - | - | - | - | - | 847 | 776 | - | 894 | 798 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1436 | - | - | 1480 | - | - | 671 | 645 | 952 | 696 | 640 | 902 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 671 | 645 | - | 696 | 640 | - |
| Stage 1 | - | - | - | - | - | - | 891 | 802 | - | 855 | 777 | - |
| Stage 2 | - | - | - | - | - | - | 829 | 776 | - | 891 | 796 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0 | 10.9 | 9.1 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 671 | 1436 | - | - | 1480 | - | - | 902 |
| HCM Lane V/C Ratio | 0.094 | 0.003 | - | - | - | - | - | 0.022 |
| HCM Control Delay (s) | 10.9 | 7.5 | 0 | - | 0 | - | - | 9.1 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 25 | 0 | 2 | 19 | 1 |
| Future Vol, veh/h | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 25 | 0 | 2 | 19 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 27 | 0 | 2 | 21 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 56 | 53 | 22 | 53 | 53 | 27 | 22 | 0 | 0 | 27 | 0 | 0 |
| Stage 1 | 26 | 26 | - | 27 | 27 | - | - | - | - | - | - | - |
| Stage 2 | 30 | 27 | - | 26 | 26 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 941 | 838 | 1055 | 946 | 838 | 1048 | 1593 | - | - | 1587 | - | - |
| Stage 1 | 992 | 874 | - | 990 | 873 | - | - | - | - | - | - | - |
| Stage 2 | 987 | 873 | - | 992 | 874 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 935 | 837 | 1055 | 945 | 837 | 1048 | 1593 | - | - | 1587 | - | - |
| Mov Cap-2 Maneuver | 935 | 837 | - | 945 | 837 | - | - | - | - | - | - | - |
| Stage 1 | 992 | 873 | - | 990 | 873 | - | - | - | - | - | - | - |
| Stage 2 | 982 | 873 | - | 991 | 873 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.9 | 8.5 | 0 | 0.7 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1593 | - | - | 935 | 1048 | 1587 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.005 | 0.005 | 0.001 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.9 | 8.5 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.6 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 9 | 6 | 74 | 5 | 22 | 5 | 63 | 21 | 4 | 2 | 30 | 45 |
| Future Vol, veh/h | 9 | 6 | 74 | 5 | 22 | 5 | 63 | 21 | 4 | 2 | 30 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 7 | 80 | 5 | 24 | 5 | 68 | 23 | 4 | 2 | 33 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 7.3 | 7.6 | 8 | 7.4 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 72% | 10% | 16% | 3% |
| Vol Thru, % | 24% | 7% | 69% | 39% |
| Vol Right, % | 5% | 83% | 16% | 58% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 88 | 89 | 32 | 77 |
| LT Vol | 63 | 9 | 5 | 2 |
| Through Vol | 21 | 6 | 22 | 30 |
| RT Vol | 4 | 74 | 5 | 45 |
| Lane Flow Rate | 96 | 97 | 35 | 84 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.115 | 0.102 | 0.042 | 0.09 |
| Departure Headway (Hd) | 4.343 | 3.789 | 4.361 | 3.89 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 818 | 928 | 826 | 908 |
| Service Time | 2.411 | 1.887 | 2.361 | 1.97 |
| HCM Lane V/C Ratio | 0.117 | 0.105 | 0.042 | 0.093 |
| HCM Control Delay | 8 | 7.3 | 7.6 | 7.4 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.4 | 0.3 | 0.1 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 11 | 9 | 71 | 111 | 1 |
| Future Vol, veh/h | 4 | 11 | 9 | 71 | 111 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 12 | 10 | 77 | 121 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 219 | 122 | 122 | 0 | - | 0 |
| Stage 1 | 122 | - | - | - | - | - |
| Stage 2 | 97 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 769 | 929 | 1465 | - | - | - |
| Stage 1 | 903 | - | - | - | - | - |
| Stage 2 | 927 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 764 | 929 | 1465 | - | - | - |
| Mov Cap-2 Maneuver | 764 | - | - | - | - | - |
| Stage 1 | 897 | - | - | - | - | - |
| Stage 2 | 927 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.2 | 0.8 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1465 | - | 878 | - | - |
| HCM Lane V/C Ratio | 0.007 | - | 0.019 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | 9.2 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 68 | 82 | 802 | 713 | 124 |
| Future Volume (veh/h) | 158 | 68 | 82 | 802 | 713 | 124 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1811 | 1870 | 1826 | 1856 | 1870 |
| Adj Flow Rate, veh/h | 180 | 77 | 93 | 911 | 810 | 141 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 6 | 2 | 5 | 3 | 2 |
| Cap, veh/h | 246 | 304 | 301 | 1905 | 1121 | 723 |
| Arrive On Green | 0.14 | 0.14 | 0.06 | 0.55 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1535 | 1781 | 3561 | 3618 | 1585 |
| Grp Volume(v), veh/h | 180 | 77 | 93 | 911 | 810 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1535 | 1781 | 1735 | 1763 | 1585 |
| Q Serve(g_s), s | 5.5 | 2.4 | 1.8 | 9.1 | 11.5 | 3.0 |
| Cycle Q Clear(g_c), s | 5.5 | 2.4 | 1.8 | 9.1 | 11.5 | 3.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 246 | 304 | 301 | 1905 | 1121 | 723 |
| V/C Ratio(X) | 0.73 | 0.25 | 0.31 | 0.48 | 0.72 | 0.19 |
| Avail Cap(c_a), veh/h | 724 | 715 | 604 | 4027 | 2678 | 1423 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.4 | 19.2 | 12.2 | 7.8 | 17.1 | 9.2 |
| Incr Delay (d2), s/veh | 4.2 | 0.4 | 0.6 | 0.2 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 0.6 | 2.2 | 3.9 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.5 | 19.6 | 12.8 | 8.0 | 18.0 | 9.3 |
| LnGrp LOS | C | B | B | A | B | A |
| Approach Vol, veh/h | 257 | | | 1004 | 951 | |
| Approach Delay, s/veh | 25.2 | | | 8.4 | 16.7 | |
| Approach LOS | C | | | A | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.8 | | 16.8 | 13.1 | 26.7 |
| Change Period (Y+Rc), s | | 6.7 | | * 7 | 7.7 | 6.7 |
| Max Green Setting (Gmax), s | | 67.7 | | * 25 | 15.0 | 45.0 |
| Max Q Clear Time (g_c+I1), s | | 11.1 | | 7.5 | 3.8 | 13.5 |
| Green Ext Time (p_c), s | | 7.1 | | 0.7 | 0.1 | 6.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.9 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 4 | 45 | 792 | 7 | 47 | 729 |
| Future Vol, veh/h | 4 | 45 | 792 | 7 | 47 | 729 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 125 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 5 | 2 | 2 | 3 |
| Mvmt Flow | 4 | 49 | 861 | 8 | 51 | 792 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1363 | 435 | 0 | 0 | 869 | 0 |
| Stage 1 | 865 | - | - | - | - | - |
| Stage 2 | 498 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 139 | 569 | - | - | 771 | - |
| Stage 1 | 373 | - | - | - | - | - |
| Stage 2 | 576 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 130 | 569 | - | - | 771 | - |
| Mov Cap-2 Maneuver | 258 | - | - | - | - | - |
| Stage 1 | 373 | - | - | - | - | - |
| Stage 2 | 538 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.7 | 0 | 0.6 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 518 | 771 | - |
| HCM Lane V/C Ratio | - | - | 0.103 | 0.066 | - |
| HCM Control Delay (s) | - | - | 12.7 | 10 | - |
| HCM Lane LOS | - | - | B | B | - |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0.2 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 119.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 17 | 3 | 48 | 222 | 0 | 25 | 34 | 757 | 283 | 42 | 678 | 13 |
| Future Vol, veh/h | 17 | 3 | 48 | 222 | 0 | 25 | 34 | 757 | 283 | 42 | 678 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | 250 | - | 275 | 550 | - | 125 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Mvmt Flow | 19 | 3 | 54 | 249 | 0 | 28 | 38 | 851 | 318 | 47 | 762 | 15 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1358 | 2101 | 381 | 1404 | 1798 | 426 | 777 | 0 | 0 | 1169 | 0 | 0 |
| Stage 1 | 856 | 856 | - | 927 | 927 | - | - | - | - | - | - | - |
| Stage 2 | 502 | 1245 | - | 477 | 871 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 7.02 | 7.54 | 6.54 | 6.94 | 4.18 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.36 | 3.52 | 4.02 | 3.32 | 2.24 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 107 | 51 | 606 | ~ 99 | 79 | 577 | 822 | - | - | 593 | - | - |
| Stage 1 | 319 | 373 | - | 289 | 345 | - | - | - | - | - | - | - |
| Stage 2 | 520 | 244 | - | 538 | 367 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 92 | 45 | 606 | ~ 77 | 69 | 577 | 822 | - | - | 593 | - | - |
| Mov Cap-2 Maneuver | 92 | 45 | - | ~ 77 | 69 | - | - | - | - | - | - | - |
| Stage 1 | 304 | 344 | - | 276 | 329 | - | - | - | - | - | - | - |
| Stage 2 | 472 | 233 | - | 447 | 338 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 32.4 | $ 1010.6 | 0.3 | 0.7 |
| HCM LOS | D | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 822 | - | - | 206 | 77 | 577 | 593 | - | - |
| HCM Lane V/C Ratio | 0.046 | - | - | 0.371 | 3.239 | 0.049 | 0.08 | - | - |
| HCM Control Delay (s) | 9.6 | - | - | 32.4 | $ 1123.1 | 11.6 | 11.6 | - | - |
| HCM Lane LOS | A | - | - | D | F | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.6 | 25.3 | 0.2 | 0.3 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 325 | 818 | 83 | 247 | 1077 | 298 | 144 | 341 | 115 | 434 | 287 | 211 |
| Future Volume (veh/h) | 325 | 818 | 83 | 247 | 1077 | 298 | 144 | 341 | 115 | 434 | 287 | 211 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 342 | 861 | 0 | 260 | 1134 | 0 | 152 | 359 | 121 | 457 | 302 | 222 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 236 | 1121 | | 238 | 1130 | | 204 | 287 | 95 | 334 | 408 | 345 |
| Arrive On Green | 0.13 | 0.33 | 0.00 | 0.13 | 0.33 | 0.00 | 0.05 | 0.11 | 0.11 | 0.16 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1767 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 2620 | 870 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 342 | 861 | 0 | 260 | 1134 | 0 | 152 | 242 | 238 | 457 | 302 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1714 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 16.7 | 28.1 | 0.0 | 16.7 | 40.7 | 0.0 | 6.2 | 13.7 | 13.7 | 19.7 | 18.8 | 15.9 |
| Cycle Q Clear(g_c), s | 16.7 | 28.1 | 0.0 | 16.7 | 40.7 | 0.0 | 6.2 | 13.7 | 13.7 | 19.7 | 18.8 | 15.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.51 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 236 | 1121 | | 238 | 1130 | | 204 | 195 | 188 | 334 | 408 | 345 |
| V/C Ratio(X) | 1.45 | 0.77 | | 1.09 | 1.00 | | 0.74 | 1.24 | 1.27 | 1.37 | 0.74 | 0.64 |
| Avail Cap(c_a), veh/h | 236 | 1121 | | 238 | 1130 | | 212 | 195 | 188 | 334 | 408 | 345 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.2 | 37.9 | 0.0 | 54.2 | 42.1 | 0.0 | 51.2 | 55.7 | 55.7 | 41.4 | 45.6 | 44.5 |
| Incr Delay (d2), s/veh | 224.1 | 5.1 | 0.0 | 85.7 | 27.7 | 0.0 | 12.8 | 144.4 | 155.9 | 184.0 | 7.1 | 4.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 21.9 | 12.0 | 0.0 | 12.9 | 20.8 | 0.0 | 2.5 | 14.0 | 14.1 | 25.8 | 9.3 | 6.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 278.2 | 43.0 | 0.0 | 139.9 | 69.9 | 0.0 | 63.9 | 200.0 | 211.6 | 225.3 | 52.7 | 48.5 |
| LnGrp LOS | F | D | | F | F | | E | F | F | F | D | D |
| Approach Vol, veh/h | | 1203 | | | 1394 | | | 632 | | | 981 | |
| Approach Delay, s/veh | | 109.8 | | | 82.9 | | | 171.6 | | | 132.2 | |
| Approach LOS | | F | | | F | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.0 | 50.0 | 14.5 | 35.5 | 25.0 | 50.0 | 28.0 | 22.0 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 18.7 | 42.7 | 8.7 | 28.7 | 18.7 | 42.7 | 21.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 18.7 | 30.1 | 8.2 | 20.8 | 18.7 | 42.7 | 21.7 | 15.7 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 115.4 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.4 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 1356 | 1647 | 209 | 0 | 144 |
| Future Vol, veh/h | 0 | 1356 | 1647 | 209 | 0 | 144 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | 275 | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 7 | 5 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1474 | 1790 | 227 | 0 | 157 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 0 | - | 895 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | 0 | - | - | - | 0 | 284 |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 284 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 32.2 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | 284 |
| HCM Lane V/C Ratio | - | - | - | 0.551 |
| HCM Control Delay (s) | - | - | - | 32.2 |
| HCM Lane LOS | - | - | - | D |
| HCM 95th %tile Q(veh) | - | - | - | 3.1 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 148 | 1208 | 1800 | 83 | 58 | 56 |
| Future Volume (veh/h) | 148 | 1208 | 1800 | 83 | 58 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1796 | 1826 | 1337 | 1530 | 1707 |
| Adj Flow Rate, veh/h | 157 | 1285 | 1915 | 88 | 62 | 60 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 25 | 7 | 5 | 38 | 25 | 13 |
| Cap, veh/h | 187 | 2730 | 2401 | 841 | 73 | 144 |
| Arrive On Green | 0.05 | 0.80 | 0.69 | 0.69 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1457 | 3503 | 3561 | 1133 | 1457 | 1447 |
| Grp Volume(v), veh/h | 157 | 1285 | 1915 | 88 | 62 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1457 | 1706 | 1735 | 1133 | 1457 | 1447 |
| Q Serve(g_s), s | 3.5 | 14.5 | 45.5 | 2.6 | 5.1 | 4.7 |
| Cycle Q Clear(g_c), s | 3.5 | 14.5 | 45.5 | 2.6 | 5.1 | 4.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 187 | 2730 | 2401 | 841 | 73 | 144 |
| V/C Ratio(X) | 0.84 | 0.47 | 0.80 | 0.10 | 0.85 | 0.42 |
| Avail Cap(c_a), veh/h | 212 | 2730 | 2401 | 841 | 243 | 313 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.5 | 3.8 | 12.7 | 4.3 | 56.6 | 50.7 |
| Incr Delay (d2), s/veh | 22.6 | 0.6 | 2.9 | 0.3 | 22.8 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 3.2 | 14.8 | 0.7 | 2.3 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 50.1 | 4.4 | 15.6 | 4.6 | 79.4 | 52.7 |
| LnGrp LOS | D | A | B | A | E | D |
| Approach Vol, veh/h | | 1442 | 2003 | | 122 | |
| Approach Delay, s/veh | | 9.4 | 15.1 | | 66.2 | |
| Approach LOS | | A | B | | E | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 105.0 | | 15.0 | 13.0 | 92.0 |
| Change Period (Y+Rc), s | | 7.0 | | 7.0 | 5.0 | 7.0 |
| Max Green Setting (Gmax), s | | 84.0 | | 22.0 | 10.0 | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 16.5 | | 7.1 | 5.5 | 47.5 |
| Green Ext Time (p_c), s | | 11.8 | | 0.3 | 0.1 | 14.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.5 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 9 | 203 | 35 | 0 | 183 | 7 | 30 | 0 | 0 | 0 | 0 | 8 |
| Future Vol, veh/h | 9 | 203 | 35 | 0 | 183 | 7 | 30 | 0 | 0 | 0 | 0 | 8 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 221 | 38 | 0 | 199 | 8 | 33 | 0 | 0 | 0 | 0 | 9 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 207 | 0 | 0 | 259 | 0 | 0 | 468 | 467 | 240 | 463 | 482 | 203 |
| Stage 1 | - | - | - | - | - | - | 260 | 260 | - | 203 | 203 | - |
| Stage 2 | - | - | - | - | - | - | 208 | 207 | - | 260 | 279 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1364 | - | - | 1306 | - | - | 505 | 493 | 799 | 509 | 484 | 838 |
| Stage 1 | - | - | - | - | - | - | 745 | 693 | - | 799 | 733 | - |
| Stage 2 | - | - | - | - | - | - | 794 | 731 | - | 745 | 680 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1364 | - | - | 1306 | - | - | 496 | 489 | 799 | 505 | 480 | 838 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 496 | 489 | - | 505 | 480 | - |
| Stage 1 | - | - | - | - | - | - | 738 | 687 | - | 792 | 733 | - |
| Stage 2 | - | - | - | - | - | - | 786 | 731 | - | 738 | 674 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0 | 12.8 | 9.3 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 496 | 1364 | - | - | 1306 | - | - | 838 |
| HCM Lane V/C Ratio | 0.066 | 0.007 | - | - | - | - | - | 0.01 |
| HCM Control Delay (s) | 12.8 | 7.7 | 0 | - | 0 | - | - | 9.3 |
| HCM Lane LOS | B | A | A | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 0 | 5 | 45 | 3 |
| Future Vol, veh/h | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 0 | 5 | 45 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 48 | 0 | 5 | 49 | 3 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 111 | 109 | 51 | 109 | 110 | 48 | 52 | 0 | 0 | 48 | 0 | 0 |
| Stage 1 | 61 | 61 | - | 48 | 48 | - | - | - | - | - | - | - |
| Stage 2 | 50 | 48 | - | 61 | 62 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 867 | 781 | 1017 | 870 | 780 | 1021 | 1554 | - | - | 1559 | - | - |
| Stage 1 | 950 | 844 | - | 965 | 855 | - | - | - | - | - | - | - |
| Stage 2 | 963 | 855 | - | 950 | 843 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 863 | 779 | 1017 | 868 | 778 | 1021 | 1554 | - | - | 1559 | - | - |
| Mov Cap-2 Maneuver | 863 | 779 | - | 868 | 778 | - | - | - | - | - | - | - |
| Stage 1 | 950 | 841 | - | 965 | 855 | - | - | - | - | - | - | - |
| Stage 2 | 960 | 855 | - | 947 | 840 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 9.2 | 8.5 | 0 | 0.7 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1554 | - | - | 863 | 1021 | 1559 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.003 | 0.003 | 0.003 | - | - |
| HCM Control Delay (s) | 0 | - | - | 9.2 | 8.5 | 7.3 | 0 | - |
| HCM Lane LOS | A | - | - | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 24 | 15 | 162 | 3 | 12 | 3 | 155 | 61 | 10 | 5 | 41 | 24 |
| Future Vol, veh/h | 24 | 15 | 162 | 3 | 12 | 3 | 155 | 61 | 10 | 5 | 41 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 26 | 16 | 176 | 3 | 13 | 3 | 168 | 66 | 11 | 5 | 45 | 26 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8.8 | 8.1 | 9.9 | 8.1 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 69% | 12% | 17% | 7% |
| Vol Thru, % | 27% | 7% | 67% | 59% |
| Vol Right, % | 4% | 81% | 17% | 34% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 226 | 201 | 18 | 70 |
| LT Vol | 155 | 24 | 3 | 5 |
| Through Vol | 61 | 15 | 12 | 41 |
| RT Vol | 10 | 162 | 3 | 24 |
| Lane Flow Rate | 246 | 218 | 20 | 76 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.318 | 0.259 | 0.027 | 0.096 |
| Departure Headway (Hd) | 4.658 | 4.262 | 4.885 | 4.561 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 771 | 843 | 731 | 783 |
| Service Time | 2.694 | 2.29 | 2.927 | 2.604 |
| HCM Lane V/C Ratio | 0.319 | 0.259 | 0.027 | 0.097 |
| HCM Control Delay | 9.9 | 8.8 | 8.1 | 8.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 1.4 | 1 | 0.1 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 6 | 25 | 225 | 196 | 3 |
| Future Vol, veh/h | 2 | 6 | 25 | 225 | 196 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 7 | 27 | 245 | 213 | 3 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 514 | 215 | 216 | 0 | - | 0 |
| Stage 1 | 215 | - | - | - | - | - |
| Stage 2 | 299 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 521 | 825 | 1354 | - | - | - |
| Stage 1 | 821 | - | - | - | - | - |
| Stage 2 | 752 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 509 | 825 | 1354 | - | - | - |
| Mov Cap-2 Maneuver | 509 | - | - | - | - | - |
| Stage 1 | 802 | - | - | - | - | - |
| Stage 2 | 752 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.1 | 0.8 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1354 | - | 714 | - | - |
| HCM Lane V/C Ratio | 0.02 | - | 0.012 | - | - |
| HCM Control Delay (s) | 7.7 | 0 | 10.1 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 16 | 188 | 0 | 19 | 42 | 546 | 99 | 15 | 559 | 21 |
| Future Volume (veh/h) | 6 | 0 | 16 | 188 | 0 | 19 | 42 | 546 | 99 | 15 | 559 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1530 | 1870 | 1781 | 1870 | 1870 | 1870 | 1870 | 1648 | 1870 | 1870 | 1707 | 1796 |
| Adj Flow Rate, veh/h | 7 | 0 | 19 | 219 | 0 | 22 | 49 | 635 | 115 | 17 | 650 | 24 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 25 | 2 | 8 | 2 | 2 | 2 | 2 | 17 | 2 | 2 | 13 | 7 |
| Cap, veh/h | 86 | 19 | 181 | 287 | 0 | 252 | 545 | 2216 | 1122 | 476 | 2296 | 1077 |
| Arrive On Green | 0.16 | 0.00 | 0.16 | 0.16 | 0.00 | 0.16 | 0.47 | 0.47 | 0.47 | 0.71 | 0.71 | 0.71 |
| Sat Flow, veh/h | 300 | 120 | 1141 | 1393 | 0 | 1585 | 764 | 3131 | 1585 | 712 | 3244 | 1522 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 219 | 0 | 22 | 49 | 635 | 115 | 17 | 650 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1561 | 0 | 0 | 1393 | 0 | 1585 | 764 | 1566 | 1585 | 712 | 1622 | 1522 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 16.7 | 0.0 | 1.4 | 4.6 | 14.8 | 4.8 | 1.2 | 8.8 | 0.6 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 0.0 | 18.3 | 0.0 | 1.4 | 13.4 | 14.8 | 4.8 | 16.0 | 8.8 | 0.6 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 286 | 0 | 0 | 287 | 0 | 252 | 545 | 2216 | 1122 | 476 | 2296 | 1077 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.00 | 0.76 | 0.00 | 0.09 | 0.09 | 0.29 | 0.10 | 0.04 | 0.28 | 0.02 |
| Avail Cap(c_a), veh/h | 654 | 0 | 0 | 623 | 0 | 634 | 545 | 2216 | 1122 | 476 | 2296 | 1077 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.61 | 0.61 | 0.61 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.1 | 0.0 | 0.0 | 49.9 | 0.0 | 43.0 | 15.4 | 13.1 | 10.5 | 10.6 | 6.4 | 5.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 4.2 | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 6.9 | 0.0 | 0.6 | 0.9 | 5.6 | 1.5 | 0.2 | 2.6 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.3 | 0.0 | 0.0 | 54.2 | 0.0 | 43.2 | 15.6 | 13.3 | 10.6 | 10.8 | 6.7 | 5.2 |
| LnGrp LOS | D | A | A | D | A | D | B | B | B | B | A | A |
| Approach Vol, veh/h | | 26 | | | 241 | | | 799 | | | 691 | |
| Approach Delay, s/veh | | 43.3 | | | 53.2 | | | 13.1 | | | 6.8 | |
| Approach LOS | | D | | | D | | | B | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 92.9 | | 27.1 | | 92.9 | | 27.1 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 58.0 | | 50.0 | | 58.0 | | 50.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 16.8 | | 3.6 | | 18.0 | | 20.3 | | | | |
| Green Ext Time (p_c), s | | 5.3 | | 0.1 | | 4.8 | | 0.8 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 16.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 172 | 1153 | 70 | 94 | 732 | 221 | 120 | 250 | 131 | 370 | 154 | 143 |
| Future Volume (veh/h) | 172 | 1153 | 70 | 94 | 732 | 221 | 120 | 250 | 131 | 370 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 183 | 1227 | 0 | 100 | 779 | 0 | 128 | 266 | 139 | 394 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 187 | 1292 | | 82 | 1222 | | 251 | 278 | 200 | 373 | 400 | 417 |
| Arrive On Green | 0.06 | 0.39 | 0.00 | 0.05 | 0.38 | 0.00 | 0.06 | 0.08 | 0.08 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 1570 | 1856 | 1535 |
| Grp Volume(v), veh/h | 183 | 1227 | 0 | 100 | 779 | 0 | 128 | 266 | 139 | 394 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1570 | 1856 | 1535 |
| Q Serve(g_s), s | 6.6 | 43.2 | 0.0 | 5.7 | 23.9 | 0.0 | 7.2 | 8.9 | 9.4 | 23.7 | 10.1 | 10.6 |
| Cycle Q Clear(g_c), s | 6.6 | 43.2 | 0.0 | 5.7 | 23.9 | 0.0 | 7.2 | 8.9 | 9.4 | 23.7 | 10.1 | 10.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 187 | 1292 | | 82 | 1222 | | 251 | 278 | 200 | 373 | 400 | 417 |
| V/C Ratio(X) | 0.98 | 0.95 | | 1.22 | 0.64 | | 0.51 | 0.96 | 0.70 | 1.06 | 0.41 | 0.36 |
| Avail Cap(c_a), veh/h | 287 | 1292 | | 108 | 1222 | | 304 | 278 | 200 | 373 | 400 | 417 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 |
| Uniform Delay (d), s/veh | 56.6 | 35.4 | 0.0 | 57.1 | 30.2 | 0.0 | 48.0 | 55.1 | 50.2 | 46.7 | 48.4 | 42.3 |
| Incr Delay (d2), s/veh | 37.9 | 15.6 | 0.0 | 163.1 | 2.6 | 0.0 | 1.6 | 41.8 | 10.1 | 59.6 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 18.9 | 0.0 | 6.1 | 9.1 | 0.0 | 3.7 | 5.6 | 4.6 | 6.9 | 5.0 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 94.5 | 50.9 | 0.0 | 220.2 | 32.8 | 0.0 | 49.6 | 96.9 | 60.3 | 106.4 | 49.0 | 42.8 |
| LnGrp LOS | F | D | | F | C | | D | F | E | F | D | D |
| Approach Vol, veh/h | | 1410 | | | 879 | | | 533 | | | 710 | |
| Approach Delay, s/veh | | 56.6 | | | 54.1 | | | 76.0 | | | 79.5 | |
| Approach LOS | | E | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 56.3 | 15.5 | 34.2 | 15.0 | 55.3 | 32.0 | 17.7 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 9.5 | 47.2 | 12.8 | 24.3 | 12.3 | 44.4 | 25.7 | 11.4 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 45.2 | 9.2 | 12.6 | 8.6 | 25.9 | 25.7 | 11.4 |
| Green Ext Time (p_c), s | 0.0 | 1.4 | 0.1 | 1.0 | 0.2 | 4.6 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 63.5 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 3 | 48 | 222 | 0 | 25 | 34 | 757 | 283 | 42 | 678 | 13 |
| Future Volume (veh/h) | 17 | 3 | 48 | 222 | 0 | 25 | 34 | 757 | 283 | 42 | 678 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1811 | 1870 | 1870 | 1870 | 1841 | 1826 | 1870 | 1870 | 1856 | 1574 |
| Adj Flow Rate, veh/h | 19 | 3 | 54 | 249 | 0 | 28 | 38 | 851 | 318 | 47 | 762 | 15 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 6 | 2 | 2 | 2 | 4 | 5 | 2 | 2 | 3 | 22 |
| Cap, veh/h | 91 | 31 | 210 | 315 | 0 | 298 | 465 | 2372 | 1084 | 370 | 2411 | 912 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.00 | 0.19 | 0.91 | 0.91 | 0.91 | 0.68 | 0.68 | 0.68 |
| Sat Flow, veh/h | 290 | 164 | 1114 | 1346 | 0 | 1585 | 683 | 3469 | 1585 | 480 | 3526 | 1334 |
| Grp Volume(v), veh/h | 76 | 0 | 0 | 249 | 0 | 28 | 38 | 851 | 318 | 47 | 762 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1568 | 0 | 0 | 1346 | 0 | 1585 | 683 | 1735 | 1585 | 480 | 1763 | 1334 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 17.7 | 0.0 | 1.8 | 1.6 | 4.1 | 3.1 | 4.7 | 10.9 | 0.4 |
| Cycle Q Clear(g_c), s | 4.9 | 0.0 | 0.0 | 22.6 | 0.0 | 1.8 | 12.5 | 4.1 | 3.1 | 8.9 | 10.9 | 0.4 |
| Prop In Lane | 0.25 | | 0.71 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 331 | 0 | 0 | 315 | 0 | 298 | 465 | 2372 | 1084 | 370 | 2411 | 912 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.00 | 0.79 | 0.00 | 0.09 | 0.08 | 0.36 | 0.29 | 0.13 | 0.32 | 0.02 |
| Avail Cap(c_a), veh/h | 657 | 0 | 0 | 600 | 0 | 634 | 465 | 2372 | 1084 | 370 | 2411 | 912 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.31 | 0.31 | 0.31 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.2 | 0.0 | 0.0 | 50.2 | 0.0 | 41.9 | 3.6 | 2.0 | 1.9 | 8.4 | 8.0 | 6.3 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 4.4 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.7 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 8.1 | 0.0 | 0.7 | 0.1 | 1.0 | 0.8 | 0.5 | 3.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.5 | 0.0 | 0.0 | 54.6 | 0.0 | 42.1 | 3.7 | 2.1 | 2.1 | 9.2 | 8.3 | 6.4 |
| LnGrp LOS | D | A | A | D | A | D | A | A | A | A | A | A |
| Approach Vol, veh/h | | 76 | | | 277 | | | 1207 | | | 824 | |
| Approach Delay, s/veh | | 43.5 | | | 53.4 | | | 2.2 | | | 8.3 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 93.5 | | 31.5 | | 93.5 | | 31.5 | | | | |
| Change Period (Y+Rc), s | | 6.0 | | 6.0 | | 6.0 | | 6.0 | | | | |
| Max Green Setting (Gmax), s | | 61.0 | | 52.0 | | 61.0 | | 52.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 14.5 | | 6.9 | | 12.9 | | 24.6 | | | | |
| Green Ext Time (p_c), s | | 8.4 | | 0.5 | | 6.5 | | 1.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 11.6 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 325 | 818 | 83 | 247 | 1077 | 298 | 144 | 341 | 115 | 434 | 287 | 211 |
| Future Volume (veh/h) | 325 | 818 | 83 | 247 | 1077 | 298 | 144 | 341 | 115 | 434 | 287 | 211 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 342 | 861 | 0 | 260 | 1134 | 0 | 152 | 359 | 121 | 457 | 302 | 222 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 340 | 945 | | 260 | 1116 | | 243 | 355 | 387 | 418 | 458 | 546 |
| Arrive On Green | 0.10 | 0.27 | 0.00 | 0.15 | 0.32 | 0.00 | 0.06 | 0.10 | 0.10 | 0.07 | 0.08 | 0.08 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 1753 | 1870 | 1585 |
| Grp Volume(v), veh/h | 342 | 861 | 0 | 260 | 1134 | 0 | 152 | 359 | 121 | 457 | 302 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1753 | 1870 | 1585 |
| Q Serve(g_s), s | 12.4 | 30.3 | 0.0 | 18.2 | 40.2 | 0.0 | 7.6 | 12.5 | 7.9 | 25.7 | 19.6 | 14.7 |
| Cycle Q Clear(g_c), s | 12.4 | 30.3 | 0.0 | 18.2 | 40.2 | 0.0 | 7.6 | 12.5 | 7.9 | 25.7 | 19.6 | 14.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 340 | 945 | | 260 | 1116 | | 243 | 355 | 387 | 418 | 458 | 546 |
| V/C Ratio(X) | 1.01 | 0.91 | | 1.00 | 1.02 | | 0.63 | 1.01 | 0.31 | 1.09 | 0.66 | 0.41 |
| Avail Cap(c_a), veh/h | 340 | 945 | | 264 | 1116 | | 252 | 355 | 387 | 418 | 458 | 546 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.89 |
| Uniform Delay (d), s/veh | 56.3 | 43.8 | 0.0 | 53.4 | 42.4 | 0.0 | 48.8 | 56.3 | 38.5 | 45.0 | 52.4 | 38.6 |
| Incr Delay (d2), s/veh | 50.2 | 14.3 | 0.0 | 55.0 | 31.1 | 0.0 | 4.6 | 50.3 | 0.5 | 69.2 | 3.1 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.6 | 14.2 | 0.0 | 11.8 | 21.1 | 0.0 | 4.8 | 8.1 | 3.1 | 20.0 | 10.2 | 6.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 106.5 | 58.2 | 0.0 | 108.3 | 73.5 | 0.0 | 53.3 | 106.6 | 38.9 | 114.2 | 55.5 | 39.0 |
| LnGrp LOS | F | E | | F | F | | D | F | D | F | E | D |
| Approach Vol, veh/h | | 1203 | | | 1394 | | | 632 | | | 981 | |
| Approach Delay, s/veh | | 71.9 | | | 80.0 | | | 80.8 | | | 79.1 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.6 | 43.6 | 15.9 | 38.9 | 20.7 | 49.5 | 34.0 | 20.8 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 20.5 | 36.1 | 10.2 | 32.0 | 14.4 | 42.2 | 27.7 | 14.5 |
| Max Q Clear Time (g_c+I1), s | 20.2 | 32.3 | 9.6 | 21.6 | 14.4 | 42.2 | 27.7 | 14.5 |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 77.6 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 172 | 1153 | 70 | 94 | 732 | 221 | 120 | 250 | 131 | 370 | 154 | 143 |
| Future Volume (veh/h) | 172 | 1153 | 70 | 94 | 732 | 221 | 120 | 250 | 131 | 370 | 154 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1811 | 1737 | 1693 | 1811 | 1678 | 1633 | 1870 | 1870 | 1870 | 1648 | 1856 | 1811 |
| Adj Flow Rate, veh/h | 183 | 1227 | 0 | 100 | 779 | 0 | 128 | 266 | 139 | 394 | 164 | 152 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 6 | 11 | 14 | 6 | 15 | 18 | 2 | 2 | 2 | 17 | 3 | 6 |
| Cap, veh/h | 189 | 1487 | | 82 | 1408 | | 234 | 301 | 210 | 402 | 311 | 344 |
| Arrive On Green | 0.06 | 0.45 | 0.00 | 0.05 | 0.44 | 0.00 | 0.05 | 0.08 | 0.08 | 0.04 | 0.06 | 0.06 |
| Sat Flow, veh/h | 3346 | 3300 | 1434 | 1725 | 3188 | 1384 | 1781 | 3554 | 1585 | 3045 | 1856 | 1535 |
| Grp Volume(v), veh/h | 183 | 1227 | 0 | 100 | 779 | 0 | 128 | 266 | 139 | 394 | 164 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1673 | 1650 | 1434 | 1725 | 1594 | 1384 | 1781 | 1777 | 1585 | 1522 | 1856 | 1535 |
| Q Serve(g_s), s | 6.6 | 39.0 | 0.0 | 5.7 | 21.7 | 0.0 | 5.9 | 8.9 | 10.0 | 15.5 | 10.3 | 10.8 |
| Cycle Q Clear(g_c), s | 6.6 | 39.0 | 0.0 | 5.7 | 21.7 | 0.0 | 5.9 | 8.9 | 10.0 | 15.5 | 10.3 | 10.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 189 | 1487 | | 82 | 1408 | | 234 | 301 | 210 | 402 | 311 | 344 |
| V/C Ratio(X) | 0.97 | 0.83 | | 1.22 | 0.55 | | 0.55 | 0.88 | 0.66 | 0.98 | 0.53 | 0.44 |
| Avail Cap(c_a), veh/h | 332 | 1487 | | 125 | 1408 | | 254 | 317 | 217 | 449 | 328 | 358 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 |
| Uniform Delay (d), s/veh | 56.5 | 28.8 | 0.0 | 57.1 | 24.8 | 0.0 | 48.8 | 54.3 | 49.5 | 57.2 | 52.0 | 45.7 |
| Incr Delay (d2), s/veh | 28.9 | 5.4 | 0.0 | 152.0 | 1.6 | 0.0 | 2.0 | 23.3 | 7.0 | 33.6 | 1.2 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 15.3 | 0.0 | 5.9 | 7.9 | 0.0 | 3.8 | 5.0 | 4.4 | 8.2 | 5.1 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 85.4 | 34.2 | 0.0 | 209.2 | 26.3 | 0.0 | 50.8 | 77.6 | 56.5 | 90.8 | 53.3 | 46.6 |
| LnGrp LOS | F | C | | F | C | | D | E | E | F | D | D |
| Approach Vol, veh/h | | 1410 | | | 879 | | | 533 | | | 710 | |
| Approach Delay, s/veh | | 40.8 | | | 47.1 | | | 65.7 | | | 72.6 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 63.4 | 14.2 | 28.4 | 15.1 | 62.3 | 24.2 | 18.5 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 10.7 | 50.7 | 9.2 | 23.2 | 13.9 | 47.5 | 19.7 | 12.7 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 41.0 | 7.9 | 12.8 | 8.6 | 23.7 | 17.5 | 12.0 |
| Green Ext Time (p_c), s | 0.1 | 5.3 | 0.0 | 0.9 | 0.2 | 5.0 | 0.3 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.5 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 325 | 818 | 83 | 247 | 1077 | 298 | 144 | 341 | 115 | 434 | 287 | 211 |
| Future Volume (veh/h) | 325 | 818 | 83 | 247 | 1077 | 298 | 144 | 341 | 115 | 434 | 287 | 211 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1811 | 1856 | 1870 | 1826 | 1781 | 1870 | 1870 | 1856 | 1841 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 342 | 861 | 0 | 260 | 1134 | 0 | 152 | 359 | 121 | 457 | 302 | 222 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 3 | 6 | 3 | 2 | 5 | 8 | 2 | 2 | 3 | 4 | 2 | 2 |
| Cap, veh/h | 346 | 1167 | | 261 | 1335 | | 176 | 368 | 393 | 466 | 352 | 458 |
| Arrive On Green | 0.10 | 0.34 | 0.00 | 0.15 | 0.38 | 0.00 | 0.05 | 0.10 | 0.10 | 0.05 | 0.06 | 0.06 |
| Sat Flow, veh/h | 3428 | 3441 | 1572 | 1781 | 3469 | 1510 | 1781 | 3554 | 1572 | 3401 | 1870 | 1585 |
| Grp Volume(v), veh/h | 342 | 861 | 0 | 260 | 1134 | 0 | 152 | 359 | 121 | 457 | 302 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1714 | 1721 | 1572 | 1781 | 1735 | 1510 | 1781 | 1777 | 1572 | 1700 | 1870 | 1585 |
| Q Serve(g_s), s | 12.5 | 27.6 | 0.0 | 18.2 | 37.3 | 0.0 | 6.5 | 12.6 | 7.8 | 16.8 | 20.0 | 15.1 |
| Cycle Q Clear(g_c), s | 12.5 | 27.6 | 0.0 | 18.2 | 37.3 | 0.0 | 6.5 | 12.6 | 7.8 | 16.8 | 20.0 | 15.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 346 | 1167 | | 261 | 1335 | | 176 | 368 | 393 | 466 | 352 | 458 |
| V/C Ratio(X) | 0.99 | 0.74 | | 0.99 | 0.85 | | 0.87 | 0.98 | 0.31 | 0.98 | 0.86 | 0.48 |
| Avail Cap(c_a), veh/h | 376 | 1167 | | 281 | 1335 | | 184 | 389 | 403 | 509 | 379 | 481 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.89 |
| Uniform Delay (d), s/veh | 56.1 | 36.4 | 0.0 | 53.3 | 35.1 | 0.0 | 52.3 | 55.9 | 38.1 | 59.5 | 57.0 | 42.7 |
| Incr Delay (d2), s/veh | 42.0 | 4.2 | 0.0 | 51.1 | 6.9 | 0.0 | 31.7 | 38.5 | 0.4 | 31.5 | 15.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.2 | 11.7 | 0.0 | 11.6 | 16.1 | 0.0 | 3.2 | 7.7 | 3.1 | 9.7 | 11.5 | 6.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 98.2 | 40.6 | 0.0 | 104.3 | 42.0 | 0.0 | 84.0 | 94.4 | 38.5 | 91.0 | 72.1 | 43.4 |
| LnGrp LOS | F | D | | F | D | | F | F | D | F | E | D |
| Approach Vol, veh/h | | 1203 | | | 1394 | | | 632 | | | 981 | |
| Approach Delay, s/veh | | 57.0 | | | 53.6 | | | 81.2 | | | 74.4 | |
| Approach LOS | | E | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.6 | 51.7 | 14.8 | 31.8 | 20.9 | 57.4 | 25.4 | 21.2 |
| Change Period (Y+Rc), s | 6.3 | 7.3 | 6.3 | 6.3 | 6.3 | 7.3 | 6.3 | 6.3 |
| Max Green Setting (Gmax), s | 21.7 | 40.7 | 9.1 | 27.3 | 15.7 | 46.7 | 20.7 | 15.7 |
| Max Q Clear Time (g_c+I1), s | 20.2 | 29.6 | 8.5 | 22.0 | 14.5 | 39.3 | 18.8 | 14.6 |
| Green Ext Time (p_c), s | 0.1 | 4.0 | 0.0 | 1.1 | 0.2 | 4.0 | 0.4 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 63.6 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 517 | 9 | 15 | 530 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 517 | 9 | 15 | 530 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 29 | 0 | 601 | 10 | 17 | 616 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 951 | 1261 | 308 | 943 | 1251 | 301 | 616 | 0 | 0 | 611 | 0 | 0 |
| Stage 1 | 650 | 650 | - | 601 | 601 | - | - | - | - | - | - | - |
| Stage 2 | 301 | 611 | - | 342 | 650 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 214 | 169 | 688 | 217 | 171 | 652 | 960 | - | - | 964 | - | - |
| Stage 1 | 424 | 463 | - | 454 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 683 | 482 | - | 646 | 463 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 202 | 166 | 688 | 214 | 168 | 652 | 960 | - | - | 964 | - | - |
| Mov Cap-2 Maneuver | 202 | 166 | - | 214 | 168 | - | - | - | - | - | - | - |
| Stage 1 | 424 | 455 | - | 454 | 488 | - | - | - | - | - | - | - |
| Stage 2 | 653 | 482 | - | 635 | 455 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 15.6 | 0 | 0.2 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 960 | - | - | - | 383 | 964 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.115 | 0.018 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 15.6 | 8.8 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 735 | 21 | 42 | 674 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 735 | 21 | 42 | 674 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 47 | 0 | 49 | 1 | 835 | 24 | 48 | 766 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1282 | 1723 | 383 | 1316 | 1699 | 418 | 766 | 0 | 0 | 859 | 0 | 0 |
| Stage 1 | 862 | 862 | - | 837 | 837 | - | - | - | - | - | - | - |
| Stage 2 | 420 | 861 | - | 479 | 862 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 122 | 88 | 615 | 115 | 91 | 581 | 843 | - | - | 778 | - | - |
| Stage 1 | 316 | 370 | - | 327 | 380 | - | - | - | - | - | - | - |
| Stage 2 | 581 | 371 | - | 537 | 370 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 106 | 82 | 615 | 109 | 85 | 581 | 843 | - | - | 778 | - | - |
| Mov Cap-2 Maneuver | 106 | 82 | - | 109 | 85 | - | - | - | - | - | - | - |
| Stage 1 | 316 | 347 | - | 327 | 380 | - | - | - | - | - | - | - |
| Stage 2 | 532 | 371 | - | 504 | 347 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 42.8 | 0 | 0.6 |
| HCM LOS | A | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 843 | - | - | - | 187 | 778 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.51 | 0.061 | - | - |
| HCM Control Delay (s) | 9.3 | - | - | 0 | 42.8 | 9.9 | - | - |
| HCM Lane LOS | A | - | - | A | E | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 2.6 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 564 | 9 | 15 | 580 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 564 | 9 | 15 | 580 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 29 | 0 | 656 | 10 | 17 | 674 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1036 | 1374 | 337 | 1027 | 1364 | 328 | 674 | 0 | 0 | 666 | 0 | 0 |
| Stage 1 | 708 | 708 | - | 656 | 656 | - | - | - | - | - | - | - |
| Stage 2 | 328 | 666 | - | 371 | 708 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 186 | 144 | 659 | 189 | 146 | 626 | 913 | - | - | 919 | - | - |
| Stage 1 | 392 | 436 | - | 421 | 460 | - | - | - | - | - | - | - |
| Stage 2 | 659 | 456 | - | 622 | 436 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 175 | 141 | 659 | 186 | 143 | 626 | 913 | - | - | 919 | - | - |
| Mov Cap-2 Maneuver | 175 | 141 | - | 186 | 143 | - | - | - | - | - | - | - |
| Stage 1 | 392 | 428 | - | 421 | 460 | - | - | - | - | - | - | - |
| Stage 2 | 628 | 456 | - | 610 | 428 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 16.9 | 0 | 0.2 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 913 | - | - | - | 346 | 919 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.128 | 0.019 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 16.9 | 9 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.4 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 804 | 21 | 42 | 735 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 41 | 0 | 43 | 1 | 804 | 21 | 42 | 735 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 47 | 0 | 49 | 1 | 914 | 24 | 48 | 835 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1390 | 1871 | 418 | 1430 | 1847 | 457 | 835 | 0 | 0 | 938 | 0 | 0 |
| Stage 1 | 931 | 931 | - | 916 | 916 | - | - | - | - | - | - | - |
| Stage 2 | 459 | 940 | - | 514 | 931 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 102 | 71 | 584 | 95 | 74 | 548 | 794 | - | - | 726 | - | - |
| Stage 1 | 287 | 344 | - | 293 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 551 | 340 | - | 511 | 344 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 88 | 66 | 584 | 90 | 69 | 548 | 794 | - | - | 726 | - | - |
| Mov Cap-2 Maneuver | 88 | 66 | - | 90 | 69 | - | - | - | - | - | - | - |
| Stage 1 | 287 | 321 | - | 293 | 349 | - | - | - | - | - | - | - |
| Stage 2 | 501 | 340 | - | 477 | 321 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 58.3 | 0 | 0.6 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 794 | - | - | - | 157 | 726 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.608 | 0.066 | - | - |
| HCM Control Delay (s) | 9.5 | - | - | 0 | 58.3 | 10.3 | - | - |
| HCM Lane LOS | A | - | - | A | F | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 3.3 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 33 | 0 | 568 | 9 | 29 | 587 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 33 | 0 | 568 | 9 | 29 | 587 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 17 | 2 | 10 | 2 | 2 | 13 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 38 | 0 | 660 | 10 | 34 | 683 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1081 | 1421 | 342 | 1070 | 1411 | 330 | 683 | 0 | 0 | 670 | 0 | 0 |
| Stage 1 | 751 | 751 | - | 660 | 660 | - | - | - | - | - | - | - |
| Stage 2 | 330 | 670 | - | 410 | 751 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 7.24 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.47 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 172 | 135 | 654 | 175 | 137 | 624 | 906 | - | - | 916 | - | - |
| Stage 1 | 369 | 416 | - | 418 | 458 | - | - | - | - | - | - | - |
| Stage 2 | 657 | 454 | - | 589 | 416 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 157 | 130 | 654 | 170 | 132 | 624 | 906 | - | - | 916 | - | - |
| Mov Cap-2 Maneuver | 157 | 130 | - | 170 | 132 | - | - | - | - | - | - | - |
| Stage 1 | 369 | 401 | - | 418 | 458 | - | - | - | - | - | - | - |
| Stage 2 | 617 | 454 | - | 567 | 401 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 16.9 | 0 | 0.4 |
| HCM LOS | A | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 906 | - | - | - | 356 | 916 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.15 | 0.037 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 16.9 | 9.1 | - | - |
| HCM Lane LOS | A | - | - | A | C | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.5 | 0.1 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 40 | 0 | 76 | 1 | 792 | 20 | 68 | 729 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 40 | 0 | 76 | 1 | 792 | 20 | 68 | 729 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 125 | - | 200 | 125 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 4 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 45 | 0 | 86 | 1 | 900 | 23 | 77 | 828 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1434 | 1907 | 414 | 1470 | 1884 | 450 | 828 | 0 | 0 | 923 | 0 | 0 |
| Stage 1 | 982 | 982 | - | 902 | 902 | - | - | - | - | - | - | - |
| Stage 2 | 452 | 925 | - | 568 | 982 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.96 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.33 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 94 | 68 | 587 | 89 | 70 | 554 | 799 | - | - | 736 | - | - |
| Stage 1 | 267 | 325 | - | 299 | 355 | - | - | - | - | - | - | - |
| Stage 2 | 557 | 346 | - | 475 | 325 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 73 | 61 | 587 | 82 | 63 | 554 | 799 | - | - | 736 | - | - |
| Mov Cap-2 Maneuver | 73 | 61 | - | 82 | 63 | - | - | - | - | - | - | - |
| Stage 1 | 267 | 291 | - | 299 | 355 | - | - | - | - | - | - | - |
| Stage 2 | 470 | 346 | - | 425 | 291 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 61.1 | 0 | 0.9 |
| HCM LOS | A | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 799 | - | - | - | 186 | 736 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | - | 0.709 | 0.105 | - | - |
| HCM Control Delay (s) | 9.5 | - | - | 0 | 61.1 | 10.5 | - | - |
| HCM Lane LOS | A | - | - | A | F | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 4.4 | 0.3 | - | - |

# Synchro Queuing Analyses Reports

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 65 | 22 | 554 | 546 | 89 |
| v/c Ratio | 0.37 | 0.12 | 0.06 | 0.29 | 0.37 | 0.07 |
| Control Delay | 26.6 | 11.9 | 7.0 | 7.4 | 15.7 | 4.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.6 | 11.9 | 7.0 | 7.4 | 15.7 | 4.9 |
| Queue Length 50th (ft) | 34 | 14 | 3 | 48 | 83 | 12 |
| Queue Length 95th (ft) | 75 | 35 | 12 | 80 | 134 | 27 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 778 | 807 | 525 | 3112 | 2612 | 1430 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.08 | 0.04 | 0.18 | 0.21 | 0.06 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 127 | 1227 | 74 | 69 | 732 | 231 | 128 | 371 | 245 | 146 | 116 |
| v/c Ratio | 0.74 | 0.95 | 0.13 | 0.57 | 0.68 | 0.49 | 0.44 | 0.80 | 0.83 | 0.39 | 0.37 |
| Control Delay | 76.7 | 53.6 | 28.5 | 71.4 | 39.6 | 38.4 | 33.5 | 62.8 | 54.5 | 43.4 | 43.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 76.7 | 53.6 | 28.5 | 71.4 | 39.6 | 38.4 | 33.5 | 62.8 | 54.5 | 43.4 | 43.6 |
| Queue Length 50th (ft) | 97 | ~531 | 38 | 53 | 257 | 143 | 69 | 148 | 146 | 98 | 78 |
| Queue Length 95th (ft) | 159 | #778 | 84 | 100 | #404 | 253 | 109 | 193 | #230 | 153 | 128 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 204 | 1285 | 560 | 167 | 1073 | 468 | 300 | 687 | 302 | 502 | 415 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.95 | 0.13 | 0.41 | 0.68 | 0.49 | 0.43 | 0.54 | 0.81 | 0.29 | 0.28 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1472 | 1099 | 151 | 49 | 36 |
| v/c Ratio | 0.66 | 0.59 | 0.56 | 0.14 | 0.52 | 0.11 |
| Control Delay | 13.4 | 7.2 | 14.0 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.4 | 7.2 | 14.0 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 192 | 212 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 69 | 292 | 329 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 385 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.59 | 0.56 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 56 | 76 | 878 | 767 | 141 |
| v/c Ratio | 0.59 | 0.09 | 0.23 | 0.48 | 0.65 | 0.13 |
| Control Delay | 34.8 | 13.2 | 9.1 | 9.9 | 22.1 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 34.8 | 13.2 | 9.1 | 9.9 | 22.1 | 5.7 |
| Queue Length 50th (ft) | 63 | 12 | 13 | 93 | 133 | 20 |
| Queue Length 95th (ft) | 138 | 37 | 33 | 154 | 217 | 42 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 681 | 822 | 498 | 3301 | 2521 | 1327 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.07 | 0.15 | 0.27 | 0.30 | 0.11 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 217 | 886 | 87 | 217 | 1068 | 309 | 152 | 420 | 287 | 299 | 211 |
| v/c Ratio | 0.95 | 0.79 | 0.17 | 0.94 | 0.95 | 0.63 | 0.69 | 1.08 | 0.90 | 0.75 | 0.62 |
| Control Delay | 101.7 | 44.3 | 31.2 | 100.5 | 57.8 | 42.5 | 54.3 | 119.3 | 64.7 | 59.2 | 53.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 101.7 | 44.3 | 31.2 | 100.5 | 57.8 | 42.5 | 54.3 | 119.3 | 64.7 | 59.2 | 53.9 |
| Queue Length 50th (ft) | 176 | 342 | 50 | 176 | 443 | 212 | 89 | ~208 | 184 | 228 | 156 |
| Queue Length 95th (ft) | #328 | 424 | 92 | #326 | #585 | 316 | #166 | #315 | #336 | #350 | 242 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 234 | 1120 | 516 | 236 | 1129 | 491 | 219 | 390 | 329 | 397 | 338 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.93 | 0.79 | 0.17 | 0.92 | 0.95 | 0.63 | 0.69 | 1.08 | 0.87 | 0.75 | 0.62 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1145 | 1733 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.44 | 0.86 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.4 | 26.5 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.4 | 26.5 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 130 | 550 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 194 | 727 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.44 | 0.86 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 69 | 34 | 579 | 553 | 89 |
| v/c Ratio | 0.39 | 0.13 | 0.09 | 0.29 | 0.40 | 0.08 |
| Control Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Length 50th (ft) | 34 | 15 | 5 | 51 | 84 | 12 |
| Queue Length 95th (ft) | 76 | 37 | 16 | 84 | 138 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 729 | 749 | 524 | 3112 | 2446 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.09 | 0.06 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 147 | 1227 | 74 | 69 | 732 | 266 | 128 | 383 | 354 | 182 | 177 |
| v/c Ratio | 0.78 | 0.98 | 0.14 | 0.57 | 0.73 | 0.61 | 0.44 | 0.79 | 1.17 | 0.46 | 0.54 |
| Control Delay | 77.7 | 59.6 | 29.1 | 71.4 | 42.6 | 43.6 | 32.9 | 61.9 | 136.3 | 44.3 | 47.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.7 | 59.6 | 29.1 | 71.4 | 42.6 | 43.6 | 32.9 | 61.9 | 136.3 | 44.3 | 47.7 |
| Queue Length 50th (ft) | 111 | ~536 | 38 | 53 | 265 | 174 | 69 | 153 | ~254 | 125 | 124 |
| Queue Length 95th (ft) | #189 | #783 | 84 | 100 | #404 | #317 | 108 | 197 | #416 | 187 | 188 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 210 | 1249 | 544 | 167 | 1005 | 438 | 300 | 689 | 303 | 502 | 415 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 0.98 | 0.14 | 0.41 | 0.73 | 0.61 | 0.43 | 0.56 | 1.17 | 0.36 | 0.43 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1587 | 1136 | 151 | 49 | 36 |
| v/c Ratio | 0.69 | 0.64 | 0.58 | 0.14 | 0.52 | 0.11 |
| Control Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 222 | 223 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 80 | 337 | 346 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 372 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.64 | 0.58 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 69 | 84 | 895 | 795 | 141 |
| v/c Ratio | 0.60 | 0.11 | 0.25 | 0.49 | 0.67 | 0.13 |
| Control Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Length 50th (ft) | 65 | 16 | 14 | 95 | 141 | 20 |
| Queue Length 95th (ft) | 141 | 44 | 36 | 158 | 229 | 43 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 674 | 816 | 490 | 3274 | 2496 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.08 | 0.17 | 0.27 | 0.32 | 0.11 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 282 | 886 | 87 | 217 | 1068 | 426 | 152 | 459 | 356 | 322 | 248 |
| v/c Ratio | 1.21 | 0.79 | 0.17 | 0.94 | 0.95 | 0.88 | 0.73 | 1.24 | 1.07 | 0.81 | 0.73 |
| Control Delay | 171.3 | 44.3 | 31.2 | 100.5 | 59.5 | 60.1 | 57.5 | 174.7 | 105.0 | 63.7 | 59.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 171.3 | 44.3 | 31.2 | 100.5 | 59.5 | 60.1 | 57.5 | 174.7 | 105.0 | 63.7 | 59.9 |
| Queue Length 50th (ft) | ~277 | 342 | 50 | 176 | 443 | 324 | 89 | ~242 | ~269 | 250 | 189 |
| Queue Length 95th (ft) | #454 | 424 | 92 | #326 | #585 | #510 | #169 | #352 | #466 | #392 | #301 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 234 | 1120 | 516 | 236 | 1119 | 486 | 209 | 370 | 332 | 397 | 338 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.21 | 0.79 | 0.17 | 0.92 | 0.95 | 0.88 | 0.73 | 1.24 | 1.07 | 0.81 | 0.73 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1214 | 1851 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.46 | 0.91 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 142 | 631 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 212 | #895 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.46 | 0.91 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 69 | 34 | 579 | 553 | 89 |
| v/c Ratio | 0.39 | 0.13 | 0.09 | 0.29 | 0.40 | 0.08 |
| Control Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Length 50th (ft) | 34 | 15 | 5 | 51 | 84 | 12 |
| Queue Length 95th (ft) | 76 | 37 | 16 | 84 | 138 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 729 | 749 | 524 | 3112 | 2446 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.09 | 0.06 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 26 | 207 | 17 | 49 | 637 | 76 | 9 | 658 | 24 |
| v/c Ratio | 0.10 | 0.82 | 0.06 | 0.10 | 0.30 | 0.07 | 0.02 | 0.30 | 0.02 |
| Control Delay | 38.2 | 71.8 | 37.1 | 2.3 | 2.3 | 1.7 | 8.4 | 8.8 | 8.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.2 | 71.8 | 37.1 | 2.3 | 2.3 | 1.7 | 8.4 | 8.8 | 8.0 |
| Queue Length 50th (ft) | 17 | 156 | 11 | 2 | 12 | 3 | 2 | 96 | 5 |
| Queue Length 95th (ft) | 37 | 211 | 27 | m5 | m124 | m5 | 9 | 151 | 17 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 200 | 550 | | 125 |
| Base Capacity (vph) | 560 | 539 | 620 | 506 | 2111 | 1083 | 518 | 2186 | 1032 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.38 | 0.03 | 0.10 | 0.30 | 0.07 | 0.02 | 0.30 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 147 | 1227 | 74 | 69 | 732 | 266 | 128 | 244 | 139 | 354 | 182 | 177 |
| v/c Ratio | 0.63 | 0.93 | 0.13 | 0.80 | 0.61 | 0.50 | 0.58 | 0.89 | 0.45 | 1.00 | 0.53 | 0.35 |
| Control Delay | 66.2 | 47.7 | 23.3 | 110.5 | 32.6 | 32.8 | 43.2 | 87.4 | 47.6 | 90.3 | 54.9 | 40.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.2 | 47.7 | 23.3 | 110.5 | 32.6 | 32.8 | 43.2 | 87.4 | 47.6 | 90.3 | 54.9 | 40.5 |
| Queue Length 50th (ft) | 57 | 472 | 36 | 54 | 237 | 156 | 71 | 100 | 95 | ~248 | 124 | 110 |
| Queue Length 95th (ft) | 91 | #621 | 69 | #140 | 311 | 248 | 121 | #176 | 161 | #428 | 201 | 170 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 289 | 1317 | 573 | 86 | 1208 | 527 | 234 | 277 | 312 | 354 | 346 | 525 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.93 | 0.13 | 0.80 | 0.61 | 0.50 | 0.55 | 0.88 | 0.45 | 1.00 | 0.53 | 0.34 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1587 | 1136 | 151 | 49 | 36 |
| v/c Ratio | 0.69 | 0.64 | 0.58 | 0.14 | 0.52 | 0.11 |
| Control Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 222 | 223 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 80 | 337 | 346 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 372 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.64 | 0.58 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 69 | 84 | 895 | 795 | 141 |
| v/c Ratio | 0.60 | 0.11 | 0.25 | 0.49 | 0.67 | 0.13 |
| Control Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Length 50th (ft) | 65 | 16 | 14 | 95 | 141 | 20 |
| Queue Length 95th (ft) | 141 | 44 | 36 | 158 | 229 | 43 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 674 | 816 | 490 | 3274 | 2496 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.08 | 0.17 | 0.27 | 0.32 | 0.11 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 154 | 15 | 38 | 889 | 297 | 27 | 796 | 15 |
| v/c Ratio | 0.35 | 0.73 | 0.07 | 0.08 | 0.36 | 0.26 | 0.07 | 0.31 | 0.02 |
| Control Delay | 50.5 | 70.3 | 43.1 | 4.1 | 5.1 | 4.7 | 6.8 | 7.0 | 6.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.5 | 70.3 | 43.1 | 4.1 | 5.1 | 4.7 | 6.8 | 7.0 | 6.3 |
| Queue Length 50th (ft) | 56 | 121 | 11 | 6 | 128 | 80 | 6 | 106 | 3 |
| Queue Length 95th (ft) | 96 | 181 | 29 | m14 | m266 | m109 | 19 | 167 | 11 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 200 | 550 | | 125 |
| Base Capacity (vph) | 482 | 464 | 506 | 454 | 2500 | 1151 | 414 | 2548 | 962 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.33 | 0.03 | 0.08 | 0.36 | 0.26 | 0.07 | 0.31 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 282 | 886 | 87 | 217 | 1068 | 426 | 152 | 332 | 127 | 356 | 322 | 248 |
| v/c Ratio | 0.91 | 0.83 | 0.18 | 0.92 | 0.88 | 0.80 | 0.69 | 0.89 | 0.27 | 0.94 | 0.80 | 0.42 |
| Control Delay | 88.0 | 48.3 | 33.3 | 94.0 | 47.2 | 49.7 | 51.1 | 80.5 | 34.0 | 78.3 | 71.8 | 36.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 88.0 | 48.3 | 33.3 | 94.0 | 47.2 | 49.7 | 51.1 | 80.5 | 34.0 | 78.3 | 71.8 | 36.9 |
| Queue Length 50th (ft) | 118 | 355 | 52 | 174 | 426 | 311 | 87 | 141 | 76 | 269 | 269 | 153 |
| Queue Length 95th (ft) | #197 | #445 | 95 | #314 | #534 | #480 | #149 | #221 | 128 | #409 | #393 | 234 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 318 | 1066 | 490 | 250 | 1220 | 530 | 223 | 387 | 491 | 377 | 409 | 597 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.89 | 0.83 | 0.18 | 0.87 | 0.88 | 0.80 | 0.68 | 0.86 | 0.26 | 0.94 | 0.79 | 0.42 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1214 | 1851 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.46 | 0.91 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 142 | 631 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 212 | #895 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.46 | 0.91 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 69 | 34 | 579 | 553 | 89 |
| v/c Ratio | 0.39 | 0.13 | 0.09 | 0.29 | 0.40 | 0.08 |
| Control Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Length 50th (ft) | 34 | 15 | 5 | 51 | 84 | 12 |
| Queue Length 95th (ft) | 76 | 37 | 16 | 84 | 138 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 729 | 749 | 524 | 3112 | 2446 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.09 | 0.06 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 138 | 1234 | 74 | 87 | 756 | 235 | 128 | 384 | 256 | 164 | 152 |
| v/c Ratio | 0.77 | 1.00 | 0.14 | 0.64 | 0.73 | 0.52 | 0.43 | 0.80 | 0.86 | 0.42 | 0.47 |
| Control Delay | 77.9 | 64.3 | 30.1 | 73.8 | 42.1 | 40.1 | 32.8 | 61.7 | 57.9 | 43.6 | 45.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.9 | 64.3 | 30.1 | 73.8 | 42.1 | 40.1 | 32.8 | 61.7 | 57.9 | 43.6 | 45.7 |
| Queue Length 50th (ft) | 105 | ~557 | 39 | 67 | 274 | 149 | 69 | 153 | 153 | 111 | 104 |
| Queue Length 95th (ft) | 172 | #808 | 86 | 118 | #426 | 258 | 108 | 198 | #228 | 168 | 162 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 205 | 1235 | 538 | 172 | 1035 | 451 | 304 | 686 | 303 | 502 | 415 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 1.00 | 0.14 | 0.51 | 0.73 | 0.52 | 0.42 | 0.56 | 0.84 | 0.33 | 0.37 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1587 | 1136 | 151 | 49 | 36 |
| v/c Ratio | 0.69 | 0.64 | 0.58 | 0.14 | 0.52 | 0.11 |
| Control Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 222 | 223 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 80 | 337 | 346 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 372 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.64 | 0.58 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 69 | 84 | 895 | 795 | 141 |
| v/c Ratio | 0.60 | 0.11 | 0.25 | 0.49 | 0.67 | 0.13 |
| Control Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Length 50th (ft) | 65 | 16 | 14 | 95 | 141 | 20 |
| Queue Length 95th (ft) | 141 | 44 | 36 | 158 | 229 | 43 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 674 | 816 | 490 | 3274 | 2496 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.08 | 0.17 | 0.27 | 0.32 | 0.11 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 256 | 913 | 87 | 228 | 1084 | 322 | 152 | 459 | 295 | 311 | 234 |
| v/c Ratio | 1.09 | 0.82 | 0.17 | 0.97 | 0.97 | 0.66 | 0.70 | 1.20 | 0.91 | 0.78 | 0.69 |
| Control Delay | 136.2 | 46.3 | 31.3 | 104.5 | 62.1 | 44.0 | 55.1 | 157.6 | 67.3 | 61.4 | 57.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 136.2 | 46.3 | 31.3 | 104.5 | 62.1 | 44.0 | 55.1 | 157.6 | 67.3 | 61.4 | 57.3 |
| Queue Length 50th (ft) | ~234 | 356 | 50 | 186 | 453 | 223 | 89 | ~243 | 191 | 239 | 176 |
| Queue Length 95th (ft) | #403 | 441 | 92 | #348 | #600 | 330 | #167 | #353 | #351 | #372 | 269 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 234 | 1108 | 510 | 236 | 1119 | 486 | 216 | 384 | 330 | 397 | 338 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.09 | 0.82 | 0.17 | 0.97 | 0.97 | 0.66 | 0.70 | 1.20 | 0.89 | 0.78 | 0.69 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1214 | 1851 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.46 | 0.91 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 142 | 631 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 212 | #895 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.46 | 0.91 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 69 | 34 | 579 | 553 | 89 |
| v/c Ratio | 0.39 | 0.13 | 0.09 | 0.29 | 0.40 | 0.08 |
| Control Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Length 50th (ft) | 34 | 15 | 5 | 51 | 84 | 12 |
| Queue Length 95th (ft) | 76 | 37 | 16 | 84 | 138 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 729 | 749 | 524 | 3112 | 2446 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.09 | 0.06 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 26 | 64 | 17 | 49 | 635 | 29 | 9 | 650 | 24 |
| v/c Ratio | 0.23 | 0.57 | 0.13 | 0.08 | 0.25 | 0.02 | 0.01 | 0.25 | 0.02 |
| Control Delay | 55.4 | 71.5 | 51.9 | 1.0 | 1.4 | 0.7 | 3.4 | 3.5 | 3.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.4 | 71.5 | 51.9 | 1.0 | 1.4 | 0.7 | 3.4 | 3.5 | 3.3 |
| Queue Length 50th (ft) | 19 | 49 | 13 | 1 | 6 | 1 | 1 | 56 | 3 |
| Queue Length 95th (ft) | 45 | 89 | 33 | m2 | 9 | m1 | 5 | 86 | 10 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 225 | 550 | | 125 |
| Base Capacity (vph) | 354 | 355 | 408 | 621 | 2542 | 1304 | 631 | 2632 | 1243 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.18 | 0.04 | 0.08 | 0.25 | 0.02 | 0.01 | 0.25 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 138 | 1234 | 74 | 87 | 756 | 235 | 128 | 238 | 146 | 256 | 164 | 152 |
| v/c Ratio | 0.61 | 0.85 | 0.12 | 0.84 | 0.55 | 0.39 | 0.65 | 0.86 | 0.44 | 0.92 | 0.59 | 0.34 |
| Control Delay | 65.9 | 37.2 | 20.6 | 95.8 | 46.7 | 43.3 | 53.4 | 81.9 | 45.9 | 81.9 | 63.6 | 44.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.9 | 37.2 | 20.6 | 95.8 | 46.7 | 43.3 | 53.4 | 81.9 | 45.9 | 81.9 | 63.6 | 44.7 |
| Queue Length 50th (ft) | 54 | 445 | 33 | 68 | 328 | 180 | 77 | 97 | 99 | 187 | 128 | 104 |
| Queue Length 95th (ft) | 87 | 548 | 65 | #162 | 387 | 274 | #134 | #166 | 165 | #291 | 206 | 171 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 278 | 1444 | 629 | 109 | 1372 | 598 | 200 | 286 | 335 | 279 | 281 | 465 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.85 | 0.12 | 0.80 | 0.55 | 0.39 | 0.64 | 0.83 | 0.44 | 0.92 | 0.58 | 0.33 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 14 | 1679 | 1114 | 33 | 99 | 43 |
| v/c Ratio | 0.05 | 0.76 | 0.52 | 0.03 | 0.30 | 0.13 |
| Control Delay | 3.4 | 11.6 | 10.2 | 1.8 | 47.1 | 13.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.4 | 11.6 | 10.2 | 1.8 | 47.1 | 13.8 |
| Queue Length 50th (ft) | 1 | 585 | 184 | 0 | 69 | 0 |
| Queue Length 95th (ft) | m2 | m693 | 228 | 9 | 124 | 33 |
| Internal Link Dist (ft) | | 1969 | 1892 | | 532 | |
| Turn Bay Length (ft) | 175 | | | 175 | | |
| Base Capacity (vph) | 293 | 2303 | 2204 | 1130 | 326 | 326 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.73 | 0.51 | 0.03 | 0.30 | 0.13 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1587 | 1136 | 151 | 49 | 36 |
| v/c Ratio | 0.69 | 0.64 | 0.58 | 0.14 | 0.52 | 0.11 |
| Control Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 222 | 223 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 80 | 337 | 346 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 372 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.64 | 0.58 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 69 | 84 | 895 | 795 | 141 |
| v/c Ratio | 0.60 | 0.11 | 0.25 | 0.49 | 0.67 | 0.13 |
| Control Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Length 50th (ft) | 65 | 16 | 14 | 95 | 141 | 20 |
| Queue Length 95th (ft) | 141 | 44 | 36 | 158 | 229 | 43 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 674 | 816 | 490 | 3274 | 2496 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.08 | 0.17 | 0.27 | 0.32 | 0.11 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 66 | 15 | 38 | 879 | 146 | 27 | 790 | 15 |
| v/c Ratio | 0.61 | 0.53 | 0.11 | 0.07 | 0.31 | 0.11 | 0.05 | 0.27 | 0.01 |
| Control Delay | 75.3 | 69.5 | 53.2 | 5.1 | 6.6 | 4.7 | 3.8 | 3.7 | 3.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.3 | 69.5 | 53.2 | 5.1 | 6.6 | 4.7 | 3.8 | 3.7 | 3.5 |
| Queue Length 50th (ft) | 61 | 52 | 12 | 10 | 133 | 41 | 4 | 73 | 2 |
| Queue Length 95th (ft) | 108 | 97 | 33 | m18 | 276 | m61 | 13 | 114 | 8 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 225 | 550 | | 125 |
| Base Capacity (vph) | 357 | 359 | 379 | 533 | 2842 | 1308 | 496 | 2897 | 1094 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.18 | 0.04 | 0.07 | 0.31 | 0.11 | 0.05 | 0.27 | 0.01 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 256 | 913 | 87 | 228 | 1084 | 322 | 152 | 312 | 147 | 295 | 311 | 234 |
| v/c Ratio | 0.84 | 0.79 | 0.16 | 0.90 | 0.80 | 0.55 | 0.79 | 0.79 | 0.29 | 0.92 | 0.91 | 0.44 |
| Control Delay | 80.3 | 44.3 | 31.7 | 69.6 | 46.3 | 39.8 | 64.6 | 68.5 | 32.5 | 72.7 | 83.2 | 39.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 80.3 | 44.3 | 31.7 | 69.6 | 46.3 | 39.8 | 64.6 | 68.5 | 32.5 | 72.7 | 83.2 | 39.0 |
| Queue Length 50th (ft) | 106 | 366 | 51 | 180 | 495 | 260 | 91 | 128 | 85 | 204 | 249 | 145 |
| Queue Length 95th (ft) | #171 | #457 | 94 | m#288 | 565 | 372 | #177 | 180 | 140 | #316 | #400 | 236 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 318 | 1153 | 531 | 278 | 1350 | 587 | 193 | 444 | 527 | 322 | 368 | 543 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.79 | 0.16 | 0.82 | 0.80 | 0.55 | 0.79 | 0.70 | 0.28 | 0.92 | 0.85 | 0.43 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 47 | 1338 | 1845 | 108 | 63 | 27 |
| v/c Ratio | 0.47 | 0.56 | 0.75 | 0.09 | 0.23 | 0.10 |
| Control Delay | 14.0 | 2.9 | 13.3 | 1.4 | 49.8 | 17.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.0 | 2.9 | 13.3 | 1.4 | 49.8 | 17.2 |
| Queue Length 50th (ft) | 1 | 17 | 407 | 3 | 46 | 0 |
| Queue Length 95th (ft) | m2 | m19 | 491 | 18 | 90 | 28 |
| Internal Link Dist (ft) | | 1969 | 1892 | | 532 | |
| Turn Bay Length (ft) | 175 | | | 175 | | |
| Base Capacity (vph) | 101 | 2456 | 2502 | 1177 | 280 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.54 | 0.74 | 0.09 | 0.23 | 0.10 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1214 | 1851 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.46 | 0.91 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 142 | 631 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 212 | #895 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.46 | 0.91 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 77 | 39 | 587 | 568 | 89 |
| v/c Ratio | 0.39 | 0.15 | 0.10 | 0.29 | 0.41 | 0.08 |
| Control Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Length 50th (ft) | 34 | 17 | 6 | 52 | 87 | 12 |
| Queue Length 95th (ft) | 77 | 41 | 18 | 85 | 145 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 726 | 746 | 522 | 3112 | 2437 | 1425 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.10 | 0.07 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 138 | 1271 | 74 | 100 | 779 | 235 | 128 | 405 | 256 | 164 | 152 |
| v/c Ratio | 0.78 | 1.13 | 0.15 | 0.71 | 0.76 | 0.53 | 0.42 | 0.81 | 0.86 | 0.41 | 0.46 |
| Control Delay | 79.6 | 107.2 | 31.2 | 78.9 | 43.9 | 40.8 | 31.8 | 61.7 | 57.7 | 42.6 | 44.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.6 | 107.2 | 31.2 | 78.9 | 43.9 | 40.8 | 31.8 | 61.7 | 57.7 | 42.6 | 44.6 |
| Queue Length 50th (ft) | 105 | ~609 | 40 | 76 | 288 | 150 | 68 | 162 | 152 | 110 | 103 |
| Queue Length 95th (ft) | #185 | #840 | 86 | 134 | #445 | 258 | 107 | 206 | #231 | 166 | 161 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 203 | 1125 | 490 | 171 | 1019 | 444 | 312 | 683 | 302 | 502 | 415 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.68 | 1.13 | 0.15 | 0.58 | 0.76 | 0.53 | 0.41 | 0.59 | 0.85 | 0.33 | 0.37 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1628 | 1204 | 151 | 49 | 36 |
| v/c Ratio | 0.72 | 0.66 | 0.62 | 0.14 | 0.52 | 0.11 |
| Control Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Length 50th (ft) | 33 | 233 | 248 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 100 | 355 | 379 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 351 | 2478 | 1931 | 1101 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.66 | 0.62 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 77 | 93 | 911 | 810 | 141 |
| v/c Ratio | 0.60 | 0.12 | 0.28 | 0.49 | 0.68 | 0.13 |
| Control Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Length 50th (ft) | 66 | 18 | 16 | 98 | 145 | 21 |
| Queue Length 95th (ft) | 143 | 48 | 39 | 163 | 238 | 44 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 668 | 810 | 485 | 3255 | 2474 | 1367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.10 | 0.19 | 0.28 | 0.33 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 242 | 961 | 87 | 260 | 1134 | 314 | 152 | 480 | 287 | 302 | 222 |
| v/c Ratio | 1.03 | 0.87 | 0.17 | 1.10 | 1.01 | 0.65 | 0.69 | 1.25 | 0.90 | 0.76 | 0.66 |
| Control Delay | 120.6 | 49.2 | 31.3 | 138.1 | 72.2 | 43.3 | 54.4 | 177.6 | 64.7 | 59.7 | 55.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 120.6 | 49.2 | 31.3 | 138.1 | 72.2 | 43.3 | 54.4 | 177.6 | 64.7 | 59.7 | 55.4 |
| Queue Length 50th (ft) | ~210 | 383 | 50 | ~238 | ~493 | 216 | 89 | ~263 | 184 | 231 | 166 |
| Queue Length 95th (ft) | #377 | #474 | 92 | #410 | #644 | 321 | #166 | #375 | #336 | #355 | 256 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 234 | 1108 | 510 | 236 | 1119 | 486 | 219 | 384 | 329 | 397 | 338 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.03 | 0.87 | 0.17 | 1.10 | 1.01 | 0.65 | 0.69 | 1.25 | 0.87 | 0.76 | 0.66 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1285 | 1915 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.49 | 0.95 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 155 | 680 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 232 | #948 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.49 | 0.95 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 77 | 39 | 587 | 568 | 89 |
| v/c Ratio | 0.39 | 0.15 | 0.10 | 0.29 | 0.41 | 0.08 |
| Control Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Length 50th (ft) | 34 | 17 | 6 | 52 | 87 | 12 |
| Queue Length 95th (ft) | 77 | 41 | 18 | 85 | 145 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 726 | 746 | 522 | 3112 | 2437 | 1425 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.10 | 0.07 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 26 | 64 | 22 | 49 | 635 | 29 | 17 | 650 | 24 |
| v/c Ratio | 0.23 | 0.57 | 0.17 | 0.08 | 0.25 | 0.02 | 0.03 | 0.25 | 0.02 |
| Control Delay | 55.4 | 71.5 | 52.9 | 1.0 | 1.4 | 0.7 | 3.5 | 3.5 | 3.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.4 | 71.5 | 52.9 | 1.0 | 1.4 | 0.7 | 3.5 | 3.5 | 3.3 |
| Queue Length 50th (ft) | 19 | 49 | 16 | 1 | 6 | 1 | 2 | 56 | 3 |
| Queue Length 95th (ft) | 45 | 89 | 40 | m2 | 9 | m1 | 8 | 86 | 10 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 200 | 550 | | 125 |
| Base Capacity (vph) | 353 | 355 | 408 | 621 | 2542 | 1304 | 631 | 2632 | 1243 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.18 | 0.05 | 0.08 | 0.25 | 0.02 | 0.03 | 0.25 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 138 | 1271 | 74 | 100 | 779 | 235 | 128 | 238 | 167 | 256 | 164 | 152 |
| v/c Ratio | 0.61 | 0.90 | 0.12 | 0.85 | 0.57 | 0.39 | 0.65 | 0.86 | 0.49 | 0.92 | 0.59 | 0.34 |
| Control Delay | 65.8 | 41.2 | 21.2 | 85.3 | 38.7 | 34.9 | 53.4 | 81.9 | 46.4 | 81.8 | 63.5 | 44.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.8 | 41.2 | 21.2 | 85.3 | 38.7 | 34.9 | 53.4 | 81.9 | 46.4 | 81.8 | 63.5 | 44.7 |
| Queue Length 50th (ft) | 54 | 475 | 34 | 78 | 336 | 179 | 77 | 97 | 113 | 187 | 128 | 104 |
| Queue Length 95th (ft) | 87 | #621 | 66 | m#168 | 394 | 271 | #134 | #166 | 184 | #291 | 205 | 170 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 280 | 1418 | 618 | 123 | 1371 | 598 | 200 | 286 | 349 | 279 | 281 | 466 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.49 | 0.90 | 0.12 | 0.81 | 0.57 | 0.39 | 0.64 | 0.83 | 0.48 | 0.92 | 0.58 | 0.33 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 1679 | 1114 | 99 | 139 | 79 |
| v/c Ratio | 0.27 | 0.77 | 0.63 | 0.11 | 0.41 | 0.15 |
| Control Delay | 4.7 | 12.1 | 19.2 | 2.3 | 48.3 | 7.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.7 | 12.1 | 19.2 | 2.3 | 48.3 | 7.9 |
| Queue Length 50th (ft) | 7 | 600 | 273 | 0 | 99 | 0 |
| Queue Length 95th (ft) | m9 | m697 | 339 | 22 | 165 | 38 |
| Internal Link Dist (ft) | | 1969 | 1892 | | 532 | |
| Turn Bay Length (ft) | 175 | | | 275 | | |
| Base Capacity (vph) | 275 | 2276 | 1841 | 977 | 341 | 532 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.74 | 0.61 | 0.10 | 0.41 | 0.15 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1628 | 1204 | 151 | 49 | 36 |
| v/c Ratio | 0.72 | 0.66 | 0.62 | 0.14 | 0.52 | 0.11 |
| Control Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Length 50th (ft) | 33 | 233 | 248 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 100 | 355 | 379 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 351 | 2478 | 1931 | 1101 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.66 | 0.62 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 77 | 93 | 911 | 810 | 141 |
| v/c Ratio | 0.60 | 0.12 | 0.28 | 0.49 | 0.68 | 0.13 |
| Control Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Length 50th (ft) | 66 | 18 | 16 | 98 | 145 | 21 |
| Queue Length 95th (ft) | 143 | 48 | 39 | 163 | 238 | 44 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 668 | 810 | 485 | 3255 | 2474 | 1367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.10 | 0.19 | 0.28 | 0.33 | 0.10 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 58 | 28 | 38 | 851 | 134 | 40 | 769 | 15 |
| v/c Ratio | 0.62 | 0.47 | 0.22 | 0.07 | 0.30 | 0.10 | 0.08 | 0.27 | 0.01 |
| Control Delay | 76.7 | 66.5 | 56.2 | 5.1 | 6.4 | 4.7 | 3.8 | 3.6 | 3.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 76.7 | 66.5 | 56.2 | 5.1 | 6.4 | 4.7 | 3.8 | 3.6 | 3.4 |
| Queue Length 50th (ft) | 61 | 46 | 22 | 10 | 127 | 37 | 6 | 70 | 2 |
| Queue Length 95th (ft) | 109 | 87 | 51 | m18 | 265 | m55 | 17 | 108 | 8 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 200 | 550 | | 125 |
| Base Capacity (vph) | 356 | 359 | 379 | 544 | 2845 | 1310 | 511 | 2901 | 1095 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.16 | 0.07 | 0.07 | 0.30 | 0.10 | 0.08 | 0.27 | 0.01 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 242 | 961 | 87 | 260 | 1134 | 314 | 152 | 296 | 184 | 287 | 302 | 222 |
| v/c Ratio | 0.85 | 0.82 | 0.16 | 0.94 | 0.79 | 0.50 | 0.88 | 0.77 | 0.35 | 0.96 | 0.94 | 0.44 |
| Control Delay | 82.9 | 45.3 | 30.8 | 69.0 | 29.7 | 22.6 | 84.3 | 68.0 | 33.2 | 84.9 | 90.3 | 41.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 82.9 | 45.3 | 30.8 | 69.0 | 29.7 | 22.6 | 84.3 | 68.0 | 33.2 | 84.9 | 90.3 | 41.2 |
| Queue Length 50th (ft) | 101 | 383 | 50 | 190 | 487 | 224 | 94 | 123 | 109 | 203 | 245 | 143 |
| Queue Length 95th (ft) | #169 | #474 | 92 | m224 | m536 | m235 | #173 | 173 | 174 | #323 | #409 | 235 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 294 | 1166 | 537 | 293 | 1432 | 622 | 172 | 416 | 534 | 298 | 338 | 515 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.82 | 0.82 | 0.16 | 0.89 | 0.79 | 0.50 | 0.88 | 0.71 | 0.34 | 0.96 | 0.89 | 0.43 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 176 | 1290 | 1790 | 227 | 182 | 157 |
| v/c Ratio | 0.74 | 0.53 | 0.93 | 0.23 | 0.71 | 0.31 |
| Control Delay | 53.1 | 1.8 | 34.5 | 3.3 | 67.9 | 32.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.1 | 1.8 | 34.5 | 3.3 | 67.9 | 32.1 |
| Queue Length 50th (ft) | 72 | 19 | 655 | 12 | 145 | 88 |
| Queue Length 95th (ft) | m104 | m25 | 788 | 48 | #265 | 149 |
| Internal Link Dist (ft) | | 1969 | 1892 | | 532 | |
| Turn Bay Length (ft) | 175 | | | 275 | | |
| Base Capacity (vph) | 256 | 2510 | 1952 | 982 | 256 | 518 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 0.51 | 0.92 | 0.23 | 0.71 | 0.30 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1285 | 1915 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.49 | 0.95 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 155 | 680 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 232 | #948 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.49 | 0.95 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 69 | 34 | 579 | 553 | 89 |
| v/c Ratio | 0.39 | 0.13 | 0.09 | 0.29 | 0.40 | 0.08 |
| Control Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Length 50th (ft) | 34 | 15 | 5 | 51 | 84 | 12 |
| Queue Length 95th (ft) | 76 | 37 | 16 | 84 | 138 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 729 | 749 | 524 | 3112 | 2446 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.09 | 0.06 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 147 | 1227 | 74 | 87 | 756 | 235 | 128 | 383 | 354 | 164 | 152 |
| v/c Ratio | 0.78 | 1.01 | 0.14 | 0.64 | 0.75 | 0.54 | 0.44 | 0.79 | 1.17 | 0.41 | 0.46 |
| Control Delay | 77.7 | 65.9 | 30.1 | 73.5 | 43.5 | 41.1 | 32.8 | 61.9 | 136.3 | 43.2 | 45.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.7 | 65.9 | 30.1 | 73.5 | 43.5 | 41.1 | 32.8 | 61.9 | 136.3 | 43.2 | 45.3 |
| Queue Length 50th (ft) | 111 | ~550 | 39 | 67 | 276 | 150 | 69 | 153 | ~254 | 111 | 104 |
| Queue Length 95th (ft) | #189 | #802 | 86 | 118 | #426 | 258 | 108 | 197 | #416 | 169 | 163 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 210 | 1220 | 532 | 172 | 1005 | 438 | 303 | 689 | 303 | 502 | 415 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 1.01 | 0.14 | 0.51 | 0.75 | 0.54 | 0.42 | 0.56 | 1.17 | 0.33 | 0.37 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1587 | 1136 | 151 | 49 | 36 |
| v/c Ratio | 0.69 | 0.64 | 0.58 | 0.14 | 0.52 | 0.11 |
| Control Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 222 | 223 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 80 | 337 | 346 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 372 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.64 | 0.58 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 69 | 84 | 895 | 795 | 141 |
| v/c Ratio | 0.60 | 0.11 | 0.25 | 0.49 | 0.67 | 0.13 |
| Control Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Length 50th (ft) | 65 | 16 | 14 | 95 | 141 | 20 |
| Queue Length 95th (ft) | 141 | 44 | 36 | 158 | 229 | 43 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 674 | 816 | 490 | 3274 | 2496 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.08 | 0.17 | 0.27 | 0.32 | 0.11 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 282 | 886 | 87 | 228 | 1084 | 322 | 152 | 459 | 356 | 311 | 234 |
| v/c Ratio | 1.21 | 0.80 | 0.17 | 0.97 | 0.97 | 0.66 | 0.72 | 1.24 | 1.07 | 0.78 | 0.69 |
| Control Delay | 171.3 | 44.9 | 31.3 | 104.5 | 62.1 | 44.0 | 56.8 | 174.7 | 105.0 | 61.4 | 57.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 171.3 | 44.9 | 31.3 | 104.5 | 62.1 | 44.0 | 56.8 | 174.7 | 105.0 | 61.4 | 57.3 |
| Queue Length 50th (ft) | ~277 | 342 | 50 | 186 | 453 | 223 | 89 | ~242 | ~269 | 239 | 176 |
| Queue Length 95th (ft) | #454 | 424 | 92 | #348 | #600 | 330 | #167 | #352 | #466 | #372 | 269 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 234 | 1108 | 510 | 236 | 1119 | 486 | 211 | 370 | 332 | 397 | 338 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.21 | 0.80 | 0.17 | 0.97 | 0.97 | 0.66 | 0.72 | 1.24 | 1.07 | 0.78 | 0.69 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1214 | 1851 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.46 | 0.91 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 142 | 631 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 212 | #895 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.46 | 0.91 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 69 | 34 | 579 | 553 | 89 |
| v/c Ratio | 0.39 | 0.13 | 0.09 | 0.29 | 0.40 | 0.08 |
| Control Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.2 | 12.5 | 7.1 | 7.0 | 17.2 | 5.5 |
| Queue Length 50th (ft) | 34 | 15 | 5 | 51 | 84 | 12 |
| Queue Length 95th (ft) | 76 | 37 | 16 | 84 | 138 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 729 | 749 | 524 | 3112 | 2446 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.09 | 0.06 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 26 | 177 | 17 | 49 | 635 | 44 | 9 | 650 | 24 |
| v/c Ratio | 0.12 | 0.81 | 0.07 | 0.09 | 0.29 | 0.04 | 0.02 | 0.29 | 0.02 |
| Control Delay | 41.1 | 74.6 | 39.9 | 1.7 | 1.9 | 1.2 | 7.1 | 7.5 | 6.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.1 | 74.6 | 39.9 | 1.7 | 1.9 | 1.2 | 7.1 | 7.5 | 6.8 |
| Queue Length 50th (ft) | 18 | 134 | 11 | 1 | 9 | 1 | 2 | 86 | 5 |
| Queue Length 95th (ft) | 39 | 188 | 28 | m3 | m126 | m3 | 8 | 135 | 16 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 225 | 550 | | 125 |
| Base Capacity (vph) | 522 | 505 | 580 | 533 | 2184 | 1120 | 542 | 2262 | 1068 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.35 | 0.03 | 0.09 | 0.29 | 0.04 | 0.02 | 0.29 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 147 | 1227 | 74 | 87 | 756 | 235 | 128 | 244 | 139 | 354 | 164 | 152 |
| v/c Ratio | 0.63 | 0.96 | 0.13 | 0.87 | 0.63 | 0.45 | 0.56 | 0.90 | 0.43 | 0.99 | 0.48 | 0.31 |
| Control Delay | 66.3 | 52.3 | 24.2 | 115.7 | 33.3 | 31.5 | 40.8 | 88.5 | 46.3 | 88.9 | 55.0 | 40.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 52.3 | 24.2 | 115.7 | 33.3 | 31.5 | 40.8 | 88.5 | 46.3 | 88.9 | 55.0 | 40.9 |
| Queue Length 50th (ft) | 57 | 481 | 36 | 68 | 248 | 135 | 71 | 100 | 94 | 252 | 115 | 97 |
| Queue Length 95th (ft) | 91 | #635 | 70 | #166 | 324 | 217 | 121 | #177 | 159 | #421 | 188 | 152 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 286 | 1284 | 559 | 102 | 1202 | 524 | 259 | 274 | 326 | 357 | 339 | 517 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.96 | 0.13 | 0.85 | 0.63 | 0.45 | 0.49 | 0.89 | 0.43 | 0.99 | 0.48 | 0.29 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1587 | 1136 | 151 | 49 | 36 |
| v/c Ratio | 0.69 | 0.64 | 0.58 | 0.14 | 0.52 | 0.11 |
| Control Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.5 | 7.9 | 14.3 | 3.5 | 67.7 | 32.5 |
| Queue Length 50th (ft) | 33 | 222 | 223 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 80 | 337 | 346 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 372 | 2478 | 1947 | 1108 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.64 | 0.58 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 69 | 84 | 895 | 795 | 141 |
| v/c Ratio | 0.60 | 0.11 | 0.25 | 0.49 | 0.67 | 0.13 |
| Control Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 13.6 | 9.3 | 9.9 | 22.6 | 5.7 |
| Queue Length 50th (ft) | 65 | 16 | 14 | 95 | 141 | 20 |
| Queue Length 95th (ft) | 141 | 44 | 36 | 158 | 229 | 43 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 674 | 816 | 490 | 3274 | 2496 | 1324 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.08 | 0.17 | 0.27 | 0.32 | 0.11 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 136 | 15 | 38 | 879 | 196 | 27 | 790 | 15 |
| v/c Ratio | 0.39 | 0.72 | 0.07 | 0.08 | 0.34 | 0.17 | 0.06 | 0.30 | 0.02 |
| Control Delay | 53.6 | 71.7 | 44.9 | 4.4 | 5.8 | 4.3 | 6.1 | 6.3 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.6 | 71.7 | 44.9 | 4.4 | 5.8 | 4.3 | 6.1 | 6.3 | 5.6 |
| Queue Length 50th (ft) | 57 | 107 | 11 | 7 | 138 | 49 | 5 | 97 | 3 |
| Queue Length 95th (ft) | 99 | 165 | 30 | m17 | m288 | m77 | 17 | 156 | 11 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 225 | 550 | | 125 |
| Base Capacity (vph) | 457 | 442 | 481 | 468 | 2548 | 1173 | 430 | 2598 | 981 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.31 | 0.03 | 0.08 | 0.34 | 0.17 | 0.06 | 0.30 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 282 | 886 | 87 | 228 | 1084 | 322 | 152 | 332 | 127 | 356 | 311 | 234 |
| v/c Ratio | 0.91 | 0.84 | 0.18 | 0.94 | 0.89 | 0.61 | 0.68 | 0.89 | 0.26 | 0.94 | 0.77 | 0.39 |
| Control Delay | 88.0 | 49.0 | 33.4 | 98.1 | 48.4 | 39.3 | 50.1 | 80.5 | 33.8 | 76.2 | 68.3 | 36.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 88.0 | 49.0 | 33.4 | 98.1 | 48.4 | 39.3 | 50.1 | 80.5 | 33.8 | 76.2 | 68.3 | 36.2 |
| Queue Length 50th (ft) | 118 | 355 | 52 | 184 | 435 | 215 | 87 | 141 | 76 | 263 | 255 | 143 |
| Queue Length 95th (ft) | #197 | #445 | 95 | #336 | #563 | 318 | #145 | #221 | 128 | #409 | #377 | 222 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 318 | 1055 | 485 | 250 | 1220 | 530 | 227 | 387 | 491 | 378 | 406 | 596 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.89 | 0.84 | 0.18 | 0.91 | 0.89 | 0.61 | 0.67 | 0.86 | 0.26 | 0.94 | 0.77 | 0.39 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1214 | 1851 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.46 | 0.91 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.6 | 31.0 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 142 | 631 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 212 | #895 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.46 | 0.91 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 77 | 39 | 587 | 568 | 89 |
| v/c Ratio | 0.39 | 0.15 | 0.10 | 0.29 | 0.41 | 0.08 |
| Control Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Length 50th (ft) | 34 | 17 | 6 | 52 | 87 | 12 |
| Queue Length 95th (ft) | 77 | 41 | 18 | 85 | 145 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 726 | 746 | 522 | 3112 | 2437 | 1425 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.10 | 0.07 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 183 | 1227 | 74 | 100 | 779 | 235 | 128 | 405 | 394 | 164 | 152 |
| v/c Ratio | 0.79 | 1.10 | 0.15 | 0.70 | 0.86 | 0.59 | 0.43 | 0.81 | 1.31 | 0.40 | 0.45 |
| Control Delay | 74.5 | 97.5 | 31.2 | 78.4 | 51.7 | 45.3 | 31.9 | 61.7 | 189.9 | 42.3 | 44.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 74.5 | 97.5 | 31.2 | 78.4 | 51.7 | 45.3 | 31.9 | 61.7 | 189.9 | 42.3 | 44.3 |
| Queue Length 50th (ft) | 136 | ~569 | 40 | 76 | 307 | 160 | 68 | 162 | ~321 | 110 | 103 |
| Queue Length 95th (ft) | #272 | #802 | 86 | 133 | #445 | 258 | 107 | 206 | #493 | 167 | 161 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 232 | 1112 | 485 | 171 | 910 | 397 | 310 | 691 | 301 | 502 | 415 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.79 | 1.10 | 0.15 | 0.58 | 0.86 | 0.59 | 0.41 | 0.59 | 1.31 | 0.33 | 0.37 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1628 | 1204 | 151 | 49 | 36 |
| v/c Ratio | 0.72 | 0.66 | 0.62 | 0.14 | 0.52 | 0.11 |
| Control Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Length 50th (ft) | 33 | 233 | 248 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 100 | 355 | 379 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 351 | 2478 | 1931 | 1101 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.66 | 0.62 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 77 | 93 | 911 | 810 | 141 |
| v/c Ratio | 0.60 | 0.12 | 0.28 | 0.49 | 0.68 | 0.13 |
| Control Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Length 50th (ft) | 66 | 18 | 16 | 98 | 145 | 21 |
| Queue Length 95th (ft) | 143 | 48 | 39 | 163 | 238 | 44 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 668 | 810 | 485 | 3255 | 2474 | 1367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.10 | 0.19 | 0.28 | 0.33 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 342 | 861 | 87 | 260 | 1134 | 314 | 152 | 480 | 457 | 302 | 222 |
| v/c Ratio | 1.46 | 0.78 | 0.17 | 1.10 | 1.01 | 0.65 | 0.72 | 1.29 | 1.38 | 0.76 | 0.66 |
| Control Delay | 268.0 | 43.9 | 31.3 | 138.1 | 72.2 | 43.3 | 56.5 | 193.3 | 217.5 | 59.7 | 55.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 268.0 | 43.9 | 31.3 | 138.1 | 72.2 | 43.3 | 56.5 | 193.3 | 217.5 | 59.7 | 55.4 |
| Queue Length 50th (ft) | ~378 | 330 | 50 | ~238 | ~493 | 216 | 89 | ~260 | ~442 | 231 | 166 |
| Queue Length 95th (ft) | #568 | 410 | 92 | #410 | #644 | 321 | #166 | #371 | #654 | #355 | 256 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 330 | | |
| Base Capacity (vph) | 234 | 1108 | 510 | 236 | 1119 | 486 | 212 | 372 | 332 | 397 | 338 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.46 | 0.78 | 0.17 | 1.10 | 1.01 | 0.65 | 0.72 | 1.29 | 1.38 | 0.76 | 0.66 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1285 | 1915 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.49 | 0.95 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 155 | 680 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 232 | #948 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.49 | 0.95 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 77 | 39 | 587 | 568 | 89 |
| v/c Ratio | 0.39 | 0.15 | 0.10 | 0.29 | 0.41 | 0.08 |
| Control Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Length 50th (ft) | 34 | 17 | 6 | 52 | 87 | 12 |
| Queue Length 95th (ft) | 77 | 41 | 18 | 85 | 145 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 726 | 746 | 522 | 3112 | 2437 | 1425 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.10 | 0.07 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 26 | 219 | 22 | 49 | 635 | 115 | 17 | 650 | 24 |
| v/c Ratio | 0.09 | 0.83 | 0.07 | 0.10 | 0.30 | 0.11 | 0.03 | 0.30 | 0.02 |
| Control Delay | 37.1 | 70.7 | 36.6 | 2.3 | 2.4 | 1.9 | 8.9 | 9.2 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.1 | 70.7 | 36.6 | 2.3 | 2.4 | 1.9 | 8.9 | 9.2 | 8.5 |
| Queue Length 50th (ft) | 17 | 165 | 14 | 2 | 12 | 4 | 4 | 98 | 6 |
| Queue Length 95th (ft) | 37 | 220 | 32 | m5 | m125 | m11 | 14 | 154 | 18 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 275 | 550 | | 125 |
| Base Capacity (vph) | 573 | 551 | 633 | 501 | 2083 | 1068 | 510 | 2157 | 1018 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.40 | 0.03 | 0.10 | 0.30 | 0.11 | 0.03 | 0.30 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 183 | 1227 | 74 | 100 | 779 | 235 | 128 | 266 | 139 | 394 | 164 | 152 |
| v/c Ratio | 0.73 | 1.00 | 0.14 | 0.94 | 0.68 | 0.47 | 0.56 | 0.96 | 0.42 | 1.06 | 0.44 | 0.29 |
| Control Delay | 71.1 | 64.0 | 25.6 | 129.6 | 36.4 | 33.7 | 40.2 | 100.1 | 45.6 | 105.2 | 51.4 | 37.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 71.1 | 64.0 | 25.6 | 129.6 | 36.4 | 33.7 | 40.2 | 100.1 | 45.6 | 105.2 | 51.4 | 37.1 |
| Queue Length 50th (ft) | 72 | ~496 | 37 | 79 | 269 | 140 | 70 | 110 | 94 | ~293 | 109 | 88 |
| Queue Length 95th (ft) | 111 | #658 | 73 | #190 | 344 | 222 | 118 | #197 | 158 | #496 | 180 | 144 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 283 | 1224 | 533 | 106 | 1139 | 496 | 254 | 277 | 332 | 371 | 370 | 542 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 1.00 | 0.14 | 0.94 | 0.68 | 0.47 | 0.50 | 0.96 | 0.42 | 1.06 | 0.44 | 0.28 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1628 | 1204 | 151 | 49 | 36 |
| v/c Ratio | 0.72 | 0.66 | 0.62 | 0.14 | 0.52 | 0.11 |
| Control Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Length 50th (ft) | 33 | 233 | 248 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 100 | 355 | 379 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 351 | 2478 | 1931 | 1101 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.66 | 0.62 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 77 | 93 | 911 | 810 | 141 |
| v/c Ratio | 0.60 | 0.12 | 0.28 | 0.49 | 0.68 | 0.13 |
| Control Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Length 50th (ft) | 66 | 18 | 16 | 98 | 145 | 21 |
| Queue Length 95th (ft) | 143 | 48 | 39 | 163 | 238 | 44 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 668 | 810 | 485 | 3255 | 2474 | 1367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.10 | 0.19 | 0.28 | 0.33 | 0.10 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 249 | 28 | 38 | 851 | 318 | 47 | 762 | 15 |
| v/c Ratio | 0.22 | 0.85 | 0.08 | 0.09 | 0.38 | 0.31 | 0.13 | 0.33 | 0.02 |
| Control Delay | 38.8 | 71.1 | 35.2 | 5.7 | 6.8 | 6.8 | 11.8 | 11.3 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.8 | 71.1 | 35.2 | 5.7 | 6.8 | 6.8 | 11.8 | 11.3 | 10.4 |
| Queue Length 50th (ft) | 51 | 194 | 18 | 6 | 140 | 99 | 13 | 134 | 4 |
| Queue Length 95th (ft) | 84 | 262 | 39 | m16 | m276 | m208 | 39 | 212 | 15 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 275 | 550 | | 125 |
| Base Capacity (vph) | 610 | 527 | 633 | 406 | 2235 | 1029 | 370 | 2278 | 860 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.47 | 0.04 | 0.09 | 0.38 | 0.31 | 0.13 | 0.33 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 342 | 861 | 87 | 260 | 1134 | 314 | 152 | 359 | 121 | 457 | 302 | 222 |
| v/c Ratio | 1.01 | 0.93 | 0.20 | 1.00 | 1.03 | 0.65 | 0.69 | 1.02 | 0.25 | 1.10 | 0.67 | 0.34 |
| Control Delay | 108.3 | 60.9 | 36.6 | 108.1 | 75.8 | 44.1 | 49.9 | 107.6 | 33.5 | 115.5 | 56.5 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 108.3 | 60.9 | 36.6 | 108.1 | 75.8 | 44.1 | 49.9 | 107.6 | 33.5 | 115.5 | 56.5 | 32.8 |
| Queue Length 50th (ft) | ~147 | 357 | 54 | 213 | ~514 | 218 | 84 | ~157 | 73 | ~373 | 227 | 128 |
| Queue Length 95th (ft) | #247 | #481 | 99 | #388 | #650 | 323 | #147 | #262 | 124 | #585 | 324 | 208 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | |
| Base Capacity (vph) | 337 | 929 | 427 | 261 | 1105 | 480 | 223 | 353 | 492 | 416 | 451 | 645 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.93 | 0.20 | 1.00 | 1.03 | 0.65 | 0.68 | 1.02 | 0.25 | 1.10 | 0.67 | 0.34 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1285 | 1915 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.49 | 0.95 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 155 | 680 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 232 | #948 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.49 | 0.95 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 77 | 39 | 587 | 568 | 89 |
| v/c Ratio | 0.39 | 0.15 | 0.10 | 0.29 | 0.41 | 0.08 |
| Control Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.5 | 12.7 | 7.2 | 7.0 | 17.4 | 5.6 |
| Queue Length 50th (ft) | 34 | 17 | 6 | 52 | 87 | 12 |
| Queue Length 95th (ft) | 77 | 41 | 18 | 85 | 145 | 28 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 726 | 746 | 522 | 3112 | 2437 | 1425 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.10 | 0.07 | 0.19 | 0.23 | 0.06 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 26 | 219 | 22 | 49 | 635 | 115 | 17 | 650 | 24 |
| v/c Ratio | 0.09 | 0.83 | 0.07 | 0.10 | 0.30 | 0.11 | 0.03 | 0.30 | 0.02 |
| Control Delay | 37.1 | 70.7 | 36.6 | 3.0 | 3.2 | 2.5 | 8.9 | 9.2 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.1 | 70.7 | 36.6 | 3.0 | 3.2 | 2.5 | 8.9 | 9.2 | 8.5 |
| Queue Length 50th (ft) | 17 | 165 | 14 | 2 | 14 | 5 | 4 | 98 | 6 |
| Queue Length 95th (ft) | 37 | 220 | 32 | m17 | 133 | m34 | 14 | 154 | 18 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 275 | 550 | | 125 |
| Base Capacity (vph) | 573 | 551 | 633 | 501 | 2083 | 1068 | 510 | 2157 | 1018 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.40 | 0.03 | 0.10 | 0.30 | 0.11 | 0.03 | 0.30 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 183 | 1227 | 74 | 100 | 779 | 235 | 128 | 266 | 139 | 394 | 164 | 152 |
| v/c Ratio | 0.69 | 0.91 | 0.13 | 0.85 | 0.61 | 0.42 | 0.62 | 0.87 | 0.39 | 0.92 | 0.52 | 0.31 |
| Control Delay | 67.2 | 44.1 | 23.0 | 105.5 | 31.4 | 29.5 | 48.9 | 81.1 | 43.0 | 84.0 | 56.2 | 40.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.2 | 44.1 | 23.0 | 105.5 | 31.4 | 29.5 | 48.9 | 81.1 | 43.0 | 84.0 | 56.2 | 40.3 |
| Queue Length 50th (ft) | 72 | 470 | 35 | 78 | 252 | 131 | 74 | 108 | 91 | 162 | 112 | 93 |
| Queue Length 95th (ft) | 109 | #618 | 69 | #176 | 329 | 212 | 126 | #181 | 154 | #250 | 183 | 144 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | 300 |
| Base Capacity (vph) | 327 | 1353 | 590 | 123 | 1271 | 554 | 211 | 315 | 361 | 441 | 325 | 517 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.91 | 0.13 | 0.81 | 0.61 | 0.42 | 0.61 | 0.84 | 0.39 | 0.89 | 0.50 | 0.29 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 232 | 1628 | 1204 | 151 | 49 | 36 |
| v/c Ratio | 0.72 | 0.66 | 0.62 | 0.14 | 0.52 | 0.11 |
| Control Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 8.1 | 15.5 | 3.7 | 67.7 | 31.9 |
| Queue Length 50th (ft) | 33 | 233 | 248 | 21 | 34 | 20 |
| Queue Length 95th (ft) | 100 | 355 | 379 | 43 | 72 | 44 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 351 | 2478 | 1931 | 1101 | 138 | 359 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.66 | 0.62 | 0.14 | 0.36 | 0.10 |

Intersection Summary

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 180 | 77 | 93 | 911 | 810 | 141 |
| v/c Ratio | 0.60 | 0.12 | 0.28 | 0.49 | 0.68 | 0.13 |
| Control Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.9 | 13.8 | 9.6 | 10.0 | 23.0 | 5.8 |
| Queue Length 50th (ft) | 66 | 18 | 16 | 98 | 145 | 21 |
| Queue Length 95th (ft) | 143 | 48 | 39 | 163 | 238 | 44 |
| Internal Link Dist (ft) | 2356 | | | 2802 | 1613 | |
| Turn Bay Length (ft) | 150 | | 100 | | | 125 |
| Base Capacity (vph) | 668 | 810 | 485 | 3255 | 2474 | 1367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.10 | 0.19 | 0.28 | 0.33 | 0.10 |

Intersection Summary

| Lane Group | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 249 | 28 | 38 | 851 | 318 | 47 | 762 | 15 |
| v/c Ratio | 0.22 | 0.85 | 0.08 | 0.09 | 0.38 | 0.31 | 0.13 | 0.33 | 0.02 |
| Control Delay | 38.8 | 71.1 | 35.2 | 6.4 | 7.7 | 7.6 | 11.8 | 11.3 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.8 | 71.1 | 35.2 | 6.4 | 7.7 | 7.6 | 11.8 | 11.3 | 10.4 |
| Queue Length 50th (ft) | 51 | 194 | 18 | 8 | 140 | 99 | 13 | 134 | 4 |
| Queue Length 95th (ft) | 84 | 262 | 39 | m17 | m292 | m219 | 39 | 212 | 15 |
| Internal Link Dist (ft) | 688 | | 146 | | 915 | | | 1197 | |
| Turn Bay Length (ft) | | | | 250 | | 275 | 550 | | 125 |
| Base Capacity (vph) | 610 | 527 | 633 | 406 | 2235 | 1029 | 370 | 2278 | 860 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.47 | 0.04 | 0.09 | 0.38 | 0.31 | 0.13 | 0.33 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 342 | 861 | 87 | 260 | 1134 | 314 | 152 | 359 | 121 | 457 | 302 | 222 |
| v/c Ratio | 0.93 | 0.79 | 0.17 | 0.96 | 0.91 | 0.58 | 0.72 | 0.93 | 0.23 | 0.93 | 0.82 | 0.38 |
| Control Delay | 87.8 | 45.6 | 32.6 | 97.6 | 49.3 | 37.5 | 57.2 | 87.6 | 31.8 | 81.6 | 72.3 | 36.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 87.8 | 45.6 | 32.6 | 97.6 | 49.3 | 37.5 | 57.2 | 87.6 | 31.8 | 81.6 | 72.3 | 36.8 |
| Queue Length 50th (ft) | 143 | 337 | 51 | 210 | 460 | 205 | 91 | 153 | 70 | 194 | 235 | 133 |
| Queue Length 95th (ft) | #232 | 420 | 94 | #374 | #595 | 305 | #170 | #246 | 120 | #289 | #369 | 210 |
| Internal Link Dist (ft) | | 2348 | | | 1969 | | | 1158 | | | 915 | |
| Turn Bay Length (ft) | 450 | | 125 | 675 | | 175 | 165 | | 150 | 330 | | 300 |
| Base Capacity (vph) | 372 | 1085 | 499 | 278 | 1252 | 544 | 210 | 387 | 521 | 503 | 377 | 591 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.92 | 0.79 | 0.17 | 0.94 | 0.91 | 0.58 | 0.72 | 0.93 | 0.23 | 0.91 | 0.80 | 0.38 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 157 | 1285 | 1915 | 88 | 62 | 60 |
| v/c Ratio | 0.66 | 0.49 | 0.95 | 0.10 | 0.58 | 0.15 |
| Control Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.0 | 5.9 | 34.8 | 4.8 | 74.1 | 32.8 |
| Queue Length 50th (ft) | 71 | 155 | 680 | 17 | 48 | 35 |
| Queue Length 95th (ft) | #165 | 232 | #948 | 31 | 92 | 68 |
| Internal Link Dist (ft) | | 1892 | 1595 | | 836 | |
| Turn Bay Length (ft) | 200 | | | | | 430 |
| Base Capacity (vph) | 238 | 2617 | 2023 | 971 | 240 | 397 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.49 | 0.95 | 0.09 | 0.26 | 0.15 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

# Signal Warrant Analyses

# STUDY AND ANALYSIS INFORMATION

| | | | |
|---|---|---|---|
| **Municipality:** | City of Monroe | **Traffic Volumes Obtained By:** | The Kleingers Group |
| **County:** | Butler | **Analysis Date:** | 6/17/2025 |
| **ODOT Engineering District:** | 8 | **Agency/ Company Name Performing Warrant Analysis:** | The Kleingers Group |
| **Google map link:** | Map | | |

## Analysis Information

| | |
|---|---|
| **Data Collection Date:** | 3/22/2022 |
| **Day of the Week:** | Thursday |
| **Is the intersection in a built-up area of an isolated community of <10,000 population?** | No |
| **Existing Traffic Signal at intersection:** | No |
| **Total Number of Approaches at Intersection:** | 4 |

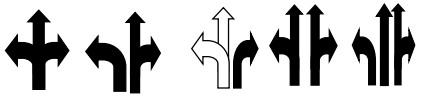
## Major Street Information

| | | |
|---|---|---|
| **Major Street Name and Route Number:** | Cincinnati-Dayton Rd | |
| **Major Street Approach Direction:** | N-Bound<br>S-Bound | |
| **Number of Thru Lanes on Each Major Street Approach:** | 2 | **LANE(S)** |
| **Speed Limit or 85th Percentile Speed on the Major Street*:** | 45 | **MPH** |

*Unknown assumes below 45 mph

## Minor Street Information

| | | |
|---|---|---|
| **Minor Street Name and Route Number:** | Overbrook Ct | |
| **Minor Street Approach Configuration:** | 1 | E-Bound |
| | 1 | W-Bound |



1 2 3 4 5

| | | |
|---|---|---|
| **Number of Thru Lanes on Each Minor Street Approach:** | 1 | **LANE(S)** |
| **Apply Right Turn Lane Reduction*:** | Yes | |

*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

# TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

| | Applicable? | 100% Warrant Satisfied? | Notes and Comments: *Known error: if Speed Limit < 45mph, it may not state that it passes at 70%. |
|---|---|---|---|
| **Warrant 1, Eight-Hour Vehicular Volume** | Yes | **Yes** | Condition B was met. Condition A (70%) was met. Condition B (70%) was met. Combination of A/B (80%) was met.*Combination of A/B (56%) was met.* |
| **Warrant 2, Four-Hour Vehicular Volume** | Yes | **Yes** | Figure 4C-1 (100%) |
| **Warrant 3, Peak Hour** | Yes | **Yes** | Signals installed under Warrant 3 should be traffic actuated. **Peak Hour** 4:45 PM 5:45 PM |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) | | | |
| **Warrant 4, Pedestrian Volume** | No | | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. **Peak Hour** 4:00 PM 5:00 PM |
| **Warrant 5, School Crossing** | No | | N/A |
| **Warrant 6, Coordinated Signal System** | No | | (Shall not be used as the sole warrant in the analysis) |
| **Warrant 7, Crash Experience** | No | | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. |
| **Warrant 8, Roadway Network** | No | | (Shall not be used as the sole warrant in the analysis) |
| **Warrant 9, Intersection Near a Grade Crossing** | No | | Figure 4C-9 |
| **Multi-Way Stop Warrant** | No | | May be used as an interim measure if traffic signal warrants are satisfied. |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion: Install New Traffic Signal

Notes:

# OMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | |
|---|---|
| Major Street: | 2 or More Lanes |
| Minor Street: | 1 Lane |

Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? Yes

**Only applicable after an adequate trial of other alternatives (See section 4C.02.06 of the 2012 OMUTCD)*

| Lanes Major/ Minor | Adjusted Volumes | | Condition A | | | | Condition B | | | | Combination A/B* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Cond. A | | Cond. B | | Cond. A | | Cond. B | |
| | Major | Minor | 100% | | 70% | | 100% | | 70% | | 80% | | 80% | | 56% | | 56% | |
| | | | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. |
| 1 / 1 | | | 500 | 150 | 350 | 105 | 750 | 75 | 525 | 53 | 400 | 120 | 600 | 60 | 280 | 84 | 420 | 42 |
| 2+ / 1 | X | | 600 | 150 | 420 | 105 | 900 | 75 | 630 | 53 | 480 | 120 | 720 | 60 | 336 | 84 | 504 | 42 |
| 2+ / 2+ | | | 600 | 200 | 420 | 140 | 900 | 100 | 630 | 70 | 480 | 160 | 720 | 80 | 336 | 112 | 504 | 56 |
| 1 / 2+ | | | 500 | 200 | 350 | 140 | 750 | 100 | 525 | 70 | 400 | 160 | 600 | 80 | 280 | 112 | 420 | 56 |
| 12:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:15 AM | 181 | 33 | | | | | | | | | | | | | | | | |
| 5:30 AM | 350 | 67 | | | | | | | | | | | | | 1 | | | |
| 5:45 AM | 584 | 99 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 6:00 AM | 793 | 134 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 6:15 AM | 819 | 155 | | | | | | | | | | | | | | | | |
| 6:30 AM | 879 | 171 | | | | | | | | | | | | | 1 | 1 | | |
| 6:45 AM | 891 | 190 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 7:00 AM | 964 | 206 | 1 | 1 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 7:15 AM | 981 | 195 | | | | | | | | | | | | | | | | |
| 7:30 AM | 981 | 186 | | | | | | | | | | | | | 1 | 1 | | |
| 7:45 AM | 976 | 179 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 8:00 AM | 956 | 172 | 1 | 1 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 8:15 AM | 924 | 159 | | | | | | | | | | | | | | | | |
| 8:30 AM | 912 | 146 | | | | | | | | | | | | | 1 | 1 | | |
| 8:45 AM | 889 | 132 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 9:00 AM | 859 | 117 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 9:15 AM | 864 | 120 | | | | | | | | | | | | | | | | |
| 9:30 AM | 848 | 118 | | | | | | | | | | | | | 1 | 1 | | |
| 9:45 AM | 825 | 116 | | | 1 | 1 | | | | | 1 | | | | | | 1 | 1 |
| 10:00 AM | 793 | 123 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 10:15 AM | 818 | 120 | | | | | | | | | | | | | | | | |
| 10:30 AM | 877 | 131 | | | | | | | | | | | | | 1 | 1 | | |
| 10:45 AM | 929 | 141 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | | 1 | 1 |
| 11:00 AM | 963 | 135 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 11:15 AM | 987 | 136 | | | | | | | | | | | | | | | | |
| 11:30 AM | 975 | 126 | | | | | | | | | | | | | 1 | 1 | | |
| 11:45 AM | 965 | 119 | | | 1 | 1 | 1 | 1 | | | 1 | | | | | | 1 | 1 |
| 12:00 PM | 985 | 125 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 12:15 PM | 981 | 127 | | | | | | | | | | | | | | | | |
| 12:30 PM | 980 | 129 | | | | | | | | | | | | | 1 | 1 | | |
| 12:45 PM | 1020 | 130 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | | 1 | 1 |
| 1:00 PM | 1008 | 127 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 1:15 PM | 1022 | 128 | | | | | | | | | | | | | | | | |
| 1:30 PM | 1047 | 131 | | | | | | | | | | | | | 1 | 1 | | |
| 1:45 PM | 1040 | 131 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | | 1 | 1 |
| 2:00 PM | 1069 | 132 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 2:15 PM | 1154 | 132 | | | | | | | | | | | | | | | | |
| 2:30 PM | 1227 | 138 | | | | | | | | | | | | | 1 | 1 | | |
| 2:45 PM | 1302 | 139 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | | 1 | 1 |
| 3:00 PM | 1387 | 142 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 3:15 PM | 1444 | 144 | | | | | | | | | | | | | | | | |
| 3:30 PM | 1446 | 145 | | | | | | | | | | | | | 1 | 1 | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:45 PM | 1447 | 151 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | | 1 | 1 |
| 4:00 PM | 1465 | 151 | 1 | 1 | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 4:15 PM | 1465 | 158 | | | | | | | | | | | | | | | | |
| 4:30 PM | 1459 | 162 | | | | | | | | | | | | | 1 | 1 | | |
| 4:45 PM | 1453 | 168 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | | 1 | 1 |
| 5:00 PM | 1399 | 176 | 1 | 1 | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 5:15 PM | 1001 | 134 | | | | | | | | | | | | | | | | |
| 5:30 PM | 660 | 90 | | | | | | | | | | | | | 1 | 1 | | |
| 5:45 PM | 320 | 46 | | | | | | | | | | | | | | | | |
| 6:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| **HOURS MET** | | | **12** | **4** | **12** | **11** | **9** | **9** | **12** | **12** | **12** | **9** | **12** | **12** | **13** | **12** | **12** | **12** |
| ***WARRANT SATISFIED?*** | | | **NO** | | **YES** | | **YES** | | **YES** | | **YES** | | | | **YES** | | | |

**Warrant Met:** **Yes**

**Notes:** Condition B was met. Condition A (70%) was met. Condition B (70%) was met. Combination of A/B (80%) was met.*Combination of A/B (56%) was met.*

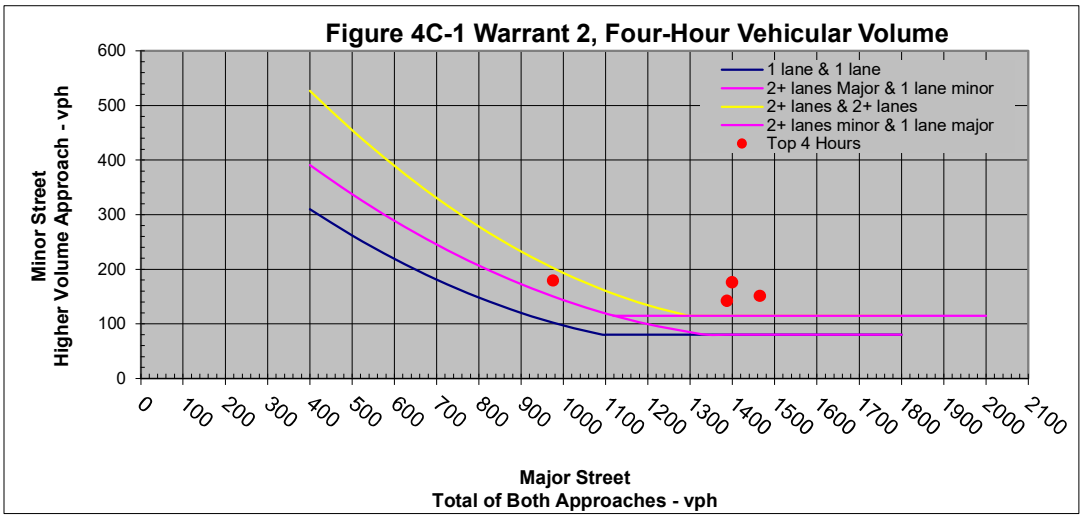
# OMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | | Total Number of Unique Hours Met on Figure 4C-1 | 6 |
|---|---|---|---|
| Major street: | 2 or More Lanes | Total Number of Unique Hours Met on Figure 4C-2 (70% Factor) | 12 |
| Minor Street: | 1 Lane | | |

| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | Yes |
|---|---|

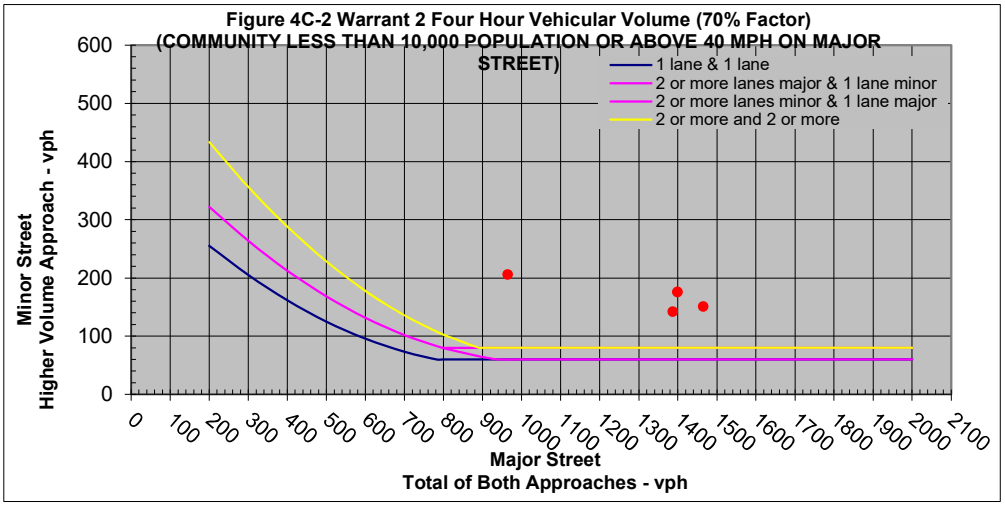
| Hour Interval Beginning At | Raw Traffic Counts | | | | Total Major Approach Volumes | Required Minimum Minor Street For 4C-1 | Required Minimum Minor Street For 4C-2 | Highest Actual Minor Street Approach Volumes | Hour Met? | Hour Met? (70% Factor) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Major - Cincinnati-Dayton Rd | | Minor - Overbrook Ct | | | | | | | |
| | N-Bound | S-Bound | W-Bound | E-Bound | | | | | | |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:15 AM | 108 | 73 | 33 | 2 | 181 | 524 | 334 | 33 | | |
| 5:30 AM | 198 | 152 | 67 | 4 | 350 | 419 | 237 | 67 | | |
| 5:45 AM | 324 | 260 | 99 | 5 | 584 | 296 | 137 | 99 | | |
| 6:00 AM | 433 | 360 | 134 | 6 | 793 | 209 | 81 | 134 | | Met |
| 6:15 AM | 421 | 398 | 155 | 6 | 819 | 200 | 76 | 155 | | |
| 6:30 AM | 444 | 435 | 171 | 10 | 879 | 179 | 67 | 171 | | |
| 6:45 AM | 454 | 437 | 190 | 12 | 891 | 175 | 65 | 190 | Met | |
| 7:00 AM | 500 | 464 | 206 | 12 | 964 | 153 | 60 | 206 | | Met |
| 7:15 AM | 509 | 472 | 195 | 17 | 981 | 149 | 60 | 195 | | |
| 7:30 AM | 515 | 466 | 186 | 14 | 981 | 149 | 60 | 186 | | |
| 7:45 AM | 513 | 463 | 179 | 17 | 976 | 150 | 60 | 179 | Met | |
| 8:00 AM | 515 | 441 | 172 | 28 | 956 | 156 | 60 | 172 | | Met |
| 8:15 AM | 522 | 402 | 159 | 29 | 924 | 165 | 62 | 159 | | |
| 8:30 AM | 528 | 384 | 146 | 21 | 912 | 169 | 63 | 146 | | |
| 8:45 AM | 522 | 367 | 132 | 21 | 889 | 176 | 66 | 132 | | |
| 9:00 AM | 494 | 365 | 117 | 19 | 859 | 186 | 70 | 117 | | Met |
| 9:15 AM | 495 | 369 | 120 | 22 | 864 | 184 | 69 | 120 | | |
| 9:30 AM | 483 | 365 | 118 | 33 | 848 | 190 | 71 | 118 | | |
| 9:45 AM | 459 | 366 | 116 | 32 | 825 | 198 | 75 | 116 | | |
| 10:00 AM | 441 | 352 | 123 | 41 | 793 | 209 | 81 | 123 | | Met |
| 10:15 AM | 450 | 368 | 120 | 41 | 818 | 200 | 76 | 120 | | |
| 10:30 AM | 477 | 400 | 131 | 39 | 877 | 180 | 67 | 131 | | |
| 10:45 AM | 508 | 421 | 141 | 44 | 929 | 164 | 61 | 141 | | |
| 11:00 AM | 512 | 451 | 135 | 40 | 963 | 154 | 60 | 135 | | Met |
| 11:15 AM | 523 | 464 | 136 | 45 | 987 | 147 | 60 | 136 | | |
| 11:30 AM | 520 | 455 | 126 | 47 | 975 | 150 | 60 | 126 | | |
| 11:45 AM | 516 | 449 | 119 | 47 | 965 | 153 | 60 | 119 | | |
| 12:00 PM | 548 | 437 | 125 | 38 | 985 | 147 | 60 | 125 | | Met |
| 12:15 PM | 558 | 423 | 127 | 34 | 981 | 149 | 60 | 127 | | |
| 12:30 PM | 556 | 424 | 129 | 30 | 980 | 149 | 60 | 129 | | |
| 12:45 PM | 572 | 448 | 130 | 26 | 1020 | 138 | 60 | 130 | | |
| 1:00 PM | 561 | 447 | 127 | 25 | 1008 | 141 | 60 | 127 | | Met |
| 1:15 PM | 564 | 458 | 128 | 24 | 1022 | 138 | 60 | 128 | | |
| 1:30 PM | 583 | 464 | 131 | 33 | 1047 | 131 | 60 | 131 | | |
| 1:45 PM | 581 | 459 | 131 | 26 | 1040 | 133 | 60 | 131 | | |
| 2:00 PM | 586 | 483 | 132 | 44 | 1069 | 126 | 60 | 132 | Met | Met |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2:15 PM | 612 | 542 | 132 | 40 | 1154 | 108 | 60 | 132 | | |
| 2:30 PM | 641 | 586 | 138 | 35 | 1227 | 95 | 60 | 138 | | |
| 2:45 PM | 687 | 615 | 139 | 35 | 1302 | 84 | 60 | 139 | | |
| 3:00 PM | 750 | 637 | 142 | 27 | 1387 | 80 | 60 | 142 | Met | Met |
| 3:15 PM | 812 | 632 | 144 | 31 | 1444 | 80 | 60 | 144 | | |
| 3:30 PM | 830 | 616 | 145 | 34 | 1446 | 80 | 60 | 145 | | |
| 3:45 PM | 853 | 594 | 151 | 33 | 1447 | 80 | 60 | 151 | | |
| 4:00 PM | 881 | 584 | 151 | 34 | 1465 | 80 | 60 | 151 | Met | Met |
| 4:15 PM | 877 | 588 | 158 | 45 | 1465 | 80 | 60 | 158 | | |
| 4:30 PM | 898 | 561 | 162 | 44 | 1459 | 80 | 60 | 162 | | |
| 4:45 PM | 869 | 584 | 168 | 52 | 1453 | 80 | 60 | 168 | | |
| 5:00 PM | 842 | 557 | 176 | 51 | 1399 | 80 | 60 | 176 | Met | Met |
| 5:15 PM | 612 | 389 | 134 | 31 | 1001 | 143 | 60 | 134 | | |
| 5:30 PM | 390 | 270 | 90 | 22 | 660 | 262 | 113 | 90 | | |
| 5:45 PM | 205 | 115 | 46 | 6 | 320 | 437 | 253 | 46 | | |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 10:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |




| Top Hours for Figure 4C-1 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 5:00 PM | 6:00 PM | 1399 | 176 |
| 2nd Highest Hour | 4:00 PM | 5:00 PM | 1465 | 151 |
| 3rd Highest Hour | 3:00 PM | 4:00 PM | 1387 | 142 |
| 4th Highest Hour | 7:45 AM | 8:45 AM | 976 | 179 |

| Top Hours for Figure 4C-2 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 5:00 PM | 6:00 PM | 1399 | 176 |
| 2nd Highest Hour | 4:00 PM | 5:00 PM | 1465 | 151 |
| 3rd Highest Hour | 3:00 PM | 4:00 PM | 1387 | 142 |
| 4th Highest Hour | 7:00 AM | 8:00 AM | 964 | 206 |



**Are the requirements for Warrant 2 met?:** **Yes**

## OMUTCD WARRANT 3, PEAK HOUR

| Number of Lanes for Moving Traffic on Each Approach | | Peak Hour Start time | 4:45 PM |
|---|---|---|---|
| Major Street: | 2 or More Lanes | Peak Hour End Time | 5:45 PM |
| Minor Street: | 1 Lane | | |

| Actual Peak Hour Major Traffic Volume | Actual Peak Hour Minor Traffic Volume | Required Peak Hour Minor Traffic Volume for Fig. 4C-3 | Required Peak Hour Minor Traffic Volume for Fig. 4C-4 |
|---|---|---|---|
| 1453 | 176 | 152 | 75 |

| | |
|---|---|
| **Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street?** | Yes |

| | |
|---|---|
| **Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?** | No |

| **Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*** | |
|---|---|
| **Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?** | |
| **Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?** | Yes |
| **Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?** | Yes |
| **If applicable, attach all supporting calculations and documentation.* | |
| **Are the requirements for Warrant 3 met?:** | **Yes** |

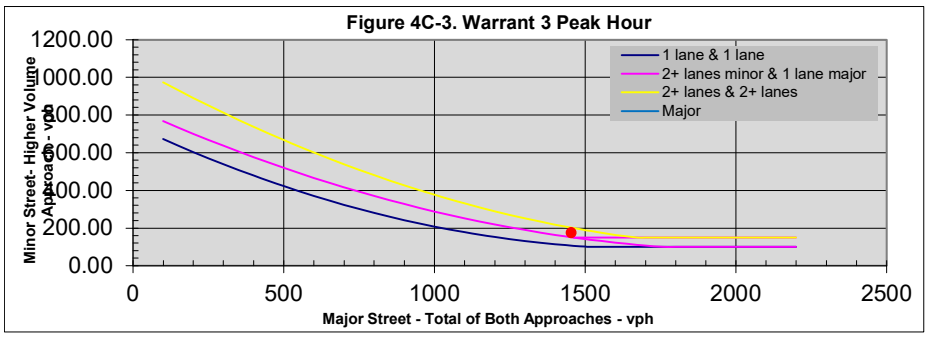
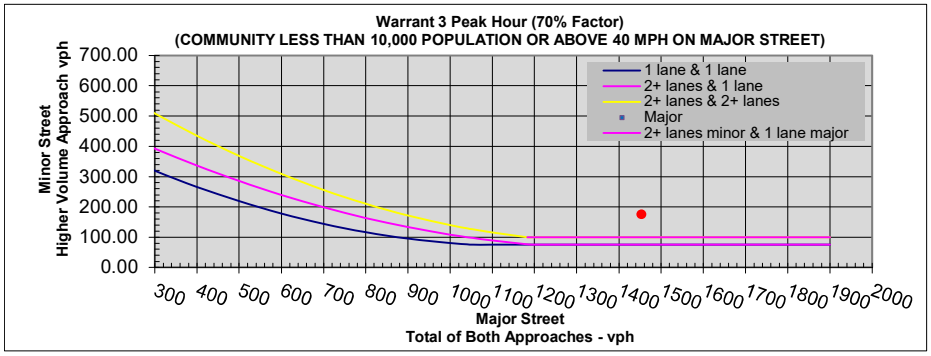


Figure 4C-3. Warrant 3 Peak Hour
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
500
1000
1500
2000
2500
Minor Street- Higher Volume Approach - vph
Major Street - Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes minor & 1 lane major
2+ lanes & 2+ lanes
Major


Warrant 3 Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)
Minor Street
Higher Volume Approach vph
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
Major Street
Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes & 1 lane
2+ lanes & 2+ lanes
Major
2+ lanes minor & 1 lane major

## STUDY AND ANALYSIS INFORMATION

| | | | |
|---|---|---|---|
| **Municipality:** | City of Monroe | **Traffic Volumes Obtained By:** | The Kleingers Group |
| **County:** | Butler | **Analysis Date:** | 6/17/2025 |
| **ODOT Engineering District:** | 8 | **Agency/ Company Name Performing Warrant Analysis:** | The Kleingers Group |
| **Google map link:** | Map | | |

### Analysis Information

| | |
|---|---|
| **Data Collection Date:** | 3/22/2022 |
| **Day of the Week:** | Thursday |
| **Is the intersection in a built-up area of an isolated community of <10,000 population?** | No |
| **Existing Traffic Signal at intersection:** | No |
| **Total Number of Approaches at Intersection:** | 4 |

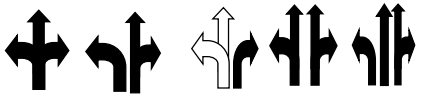
### Major Street Information

| | | |
|---|---|---|
| **Major Street Name and Route Number:** | Cincinnati-Dayton Rd | |
| **Major Street Approach Direction:** | N-Bound | |
| | S-Bound | |
| **Number of Thru Lanes on Each Major Street Approach:** | 2 | **LANE(S)** |
| **Speed Limit or 85th Percentile Speed on the Major Street*:** | 45 | **MPH** |

*Unknown assumes below 45 mph

### Minor Street Information

| | | |
|---|---|---|
| **Minor Street Name and Route Number:** | Overbrook Ct | |
| **Minor Street Approach Configuration:** | 1 | E-Bound |
| | 1 | W-Bound |




| | | |
|---|---|---|
| **Number of Thru Lanes on Each Minor Street Approach:** | 1 | **LANE(S)** |
| **Apply Right Turn Lane Reduction*:** | Yes | |

*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

| | Applicable? | 100% Warrant Satisfied? | Notes and Comments: *Known error: if Speed Limit < 45mph, it may not state that it passes at 70%. | |
|---|---|---|---|---|
| **Warrant 1, Eight-Hour Vehicular Volume** | Yes | **No** | Condition B (70%) was met. | |
| **Warrant 2, Four-Hour Vehicular Volume** | Yes | **No** | Figure 4C-2 (70% Factor) | |
| **Warrant 3, Peak Hour** | Yes | **No** | Signals installed under Warrant 3 should be traffic actuated. | **Peak Hour** 4:15 PM 5:15 PM |

For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2)

| | | | | |
|---|---|---|---|---|
| **Warrant 4, Pedestrian Volume** | No | | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. | **Peak Hour** 3:15 PM 4:15 PM |
| **Warrant 5, School Crossing** | No | | N/A | |
| **Warrant 6, Coordinated Signal System** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 7, Crash Experience** | No | | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. | |
| **Warrant 8, Roadway Network** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 9, Intersection Near a Grade Crossing** | No | | Figure 4C-9 | |
| **Multi-Way Stop Warrant** | No | | May be used as an interim measure if traffic signal warrants are satisfied. | |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion: Install New Traffic Signal

Notes: The signal warrants are not fully met. However, the 70% conditions are met, and are applicable for major streets with speed limits at or above 45 miles per hour. A signal is recommended.

# OMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | |
|---|---|
| Major Street: | 2 or More Lanes |
| Minor Street: | 1 Lane |

Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? Yes

**Only applicable after an adequate trial of other alternatives (See section 4C.02.06 of the 2012 OMUTCD)*

| Lanes Major/ Minor | Adjusted Volumes | | Condition A | | | | Condition B | | | | Combination A/B* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Cond. A | | Cond. B | | Cond. A | | Cond. B | |
| | Major | Minor | 100% | | 70% | | 100% | | 70% | | 80% | | 80% | | 56% | | 56% | |
| | | | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. |
| 1 / 1 | | | 500 | 150 | 350 | 105 | 750 | 75 | 525 | 53 | 400 | 120 | 600 | 60 | 280 | 84 | 420 | 42 |
| 2+ / 1 | X | | 600 | 150 | 420 | 105 | 900 | 75 | 630 | 53 | 480 | 120 | 720 | 60 | 336 | 84 | 504 | 42 |
| 2+ / 2+ | | | 600 | 200 | 420 | 140 | 900 | 100 | 630 | 70 | 480 | 160 | 720 | 80 | 336 | 112 | 504 | 56 |
| 1 / 2+ | | | 500 | 200 | 350 | 140 | 750 | 100 | 525 | 70 | 400 | 160 | 600 | 80 | 280 | 112 | 420 | 56 |
| 12:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:15 AM | 175 | 14 | | | | | | | | | | | | | | | | |
| 5:30 AM | 338 | 29 | | | | | | | | | | | | | 1 | | | |
| 5:45 AM | 566 | 42 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 6:00 AM | 769 | 58 | 1 | | | | | | 1 | 1 | | | 1 | | | | | |
| 6:15 AM | 792 | 67 | | | | | | | | | | | | | | | | |
| 6:30 AM | 849 | 71 | | | | | | | | | | | | | 1 | | | |
| 6:45 AM | 858 | 78 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 7:00 AM | 928 | 82 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 7:15 AM | 941 | 78 | | | | | | | | | | | | | | | | |
| 7:30 AM | 937 | 76 | | | | | | | | | | | | | 1 | | | |
| 7:45 AM | 928 | 76 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 8:00 AM | 904 | 76 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 8:15 AM | 874 | 71 | | | | | | | | | | | | | | | | |
| 8:30 AM | 864 | 66 | | | | | | | | | | | | | 1 | | | |
| 8:45 AM | 843 | 60 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 9:00 AM | 815 | 53 | 1 | | | | | | 1 | 1 | | | 1 | | | | | |
| 9:15 AM | 820 | 56 | | | | | | | | | | | | | | | | |
| 9:30 AM | 804 | 54 | | | | | | | | | | | | | 1 | | | |
| 9:45 AM | 781 | 52 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 10:00 AM | 749 | 59 | 1 | | | | | | 1 | 1 | | | 1 | | | | | |
| 10:15 AM | 769 | 57 | | | | | | | | | | | | | | | | |
| 10:30 AM | 823 | 69 | | | | | | | | | | | | | 1 | | | |
| 10:45 AM | 870 | 80 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 11:00 AM | 899 | 75 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 11:15 AM | 922 | 76 | | | | | 1 | 1 | | | | | | | | | | |
| 11:30 AM | 909 | 66 | | | | | | | | | | | | | 1 | | | |
| 11:45 AM | 898 | 59 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 12:00 PM | 917 | 65 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 12:15 PM | 914 | 66 | | | | | 1 | | | | | | | | | | | |
| 12:30 PM | 914 | 67 | | | | | | | | | | | | | 1 | | | |
| 12:45 PM | 955 | 67 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 1:00 PM | 944 | 63 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 1:15 PM | 953 | 64 | | | | | 1 | | | | | | | | | | | |
| 1:30 PM | 973 | 67 | | | | | | | | | | | | | 1 | | | |
| 1:45 PM | 961 | 67 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 2:00 PM | 985 | 68 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 2:15 PM | 1066 | 68 | | | | | 1 | | | | | | | | | | | |
| 2:30 PM | 1135 | 74 | | | | | | | | | | | | | 1 | | | |
| 2:45 PM | 1206 | 75 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 3:00 PM | 1287 | 78 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 3:15 PM | 1337 | 77 | | | | | 1 | 1 | | | | | | | | | | |
| 3:30 PM | 1332 | 75 | | | | | | | | | | | | | 1 | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:45 PM | 1326 | 78 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 4:00 PM | 1337 | 75 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 4:15 PM | 1333 | 79 | | | | | 1 | 1 | | | | | | | | | | |
| 4:30 PM | 1323 | 80 | | | | | | | | | | | | | 1 | | | |
| 4:45 PM | 1313 | 83 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 5:00 PM | 1255 | 88 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 5:15 PM | 893 | 68 | | | | | | | | | | | | | | | | |
| 5:30 PM | 588 | 46 | | | | | | | | | | | | | 1 | | | |
| 5:45 PM | 284 | 24 | | | | | | | | | | | | | | | | |
| 6:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| **HOURS MET** | | | **12** | **0** | **12** | **0** | **8** | **5** | **12** | **12** | **12** | **0** | **12** | **9** | **13** | **0** | **12** | **12** |
| ***WARRANT SATISFIED?*** | | | **NO** | | **NO** | | **NO** | | **YES** | | **NO** | | | | **NO** | | | |

**Warrant Met:** **No**

**Notes:** Condition B (70%) was met.

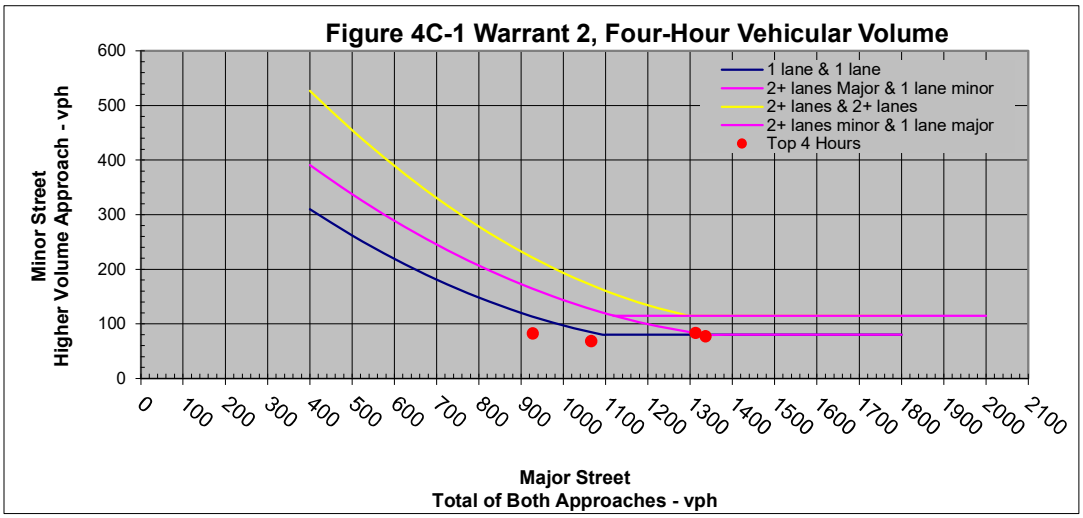
# OMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | | Total Number of Unique Hours Met on Figure 4C-1 | 0 |
|---|---|---|---|
| Major street: | 2 or More Lanes | Total Number of Unique Hours Met on Figure 4C-2 (70% Factor) | 9 |
| Minor Street: | 1 Lane | | |

| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | Yes |
|---|---|

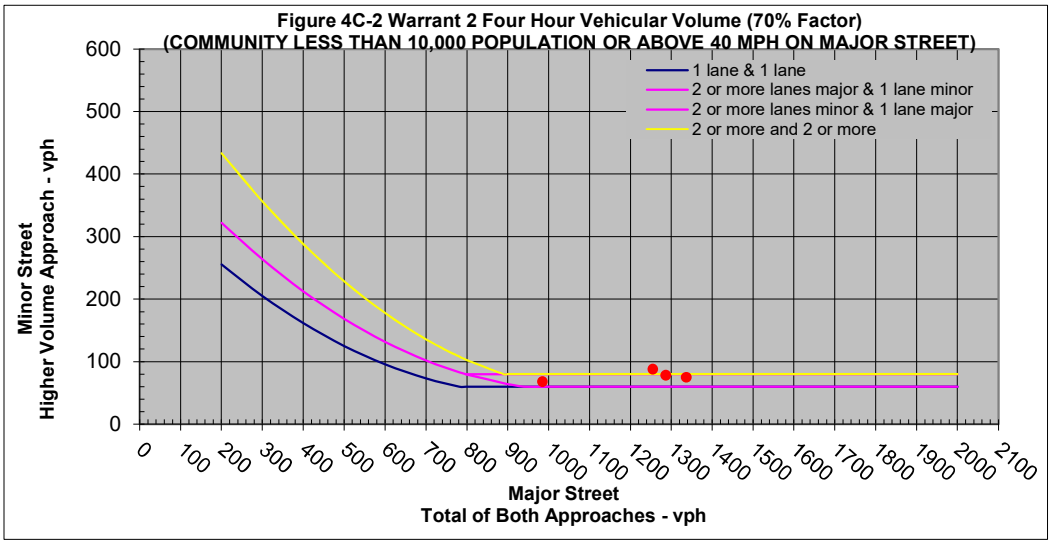
| Hour Interval Beginning At | Raw Traffic Counts | | | | Total Major Approach Volumes | Required Minimum Minor Street For 4C-1 | Required Minimum Minor Street For 4C-2 | Highest Actual Minor Street Approach Volumes | Hour Met? | Hour Met? (70% Factor) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Major - Cincinnati-Dayton Rd | | Minor - Overbrook Ct | | | | | | | |
| | N-Bound | S-Bound | W-Bound | E-Bound | | | | | | |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:15 AM | 103 | 72 | 14 | 2 | 175 | 528 | 338 | 14 | | |
| 5:30 AM | 188 | 150 | 29 | 4 | 338 | 426 | 243 | 29 | | |
| 5:45 AM | 309 | 257 | 42 | 5 | 566 | 305 | 143 | 42 | | |
| 6:00 AM | 413 | 356 | 58 | 6 | 769 | 218 | 86 | 58 | | |
| 6:15 AM | 399 | 393 | 67 | 6 | 792 | 209 | 81 | 67 | | |
| 6:30 AM | 420 | 429 | 71 | 10 | 849 | 189 | 71 | 71 | | |
| 6:45 AM | 428 | 430 | 78 | 12 | 858 | 186 | 70 | 78 | | Met |
| 7:00 AM | 472 | 456 | 82 | 12 | 928 | 164 | 61 | 82 | | |
| 7:15 AM | 476 | 465 | 78 | 17 | 941 | 160 | 60 | 78 | | |
| 7:30 AM | 477 | 460 | 76 | 14 | 937 | 161 | 60 | 76 | | |
| 7:45 AM | 470 | 458 | 76 | 17 | 928 | 164 | 61 | 76 | | Met |
| 8:00 AM | 467 | 437 | 76 | 28 | 904 | 171 | 64 | 76 | | |
| 8:15 AM | 476 | 398 | 71 | 29 | 874 | 181 | 67 | 71 | | |
| 8:30 AM | 484 | 380 | 66 | 21 | 864 | 184 | 69 | 66 | | |
| 8:45 AM | 480 | 363 | 60 | 21 | 843 | 191 | 72 | 60 | | |
| 9:00 AM | 454 | 361 | 53 | 19 | 815 | 201 | 77 | 53 | | |
| 9:15 AM | 455 | 365 | 56 | 22 | 820 | 199 | 76 | 56 | | |
| 9:30 AM | 443 | 361 | 54 | 33 | 804 | 205 | 79 | 54 | | |
| 9:45 AM | 419 | 362 | 52 | 32 | 781 | 214 | 83 | 52 | | |
| 10:00 AM | 401 | 348 | 59 | 41 | 749 | 226 | 90 | 59 | | |
| 10:15 AM | 405 | 364 | 57 | 41 | 769 | 218 | 86 | 57 | | |
| 10:30 AM | 427 | 396 | 69 | 39 | 823 | 198 | 75 | 69 | | |
| 10:45 AM | 453 | 417 | 80 | 44 | 870 | 182 | 68 | 80 | | Met |
| 11:00 AM | 452 | 447 | 75 | 40 | 899 | 173 | 64 | 75 | | |
| 11:15 AM | 462 | 460 | 76 | 45 | 922 | 166 | 62 | 76 | | |
| 11:30 AM | 458 | 451 | 66 | 47 | 909 | 170 | 63 | 66 | | |
| 11:45 AM | 453 | 445 | 59 | 47 | 898 | 173 | 64 | 59 | | |
| 12:00 PM | 484 | 433 | 65 | 38 | 917 | 167 | 62 | 65 | | Met |
| 12:15 PM | 495 | 419 | 66 | 34 | 914 | 168 | 63 | 66 | | |
| 12:30 PM | 494 | 420 | 67 | 30 | 914 | 168 | 63 | 67 | | |
| 12:45 PM | 511 | 444 | 67 | 26 | 955 | 156 | 60 | 67 | | |
| 1:00 PM | 501 | 443 | 63 | 25 | 944 | 159 | 60 | 63 | | Met |
| 1:15 PM | 499 | 454 | 64 | 24 | 953 | 156 | 60 | 64 | | |
| 1:30 PM | 513 | 460 | 67 | 33 | 973 | 151 | 60 | 67 | | |
| 1:45 PM | 506 | 455 | 67 | 26 | 961 | 154 | 60 | 67 | | |
| 2:00 PM | 506 | 479 | 68 | 44 | 985 | 147 | 60 | 68 | | Met |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2:15 PM | 528 | 538 | 68 | 40 | 1066 | 127 | 60 | 68 | | |
| 2:30 PM | 553 | 582 | 74 | 35 | 1135 | 112 | 60 | 74 | | |
| 2:45 PM | 595 | 611 | 75 | 35 | 1206 | 98 | 60 | 75 | | |
| 3:00 PM | 654 | 633 | 78 | 27 | 1287 | 86 | 60 | 78 | | Met |
| 3:15 PM | 709 | 628 | 77 | 31 | 1337 | 80 | 60 | 77 | | |
| 3:30 PM | 720 | 612 | 75 | 34 | 1332 | 81 | 60 | 75 | | |
| 3:45 PM | 736 | 590 | 78 | 33 | 1326 | 82 | 60 | 78 | | |
| 4:00 PM | 757 | 580 | 75 | 34 | 1337 | 80 | 60 | 75 | | Met |
| 4:15 PM | 749 | 584 | 79 | 45 | 1333 | 81 | 60 | 79 | | |
| 4:30 PM | 766 | 557 | 80 | 44 | 1323 | 82 | 60 | 80 | | |
| 4:45 PM | 733 | 580 | 83 | 52 | 1313 | 83 | 60 | 83 | | |
| 5:00 PM | 702 | 553 | 88 | 51 | 1255 | 91 | 60 | 88 | | Met |
| 5:15 PM | 507 | 386 | 68 | 31 | 893 | 175 | 65 | 68 | | |
| 5:30 PM | 320 | 268 | 46 | 22 | 588 | 295 | 136 | 46 | | |
| 5:45 PM | 170 | 114 | 24 | 6 | 284 | 458 | 273 | 24 | | |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 10:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |




| Top Hours for Figure 4C-1 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 4:45 PM | 5:45 PM | 1313 | 83 |
| 2nd Highest Hour | 3:15 PM | 4:15 PM | 1337 | 77 |
| 3rd Highest Hour | 2:15 PM | 3:15 PM | 1066 | 68 |
| 4th Highest Hour | 7:00 AM | 8:00 AM | 928 | 82 |

| Top Hours for Figure 4C-2 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 5:00 PM | 6:00 PM | 1255 | 88 |
| 2nd Highest Hour | 4:00 PM | 5:00 PM | 1337 | 75 |
| 3rd Highest Hour | 3:00 PM | 4:00 PM | 1287 | 78 |
| 4th Highest Hour | 2:00 PM | 3:00 PM | 985 | 68 |



**Are the requirements for Warrant 2 met?:** **No**

## OMUTCD WARRANT 3, PEAK HOUR

| Number of Lanes for Moving Traffic on Each Approach | | Peak Hour Start time | 4:15 PM |
|---|---|---|---|
| Major Street: | 2 or More Lanes | Peak Hour End Time | 5:15 PM |
| Minor Street: | 1 Lane | | |

| Actual Peak Hour Major Traffic Volume | Actual Peak Hour Minor Traffic Volume | Required Peak Hour Minor Traffic Volume for Fig. 4C-3 | Required Peak Hour Minor Traffic Volume for Fig. 4C-4 |
|---|---|---|---|
| 1333 | 88 | 181 | 75 |

| | |
|---|---|
| **Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street?** | Yes |

| | |
|---|---|
| **Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?** | No |

| **Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*** | |
|---|---|
| **Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?** | |
| **Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?** | No |
| **Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?** | Yes |
| **If applicable, attach all supporting calculations and documentation.* | |

**Are the requirements for Warrant 3 met?:** **No**

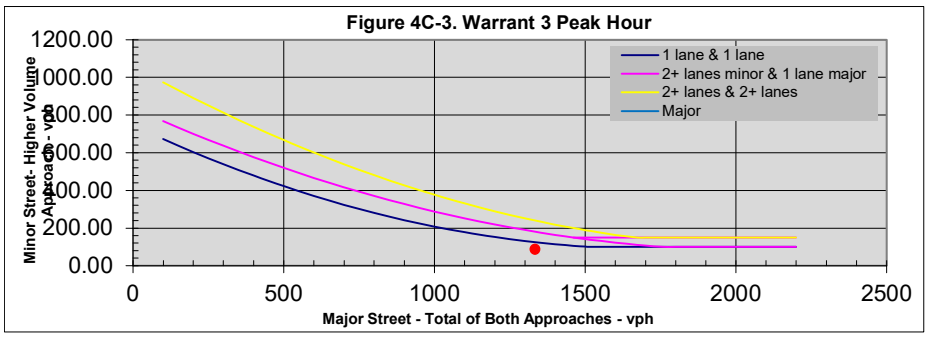
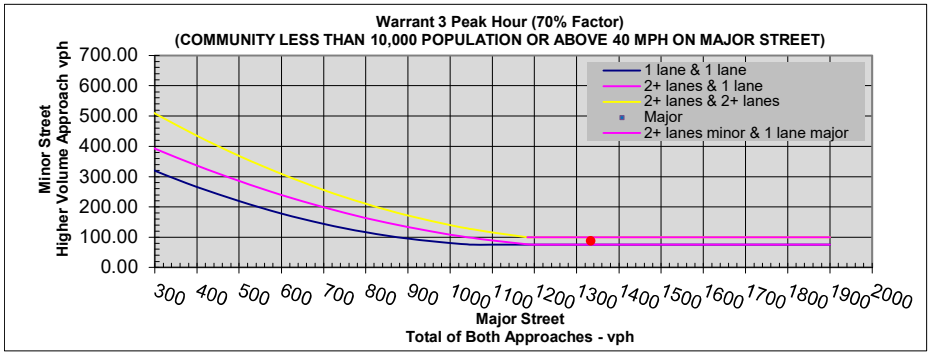


Figure 4C-3. Warrant 3 Peak Hour
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
500
1000
1500
2000
2500
Minor Street- Higher Volume Approach - vph
Major Street - Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes minor & 1 lane major
2+ lanes & 2+ lanes
Major


Warrant 3 Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)
Minor Street
Higher Volume Approach vph
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
Major Street
Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes & 1 lane
2+ lanes & 2+ lanes
Major
2+ lanes minor & 1 lane major

# STUDY AND ANALYSIS INFORMATION

| | | | |
|---|---|---|---|
| **Municipality:** | City of Monroe | **Traffic Volumes Obtained By:** | The Kleingers Group |
| **County:** | Butler | **Analysis Date:** | 6/17/2025 |
| **ODOT Engineering District:** | 8 | **Agency/ Company Name Performing Warrant Analysis:** | The Kleingers Group |
| **Google map link:** | Map | | |

## Analysis Information

| | |
|---|---|
| **Data Collection Date:** | 3/22/2022 |
| **Day of the Week:** | Thursday |
| **Is the intersection in a built-up area of an isolated community of <10,000 population?** | No |
| **Existing Traffic Signal at intersection:** | No |
| **Total Number of Approaches at Intersection:** | 4 |

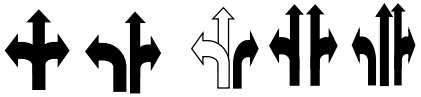
## Major Street Information

| | | |
|---|---|---|
| **Major Street Name and Route Number:** | Cincinnati-Dayton Rd | |
| **Major Street Approach Direction:** | N-Bound | |
| | S-Bound | |
| **Number of Thru Lanes on Each Major Street Approach:** | 2 | **LANE(S)** |
| **Speed Limit or 85th Percentile Speed on the Major Street*:** | 45 | **MPH** |

*Unknown assumes below 45 mph

## Minor Street Information

| | | |
|---|---|---|
| **Minor Street Name and Route Number:** | Overbrook Ct | |
| **Minor Street Approach Configuration:** | 1 | E-Bound |
| | 1 | W-Bound |




| | | |
|---|---|---|
| **Number of Thru Lanes on Each Minor Street Approach:** | 1 | **LANE(S)** |
| **Apply Right Turn Lane Reduction*:** | Yes | |

*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

# TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

| | Applicable? | 100% Warrant Satisfied? | Notes and Comments: *Known error: if Speed Limit < 45mph, it may not state that it passes at 70%. | |
|---|---|---|---|---|
| **Warrant 1, Eight-Hour Vehicular Volume** | Yes | **Yes** | Condition B was met. Condition B (70%) was met. | |
| **Warrant 2, Four-Hour Vehicular Volume** | Yes | **No** | Figure 4C-2 (70% Factor) | |
| **Warrant 3, Peak Hour** | Yes | **No** | Signals installed under Warrant 3 should be traffic actuated. | **Peak Hour** 4:45 PM 5:45 PM |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) | | | | |
| **Warrant 4, Pedestrian Volume** | No | | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. | **Peak Hour** 3:15 PM 4:15 PM |
| **Warrant 5, School Crossing** | No | | N/A | |
| **Warrant 6, Coordinated Signal System** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 7, Crash Experience** | No | | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. | |
| **Warrant 8, Roadway Network** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 9, Intersection Near a Grade Crossing** | No | | Figure 4C-9 | |
| **Multi-Way Stop Warrant** | No | | May be used as an interim measure if traffic signal warrants are satisfied. | |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion: Install New Traffic Signal

Notes:

# OMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | |
|---|---|
| Major Street: | 2 or More Lanes |
| Minor Street: | 1 Lane |

Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? Yes

**Only applicable after an adequate trial of other alternatives (See section 4C.02.06 of the 2012 OMUTCD)*

| Lanes Major/ Minor | Adjusted Volumes | | Condition A | | | | Condition B | | | | Combination A/B* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Cond. A | | Cond. B | | Cond. A | | Cond. B | |
| | Major | Minor | 100% | | 70% | | 100% | | 70% | | 80% | | 80% | | 56% | | 56% | |
| | | | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. |
| 1 / 1 | | | 500 | 150 | 350 | 105 | 750 | 75 | 525 | 53 | 400 | 120 | 600 | 60 | 280 | 84 | 420 | 42 |
| 2+ / 1 | X | | 600 | 150 | 420 | 105 | 900 | 75 | 630 | 53 | 480 | 120 | 720 | 60 | 336 | 84 | 504 | 42 |
| 2+ / 2+ | | | 600 | 200 | 420 | 140 | 900 | 100 | 630 | 70 | 480 | 160 | 720 | 80 | 336 | 112 | 504 | 56 |
| 1 / 2+ | | | 500 | 200 | 350 | 140 | 750 | 100 | 525 | 70 | 400 | 160 | 600 | 80 | 280 | 112 | 420 | 56 |
| 12:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:15 AM | 192 | 14 | | | | | | | | | | | | | | | | |
| 5:30 AM | 371 | 30 | | | | | | | | | | | | | 1 | | | |
| 5:45 AM | 621 | 44 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 6:00 AM | 843 | 61 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 6:15 AM | 868 | 70 | | | | | | | | | | | | | | | | |
| 6:30 AM | 930 | 75 | | | | | 1 | 1 | | | | | | | 1 | | | |
| 6:45 AM | 940 | 81 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 7:00 AM | 1018 | 85 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 7:15 AM | 1033 | 81 | | | | | | | | | | | | | | | | |
| 7:30 AM | 1028 | 79 | | | | | 1 | 1 | | | | | | | 1 | | | |
| 7:45 AM | 1017 | 79 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 8:00 AM | 990 | 79 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 8:15 AM | 958 | 75 | | | | | | | | | | | | | | | | |
| 8:30 AM | 948 | 71 | | | | | 1 | | | | | | | | 1 | | | |
| 8:45 AM | 926 | 60 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 9:00 AM | 894 | 59 | | | | | | | 1 | 1 | | | 1 | | | | | |
| 9:15 AM | 899 | 63 | | | | | | | | | | | | | | | | |
| 9:30 AM | 883 | 57 | | | | | | | | | | | | | 1 | | | |
| 9:45 AM | 860 | 56 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 10:00 AM | 829 | 63 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 10:15 AM | 852 | 62 | | | | | | | | | | | | | | | | |
| 10:30 AM | 912 | 80 | | | | | 1 | 1 | | | | | | | 1 | | | |
| 10:45 AM | 963 | 92 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 11:00 AM | 994 | 81 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 11:15 AM | 1004 | 83 | | | | | | | | | | | | | | | | |
| 11:30 AM | 974 | 74 | | | | | 1 | | | | | | | | 1 | | | |
| 11:45 AM | 948 | 68 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 12:00 PM | 956 | 76 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 12:15 PM | 954 | 76 | | | | | | | | | | | | | | | | |
| 12:30 PM | 956 | 77 | | | | | 1 | 1 | | | | | | | 1 | | | |
| 12:45 PM | 1004 | 77 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 1:00 PM | 992 | 72 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 1:15 PM | 1002 | 74 | | | | | | | | | | | | | | | | |
| 1:30 PM | 1025 | 77 | | | | | 1 | 1 | | | | | | | 1 | | | |
| 1:45 PM | 1011 | 76 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 2:00 PM | 1038 | 77 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 2:15 PM | 1128 | 77 | | | | | | | | | | | | | | | | |
| 2:30 PM | 1204 | 82 | | | | | 1 | 1 | | | | | | | 1 | | | |
| 2:45 PM | 1280 | 83 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 3:00 PM | 1369 | 86 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 3:15 PM | 1423 | 85 | | | | | | | | | | | | | | | | |
| 3:30 PM | 1416 | 83 | | | | | 1 | 1 | | | | | | | 1 | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:45 PM | 1411 | 86 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 4:00 PM | 1423 | 83 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 4:15 PM | 1419 | 87 | | | | | | | | | | | | | | | | |
| 4:30 PM | 1408 | 88 | | | | | 1 | 1 | | | | | | | 1 | 1 | | |
| 4:45 PM | 1396 | 99 | 1 | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 5:00 PM | 1331 | 104 | | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 5:15 PM | 945 | 80 | | | | | | | | | | | | | | | | |
| 5:30 PM | 622 | 54 | | | | | | | | | | | | | 1 | | | |
| 5:45 PM | 300 | 28 | | | | | | | | | | | | | | | | |
| 6:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| **HOURS MET** | | | **12** | **0** | **12** | **0** | **10** | **8** | **12** | **12** | **12** | **0** | **12** | **11** | **13** | **1** | **12** | **12** |
| ***WARRANT SATISFIED?*** | | | **NO** | | **NO** | | **YES** | | **YES** | | **NO** | | | | **NO** | | | |

**Warrant Met:** **Yes**

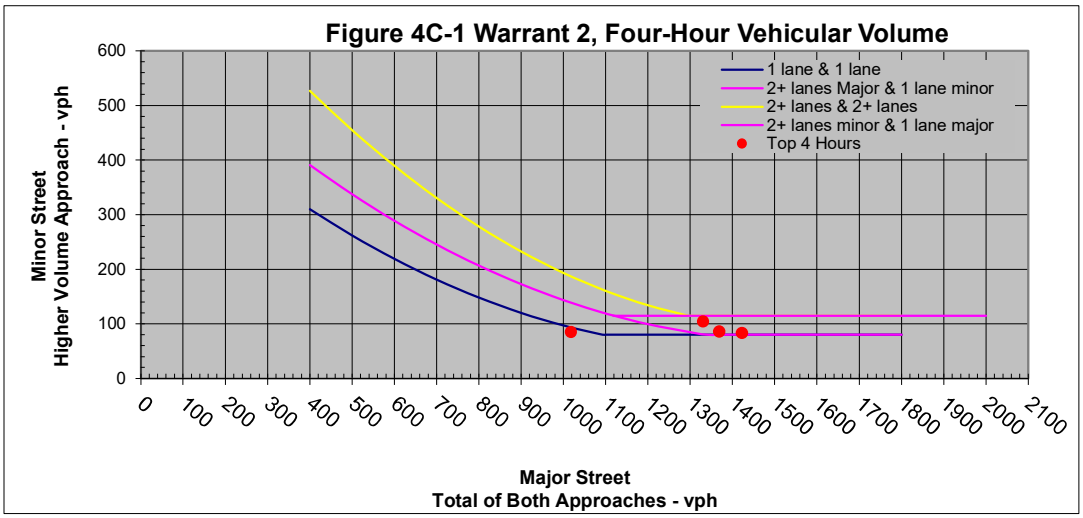
**Notes:** Condition B was met. Condition B (70%) was met.

# OMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | | Total Number of Unique Hours Met on Figure 4C-1 | 3 |
|---|---|---|---|
| Major street: | 2 or More Lanes | Total Number of Unique Hours Met on Figure 4C-2 (70% Factor) | 10 |
| Minor Street: | 1 Lane | | |
| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | | | Yes |

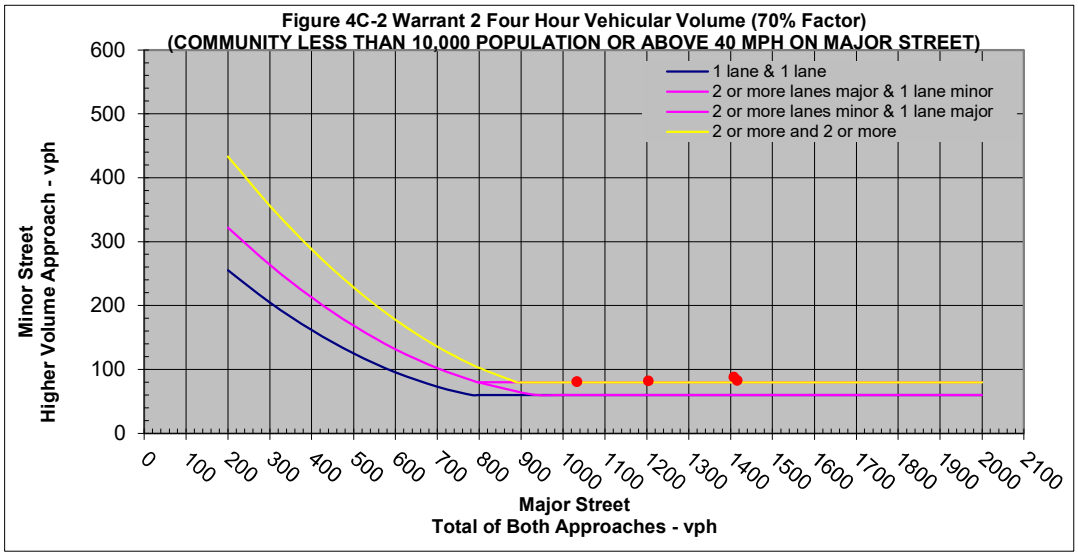
| Hour Interval Beginning At | Raw Traffic Counts | | | | Total Major Approach Volumes | Required Minimum Minor Street For 4C-1 | Required Minimum Minor Street For 4C-2 | Highest Actual Minor Street Approach Volumes | Hour Met? | Hour Met? (70% Factor) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Major - Cincinnati-Dayton Rd | | Minor - Overbrook Ct | | | | | | | |
| | N-Bound | S-Bound | W-Bound | E-Bound | | | | | | |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:15 AM | 112 | 80 | 14 | 2 | 192 | 517 | 327 | 14 | | |
| 5:30 AM | 205 | 166 | 30 | 4 | 371 | 407 | 227 | 30 | | |
| 5:45 AM | 337 | 284 | 44 | 5 | 621 | 279 | 125 | 44 | | |
| 6:00 AM | 450 | 393 | 61 | 6 | 843 | 191 | 72 | 61 | | |
| 6:15 AM | 435 | 433 | 70 | 6 | 868 | 183 | 68 | 70 | | Met |
| 6:30 AM | 457 | 473 | 75 | 10 | 930 | 163 | 61 | 75 | | |
| 6:45 AM | 466 | 474 | 81 | 12 | 940 | 160 | 60 | 81 | | |
| 7:00 AM | 515 | 503 | 85 | 12 | 1018 | 139 | 60 | 85 | | |
| 7:15 AM | 519 | 514 | 81 | 17 | 1033 | 135 | 60 | 81 | | Met |
| 7:30 AM | 520 | 508 | 79 | 14 | 1028 | 136 | 60 | 79 | | |
| 7:45 AM | 511 | 506 | 79 | 17 | 1017 | 139 | 60 | 79 | | |
| 8:00 AM | 507 | 483 | 79 | 28 | 990 | 146 | 60 | 79 | | |
| 8:15 AM | 517 | 441 | 75 | 29 | 958 | 155 | 60 | 75 | | Met |
| 8:30 AM | 525 | 423 | 71 | 21 | 948 | 158 | 60 | 71 | | |
| 8:45 AM | 520 | 406 | 60 | 21 | 926 | 165 | 61 | 60 | | |
| 9:00 AM | 490 | 404 | 59 | 19 | 894 | 174 | 65 | 59 | | |
| 9:15 AM | 490 | 409 | 63 | 22 | 899 | 173 | 64 | 63 | | |
| 9:30 AM | 477 | 406 | 57 | 33 | 883 | 178 | 66 | 57 | | |
| 9:45 AM | 452 | 408 | 56 | 32 | 860 | 186 | 69 | 56 | | |
| 10:00 AM | 434 | 395 | 63 | 42 | 829 | 196 | 74 | 63 | | |
| 10:15 AM | 439 | 413 | 62 | 42 | 852 | 188 | 71 | 62 | | |
| 10:30 AM | 464 | 448 | 80 | 39 | 912 | 169 | 63 | 80 | | Met |
| 10:45 AM | 492 | 471 | 92 | 45 | 963 | 154 | 60 | 92 | | |
| 11:00 AM | 490 | 504 | 81 | 41 | 994 | 145 | 60 | 81 | | |
| 11:15 AM | 491 | 513 | 83 | 46 | 1004 | 142 | 60 | 83 | | |
| 11:30 AM | 477 | 497 | 74 | 48 | 974 | 150 | 60 | 74 | | Met |
| 11:45 AM | 463 | 485 | 68 | 48 | 948 | 158 | 60 | 68 | | |
| 12:00 PM | 490 | 466 | 76 | 39 | 956 | 156 | 60 | 76 | | |
| 12:15 PM | 504 | 450 | 76 | 34 | 954 | 156 | 60 | 76 | | |
| 12:30 PM | 504 | 452 | 77 | 30 | 956 | 156 | 60 | 77 | | Met |
| 12:45 PM | 525 | 479 | 77 | 26 | 1004 | 142 | 60 | 77 | | |
| 1:00 PM | 514 | 478 | 72 | 25 | 992 | 146 | 60 | 72 | | |
| 1:15 PM | 511 | 491 | 74 | 24 | 1002 | 143 | 60 | 74 | | |
| 1:30 PM | 527 | 498 | 77 | 34 | 1025 | 137 | 60 | 77 | | Met |
| 1:45 PM | 518 | 493 | 76 | 26 | 1011 | 140 | 60 | 76 | | |
| 2:00 PM | 517 | 521 | 77 | 45 | 1038 | 134 | 60 | 77 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2:15 PM | 542 | 586 | 77 | 41 | 1128 | 113 | 60 | 77 | | |
| 2:30 PM | 569 | 635 | 82 | 35 | 1204 | 99 | 60 | 82 | | Met |
| 2:45 PM | 614 | 666 | 83 | 35 | 1280 | 87 | 60 | 83 | | |
| 3:00 PM | 680 | 689 | 86 | 27 | 1369 | 80 | 60 | 86 | Met | |
| 3:15 PM | 740 | 683 | 85 | 31 | 1423 | 80 | 60 | 85 | | |
| 3:30 PM | 752 | 664 | 83 | 34 | 1416 | 80 | 60 | 83 | | Met |
| 3:45 PM | 770 | 641 | 86 | 33 | 1411 | 80 | 60 | 86 | | |
| 4:00 PM | 793 | 630 | 83 | 34 | 1423 | 80 | 60 | 83 | Met | |
| 4:15 PM | 785 | 634 | 87 | 46 | 1419 | 80 | 60 | 87 | | |
| 4:30 PM | 804 | 604 | 88 | 36 | 1408 | 80 | 60 | 88 | | Met |
| 4:45 PM | 768 | 628 | 99 | 54 | 1396 | 80 | 60 | 99 | | |
| 5:00 PM | 733 | 598 | 104 | 52 | 1331 | 81 | 60 | 104 | Met | |
| 5:15 PM | 528 | 417 | 80 | 26 | 945 | 159 | 60 | 80 | | |
| 5:30 PM | 332 | 290 | 54 | 22 | 622 | 279 | 125 | 54 | | |
| 5:45 PM | 177 | 123 | 28 | 6 | 300 | 449 | 264 | 28 | | |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 10:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |




| Top Hours for Figure 4C-1 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 5:00 PM | 6:00 PM | 1331 | 104 |
| 2nd Highest Hour | 3:00 PM | 4:00 PM | 1369 | 86 |
| 3rd Highest Hour | 4:00 PM | 5:00 PM | 1423 | 83 |
| 4th Highest Hour | 7:00 AM | 8:00 AM | 1018 | 85 |

| Top Hours for Figure 4C-2 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 4:30 PM | 5:30 PM | 1408 | 88 |
| 2nd Highest Hour | 3:30 PM | 4:30 PM | 1416 | 83 |
| 3rd Highest Hour | 2:30 PM | 3:30 PM | 1204 | 82 |
| 4th Highest Hour | 7:15 AM | 8:15 AM | 1033 | 81 |



**Are the requirements for Warrant 2 met?:** **No**

## OMUTCD WARRANT 3, PEAK HOUR

| Number of Lanes for Moving Traffic on Each Approach | | Peak Hour Start time | 4:45 PM |
|---|---|---|---|
| Major Street: | 2 or More Lanes | Peak Hour End Time | 5:45 PM |
| Minor Street: | 1 Lane | | |

| Actual Peak Hour Major Traffic Volume | Actual Peak Hour Minor Traffic Volume | Required Peak Hour Minor Traffic Volume for Fig. 4C-3 | Required Peak Hour Minor Traffic Volume for Fig. 4C-4 |
|---|---|---|---|
| 1396 | 104 | 165 | 75 |

| | |
|---|---|
| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | Yes |

| | |
|---|---|
| Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time? | No |

| Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present* | |
|---|---|
| Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach? | |
| Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes? | Yes |
| Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches? | Yes |
| **If applicable, attach all supporting calculations and documentation.* | |
| **Are the requirements for Warrant 3 met?:** | **No** |

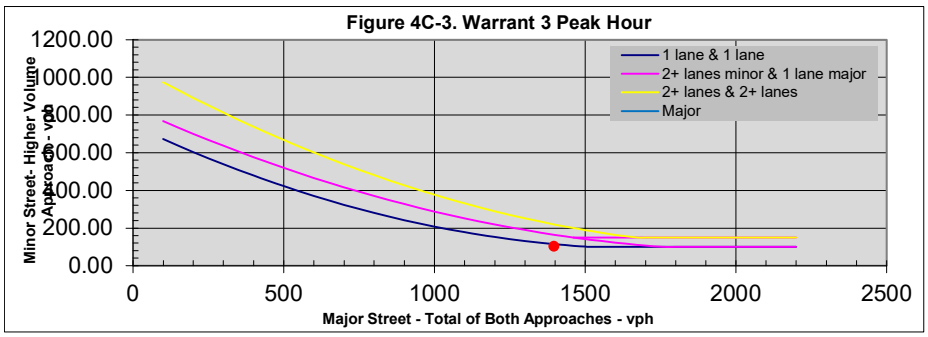
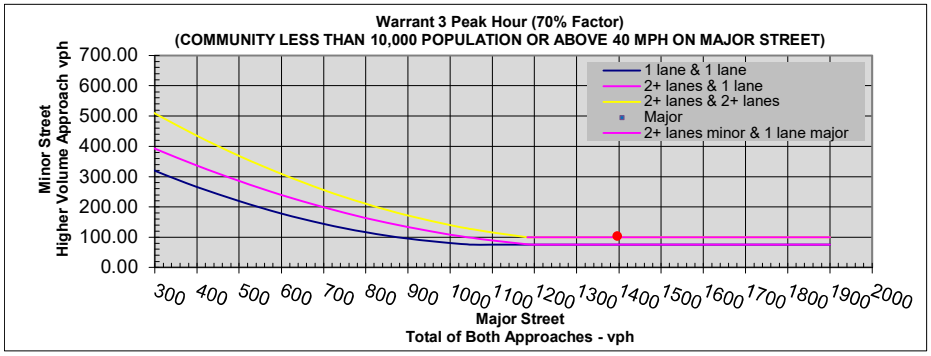


Figure 4C-3. Warrant 3 Peak Hour
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
500
1000
1500
2000
2500
Minor Street- Higher Volume Approach - vph
Major Street - Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes minor & 1 lane major
2+ lanes & 2+ lanes
Major


Warrant 3 Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)
Minor Street
Higher Volume Approach vph
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
Major Street
Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes & 1 lane
2+ lanes & 2+ lanes
Major
2+ lanes minor & 1 lane major

# STUDY AND ANALYSIS INFORMATION

| | | | |
|---|---|---|---|
| **Municipality:** | City of Monroe | **Traffic Volumes Obtained By:** | B&N |
| **County:** | Butler | **Analysis Date:** | 6/17/2025 |
| **ODOT Engineering District:** | 8 | **Agency/ Company Name Performing Warrant Analysis:** | The Kleingers Group |
| **Google map link:** | Map | | |

## Analysis Information

| | |
|---|---|
| **Data Collection Date:** | 3/22/2022 |
| **Day of the Week:** | Thursday |
| **Is the intersection in a built-up area of an isolated community of <10,000 population?** | No |
| **Existing Traffic Signal at intersection:** | No |
| **Total Number of Approaches at Intersection:** | 4 |

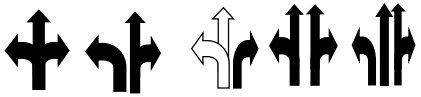
## Major Street Information

| | | |
|---|---|---|
| **Major Street Name and Route Number:** | Cincinnati-Dayton Rd | |
| **Major Street Approach Direction:** | N-Bound<br>S-Bound | |
| **Number of Thru Lanes on Each Major Street Approach:** | 2 | **LANE(S)** |
| **Speed Limit or 85th Percentile Speed on the Major Street*:** | 45 | **MPH** |

*Unknown assumes below 45 mph

## Minor Street Information

| | | |
|---|---|---|
| **Minor Street Name and Route Number:** | Overbrook Ct | |
| **Minor Street Approach Configuration:** | 1<br>1 | E-Bound<br>W-Bound |



1 2 3 4 5

| | | |
|---|---|---|
| **Number of Thru Lanes on Each Minor Street Approach:** | 1 | **LANE(S)** |
| **Apply Right Turn Lane Reduction*:** | Yes | |

*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

# TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

| | Applicable? | 100% Warrant Satisfied? | Notes and Comments: *Known error: if Speed Limit < 45mph, it may not state that it passes at 70%. | |
|---|---|---|---|---|
| **Warrant 1, Eight-Hour Vehicular Volume** | Yes | **Yes** | Condition B was met. Condition A (70%) was met. Condition B (70%) was met. Combination of A/B (56%) was met.* | |
| **Warrant 2, Four-Hour Vehicular Volume** | Yes | **Yes** | Figure 4C-1 (100%) | |
| **Warrant 3, Peak Hour** | Yes | **No** | Signals installed under Warrant 3 should be traffic actuated. | **Peak Hour**<br>4:45 PM<br>5:45 PM |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) | | | | |
| **Warrant 4, Pedestrian Volume** | No | | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. | **Peak Hour**<br>4:00 PM<br>5:00 PM |
| **Warrant 5, School Crossing** | No | | N/A | |
| **Warrant 6, Coordinated Signal System** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 7, Crash Experience** | No | | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. | |
| **Warrant 8, Roadway Network** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 9, Intersection Near a Grade Crossing** | No | | Figure 4C-9 | |
| **Multi-Way Stop Warrant** | No | | May be used as an interim measure if traffic signal warrants are satisfied. | |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion: Install New Traffic Signal

Notes:

# OMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | |
|---|---|
| Major Street: | 2 or More Lanes |
| Minor Street: | 1 Lane |

Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? Yes

**Only applicable after an adequate trial of other alternatives (See section 4C.02.06 of the 2012 OMUTCD)*

| Lanes Major/ Minor | Adjusted Volumes | | Condition A | | | | Condition B | | | | Combination A/B* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Cond. A | | Cond. B | | Cond. A | | Cond. B | |
| | Major | Minor | 100% | | 70% | | 100% | | 70% | | 80% | | 80% | | 56% | | 56% | |
| | | | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. |
| 1 / 1 | | | 500 | 150 | 350 | 105 | 750 | 75 | 525 | 53 | 400 | 120 | 600 | 60 | 280 | 84 | 420 | 42 |
| 2+ / 1 | X | | 600 | 150 | 420 | 105 | 900 | 75 | 630 | 53 | 480 | 120 | 720 | 60 | 336 | 84 | 504 | 42 |
| 2+ / 2+ | | | 600 | 200 | 420 | 140 | 900 | 100 | 630 | 70 | 480 | 160 | 720 | 80 | 336 | 112 | 504 | 56 |
| 1 / 2+ | | | 500 | 200 | 350 | 140 | 750 | 100 | 525 | 70 | 400 | 160 | 600 | 80 | 280 | 112 | 420 | 56 |
| 12:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:15 AM | 177 | 29 | | | | | | | | | | | | | | | | |
| 5:30 AM | 342 | 59 | | | | | | | | | | | | | 1 | | | |
| 5:45 AM | 572 | 87 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 6:00 AM | 777 | 118 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 6:15 AM | 800 | 137 | | | | | | | | | | | | | | | | |
| 6:30 AM | 857 | 151 | | | | | | | | | | | | | 1 | 1 | | |
| 6:45 AM | 866 | 168 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 7:00 AM | 936 | 182 | 1 | 1 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 7:15 AM | 951 | 171 | | | | | | | | | | | | | | | | |
| 7:30 AM | 949 | 162 | | | | | | | | | | | | | 1 | 1 | | |
| 7:45 AM | 942 | 155 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 8:00 AM | 920 | 148 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 8:15 AM | 890 | 138 | | | | | | | | | | | | | | | | |
| 8:30 AM | 880 | 128 | | | | | | | | | | | | | 1 | 1 | | |
| 8:45 AM | 859 | 117 | | | 1 | 1 | | | | | 1 | | | | | | 1 | 1 |
| 9:00 AM | 831 | 105 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 9:15 AM | 835 | 108 | | | | | | | | | | | | | | | | |
| 9:30 AM | 818 | 106 | | | | | | | | | | | | | 1 | 1 | | |
| 9:45 AM | 794 | 104 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 10:00 AM | 761 | 111 | 1 | | | | | | 1 | 1 | | | 1 | 1 | | | | |
| 10:15 AM | 783 | 108 | | | | | | | | | | | | | | | | |
| 10:30 AM | 839 | 119 | | | | | | | | | | | | | 1 | 1 | | |
| 10:45 AM | 888 | 129 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 11:00 AM | 919 | 123 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 11:15 AM | 942 | 123 | | | | | | | | | | | | | | | | |
| 11:30 AM | 929 | 112 | | | | | | | | | | | | | 1 | 1 | | |
| 11:45 AM | 918 | 104 | | | 1 | | | | | | 1 | | | | | | 1 | 1 |
| 12:00 PM | 937 | 109 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 12:15 PM | 934 | 111 | | | | | | | | | | | | | | | | |
| 12:30 PM | 934 | 113 | | | | | | | | | | | | | 1 | 1 | | |
| 12:45 PM | 975 | 114 | | | 1 | 1 | | | | | 1 | | | | | | 1 | 1 |
| 1:00 PM | 964 | 111 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 1:15 PM | 975 | 112 | | | | | | | | | | | | | | | | |
| 1:30 PM | 997 | 115 | | | | | | | | | | | | | 1 | 1 | | |
| 1:45 PM | 987 | 115 | | | 1 | 1 | | | | | 1 | | | | | | 1 | 1 |
| 2:00 PM | 1013 | 116 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 2:15 PM | 1094 | 117 | | | | | | | | | | | | | | | | |
| 2:30 PM | 1163 | 124 | | | | | | | | | | | | | 1 | 1 | | |
| 2:45 PM | 1234 | 126 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 3:00 PM | 1315 | 130 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 3:15 PM | 1367 | 130 | | | | | | | | | | | | | | | | |
| 3:30 PM | 1364 | 129 | | | | | | | | | | | | | 1 | 1 | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:45 PM | 1360 | 133 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 4:00 PM | 1373 | 131 | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 4:15 PM | 1371 | 138 | | | | | | | | | | | | | | | | |
| 4:30 PM | 1363 | 142 | | | | | | | | | | | | | 1 | 1 | | |
| 4:45 PM | 1355 | 148 | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | 1 |
| 5:00 PM | 1299 | 156 | 1 | 1 | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | | |
| 5:15 PM | 926 | 119 | | | | | | | | | | | | | | | | |
| 5:30 PM | 610 | 80 | | | | | | | | | | | | | 1 | | | |
| 5:45 PM | 295 | 41 | | | | | | | | | | | | | | | | |
| 6:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| **HOURS MET** | | | **12** | **2** | **12** | **9** | **9** | **9** | **12** | **12** | **12** | **6** | **12** | **12** | **13** | **11** | **12** | **12** |
| ***WARRANT SATISFIED?*** | | | **NO** | | **YES** | | **YES** | | **YES** | | **NO** | | | | **YES** | | | |

**Warrant Met:** **Yes**

**Notes:** Condition B was met. Condition A (70%) was met. Condition B (70%) was met. Combination of A/B (56%) was met.*

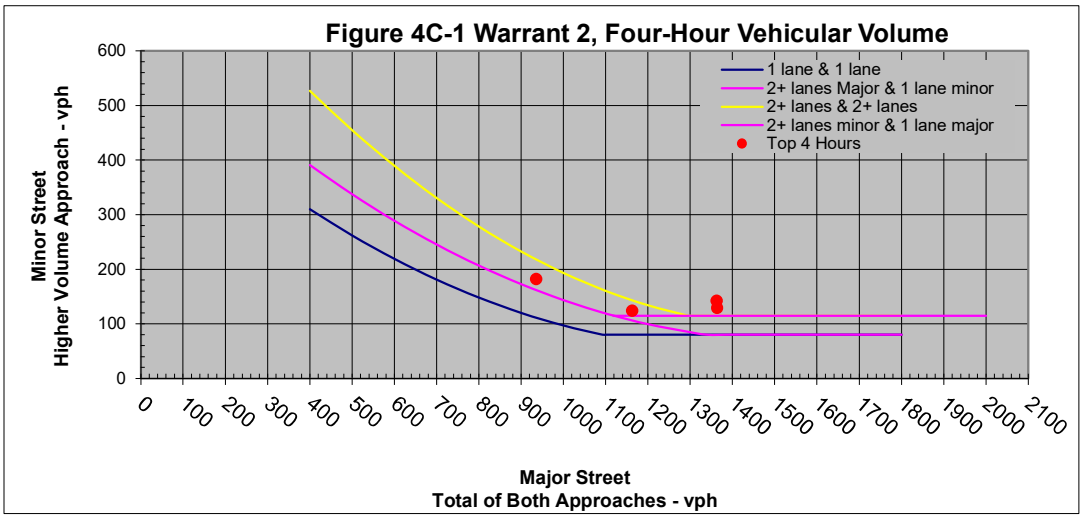
# OMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | | Total Number of Unique Hours Met on Figure 4C-1 | 4 |
|---|---|---|---|
| Major street: | 2 or More Lanes | Total Number of Unique Hours Met on Figure 4C-2 (70% Factor) | 12 |
| Minor Street: | 1 Lane | | |

| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | Yes |
|---|---|

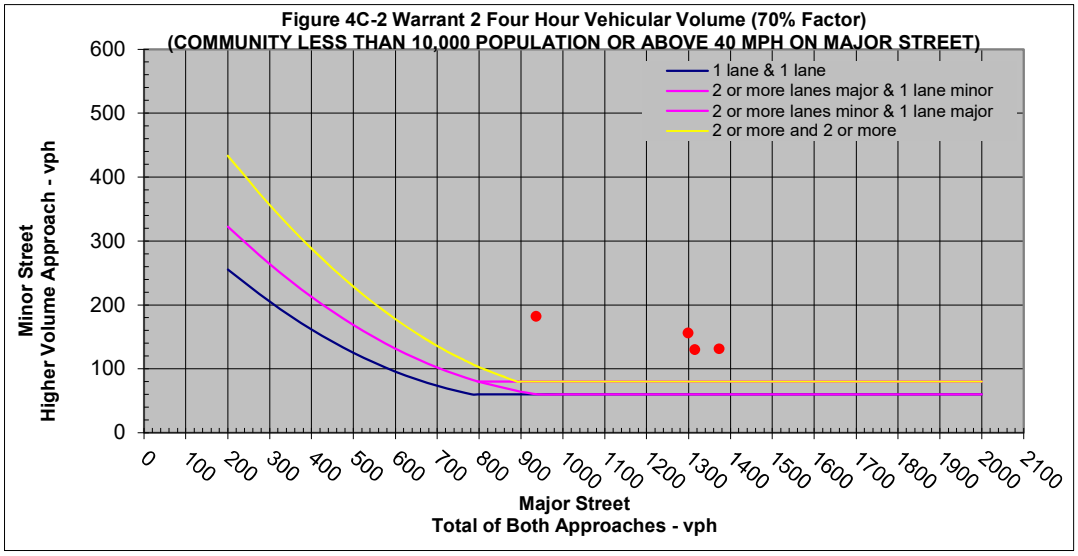
| Hour Interval Beginning At | Raw Traffic Counts | | | | Total Major Approach Volumes | Required Minimum Minor Street For 4C-1 | Required Minimum Minor Street For 4C-2 | Highest Actual Minor Street Approach Volumes | Hour Met? | Hour Met? (70% Factor) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Major - Cincinnati-Dayton Rd | | Minor - Overbrook Ct | | | | | | | |
| | N-Bound | S-Bound | W-Bound | E-Bound | | | | | | |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 12:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 3:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:15 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:30 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 4:45 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 5:15 AM | 105 | 72 | 29 | 2 | 177 | 527 | 337 | 29 | | |
| 5:30 AM | 192 | 150 | 59 | 4 | 342 | 424 | 241 | 59 | | |
| 5:45 AM | 315 | 257 | 87 | 5 | 572 | 302 | 141 | 87 | | |
| 6:00 AM | 421 | 356 | 118 | 6 | 777 | 215 | 84 | 118 | | Met |
| 6:15 AM | 407 | 393 | 137 | 6 | 800 | 207 | 79 | 137 | | |
| 6:30 AM | 428 | 429 | 151 | 10 | 857 | 187 | 70 | 151 | | |
| 6:45 AM | 436 | 430 | 168 | 12 | 866 | 184 | 69 | 168 | | |
| 7:00 AM | 480 | 456 | 182 | 12 | 936 | 161 | 60 | 182 | Met | Met |
| 7:15 AM | 486 | 465 | 171 | 17 | 951 | 157 | 60 | 171 | | |
| 7:30 AM | 489 | 460 | 162 | 14 | 949 | 158 | 60 | 162 | | |
| 7:45 AM | 484 | 458 | 155 | 17 | 942 | 160 | 60 | 155 | | |
| 8:00 AM | 483 | 437 | 148 | 28 | 920 | 166 | 62 | 148 | | Met |
| 8:15 AM | 492 | 398 | 138 | 29 | 890 | 176 | 65 | 138 | | |
| 8:30 AM | 500 | 380 | 128 | 21 | 880 | 179 | 67 | 128 | | |
| 8:45 AM | 496 | 363 | 117 | 21 | 859 | 186 | 70 | 117 | | |
| 9:00 AM | 470 | 361 | 105 | 19 | 831 | 195 | 74 | 105 | | Met |
| 9:15 AM | 470 | 365 | 108 | 22 | 835 | 194 | 73 | 108 | | |
| 9:30 AM | 457 | 361 | 106 | 33 | 818 | 200 | 76 | 106 | | |
| 9:45 AM | 432 | 362 | 104 | 32 | 794 | 209 | 81 | 104 | | |
| 10:00 AM | 413 | 348 | 111 | 41 | 761 | 221 | 87 | 111 | | Met |
| 10:15 AM | 419 | 364 | 108 | 41 | 783 | 213 | 83 | 108 | | |
| 10:30 AM | 443 | 396 | 119 | 39 | 839 | 193 | 73 | 119 | | |
| 10:45 AM | 471 | 417 | 129 | 44 | 888 | 176 | 66 | 129 | | |
| 11:00 AM | 472 | 447 | 123 | 40 | 919 | 167 | 62 | 123 | | Met |
| 11:15 AM | 482 | 460 | 123 | 45 | 942 | 160 | 60 | 123 | | |
| 11:30 AM | 478 | 451 | 112 | 47 | 929 | 164 | 61 | 112 | | |
| 11:45 AM | 473 | 445 | 104 | 47 | 918 | 167 | 62 | 104 | | |
| 12:00 PM | 504 | 433 | 109 | 38 | 937 | 161 | 60 | 109 | | Met |
| 12:15 PM | 515 | 419 | 111 | 34 | 934 | 162 | 61 | 111 | | |
| 12:30 PM | 514 | 420 | 113 | 30 | 934 | 162 | 61 | 113 | | |
| 12:45 PM | 531 | 444 | 114 | 26 | 975 | 150 | 60 | 114 | | |
| 1:00 PM | 521 | 443 | 111 | 25 | 964 | 153 | 60 | 111 | | Met |
| 1:15 PM | 521 | 454 | 112 | 24 | 975 | 150 | 60 | 112 | | |
| 1:30 PM | 537 | 460 | 115 | 33 | 997 | 144 | 60 | 115 | | |
| 1:45 PM | 532 | 455 | 115 | 26 | 987 | 147 | 60 | 115 | | |
| 2:00 PM | 534 | 479 | 116 | 44 | 1013 | 140 | 60 | 116 | | Met |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2:15 PM | 556 | 538 | 117 | 40 | 1094 | 120 | 60 | 117 | | |
| 2:30 PM | 581 | 582 | 124 | 35 | 1163 | 106 | 60 | 124 | Met | |
| 2:45 PM | 623 | 611 | 126 | 35 | 1234 | 94 | 60 | 126 | | |
| 3:00 PM | 682 | 633 | 130 | 27 | 1315 | 83 | 60 | 130 | | Met |
| 3:15 PM | 739 | 628 | 130 | 31 | 1367 | 80 | 60 | 130 | | |
| 3:30 PM | 752 | 612 | 129 | 34 | 1364 | 80 | 60 | 129 | Met | |
| 3:45 PM | 770 | 590 | 133 | 33 | 1360 | 80 | 60 | 133 | | |
| 4:00 PM | 793 | 580 | 131 | 34 | 1373 | 80 | 60 | 131 | | Met |
| 4:15 PM | 787 | 584 | 138 | 45 | 1371 | 80 | 60 | 138 | | |
| 4:30 PM | 806 | 557 | 142 | 44 | 1363 | 80 | 60 | 142 | Met | |
| 4:45 PM | 775 | 580 | 148 | 52 | 1355 | 80 | 60 | 148 | | |
| 5:00 PM | 746 | 553 | 156 | 51 | 1299 | 85 | 60 | 156 | | Met |
| 5:15 PM | 540 | 386 | 119 | 31 | 926 | 165 | 61 | 119 | | |
| 5:30 PM | 342 | 268 | 80 | 22 | 610 | 284 | 128 | 80 | | |
| 5:45 PM | 181 | 114 | 41 | 6 | 295 | 452 | 267 | 41 | | |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 7:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 652 | 461 | 0 | | |
| 10:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 10:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:00 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:15 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:30 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |
| 11:45 PM | **0** | **0** | **0** | **0** | 0 | 652 | 461 | 0 | | |




| Top Hours for Figure 4C-1 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 4:30 PM | 5:30 PM | 1363 | 142 |
| 2nd Highest Hour | 3:30 PM | 4:30 PM | 1364 | 129 |
| 3rd Highest Hour | 7:00 AM | 8:00 AM | 936 | 182 |
| 4th Highest Hour | 2:30 PM | 3:30 PM | 1163 | 124 |

| Top Hours for Figure 4C-2 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 5:00 PM | 6:00 PM | 1299 | 156 |
| 2nd Highest Hour | 4:00 PM | 5:00 PM | 1373 | 131 |
| 3rd Highest Hour | 3:00 PM | 4:00 PM | 1315 | 130 |
| 4th Highest Hour | 7:00 AM | 8:00 AM | 936 | 182 |



**Are the requirements for Warrant 2 met?:** **Yes**

## OMUTCD WARRANT 3, PEAK HOUR

| Number of Lanes for Moving Traffic on Each Approach | | Peak Hour Start time | 4:45 PM |
|---|---|---|---|
| Major Street: | 2 or More Lanes | Peak Hour End Time | 5:45 PM |
| Minor Street: | 1 Lane | | |

| Actual Peak Hour Major Traffic Volume | Actual Peak Hour Minor Traffic Volume | Required Peak Hour Minor Traffic Volume for Fig. 4C-3 | Required Peak Hour Minor Traffic Volume for Fig. 4C-4 |
|---|---|---|---|
| 1355 | 156 | 175 | 75 |

| | |
|---|---|
| **Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street?** | Yes |

| | |
|---|---|
| **Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?** | No |

| **Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*** | |
|---|---|
| **Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?** | |
| **Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?** | Yes |
| **Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?** | Yes |
| **If applicable, attach all supporting calculations and documentation.* | |
| **Are the requirements for Warrant 3 met?:** | **No** |

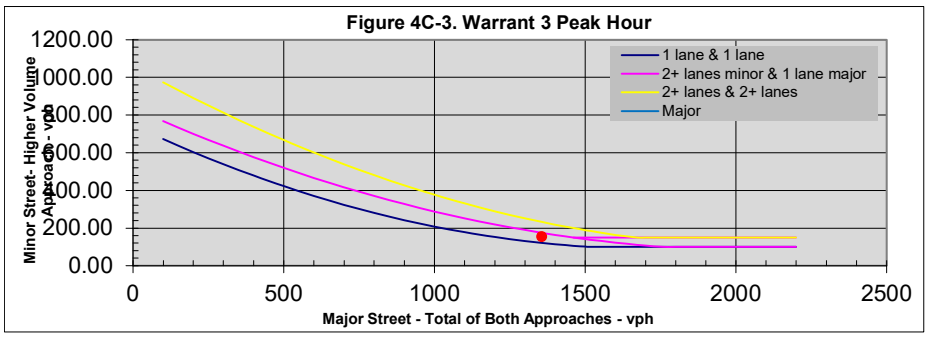
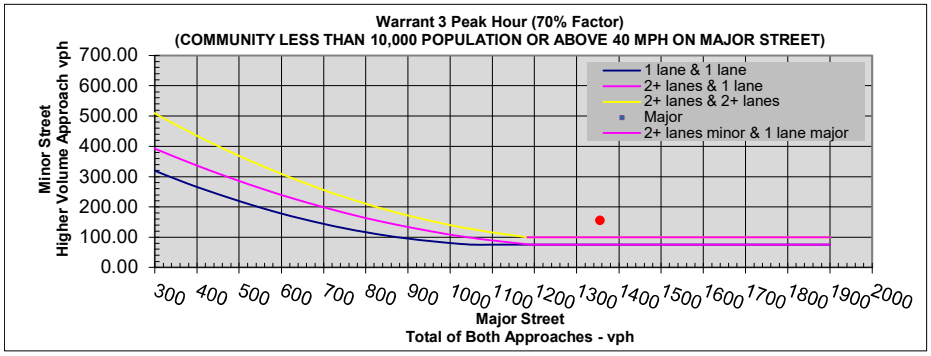


Figure 4C-3. Warrant 3 Peak Hour
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
500
1000
1500
2000
2500
Minor Street- Higher Volume Approach - vph
Major Street - Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes minor & 1 lane major
2+ lanes & 2+ lanes
Major


Warrant 3 Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)
Minor Street
Higher Volume Approach vph
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
Major Street
Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes & 1 lane
2+ lanes & 2+ lanes
Major
2+ lanes minor & 1 lane major

## STUDY AND ANALYSIS INFORMATION

| | | | |
|---|---|---|---|
| **Municipality:** | City of Monroe | **Traffic Volumes Obtained By:** | B&N |
| **County:** | Butler | **Analysis Date:** | 6/17/2025 |
| **ODOT Engineering District:** | 8 | **Agency/ Company Name Performing Warrant Analysis:** | The Kleingers Group |
| **Google map link:** | Map | | |

### Analysis Information

| | |
|---|---|
| **Data Collection Date:** | 9/12/2024 |
| **Day of the Week:** | Thursday |
| **Is the intersection in a built-up area of an isolated community of <10,000 population?** | No |
| **Existing Traffic Signal at intersection:** | No |
| **Total Number of Approaches at Intersection:** | 3 |

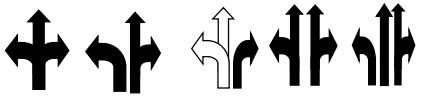
### Major Street Information

| | |
|---|---|
| **Major Street Name and Route Number:** | SR 63 |
| **Major Street Approach Direction:** | E-Bound / W-Bound |
| **Number of Thru Lanes on Each Major Street Approach:** | 2 LANE(S) |
| **Speed Limit or 85th Percentile Speed on the Major Street*:** | 50 MPH |

*Unknown assumes below 45 mph

### Minor Street Information

| | |
|---|---|
| **Minor Street Name and Route Number:** | Access 3 |
| **Minor Street Approach Configuration:** | 1 (N-Bound / S-Bound) |




| | |
|---|---|
| **Number of Thru Lanes on Each Minor Street Approach:** | LANE(S) |
| **Apply Right Turn Lane Reduction*:** | Yes |

*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

| | Applicable? | 100% Warrant Satisfied? | Notes and Comments: *Known error: if Speed Limit < 45mph, it may not state that it passes at 70%. |
|---|---|---|---|
| **Warrant 1, Eight-Hour Vehicular Volume** | Yes | **No** | |
| **Warrant 2, Four-Hour Vehicular Volume** | Yes | **No** | Figure 4C-2 (70% Factor) |
| **Warrant 3, Peak Hour** | Yes | **No** | Signals installed under Warrant 3 should be traffic actuated. Peak Hour: 7:00 AM – 8:00 AM |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) | | | |
| **Warrant 4, Pedestrian Volume** | No | | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. Peak Hour: 2:00 PM – 3:00 PM |
| **Warrant 5, School Crossing** | No | | N/A |
| **Warrant 6, Coordinated Signal System** | No | | (Shall not be used as the sole warrant in the analysis) |
| **Warrant 7, Crash Experience** | No | | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. |
| **Warrant 8, Roadway Network** | No | | (Shall not be used as the sole warrant in the analysis) |
| **Warrant 9, Intersection Near a Grade Crossing** | No | | |
| **Multi-Way Stop Warrant** | No | | May be used as an interim measure if traffic signal warrants are satisfied. |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion: Install New Traffic Signal

Notes: The 8-Hour and 4-Hour peak warrants are met in the 70% condition, which is applicable due to a speed limit over 45 mph. Poor level of service is also expected, per capacity analyses.

# OMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | |
|---|---|
| Major Street: | 2 or More Lanes |
| Minor Street: | 2 or More Lanes |

Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? Yes

**Only applicable after an adequate trial of other alternatives (See section 4C.02.06 of the 2012 OMUTCD)*

| Lanes Major/ Minor | Adjusted Volumes | | Condition A | | | | Condition B | | | | Combination A/B* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Cond. A | | Cond. B | | Cond. A | | Cond. B | |
| | Major | Minor | 100% | | 70% | | 100% | | 70% | | 80% | | 80% | | 56% | | 56% | |
| | | | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. |
| 1 / 1 | | | 500 | 150 | 350 | 105 | 750 | 75 | 525 | 53 | 400 | 120 | 600 | 60 | 280 | 84 | 420 | 42 |
| 2+ / 1 | | | 600 | 150 | 420 | 105 | 900 | 75 | 630 | 53 | 480 | 120 | 720 | 60 | 336 | 84 | 504 | 42 |
| 2+ / 2+ | X | | 600 | 200 | 420 | 140 | 900 | 100 | 630 | 70 | 480 | 160 | 720 | 80 | 336 | 112 | 504 | 56 |
| 1 / 2+ | | | 500 | 200 | 350 | 140 | 750 | 100 | 525 | 70 | 400 | 160 | 600 | 80 | 280 | 112 | 420 | 56 |
| 12:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:15 AM | 333 | 22 | | | | | | | | | | | | | | | | |
| 5:30 AM | 736 | 43 | 1 | | 1 | | | | 1 | | 1 | | 1 | | 1 | | 1 | |
| 5:45 AM | 1223 | 65 | | | | | 1 | | | | | | | | | | | |
| 6:00 AM | 1659 | 86 | | | | | | | | | | | | | | | | |
| 6:15 AM | 1797 | 97 | | | | | | | | | | | | | | | | |
| 6:30 AM | 1912 | 109 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 |
| 6:45 AM | 2014 | 120 | | | | | 1 | 1 | | | | | | | | | | |
| 7:00 AM | 2082 | 134 | | | | | | | | | | | | | | | | |
| 7:15 AM | 2063 | 129 | | | | | | | | | | | | | | | | |
| 7:30 AM | 1973 | 122 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| 7:45 AM | 1809 | 117 | | | | | 1 | 1 | | | | | | | | | | |
| 8:00 AM | 1763 | 112 | | | | | | | | | | | | | | | | |
| 8:15 AM | 1635 | 101 | | | | | | | | | | | | | | | | |
| 8:30 AM | 1609 | 90 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 |
| 8:45 AM | 1561 | 79 | | | | | 1 | | | | | | | | | | | |
| 9:00 AM | 1446 | 68 | | | | | | | | | | | | | | | | |
| 9:15 AM | 1467 | 68 | | | | | | | | | | | | | | | | |
| 9:30 AM | 1412 | 68 | 1 | | 1 | | | | 1 | | 1 | | 1 | | 1 | | 1 | 1 |
| 9:45 AM | 1404 | 68 | | | | | 1 | | | | | | | | | | | |
| 10:00 AM | 1424 | 68 | | | | | | | | | | | | | | | | |
| 10:15 AM | 1470 | 68 | | | | | | | | | | | | | | | | |
| 10:30 AM | 1548 | 68 | 1 | | 1 | | | | 1 | | 1 | | 1 | | 1 | | 1 | 1 |
| 10:45 AM | 1625 | 68 | | | | | 1 | | | | | | | | | | | |
| 11:00 AM | 1715 | 69 | | | | | | | | | | | | | | | | |
| 11:15 AM | 1823 | 69 | | | | | | | | | | | | | | | | |
| 11:30 AM | 1865 | 69 | 1 | | 1 | | | | 1 | | 1 | | 1 | | 1 | | 1 | 1 |
| 11:45 AM | 1888 | 69 | | | | | 1 | | | | | | | | | | | |
| 12:00 PM | 1911 | 69 | | | | | | | | | | | | | | | | |
| 12:15 PM | 1897 | 69 | | | | | | | | | | | | | | | | |
| 12:30 PM | 1879 | 69 | 1 | | 1 | | | | 1 | | 1 | | 1 | | 1 | | 1 | 1 |
| 12:45 PM | 1859 | 69 | | | | | 1 | | | | | | | | | | | |
| 1:00 PM | 1858 | 69 | | | | | | | | | | | | | | | | |
| 1:15 PM | 1888 | 71 | | | | | | | | | | | | | | | | |
| 1:30 PM | 1926 | 73 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | | 1 | | 1 | 1 |
| 1:45 PM | 2013 | 74 | | | | | 1 | | | | | | | | | | | |
| 2:00 PM | 2028 | 76 | | | | | | | | | | | | | | | | |
| 2:15 PM | 2106 | 80 | | | | | | | | | | | | | | | | |
| 2:30 PM | 2175 | 82 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 |
| 2:45 PM | 2221 | 84 | | | | | 1 | | | | | | | | | | | |
| 3:00 PM | 2338 | 87 | | | | | | | | | | | | | | | | |
| 3:15 PM | 2347 | 88 | | | | | | | | | | | | | | | | |
| 3:30 PM | 2377 | 89 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:45 PM | 2429 | 90 | | | | | 1 | | | | | | | | | | | |
| 4:00 PM | 2428 | 91 | | | | | | | | | | | | | | | | |
| 4:15 PM | 2480 | 95 | | | | | | | | | | | | | | | | |
| 4:30 PM | 2498 | 99 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 |
| 4:45 PM | 2444 | 103 | | | | | 1 | 1 | | | | | | | | | | |
| 5:00 PM | 2368 | 107 | | | | | | | | | | | | | | | | |
| 5:15 PM | 1714 | 77 | | | | | | | | | | | | | | | | |
| 5:30 PM | 1110 | 51 | 1 | | 1 | | | | 1 | | 1 | | 1 | | 1 | | 1 | |
| 5:45 PM | 530 | 26 | | | | | | | | | | | | | | | | |
| 6:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| **HOURS MET** | | | **13** | **0** | **13** | **0** | **12** | **3** | **13** | **7** | **13** | **0** | **13** | **6** | **13** | **1** | **13** | **11** |
| ***WARRANT SATISFIED?*** | | | **NO** | | **NO** | | **NO** | | **NO** | | **NO** | | | | **NO** | | | |

**Warrant Met:** **No**

**Notes:**

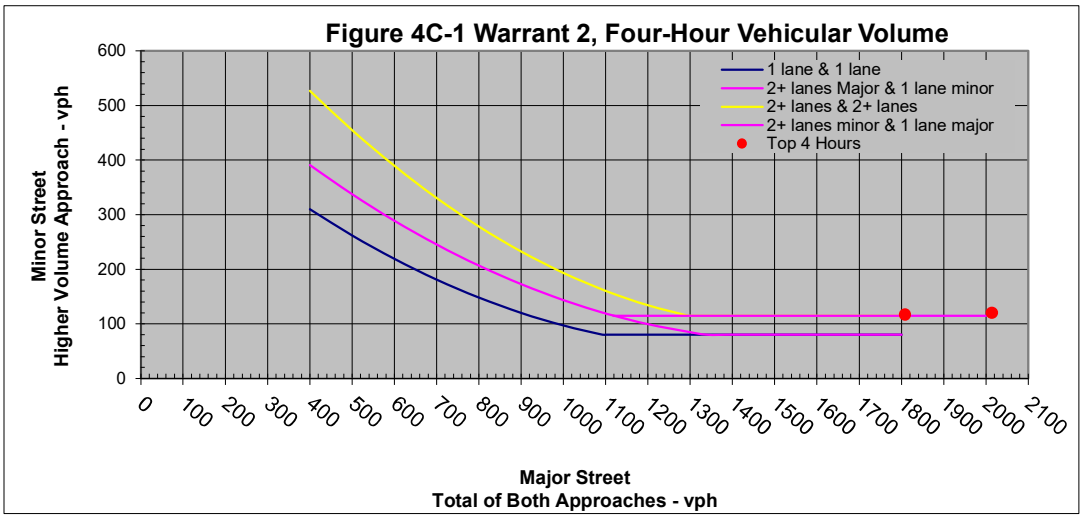
# OMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | | Total Number of Unique Hours Met on Figure 4C-1 | 2 |
|---|---|---|---|
| Major street: | 2 or More Lanes | Total Number of Unique Hours Met on Figure 4C-2 (70% Factor) | 6 |
| Minor Street: | 2 or More Lanes | | |

| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | Yes |
|---|---|

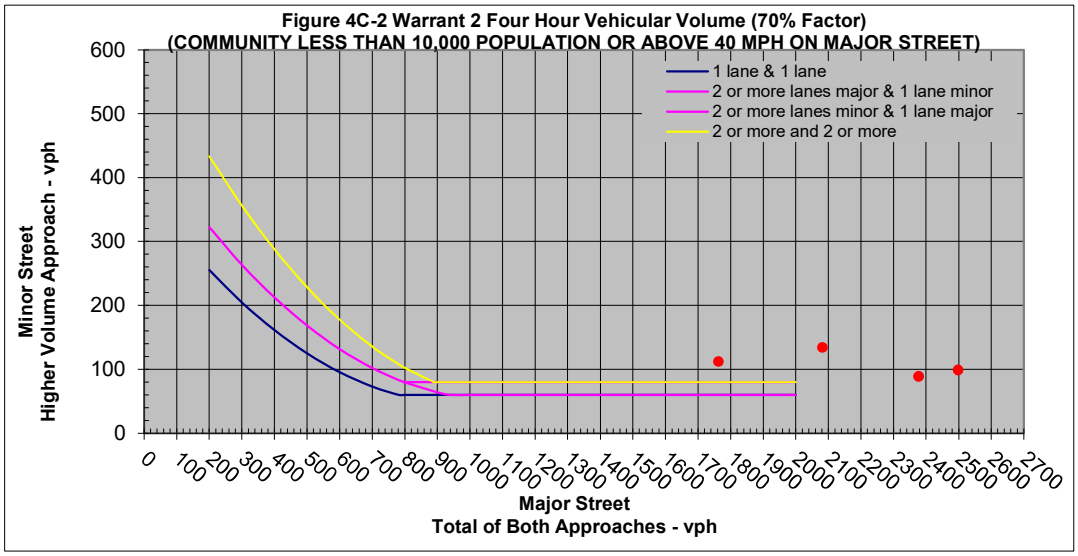
| Hour Interval Beginning At | Raw Traffic Counts | | | | Total Major Approach Volumes | Required Minimum Minor Street For 4C-1 | Required Minimum Minor Street For 4C-2 | Highest Actual Minor Street Approach Volumes | Hour Met? | Hour Met? (70% Factor) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Minor - Access 3 | | Major - SR 63 | | | | | | | |
| | N-Bound | S-Bound | W-Bound | E-Bound | | | | | | |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 12:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 12:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 5:15 AM | 0 | 22 | 117 | 216 | 333 | 579 | 333 | 22 | | |
| 5:30 AM | 0 | 43 | 271 | 465 | 736 | 311 | 123 | 43 | | |
| 5:45 AM | 0 | 65 | 429 | 794 | 1223 | 129 | 80 | 65 | | |
| 6:00 AM | 0 | 86 | 586 | 1073 | 1659 | 115 | 80 | 86 | | Met |
| 6:15 AM | 0 | 97 | 644 | 1153 | 1797 | 115 | 80 | 97 | | |
| 6:30 AM | 0 | 109 | 701 | 1211 | 1912 | 115 | 80 | 109 | | |
| 6:45 AM | 0 | 120 | 767 | 1247 | 2014 | 115 | 80 | 120 | Met | |
| 7:00 AM | 0 | 134 | 829 | 1253 | 2082 | 115 | 80 | 134 | | Met |
| 7:15 AM | 0 | 129 | 835 | 1228 | 2063 | 115 | 80 | 129 | | |
| 7:30 AM | 0 | 122 | 827 | 1146 | 1973 | 115 | 80 | 122 | | |
| 7:45 AM | 0 | 117 | 777 | 1032 | 1809 | 115 | 80 | 117 | Met | |
| 8:00 AM | 0 | 112 | 748 | 1015 | 1763 | 115 | 80 | 112 | | Met |
| 8:15 AM | 0 | 101 | 689 | 946 | 1635 | 115 | 80 | 101 | | |
| 8:30 AM | 0 | 90 | 659 | 950 | 1609 | 115 | 80 | 90 | | |
| 8:45 AM | 0 | 79 | 671 | 890 | 1561 | 115 | 80 | 79 | | |
| 9:00 AM | 0 | 68 | 646 | 800 | 1446 | 115 | 80 | 68 | | |
| 9:15 AM | 0 | 68 | 681 | 786 | 1467 | 115 | 80 | 68 | | |
| 9:30 AM | 0 | 68 | 674 | 738 | 1412 | 115 | 80 | 68 | | |
| 9:45 AM | 0 | 68 | 660 | 744 | 1404 | 115 | 80 | 68 | | |
| 10:00 AM | 0 | 68 | 666 | 758 | 1424 | 115 | 80 | 68 | | |
| 10:15 AM | 0 | 68 | 689 | 781 | 1470 | 115 | 80 | 68 | | |
| 10:30 AM | 0 | 68 | 728 | 820 | 1548 | 115 | 80 | 68 | | |
| 10:45 AM | 0 | 68 | 811 | 814 | 1625 | 115 | 80 | 68 | | |
| 11:00 AM | 0 | 69 | 900 | 815 | 1715 | 115 | 80 | 69 | | |
| 11:15 AM | 0 | 69 | 955 | 868 | 1823 | 115 | 80 | 69 | | |
| 11:30 AM | 0 | 69 | 984 | 881 | 1865 | 115 | 80 | 69 | | |
| 11:45 AM | 0 | 69 | 987 | 901 | 1888 | 115 | 80 | 69 | | |
| 12:00 PM | 0 | 69 | 987 | 924 | 1911 | 115 | 80 | 69 | | |
| 12:15 PM | 0 | 69 | 1006 | 891 | 1897 | 115 | 80 | 69 | | |
| 12:30 PM | 0 | 69 | 999 | 880 | 1879 | 115 | 80 | 69 | | |
| 12:45 PM | 0 | 69 | 984 | 875 | 1859 | 115 | 80 | 69 | | |
| 1:00 PM | 0 | 69 | 989 | 869 | 1858 | 115 | 80 | 69 | | |
| 1:15 PM | 0 | 71 | 986 | 902 | 1888 | 115 | 80 | 71 | | |
| 1:30 PM | 0 | 73 | 1016 | 910 | 1926 | 115 | 80 | 73 | | |
| 1:45 PM | 0 | 74 | 1054 | 959 | 2013 | 115 | 80 | 74 | | |
| 2:00 PM | 0 | 76 | 1036 | 992 | 2028 | 115 | 80 | 76 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2:15 PM | 0 | 80 | 1118 | 988 | 2106 | 115 | 80 | 80 | | |
| 2:30 PM | 0 | 82 | 1195 | 980 | 2175 | 115 | 80 | 82 | | Met |
| 2:45 PM | 0 | 84 | 1200 | 1021 | 2221 | 115 | 80 | 84 | | |
| 3:00 PM | 0 | 87 | 1297 | 1041 | 2338 | 115 | 80 | 87 | | |
| 3:15 PM | 0 | 88 | 1315 | 1032 | 2347 | 115 | 80 | 88 | | |
| 3:30 PM | 0 | 89 | 1310 | 1067 | 2377 | 115 | 80 | 89 | | Met |
| 3:45 PM | 0 | 90 | 1396 | 1033 | 2429 | 115 | 80 | 90 | | |
| 4:00 PM | 0 | 91 | 1400 | 1028 | 2428 | 115 | 80 | 91 | | |
| 4:15 PM | 0 | 95 | 1424 | 1056 | 2480 | 115 | 80 | 95 | | |
| 4:30 PM | 0 | 99 | 1471 | 1027 | 2498 | 115 | 80 | 99 | | Met |
| 4:45 PM | 0 | 103 | 1431 | 1013 | 2444 | 115 | 80 | 103 | | |
| 5:00 PM | 0 | 107 | 1402 | 966 | 2368 | 115 | 80 | 107 | | |
| 5:15 PM | 0 | 77 | 1027 | 687 | 1714 | 115 | 80 | 77 | | |
| 5:30 PM | 0 | 51 | 651 | 459 | 1110 | 157 | 80 | 51 | | |
| 5:45 PM | 0 | 26 | 319 | 211 | 530 | 435 | 212 | 26 | | |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 10:00 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 10:15 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 10:30 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 10:45 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:00 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:15 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:30 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:45 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |




| Top Hours for Figure 4C-1 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 6:45 AM | 7:45 AM | 2014 | 120 |
| 2nd Highest Hour | 7:45 AM | 8:45 AM | 1809 | 117 |
| 3rd Highest Hour | 5:00 PM | 6:00 PM | 2368 | 107 |
| 4th Highest Hour | 4:00 PM | 5:00 PM | 2428 | 91 |

| Top Hours for Figure 4C-2 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 7:00 AM | 8:00 AM | 2082 | 134 |
| 2nd Highest Hour | 8:00 AM | 9:00 AM | 1763 | 112 |
| 3rd Highest Hour | 4:30 PM | 5:30 PM | 2498 | 99 |
| 4th Highest Hour | 3:30 PM | 4:30 PM | 2377 | 89 |



**Are the requirements for Warrant 2 met?:** **No**

## OMUTCD WARRANT 3, PEAK HOUR

| Number of Lanes for Moving Traffic on Each Approach | | Peak Hour Start time | 7:00 AM |
|---|---|---|---|
| Major Street: | 2 or More Lanes | Peak Hour End Time | 8:00 AM |
| Minor Street: | 2 or More Lanes | | |

| Actual Peak Hour Major Traffic Volume | Actual Peak Hour Minor Traffic Volume | Required Peak Hour Minor Traffic Volume for Fig. 4C-3 | Required Peak Hour Minor Traffic Volume for Fig. 4C-4 |
|---|---|---|---|
| 2082 | 134 | 150 | 100 |

| | |
|---|---|
| **Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street?** | Yes |

| | |
|---|---|
| **Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?** | No |

| **Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*** | |
|---|---|
| **Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?** | |
| **Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?** | No |
| **Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?** | Yes |
| **If applicable, attach all supporting calculations and documentation.* | |

**Are the requirements for Warrant 3 met?:** **No**

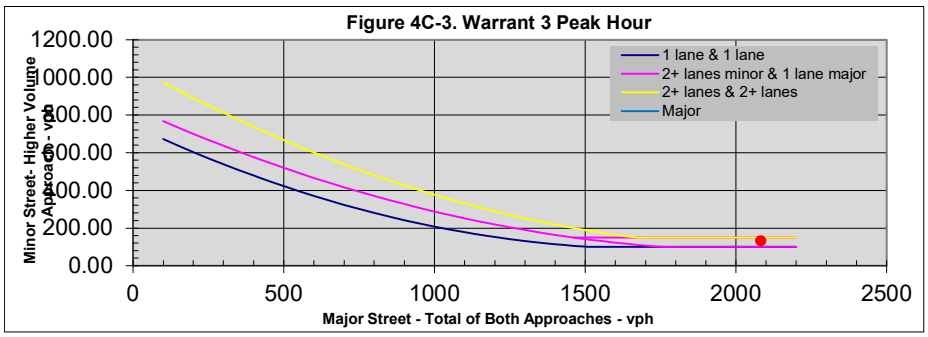
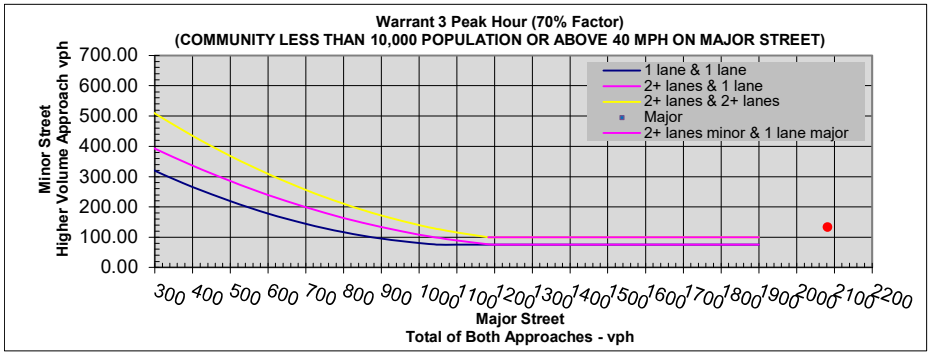


Figure 4C-3. Warrant 3 Peak Hour
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
500
1000
1500
2000
2500
Minor Street- Higher Volume Approach - vph
Major Street - Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes minor & 1 lane major
2+ lanes & 2+ lanes
Major


Warrant 3 Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)
Minor Street
Higher Volume Approach vph
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200
Major Street
Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes & 1 lane
2+ lanes & 2+ lanes
Major
2+ lanes minor & 1 lane major

# STUDY AND ANALYSIS INFORMATION

| | | | |
|---|---|---|---|
| **Municipality:** | City of Monroe | **Traffic Volumes Obtained By:** | B&N |
| **County:** | Butler | **Analysis Date:** | 6/17/2025 |
| **ODOT Engineering District:** | 8 | **Agency/ Company Name Performing Warrant Analysis:** | The Kleingers Group |
| **Google map link:** | Map | | |

## Analysis Information

| | |
|---|---|
| **Data Collection Date:** | 9/12/2024 |
| **Day of the Week:** | Thursday |
| **Is the intersection in a built-up area of an isolated community of <10,000 population?** | No |
| **Existing Traffic Signal at intersection:** | No |
| **Total Number of Approaches at Intersection:** | 3 |

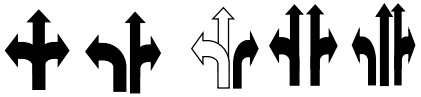
## Major Street Information

| | | |
|---|---|---|
| **Major Street Name and Route Number:** | SR 63 | |
| **Major Street Approach Direction:** | E-Bound<br>W-Bound | |
| **Number of Thru Lanes on Each Major Street Approach:** | 2 | **LANE(S)** |
| **Speed Limit or 85th Percentile Speed on the Major Street*:** | 50 | **MPH** |

*Unknown assumes below 45 mph

## Minor Street Information

| | | |
|---|---|---|
| **Minor Street Name and Route Number:** | Access 3 | |
| **Minor Street Approach Configuration:** | N-Bound<br>1 S-Bound | |



1 2 3 4 5

| | | |
|---|---|---|
| **Number of Thru Lanes on Each Minor Street Approach:** | | **LANE(S)** |
| **Apply Right Turn Lane Reduction*:** | Yes | |

*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

# TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

| | Applicable? | 100% Warrant Satisfied? | Notes and Comments: *Known error: if Speed Limit < 45mph, it may not state that it passes at 70%. | |
|---|---|---|---|---|
| **Warrant 1, Eight-Hour Vehicular Volume** | Yes | **Yes** | Condition B was met. Condition A (70%) was met. Condition B (70%) was met. Combination of A/B (80%) was met.*Combination of A/B (56%) was met.* | |
| **Warrant 2, Four-Hour Vehicular Volume** | Yes | **Yes** | Figure 4C-1 (100%) | |
| **Warrant 3, Peak Hour** | Yes | **Yes** | Signals installed under Warrant 3 should be traffic actuated. | **Peak Hour**<br>4:45 PM<br>5:45 PM |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) | | | | |
| **Warrant 4, Pedestrian Volume** | No | | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. | **Peak Hour**<br>8:00 AM<br>9:00 AM |
| **Warrant 5, School Crossing** | No | | N/A | |
| **Warrant 6, Coordinated Signal System** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 7, Crash Experience** | No | | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. | |
| **Warrant 8, Roadway Network** | No | | (Shall not be used as the sole warrant in the analysis) | |
| **Warrant 9, Intersection Near a Grade Crossing** | No | | | |
| **Multi-Way Stop Warrant** | No | | May be used as an interim measure if traffic signal warrants are satisfied. | |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion: Install New Traffic Signal

Notes:

# OMUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | |
|---|---|
| Major Street: | 2 or More Lanes |
| Minor Street: | 2 or More Lanes |

Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? Yes

**Only applicable after an adequate trial of other alternatives (See section 4C.02.06 of the 2012 OMUTCD)*

| Lanes Major/ Minor | Adjusted Volumes | | Condition A | | | | Condition B | | | | Combination A/B* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Cond. A | | Cond. B | | Cond. A | | Cond. B | |
| | Major | Minor | 100% | | 70% | | 100% | | 70% | | 80% | | 80% | | 56% | | 56% | |
| | | | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. | Maj. | Min. |
| 1 / 1 | | | 500 | 150 | 350 | 105 | 750 | 75 | 525 | 53 | 400 | 120 | 600 | 60 | 280 | 84 | 420 | 42 |
| 2+ / 1 | | | 600 | 150 | 420 | 105 | 900 | 75 | 630 | 53 | 480 | 120 | 720 | 60 | 336 | 84 | 504 | 42 |
| 2+ / 2+ | X | | 600 | 200 | 420 | 140 | 900 | 100 | 630 | 70 | 480 | 160 | 720 | 80 | 336 | 112 | 504 | 56 |
| 1 / 2+ | | | 500 | 200 | 350 | 140 | 750 | 100 | 525 | 70 | 400 | 160 | 600 | 80 | 280 | 112 | 420 | 56 |
| 12:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 12:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 1:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 2:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 3:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:15 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:30 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 4:45 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:00 AM | 0 | 0 | | | | | | | | | | | | | | | | |
| 5:15 AM | 373 | 24 | | | | | | | | | | | | | 1 | | | |
| 5:30 AM | 823 | 48 | 1 | | 1 | | | | 1 | | 1 | | 1 | | | | 1 | |
| 5:45 AM | 1365 | 72 | | | | | 1 | | | | | | | | | | | |
| 6:00 AM | 1850 | 96 | | | | | | | | | | | | | | | | |
| 6:15 AM | 2011 | 113 | | | | | | | | | | | | | 1 | 1 | | |
| 6:30 AM | 2147 | 129 | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | | | 1 | 1 |
| 6:45 AM | 2269 | 148 | | | | | 1 | 1 | | | | | | | | | | |
| 7:00 AM | 2354 | 165 | | | | | | | | | | | | | | | | |
| 7:15 AM | 2342 | 164 | | | | | | | | | | | | | 1 | 1 | | |
| 7:30 AM | 2251 | 164 | 1 | | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 7:45 AM | 2079 | 164 | | | | | 1 | 1 | | | | | | | | | | |
| 8:00 AM | 2038 | 160 | | | | | | | | | | | | | | | | |
| 8:15 AM | 1916 | 159 | | | | | | | | | | | | | 1 | 1 | | |
| 8:30 AM | 1906 | 158 | 1 | | 1 | 1 | | | 1 | 1 | 1 | | 1 | 1 | | | 1 | 1 |
| 8:45 AM | 1871 | 157 | | | | | 1 | 1 | | | | | | | | | | |
| 9:00 AM | 1762 | 156 | | | | | | | | | | | | | | | | |
| 9:15 AM | 1802 | 171 | | | | | | | | | | | | | 1 | 1 | | |
| 9:30 AM | 1759 | 186 | 1 | | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 9:45 AM | 1769 | 201 | | | | | 1 | 1 | | | | | | | | | | |
| 10:00 AM | 1809 | 216 | | | | | | | | | | | | | | | | |
| 10:15 AM | 1872 | 230 | | | | | | | | | | | | | 1 | 1 | | |
| 10:30 AM | 1970 | 244 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 10:45 AM | 2067 | 266 | | | | | 1 | 1 | | | | | | | | | | |
| 11:00 AM | 2178 | 281 | | | | | | | | | | | | | | | | |
| 11:15 AM | 2272 | 281 | | | | | | | | | | | | | 1 | 1 | | |
| 11:30 AM | 2294 | 281 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 11:45 AM | 2295 | 281 | | | | | 1 | 1 | | | | | | | | | | |
| 12:00 PM | 2296 | 280 | | | | | | | | | | | | | | | | |
| 12:15 PM | 2271 | 281 | | | | | | | | | | | | | 1 | 1 | | |
| 12:30 PM | 2241 | 282 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 12:45 PM | 2210 | 282 | | | | | 1 | 1 | | | | | | | | | | |
| 1:00 PM | 2201 | 283 | | | | | | | | | | | | | | | | |
| 1:15 PM | 2230 | 281 | | | | | | | | | | | | | 1 | 1 | | |
| 1:30 PM | 2267 | 278 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 1:45 PM | 2357 | 284 | | | | | 1 | 1 | | | | | | | | | | |
| 2:00 PM | 2367 | 282 | | | | | | | | | | | | | | | | |
| 2:15 PM | 2452 | 282 | | | | | | | | | | | | | 1 | 1 | | |
| 2:30 PM | 2528 | 282 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 2:45 PM | 2577 | 282 | | | | | 1 | 1 | | | | | | | | | | |
| 3:00 PM | 2706 | 289 | | | | | | | | | | | | | | | | |
| 3:15 PM | 2717 | 292 | | | | | | | | | | | | | 1 | 1 | | |
| 3:30 PM | 2751 | 295 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3:45 PM | 2809 | 298 | | | | | 1 | 1 | | | | | | | | | | |
| 4:00 PM | 2809 | 300 | | | | | | | | | | | | | | | | |
| 4:15 PM | 2868 | 304 | | | | | | | | | | | | | 1 | 1 | | |
| 4:30 PM | 2890 | 316 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| 4:45 PM | 2834 | 320 | | | | | 1 | 1 | | | | | | | | | | |
| 5:00 PM | 2752 | 315 | | | | | | | | | | | | | | | | |
| 5:15 PM | 1996 | 224 | | | | | | | | | | | | | 1 | 1 | | |
| 5:30 PM | 1295 | 146 | 1 | | 1 | 1 | | | 1 | 1 | 1 | | 1 | 1 | | | 1 | 1 |
| 5:45 PM | 620 | 73 | | | | | | | | | | | | | | | | |
| 6:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 6:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 7:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 8:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 9:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 10:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:00 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:15 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:30 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| 11:45 PM | 0 | 0 | | | | | | | | | | | | | | | | |
| **HOURS MET** | | | **13** | **7** | **13** | **11** | **12** | **11** | **13** | **12** | **13** | **9** | **13** | **12** | **13** | **12** | **13** | **12** |
| ***WARRANT SATISFIED?*** | | | **NO** | | **YES** | | **YES** | | **YES** | | **YES** | | | | **YES** | | | |

**Warrant Met:** **Yes**

**Notes:** Condition B was met. Condition A (70%) was met. Condition B (70%) was met. Combination of A/B (80%) was met.*Combination of A/B (56%) was met.*

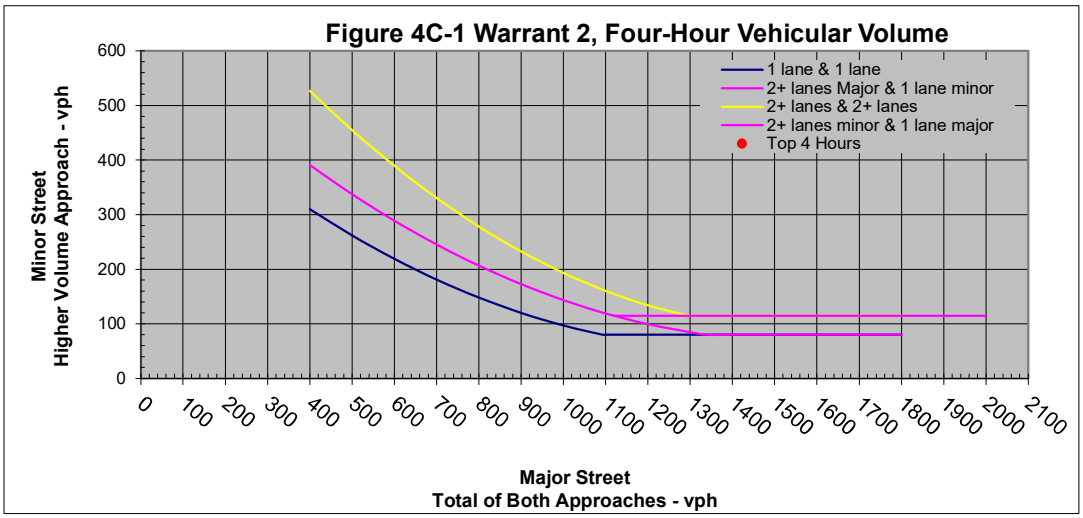
# OMUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

| Number of Lanes for Moving Traffic on Each Approach | | Total Number of Unique Hours Met on Figure 4C-1 | 12 |
|---|---|---|---|
| Major street: | 2 or More Lanes | Total Number of Unique Hours Met on Figure 4C-2 (70% Factor) | 12 |
| Minor Street: | 2 or More Lanes | | |

| Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street? | Yes |
|---|---|

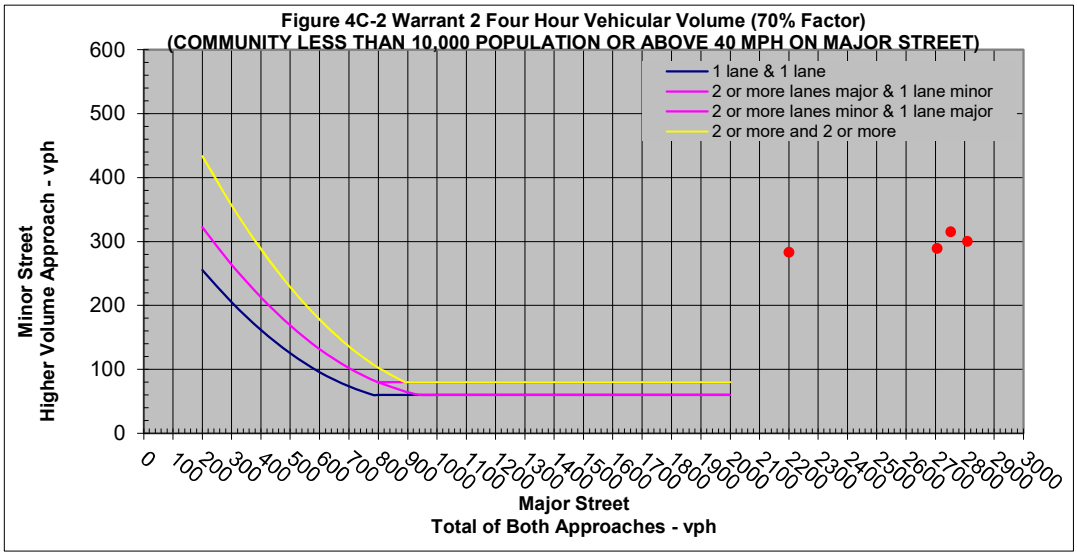
| Hour Interval Beginning At | Raw Traffic Counts | | | | Total Major Approach Volumes | Required Minimum Minor Street For 4C-1 | Required Minimum Minor Street For 4C-2 | Highest Actual Minor Street Approach Volumes | Hour Met? | Hour Met? (70% Factor) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Minor - Access 3 | | Major - SR 63 | | | | | | | |
| | N-Bound | S-Bound | W-Bound | E-Bound | | | | | | |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 12:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 12:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 12:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 1:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 2:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 3:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:15 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:30 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 4:45 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 5:00 AM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 5:15 AM | 0 | 24 | 133 | 240 | 373 | 547 | 306 | 24 | | |
| 5:30 AM | 0 | 48 | 306 | 517 | 823 | 267 | 96 | 48 | | |
| 5:45 AM | 0 | 72 | 483 | 882 | 1365 | 115 | 80 | 72 | | |
| 6:00 AM | 0 | 96 | 659 | 1191 | 1850 | 115 | 80 | 96 | | Met |
| 6:15 AM | 0 | 113 | 727 | 1284 | 2011 | 115 | 80 | 113 | | |
| 6:30 AM | 0 | 129 | 795 | 1352 | 2147 | 115 | 80 | 129 | Met | |
| 6:45 AM | 0 | 148 | 873 | 1396 | 2269 | 115 | 80 | 148 | | |
| 7:00 AM | 0 | 165 | 946 | 1408 | 2354 | 115 | 80 | 165 | | Met |
| 7:15 AM | 0 | 164 | 957 | 1385 | 2342 | 115 | 80 | 164 | | |
| 7:30 AM | 0 | 164 | 952 | 1299 | 2251 | 115 | 80 | 164 | Met | |
| 7:45 AM | 0 | 164 | 901 | 1178 | 2079 | 115 | 80 | 164 | | |
| 8:00 AM | 0 | 160 | 874 | 1164 | 2038 | 115 | 80 | 160 | | Met |
| 8:15 AM | 0 | 159 | 819 | 1097 | 1916 | 115 | 80 | 159 | | |
| 8:30 AM | 0 | 158 | 796 | 1110 | 1906 | 115 | 80 | 158 | Met | |
| 8:45 AM | 0 | 157 | 819 | 1052 | 1871 | 115 | 80 | 157 | | |
| 9:00 AM | 0 | 156 | 801 | 961 | 1762 | 115 | 80 | 156 | | Met |
| 9:15 AM | 0 | 171 | 848 | 954 | 1802 | 115 | 80 | 171 | | |
| 9:30 AM | 0 | 186 | 849 | 910 | 1759 | 115 | 80 | 186 | Met | |
| 9:45 AM | 0 | 201 | 843 | 926 | 1769 | 115 | 80 | 201 | | |
| 10:00 AM | 0 | 216 | 859 | 950 | 1809 | 115 | 80 | 216 | | Met |
| 10:15 AM | 0 | 230 | 891 | 981 | 1872 | 115 | 80 | 230 | | |
| 10:30 AM | 0 | 244 | 941 | 1029 | 1970 | 115 | 80 | 244 | Met | |
| 10:45 AM | 0 | 266 | 1039 | 1028 | 2067 | 115 | 80 | 266 | | |
| 11:00 AM | 0 | 281 | 1143 | 1035 | 2178 | 115 | 80 | 281 | | Met |
| 11:15 AM | 0 | 281 | 1187 | 1085 | 2272 | 115 | 80 | 281 | | |
| 11:30 AM | 0 | 281 | 1202 | 1092 | 2294 | 115 | 80 | 281 | Met | |
| 11:45 AM | 0 | 281 | 1189 | 1106 | 2295 | 115 | 80 | 281 | | |
| 12:00 PM | 0 | 280 | 1173 | 1123 | 2296 | 115 | 80 | 280 | | Met |
| 12:15 PM | 0 | 281 | 1190 | 1081 | 2271 | 115 | 80 | 281 | | |
| 12:30 PM | 0 | 282 | 1178 | 1063 | 2241 | 115 | 80 | 282 | Met | |
| 12:45 PM | 0 | 282 | 1157 | 1053 | 2210 | 115 | 80 | 282 | | |
| 1:00 PM | 0 | 283 | 1159 | 1042 | 2201 | 115 | 80 | 283 | | Met |
| 1:15 PM | 0 | 281 | 1153 | 1077 | 2230 | 115 | 80 | 281 | | |
| 1:30 PM | 0 | 278 | 1183 | 1084 | 2267 | 115 | 80 | 278 | Met | |
| 1:45 PM | 0 | 284 | 1222 | 1135 | 2357 | 115 | 80 | 284 | | |
| 2:00 PM | 0 | 282 | 1198 | 1169 | 2367 | 115 | 80 | 282 | | Met |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2:15 PM | 0 | 282 | 1289 | 1163 | 2452 | 115 | 80 | 282 | | |
| 2:30 PM | 0 | 282 | 1375 | 1153 | 2528 | 115 | 80 | 282 | Met | |
| 2:45 PM | 0 | 282 | 1381 | 1196 | 2577 | 115 | 80 | 282 | | |
| 3:00 PM | 0 | 289 | 1489 | 1217 | 2706 | 115 | 80 | 289 | | Met |
| 3:15 PM | 0 | 292 | 1508 | 1209 | 2717 | 115 | 80 | 292 | | |
| 3:30 PM | 0 | 295 | 1501 | 1250 | 2751 | 115 | 80 | 295 | Met | |
| 3:45 PM | 0 | 298 | 1594 | 1215 | 2809 | 115 | 80 | 298 | | |
| 4:00 PM | 0 | 300 | 1598 | 1211 | 2809 | 115 | 80 | 300 | | Met |
| 4:15 PM | 0 | 304 | 1623 | 1245 | 2868 | 115 | 80 | 304 | | |
| 4:30 PM | 0 | 316 | 1675 | 1215 | 2890 | 115 | 80 | 316 | Met | |
| 4:45 PM | 0 | 320 | 1632 | 1202 | 2834 | 115 | 80 | 320 | | |
| 5:00 PM | 0 | 315 | 1599 | 1153 | 2752 | 115 | 80 | 315 | | Met |
| 5:15 PM | 0 | 224 | 1173 | 823 | 1996 | 115 | 80 | 224 | | |
| 5:30 PM | 0 | 146 | 745 | 550 | 1295 | 115 | 80 | 146 | Met | |
| 5:45 PM | 0 | 73 | 365 | 255 | 620 | 377 | 169 | 73 | | |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 7:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 879 | 614 | 0 | | |
| 10:00 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 10:15 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 10:30 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 10:45 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:00 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:15 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:30 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |
| 11:45 PM | **0** | **0** | **0** | **0** | 0 | 879 | 614 | 0 | | |




| Top Hours for Figure 4C-1 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 4:30 PM | 5:30 PM | 2890 | 316 |
| 2nd Highest Hour | 3:30 PM | 4:30 PM | 2751 | 295 |
| 3rd Highest Hour | 2:30 PM | 3:30 PM | 2528 | 282 |
| 4th Highest Hour | 12:30 PM | 1:30 PM | 2241 | 282 |

| Top Hours for Figure 4C-2 | Start Time | End Time | Major Street | Minor Street |
|---|---|---|---|---|
| Top Hour | 5:00 PM | 6:00 PM | 2752 | 315 |
| 2nd Highest Hour | 4:00 PM | 5:00 PM | 2809 | 300 |
| 3rd Highest Hour | 3:00 PM | 4:00 PM | 2706 | 289 |
| 4th Highest Hour | 1:00 PM | 2:00 PM | 2201 | 283 |



**Are the requirements for Warrant 2 met?:** **Yes**

## OMUTCD WARRANT 3, PEAK HOUR

| Number of Lanes for Moving Traffic on Each Approach | | Peak Hour Start time | 4:45 PM |
|---|---|---|---|
| Major Street: | 2 or More Lanes | Peak Hour End Time | 5:45 PM |
| Minor Street: | 2 or More Lanes | | |

| Actual Peak Hour Major Traffic Volume | Actual Peak Hour Minor Traffic Volume | Required Peak Hour Minor Traffic Volume for Fig. 4C-3 | Required Peak Hour Minor Traffic Volume for Fig. 4C-4 |
|---|---|---|---|
| 2834 | 320 | 150 | 100 |

| | |
|---|---|
| **Built up Isolated Community with Less Than 10,000 Population or Above 40 MPH on Major Street?** | Yes |

| | |
|---|---|
| **Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?** | No |

| **Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*** | |
|---|---|
| **Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?** | |
| **Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?** | No |
| **Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?** | Yes |
| **If applicable, attach all supporting calculations and documentation.* | |
| **Are the requirements for Warrant 3 met?:** | **Yes** |

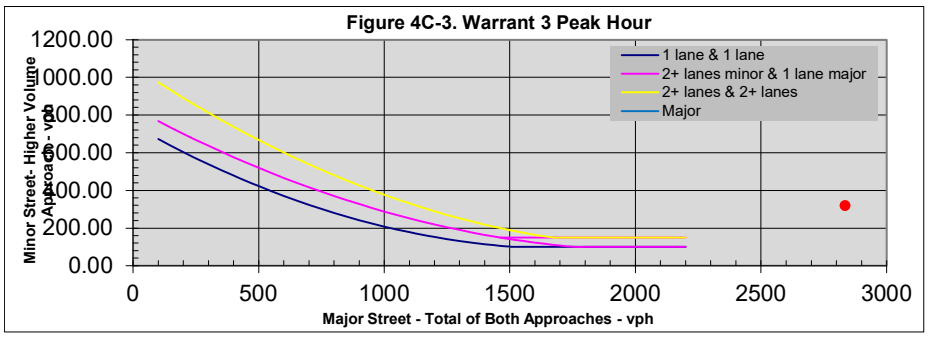
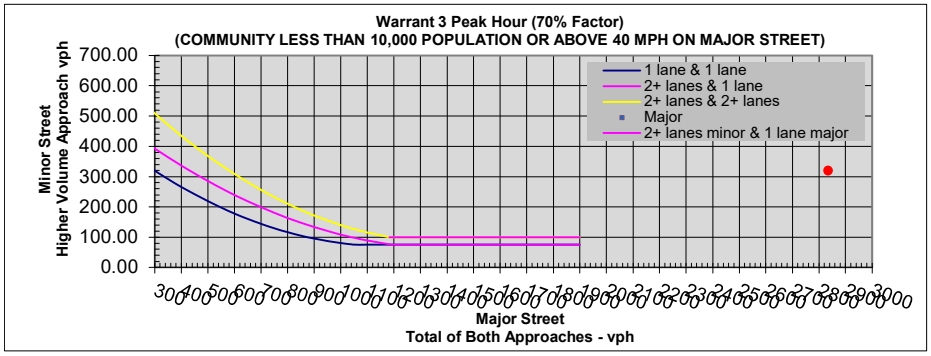


Figure 4C-3. Warrant 3 Peak Hour
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
500
1000
1500
2000
2500
3000
Minor Street- Higher Volume Approach - vph
Major Street - Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes minor & 1 lane major
2+ lanes & 2+ lanes
Major


Warrant 3 Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Minor Street
Higher Volume Approach vph
Major Street
Total of Both Approaches - vph
1 lane & 1 lane
2+ lanes & 1 lane
2+ lanes & 2+ lanes
Major
2+ lanes minor & 1 lane major

# Conceptual Improvement Sketches

Page 7/35

# CORNERSTONE MONROE FARMS - TIS

## CIN-DAY RD @ TODHUNTER RD - EXISTING CONDITIONS

NOT FOR CONSTRUCTION

9 | 1

0 15 30 60

CALCULATED AWS

CHECKED MWN

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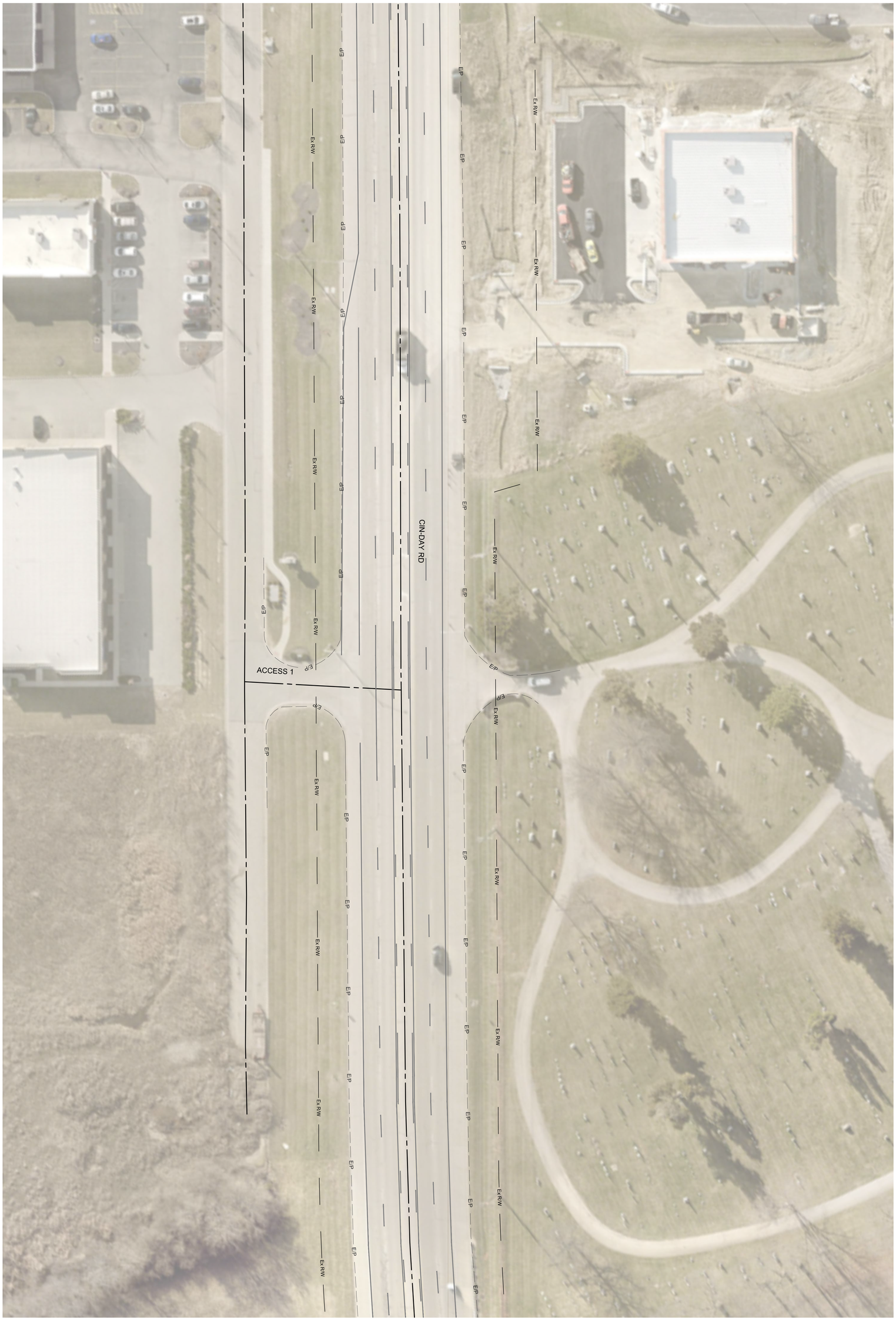


Page 7207

NOT FOR CONSTRUCTION

2 | 9

# CORNERSTONE MONROE FARMS - TIS

## CIN-DAY RD @ ACCESS 1 - EXISTING CONDITIONS

0 15 30 60

CALCULATED AWS

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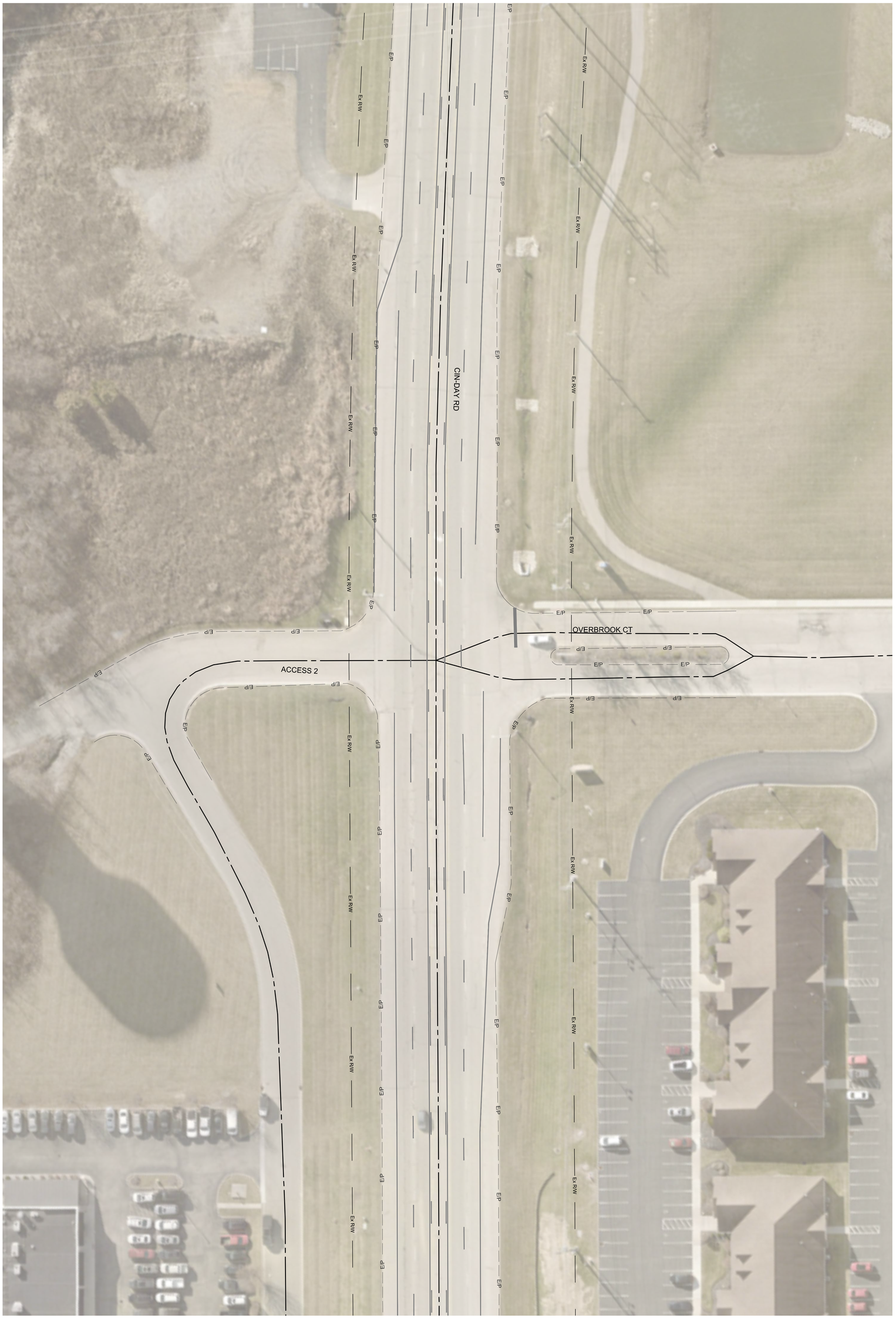


Page 7/33

# CORNERSTONE MONROE FARMS - TIS

## CIN-DAY RD @ OVERBROOK CT - EXISTING CONDITIONS

3
9

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0 15 30 60

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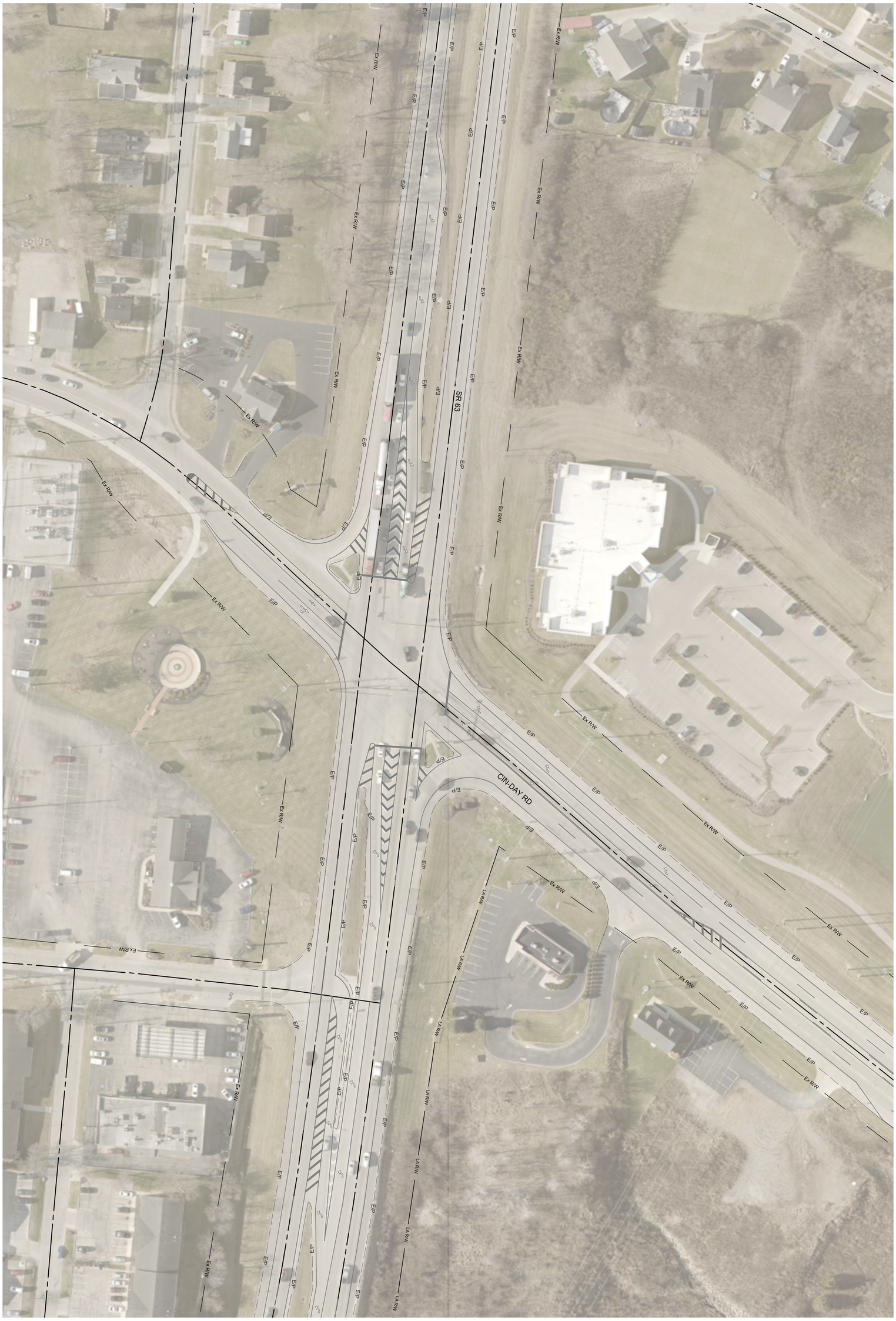


Page 153

4
9

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# CORNERSTONE MONROE FARMS - TIS

## CIN-DAY RD @ SR 63 - EXISTING CONDITIONS

0 25 50 100

CALCULATED AWS

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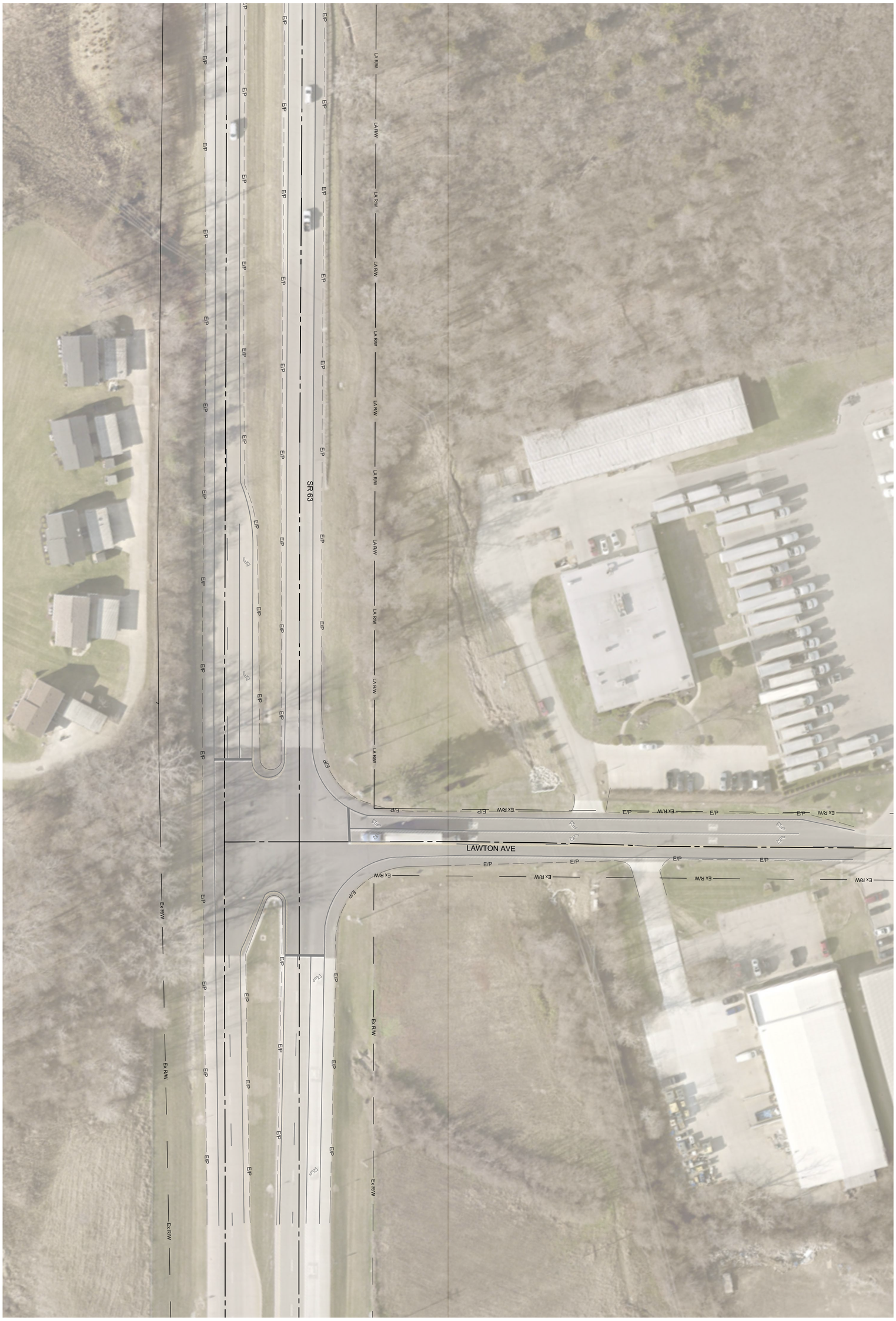


Page 7 of 10

NOT FOR CONSTRUCTION

# CORNERSTONE MONROE FARMS - TIS

## LAWTON AVE @ SR 63 - EXISTING CONDITIONS

0 20 40 80

| CALCULATED | CHECKED |
|---|---|
| AWS | MWN |

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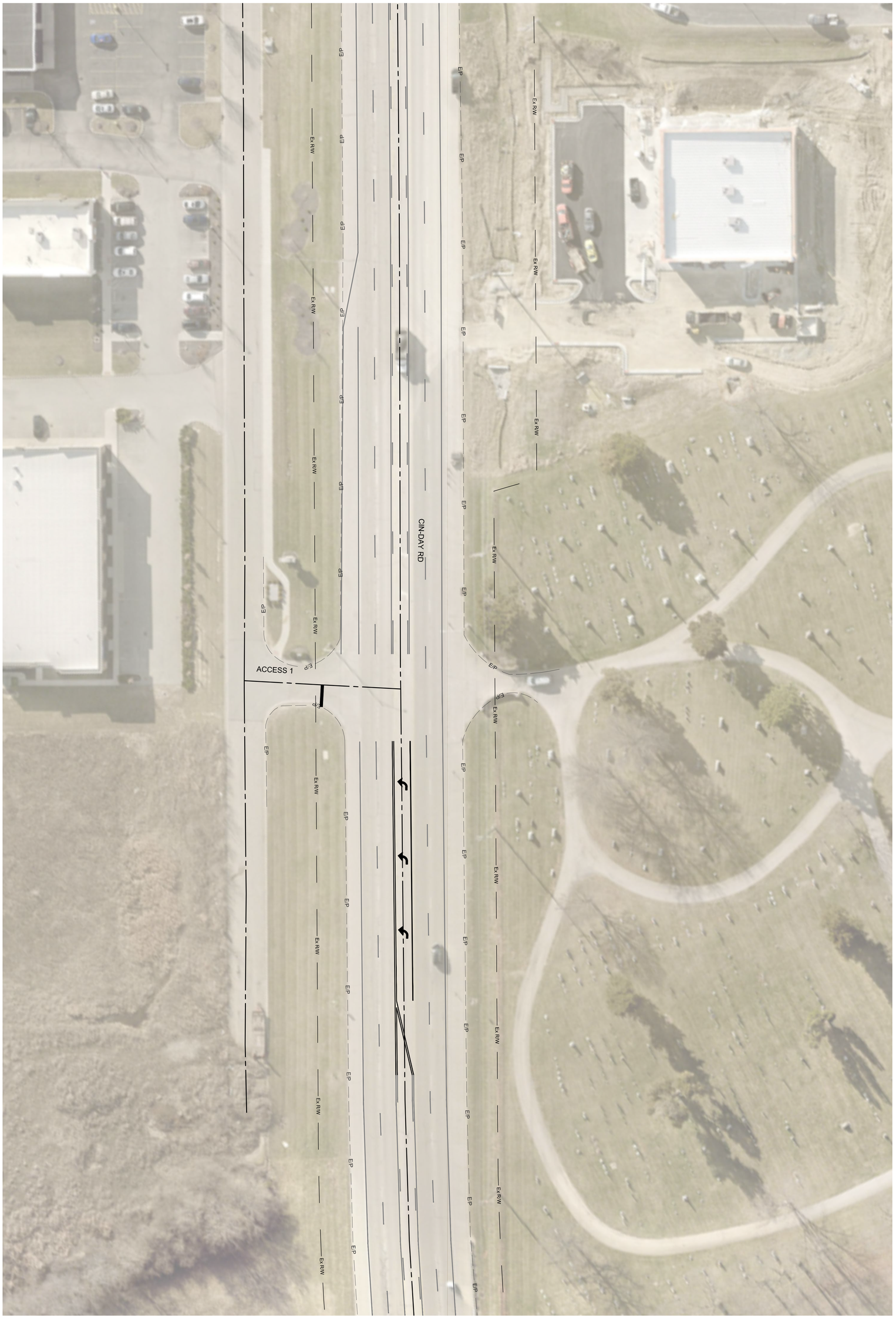


Page 7/11

| | | | |
|---|---|---|---|
| 9 / 6 | NOT FOR CONSTRUCTION | **CORNERSTONE MONROE FARMS - TIS**<br>**CIN-DAY RD @ ACCESS 1 - PROPOSED CONDITIONS** | 0 15 30 60<br>CALCULATED AWS<br>CHECKED MWN |

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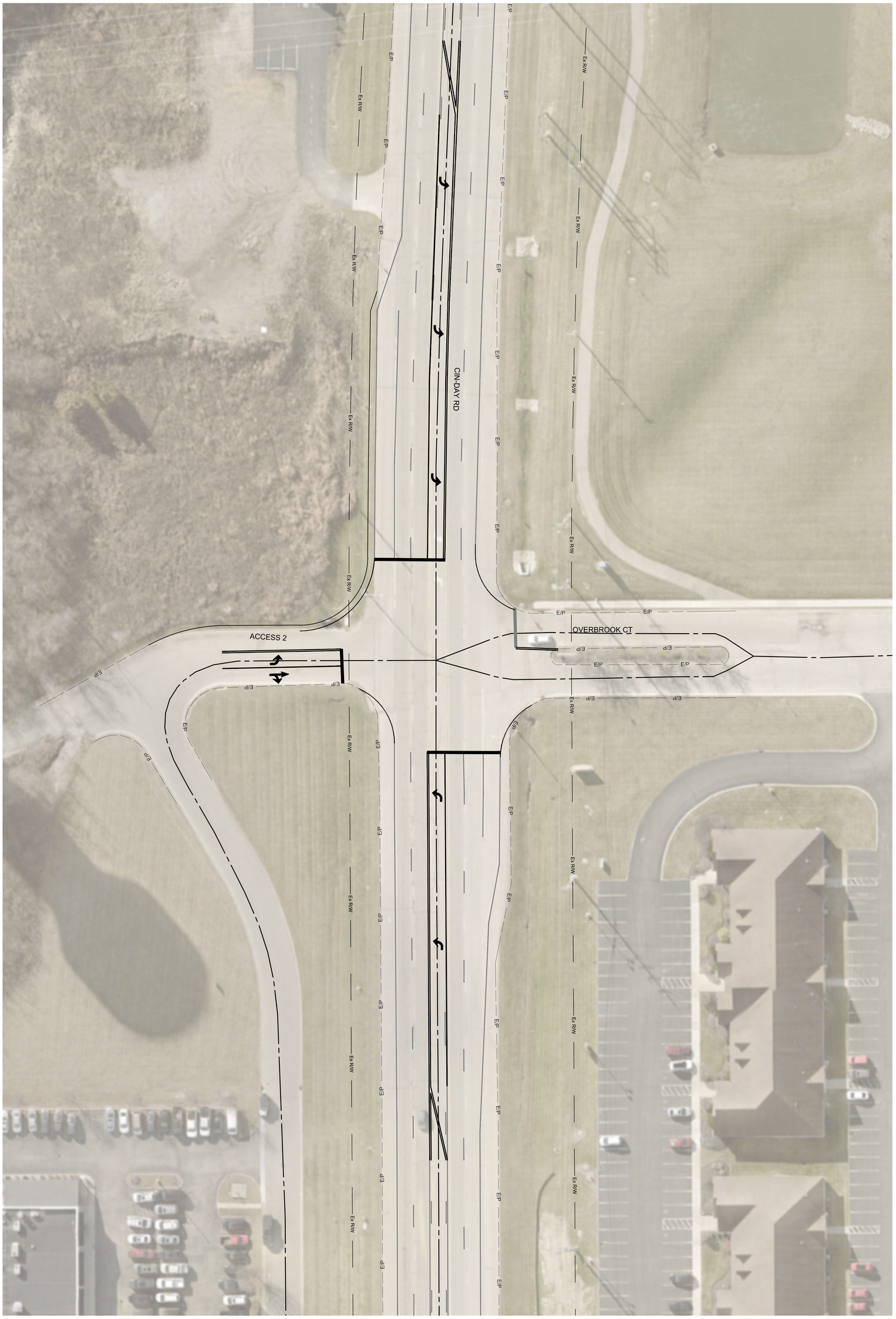




9 | 7

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# CORNERSTONE MONROE FARMS - TIS

## CIN-DAY RD @ OVERBROOK CT - PROPOSED CONDITIONS

0 15 30 60

CALCULATED AWS | CHECKED MWN

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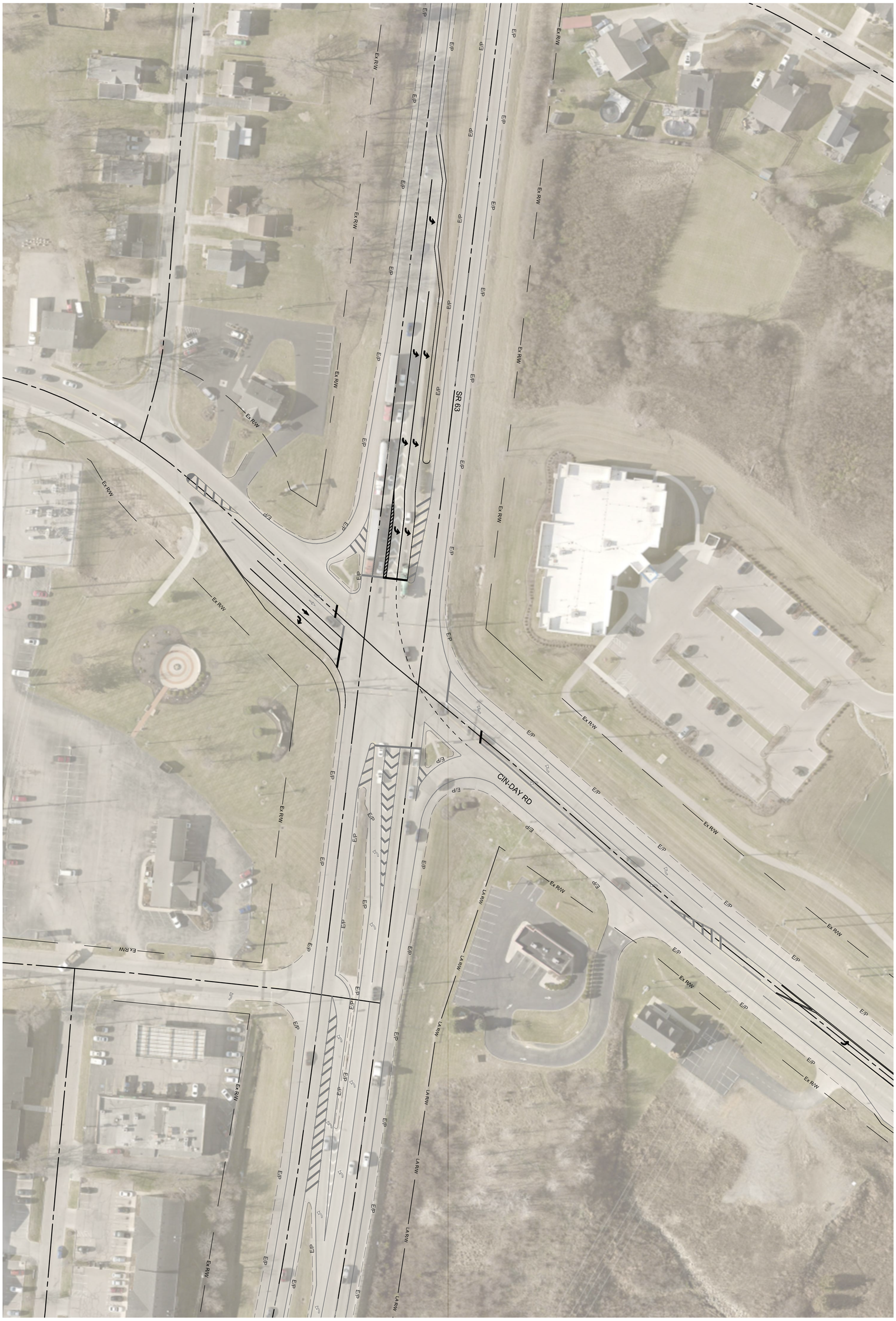




9 | 8

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**CORNERSTONE MONROE FARMS - TIS**

**CIN-DAY RD @ SR 63 - PROPOSED CONDITIONS**

0 25 50 100

| CALCULATED | CHECKED |
|---|---|
| AWS | MWN |

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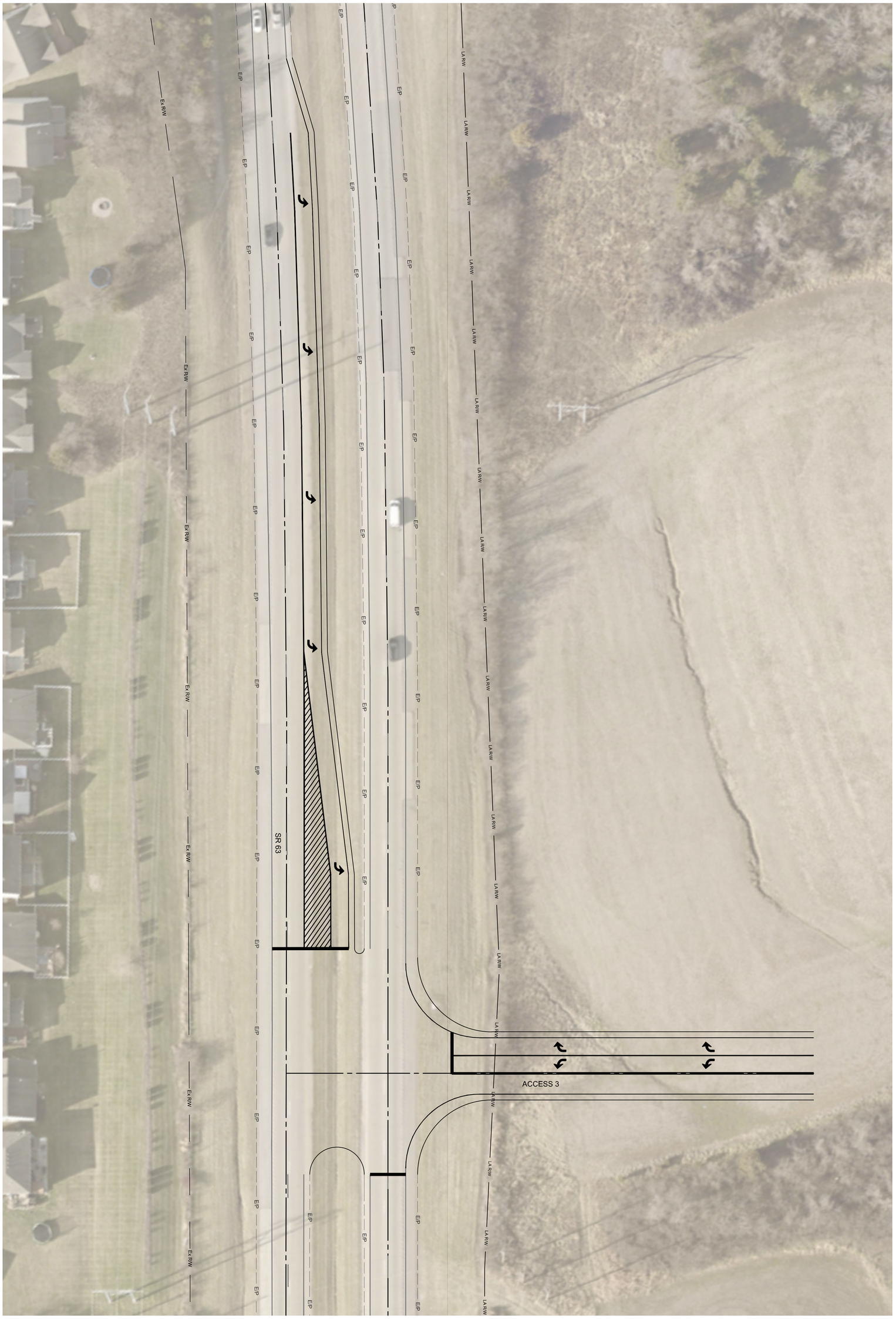




9 | 9

NOT FOR CONSTRUCTION

**CORNERSTONE MONROE FARMS - TIS**

**CIN-DAY RD @ ACCESS 3 - FULL ACCESS - PROPOSED CONDITIONS**

0 15 30 60

| CALCULATED | CHECKED |
|---|---|
| AWS | MWN |

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9 | 10

# CORNERSTONE MONROE FARMS - TIS

## CIN-DAY RD @ ACCESS 3 - RIRO - PROPOSED CONDITIONS

0 15 30 60

CALCULATED AWS | CHECKED MWN

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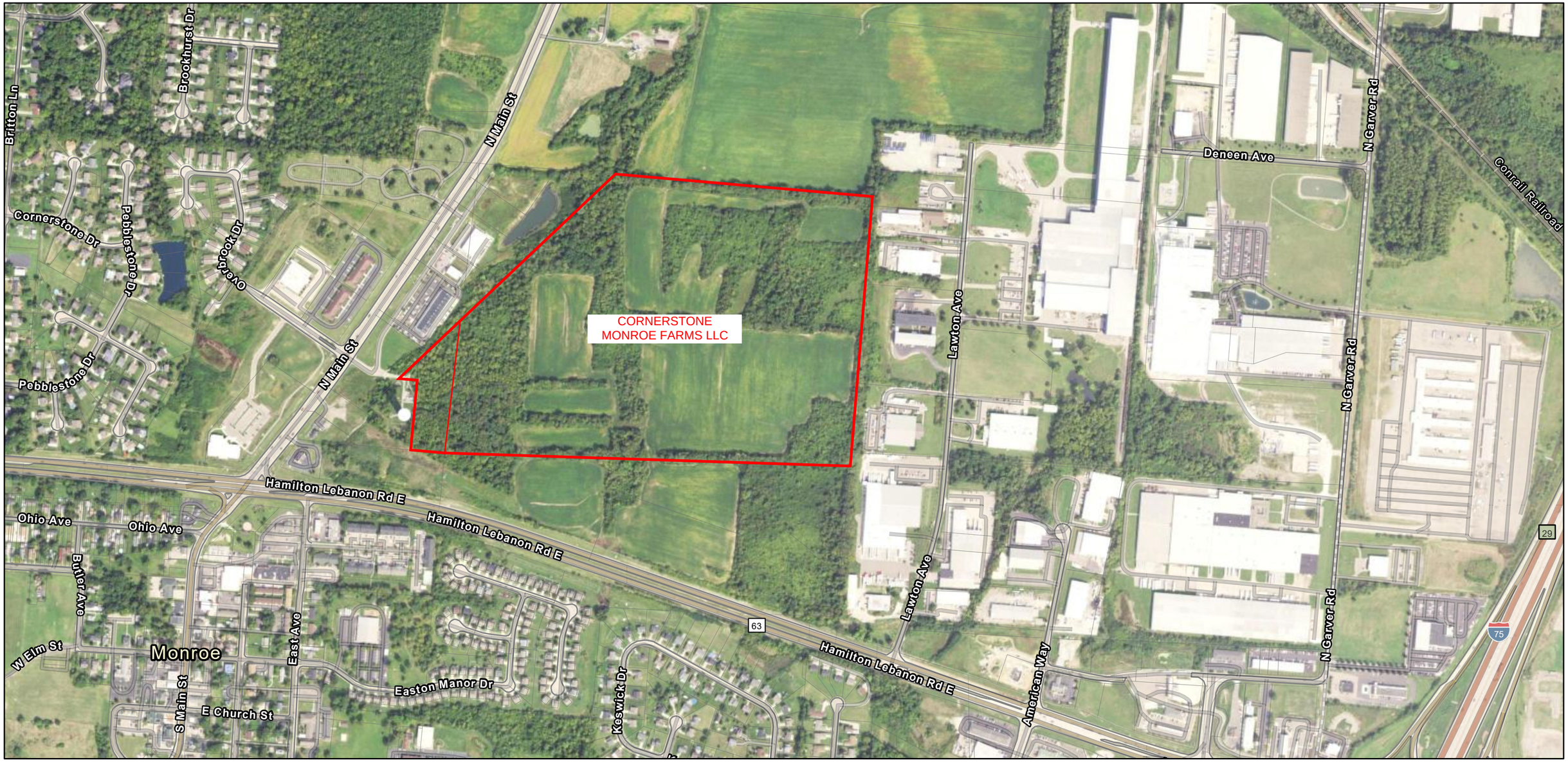
# City of Monroe




5/24/2024, 2:32:13 PM

Monroe Parcels in Butler County

Edge of Pavement

1:9,028

0 430 860 1,720 ft

0 130 260 520 m

N

Source: Esri, USDA FSA, Esri Community Maps Contributors, City of Monroe, Ohio, Butler County, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

City of Monroe Planning and Zoning

This map does not depict legal boundaries for property lines. It is for informational purposes only. All inquiries should be directed to Monroe's Department of Planning.

EXAMPLE IMAGERY - TOWNHOMES
(Hardie board siding or similar - no vinyl)

EXAMPLE IMAGERY - TOWNHOMES
(Hardie board siding or similar - no vinyl)

EXAMPLE IMAGERY - SINGLE FAMILY HOMES
(Hardie board siding or similar - no vinyl)

Optional Stone

Optional Brick

*Optional Brick*

*Optional Brick with Sideload Garage*

*Optional Stone*

Optional Brick

Optional Brick with Porch

Optional Stone

Optional Stone with Sideload Garage

*Optional Stone*

*Optional Brick*

Optional Stone

Optional Brick

Optional Brick

Optional Stone

Optional Brick

Optional Stone

*Optional Stone with Porch*

*Optional Brick with Porch*

*Optional Stone*

*Optional Brick*

*Optional Stone*

*Optional Brick*

# EXAMPLE IMAGERY - MULTI-UNIT ATTACHED HOMES

# MULTI-UNIT ATTACHED
# COMMUNITY AMENITIES

# MULTI-UNIT ATTACHED HOMES

(Hardie board siding or similar - no vinyl)

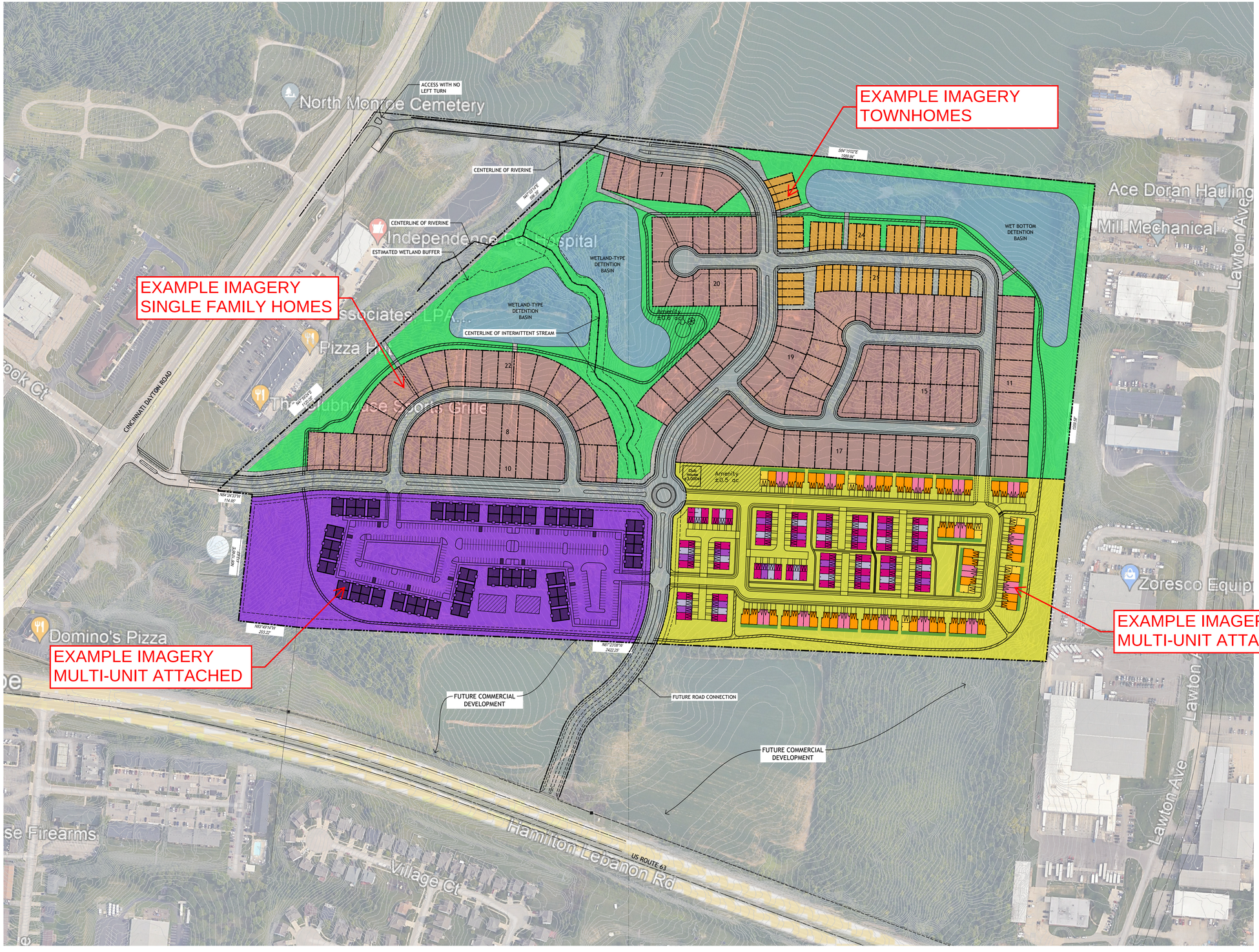
# MULTI-UNIT ATTACHED HOMES

# EXAMPLE IMAGERY - MULTI UNIT ATTACHED

# EXAMPLE IMAGERY - MULTI UNIT ATTACHED

(Hardie board siding or similar - no vinyl)

EXAMPLE IMAGERY - MULTI UNIT ATTACHED




0 75 150 300
37.5 112.5 225
SCALE: 1"=150'

## SITE SUMMARY

| | |
|---|---|
| TOTAL DEVELOPMENT AREA: | ±84.54 AC. |
| AREAS: | |
| SINGLE FAMILY HOME / TOWNHOME AREA | 54.10 AC. |
| MULTI-UNIT DETACHED PARCEL | 17.04 AC. |
| MULTI-UNIT ATTACHED PARCEL | 13.40 AC. |
| PUBLIC RIGHT OF WAY (EXCLUDES MULTI-UNIT PARCELS) | 10.27 AC. |
| EXISTING ZONING: | UR - URBAN RESIDENTIAL |
| PROPOSED ZONING: | PUD - GR & UR BASE ZONING |

UNITS:

- 13.4 AC. MULTI-UNIT ATTACHED DEVELOPMENT
  260 UNITS - 11 - 3 STORY BUILDINGS
- 45 TOWNHOMES
  AVG. LOT SIZE = 26'X85'
  2,210 SF
- 129 SINGLE FAMILY HOMES (SFH)
  AVG. LOT SIZE = 52'X120'
  6,240 SF
- OPEN SPACE/DETENTION AREA
  (EXCLUDES MULTI-UNIT PARCELS)
  19.20 AC (35%)
- FORMAL OPEN SPACE AREA
  2.42 AC (8%)
- 17.04 AC . MULTI-UNIT ATTACHED DEVELOPMENT
  166 UNITS
  - 15 UNITS - P1 (1046SF - 2bd/2.5ba, 2-car)
  - 18 UNITS - P2 (1170SF - 2bd+den/2.5ba, 2-car)
  - 46 UNITS - P3 (1247SF - 3bd/2.5ba, 2-car)
  - 32 UNITS - P4 (1290SF - 2bd/2.5 ba, 1-car)
  - 48 UNITS - P5 (1655SF - 3bd/2.5 ba, 2-car)
  - 7 UNITS - P6 (1671SF - 4bd/2.5 ba, 2-car)

  166 UNITS - TOTAL

| | |
|---|---|
| TOTAL UNITS: | 260 MULTI-UNIT ATTACHED |
| | 166 MULTI-UNIT ATTACHED |
| | 45 TOWNHOMES |
| | 129 SINGLE FAMILY HOMES |
| | 600 TOTAL UNITS |

Seal

CONTOUR
DESIGN • ENGINEERING
984 Logan St., Suite 204
Noblesville, IN 46060
765.430.2042 (C)
jnierzwicki@contourlandgroup.com

Consultant

Project

BRIDGE DEVELOPMENT
MONROE, OH

US-63
Monroe, OH

Sheet

CONCEPT
SITE PLAN

Issued for

2025.09.16 PUD/ZMA SUBMITTAL
2025.10.21 UPDATED PUD/ZMA SUBMITTAL

Project Number

24-310

Sheet Number

CP-1

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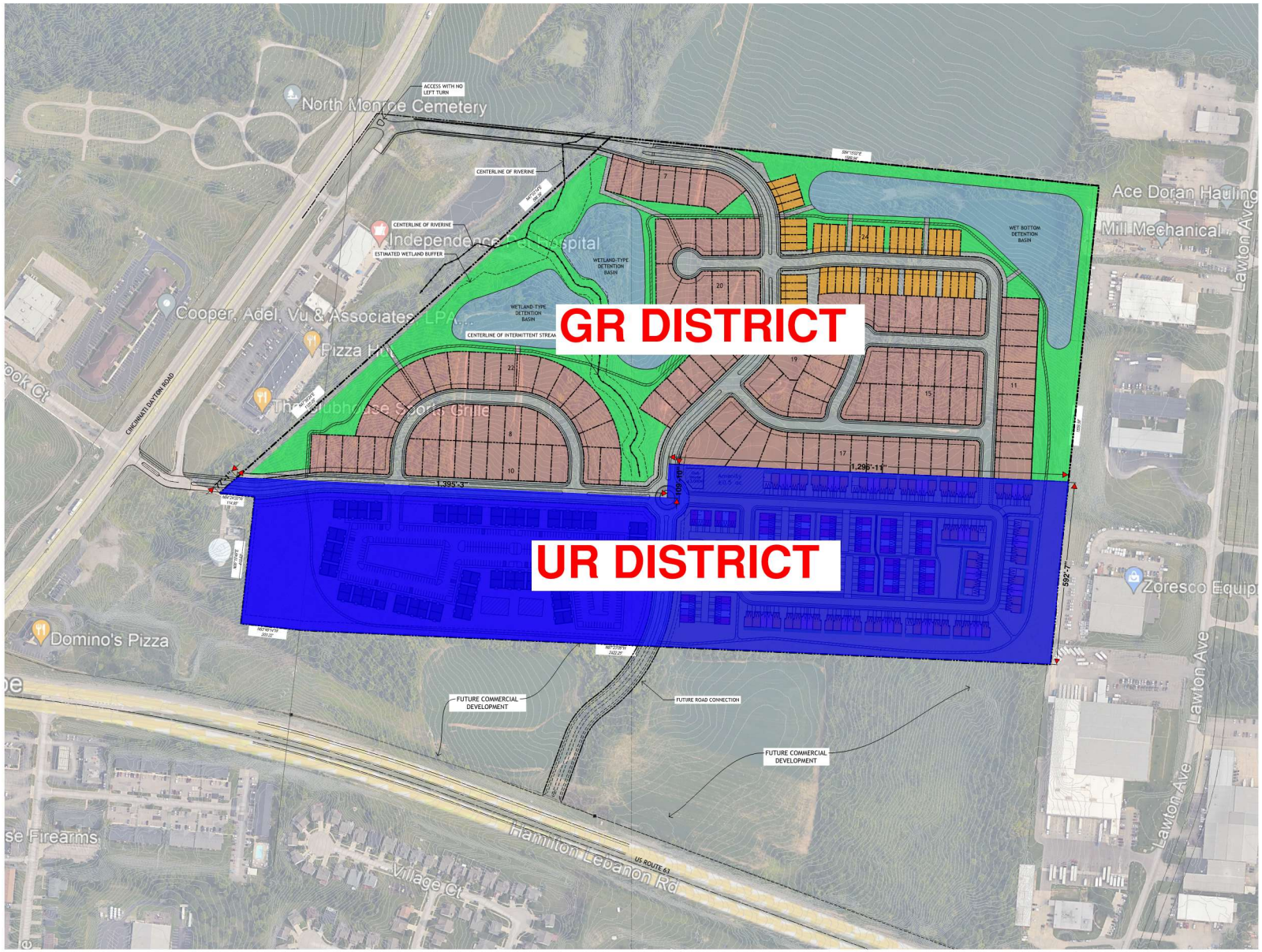


SCALE: 1"=150'

## SITE SUMMARY

| | |
|---|---|
| TOTAL DEVELOPMENT AREA: | ±84.54 AC. |
| AREAS: | |
| SINGLE FAMILY HOME / TOWNHOME AREA | 54.10 AC. |
| MULTI-UNIT DETACHED PARCEL | 17.04 AC. |
| MULTI-UNIT ATTACHED PARCEL | 13.40 AC. |
| PUBLIC RIGHT OF WAY (EXCLUDES MULTI-UNIT PARCELS) | 10.27 AC. |
| EXISTING ZONING: | UR - URBAN RESIDENTIAL |
| PROPOSED ZONING: | PUD - GR & UR BASE ZONING |

UNITS:

- 13.4 AC. MULTI-UNIT ATTACHED DEVELOPMENT — 260 UNITS - 11 - 3 STORY BUILDINGS
- 45 TOWNHOMES — AVG. LOT SIZE = 2639ft² / 2,210 SF
- 129 SINGLE FAMILY HOMES (SFH) — AVG. LOT SIZE = 52'X120' / 6,240 SF
- OPEN SPACE/DETENTION AREA (EXCLUDES MULTI-UNIT PARCELS) — 19.20 AC (35%)
- FORMAL OPEN SPACE AREA — 2.42 AC (8%)
- 17.04 AC. MULTI-UNIT ATTACHED DEVELOPMENT — 168 UNITS
  - 15 UNITS - P1 (1046SF - 2bd/2.5ba, 2-car)
  - 18 UNITS - P2 (1170SF - 2bd-den/2.5ba, 2-car)
  - 46 UNITS - P3 (1347SF - 3bd/1.5ba, 2-car)
  - 32 UNITS - P4 (1295SF - 2bd/2.5 ba, 1-car)
  - 48 UNITS - P5 (1455SF - 3bd/2.5 ba, 2-car)
  - 7 UNITS - P6 (1671SF - 4bd/2.5 ba, 2-car)
  - 168 UNITS - TOTAL

TOTAL UNITS: 260 MULTI-UNIT ATTACHED; 166 MULTI-UNIT ATTACHED; 45 TOWNHOMES; 129 SINGLE FAMILY HOMES; 600 TOTAL UNITS

CONTOUR DESIGN • ENGINEERING
984 Logan St., Suite 204
Noblesville, IN 46060
765.430.2042 (C)
jnierzwicki@contourlandgroup.com

Consultant

Project

BRIDGE DEVELOPMENT
MONROE, OH

US-63
Monroe, OH

Sheet

CONCEPT
SITE PLAN

Issued for

2025.09.16 PUD/ZMA SUBMITTAL
2025.10.21 UPDATED PUD/ZMA SUBMITTAL

Project Number

24-310

Sheet Number

CP-1

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W:\Shared Projects\+Bridge Development Group\BDG_OH_Monroe_24-310\5_Disciplines Design\Civil\CADD\Concepts SK Plans\2025.10.15 Concept Plan CP1\BDG CORNERSTONE_CONCEPT SITE PLAN.dwg // 10/21/2025 10:04:58 AM // jaclyn

THE KLEINGERS GROUP

CINCINNATI
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TAMPA/ST. PETE

6219 Centre Park Drive
West Chester, OH 45069
p 513.779.7851
f 513.779.7852
www.kleingers.com

**Legal Description**
**GR District**
**51.932 Acres**

Situated in the City of Monroe, Butler County, Ohio being part of City Lots 345 and 348 as conveyed to Cornerstone Monroe Farms, LLC in O.R. 8487, Pg. 1201, the boundary of the GR District being more particularly described as follows:

Commencing at the southeast corner of said Lot 348, being in the east line of Section 18;

Thence along the south line of said Lot 348, North 83° 49' 14" West a distance of 203.22 feet to the southeast corner of a 2.500 acre tract of land conveyed to City of Monroe, Ohio in OR 8472 Page 41;

Thence along the lines of said 2.500 acre tract, North 06° 10' 46" East a distance of 413.63 feet;

Thence continuing, North 84° 24' 33" West a distance of 114.95 feet to a point in the east line of an original 130.891 acre tract conveyed to 19 Monroe, LLC in OR 7584 Page 495;

Thence along said east line, N47°59’24”E a distance of 77.08 feet to the Point of Beginning;

Thence continuing, and along the east line of a 3.878 acre (deed) parcel of land conveyed to NMS 250 LLC in O.R. 9932, Pg. 699, the east line of a 1.876 acre (deed) parcel of land conveyed to Cannascend Alternative, LLC in O.R. 9222, Pg. 1154 and the east line of a 5.549 acre (deed) parcel of land conveyed to Monroe Flex I, LLC in O.R. 8698, Pg. 1499, N47°59’24”E a distance of 1042.97 feet;

Thence continuing along said 5.549 acre (deed) parcel of land, N47°03’14”E a distance of 596.39 feet to a point in the south line of Lot 634;

Thence along the south line of Lot 634, S84°15’02”E a distance of 1589.94 feet to a point in the west line of Lot 344;

Thence along the west line of Lot 344 and continuing along the west line of Lot 4605, S05°51’15”W a distance of 963.21 feet;

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Thence through aforementioned Lot 348 and 345 the following three (3) courses:

1. N87°23’08”W a distance of 1297.74 feet;
2. S02°36’25”W a distance of 109.83 feet;
3. N87°23’08”W a distance of 1395.25 feet to the Point of Beginning.

Containing 51.932 acres more or less.

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6219 Centre Park Drive
West Chester, OH 45069
p 513.779.7851
f 513.779.7852
www.kleingers.com

**Legal Description**
**UR District**
**32.610 Acres**

Situated in the City of Monroe, Butler County, Ohio being part of City Lots 345 and 348 as conveyed to Cornerstone Monroe Farms, LLC in O.R. 8487, Pg. 1201, the boundary of the UR District being more particularly described as follows:

Beginning at the southeast corner of said Lot 348, being in the east line of Section 18;

Thence along the south line of said Lot 348, North 83° 49' 14" West a distance of 203.22 feet to the southeast corner of a 2.500 acre tract of land conveyed to the City of Monroe, Ohio in OR 8472 Page 41;

Thence along the lines of said 2.500 acre tract, North 06° 10' 46" East a distance of 413.63 feet;

Thence continuing, North 84° 24' 33" West a distance of 114.95 feet to a point in the east line of an original 130.891 acre tract conveyed to 19 Monroe, LLC in OR 7584 Page 495;

Thence along said east line, N47°59’24”E a distance of 77.08 feet;

Thence through aforesaid Lot 348 and 345 the following three (3) courses:

1. S87°23’08”E a distance of 1395.25 feet;
2. N02°36’52”E a distance of 109.83 feet;
3. S87°23’08”E a distance of 1297.74 feet to a point in the west line of Lot 4605;

Thence along the west line of said Lot 4605 and along the west lines of Lot 344 and 5961, S05°51’15”W a distance of 596.37 feet to a point in the north line of Lot 346;

Thence along said north line, N87°23’08”W a distance of 2422.25 feet to the Point of Beginning.

Containing 32.610 acres more or less.

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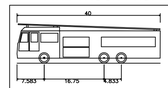
0 75 150 300
37.5 112.5 225
SCALE: 1"=150'

## FIRE TRUCK PROFILE




| E-ONE HP100 Aerial | |
|---|---|
| Overall Length | 40.000ft |
| Overall Width | 8.333ft |
| Overall Body Height | 11.000ft |
| Min Body Ground Clearance | 1.333ft |
| Track Width | 8.333ft |
| Lock-to-lock time | 6.000s |
| Max Wheel Angle | 45.00° |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Seal

Consultant

Project

BRIDGE DEVELOPMENT
MONROE, OH

US-63
Monroe, OH

Sheet

TRUCK TURN EXHIBIT

Issued for

2025.09.16 PUD/ZMA SUBMITTAL
2025.10.21 UPDATED PUD/ZMA SUBMITTAL

Project Number

24-310

Sheet Number

TR


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# Ratterman PUD Rezone—Preliminary Comments

**11/10/25**

***1202.07 Planned Unit Development (PUD)***
***Table 1207.07-1 Common Review Criteria***
***1207.23(C)(1)(2) Zoning Map Amendment, Planned Unit Development***

***1. Zoning Map Amendment***
***2. Planned Unit Development***

*d. Amenity Offset. Each proposed modification of any subdivision or zoning regulation is compensated for by a significant increase in other site amenities or design element that exceeds the minimum requirements established;*

***1207.07-1 Common Review Criteria***

**General:**

- Please confirm gross acreage (including proposed ROW) allotted to GR and UR zoning designations below (mostly for purposes of drafting the PUD agreement):
  - GR 54.10 AC
  - UR 30.44 AC
- Reminder: private roads must also be built to public standards

**Sidewalks/Connectivity:**

- Sidewalk is required along both sides of all internal and external street frontages
  - Sidewalk is provided along all frontages except for the northern Main Street road outside the City's standard typical section, where sidewalk is provided on one side and the tree lawn is reduced to 2- 2.5 FT
- Sidewalks in the UR zone shall be no less than 8 FT wide
- Shared use path (minimum 11 FT wide) is required along north side of Overbrook from Cincinnati Dayton to approximately the start of the internal path just west of Lot 1.
- Internal path shown throughout development needs to be widened to no less than 8 FT.
- Please clarify "natural path". All shared use paths must be paved with either concrete or asphalt

**Parking:**

- Will need to understand makeup of bedrooms/units in the apartment development area (purple) to analyze minimum and maximum parking requirements

**Landscaping/Buffering:**

- Street tree plan
  - Street trees in tree lawn required every 40 FT on center, along both public and private frontages
    - Please revise in SE section of multi-unit

- To note for future: Alternate location plan will be required at the preliminary plat submittal stage for street trees unable to be located in tree lawn (i.e. driveway, utility conflicts, etc.)
    - This will likely be an issue in both the single-family section due to narrower lot sizes as well as the SE section of multifamily due to the spacing between driveways

**Open Space:**

- PUDs are required 20% open space, 5% of which shall be formal open space, based on the gross acreage of the entire project area including ROW.
    - Of 84.542 gross acres, site is required 16.9 AC of open space, 4.2 AC of which to be formal
    - Formal open space is shown at 2.42 AC and includes shared use path, clubhouse, and playground
        - As noted previously, shared use path needs to be widened and be constructed of asphalt or concrete.

**Building Types:**

- As a reminder, minimum floor area is not eligible for waiver/adjustment with the PUD.
    - The minimum floor area for SFD in the GR is 1,800 SF and 1,600 for townhouse and single-unit attached building types.
    - The minimum floor area in the UR for duplex/single-unit attached is 1,600 SF; 1,600 SF for townhouse; and no minimum for multiplex or apartment building types.
- Please clarify that all lot widths are measured at the building setback line. We see average lot widths listed as well, so please make sure to display minimums requested.

    **General Residential- Single-unit detached, townhouse**
    - SFD minimums
        - Lot Size= 6,240 SF
        - Lot Width= 52 FT
            - Please clarify that all lot widths are measured at the building setback line
        - Front= 20 (Current code= 30 FT conventional, 20 FT conservation)
        - Side= 5
        - Rear= 20 (Current code= 30 FT conventional, 20 FT conservation)
    - Townhouse
        - Lot Size= 2,210 SF
        - Lot Width= 26 FT (Current code= 40 FT conventional, 30 conservation)
        - Front= 20 (Current code= 30 FT conventional, 20 FT conservation)
        - Side= 0
            - Please clarify if this request is 0 FT from exterior building or 0 FT from the end units to property line
        - Rear= 10 (Current code= 30 FT conventional, 20 FT conservation)
        - PUD Request- frontload garages. current code dictates the townhouse product has parking at the rear

**Urban Residential- Multi-unit/apartment, townhouse (front and rear loaded), multiplex**

- Multi-unit (apartments)
  - Front= 25
  - Side= 10
  - Rear= 30
- Multiplex
  - Lot Size= 5,000 SF
  - Lot Width= 50 FT
  - Front= 25
  - Side= 10
  - Rear= 30
    - Confirm setback can be met in southeast multiplex area on the north side.
  - PUD Request
    - Multiplex does not include frontloaded parking
    - Multiplex may only have one entrance visible from public ROW (impacting 8 units)

**Architectural:**

- Reference/example images supplied
- Compliance with Building Elements and Architectural Design required

**Department Specific Comments:**

**Fire:**

- Fire reserves the right to comment in future submittals (platting, construction plans, etc.)

**Public Works/Engineering:**

- Reminder: Stub to the property to the north (Bake Farm) is required. The specifics of that connection and any associated ROW dedication needed will be determined by the City Engineer.
- Comments forthcoming regarding the proposed northern Cincinnati Dayton Road access point.
- TIS review ongoing.
- Engineering review forthcoming.

# Cornerstone-Ratterman Property PUD and Rezone

# ENGINEER REVIEW COMMENTS

## VERSION TRACKING

| REVIEW PHASE | DATE SUBMITTED to CITY | REVIEW DUE DATE | DATE RETURNED to DEVELOPER | STATUS | Author |
|---|---|---|---|---|---|
| Initial | Friday, October 24, 2025 | Friday, November 7, 2025 | Thursday, November 13, 2025 | Returned with comments | Jennifer Stout |

## Comment Severity Guidelines

| 🔴 CRITICAL | 🟡 MAJOR | 🟢 MINOR |
|---|---|---|
| • Life safety issues<br>• Code violations<br>• Major design errors<br>• Items that could cause project delays | • Design inconsistencies<br>• Constructability concerns<br>• Significant cost impacts<br>• Coordination issues between disciplines | • Editorial corrections<br>• Drafting standards<br>• Clarification requests<br>• Suggestions for improvement |

- **This is the official engineering review template for the City of Monroe. All plan review comments must be provided using this format. If not, they will not be considered an official review.**
- **Each comment will have a comment severity level, see definitions above. All three severity levels require action; failure to address any comment is automatic denial upon resubmission**

**To: John Nierzwicki- Contour Land Group**

**From: City of Monroe**

**Date: 11/13/2025**

**RE: Cornerstone-Ratterman Property PUD and Rezone**

**DRAWING OR DOCUMENT NAME – 3_Master Development Plan_2025.10.21**

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 1 | 1 | Thursday, October 2, 2025 | Paul Goodhue | First Comment | MAJOR |

11/7/2025 – Provide a left-in/right-in/right-out access at the northern property line limits to Cincinnati-Dayton Road. The island shall be mountable with no signage installed on the island to allow for emergency services to take a left out of the driveway location. The median shall also extend to the north and create a divided acceleration lane. The nose shall be a minimum of 2 feet wide at the narrowest point. The design of the geometry will be vetted during construction plan reviews.

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 2 | 1 | Thursday, October 2, 2025 | Paul Goodhue | First Comment | MAJOR |

11/7/2025 – Do not connect to the private roadway in front of Monroe Flex 1 LLC.

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 3 | 1 | Thursday, October 2, 2025 | Paul Goodhue | First Comment | MAJOR |

11/7/2025 – Provide the city with recorded evidence of the 50' access easement north of the Monroe Flex 1, LLC property and along the Bake property. We need to verify its existence and understand the full rights and responsibilities provided with the easement.

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 4 | 1 | Thursday, October 2, 2025 | Paul Goodhue | First Comment | MAJOR |

11/7/2025 – Provide a 50-foot access easement from the public right of way to the property to the south for future connection (parcel C1800-005-000-103).

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 5 | 1 | Thursday, October 2, 2025 | Constance Kepner | First Comment | MAJOR |

11/7/2025 – Developer is responsible for all Overbrook Dr. Intersection and current private drive improvements, including but not limited to, an 11-foot multi-use path from Cin-Day Rd to the path located near lot 1. Traffic Signal installation, handicap access crossings, Pavement upgrades if needed. Asphalt cores shall be taken by the developer and analyzed by a qualified lab to verify that asphalt is proper condition to handle the additional traffic and turning created by this project.

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 6 | 1 | Thursday, October 2, 2025 | Constance Kepner | First Comment | MAJOR |

11/7/2025 – The size and location of water mains for urban residential areas will be reviewed in conjunction with construction plans.

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 7 | 1 | Thursday, October 2, 2025 | Kelly Wright | First Comment | MAJOR |

11/7/2025 – Please include your source for the GIS Data.

**DRAWING OR DOCUMENT NAME – Fire Apparatus turning Exhibit**

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | 8 | 1 | Thursday, October 2, 2025 | Kelly Wright | First Comment | MAJOR |

11/7/2025 – Please color-code the different turning routes.

| | Number | Page Number | DATE | AUTHOR | ACTION | SEVERITY GUIDELINES |
|---|---|---|---|---|---|---|
| Comment | | 1 | Tuesday, November 11, 2025 | Gary Morton | First Comment | MAJOR |

11/11/2025- Not until a copy of the existing private easement for the Monroe Flex 1 property along the northern limits of the property is provided to the City for review, can we give comments with true context and enforceability. It is the City's position that this roadway should be public. If it cannot be public because it is in a private easement, the City will require a maintenance agreement in place before acceptance of the preliminary plat for the life of the roadway, maintained by the HOA or other governing authority within the subdivision. The City of Monroe shall only accept this road for dedication if it is public Rights-of-Way. As stated in comment 2, no connection to the private drive shall be allowed in front of Monroe Flex 1, unless language is ratified stating the City of Monroe is harmless from and all repairs, replacement and/or maintenance of the private road.

BUTLER COUNTY
WATER & SEWER

Customer Care line
513.887.3066

130 High Street
Hamilton, Ohio 45011

water.bcohio.gov

Comments for Mt. Pleasant:

1. The sewer needs to be extended to serve any future development. The current sewer main ends ~ 200ft south of 515 Seminary Dr
2. Any unused services will need to be abandoned to the main.

Comments for Cornerstone-Ratterman

1. BCWS needs to see the sewer plan for the multi-family portion.
2. This is a higher density than what is outlined in our master plan. BCWS is running the flow simulations to see if the sewer this development is tying into is adequate for the density and expanded flow.

COMMISSIONER
Donald L. Dixon

COMMISSIONER
Cindy Carpenter

COMMISSIONER
T.C. Rogers

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

Todhunter Rd
Todhunter Rd
Todhunter Rd
Millers Creek
Hageman Rd
Hageman Rd
Hageman Rd

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

FIRST AMERICAN TITLE INSURANCE COMPANY
NATIONAL COMMERCIAL SERVICES
COMMITMENT FOR TITLE INSURANCE
COMMITMENT NO. NCS-1239372-INDY
EFFECTIVE DATE: OCTOBER 25, 2024

14. Deed of Easement from Irwin O. Byers and Myrtle Byers to The Ohio Power Company, dated March 26, 1942, filed for record April 15, 1942 and recorded in Book 356, Page 275 of Butler County Records.
(COULD NOT DETERMINE LOCATION WITH DOCUMENT PROVIDED.)

15. Deed of Easement from Myrtle Byers, Douglass Byers and Geneva Byers to The Ohio Power Company, dated March 26, 1942, filed for record April 28, 1944 and recorded in Book 387, Page 289 of Butler County Records.

Assigned to Ohio Power Company in Volume 505, Page 347 of Butler County Records.

Correcting Easement, dated July 17, 1970, filed for record September 22, 1970 and recorded in Book 952, Page 131 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #15.)

16. Easement from Myrtle, Byers, Geneva Byers and Douglass Byers to The Cincinnati Gas & Electric Company, dated May 8, 1958, filed for record May 26, 1958 and recorded in Book 41, Page 210 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #16)

17. Grant of easement from Karl J. Alter, Archbishop of Cincinnati, Trustee, to The Cincinnati Gas & Electric Company, dated December 14, 1962, filed for record January 21, 1963 and recorded in Book 766, Page 157 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #17)

18. Easement for Highway Purposes from Karl J. Alter, Archbishop of Cincinnati, as Trustee to State of Ohio, dated November 3, 1962, filed for record March 14, 1963 and recorded in Book 768, Page 563 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #18)

19. Easement from Karl J. Alter, Archbishop of Cincinnati, as Trustee to The Ohio Bell Telephone Company, dated June 13, 1969, filed for record September 17, 1969 and recorded in Book 925, Page 117 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #19)

20. Easement by and between Geneva Byers and The Cincinnati Gas & Electric Company, dated June 18, 1970, filed for record July 2, 1970 and recorded in Book 946, Page 123 of Butler County Records.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #20)

21. Easement for Sanitary Sewer and Appurtenances from Miami Valley Industrial Park, Inc. to Village of Monroe, dated December 11, 1979, filed for record March 6, 1980 and recorded in Book 1390, Page 451 of Butler County Records.

Assignment contained in the Deed to The Board of Commissioners of Butler County, Ohio, dated May 6, 1985, filed for record May 10, 1985 and recorded in Book 1523, Page 353 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #21)

22. Easement for Sanitary Sewer and Appurtenances from Miami Valley Industrial Park, Inc. to Village of Monroe, dated December 11, 1979, filed for record March 6, 1980 and recorded in Book 1390, Page 454 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #22)

23. Easement for Sanitary Sewer and Appurtenances from Eagle Investments I, LLC to Teazek Ltd., filed for record February 27, 1996 and recorded in O.R. 5558, Page 242 of Butler County Records.
(PORTION OF SUBJECT EASEMENT WAS RELEASED BY O.R. 7931 PG. 2054. REMAINING PORTION OF EASEMENT DOES NOT LIE ON, OVER, OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #23)

24. Easement Agreement by and between CIL, Inc. to Paul Hemmer Development Company IV, LLC, dated as of April 11, 2001, filed for record April 12, 2011 and recorded in O.R. 6587, Page 309 of Butler County Records.

First Amendment to Easement Agreement recorded June 22, 2023 in OR Book 9984, Page 1351 of Butler County Records.
(ABUTS AND BENEFITS SURVEYED PROPERTY. APPROXIMATE LOCATION PLOTTED AND LABELED AS ITEM #24.)

25. Access Grant by Paul Hemmer Development Company IV and City of Monroe, dated July 17, 2002, filed for record April 9, 2003 and recorded in OR Book 7061, Page 2179 of Butler County Records.
NOTE: SAID EASEMENT CHANGES THE ROAD ACCESS POINT MAKING IT 80 FEET, RECITED BUT NO ACTUAL GRANT NOTED IN THE DOCUMENT. REFERENCE IS MADE TO DEED BOOK 768, PAGE 563.
(DOES NOT LIE ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #25.)

26. Easement filed for record in Volume 1393, Page 149 of Butler County Records.

Assignment contained in the Deed to The Board of Commissioners of Butler County, Ohio, dated May 6, 1985, filed for record May 10, 1985 and recorded in Book 1523, Page 353 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #26)

27. Easement, Restrictions, Covenants disclosed in deed recorded July 30, 2012 in Volume 8472, Page 41 of Butler County Records.
(LIES ON, OVER OR ACROSS SURVEYED PROPERTY. PLOTTED AND LABELED AS ITEM #27)

## LEGAL DESCRIPTION:

Situated in the City of Monroe, Butler County, Ohio being part of City Lots 345, 346 and 348 as conveyed to Fifth Third Bank in O.R. 8290, page 1137, the boundary of which being more particularly described as follows:

Beginning at a ½" iron pin found at the southeast corner of said Lot 348, being in the east line of Section 18;

Thence along the south line of said Lot 348, North 83° 49' 14" West a distance of 203.22 feet to a 5/8" iron pin found at the southeast corner of a 2.500 acre tract of land described on the plat recorded in Volume 55, page 36 of the Butler County Engineer's Record of Land Surveys;

Thence along the east line of said 2.500 acre tract, North 06° 10' 46" East a distance of 413.63 feet to a 5/8" iron pin found;

Thence along the north line of said 2.500 acre tract, North 84° 24' 33" West a distance of 114.95 feet to a 5/8" iron pin found in the east line of a 19.244 acre (deed) tract of land conveyed to 19 Monroe, LLC in O.R. 7584, page 495;

Thence in part along said east line and along the east line of a 3.678 acre tract of land conveyed to Monroe Shoppes, LLC in O.R. 7900, page 2373, North 47° 59' 24" East a distance of 1120.05 feet to a 5/8" iron pin found;

Thence continuing along the east line of said 19.244 acre tract, North 47° 03' 14" East a distance of 596.39 feet to a 5/8" iron pin found in the south line of Lot 634 as conveyed to Everett A. and Deborah K. Bake in O.R. 6041, page 1101;

Thence along the south line of said Lot 634, South 84° 15' 002" East a distance of 1589.94 feet to a 5/8" iron pin found in the west line of Lot 344;

Thence along west line of said Lot 344, Lot 4605, and in part along Lot 5961, South 05° 51' 15" West a distance 1559.58 feet to a point in the north line of Lot 364, witness a 5/8" iron pin lying 5.5 feet west;

Thence along the north line of Lot 346, N87°23'06"W a distance of 2422.25 feet to the Point of Beginning.

Containing 84.542 acres more or less, being subject to easements and rights-of-way of record.

Bearings are based on the Ohio State Plane coordinate system, South Zone and have been scaled to ground by using a project adjustment factor of 1.0000946958 applied at base point N53,168.31 E1,445,083.67. Grid and ground coordinates are identical at the base point.

## SURVEYOR'S CERTIFICATION

TO: FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES; MONROE BDG III, LLC, AN INDIANA LIMITED LIABILITY COMPANY, CORNERSTONE MONROE FARM, LLC;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA / NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-5, 6(a), 6(b), 7(a), 7(b1), 7(c), 8, 9, 11(a), 11(b), 13, 14, 16, 17, 18 AND 19 OF TABLE A THEREOF.

THE FIELD WORK WAS COMPLETED ON 12-19-2024

DATE OF PLAT OR MAP 12-17-2024

_____ _____
RANDY C. WOLFE DATE
OHIO PROFESSIONAL SURVEYOR NO.8033

THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
6219 Centre Park Dr.
West Chester, OH 45069
513.779.7851

SEAL:

STATE OF OHIO
RANDY C. WOLFE
8033
REGISTERED
PROFESSIONAL SURVEYOR

| NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 12-17-24 | ALTA/NSPS TITLE SURVEY - KPR |

# ALTA/NSPS LAND TITLE SURVEY
# 84.542 ACRES

**PT. LOTS 345 & 348**
**SEC. 12 & 18, TOWN 3, RANGE 3, M.Rs.**
**CITY OF MONROE**
**BUTLER COUNTY, OHIO**

| | |
|---|---|
| PROJECT NO: | 180753VSD003 |
| DATE: | 12-17-24 |
| SCALE: | |
| SHEET NAME: | CORNERSTONE FARMS INDUSTRIAL |
| SHEET NO. | 2 OF 2 |

Goodhue Comments Emailed to Constance on 11/7/2025

Provide a left-in/right-in/right-out access at the northern property line limits to Cincinnati-Dayton Road. The island shall be mountable with no signage installed on the island to allow for emergency services to take a left out of the driveway location. The median shall also extend to the north and create a divided acceleration lane. The nose shall be a minimum of 2 feet wide at the narrowest point. The design of the geometry will be vetted during construction plan reviews.

No connection to private road.

Developer is responsible for Overbrook improvements, including an 11-foot multi-use path from Cin-Day to the path ( located near lot 1.

Multi-use path (11 ft.) must extend to west to Cin-Day Road.

Proved 50 access easement from the public right of way to C1800-005-000-103

Provide 50" access easement to north

Water main size and location will be reviewed with construction plans for the urban residential areas.

ACCESS WITH NO LEFT TURN

EXISTING WATER METER

APPROXIMATE LOCATION EASEMENT

EXISTING SANITARY SEWER

EXISTING 20' SANITARY SEWER EASEMENT

OF RIVERINE

CENTERLINE OF RIVERINE

ESTIMATED WETLAND BUFFER

CENTERLINE OF INTERMITTENT STREAM

OVERBROOK COURT

CINCINNATI DAYTON ROAD

EXISTING WATER MAIN

APPROXIMATE LOCATION EX. ACCESS EASEMENT

APPROXIMATE LOCATION EX. CGRE EASEMENT

EXISTING ZONING -URBAN RESIDENTIAL (UR)

PROPOSED ZONING - PUD WITH UNDERLYING GR ZONING

PROPOSED ZONING - PUD WITH UNDERLYING UR ZONING

EXISTING ZONING - GEN COMMERCIAL (GC)

PROPOSED ZONING - PUD WITH UNDERLYING GR AND UR C1800-005-000-056 CORNERSTONE MONROE

PHASE 1

PHASE 2

7' NATURAL PATH

0.6 AC AMENITIES

WETLAND-TYPE DETENTION BASIN

WET BOTTOM DETENTION BASIN

MULTI-UNIT ATTACHED HOMES DEVELOPMENT

2' NATURAL PATH

LAWTON AVENUE

FUTURE ROAD CONNECTION

FUTURE COMMERCIAL DEVELOPMENT

EX. HIGHWAY EASEMENT W/LIMITED ACCESS

US ROUTE 63

C1800-0006-000-044
CORNERSTONE MONROE FARMS LLC

RURAL RESIDENTIAL (RR) ZONING

C1800-006-000-004
EVERETT AUGUSTUS BAKE AND BRIAN WAYNE BAKE

C1800-006-000-038
HOBACK INVESTMENTS LLC

C1800-006-000-030
371 LAWTON LLC

C1800-006-000-031
TFI MONROE OH LLC

C1800-006-000-046
CHROME DEPOSIT, INC

C1800-006-000-039
VECAT PROPERTIES, LP

C1800-006-430-017
PERFORMANCE FOOD GROUP, INC.

C1800-005-000-095
C1800-006-000-054
NMS 250 LLC

C1800-005-000-010
19 MONROE LLC

C1800-005-000-097
CITY OF MONROE, OHIO

C1800-005-000-103
N MAIN LLC

C1800-005-000-099
C1800-006-000-056
MONROE FLEX I LLC

C1800-006-000-055
C1800-006-000-098
CANNASCEND ALTERNATIVE LLC

C1800-006-000-017
CORNERSTONE MONROE FARM, LLC

C1800-006-000-028
TAC PROPERTIES OF WARREN COUNTY, LLC

GENERAL COMMERCIAL (GC) ZONING

MIXED USE (MU) ZONING

URBAN RESIDENTIAL ZONING

NEIGHBORHOOD CONSERVATION ZONING

LIGHT INDUSTRIAL (LI) ZONING

N

0 75 150 300
37.5 112.5 225
SCALE: 1"=150'

**SIDEWALK NOTES:**
PUBLIC SIDEWALKS TO BE INSTALLED ON BOTH SIDES OF SUBDIVISION ROAD.

**SUBDIVISION ROAD NOTES:**
ALL STREETS WITHIN THE SUBDIVISION WILL BE BUILT TO THE LOCAL AND COLLECTOR STREET STANDARDS ILLUSTRATED ON THIS EXHIBIT.

**LANDSCAPING NOTES:**
ALL LANDSCAPING WITHIN THE SUBDIVISION WILL BE DESIGNED TO THE LOCAL STANDARDS.

**ZONING SUMMARY:**
PROPERTY IS CURRENTLY ZONED UR-URBAN RESIDENTIAL
REQUEST REZONE TO PUD - WITH GR - GENERAL RESIDENTIAL FOR SINGLE FAMILY/TOWNHOMES
REQUEST REZONE TO PUD - WITH UR - URBAN RESIDENTIAL FOR MULTI-UNIT ATTACHED

**PROJECT SCHEDULE:**
PROBABLE PHASING IS
BREAK GROUND: Q3 2026
PHASE 1: Q3 2026 - Q3 2027
PHASE 2: Q4 2027 - Q4 2028

**OWNER:**
CORNERSTONE MONROE FARM LLC

**DEVELOPER:**
BRIDGE DEVELOPMENT GROUP
ZACH RODENBARGER
3700 ROOSEVELT STREET
GARY, IN 46408

**REQUESTED SETBACKS:**

GR ZONING-SINGLE FAMILY HOME
FRONT YARD = 20 FT
SIDE YARD = 5 FT
STREET SIDE YARD = 20 FT
REAR YARD = 20 FT

GR ZONING-TOWNHOMES
FRONT YARD = 20 FT
SIDE YARD = 0 FT
STREET SIDE YARD = 20 FT
REAR YARD = 10 FT

UR ZONING-MULTI-UNIT ATTACHED & DETACHED
FRONT YARD = 25 FT
SIDE YARD = 10 FT
STREET SIDE YARD = 10 FT
REAR YARD = 30 FT

**AREA SUMMARY:**
PUBLIC RIGHT-OF-WAY (EXCLUDES MULTI-UNIT PARCELS) = 10.27 AC.

SINGLE FAMILY HOME/TOWNHOMES AREA = 54.10 AC. (174 UNITS)
129 SINGLE FAMILY HOMES; AVG LOT SIZE = 52' X 120' = 6,240 SF
45 TOWNHOMES; AVG LOT SIZE 26' X 85' = 2,210 SF

MULTI-UNIT ATTACHED PARCEL AREA (PARCEL 176) = 13.40 AC. (ESTIMATE 260 UNITS)
MULTI-UNIT ATTACHED PARCEL AREA (PARCEL 175) = 17.04 AC. (ESTIMATE 166 UNITS)

TOTAL DEVELOPMENT AREA = 84.54 AC.
TOTAL OPEN SPACE/DETENTION AREA (EXCLUDES MULTI-UNIT PARCELS) = 19.20 AC. (35%)
ANTICIPATED PERCENTAGE OF OPEN SPACE FOR MULTI-UNIT ATTACHED (PARCEL 176) = 5.94 AC (44%)
ANTICIPATED PERCENTAGE OF OPEN SPACE FOR MULTI-UNIT ATTACHED (PARCEL 175) = 4.72 AC (27%)
TOTAL FORMAL OPEN SPACE (5% MINIMUM OVERALL)= 2.42 AC (8%)

TOTAL UNITS = 260 MULTI-UNIT ATTACHED (PARCEL 176)
166 MULTI-UNIT ATTACHED (PARCEL 175)
45 TOWNHOMES
129 SINGLE FAMILY HOMES
600 TOTAL UNITS

DENSITY OF SINGLE FAMILY HOMES/TOWNHOMES = (129+45)/54.10 = 3.21 UNITS PER AC.
ANTICIPATED DENSITY OF MULTI-UNIT ATTACHED (PARCEL 176) = 260/13.40 = 19.40 UNITS PER AC.
ANTICIPATED DENSITY OF MULTI-UNIT ATTACHED (PARCEL 175)= 166/17.04 = 9.74 UNITS PER AC.

TYPICAL LOCAL ROADWAY CROSS SECTION

TYPICAL COLLECTOR STREET CROSS SECTION

OFF SITE NORTH ACCESS CROSS SECTION

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Seal

Consultant

Project

BRIDGE DEVELOPMENT MONROE, OH

US-63
Monroe, OH

Sheet

MASTER DEVELOPMENT PLAN

Issued for
2025.09.16 PUD/ZMA SUBMITTAL
2025.10.21 UPDATED PUD/ZMA SUBMITTAL

Project Number
24-310

Sheet Number
MDP

W:\Shared\Projects\-Bridge Development Group\BDG_OH_Monroe_24-310\5_Disciplines-Design\Civil\CADD\Exhibits\Master Development Plan\Master Development Plan_2025.10.16.dwg // 10/21/2025 10:33:42 AM // jaclyn

| CURRENT REGULATION | A/R/C | PROPOSED CHANGE | REASON FOR CHANGE | WORD DOC PAGE # |
|---|---|---|---|---|
| Table 2.03(B)-1 SR Lot and Building Standards | Remove | 0.5 AC ~~(21,780 sf)~~ | Unnecessary language | 21 |
| Table 2.03(C)-1 GR Lot and Building Standards | Change | Alter lot size, lot width, setbacks for building types | Enable development of desired product type | 26 |
| Table 2.03(E)-1 UR Lot and Building Standards | Change | Alter lot size, lot width, setbacks for building types | Enable development of desired product type | 35 |
| 1202.04(F)(1)and(2) Development Types | Add | For the purposes of this requirement, Zero Lot Line and Single-Unit Detached development types are not considered separate development types. | Encourage mulitple housing types in a development | 39 |
| 1203.04 Limited Use Standards Multiplex | Change | Entrance. Only one entrance into the structure shall be directly visible from any public ~~right-of-way~~ or private street. | Cover all streets, not just public | 148 |
| Table 1204.06-2 Duplex | Remove | Remove transparency requirement | Unnecessary language | 216 |
| Table 1204.06-3 Townhouse | Remove | Remove transparency requirement | Unnecessary language | 219 |
| 1204.06(F) Mulitplex | Change | Details include a principal entrance facing the street with secondary entrances in one or more locations. Each is defined by a porch, stoop, or recessed entry. Parking is located in the side or rear of the property. | Create consistency between intent, reference images, and text | 219 |
| Table 1204.06-4 Multiplex | Remove | Remove transparency requirement | Unnecessary language | 221 |
| 1204.07(C) Mixed Use | Change | C.Mixed-Use and Nonresidential. All mixed-use and nonresidential buildings in the MU, HC, and GC ~~and DT~~ districts, as well as any mixed use or nonresidential uses permitted in residential zoning | Condensing Mixed Use and Commercial building standards as they were virtually the same | 226 |
| 1204.07(C)(4) Mixed Use | Add | "Canopies/porticos above the entrance" | Condensing Mixed Use and Commercial building standards as they were virtually the same | 227 |
| 1204.07(D) Nonresidential | Remove | Removed section as it was combined with mixed use | Condensing Mixed Use and Commercial building standards as they were virtually the same | 232 |
| 1204.07(D) Nonresidential | Change | Change title to "Industrial" | Deleted Nonresidential section due to condensing above | 232 |
| Table 1204.07-1 Mixed Use Building Standards | Change | Change table title to "Mixed Use and Nonresidential Building Standards" | Condensing Mixed Use and Commercial building standards as they were virtually the same | 231 |
| 1204.09(F) Parking Loading and Circulation | Change | a. From the period of time beginning ~~one week prior to Memorial Day through Veterans Day~~ June 1 through November 15, one of the recreational vehicles/trailers is permitted in the front yard on the driveway serving the dwelling, provided that the vehicle/trailer does not encroach upon the sidewalk; and | Simplify regulation with specific dates rather than tying to a date that may change | 260 |
| 1204.10 Off-Street Parking Spaces Required | Add | Parking spaces for Household Living use types or specified building types that are located in private garages or individual driveways do not have to be marked and count towards the required parking count. | Clarify that these parking areas count towards the overall number of spaces | 262 |
| 1204.10(D) Surface and Drainage | Remove | 1. Alternative Paving Materials. The City Engineer may approve alternative paving materials for parking areas not specified ~~in Subsection B, Surface and Drainage,~~ above~~,~~ if the City Engineer determines that the alternative, compared to the permitted materials, is substantially equal to or better in quality and durability. | Unnecessary language | 272 |
| Table 1204.20-1 Development Landsdcaping Requirements | Add | Plantings make up no less than 20 percent of required front yard | Clarifying language | 299 |
| Table 1204.20-1 Development Landsdcaping Requirements | Add | Interior island with groundcover and 1 canopy tree and 3 shrubs for a single row and 2 canopy trees and 6 shrubs for a double row | Clarifying language | 299 |
| Table 1204.20-1 Development Landsdcaping Requirements Table Notes | Remove | 4. See Item H in Figure 1204.20-1, below for an example of a perimeter parking interval | No longer using that note number | 299 |
| Table 1204.26-2 Allowed Attached Permanent Signs | Change | Alter table to align permissions from permitted sign types to regulations table | | 319 |
| Table 1204.26-1 Allowed Sign | Add | Add "P" for Subdivision Pylon Sign for EC, LI, HI | Consistency with sign table below | |
| 1204.27 Temporary Signs | Remove | "10. No temporary sign shall be mounted, attached, affixed, installed, or otherwise secured by any permanent means to any building, permanent sign, other structure, or improvement, or to the ground | Repeated regulation from #5 | 333 |
| 1204.27(C) Temporary Signs | Add | B.Total Number of Signs Permitted. Any property may choose a combination of any of the permitted sign types stated in so long as no more than two total signs are permitted unless allowed in accordance with Table 1204.27-1, Allowed Temporary Signs. | Clarify limitations on number of temp signs allowed | 333 |
| Table 1204.27-1 Banner Sign | Add | "1 per property" for Residential Districts, "1 per property or 1 per tenant in a multitenant building" for LI, HI | Allow sign type option across zoning districts | 334 |
| Table 1204.27-1 Banner Sign | Add | "40 SF" to Max Area for Residential Districts for Banner Signs | Allow sign type option across zoning districts | 334 |
| Table 1204.27-1 Banner Sign | Change | "Attached: Below eave line or parapet wall; Ground Mounted: 5 ft." Merge cell across zoning districts | Consistency across zoning districts | 334 |
| 1204.31-1 Outdoor Lighting Standards | Remove | Remove "Districts" from table heading | Unnecessary language | 344 |

| | | | | |
|---|---|---|---|---|
| 1205.04(A) | Remove | 1. *Grading*. The streets shall be graded, surfaced, and improved to the dimensions required by this Code. All streets shall be graded the full width of the right-of-way. Grading for street improvements shall not create soil slopes exceeding a vertical rise of one foot for every three feet of horizontal distance unless otherwise recommended and approved by the City Engineer ~~and Planning Commission.~~ | Should be under the purview of City Engineer only | 357 |
| 1205.05-1 Street Cross-Section Standards, Table Notes | Change | 1. Sidewalk widths within the Mixed-Use and Downtown zoning districts shall ~~may~~ be increased to 8 ft. or to a width determined by the City Engineer to facilitate pedestrian activity. | Enforceability | 361 |
| 1205.05(C)(3) | Remove | 3. Variances or Waivers. These requirements may only be reduced where topographic or other conditions warrant, with approval of a variance or waiver is approved in accordance with the provisions in Chapter 1207, Development Review Procedures. | Should be under the purview of City Engineer only | 362 |
| 1205.05(F)(1) | Remove | 1. *Concrete Curb and Gutter*. Concrete curb and gutter shall be provided along the outside edge of all street pavements, except in RR, LI, and HI zoning districts where curb and gutter requirements may be modified with approval of a variance or waiver is approved in accordance with the provisions in Chapter 1207, *Development Review Procedures*. | Should be under the purview of City Engineer only | 362 |
| 1205.05(G) | | Add period at end of sentence | Grammatical | 363 |
| 1205.06(G) | Add | Trails and Bike Lanes to "Shared Use Paths, Trails, and Bike Lanes" | Consistency in language | 363 |
| 1205.08(B)(3) | Add | "off-street shared-use trails" to "off-street shared-use paths or trails" | Consistency in language | 363 |
| | Remove | 1. Exception to Screening Requirement. Utility structures in the industrial zoning districts shall not be subject to this screening requirement. | Already managed in landscaping code section | 368 |
| 1205.10(H) | Remove | No text under this section | Error | 372 |
| 1207.10-1 Development Review Summary, Certificate of Occupancy | Add | "Upon completion of construction or prior to a change in occupancy" | Grammatical | 392 |
| 1207.10-1, Development Review Summary, Master Development Plan | Add | "Planning Commission" to "Planning Commission or City Council" | Clarify some cases go to PC, others to CC | 392 |
| Table 1207.10-1 Development Review Summary, Administrative Adjustment | Add | In order to make a limited modiciation to numerical standards on an application or permit that has already been approved" | Add flexibility for application or approved permit | 393 |
| Table 1207.10-1 Development Review Summary, Subdivision Design and Improvement Waiv | Change | Add Planning Commission as a recommending body and Council as final say | Council now approves preliminary plats | 394 |
| 1207.25 Variance(B) | Change | Move further down in the section, change title from "Specific Review Procedures" to "Amendment Review Procedures" | More logical order | 406-7 |
| 1208.01(C) | Add | a. Prohibited Uses. Is a use that is no longer permitted; | | 414 |
| 1208.02(B) | Change | A minor nonconforming, nonresidential use, may be increased or improved, regardless of the applicable zoning district, where the owner of such use can demonstrate through application to the BZA that the manner in which the useable area of the nonconforming use will be increased or improved will have minimal adverse impact upon adjacent properties and other permitted land uses in the surrounding neighborhood or can be made compatible with the adjacent properties and the uses in the surrounding neighborhood upon compliance with specified conditions. | | 415 |
| 1209 | Add | "Sign, Pylon" to "Sign, Subdivision Pylon" and "affixed to the ground by supports with a solid base directing attention to a subdivision" | Create consistency with the term used elsewhere in the code | 449 |
| | | | | |