BENDERSON DEVELOPMENT
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VIA HAND DELIVERY AND ELECTRONIC SUBMISSION
Town Supervisor and Members of the Town Board
Town of Amherst
5583 Main Street
Williamsville, New York 14221

Re: Request for Rezoning – 1640 Hopkins Road, Town of Amherst, New York

Dear Town Supervisor and Members of the Town Board:

On behalf of Benderson Development Company, LLC ("Benderson"), we respectfully submit this application requesting that the Town Board rezone the property located at 1640 Hopkins Road (the "Subject Property") from the Neighborhood Business District ("NB") to the General Business District ("GB"), pursuant to Part 8, § 8-3 of the Town of Amherst Zoning Ordinance.

The requested rezoning will facilitate the redevelopment and productive reuse of an existing vacant commercial building formerly occupied by Rite Aid. The Subject Property contains an approximately 11,209-square-foot building with an existing drive-through window. Benderson proposes to redevelop the building and utilize a portion of it for a coffee shop incorporating the existing drive-through window.

The proposed redevelopment will return a substantial vacant commercial property to productive use and provide a convenient service to area residents, school personnel, and the surrounding business community. Benderson has submitted a Traffic Impact Study, including a drive-through queue assessment, prepared by Passero and a Noise Impact Assessment prepared by SLR. These studies evaluate the principal operational concerns associated with the proposed use and support the conclusion that the redevelopment can be accommodated without negative traffic impacts or adverse noise impacts to the adjacent properties.

As demonstrated below, the requested rezoning is supported by the existing land-use pattern, the property's location along Hopkins Road, the proposed reuse of the existing building, and the technical analyses submitted with the application. The rezoning also satisfies the applicable review considerations set forth in § 8-3-5 of the Town Zoning Ordinance.

1. Description of the Subject Property and Surrounding Area

The Subject Property is located on the west side of Hopkins Road, north of the existing Hopkins Square shopping plaza and south of Doidge Road. The property is currently improved with an approximately 11,209-square-foot commercial building formerly occupied by Rite Aid. Following the closure of that business, the building became vacant, and Benderson has been seeking an appropriate opportunity to restore the property to productive commercial use.

The surrounding area contains a mix of commercial, residential, and educational uses. Specifically:

- North: Lake Stone Orthodontics, an established commercial healthcare use; Mobil Gas and Service Station.
- East: Williamsville High School, an important educational and community institution.
- South: Hopkins Square, an existing shopping plaza serving area residents.
- West: Single-family residential housing.

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The Subject Property is situated within an established area where commercial activities coexist with residential neighborhoods and educational facilities. Its location adjacent to an existing shopping plaza, near an established professional office use and gas and service station, and across Hopkins Road from Williamsville High School makes it a logical location for a neighborhood-serving business.

The property's proximity to residential housing also requires careful consideration of compatibility. Benderson recognizes this relationship and has submitted technical studies addressing traffic circulation, drive-through queuing, and noise. These studies provide an evidentiary basis for the Town to evaluate the proposed redevelopment in the context of its actual anticipated impacts rather than relying on generalized concerns regarding drive-through uses.

2. Proposed Rezoning and Redevelopment

Benderson requests that the Subject Property be rezoned from NB to GB to facilitate the redevelopment of the existing building and the proposed coffee shop with drive-through service.

The Town's zoning framework distinguishes between the NB District, which is intended to accommodate neighborhood-oriented commercial, professional office, and personal-service needs, and the GB District, which is intended to accommodate commercial uses serving a broader market area and community-wide needs. The Town's stated purposes for these districts recognize the role of commercial nodes and mixed-use activity centers in serving the needs of the community. See Town of Amherst Zoning Ordinance, Part 3, provisions governing the NB and GB Districts.

The requested rezoning should be evaluated in the context of the Subject Property's location within the Hopkins Road commercial area and its relationship to Hopkins Square, Williamsville High School, and the surrounding residential neighborhoods. The proposed coffee shop would complement the existing commercial uses and provide a convenient service to a broader group of users, including nearby residents, school employees, and patrons of the surrounding businesses.

The proposal also takes advantage of existing improvements. The commercial building is already constructed, and the drive-through window is an existing feature. Redevelopment will therefore make productive use of an established commercial property rather than require the development of a new commercial site.

Benderson recognizes that rezoning to GB is a district-level zoning amendment, not simply an approval of the proposed coffee shop. Accordingly, the request must be evaluated based on the suitability of the property for the proposed district, its consistency with the Town's planning objectives, and its relationship to surrounding properties. As explained below, the Subject Property's existing commercial development, location within an established commercial area, and proximity to complementary uses provide a reasonable planning basis for the requested amendment.

3. Findings Under § 8-3-5 of the Town of Amherst Zoning Ordinance

Section 8-3-5 establishes five general review criteria for rezoning applications. Benderson respectfully submits that the record supports favorable findings on each criterion.

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A. Consistency with the Comprehensive Plan and Zoning Ordinance — § 8-3-5(A)

The proposed zoning and development plan must be generally consistent with the policies of the Town's Comprehensive Plan and Zoning Ordinance.

The requested rezoning advances sound land-use planning objectives by facilitating the productive reuse of an existing commercial property within an established commercial area. The Subject Property is not an undeveloped parcel being introduced into an otherwise residential setting. It contains a substantial commercial building that previously served the community as a pharmacy and includes an existing drive-through window.

The proposed redevelopment would continue the property's commercial function while adapting it to meet current market demand. A coffee shop would complement the existing commercial and institutional uses in the immediate vicinity and provide a service to residents, school personnel, and customers visiting nearby businesses.

The Town's zoning framework recognizes the importance of locating commercial uses within established commercial nodes and mixed-use activity centers. The stated purposes of the NB and GB districts distinguish between neighborhood-oriented commercial activity and commercial uses serving broader community needs. The Subject Property's location along Hopkins Road, adjacent to Hopkins Square and near Williamsville High School, supports consideration of the requested GB classification in the context of the existing commercial corridor.

The rezoning would also facilitate the productive reuse of an existing building, thereby supporting continued economic activity within the Town's established commercial areas. It would not require the introduction of a new commercial building into an undeveloped residential area.

The requested rezoning is consistent with the planning objectives of the Town of Amherst Bicentennial Comprehensive Plan, particularly its policies encouraging the revitalization of vacant and underutilized properties, the continued viability of established commercial areas, and the protection of surrounding neighborhoods from adverse land-use impacts.

- **Revitalization of Vacant and Underutilized Properties**. The Comprehensive Plan recognizes the importance of redeveloping vacant, obsolete, and underutilized properties for economically viable uses. The proposed redevelopment of 1640 Hopkins Road directly advances this objective. The Subject Property contains an approximately 11,209-square-foot commercial building formerly occupied by Rite Aid that is currently vacant. Benderson seeks to restore the building to productive commercial use by redeveloping the existing improvements and utilizing a portion of the building for a coffee shop with drive-through service. The proposal represents a practical opportunity to revitalize an existing commercial property, attract a new business, and restore economic activity to the site without requiring the construction of an entirely new commercial building. Accordingly, the requested rezoning advances the Comprehensive Plan's objective of encouraging the productive reuse of vacant and underutilized properties.

- **Support for Established Commercial Areas**. The Comprehensive Plan recognizes the importance of maintaining viable commercial centers that provide goods and services to surrounding neighborhoods and the broader community. The Subject Property is located on the west side of Hopkins Road, north of Hopkins Square and south of Doidge Road, within an area characterized by

a mix of commercial, residential, and educational uses. Lake Stone Orthodontics and a Mobil gas and service station is located to the north, Williamsville High School is located to the east, Hopkins Square is located to the south, and single-family residential housing is located to the west. The proposed coffee shop would complement the existing commercial uses and provide a convenient service to area residents, school personnel, and patrons of nearby businesses. Its location near Williamsville High School and Hopkins Square further supports its role as a community-serving use that reinforces the established commercial function of the Hopkins Road corridor.

The requested rezoning should also be considered in light of the Comprehensive Plan's Conceptual Land Use Plan and its designation of commercial and mixed-use centers, including the Hopkins/Dodge area. The proposed redevelopment is consistent with the Plan's general objective of directing commercial activity toward established commercial areas rather than introducing unrelated commercial development into undeveloped residential neighborhoods.

- **Compatibility with Surrounding Properties and Protection of Neighborhood Character**. The Comprehensive Plan emphasizes the importance of evaluating proposed land-use changes in relation to surrounding properties and avoiding adverse impacts associated with traffic, noise, lighting, and other operational characteristics. Benderson has specifically addressed these considerations through the preparation and submission of a Traffic Impact Study prepared by Passero, including a drive-through queue assessment, and a Noise Impact Assessment prepared by SLR. The Traffic Impact Study evaluates the anticipated traffic and vehicle-queuing conditions associated with the proposed use and supports the conclusion that the project can operate without negative traffic impacts. Similarly, the SLR Noise Impact Assessment concludes that the proposed redevelopment will not result in adverse noise impacts.

- These analyses are particularly relevant given the proximity of single-family residences to the west and Williamsville High School across Hopkins Road. They provide a technical basis for evaluating the proposed redevelopment based on its anticipated operating characteristics and support the conclusion that the proposed use can coexist with the surrounding neighborhood without unacceptable adverse impacts, subject to compliance with applicable requirements and any conditions imposed through the Town's review process.

  Benderson recognizes that the requested change from the Neighborhood Business District to the General Business District warrants consideration beyond the merits of the proposed coffee shop alone. The Town Board must also evaluate the broader range of uses that may be permitted under the requested zoning classification and the appropriateness of that classification for the Subject Property. In this instance, the property's existing commercial development, location adjacent to an established shopping plaza, proximity to complementary commercial and educational uses, and relationship to the Hopkins Road commercial area provide a reasonable basis for considering the requested rezoning. The proposal is intended to facilitate the productive reuse of an existing commercial property, not to extend commercial development into previously undeveloped residential land.

- **Consistency with the Town's Land-Use Planning Objectives**. When considered together, the existing development pattern, the vacant condition of the Subject Property, the proposed adaptive reuse, and the submitted traffic and noise studies support the requested rezoning as a reasonable land-use planning decision. The proposal would return an existing commercial building to

productive use, provide a convenient service to the surrounding community, complement nearby commercial and institutional uses, and address the principal operational concerns associated with drive-through service.

For these reasons, Benderson respectfully submits that the requested rezoning advances the Comprehensive Plan's objectives of revitalizing underutilized properties, maintaining viable commercial areas, and ensuring compatibility between commercial development and surrounding neighborhoods. Accordingly, the requested amendment from the Neighborhood Business District (NB) to the General Business District (GB) is consistent with the Town's broader land-use planning objectives and warrants the Town Board's favorable consideration.

Based on the existing commercial setting, the proposed adaptive reuse, and the relationship of the property to surrounding uses, Benderson respectfully submits that the rezoning is consistent with the Town's planning objectives.

B. Availability of Adequate Services and Utilities — § 8-3-5(B)

Section 8-3-5(B) requires consideration of whether adequate services and utilities are available, or are proposed to be made available, to support the development.

The Subject Property is an existing developed commercial site containing an approximately 11,209-square-foot building. The proposed redevelopment will reuse the existing building and its established commercial infrastructure, rather than introduce a new development requiring the extension of services to a previously undeveloped property.

The proposed coffee shop will occupy only a portion of the existing building. Accordingly, the project is anticipated to make use of the existing commercial site and available infrastructure, subject to confirmation of utility capacity and any required improvements during the applicable site development and permitting processes.

The existing developed condition of the property provides a reasonable basis for concluding that the proposed redevelopment can be accommodated without the substantial infrastructure demands ordinarily associated with new development on an undeveloped site.

Benderson will coordinate with the appropriate Town departments and utility providers to confirm that water, sanitary sewer, stormwater management, and other necessary services are adequate for the proposed use. Any improvements identified as necessary will be addressed through the applicable review and approval process.

Accordingly, subject to confirmation of service capacity and compliance with applicable requirements, the proposed redevelopment is consistent with the Town's objective of directing commercial activity to established and serviced locations.

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C. Compatibility with Nearby Zoning, Conforming Uses, and Neighborhood Character — § 8-3-5(C)

Section 8-3-5(C) requires consideration of the proposed rezoning's compatibility with nearby zoning, conforming uses, and the character of the neighborhood.

The Subject Property is located in an area characterized by an established mix of commercial, residential, and educational uses. Hopkins Square is located immediately to the south, Lake Stone Orthodontics and a Mobil gas and service station is located to the north, and Williamsville High School is situated across Hopkins Road to the east. Single-family residential housing lies to the west.

The proposed coffee shop is complementary to the existing commercial uses in the area. It would provide a service commonly utilized by residents and employees while supporting the continued vitality of the Hopkins Road commercial corridor. Its location near Williamsville High School and Hopkins Square also creates an opportunity to serve school personnel and customers of nearby businesses.

The requested rezoning must nevertheless be considered in light of the distinction between NB and GB zoning. Benderson recognizes that GB zoning may permit a broader range of commercial uses than NB zoning and that the Town must consider the potential implications of that broader classification. The request is supported not merely by the desirability of a coffee shop, but by the Subject Property's location within an existing commercial setting and its relationship to the broader Hopkins Road area.

The technical studies submitted with this application are particularly relevant to compatibility. The Traffic Impact Study includes a drive-through queue assessment, while the SLR Noise Impact Assessment evaluates potential noise effects. These studies support the conclusion that the proposed redevelopment can be accommodated without the identified adverse traffic and noise impacts, subject to compliance with applicable requirements.

The existence of nearby residential properties does not, by itself, preclude commercial redevelopment. Rather, the relevant consideration is whether the proposed zoning and redevelopment can be accommodated in a manner consistent with the character of the neighborhood and protective of neighboring properties. The submitted studies provide a factual basis for evaluating that question.

Benderson respectfully submits that the proposed redevelopment is compatible with the existing commercial and institutional uses and can be accommodated in the surrounding neighborhood without unacceptable impacts on adjacent residences.

D. Suitability of the Subject Property Under the Existing and Proposed Districts — § 8-3-5(D)

Section 8-3-5(D) requires consideration of the suitability of the property for uses permitted under the current district compared with those permitted under the proposed district.

The Subject Property contains a vacant commercial building of approximately 11,209 square feet. The closure of the former Rite Aid left the building without an active tenant, and Benderson seeks to redevelop the property for a viable commercial use.

The property is physically established for commercial activity and contains an existing drive-through window. The proposed redevelopment would capitalize on those existing improvements and adapt the building to accommodate a coffee shop serving the surrounding community.

The requested GB classification would provide a broader commercial zoning framework for the Subject Property. Its suitability should be considered in the context of the existing Hopkins Road commercial area, the nearby shopping plaza, the orthodontic office, the gas and service station, the high school, and the property's relationship to the surrounding residential neighborhood.

The proposed use would serve a broader group than the immediate residential neighborhood alone, including school personnel, people traveling along Hopkins Road, and customers visiting nearby businesses. That community-serving function supports consideration of the GB classification, particularly given the property's location within an established commercial setting.

Benderson acknowledges that the proposed coffee shop, considered in isolation, is a use that may also serve neighborhood-scale needs. The basis for the requested rezoning is therefore the overall suitability of the Subject Property for the proposed district, including its location, existing commercial development, relationship to surrounding uses, and role in the Hopkins Road commercial area.

The Town Board should also consider whether the proposed GB classification is appropriate given the district's potentially broader range of permitted uses. The existing development pattern and the submitted technical analyses provide relevant evidence for that evaluation. Any future development would remain subject to the applicable zoning requirements, site plan review, and other required approvals.

On balance, Benderson respectfully submits that the Subject Property is suitable for the requested rezoning and that the proposed redevelopment represents a reasonable means of restoring productive commercial activity to the property.

E. Improvement in the Balance of Uses and Response to a Specific Town Demand — § 8-3-5(E)

Section 8-3-5(E) requires consideration of whether the proposed change would improve the balance of uses or meet a specific demand in the Town.

The proposed rezoning would facilitate the productive reuse of a vacant commercial building and provide an additional service in an established commercial area. The closure of the former Rite Aid created an opportunity to attract a new tenant and restore activity to the Subject Property.

The proposed coffee shop would complement the existing commercial uses in the vicinity while serving the needs of area residents and the educational community. Its proximity to Williamsville High School is particularly relevant because school personnel and other authorized customers may benefit from a convenient nearby coffee shop. The use would also serve residents of the surrounding neighborhoods and patrons of Hopkins Square and other nearby businesses.

The proposed redevelopment would contribute to a balanced mix of commercial, residential, and institutional uses along Hopkins Road. It would provide an additional neighborhood and community amenity without requiring the construction of a new commercial building.

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The project would also support the continued economic viability of an established commercial property. Reoccupying the building would create an opportunity for new business activity and restore an underutilized property to productive use.

Accordingly, the requested rezoning would advance the Town's interest in maintaining viable commercial areas, supporting local services, and encouraging appropriate redevelopment of existing properties. Benderson respectfully submits that the proposal would improve the balance of uses in the surrounding area and meet a legitimate demand for convenient commercial services.

4. Traffic and Noise Impacts

In addition to the findings required by § 8-3-5, Benderson has submitted technical analyses addressing the principal operational considerations associated with the proposed drive-through use.

a. Traffic Impact Study and drive-through queue assessment. The submitted Traffic Impact Study evaluates the anticipated traffic conditions associated with the proposed redevelopment and includes an assessment of vehicle queuing at the drive-through. The analysis supports the conclusion that the proposed drive-through can operate without negative traffic impacts.

   The queue assessment is particularly important because it addresses whether the proposed operation can accommodate anticipated customer demand without creating unacceptable vehicle queuing or circulation conditions. The findings provide the Town with a technical basis for evaluating the proposed use in the context of Hopkins Road and the nearby school, shopping plaza, and residential properties.

b. Noise Impact Assessment. The Noise Impact Assessment prepared by SLR evaluates potential noise impacts associated with the proposed redevelopment and concludes that the project will not result in adverse noise impacts.

   This assessment is particularly relevant given the single-family residential properties located west of the Subject Property. The study provides technical support for the conclusion that the proposed use can coexist with the surrounding neighborhood without unacceptable noise effects.

Taken together, these studies demonstrate that Benderson has evaluated the principal potential operational impacts of the proposed redevelopment. Their findings support the requested rezoning and provide a basis for the Town to consider any appropriate project-specific conditions through its review process.

5. Conclusion and Requested Action

The requested rezoning of 1640 Hopkins Road from NB to GB will facilitate the redevelopment of an existing vacant commercial building and provide an opportunity to introduce a coffee shop with drive-through service in an established commercial area.

The Subject Property is located within a mixed-use setting that includes Hopkins Square, Lake Stone Orthodontics, Mobil gas and service station, Williamsville High School, and single-family residential housing.

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The proposed coffee shop would complement the surrounding commercial and institutional uses while providing a convenient service to area residents and the educational community.

The proposal also advances the productive reuse of an existing commercial property. Rather than leaving a substantial building vacant, the redevelopment would restore economic activity to the site and make use of the building's existing drive-through feature.

The Traffic Impact Study prepared by Passero, including the drive-through queue assessment, and the Noise Impact Assessment prepared by SLR provide technical support for the conclusion that the proposed redevelopment can be accommodated without negative traffic impacts or adverse noise impacts.

For the reasons set forth above, Benderson respectfully submits that the application is supported by the considerations identified in § 8-3-5 of the Town of Amherst Zoning Ordinance, including consistency with the Town's planning objectives, the availability of existing infrastructure subject to confirmation, compatibility with surrounding uses, the suitability of the property for the proposed district, and the benefits of restoring a vacant commercial property to productive use.

Accordingly, Benderson Development Company, LLC respectfully requests that the Town Board approve the rezoning of the Subject Property from the Neighborhood Business District (NB) to the General Business District (GB). If you have any questions or further comments, please do not hesitate to contact either Courtney Adamo at (716) 878-9630 or myself at (716) 878-9626.

Thank you,
BENDERSON DEVELOPMENT COMPANY, LLC

James A. Boglioli

James A. Boglioli, Esq.
Director, Right to Build – Northeast U.S.

TRAFFIC IMPACT REPORT

October 7, 2026

20255223.0001

HOPKINS SQUARE COFFEE SHOP

TOWN OF AMHERST, NY

PREPARED FOR:
Mr. Matt Oates, PE, Director, Engineering
Benderson Development Company, LLC
570 Delaware Avenue
Buffalo, NY 14202

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1.0 EXECUTIVE SUMMARY

The purpose of this report is to evaluate the potential traffic impacts related to the proposed redevelopment of a former Rite Aid into retail use along with a proposed drive thru coffee shop user located at 1640 Hopkins Rd in the Town of Amherst, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are evaluated. Mitigating measures are identified, if needed, to minimize operational concerns. To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project. All figures and supporting calculations are included at the end of this report.

Project Location and Description

The project site is located along the west side of Hopkins Road (County Road 87), north of the existing Hopkins Square shopping plaza, and south of Dodge Road (County Road 45). The project comprises the following aspects:

- **Site Status:** Currently, the existing property is fully developed as a Rite Aid with associated parking lot and contiguous roadway access to Hopkins Square.
- **Site Boundary:**
  - **North:** Lake Stone Orthodontics.
  - **East:** Williamsville North High School.
  - **South:** Hopkins Square
  - **West:** Single Family Housing
- **Vicinity Land Uses:** There is a mix of land uses, including residential, commercial, and residential.

The proposed development consists of renovating a portion of the existing commercial building into a coffee shop. The proposed coffee shop will feature outdoor seating and will reuse an existing drive thru. The proposed coffee shop is ±1,950 SF, and the remaining ±9,259 SF will be available for commercial use. Access to the coffee shop will be available from the existing plaza entrances on Hopkins Road and Dodge Road.

Study Area

To ensure a comprehensive analysis of potential traffic impacts, a study area was selected consisting of the following intersections.

1. Dodge Road (CR 45)/Hopkins Road (CR 87)
2. Hopkins Square North/Hopkins Road (CR 87)
3. Hopkins Square South/Hopkins Road (CR 87)
4. Hopkins Square/Dodge Road (CR 45)

Existing and Background Conditions

Turning movement traffic counts were collected on Thursday, June 11, and Saturday, June 13, 2026, by Passero Associates at the study area intersections listed in Section 2.3 to determine peak hour traffic volumes. Traffic counts were conducted between 7:00-9:00 AM for the weekday AM peak period, 2:00-4:00 PM for the weekday School PM peak period, 4:00-6:00 PM for the weekday PM peak period, and 11:00 AM-2:00 PM for the Saturday midday peak period. The peak hour traffic periods generally occurred between 7:15-8:15 AM for the AM peak hour, 2:45 PM-3:45 PM for the School PM peak hour,4:00-5:00 PM for the PM peak hour, and 11:30 AM-12:30 PM for the SAT peak hour at the study intersections; these time periods were used for analysis purposes in this study.

The weekday turning movement count data was collected on a typical weekday while local schools were in session. No adverse weather conditions impacted the traffic counts. The traffic volumes were reviewed to confirm accuracy, seasonality, and relative balance between intersections. Upon review of historical data in the area, it was determined

that no seasonality adjustment was required. The actual differences in traffic volumes can be attributed to temporal variations in traffic volumes as well as activity related to driveways located in the segments between the study intersections.

Construction of the proposed project is anticipated to reach full completion in approximately one year. The widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipal personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. No such projects were identified. It is assumed that the remainder of the existing vacant building will be re-occupied with retail space. Trips related to this retail use are added to the existing traffic.

To account for normal increases in background traffic growth, including the developments noted above as well as any unforeseen developments in the study area, a growth rate of 1.0% was applied to the existing traffic volumes for the one-year build out period.

Conclusions and Recommendations

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed Coffee Shop Development located at 1640 Hopkins Rd in the Town of Amherst, NY.. The results of this study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections. The following sets forth the conclusions based upon the results of the analyses:

1. The proposed project is expected to generate approximately 100 entering/96 exiting vehicle trips during the AM peak hour, 38 entering/38 exiting trips during the afternoon school peak hour, 42 entering/42 exiting vehicle trips during the PM peak hour, and 71 entering/74 exiting vehicle trips during the SAT peak hour.

2. However, not all these driveway volumes are new, but instead a portion of the proposed volume is reduced considering pass-by adjustments and the traffic volumes that are currently generated by the existing site. Thus, based upon ITE published pass-by trip rates and professional judgement considering the existing trips on Hopkins Rd and Dodge Rd, the proposed site is expected to generate approximately 20 entering/19 exiting primary (new) vehicle trips during the AM peak hour, 15 entering/15 exiting primary (new) trips during the afternoon school peak hour, 10 entering/10 exiting primary (new) vehicle trips during the PM peak hour, and 25 entering/26 exiting primary (new) vehicle trips during the SAT peak hour.

3. Minor delay increases are projected between background and full build conditions at the Hopkins Rd/Dodge Rd intersection. The small increases in delay and relatively low volume of traffic that will be added to this intersection by this development do not warrant any geometric or traffic signal improvements.

4. The eastbound and westbound left turn movements exiting the driveways operate at poor levels of service (LOS E and F) during weekday AM, afternoon school, and weekday PM peak hours under existing and background conditions. During the SAT midday peak hour, all approaches operate at LOS C or better under all conditions. No changes in LOS are anticipated during any of the peak hours and no capacity improvements are warranted nor recommended at this location. The poor levels of service are isolated to peak hours when traffic is entering and exiting the school driveway.

5. The results of the drive-through queuing analysis indicate 95th percentile queue lengths of seven (7) vehicles during the AM peak hour, and three (3) vehicles during the PM peak hour.
6. Based on an analysis of the current site plan, the dedicated drive-through lane would provide storage for 11 passenger vehicles (with additional capacity available within the aisle of the parking lot, if needed). The analyses indicate that there is sufficient stacking space on-site to accommodate the projected drive-through demands during all peak hours.

7. Pursuant to the State Environmental Quality Review Act (SEQRA), this detailed analysis demonstrates that the proposed project does not result in any significant adverse traffic impacts even at full development.

2.0 INTRODUCTION

2.1 Study Purpose and Objectives

The purpose of this report is to evaluate the potential traffic impacts related to the proposed redevelopment of a former Rite Aid into retail use along with a proposed drive thru coffee shop user located at 1640 Hopkins Rd in the Town of Amherst, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are evaluated. Mitigating measures are identified, if needed, to minimize operational concerns. To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project. All figures and supporting calculations are included at the end of this report.

2.2 Project Location

The project site is located along the west side of Hopkins Road (County Road 87), north of the existing Hopkins Square shopping plaza, and south of Dodge Road (County Road 45). The project comprises the following aspects:

- **Site Status:** Currently, the existing property is fully developed as a Rite Aid with associated parking lot and contiguous roadway access to Hopkins Square. The proposed redevelopment would replace a portion of the existing ±11,209 SF structure with a coffee shop/restaurant with a drive-thru and outdoor seating.
- **Site Boundary:**
  - **North:** Lake Stone Orthodontics.
  - **East:** Williamsville North High School.
  - **South:** Hopkins Square
  - **West:** Single Family Housing
- **Vicinity Land Uses:** There is a mix of land uses, including residential, commercial, and residential.

2.3 Study Area

To ensure a comprehensive analysis of potential traffic impacts, a study area was selected consisting of the following intersections.

1. Dodge Road (CR 45)/Hopkins Road (CR 87)
2. Hopkins Square North/Hopkins Road (CR 87)
3. Hopkins Square South/Hopkins Road (CR 87)
4. Hopkins Square/Dodge Road (CR 45)

3.0 TRANSPORTATION SETTING

3.1 Description of Study Area Roadways

The information outlined in **Table 1** provides a description of the existing roadway network within the study area. **Figure 2** illustrates the lane geometry and traffic controls at each of the study intersections and the Annual Average Daily Traffic (AADT) volumes on the study roadways. The AADTs, in vehicles per day (vpd), reflect the most recently collected data obtained from the NYSDOT.

Table 1: *Existing Highway System*

Roadway	Class[1]	Agency[2]	Speed	Typical Cross Section[3]	AADT
Hopkins Road (CR-87) (north of Doge Rd)	16	ECDPW	40 mph	2-lane undivided	8,685 (NYSDOT 2025)
Hopkins Road (CR-87) (south of Doge Rd)	16	ECDPW	40 mph Except 30 mph (school zone)	2-lane undivided	11,353 (NYSDOT 2025)
Dodge Road (CR-45) (west of Hopkins)	16	ECDPW	35 mph	2-lane undivided	6,268 (NYSDOT 2025)
Dodge Road (CR-45) (east of Hopkins)	17	ECDPW	35 mph	2-lane undivided	8,195 (NYSDOT 2025)

1. Functional Classification.
2. Roadway ownership.
3. Excludes turning lanes at intersections.

Functional classification of roadways is determined by the NYSDOT and the Federal Highway Administration (FHWA). Both the NYSDOT and FHWA groups roads, streets, and highways into different classes based on how they are used. This is called functional classification. Roads and streets do not work alone to move traffic. Instead, they form a network. Functional classification defines how each road or street fits into this network, how it provides access to nearby properties, and whether it is in an urban or rural area. In the study area, all the roadways are classified as urban.

The primary functional classification within the study area:

- Monir Arterial (Class 16)
- Major Collector (Class 17)

3.2 Description of Multimodal Network

Table 2 summarizes the traffic controls, pedestrian, bicycle, and transit accommodations within the study area.

Table 2: *Multimodal Network*

Intersection	Traffic Control	Pedestrian			Bicycle		Transit
		Sidewalk	Crosswalk	Ped Signal	Lane	Other	
Hopkins Rd/Dodge Rd	Signal	Fully present	Yes	Yes	No	In lane	No
Hopkins Rd/Existing North Driveway	Sign	Fully present	No	No	No	In lane	No
Hopkins Rd/Existing South Driveway	Sign	Fully present	No	No	No	In lane	No
Dodge Rd/Site Driveway	Sign	Fully present	No	No	No	In lane	No

4.0 EXISTING CONDITIONS ANALYSIS

4.1 Peak Intervals for Analysis

Given the functional characteristics of the corridors, adjacent land uses, and the proposed land use for the project site, the peak hours selected for analysis are the weekday morning (AM), weekday afternoon school (School), weekday afternoon (PM), and Saturday midday (SAT) peak periods. The combination of site traffic and adjacent street traffic produces the greatest demand during these time periods.

4.2 Existing Traffic Volume Data

Turning movement traffic counts were collected on Thursday, June 11, and Saturday, June 13, 2026, by Passero Associates at the site driveway intersections listed in Section 2.3 to determine peak hour traffic volumes. Traffic volumes were obtained from the Town of Amherst at the Hopkins Rd/Dodge Rd intersection during the same dates and time periods. Traffic counts were conducted between 7:00-9:30 AM for the weekday AM peak period, 2:00-4:00 PM for the afternoon school peak period, 4:00-6:00 PM for the weekday PM peak period and 11:00-2:00 PM for the Saturday midday peak period. The peak hour traffic periods generally occurred between 7:15-8:15 AM for the AM peak hour, 3:00-4:00 PM for the SCHOOL peak hour, 5:00-6:00 PM for the PM peak hour, and 11:30 AM-12:30 PM for the SAT peak hour at the study intersections; these time periods were used for analysis purposes in this study.

The weekday turning movement count data was collected on a typical weekday while local schools were in session. No adverse weather conditions impacted the traffic counts. The traffic volumes were reviewed to confirm accuracy, seasonality, and relative balance between intersections. Upon review of historical data in the area, it was determined that no seasonality adjustment was required. The actual differences in traffic volumes can be attributed to temporal variations in traffic volumes as well as activity related to driveways located in the segments between the study intersections. **Figures 3a-3b** illustrate the 2026 existing conditions for the AM, SCHOOL, PM, and SAT peak hours.

4.3 Field Observations

The study intersections were observed during peak intervals to assess current traffic operations. Signal timing and phasing information was obtained from the Town of Amherst to determine peak hour phasing plans and phase durations during each interval at the signalized intersections. This information was used to support and/or calibrate capacity analysis models described in detail later in this report.

5.0 BACKGROUND (NO BUILD) CONDITIONS

Construction of the proposed coffee shop project is anticipated to reach full completion in approximately one year. The widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipal personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. No projects were identified. It is assumed that the remainder of the existing vacant building will be re-occupied with retail space. Trips related to this retail use are added to the existing traffic.

A review of available historical NYSDOT traffic volume data in the vicinity of the site indicates that traffic has decreased between 2016 and 2024. To account for normal increases in background traffic growth, including any unforeseen

developments in the study area, a growth rate of 1.0% was applied to the existing traffic volumes for the one-year build out period.

Figures 4a-4b depict the peak hour background traffic volumes for the AM, SCHOOL, PM, and SAT peak hours.

6.0 PROPOSED DEVELOPMENT CONDITIONS

6.1 Project Description

The proposed development consists of renovating a portion of the existing commercial building into a coffee shop. The proposed coffee shop will feature outdoor seating and will reuse an existing drive thru. The proposed coffee shop is ±1,950 SF, and the remaining ±9,259 SF will be available for commercial use. Access to the coffee shop will be available from the existing plaza entrances on Hopkins Road and Dodge Road.

6.2 Proposed Traffic Generation

The volume of traffic generated by a site is dependent on the intended land use and size of the development. Trip generation is an estimate of the number of trips generated by a specific building or land use. These trips represent the volume of traffic entering and exiting the development. *Trip Generation Manual* (12th Edition) published by the Institute of Transportation Engineers (ITE) is used as a reference for this information. The trip rate for the peak hour of the generator may or may not coincide in time or volume with the trip rate for the peak hour of adjacent street traffic. Volumes generated during the peak hour of the adjacent street traffic and proposed land uses, in this case, the weekday commuter AM, SCHOOL, PM and SAT peak hours, represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis.

For certain types of developments, the total number of trips generated is different from the amount of new traffic added to the adjacent highway network by the generator. Service-oriented developments (such as convenience stores, gas stations, shopping centers, discount stores, restaurants, service stations, and coffee shops) often locate adjacent to busy streets in order to attract the motorists already passing the site on the adjacent street. These sites attract a portion of their trips from traffic passing the site (in this case Transit Rd). The "pass-by" traffic refers to the amount of existing traffic already on the roadway adjacent to the site that, as it "passes by" the site, will enter the site driveways to patronize the project site. The quantifying of "pass-by" trips has the net result of reducing the volume of new traffic that is added to the site driveways and/or adjacent roadways.

The ITE *Trip Generation Handbook (3rd Edition)* has pass-by trip data for the coffee/donut shop land use with a drive-through and no indoor seating for the weekday AM, weekday midday, and weekday PM peak hours. This data indicates average pass-by rates of 83%, 66%, and 81% respectively. Given the limited data for the afternoon school peak hour and Saturday midday peak hour, pass-by rates for fast-food restaurants with drive-through were reviewed as a comparable use. The data indicates a range from 32% to 68% with an average pass-by rate of 49%. Pass-by trips are expected closer to the coffee/donut shop land use than the fast-food restaurant land use during the morning peak due to the site's location adjacent to the frequently traveled roadway of Hopkins Road. Based on the review of the ITE data and the volumes of traffic passing by the site on both Hopkins Rd and Dodge Rd, the following pass-by rates were applied in this study: 80% during the weekday AM peak hour, 74% during the PM peak hour, 64% during the School peak hour, and 65% during the SAT midday peak hour.

Table 3 shows the total site generated trips, pass-by trips, and resulting primary (new) trips that are added to the existing highway system during each peak hour.

Table 3: *Site Generated Trips*

Description	Size	AM Peak Hour		PM Peak Hour		SCHOOL Peak Hour		SAT Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
Proposed Coffee/Donut Shop with Drive-thru ITE LUC 937	1,950 SF	100	96	38	38	42	42	71	74
Pass-by Trips		*-80*	*-77*	*-28*	*-28*	*-27*	*-27*	*-46*	*-48*
Total Primary Trips		**20**	**19**	**10**	**10**	**15**	**15**	**25**	**26**

The combination of the existing vacant space and the proposed coffee shop are expected to generate a total of 148 entering and 136 exiting vehicle trips during the AM peak hour, 113 entering and 110 exiting vehicle trips during the MD peak hour, and 104 entering and 104 exiting vehicle trips during the PM peak hour. However, it is important to note that not all these trips are entirely new; some are accounted for via pass-by adjustments. Considering ITE published pass-by trip rates and professional judgement, the site is anticipated to generate 59 entering and 51 exiting new vehicle trips during the AM peak hour, 82 entering and 80 exiting new vehicle trips during the MD peak hour, and 76 entering and 76 exiting new vehicle trips during the PM peak hour.

The proposed project is expected to generate approximately 100 entering/96 exiting vehicle trips during the AM peak hour, 38 entering/38 exiting trips during the afternoon school peak hour, 42 entering/42 exiting vehicle trips during the PM peak hour, and 71 entering/74 exiting vehicle trips during the SAT peak hour.

However, not all these driveway volumes are new, but instead a portion of the proposed volume is reduced considering pass-by adjustments and the traffic volumes that are currently generated by the existing site. Thus, based upon ITE published pass-by trip rates and professional judgement considering the existing trips on Hopkins Rd and Dodge Rd, the proposed site is expected to generate approximately 20 entering/19 exiting primary (new) vehicle trips during the AM peak hour, 15 entering/15 exiting primary (new) trips during the afternoon school peak hour, 10 entering/10 exiting primary (new) vehicle trips during the PM peak hour, and 25 entering/26 exiting primary (new) vehicle trips during the SAT peak hour.

6.3 Trip Distribution

The cumulative effect of site-generated traffic on the transportation network is dependent on the origins and destinations of that traffic and the location of the access drives serving the site. The proposed arrival and departure distribution of traffic generated by the proposed project is considered a function of several parameters, including:

- Residential and employment centers using US Census data.
- Commercial centers in the greater area.
- Surrounding roadway network.
- Site layout and access locations.
- Existing traffic patterns.
- Existing traffic conditions and controls.

Figure 5 shows the anticipated trip distribution pattern percentage for the project site for the proposed development. **Figures 6a-6b** illustrate the peak hour project site-generated traffic during the AM, PM, School and SAT peak hours, respectively, based on the percentages in **Figure 5.**

6.4 Full Development Volumes

The proposed design hour traffic volumes are developed for the peak hours by combining the background traffic conditions (**Figures 4a-4b**) and the new site-generated traffic volumes (**Figures 6a-6b**) to yield the traffic volumes under full development conditions. **Figures 7a-7b** illustrate total anticipated full build peak hour volumes for the AM, PM, School, and SAT peak hours, respectively.

6.5 Drive-thru Queue Assessment

This study conducted a drive-through queuing analysis during the most critical AM and PM peak hours to determine the anticipated queue length and adequacy of the proposed on-site stacking space using the drive-through. A formula was developed based upon the average service rates and observed queuing to estimate queue lengths at coffee shops given the projected arrival rate at the drive-through. This formula assumes that both arrival and service rates are random. This is based on observations that vehicle arrivals are random, and that service times in the drive-through vary based on type and number of items ordered. For example, service time for ordering a coffee is less than that of a customer who orders coffee and a breakfast sandwich.

Since both the arrival and service times at the proposed drive-through are randomly distributed, stochastic queuing equations were used for this analysis. Since only a portion of site generated traffic will utilize the drive-through, site trip data and drive-through was taken at 16 different coffee and coffee/donut shops across Upstate New York. This data was used to determine the percentage of patrons that utilize the drive-through to order their food/drink. It was determined that on average, 69% of the site traffic for a coffee or coffee/donut shop with drive-through will utilize the drive-through. The peak projected arrival rate at the proposed drive-through is 68 vehicles per hour during the AM peak hour. Using a service rate of approximately 35 seconds (excluding the waiting time in a storage area immediately in advance of the service positions after placing an order at the order window) during the AM peak hour, the average service rate in the drive-through is 103 vehicles per hour. This service rate in the drive-through is based on service by two persons. Based on service rates collected at similar single-order drive-through facilities in the Western New York/Finger Lakes Region, there is variability in service times ranging from 25 to 35 seconds during the AM peak hour.

Using the same drive-through utilization percentage as the AM peak hour, the peak projected arrival rate at the proposed drive-through is 26 vehicles per hour during the PM peak hour. Assuming a dinnertime service rate of approximately 55 seconds, based upon previous studies at existing coffee and coffee/donut shops, the average service rate in the drive-through is 65 vehicles per hour for the PM peak hour. **Table 4** summarizes the results of the proposed drive-through queue assessment.

Table 4: *Queue Data Collection Summary*

Peak Hour	Parameter	Results
AM Peak Hour	Arrival Rate	68 vph
	Service Rate	103 vph
	95% Confidence Queue Length	7 vehicles
PM Peak Hour	Arrival Rate	26 vph
	Service Rate	65 vph
	95% Confidence Queue Length	3 vehicles

Notes:

1. Vph = Vehicles per Hour.

The results of the drive-through queuing analysis indicate 95th percentile queue lengths of seven (7) vehicles during the AM peak hour, and three (3) vehicles during the PM peak hour.

Based on an analysis of the current site plan, the dedicated drive-through lane would provide storage for 11 passenger vehicles (with additional capacity available within the aisle of the parking lot, if needed). The analyses indicate that there is sufficient stacking space on-site to accommodate the projected drive-through demands during all peak hours.

7.0 TRAFFIC OPERATIONS AND ANALYSIS

7.1 Description of Capacity Analysis

Capacity analysis is a technique used for determining a measure of effectiveness for a section of roadway and/or intersection based on the number of vehicles during a specific time period. The measure of effectiveness used for the capacity analysis is referred to as a Level of Service (LOS). Levels of service are calculated to provide an indication of the amount of delay that a motorist experiences while traveling along a roadway or through an intersection. Since the most amount of delay to motorists usually occurs at intersections, capacity analysis focuses on intersections, as opposed to highway segments.

The standard procedure for capacity analysis of signalized and unsignalized intersections is outlined in the *Highway Capacity Manual (HCM) 7th Edition* published by the Transportation Research Board (TRB). Traffic analysis software, Synchro 12, which is based on procedures and methodologies contained in the HCM, was used to analyze operating conditions at study area intersections. The procedure yields a level of service based on the HCM as an indicator of how well intersections operate.

Six levels of service are defined for analysis purposes. They are assigned letter designations, from A to F, with LOS A representing the conditions with little to no delay, and LOS F conditions with very long delays. Suggested ranges of service capacity and an explanation of levels of service are included in the Appendices. LOS C or better is desirable, but LOS D for signalized locations and LOS E for unsignalized locations are generally thresholds of acceptable operation during peak periods so long as the volume to capacity ratio (v/c) is below 1.0. **Table 5** depicts level of service criteria for both signalized and unsignalized intersections and associated delays per vehicle in seconds.

Table 5: *Level of Service Criteria*

Level of Service	Signalized Control	Unsignalized Control
A	< 10	< 10
B	10 – 20	10 – 15
C	20 – 35	15 – 25
D	35 – 55	25 – 35
E	55 – 80	35 – 50
F	> 80	> 50

Level of service for signalized intersections is defined in terms of delay specifically, average total delay per vehicle for a 15-minute analysis period. Level of service for unsignalized intersections, however, are different from a signalized intersection. The primary reason for this is driver expectation that a signalized intersection is designed to carry higher

volumes than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals.

The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available, and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur.

7.2 Capacity Analysis Results

Existing and background operating conditions during the peak study periods are evaluated to determine a basis for comparison with the projected future conditions. The future traffic conditions generated by the project were analyzed to assess the operation of the study area intersections. Capacity results for existing, background, and full build conditions are listed in **Table 6**. The discussion following the tables summarizes capacity conditions. The detailed Synchro capacity analysis worksheets are provided after this report.

TABLE 6: CAPACITY ANALYSIS RESULTS
WEEKDAY AM AND WEEKDAY PM

INTERSECTION	2026 EXISTING BASE CONDITIONS				2027 BACKGROUND CONDITIONS				2027 FULL BUILD CONDITIONS			
	AM		PM		AM		PM		AM		PM	
1. Dodge Rd & Hopkins Rd												
EB Left - Dodge Rd	B	18.5	C	23.0	B	18.6	C	23.2	B	18.6	C	23.3
EB Right/Thru - Dodge Rd	E	60.6	C	30.8	E	62.0	C	31.5	E	62.1	C	31.6
WB Left - Dodge Rd	C	34.5	C	20.1	D	37.1	C	21.1	D	37.9	C	21.4
WB Right/Thru - Dodge Rd	D	36.6	B	19.3	D	37.0	B	19.8	D	37.6	B	19.8
NB Left - Hopkins Rd	C	27.1	C	22.1	C	27.6	C	22.5	C	27.6	C	22.6
NB Right/Thru - Hopkins Rd	D	42.3	C	30.0	D	44.0	C	31.3	D	44.3	C	31.5
SB Left - Hopkins Rd	C	24.2	B	16.5	C	25.3	B	17.2	C	25.4	B	17.4
SB Right/Thru - Hopkins Rd	E	71.4	B	16.9	E	79.1	B	17.4	F	82.1	B	17.6
Overall LOS	**D**	**49.1**	**C**	**23.7**	**D**	**51.9**	**C**	**24.5**	**D**	**52.8**	**C**	**24.6**
Volume-to-Capacity (v/c) Ratio	**0.98**		**0.76**		**1.01**		**0.78**		**1.03**		**0.78**	
2. Hopkins Square North & Hopkins Rd												
EB Left - Hopkins Square	D	29.0	D	25.5	D	31.7	D	28.7	E	40.6	D	31.5
EB Right - Hopkins Square	C	16.0	B	12.0	C	16.5	B	12.3	C	17.9	B	12.4
NB Left - Hopkins Rd	A	9.9	A	8.6	B	10.0	A	8.7	B	10.2	A	8.8
3. Hopkins Square South & Hopkins Rd												
EB Left - Hopkins Square	F	108.3	D	33.0	F	124.8	E	36.3	F	130.5	E	36.9
EB Right/Thru - Hopkins Square	B	14.1	B	12.2	B	14.4	B	13.0	B	14.5	B	13.0
WB Left - School Lot	F	246.5	D	32.5	F	302.9	E	35.8	F	323.5	E	36.5
WB Right/Thru - School Lot	B	13.0	B	13.0	B	13.2	B	13.6	B	13.3	B	13.7
NB Left - Hopkins Rd	A	9.3	A	8.5	A	9.4	A	8.5	A	9.4	A	8.5
SB Left - Hopkins Rd	B	10.8	A	8.7	B	11.0	A	8.8	B	11.1	A	8.8
4. Hopkins Square & Dodge Rd												
WB Left - Dodge Rd	A	0.0	A	8.3	A	8.2	A	8.4	A	8.3	A	8.5
NB - Hopkins Square	B	14.6	C	15.2	B	14.4	C	16.1	C	16.3	C	16.7

Notes:

1. A(2.8) = Level of Service (Delay in seconds per vehicle)
2. NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
3. (S) = Signalized; (U) = Unsignalized
4. N/A = Approach does not exist and/or was not analyzed during this condition
5. Green shaded cells indicate low delays, yellow shaded cells indicate moderate delays, red shaded cells indicate long delays.

TABLE 6: CAPACITY ANALYSIS RESULTS
WEEKDAY SCHOOL AND SAT MIDDAY

INTERSECTION	2026 EXISTING BASE CONDITIONS				2027 BACKGROUND CONDITIONS				2027 FULL BUILD CONDITIONS			
	SCHOOL		SAT		SCHOOL		SAT		SCHOOL		SAT	
1. Dodge Rd & Hopkins Rd												
EB Left - Dodge Rd	B	18.8	B	14.4	B	19.0	B	14.8	B	19.0	B	14.9
EB Right/Thru - Dodge Rd	D	46.5	C	27.1	D	48.2	C	29.1	D	48.7	C	29.4
WB Left - Dodge Rd	C	24.6	B	14.8	C	25.8	B	16.0	C	26.1	B	16.2
WB Right/Thru - Dodge Rd	C	32.6	C	21.9	C	33.5	C	23.6	C	33.7	C	23.8
NB Left - Hopkins Rd	B	18.3	B	12.6	B	18.7	B	12.6	B	18.8	B	12.8
NB Right/Thru - Hopkins Rd	D	47.0	C	26.5	D	48.0	C	28.6	D	48.4	C	28.9
SB Left - Hopkins Rd	C	21.2	B	12.9	C	22.0	B	13.0	C	22.3	B	13.1
SB Right/Thru - Hopkins Rd	C	34.4	C	25.2	C	34.9	C	24.5	D	35.1	C	24.8
Overall LOS	**D**	**36.8**	**C**	**23.1**	**D**	**37.7**	**C**	**24.2**	**D**	**38.1**	**C**	**24.5**
Volume-to-Capacity (v/c) Ratio	**0.87**		**0.63**		**0.88**		**0.66**		**0.88**		**0.66**	
2. Hopkins Square North & Hopkins Rd												
EB Left - Hopkins Square	D	25.3	C	15.5	D	27.5	C	16.4	D	30.0	C	18.0
EB Right - Hopkins Square	B	12.3	B	10.6	B	12.6	B	10.8	B	12.7	B	11.0
NB Left - Hopkins Rd	A	8.7	A	8.1	A	8.8	A	8.2	A	8.9	A	8.3
3. Hopkins Square South & Hopkins Rd												
EB Left - Hopkins Square	E	49.0	C	19.4	F	54.7	C	20.7	F	56.1	C	21.3
EB Right/Thru - Hopkins Square	B	11.4	B	11.0	B	11.5	B	11.2	B	11.6	B	11.3
WB Left - School Lot	F	97.3	C	19.2	F	118.0	C	20.5	F	124.1	C	21.1
WB Right/Thru - School Lot	B	14.7	B	10.6	C	15.3	B	10.7	C	15.5	B	10.8
NB Left - Hopkins Rd	A	8.4	A	8.2	A	8.4	A	8.3	A	8.5	A	8.3
SB Left - Hopkins Rd	A	9.0	A	8.1	A	9.0	A	8.2	A	9.1	A	8.2
4. Hopkins Square & Dodge Rd												
WB Left - Dodge Rd	A	8.6	A	7.8	A	8.7	A	7.8	A	8.8	A	7.9
NB - Hopkins Square	C	16.7	B	12.2	C	17.5	B	12.2	C	18.5	B	13.0

Notes:

1. A(2.8) = Level of Service (Delay in seconds per vehicle)
2. NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
3. (S) = Signalized; (U) = Unsignalized
4. N/A = Approach does not exist and/or was not analyzed during this condition
5. Green shaded cells indicate low delays, yellow shaded cells indicate moderate delays, red shaded cells indicate long delays.

1. Hopkins Rd at Dodge Rd (Signalized)

All approaches operate at an acceptable LOS D or better under existing and background conditions during all peak hours with the following exceptions:

- The eastbound thru/right movement operates at LOS E during the AM peak hour
- The southbound thru/right movement operates at LOS E during the AM peak hour

In between background and full build conditions, the southbound thru/right turn movement is projected to change from LOS E to LOS F during the AM peak hour. It should be noted that this decrease in LOS is 2.1 seconds beyond the threshold for LOS F with a delay increase of 3.0 seconds. Additionally, this same movement is projected to change from LOS C to D with a corresponding delay increase of 0.2 seconds during the afternoon school peak hour. No other changes in LOS are anticipated and no capacity improvements are warranted nor recommended at this location.

2. Hopkins Rd at Hopkins Square North Driveway (Unsignalized)

All approaches operate at an acceptable LOS D or better under existing and background conditions during all peak hours. No changes in LOS are anticipated between background and full build conditions with the exception of the eastbound left turn movement exiting Hopkins Square which changes from LOS D to E during the AM peak hour only. No capacity improvements are warranted nor recommended at this location.

3. Hopkins Rd at Hopkins Square South Driveway/School Driveway (Unsignalized)

The eastbound and westbound left turn movements operate at poor levels of service (LOS E and F) during weekday AM, afternoon school, and weekday PM peak hours under existing and background conditions. During the SAT midday peak hour, all approaches operate at LOS C or better under all conditions. No changes in LOS are anticipated during any of the peak hours and no capacity improvements are warranted nor recommended at this location. The poor levels of service are isolated to peak hours when traffic is entering and exiting the school driveway.

4. Dodge Rd/Hopkins Square Driveway (Unsignalized)

All approaches operate at an acceptable LOS C or better under existing and background conditions during all peak hours No changes in LOS are anticipated and no capacity improvements are warranted nor recommended at this location.

8.0 CONCLUSIONS AND RECOMMENDATIONS

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed Coffee Shop Development located at 1640 Hopkins Rd in the Town of Amherst, NY.. The results of this study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections. The following sets forth the conclusions based upon the results of the analyses:

1. The proposed project is expected to generate approximately 100 entering/96 exiting vehicle trips during the AM peak hour, 38 entering/38 exiting trips during the afternoon school peak hour, 42 entering/42 exiting vehicle trips during the PM peak hour, and 71 entering/74 exiting vehicle trips during the SAT peak hour.

2. However, not all these driveway volumes are new, but instead a portion of the proposed volume is reduced considering pass-by adjustments and the traffic volumes that are currently generated by the existing site. Thus, based upon ITE published pass-by trip rates and professional judgement considering the existing trips on Hopkins Rd and Dodge Rd, the proposed site is expected to generate approximately 20 entering/19 exiting primary (new) vehicle trips during the AM peak hour, 15 entering/15 exiting primary (new) trips during the afternoon school peak hour, 10 entering/10 exiting primary (new) vehicle trips during the PM peak hour, and 25 entering/26 exiting primary (new) vehicle trips during the SAT peak hour.

3. Minor delay increases are projected between background and full build conditions at the Hopkins Rd/Dodge Rd intersection. The small increases in delay and relatively low volume of traffic that will be added to this intersection by this development do not warrant any geometric or traffic signal improvements.

4. The eastbound and westbound left turn movements exiting the driveways operate at poor levels of service (LOS E and F) during weekday AM, afternoon school, and weekday PM peak hours under existing and background conditions. During the SAT midday peak hour, all approaches operate at LOS C or better under all conditions. No changes in LOS are anticipated during any of the peak hours and no capacity improvements are warranted nor recommended at this location. The poor levels of service are isolated to peak hours when traffic is entering and exiting the school driveway.

5. The results of the drive-through queuing analysis indicate 95th percentile queue lengths of seven (7) vehicles during the AM peak hour, and three (3) vehicles during the PM peak hour.

6. Based on an analysis of the current site plan, the dedicated drive-through lane would provide storage for 11 passenger vehicles (with additional capacity available within the aisle of the parking lot, if needed). The analyses indicate that there is sufficient stacking space on-site to accommodate the projected drive-through demands during all peak hours.

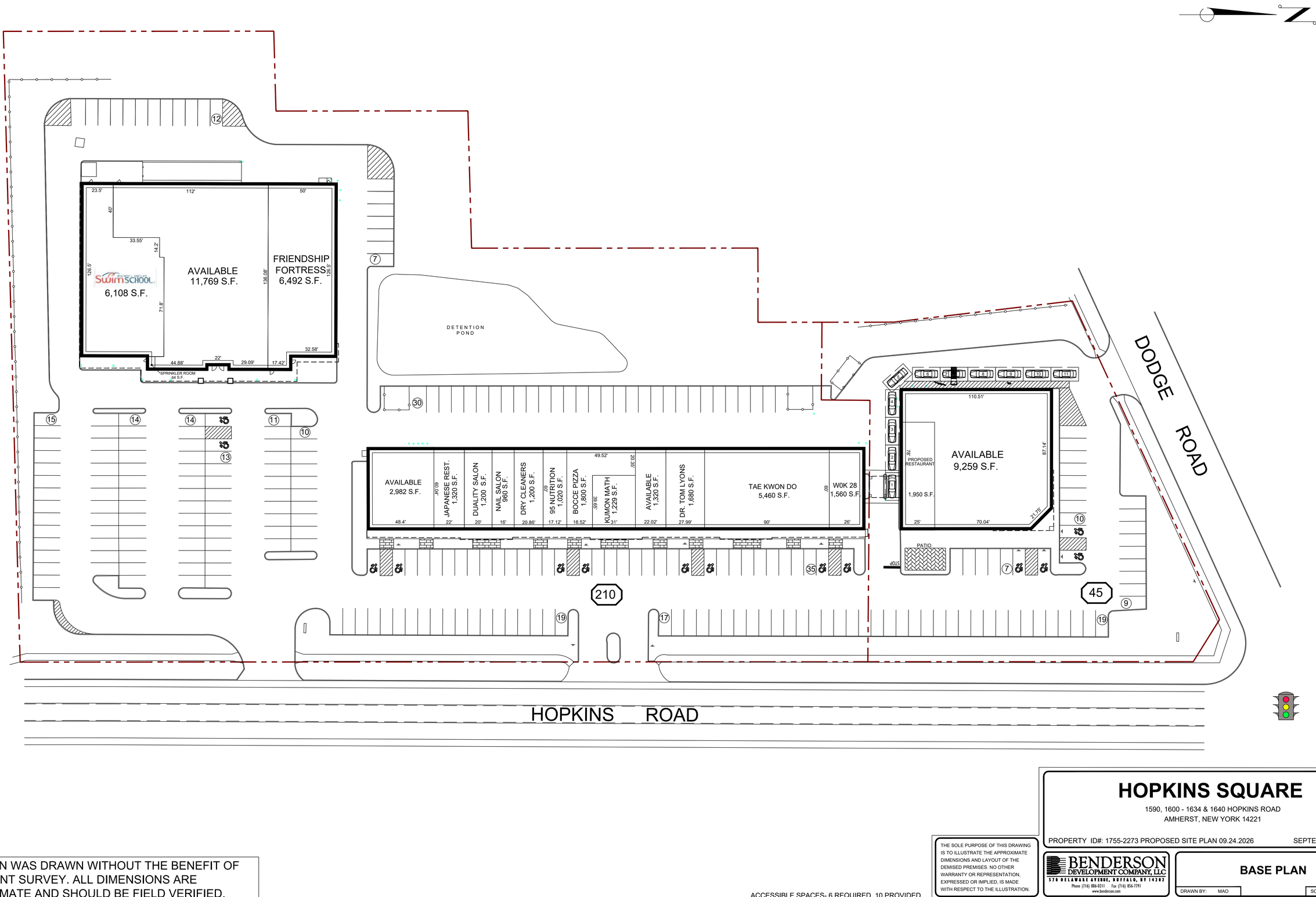
7. Pursuant to the State Environmental Quality Review Act (SEQRA), this detailed analysis demonstrates that the proposed project does not result in any significant adverse traffic impacts even at full development.

9.0 REFERENCES

- Synchro 12 Software. Cubic ITS.
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10.0 FIGURES

Figures 1 through 7b are included on the following pages.



THIS PLAN WAS DRAWN WITHOUT THE BENEFIT OF A CURRENT SURVEY. ALL DIMENSIONS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.

ACCESSIBLE SPACES- 6 REQUIRED, 10 PROVIDED

HOPKINS SQUARE

1590, 1600 - 1634 & 1640 HOPKINS ROAD
AMHERST, NEW YORK 14221

PROPERTY ID#: 1755-2273 PROPOSED SITE PLAN 09.24.2026

SEPTEMBER 24, 2026

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BASE PLAN

DRAWN BY: MAO

SCALE: 1:30

Figure 1

PASSERO
engineering architecture



NOT TO SCALE

Site Location and Study Area

Hopkins Square Coffee Shop - Town of Amherst, NY

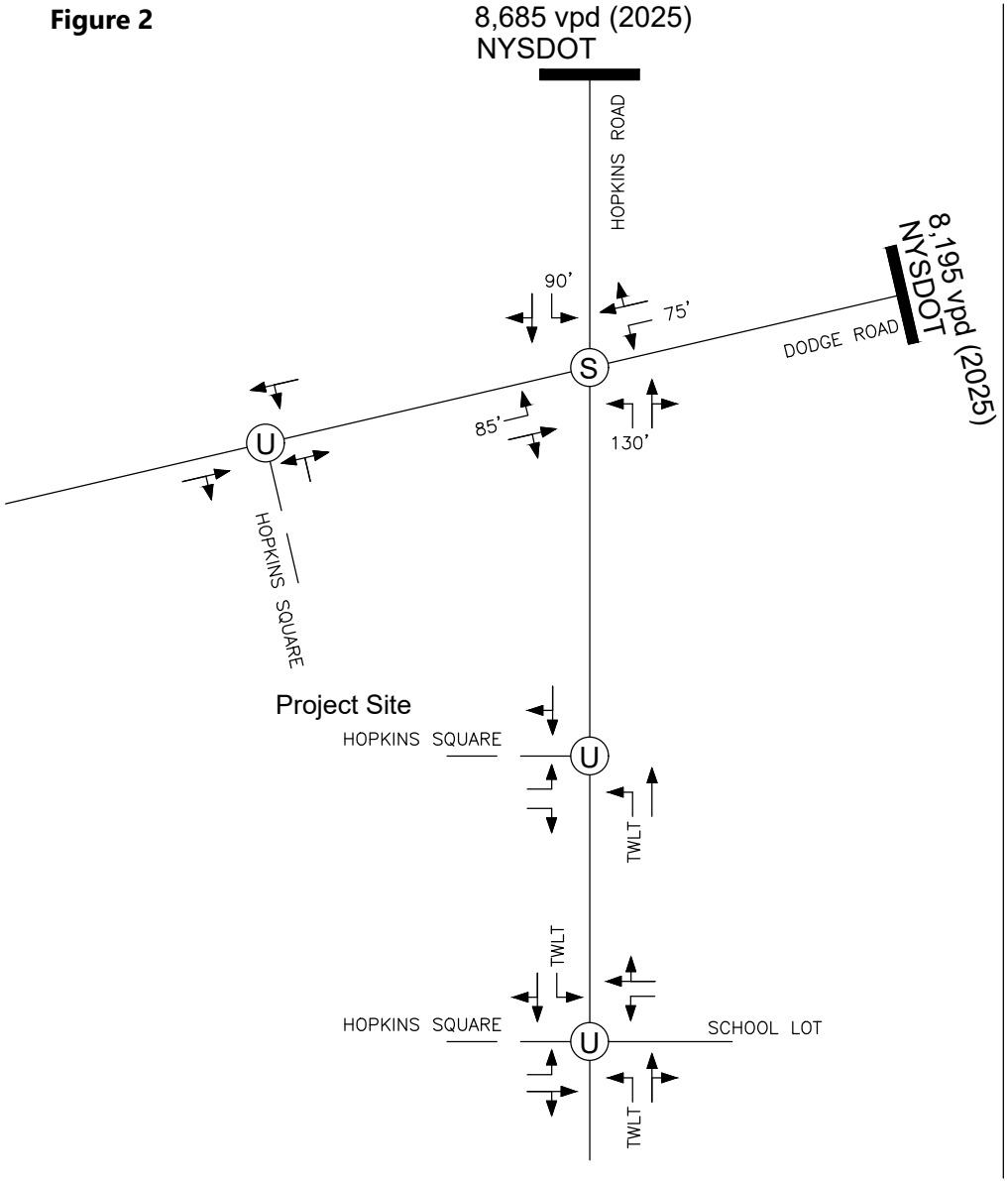
KEY:

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Project Number: 20265223.0001

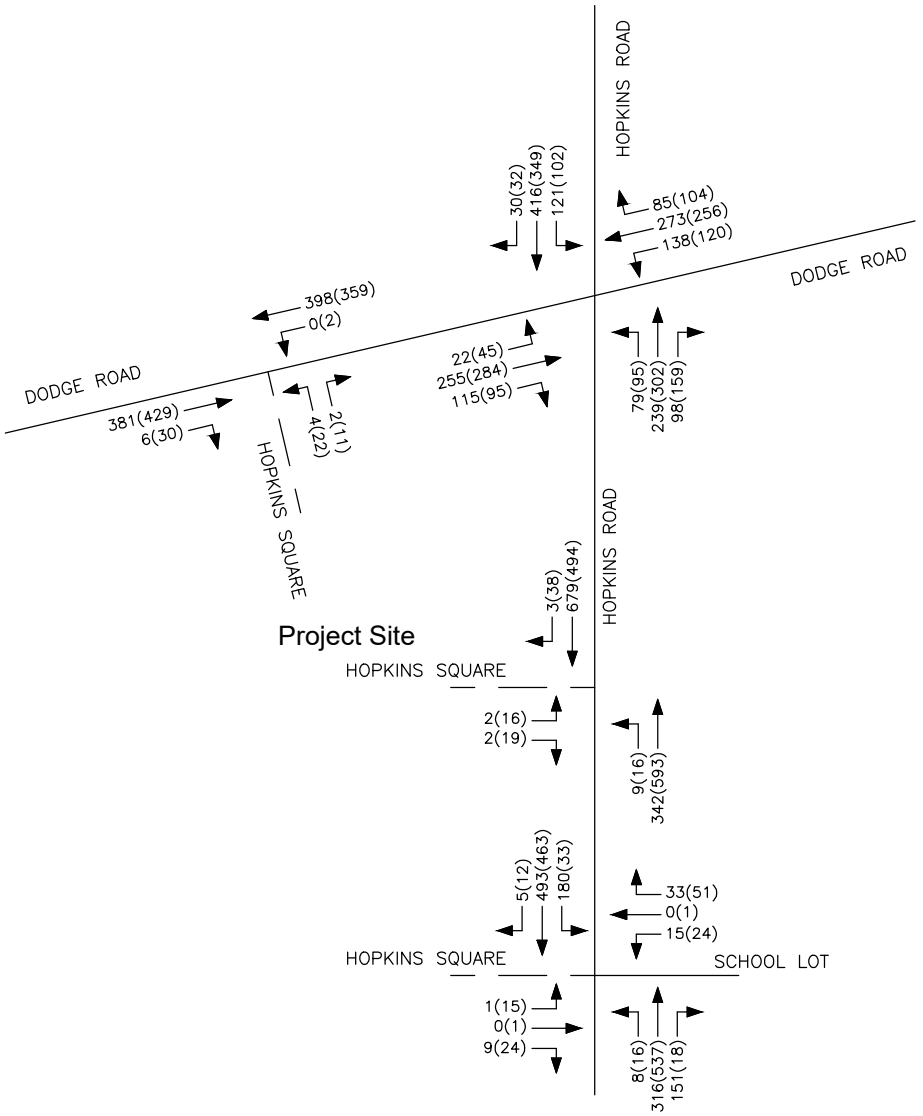
PASSERO
engineering architecture

Figure 2



Lane Geometry and
Average Daily Traffic

Figure 3A



Peak Hour Volumes AM & PM
2026 Existing Conditions

N
NOT TO SCALE

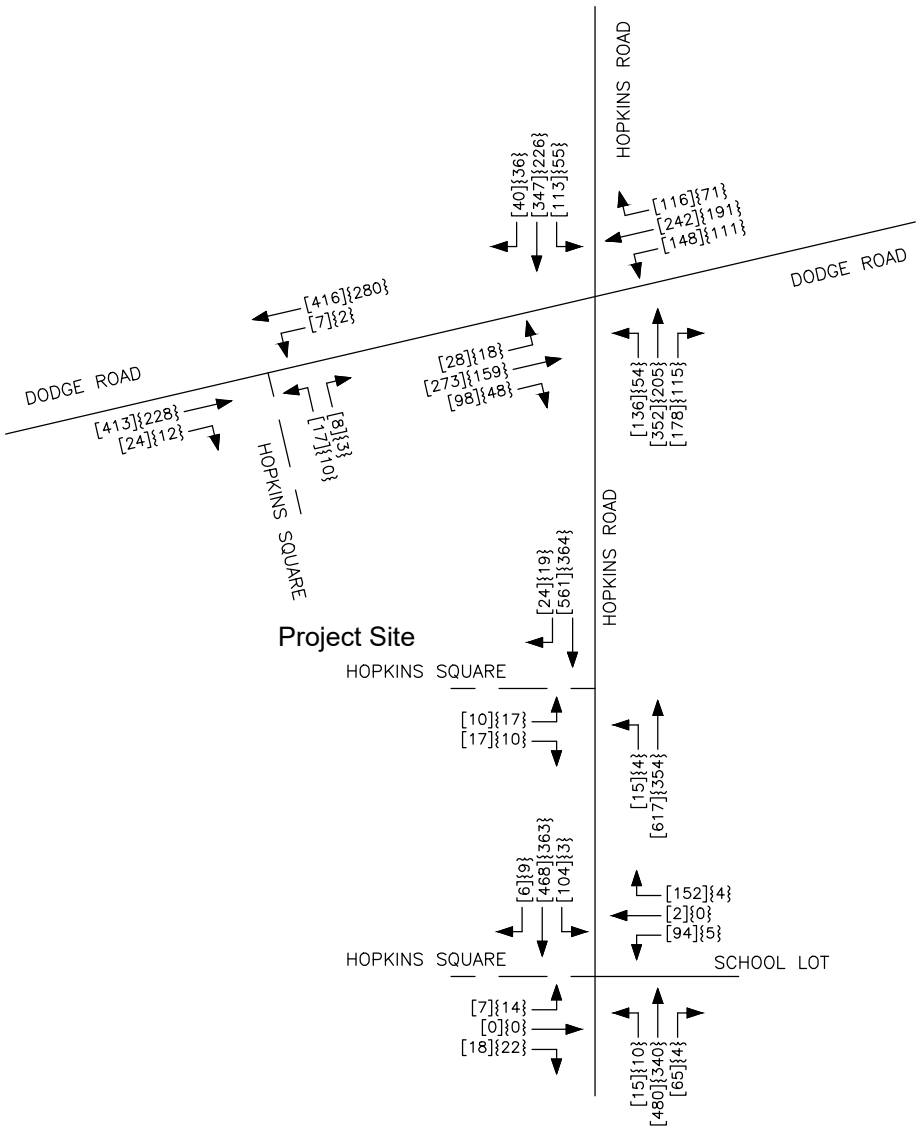
Hopkins Square Coffee Shop - Town of Amherst, NY

KEY:
00(00)[00] = AM(PM)[SCHOOL]{SAT}
– – – Proposed Access
S = Signalized

Project Number: 20265223.0001

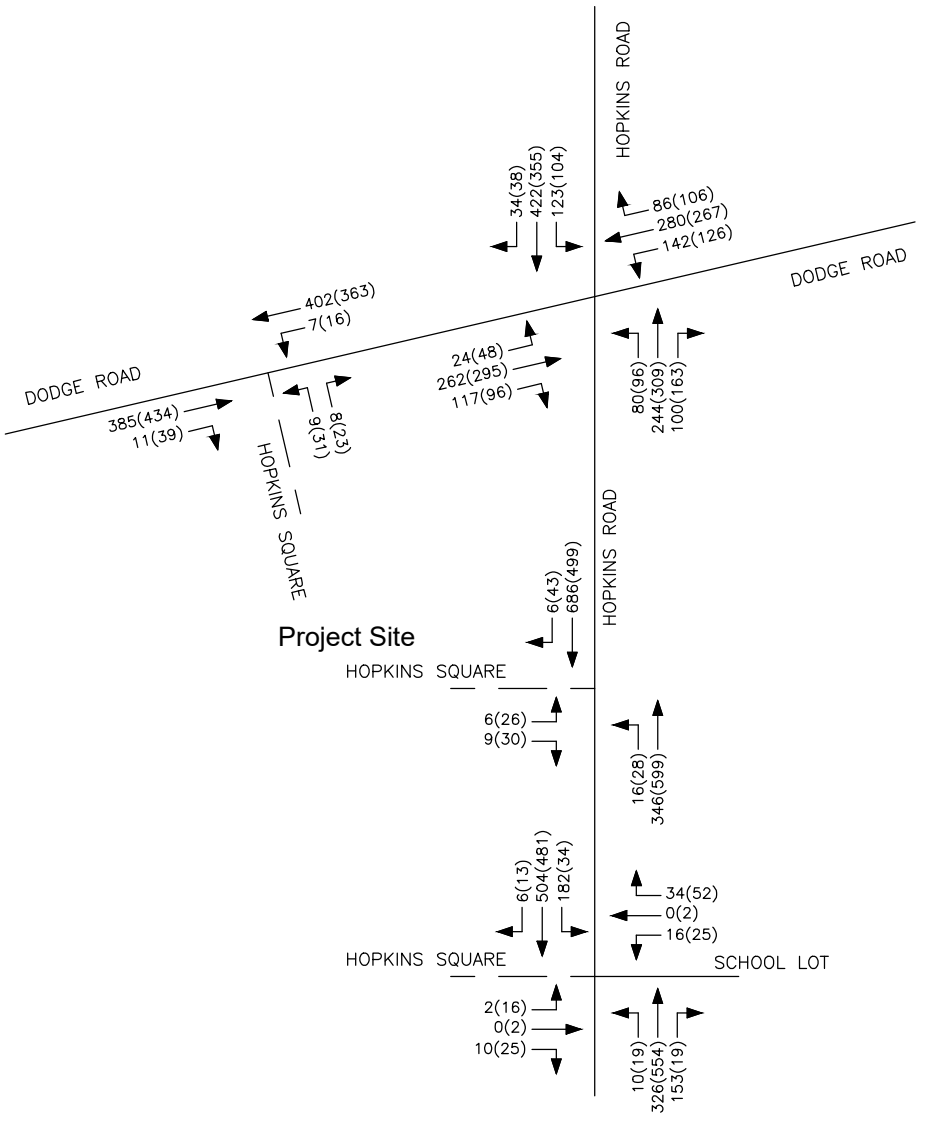
PASSERO
engineering architecture

Figure 3B



Peak Hour Volumes - School & SAT
2026 Existing Conditions

Figure 4A



Peak Hour Volumes - AM & PM
2027 Background Conditions

N
NOT TO SCALE

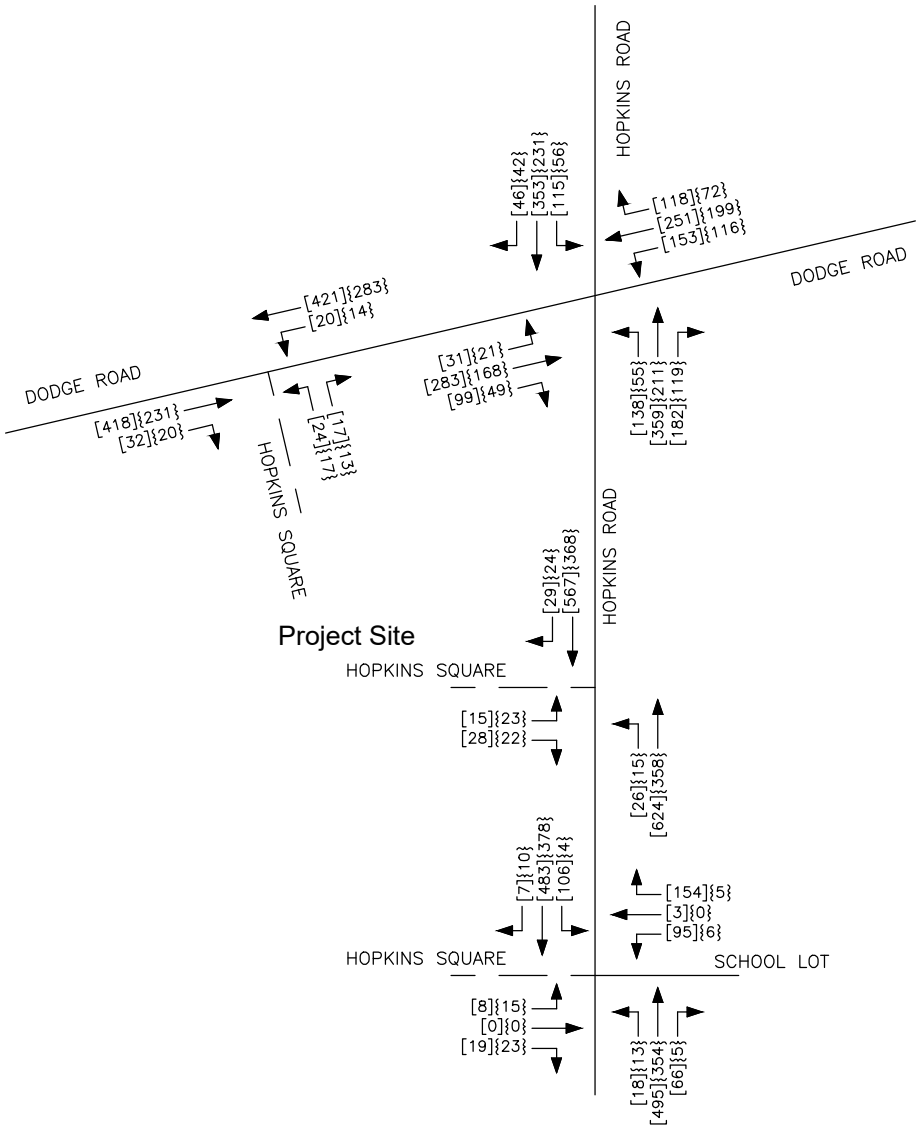
Hopkins Square Coffee Shop - Town of Amherst, NY

KEY:
00(00)[00] = AM(PM)[SCHOOL]{SAT}
Entering Trip
Exiting Trip
Proposed Access

Project Number: 20265223.0001

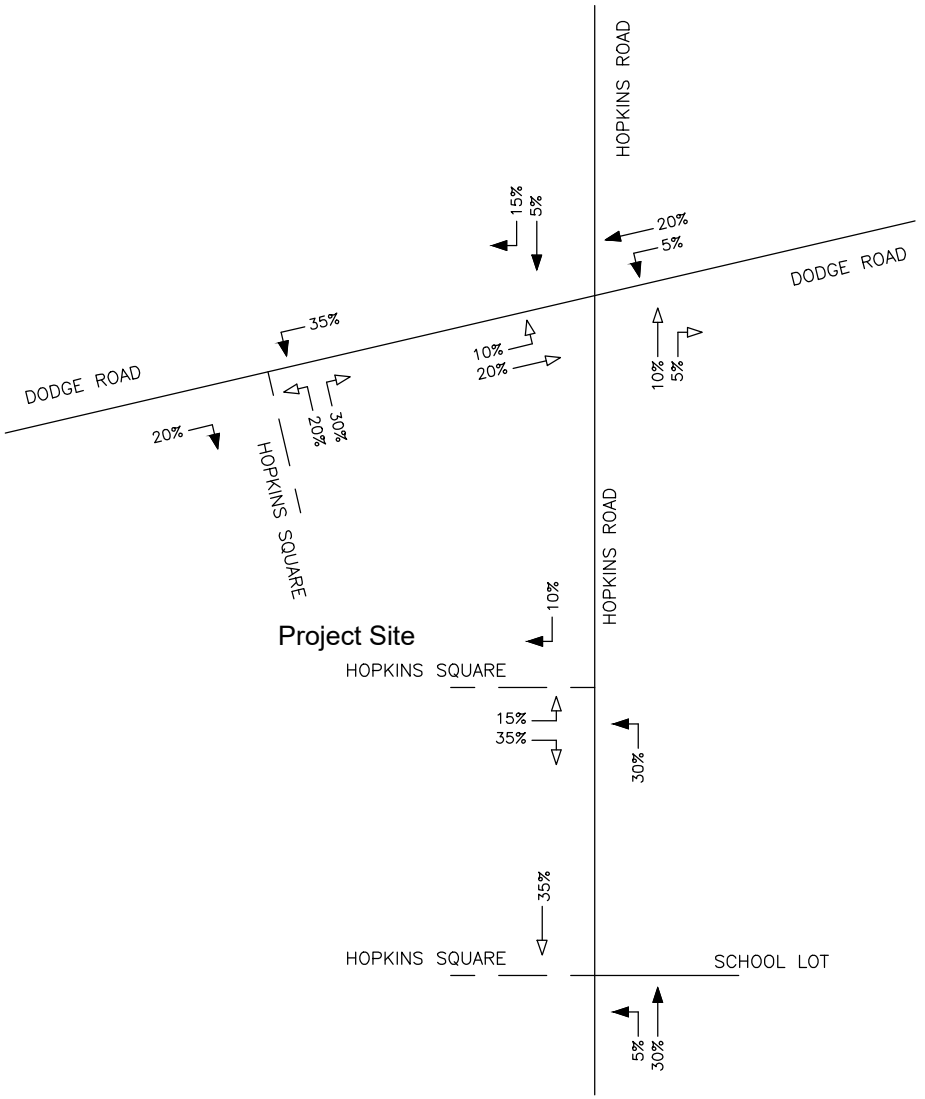
PASSERO
engineering architecture

Figure 4B



Peak Hour Volumes - School & SAT
2027 Background Conditions

Figure 5



Trip Distribution

N
NOT TO SCALE

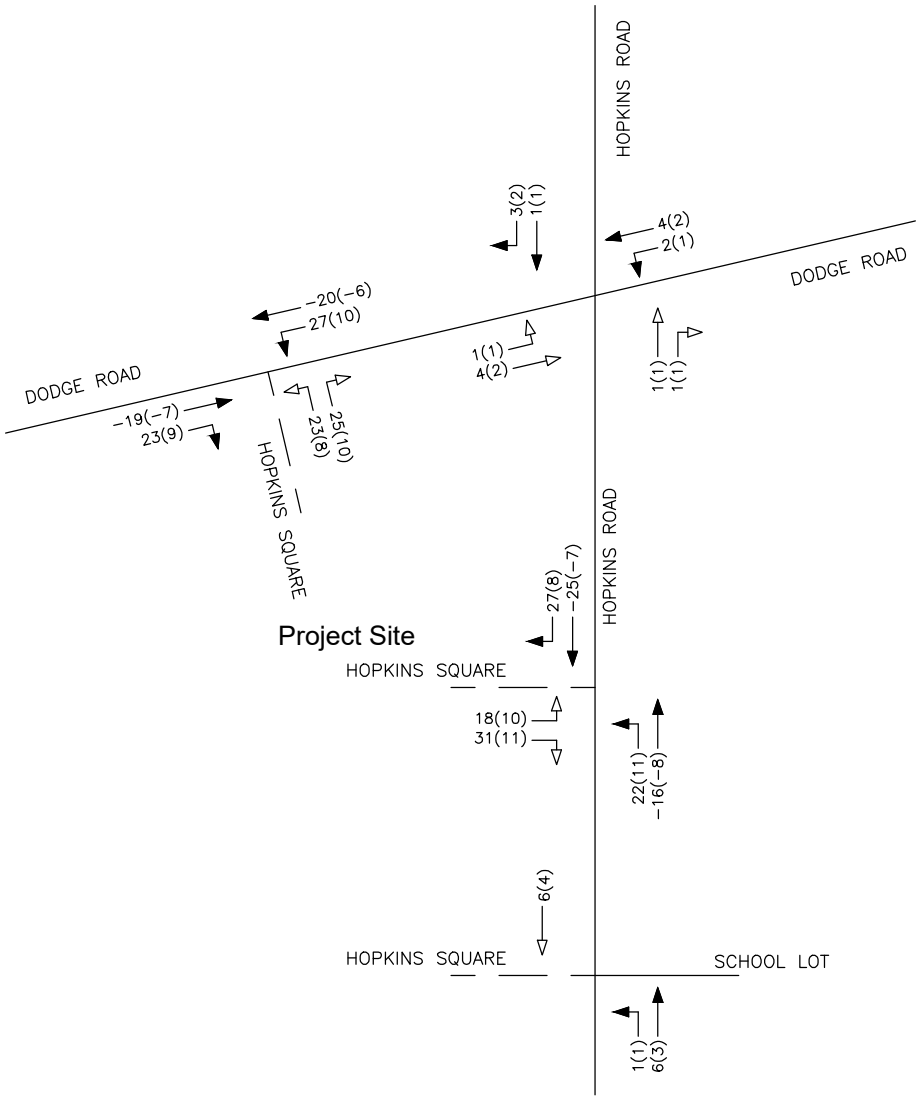
Hopkins Square Coffee Shop - Town of Amherst, NY

KEY:
00(00)[00] = AM(PM)[SCHOOL]{SAT}
Entering Trip
Exiting Trip
Proposed Access

Project Number: 20265223.0001

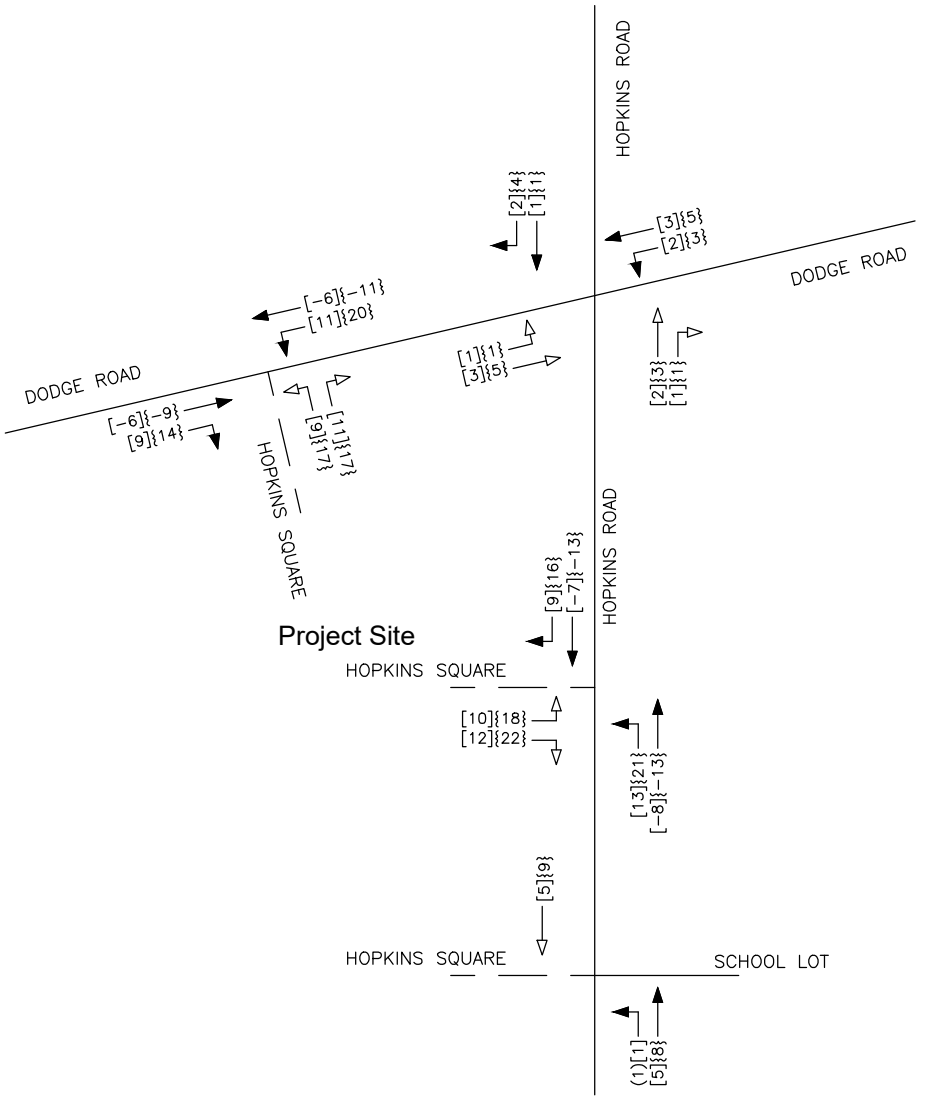
PASSERO
engineering architecture

Figure 6A



Site Generated Trips - AM & PM

Figure 6B



Site Generated Trips - School & SAT

N
NOT TO SCALE

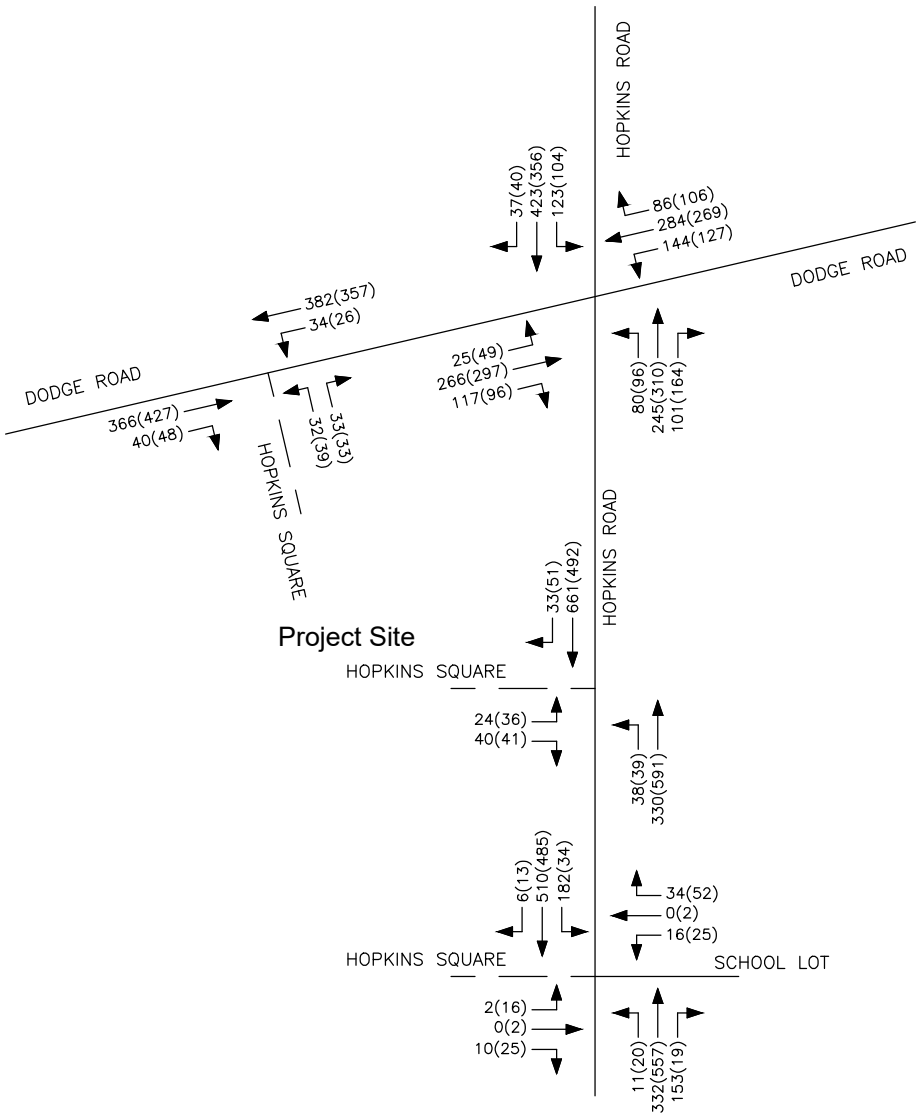
Hopkins Square Coffee Shop - Town of Amherst, NY

KEY:
00(00)[00] = AM(PM)[SCHOOL]{SAT}
Entering Trip
Exiting Trip
Proposed Access

Project Number: 20265223.0001

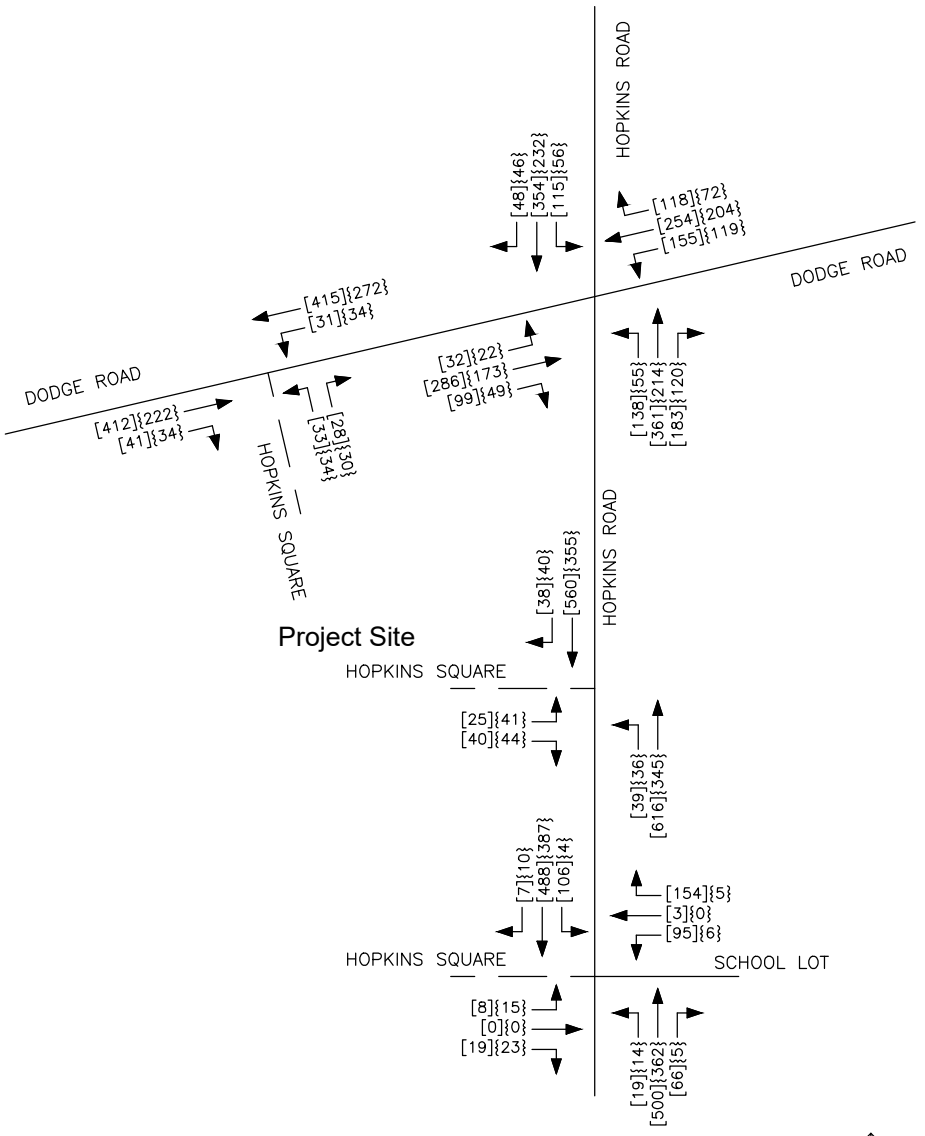
PASSERO
engineering architecture

Figure 7A



Peak Hour Volumes - AM & PM
2027 Full Build Conditions

Figure 7B



Peak Hour Volumes - School & SAT
2027 Full Build Conditions

N
NOT TO SCALE

Hopkins Square Coffee Shop - Town of Amherst, NY

KEY:
00(00)[00] = AM(PM)[SCHOOL]{SAT}
→ Entering Trip
→ Exiting Trip
– – – Proposed Access

Project Number: 20265223.0001

APPENDICES

APPENDIX A: EXISTING TRAFFIC COUNT DATA

Summary

Study Name	Dodge Road and Hopkins Road
Project	Dodge Road and Hopkins Road
Project Code	
Legs and Movements	
Bin Size	15 minutes
Time Zone	America/New_York
Date Range	2026-06-11 - 2026-06-11
Time Range	07:00:00 - 09:00:00
Location	Dodge Road and Hopkins Road
Latitude and Longitude	43.02490592,-78.73788699
AM Peak (Overall Peak Hour)	07:15-08:15
Midday Peak	
PM Peak	
Custom ID	
Tags	

ArticulatedTruck

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bus

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	2	1	0	0	0	0	3	0	3	0	0	0	0	0	3	0	0	0	0	1	0	0
7:15:00	0	0	1	3	4	0	0	0	3	1	0	0	0	0	0	0	6	0	0	0	0	4	1	0
7:30:00	0	0	3	4	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0
7:45:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0
8:00:00	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	1	2	0
8:15:00	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	3	0	0	0	0	0	1	0
8:30:00	0	0	4	0	2	0	0	0	3	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0
8:45:00	0	0	4	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0

Light

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	24	3	36	0	0	0	5	6	41	0	0	0	1	16	21	0	0	0	4	7	26	0
7:15:00	0	0	38	10	55	0	0	0	22	3	98	0	0	0	2	38	40	0	0	0	13	11	60	0
7:30:00	0	0	40	19	55	0	0	0	53	6	165	0	0	0	4	42	84	0	0	0	24	34	71	0
7:45:00	0	0	34	27	94	0	0	0	13	8	73	0	0	0	8	14	54	0	0	0	26	27	50	0
8:00:00	0	0	18	21	60	0	0	0	26	11	74	0	0	0	7	19	64	0	0	0	12	17	47	0
8:15:00	0	0	30	20	62	0	0	0	28	13	84	0	0	0	5	19	45	0	0	0	21	24	42	0
8:30:00	0	0	25	21	74	0	0	0	33	5	109	0	0	0	6	17	60	0	0	0	15	27	53	0
8:45:00	0	0	25	23	86	0	0	0	27	14	80	0	0	0	6	26	40	0	0	0	22	27	50	0

Summary

Study Name	Dodge Road and Hopkins Road
Project	Dodge Road and Hopkins Road

Other Motorized Vehicle

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:30:00	5	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
7:45:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:00:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	0	0	0
8:45:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

SingleUnitTruck

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	1	0
7:30:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
7:45:00	0	0	3	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0
8:00:00	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	2	2	3	0
8:15:00	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0
8:30:00	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0
8:45:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	0	1	1	0	0

	Dodge Road Westbound			Hopkins Road Southbound			Dodge Road Eastbound			Hopkins Road Northbound		
Intersection Totals	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru
419	39	13	59	25	4	99	2	39	48	13	16	62
615	44	23	58	54	6	166	4	42	86	24	34	74
443	37	27	96	15	8	74	9	15	55	28	28	51
394	18	22	60	27	12	77	7	19	66	14	20	52
1871	**138**	**85**	**273**	**121**	**30**	**416**	**22**	**115**	**255**	**79**	**98**	**239**
HV	8	8	9	6	2	6	1	2	13	4	9	11
HV %	6%	9%	3%	5%	7%	1%	5%	2%	5%	5%	9%	5%

Total Vehicles =	1871
PHF =	0.760569

Summary

Study Name	Dodge Road and Hopkins Road
Project	Dodge Road and Hopkins Road
Project Code	
Legs and Movements	
Bin Size	15 minutes
Time Zone	America/New_York
Date Range	2026-06-11 - 2026-06-11
Time Range	16:00:00 - 18:00:00
Location	Dodge Road and Hopkins Road
Latitude and Longitude	43.02490592,-78.73788699

AM Peak

Midday Peak

PM Peak (Overall Peak Hour) 17:00-18:00

Custom ID

Tags

ArticulatedTruck

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
17:30:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bus

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	2	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
16:30:00	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0	1	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Summary

Study Name	Dodge Road and Hopkins Road
Project	Dodge Road and Hopkins Road

Light

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	0	29	24	61	0	0	0	26	6	85	0	0	0	8	23	72	0	0	0	21	42	83	0
16:15:00	0	0	28	31	60	0	0	0	23	9	75	0	0	0	7	22	83	0	0	0	17	40	99	0
16:30:00	0	0	39	24	56	0	0	0	17	6	65	0	0	0	9	20	76	0	0	0	23	37	99	0
16:45:00	0	0	24	20	41	0	0	0	18	5	77	0	0	0	13	22	85	0	0	0	31	40	83	0
17:00:00	0	0	24	25	61	0	0	0	18	8	96	0	0	0	12	20	65	0	0	0	19	34	82	0
17:15:00	0	0	30	28	67	0	0	0	23	4	91	0	0	0	14	21	82	0	0	0	36	45	76	0
17:30:00	0	0	36	31	57	0	0	0	29	11	86	0	0	0	10	22	69	0	0	0	21	40	72	0
17:45:00	0	0	30	20	70	0	0	0	32	8	73	0	0	0	9	30	68	0	0	0	18	37	70	0

Other Motorized Vehicle

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0
16:15:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SingleUnitTruck

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
16:00:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
16:15:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
16:30:00	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

		Dodge Road Westbound			Hopkins Road Southbound			Dodge Road Eastbound			Hopkins Road Northbound		
Intersection totals		Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru
468	17:00:00	24	25	61	18	8	98	12	21	65	19	35	82
521	17:15:00	30	28	67	23	4	91	14	22	82	36	47	77
486	17:30:00	36	31	58	29	11	87	10	22	69	21	40	72
466	17:45:00	30	20	70	32	8	73	9	30	68	19	37	70
1941		120	104	256	102	31	349	45	95	284	95	159	301
	HV	0	0	0	0	1	1	0	2	0	1	2	1
	HV %	0.00%	0.00%	0.00%	0.00%	3.23%	0.29%	0.00%	2.11%	0.00%	1.05%	1.26%	0.33%
	PHF	0.931382											

Summary

Study Name	Dodge Road and Hopkins Road
Project	Dodge Road and Hopkins Road
Project Code	
Legs and Movements	
Bin Size	15 minutes
Time Zone	America/New_York
Date Range	2026-06-11 - 2026-06-11
Time Range	14:00:00 - 16:00:00
Location	Dodge Road and Hopkins Road
Latitude and Longitude	43.02490592,-78.73788699

AM Peak

Midday Peak (Overall Peak Hour)	15:00-16:00
PM Peak	15:15-16:15
Custom ID	
Tags	

ArticulatedTruck

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bus

Entry	Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction	Westbound						Southbound						Eastbound						Northbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
14:00:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
14:15:00	0	0	2	1	3	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
14:30:00	0	0	0	1	0	0	0	0	2	0	3	0	0	0	0	0	3	0	0	0	0	0	2	0
14:45:00	0	0	3	3	7	0	0	0	5	1	2	0	0	0	0	0	3	0	0	0	1	1	1	0
15:00:00	0	0	1	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	1	0
15:15:00	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	1	2	1	0
15:30:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0
15:45:00	0	0	0	1	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0

Summary

Study Name	Dodge Road and Hopkins Road
Project	Dodge Road and Hopkins Road

Light

Entry		Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction		Westbound						Southbound						Eastbound						Northbound					
Start Time		Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
	14:00:00	0	0	27	25	63	0	0	0	18	1	65	0	0	0	5	21	57	0	0	0	28	27	65	0
	14:15:00	0	0	26	14	48	0	0	0	15	5	54	0	0	0	5	20	59	0	0	0	19	25	48	0
	14:30:00	0	0	34	17	45	0	0	0	13	6	62	0	0	0	4	39	59	0	0	0	22	26	57	0
	14:45:00	0	0	38	19	53	0	0	0	18	7	65	0	0	0	4	30	63	0	0	0	50	41	81	0
	15:00:00	0	0	33	21	67	0	0	0	22	5	78	0	0	0	10	34	65	0	0	0	54	53	81	0
	15:15:00	0	0	33	23	46	0	0	0	28	17	77	0	0	0	8	25	71	0	0	0	34	41	87	0
	15:30:00	0	0	42	21	56	0	0	0	35	7	98	0	0	0	3	14	67	0	0	0	20	32	95	0
	15:45:00	0	0	39	47	64	0	0	0	26	9	82	0	0	0	7	25	68	0	0	0	26	39	82	0

Other Motorized Vehicle

Entry		Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction		Westbound						Southbound						Eastbound						Northbound					
Start Time		Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
	14:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian

Entry		Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction		Westbound						Southbound						Eastbound						Northbound					
Start Time		Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
	14:00:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
	14:15:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
	14:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:45:00	0	7	0	0	0	0	0	2	0	0	0	0	4	0	0	0	0	0	21	0	0	0	0	0
	15:00:00	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	8	1	0	0	0	0
	15:15:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0
	15:30:00	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	16	0	0	0	0	0
	15:45:00	0	4	0	0	0	0	0	0	0	0	0	0	14	1	0	0	0	0	12	1	0	0	0	0

SingleUnitTruck

Entry		Dodge Road						Hopkins Road						Dodge Road						Hopkins Road					
Direction		Westbound						Southbound						Eastbound						Northbound					
Start Time		Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
	14:00:00	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
	14:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0
	14:30:00	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	15:00:00	0	0	0	1	2	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0
	15:15:00	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0
	15:30:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0
	15:45:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0

			Dodge Road Westbound			Hopkins Road Southbound			Dodge Road Eastbound			Hopkins Road Northbound		
Intersection Totals			Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru
540	15:00:00		34	22	70	23	5	83	10	34	65	54	57	83
503	15:15:00		33	25	47	28	17	80	8	25	73	35	44	88
503	15:30:00		42	21	58	35	8	99	3	14	67	21	38	97
525	15:45:00		39	48	67	27	10	85	7	25	68	26	39	84
2071			148	116	242	113	40	347	28	98	273	136	178	352
		HV	1	1	3	1	0	5	0	0	0	0	4	2
		HV %	0.68%	0.86%	1.24%	0.88%	0.00%	1.44%	0.00%	0.00%	0.00%	0.00%	2.25%	0.57%
		PHF	0.958796											

Summary
Study Nam Dodge Road and Hopkins Road
Project Dodge Road and Hopkins Road
Project Code
Legs and Movements
Bin Size 15 minutes
Time Zone America/New_York
Date Range 2026-06-13 - 2026-06-13
Time Range 11:00:00 - 14:00:00
Location Dodge Road and Hopkins Road
Latitude an 43.02490592,-78.73788699

AM Peak
Midday Pea 11:30-12:30
PM Peak
Custom ID
Tags

ArticulatedTruck

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
11:15:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
11:30:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
12:00:00	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	2	0
12:15:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	3	0	0	0	0	0	0	0

Bus

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Light

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	0	17	3	52	0	0	0	10	31	60	0	0	0	26	13	38	0	0	0	3	14	42	0
11:15:00	0	0	14	3	43	0	0	0	18	36	55	0	0	0	20	11	32	0	0	0	5	14	39	0
11:30:00	0	0	13	4	63	0	0	0	11	27	57	0	0	0	34	15	38	0	0	0	2	9	41	0
11:45:00	0	0	10	4	42	0	0	0	16	28	41	0	0	0	20	26	55	0	0	0	9	9	40	0

Summary

Study Nam Dodge Road and Hopkins Road

Project Dodge Road and Hopkins Road

12:00:00	0	0	10	5	61	0	0	0	9	31	52	0	0	0	25	10	39	0	0	0	5	14	38	0
12:15:00	0	0	22	18	55	0	0	0	18	28	51	0	0	0	31	19	58	0	0	0	1	16	37	0
12:30:00	0	0	9	8	54	0	0	0	8	23	54	0	0	0	20	13	46	0	0	0	3	11	39	0
12:45:00	0	0	11	7	60	0	0	0	16	17	61	0	0	0	28	14	46	0	0	0	7	4	57	0
13:00:00	0	0	13	6	50	0	0	0	14	24	54	0	0	0	25	16	37	0	0	0	5	10	33	1
13:15:00	0	0	10	14	52	0	0	0	10	17	51	0	0	0	27	16	50	0	0	0	5	11	27	0
13:30:00	0	0	20	13	41	0	0	0	17	14	47	0	0	0	11	13	48	0	0	0	3	10	43	0
13:45:00	0	0	13	4	43	0	0	0	9	15	41	0	0	0	20	10	44	0	0	0	3	13	34	0

Other Motorized Vehicle

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SingleUnitTruck

Entry	Hopkins Road						Hopkins Road						Dodge Road						Dodge Road					
Direction	Southbound						Northbound						Westbound						Eastbound					
Start Time	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn	Crosswalk	Crosswalk	Left	Right	Thru	U-Turn
11:00:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
11:15:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
12:15:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

		Hopkins Road Southbound			Hopkins Road Northbound			Dodge Road Westbound			Dodge Road Eastbound		
Intersection totals		Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru
322	11:30:00	13	9	63	11	28	58	34	15	38	3	9	41
302	11:45:00	10	4	42	16	28	42	20	26	55	9	9	41
309	12:00:00	10	5	65	9	31	53	26	11	40	5	14	40
356	12:15:00	22	18	56	18	28	52	31	19	58	1	16	37
1289		55	36	226	54	115	205	111	71	191	18	48	159
	HV	0	5	0	0	1	1	0	0	0	1	0	0
	HV %	0.00%	13.89%	0.00%	0.00%	0.87%	0.49%	0.00%	0.00%	0.00%	5.56%	0.00%	0.00%
	PHF	0.905197											

Project Name	Hopkins Square Coffee Shop
Location Name	Dodge Rd at Hopkins Square Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Dodge Rd East			Hopkins Square Dwy South			Dodge Rd West			
Date	**Start Time**	**Left**	**Thru**	**U-Turn**	**Left**	**Right**	**U-Turn**	**Thru**	**Right**	**U-Turn**	**Intersection Total**
06/11/2026	7:00 AM	0	46	0	1	0	0	42	1	0	90
06/11/2026	7:15 AM	0	73	0	0	1	0	94	2	0	170
06/11/2026	7:30 AM	0	86	0	2	0	0	133	2	0	223
06/11/2026	7:45 AM	0	129	0	0	2	0	84	0	0	215
06/11/2026	7 AM Hourly Total	0	334	0	3	3	0	353	5	0	698
06/11/2026	8:00 AM	0	87	0	1	0	0	92	1	0	181
06/11/2026	8:15 AM	0	96	0	1	0	0	72	3	0	172
06/11/2026	8:30 AM	0	99	0	1	0	0	84	2	0	186
06/11/2026	8:45 AM	0	122	0	0	0	0	83	3	0	208
06/11/2026	8 AM Hourly Total	0	404	0	3	0	0	331	9	0	747
06/11/2026	9:00 AM	0	73	0	0	4	0	100	3	0	180
06/11/2026	9:15 AM	0	42	0	2	3	0	58	2	0	107
06/11/2026	9 AM Hourly Total	0	115	0	2	7	0	158	5	0	287
06/11/2026	2:00 PM	1	95	0	1	2	0	80	1	0	180
06/11/2026	2:15 PM	1	74	0	1	2	0	82	4	0	164
06/11/2026	2:30 PM	2	74	0	2	0	0	105	4	0	187
06/11/2026	2:45 PM	2	117	0	3	3	0	96	11	0	232
06/11/2026	2 PM Hourly Total	6	360	0	7	7	0	363	20	0	763
06/11/2026	3:00 PM	1	128	0	3	3	0	113	3	0	251
06/11/2026	3:15 PM	2	97	0	9	2	0	99	6	0	215
06/11/2026	3:30 PM	2	86	0	1	2	0	82	6	0	179
06/11/2026	3:45 PM	1	106	0	2	3	0	101	7	0	220
06/11/2026	3 PM Hourly Total	6	417	0	15	10	0	395	22	0	865
06/11/2026	Project Total	12	1630	0	30	27	0	1600	61	0	3360

Project Name	Hopkins Square Coffee Shop
Location Name	Dodge Rd at Hopkins Square Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Dodge Rd East			Hopkins Square Dwy South			Dodge Rd West			
Date	**Start Time**	**Left**	**Thru**	**U-Turn**	**Left**	**Right**	**U-Turn**	**Thru**	**Right**	**U-Turn**	**Intersection Total**
06/11/2026	7:30 AM	0	86	0	2	0	0	133	2	0	223
06/11/2026	7:45 AM	0	129	0	0	2	0	84	0	0	215
06/11/2026	8:00 AM	0	87	0	1	0	0	92	1	0	181
06/11/2026	8:15 AM	0	96	0	1	0	0	72	3	0	172
06/11/2026	**AM PEAK HOUR**	**0**	**398**	**0**	**4**	**2**	**0**	**381**	**6**	**0**	**791**
06/11/2026	7 AM Hourly Total	0	10	0	0	0	0	14	0	0	
PHF =	**0.8867713**		3%					4%			
06/11/2026	2:30 PM	2	74	0	2	0	0	105	4	0	187
06/11/2026	2:45 PM	2	117	0	3	3	0	96	11	0	232
06/11/2026	3:00 PM	1	128	0	3	3	0	113	3	0	251
06/11/2026	3:15 PM	2	97	0	9	2	0	99	6	0	215
06/11/2026	**SCHOOL PM PEAK HOUR**	**7**	**416**	**0**	**17**	**8**	**0**	**413**	**24**	**0**	**885**
06/11/2026	2 PM Hourly Total	1	12	0	0	0	0	8	0	0	
PHF =	**0.881474104**	14%	3%					2%			
06/11/2026	4:00 PM	1	90	0	2	0	0	102	13	0	208
06/11/2026	4:15 PM	1	91	0	5	1	0	113	9	0	220
06/11/2026	4:30 PM	0	89	0	8	3	0	103	10	0	213
06/11/2026	4:45 PM	0	77	0	3	1	0	114	9	0	204
06/11/2026	4 PM Hourly Total	2	347	0	18	5	0	432	41	0	845
06/11/2026	5:00 PM	0	89	0	9	4	0	100	6	0	208
06/11/2026	5:15 PM	2	104	0	2	3	0	112	5	0	228
06/11/2026	5:30 PM	0	88	0	5	3	0	100	9	0	205
06/11/2026	5:45 PM	0	101	0	1	4	0	97	6	0	209
06/11/2026	5 PM Hourly Total	2	382	0	17	14	0	409	26	0	850
06/11/2026	Project Total	4	729	0	35	19	0	841	67	0	1695
06/11/2026	4:30 PM	0	89	0	8	3	0	103	10	0	213
06/11/2026	4:45 PM	0	77	0	3	1	0	114	9	0	204
06/11/2026	5:00 PM	0	89	0	9	4	0	100	6	0	208
06/11/2026	5:15 PM	2	104	0	2	3	0	112	5	0	228
06/11/2026	**PM PEAK HOUR**	**2**	**359**	**0**	**22**	**11**	**0**	**429**	**30**	**0**	**853**
46184	4 PM Hourly Total	0	1	0	0	0	0	6	0	0	
PHF =	**0.935307018**		0%					1%			

Project Name	Hopkins Square Coffee Shop
Location Name	Dodge Rd at Hopkins Square Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Dodge Rd East			Hopkins Square Dwy South			Dodge Rd West			
Date	**Start Time**	**Left**	**Thru**	**U-Turn**	**Left**	**Right**	**U-Turn**	**Thru**	**Right**	**U-Turn**	**Intersection Total**
06/13/2026	11:00 AM	2	51	0	1	0	0	61	3	0	118
06/13/2026	11:15 AM	0	53	0	3	2	0	52	4	0	114
06/13/2026	11:30 AM	0	53	0	2	0	0	53	2	1	111
06/13/2026	11:45 AM	0	79	0	2	1	0	58	1	0	141
06/13/2026	11 AM Hourly Total	2	236	0	8	3	0	224	10	1	484
06/13/2026	12:00 PM	2	51	0	6	3	0	54	2	0	118
06/13/2026	12:15 PM	0	97	0	0	0	0	53	6	0	156
06/13/2026	12:30 PM	0	62	0	3	0	0	54	1	0	120
06/13/2026	12:45 PM	0	70	0	1	0	0	67	3	0	141
06/13/2026	12 PM Hourly Total	2	280	0	10	3	0	228	12	0	535
06/13/2026	1:00 PM	0	56	0	0	2	0	48	0	0	106
06/13/2026	1:15 PM	3	73	0	5	1	0	43	2	0	127
06/13/2026	1:30 PM	0	76	0	2	0	0	57	1	0	136
06/13/2026	1:45 PM	0	57	0	0	0	0	47	1	0	105
06/13/2026	1 PM Hourly Total	3	262	0	7	3	0	195	4	0	474
06/13/2026	Project Total	7	778	0	25	9	0	647	26	1	1493

06/13/2026	12:00 PM	2	51	0	6	3	0	54	2	0	118
06/13/2026	12:15 PM	0	97	0	0	0	0	53	6	0	156
06/13/2026	12:30 PM	0	62	0	3	0	0	54	1	0	120
06/13/2026	12:45 PM	0	70	0	1	0	0	67	3	0	141
06/13/2026	**SAT PEAK HOUR**	**2**	**280**	**0**	**10**	**3**	**0**	**228**	**12**	**0**	**535**
06/13/2026	12 PM Hourly Total	0	0	0	0	0	0	0	0	0	

PHF = **0.857371795**

Project Name	Hopkins Square Coffee Shop
Location Name	Hopkins Rd at Hopkins Sq North Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Hopkins Rd North			Hopkins Rd South			Hopkins Sq North Dwy West			
Date	**Start Time**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**U-Turn**	**Left**	**Right**	**U-Turn**	**Intersection Total**
06/11/2026	7:00 AM	80	1	0	0	45	0	0	0	0	126
06/11/2026	7:15 AM	186	0	0	1	77	0	1	0	0	265
06/11/2026	7:30 AM	254	2	0	5	90	1	0	1	0	353
06/11/2026	7:45 AM	127	0	0	1	92	0	1	1	0	222
06/11/2026	7 AM Hourly Total	647	3	0	7	304	1	2	2	0	966
06/11/2026	8:00 AM	112	1	0	2	83	0	0	0	0	198
06/11/2026	8:15 AM	134	4	0	1	94	0	0	0	0	233
06/11/2026	8:30 AM	153	2	0	1	99	0	0	1	0	256
06/11/2026	8:45 AM	141	3	0	3	93	0	1	2	0	243
06/11/2026	8 AM Hourly Total	540	10	0	7	369	0	1	3	0	930
06/11/2026	9:00 AM	116	3	0	0	86	0	1	0	0	206
06/11/2026	9:15 AM	118	1	0	3	72	0	1	3	0	198
06/11/2026	9 AM Hourly Total	234	4	0	3	158	0	2	3	0	404
06/11/2026	2:00 PM	112	2	0	1	107	0	2	4	0	228
06/11/2026	2:15 PM	102	5	0	2	99	0	0	1	0	209
06/11/2026	2:30 PM	133	5	0	2	103	0	3	0	0	246
06/11/2026	2:45 PM	132	5	0	4	155	0	2	7	0	305
06/11/2026	2 PM Hourly Total	479	17	0	9	464	0	7	12	0	988
06/11/2026	3:00 PM	149	3	0	3	156	0	2	6	0	319
06/11/2026	3:15 PM	133	8	0	4	153	0	3	2	0	303
06/11/2026	3:30 PM	147	8	0	4	153	0	3	2	0	317
06/11/2026	3:45 PM	142	5	0	1	131	0	6	7	0	292
06/11/2026	3 PM Hourly Total	571	24	0	12	593	0	14	17	0	1231
06/11/2026	Project Total	2471	58	0	38	1888	1	26	37	0	4519

Project Name	Hopkins Square Coffee Shop
Location Name	Hopkins Rd at Hopkins Sq North Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Hopkins Rd North			Hopkins Rd South			Hopkins Sq North Dwy West			
Date	**Start Time**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**U-Turn**	**Left**	**Right**	**U-Turn**	**Intersection Total**
06/11/2026	7:15 AM	186	0	0	1	77	0	1	0	0	265
06/11/2026	7:30 AM	254	2	0	5	90	1	0	1	0	353
06/11/2026	7:45 AM	127	0	0	1	92	0	1	1	0	222
06/11/2026	8:00 AM	112	1	0	2	83	0	0	0	0	198
06/11/2026	**AM PEAK HOUR**	**679**	**3**	**0**	**9**	**342**	**1**	**2**	**2**	**0**	**1038**
PHF =	**0.735127479**										

06/11/2026	2:45 PM	132	5	0	4	155	0	2	7	0	305
06/11/2026	3:00 PM	149	3	0	3	156	0	2	6	0	319
06/11/2026	3:15 PM	133	8	0	4	153	0	3	2	0	303
06/11/2026	3:30 PM	147	8	0	4	153	0	3	2	0	317
06/11/2026	**SCHOOL PM PEAK HOUR**	**561**	**24**	**0**	**15**	**617**	**0**	**10**	**17**	**0**	**1244**
46184	3 PM Hourly Total	12	0	0	0	17	0	0	0	0	
PHF =	**0.97492163**	2%				3%					

06/11/2026	4:00 PM	133	7	0	3	144	0	5	4	0	296
06/11/2026	4:15 PM	128	6	0	6	134	0	9	4	0	287
06/11/2026	4:30 PM	116	12	0	4	161	0	2	5	0	300
06/11/2026	4:45 PM	114	9	0	9	144	0	3	5	0	284
06/11/2026	4 PM Hourly Total	491	34	0	22	583	0	19	18	0	1167
06/11/2026	5:00 PM	133	7	0	0	126	0	4	3	0	273
06/11/2026	5:15 PM	131	10	0	3	162	0	7	6	0	319
06/11/2026	5:30 PM	136	10	0	5	115	0	7	4	1	278
06/11/2026	5:45 PM	125	10	0	3	126	0	6	2	0	272
06/11/2026	5 PM Hourly Total	525	37	0	11	529	0	24	15	1	1142
06/11/2026	Project Total	1016	71	0	33	1112	0	43	33	1	2309

06/11/2026	4:30 PM	116	12	0	4	161	0	2	5	0	300
06/11/2026	4:45 PM	114	9	0	9	144	0	3	5	0	284
06/11/2026	5:00 PM	133	7	0	0	126	0	4	3	0	273
06/11/2026	5:15 PM	131	10	0	3	162	0	7	6	0	319
06/11/2026	**PM PEAK HOUR**	**494**	**38**	**0**	**16**	**593**	**0**	**16**	**19**	**0**	**1176**
46184	4 PM Hourly Total	12	0	0	0	3	0	0	0	0	
PHF =	0.921630094	2%				1%					

Project Name	Hopkins Square Coffee Shop
Location Name	Hopkins Rd at Hopkins Sq North Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Hopkins Rd North			Hopkins Rd South			Hopkins Sq North Dwy West			
Date	**Start Time**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**U-Turn**	**Left**	**Right**	**U-Turn**	**Intersection Total**
06/13/2026	11:00 AM	96	3	0	2	82	0	3	2	0	188
06/13/2026	11:15 AM	72	4	0	2	88	0	7	3	0	176
06/13/2026	11:30 AM	102	4	0	0	97	0	2	2	0	207
06/13/2026	11:45 AM	68	5	0	1	80	0	3	0	0	157
06/13/2026	11 AM Hourly Total	338	16	0	5	347	0	15	7	0	728
06/13/2026	12:00 PM	97	6	0	3	84	0	5	7	0	202
06/13/2026	12:15 PM	97	4	0	0	93	0	7	1	0	202
06/13/2026	12:30 PM	77	6	0	1	82	0	2	1	0	169
06/13/2026	12:45 PM	89	3	0	2	96	0	1	2	0	193
06/13/2026	12 PM Hourly Total	360	19	0	6	355	0	15	11	0	766
06/13/2026	1:00 PM	80	6	0	2	82	0	6	1	0	177
06/13/2026	1:15 PM	87	3	0	0	82	0	0	1	0	173
06/13/2026	1:30 PM	61	1	0	0	73	0	2	0	0	137
06/13/2026	1:45 PM	77	2	0	2	71	0	0	1	0	153
06/13/2026	1 PM Hourly Total	305	12	0	4	308	0	8	3	0	640
06/13/2026	Project Total	1003	47	0	15	1010	0	38	21	0	2134

06/13/2026	11:30 AM	102	4	0	0	97	0	2	2	0	207
06/13/2026	11:45 AM	68	5	0	1	80	0	3	0	0	157
06/13/2026	12:00 PM	97	6	0	3	84	0	5	7	0	202
06/13/2026	12:15 PM	97	4	0	0	93	0	7	1	0	202
06/13/2026	**SAT PEAK HOUR**	**364**	**19**	**0**	**4**	**354**	**0**	**17**	**10**	**0**	**768**
06/13/2026	11 AM Hourly Total	0	0	0	0	0	0	0	0	0	

PHF = 0.927536232

Project Name	Hopkins Square Coffee Shop
Location Name	Hopkins Rd at Hopkins Sq South Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Hopkins Rd North				School Parking Lot East				Hopkins Rd South				Hopkins Sq South Dwy West				
Date	**Start Time**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Intersection Total**
06/11/2026	7:00 AM	13	65	1	0	0	0	0	0	2	45	10	0	0	0	1	0	137
06/11/2026	7:15 AM	60	120	1	0	2	0	1	0	1	77	31	0	0	0	1	0	294
06/11/2026	7:30 AM	105	150	1	0	4	0	24	0	2	70	109	0	0	0	5	0	470
06/11/2026	7:45 AM	11	120	0	0	7	0	7	0	2	86	10	0	0	0	2	0	245
06/11/2026	7 AM Hourly Total	189	455	3	0	13	0	32	0	7	278	160	0	0	0	9	0	1146
06/11/2026	8:00 AM	4	103	3	0	2	0	1	0	3	83	1	0	1	0	1	0	202
06/11/2026	8:15 AM	9	128	0	0	0	0	1	0	3	94	4	0	0	0	4	0	243
06/11/2026	8:30 AM	3	148	2	0	2	0	0	0	3	99	5	0	1	0	5	0	268
06/11/2026	8:45 AM	3	141	1	0	1	0	0	0	2	96	2	0	0	0	4	0	250
06/11/2026	8 AM Hourly Total	19	520	6	0	5	0	2	0	11	372	12	0	2	0	14	0	963
06/11/2026	9:00 AM	2	113	1	0	0	0	1	0	2	86	2	0	0	0	3	0	210
06/11/2026	9:15 AM	1	115	3	0	2	0	0	0	4	74	3	0	0	0	2	0	204
06/11/2026	9 AM Hourly Total	3	228	4	0	2	0	1	0	6	160	5	0	0	0	5	0	414
06/11/2026	2:00 PM	2	113	1	0	13	0	26	0	0	82	2	0	0	0	4	0	243
06/11/2026	2:15 PM	9	95	0	0	3	0	6	0	2	95	6	0	1	0	1	0	218
06/11/2026	2:30 PM	46	86	0	0	1	0	2	0	1	100	20	0	1	0	3	0	260
06/11/2026	2:45 PM	42	98	0	0	24	0	57	0	3	109	25	0	0	0	7	0	365
06/11/2026	2 PM Hourly Total	99	392	1	0	41	0	91	0	6	386	53	0	2	0	15	0	1086
06/11/2026	3:00 PM	28	125	1	0	33	2	46	0	4	103	21	0	2	0	5	0	370
06/11/2026	3:15 PM	16	118	0	0	19	0	28	0	2	126	11	0	4	0	2	0	326
06/11/2026	3:30 PM	18	127	5	0	18	0	21	0	6	142	8	0	1	0	4	0	350
06/11/2026	3:45 PM	7	140	1	0	5	0	6	0	5	117	3	0	1	0	5	0	290
06/11/2026	3 PM Hourly Total	69	510	7	0	75	2	101	0	17	488	43	0	8	0	16	0	1336
06/11/2026	Project Total	379	2105	21	0	136	2	227	0	47	1684	273	0	12	0	59	0	4945

06/11/2026	7:15 AM	60	120	1	0	2	0	1	0	1	77	31	0	0	0	1	0	294
06/11/2026	7:30 AM	105	150	1	0	4	0	24	0	2	70	109	0	0	0	5	0	470
06/11/2026	7:45 AM	11	120	0	0	7	0	7	0	2	86	10	0	0	0	2	0	245
06/11/2026	8:00 AM	4	103	3	0	2	0	1	0	3	83	1	0	1	0	1	0	202
06/11/2026	**AM PEAK HOUR**	**180**	**493**	**5**	**0**	**15**	**0**	**33**	**0**	**8**	**316**	**151**	**0**	**1**	**0**	**9**	**0**	**1211**
06/11/2026	**7 AM Hourly Total**	**0**	**15**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**13**	**2**	**0**	**0**	**0**	**0**	**0**	
PHF =	**0.644148936**		3%			7%					4%	1%						

06/11/2026	2:45 PM	42	98	0	0	24	0	57	0	3	109	25	0	0	0	7	0	365
06/11/2026	3:00 PM	28	125	1	0	33	2	46	0	4	103	21	0	2	0	5	0	370
06/11/2026	3:15 PM	16	118	0	0	19	0	28	0	2	126	11	0	4	0	2	0	326
06/11/2026	3:30 PM	18	127	5	0	18	0	21	0	6	142	8	0	1	0	4	0	350
06/11/2026	**SCHOOL PM PEAK HOUR**	**104**	**468**	**6**	**0**	**94**	**2**	**152**	**0**	**15**	**480**	**65**	**0**	**7**	**0**	**18**	**0**	**1411**
46184	3 PM Hourly Total	0	12	0	0	0	0	0	0	0	16	0	0	1	0	0	0	
PHF =	**0.953378378**		3%								3%	0%		14%				

Project Name	Hopkins Square Coffee Shop
Location Name	Hopkins Rd at Hopkins Sq South Dwy
Classification	2 Class & NVC
Project Date(s)	6/11 and 6/13/2026

		Hopkins Rd North				School Parking Lot East				Hopkins Rd South				Hopkins Sq South Dwy West				
Date	**Start Time**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Intersection Total**
06/11/2026	4:00 PM	12	121	2	0	8	1	15	0	1	129	6	0	4	0	4	0	303
06/11/2026	4:15 PM	9	122	3	0	6	0	7	0	5	126	9	0	3	1	2	0	293
06/11/2026	4:30 PM	7	106	7	0	6	0	20	0	5	144	2	0	5	0	11	0	313
06/11/2026	4:45 PM	5	114	0	0	4	0	9	0	5	138	1	0	3	0	7	0	286
06/11/2026	4 PM Hourly Total	33	463	12	0	24	1	51	0	16	537	18	0	15	1	24	0	1195
06/11/2026	5:00 PM	3	131	3	0	1	0	5	0	4	120	2	0	1	0	5	0	275
06/11/2026	5:15 PM	1	131	3	0	1	0	3	0	4	156	1	0	6	0	7	0	313
06/11/2026	5:30 PM	5	136	1	0	2	0	1	0	2	112	3	0	8	0	10	0	280
06/11/2026	5:45 PM	1	124	3	0	2	0	2	0	5	121	3	0	5	0	10	0	276
06/11/2026	5 PM Hourly Total	10	522	10	0	6	0	11	0	15	509	9	0	20	0	32	0	1144
06/11/2026	Project Total	43	985	22	0	30	1	62	0	31	1046	27	0	35	1	56	0	2339

06/11/2026	4:00 PM	12	121	2	0	8	1	15	0	1	129	6	0	4	0	4	0	303
06/11/2026	4:15 PM	9	122	3	0	6	0	7	0	5	126	9	0	3	1	2	0	293
06/11/2026	4:30 PM	7	106	7	0	6	0	20	0	5	144	2	0	5	0	11	0	313
06/11/2026	4:45 PM	5	114	0	0	4	0	9	0	5	138	1	0	3	0	7	0	286
06/11/2026	**PM PEAK HOUR**	**33**	**463**	**12**	**0**	**24**	**1**	**51**	**0**	**16**	**537**	**18**	**0**	**15**	**1**	**24**	**0**	**1195**
46184	4 PM Hourly Total	1	11	0	0	1	0	1	0	0	3	0	0	0	0	0	0	
PHF =	**0.954472843**	3%	2%			4%		2%			1%							

06/13/2026	11:00 AM	7	89	2	0	25	0	2	0	8	81	17	0	1	0	7	0	239
06/13/2026	11:15 AM	0	73	1	0	9	1	4	0	4	85	2	0	1	0	5	0	185
06/13/2026	11:30 AM	2	100	3	0	1	0	1	0	1	94	1	0	2	0	2	0	207
06/13/2026	11:45 AM	0	68	0	0	3	0	2	0	4	75	2	0	4	0	10	0	168
06/13/2026	11 AM Hourly Total	9	330	6	0	38	1	9	0	17	335	22	0	8	0	24	0	799
06/13/2026	12:00 PM	0	102	2	0	1	0	0	0	1	82	0	0	5	0	6	0	199
06/13/2026	12:15 PM	1	93	4	0	0	0	1	0	4	89	1	0	3	0	4	0	200
06/13/2026	12:30 PM	0	74	2	0	1	0	1	0	1	79	1	0	1	0	4	0	164
06/13/2026	12:45 PM	0	92	0	0	0	0	0	0	2	98	0	0	0	0	5	0	197
06/13/2026	12 PM Hourly Total	1	361	8	0	2	0	2	0	8	348	2	0	9	0	19	0	760
06/13/2026	1:00 PM	0	80	0	0	1	0	0	0	2	81	0	0	3	0	3	0	170
06/13/2026	1:15 PM	1	83	4	0	0	0	0	0	3	81	0	0	1	0	4	0	177
06/13/2026	1:30 PM	0	60	0	0	0	0	1	0	3	69	1	0	3	0	4	0	141
06/13/2026	1:45 PM	0	78	1	0	0	0	0	0	2	73	0	0	0	0	2	0	156
06/13/2026	1 PM Hourly Total	1	301	5	0	1	0	1	0	10	304	1	0	7	0	13	0	644
06/13/2026	Project Total	11	992	19	0	41	1	12	0	35	987	25	0	24	0	56	0	2203

06/13/2026	11:30 AM	2	100	3	0	1	0	1	0	1	94	1	0	2	0	2	0	207
06/13/2026	11:45 AM	0	68	0	0	3	0	2	0	4	75	2	0	4	0	10	0	168
06/13/2026	12:00 PM	0	102	2	0	1	0	0	0	1	82	0	0	5	0	6	0	199
06/13/2026	12:15 PM	1	93	4	0	0	0	1	0	4	89	1	0	3	0	4	0	200
06/13/2026	**SAT PEAK HOUR**	**3**	**363**	**9**	**0**	**5**	**0**	**4**	**0**	**10**	**340**	**4**	**0**	**14**	**0**	**22**	**0**	**774**
06/13/2026	11 AM Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF =	**0.934782609**																	

APPENDIX B: MISCELLANEOUS CALCULATIONS

PASSERO
engineering architecture

Hopkins Square Coffee Shop, Amherst NY

Documentation of Ambient Traffic Volume Growth

Roadway	Segment starts at	Segment end at	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Annual Growth
Dodge Road (CR 45)	Hopkins Road	New Road		9,164					8,837			8,195	-1.39%
Dodge Road (CR 45)	Millersport Hwy	Hopkins Rd	6,544			7,101			6,222			6,268	-0.48%
Hopkins Road (CR 87)	Dodge Road	N French Road		8,547					8,635			8,685	0.20%
												AVERAGE	**-0.55%**

PROJECT DETAILS

Project Name:	Hopkins Square Coffee Shop	Type of Project:	
Project No:		City:	
Country:		Built-up Area(Sq.ft):	
Analyst Name:	Amy Dake	Clients Name:	
Date:	9/26/2026	ZIP/Postal Code:	
State/Province:		No. of Scenarios:	4
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	AM Peak	2	1	1		120	112	232
Scenario - 1	Afternoon School Peak	2	1	1		75	68	143
Scenario - 1	PM Peak 4-6 pm	2	1	1		74	74	148
Scenario - 1	SAT Peak	2	1	1		102	104	206

Scenario - 1

Scenario Name: AM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 1
Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
822 - Strip Retail Plaza (<40k)	General Urban/Suburban	1000 Sq. Ft. GLA	9.26	Weekday, Peak Hour of Adjacent Street Traffic,	Average	20	16	36
Data Source: Trip Generation Manual, 12th Ed					3.93	55%	45%	
937 - Coffee/Donut Shop with Drive-Through	General Urban/Suburban	1000 Sq. Ft. GFA	1.95	Weekday, AM Peak Hour of Generator	Average	100	96	196
Data Source: Trip Generation Manual, 12th Ed					100.29	51%	49%	

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 (%)
822 - Strip Retail Plaza (<40k)	100	100	1	1	55	45
937 - Coffee/Donut Shop with Drive-Through Window	100	100	1	1	51	49

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
822 - Strip Retail Plaza (<40k)	20	16	0	0	20	16
	36		0		36	
937 - Coffee/Donut Shop with Drive-Through Window	100	96	0	0	100	96
	196		0		196	

Scenario - 2

Scenario Name: Afternoon School Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 1
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
822 - Strip Retail Plaza (<40k)	**General**	**1000 Sq. Ft. GLA**	**9.26**	**Weekday, PM Peak**	**Average**	**33**	**26**	**59**
Data Source: Trip Generation Manual, 12th Ed	**Urban/Suburban**			**Hour of Generator**	6.27	56%	44%	
937 - Coffee/Donut Shop with Drive-Through	**General**	**1000 Sq. Ft. GFA**	**1.95**	**Weekday, PM Peak**	**Average**	**42**	**42**	**84**
Data Source: Trip Generation Manual, 12th Ed	**Urban/Suburban**			**Hour of Generator**	43.49	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 (%)
822 - Strip Retail Plaza (<40k)	100	100	1	1	56	44
937 - Coffee/Donut Shop with Drive-Through Window	100	100	1.3	1.3	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
822 - Strip Retail Plaza (<40k)	33	26	0	0	33	26
	59		0		59	
937 - Coffee/Donut Shop with Drive-Through Window	55	55	0	0	55	55
	110		0		110	

Scenario - 3

Scenario Name: PM Peak 4-6 pm
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 1
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
822 - Strip Retail Plaza (<40k)	**General**	**1000 Sq. Ft. GLA**	**9.26**	**Weekday, Peak Hour of**	**Best Fit (LOG)**	**36**	**36**	**72**
Data Source: Trip Generation Manual, 12th Ed	**Urban/Suburban**			**Adjacent Street Traffic,**	Ln(T) =0.68Ln(X) + 2.77	50%	50%	
937 - Coffee/Donut Shop with Drive-Through	**General**	**1000 Sq. Ft. GFA**	**1.95**	**Weekday, Peak Hour of**	**Average**	**38**	**38**	**76**
Data Source: Trip Generation Manual, 12th Ed	**Urban/Suburban**			**Adjacent Street Traffic,**	39.00	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 (%)
822 - Strip Retail Plaza (<40k)	100	100	1	1	50	50
937 - Coffee/Donut Shop with Drive-Through Window	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
822 - Strip Retail Plaza (<40k)	36	36	0	0	36	36
	72		0		72	
937 - Coffee/Donut Shop with Drive-Through Window	38	38	0	0	38	38
	76		0		76	

Scenario - 4

Scenario Name: SAT Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 1
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
822 - Strip Retail Plaza (<40k)	**General**	**1000 Sq. Ft. GLA**	**9.26**	**Saturday, Peak Hour of**	**Average**	**31**	**30**	**61**
Data Source: Trip Generation Manual, 12th Ed	**Urban/Suburban**			**Generator**	6.63	51%	49%	
937 - Coffee/Donut Shop with Drive-Through	**General**	**1000 Sq. Ft. GFA**	**1.95**	**Saturday, Peak Hour of**	**Average**	**71**	**74**	**145**
Data Source: Trip Generation Manual, 12th Ed	**Urban/Suburban**			**Generator**	74.24	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 (%)
822 - Strip Retail Plaza (<40k)	100	100	1	1	51	49
937 - Coffee/Donut Shop with Drive-Through Window	100	100	1	1	49	51

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
822 - Strip Retail Plaza (<40k)	31	30	0	0	31	30
	61		0		61	
937 - Coffee/Donut Shop with Drive-Through Window	71	74	0	0	71	74
	145		0		145	

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 12th Edition

Land Use Code	937
Land Use	Coffee/Donut Shop with Drive-Through Window
Setting	General Urban/Suburban
Time Period	Weekday AM Peak Period
# Data Sites	5
Average Pass-By Rate	83%

Pass-By Characteristics for Individual Sites

Drive-Through Lanes	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1	Florida	2019	257	82	18	—	18	—	18
1	Florida	2019	323	85	15	—	15	—	18
1	Florida	2019	363	93	7	—	7	—	18
1	Washington	2023	—	79	21	—	21	—	18
1	Washington	2023	—	75	25	—	25	—	18

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 12th Edition

Land Use Code	937
Land Use	Coffee/Donut Shop with Drive-Through Window
Setting	General Urban/Suburban
Time Period	Weekday Midday
# Data Sites	3
Average Pass-By Rate	66%

Pass-By Characteristics for Individual Sites

Drive-Through Lanes	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1	Florida	2019	74	59	41	—	41	—	18
1	Florida	2019	250	64	36	—	36	—	18
1	Florida	2019	182	73	27	—	27	—	18

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 12th Edition

Land Use Code	937
Land Use	Coffee/Donut Shop with Drive-Through Window
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	5
Average Pass-By Rate	81%

Pass-By Characteristics for Individual Sites

Drive-Through Lanes	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1	Florida	2019	85	89	11	—	11	—	18
1	Florida	2019	191	84	16	—	16	—	18
1	Florida	2019	118	88	12	—	12	—	18
1	Washington	2023	—	80	20	—	20	—	18
1	Washington	2023	—	63	37	—	37	—	18

PROJECT: Hopkins Square Coffee Shop
LOCATION: Hopkins Square, Town of Amherst, New York
PEAK HOUR: AM Peak

Figure Number: 3 4 5a 6a 7a

Num of yrs: 1

LOCATION NUMBER	INTERSECTION DESCRIPTION	2026 Existing Vols	Retail Re-Use				2027 Bkgd Vol	Proposed Coffee Shop				Pass-by Trips	Total Site Trips	Full Build Volumes
			Enter Dist. %	Exit Dist. %	Trips IN 20	Trips OUT 16	1.00%	Enter Dist. %	Exit Dist. %	Trips IN 20	Trips OUT 19			
1	Hopkins Square South Driveway/ Hopkins Rd													
	NBR	151					153							153
	NBT	316	30%		6		326	30%		6			6	332
	NBL	8	5%		1		10	5%		1			1	11
	EBR	9					10							10
	EBT													
	EBL	1					2							2
	SBR	5					6							6
	SBT	493		35%		6	504		35%		7	-1	6	510
	SBL	180					182							182
	WBR	33					34							34
	WBT													
	WBL	15					16							16
2	Hopkins Square North Driveway/ Hopkins Rd													
	NBT	342					346					-16	-16	330
	NBL	9	30%		6		16	30%		6		16	22	38
	EBR	2		35%		6	9		35%		7	24	31	40
	EBL	2		15%		3	6		15%		3	15	18	24
	SBR	3	10%		2		6	10%		2		25	27	33
	SBT	679					686					-25	-25	661
3	Dodge Rd/ Hopkins Square													
	NBR	2		30%		5	8		30%		6	19	25	33
	NBL	4		20%		4	9		20%		4	19	23	32
	EBR	6	20%		4		11	20%		4		19	23	34
	EBT	381					385					-19	-19	366
	WBT	398					402					-20	-20	382
	WBL		35%		7		7	35%		7		20	27	34
3	Dodge Rd/ Hopkins Rd													
	NBR	98		5%		1	100		5%		1		1	101
	NBT	239		10%		2	244		10%		2	-1	1	245
	NBL	79					80							80
	WBR	85					86							86
	WBT	273		20%		4	280		20%		4		4	284
	WBL	138		10%		2	142		10%		2		2	144
	SBR	30	15%		3		34	15%		3			3	37
	SBT	416	5%		1		422	5%		1			1	423
	SBL	121					123							123
	EBR	115					117							117
	EBT	255	20%		4		262	20%		4			4	266
	EBL	22	5%		1		24	5%		1			1	25

PROJECT: Hopkins Square Coffee Shop
LOCATION: Hopkins Square, Town of Amherst, New York
PEAK HOUR: PM Peak

Figure Number: 3 4 5a 6a 7a

Num of yrs: 1

LOCATION NUMBER	INTERSECTION DESCRIPTION	2026 Existing Vols	Retail Re-Use				2027 Bkgd Vol	Proposed Coffee Shop				Pass-by Trips	Total Site Trips	Full Build Volumes
			Enter Dist. %	Exit Dist. %	Trips IN 36	Trips OUT 36	1.00%	Enter Dist. %	Exit Dist. %	Trips IN 10	Trips OUT 10			
1	Hopkins Square South Driveway/ Hopkins Rd													
	NBR	18					19							19
	NBT	537	30%		11		554	30%		3			3	557
	NBL	16	5%		2		19	5%		1			1	20
	EBR	24					25							25
	EBT	1					2							2
	EBL	15					16							16
	SBR	12					13							13
	SBT	463		35%		13	481		35%		4		4	485
	SBL	33					34							34
	WBR	51					52							52
	WBT	1					2							2
	WBL	24					25							25
2	Hopkins Square North Driveway/ Hopkins Rd													
	NBT	593					599					-8	-8	591
	NBL	16	30%		11		28	30%		3		8	11	39
	EBR	16		35%		13	30		35%		4	7	11	41
	EBL	19		15%		6	26		15%		2	8	10	36
	SBR	38	10%		4		43	10%		1		7	8	51
	SBT	494					499					-7	-7	492
3	Dodge Rd/ Hopkins Square													
	NBR	11		30%		11	23		30%		3	7	10	33
	NBL	22		20%		8	31		20%		2	6	8	39
	EBR	30	20%		8		39	20%		2		7	9	48
	EBT	429					434					-7	-7	427
	WBT	359					363					-6	-6	357
	WBL	2	35%		13		16	35%		4		6	10	26
3	Dodge Rd/ Hopkins Rd													
	NBR	159		5%		2	163		5%		1		1	164
	NBT	301		10%		4	309		10%		1		1	310
	NBL	95					96							96
	WBR	104					106							106
	WBT	256		20%		8	267		20%		2		2	269
	WBL	120		10%		4	126		10%		1		1	127
	SBR	31	15%		6		38	15%		2			2	40
	SBT	349	5%		2		355	5%		1			1	356
	SBL	102					104							104
	EBR	95					96							96
	EBT	284	20%		8		295	20%		2			2	297
	EBL	45	5%		2		48	5%		1			1	49

PROJECT: Hopkins Square Coffee Shop
LOCATION: Hopkins Square, Town of Amherst, New York
PEAK HOUR: School Peak

Figure Number: 3 4 5a 6a 7a

Num of yrs: 1

LOCATION NUMBER	INTERSECTION DESCRIPTION	2026 Existing Vols	Retail Re-Use				2027 Bkgd Vol	Proposed Coffee Shop				Pass-by Trips	Total Site Trips	Full Build Volumes
			Enter Dist. %	Exit Dist. %	Trips IN 33	Trips OUT 26	1.00%	Enter Dist. %	Exit Dist. %	Trips IN 15	Trips OUT 15			
1	Hopkins Square South Driveway/ Hopkins Rd													
	NBR	65					66							66
	NBT	480	30%		10		495	30%		5			5	500
	NBL	15	5%		2		18	5%		1			1	19
	EBR	18					19							19
	EBT													
	EBL	7					8							8
	SBR	6					7							7
	SBT	468		35%		10	483		35%		5		5	488
	SBL	104					106							106
	WBR	152					154							154
	WBT	2					3							3
	WBL	94					95							95
2	Hopkins Square North Driveway/ Hopkins Rd													
	NBT	617					624					-8	-8	616
	NBL	15	30%		10		26	30%		5		8	13	39
	EBR	17		35%		10	28		35%		5	7	12	40
	EBL	10		15%		4	15		15%		2	8	10	25
	SBR	24	10%		4		29	10%		2		7	9	38
	SBT	561					567					-7	-7	560
3	Dodge Rd/ Hopkins Square													
	NBR	8		30%		8	17		30%		5	6	11	28
	NBL	17		20%		6	24		20%		3	6	9	33
	EBR	24	20%		7		32	20%		3		6	9	41
	EBT	413					418					-6	-6	412
	WBT	416					421					-6	-6	415
	WBL	7	35%		12		20	35%		5		6	11	31
4	Dodge Rd/ Hopkins Rd													
	NBR	178		5%		2	182		5%		1		1	183
	NBT	352		10%		3	359		10%		2		2	361
	NBL	136					138							138
	WBR	116					118							118
	WBT	242		20%		6	251		20%		3		3	254
	WBL	148		10%		3	153		10%		2		2	155
	SBR	40	15%		5		46	15%		2			2	48
	SBT	347	5%		2		353	5%		1			1	354
	SBL	113					115							115
	EBR	98					99							99
	EBT	273	20%		7		283	20%		3			3	286
	EBL	28	5%		2		31	5%		1			1	32

PROJECT: **Hopkins Square Coffee Shop**
LOCATION: **Hopkins Square, Town of Amherst, New York**
PEAK HOUR: **Saturday Peak**

Figure Number: 3 4 5a 6a 7a

Num of yrs: 1

LOCATION NUMBER	INTERSECTION DESCRIPTION	2026 Existing Vols	Retail Re-Use				2027 Bkgd Vol	Proposed Coffee Shop				Pass-by Trips	Total Site Trips	Full Build Volumes
			Enter Dist. %	Exit Dist. %	Trips IN 31	Trips OUT 30	1.00%	Enter Dist. %	Exit Dist. %	Trips IN 25	Trips OUT 26			
1	Hopkins Square South Driveway/ Hopkins Rd													
	NBR	4					5							5
	NBT	340	30%		10		354	30%		8			8	362
	NBL	10	5%		2		13	5%		1			1	14
	EBR	22					23							23
	EBT													
	EBL	14					15							15
	SBR	9					10							10
	SBT	363		35%		11	378		35%		9		9	387
	SBL	3					4							4
	WBR	4					5							5
	WBT													
	WBL	5					6							6
2	Hopkins Square North Driveway/ Hopkins Rd													
	NBT	354					358					-13	-13	345
	NBL	4	30%		10		15	30%		8		13	21	36
	EBR	10		35%		11	22		35%		9	13	22	44
	EBL	17		15%		5	23		15%		4	14	18	41
	SBR	19	10%		4		24	10%		3		13	16	40
	SBT	364					368					-13	-13	355
3	Dodge Rd/ Hopkins Square													
	NBR	3		30%		9	13		30%		8	9	17	30
	NBL	10		20%		6	17		20%		5	12	17	34
	EBR	12	20%		7		20	20%		5		9	14	34
	EBT	228					231					-9	-9	222
	WBT	280					283					-11	-11	272
	WBL	2	35%		11		14	35%		9		11	20	34
3	Dodge Rd/ Hopkins Rd													
	NBR	115		5%		2	119		5%		1		1	120
	NBT	205		10%		3	211		10%		3		3	214
	NBL	54					55							55
	WBR	71					72							72
	WBT	191		20%		6	199		20%		5		5	204
	WBL	111		10%		3	116		10%		3		3	119
	SBR	36	15%		5		42	15%		4			4	46
	SBT	226	5%		2		231	5%		1			1	232
	SBL	55					56							56
	EBR	48					49							49
	EBT	159	20%		7		168	20%		5			5	173
	EBL	18	5%		2		21	5%		1			1	22

Queue Theory
Coffee Shop, Hopkins Rd & Dodge Rd
AM Peak Hour - 35 Second Service Rate

The formula assumes both arrival and service distributions are random

Arrivate Rate (Per Hour)	68	ALWAYS ARRIVAL RATE > SERVICE RATE UNDER THIS SCENARIO
Service Rate (Per Hour)	103	

Average queue in the system =	2.0	Veh	(waiting and service)
Average Time in System =	103.3	Sec	
Average Waiting Time only =	68.3	Sec	

95% confident that there will be fewer than	7	vehicles in the queue
98% confident that there will be fewer than	8	vehicles in the queue
100% confident that there will be fewer than	12	vehicles in the queue

Queue Theory
Coffee Shop, Hopkins Rd & Dodge Rd
PM Peak Hour

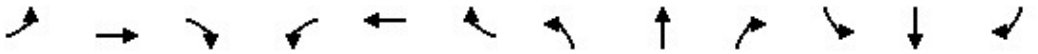
The formula assumes both arrival and service distributions are random

Arrivate Rate (Per Hour)	26	ALWAYS ARRIVAL RATE > SERVICE RATE UNDER THIS SCENARIO
Service Rate (Per Hour)	65	

Average queue in the system =	0.7	Veh	(waiting and service)
Average Time in System =	229.7	Sec	
Average Waiting Time only =	91.2	Sec	

95% confident that there will be fewer than	3	vehicles in the queue
98% confident that there will be fewer than	3	vehicles in the queue
100% confident that there will be fewer than	5	vehicles in the queue

APPENDIX C: LOS CALCULATIONS – EXISTING CONDITIONS

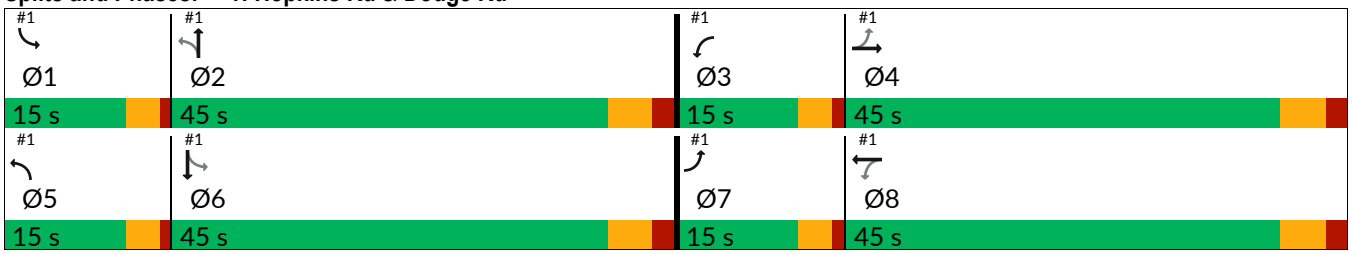


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	255	115	138	273	85	79	239	98	121	416	30
Future Volume (vph)	22	255	115	138	273	85	79	239	98	121	416	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.953			0.964			0.956			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1690	0	1719	1783	0	1719	1726	0	1719	1730	0
Flt Permitted	0.313			0.159			0.104			0.248		
Satd. Flow (perm)	561	1690	0	288	1783	0	188	1726	0	449	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			14			18			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	6%	9%	3%	5%	2%	5%	5%	7%	1%	5%	9%	5%
Adj. Flow (vph)	29	336	151	182	359	112	104	314	129	159	547	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	487	0	182	471	0	104	443	0	159	586	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	43.5	34.9		51.2	43.0		49.9	38.5		51.3	39.2	
Actuated g/C Ratio	0.38	0.31		0.45	0.38		0.44	0.34		0.45	0.34	
v/c Ratio	0.10	0.92		0.70	0.69		0.50	0.75		0.51	0.98	
Control Delay (s/veh)	18.5	60.6		34.5	36.6		27.1	42.3		24.2	71.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.5	60.6		34.5	36.6		27.1	42.3		24.2	71.4	
LOS	B	E		C	D		C	D		C	E	
Approach Delay (s/veh)		58.3			36.0			39.5			61.4	
Approach LOS		E			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay (s/veh): 49.1		Intersection LOS: D	
Intersection Capacity Utilization 72.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	9	342	679	3
Future Volume (vph)	2	2	9	342	679	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1863	1843	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1863	1843	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Adj. Flow (vph)	3	3	12	462	918	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	3	12	462	922	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	9	342	679	3
Future Vol, veh/h	2	2	9	342	679	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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	2	3	0
Mvmt Flow	3	3	12	462	918	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1406	920	922	0	-	0
Stage 1	920	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	155	331	749	-	-	-
Stage 1	392	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	152	331	749	-	-	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	22.5	0.25	0
HCM LOS	C		

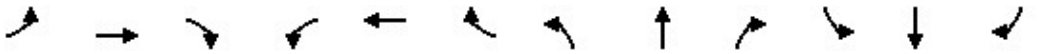
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	749	-	152	331	-	-
HCM Lane V/C Ratio	0.016	-	0.018	0.008	-	-
HCM Ctrl Dly (s/v)	9.9	-	29	16	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	135.84
Level of Service	F
Average Dissatisfaction Prob	0.803
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1021
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.85
Prob of Delayed Crossing	0.98
Delay for adq Gap (s)	139.05
Avg Ped Delay (s)	135.84

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	135.84
Level of Service	F
Average Dissatisfaction Prob	0.803
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1021
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.85
Prob of Delayed Crossing	0.98
Delay for adq Gap (s)	139.05
Avg Ped Delay (s)	135.84



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	15	0	33	8	316	151	180	493	5
Future Volume (vph)	1	0	9	15	0	33	8	316	151	180	493	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.850			0.952			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1615	0	1805	1615	0	1805	1773	0	1805	1877	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1615	0	1805	1615	0	1805	1773	0	1805	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	4%
Adj. Flow (vph)	2	0	14	23	0	51	12	486	232	277	758	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	14	0	23	51	0	12	718	0	277	766	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	9	15	0	33	8	316	151	180	493	5
Future Vol, veh/h	1	0	9	15	0	33	8	316	151	180	493	5
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	1	0	0	0	0	0	0	3	0	0	1	4
Mvmt Flow	2	0	14	23	0	51	12	486	232	277	758	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1827	2059	762	1939	1947	602	766	0	0	718	0	0
Stage 1	1316	1316	-	627	627	-	-	-	-	-	-	-
Stage 2	511	743	-	1312	1320	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	60	56	408	50	65	503	856	-	-	892	-	-
Stage 1	195	229	-	475	480	-	-	-	-	-	-	-
Stage 2	547	425	-	197	228	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	36	38	408	33	44	503	856	-	-	892	-	-
Mov Cap-2 Maneuver	36	38	-	33	44	-	-	-	-	-	-	-
Stage 1	135	158	-	468	473	-	-	-	-	-	-	-
Stage 2	485	419	-	131	157	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	23.55	85.93	0.16	2.88
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	856	-	-	36	408	33	503	892	-	-
HCM Lane V/C Ratio	0.014	-	-	0.042	0.034	0.704	0.101	0.31	-	-
HCM Ctrl Dly (s/v)	9.3	-	-	108.3	14.1	246.5	13	10.8	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	2.4	0.3	1.3	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	70.37
Level of Service	F
Average Dissatisfaction Prob	0.773
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	809
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.78
Prob of Delayed Crossing	0.95
Delay for adq Gap (s)	74.11
Avg Ped Delay (s)	70.37

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	70.37
Level of Service	F
Average Dissatisfaction Prob	0.773
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	809
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.78
Prob of Delayed Crossing	0.95
Delay for adq Gap (s)	74.11
Avg Ped Delay (s)	70.37



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	381	6	0	398	4	2
Future Volume (vph)	381	6	0	398	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.955	
Flt Protected					0.968	
Satd. Flow (prot)	1842	0	0	1827	1756	0
Flt Permitted					0.968	
Satd. Flow (perm)	1842	0	0	1827	1756	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	0%	0%	4%	0%	0%
Adj. Flow (vph)	428	7	0	447	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	435	0	0	447	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	381	6	0	398	4	2
Future Vol, veh/h	381	6	0	398	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	3	0	0	4	0	0
Mvmt Flow	428	7	0	447	4	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	435	0	879	431
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	447	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1136	-	321	628
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1136	-	321	628
Mov Cap-2 Maneuver	-	-	-	-	321	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	14.56
HCM LOS			B

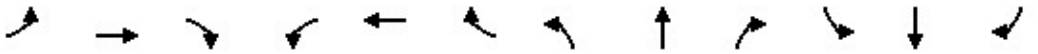
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	-	-	1136	-
HCM Lane V/C Ratio	0.018	-	-	-	-
HCM Ctrl Dly (s/v)	14.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Approach		
Approach Direction	EB	
Median Refuge?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	5.72	
Level of Service	B	
Average Dissatisfaction Prob	0.278	
Ped Crossing LOS	D	

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	381	398
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.49	0.51
Prob of Delayed Crossing	0.49	0.51
Delay for adq Gap (s)	5.63	5.77
Avg Ped Delay (s)	2.78	2.94

Approach	
Approach Direction	WB
Median Refuge?	Yes
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	5.72
Level of Service	B
Average Dissatisfaction Prob	0.278
Ped Crossing LOS	D

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	398	381
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.51	0.49
Prob of Delayed Crossing	0.51	0.49
Delay for adq Gap (s)	5.77	5.63
Avg Ped Delay (s)	2.94	2.78

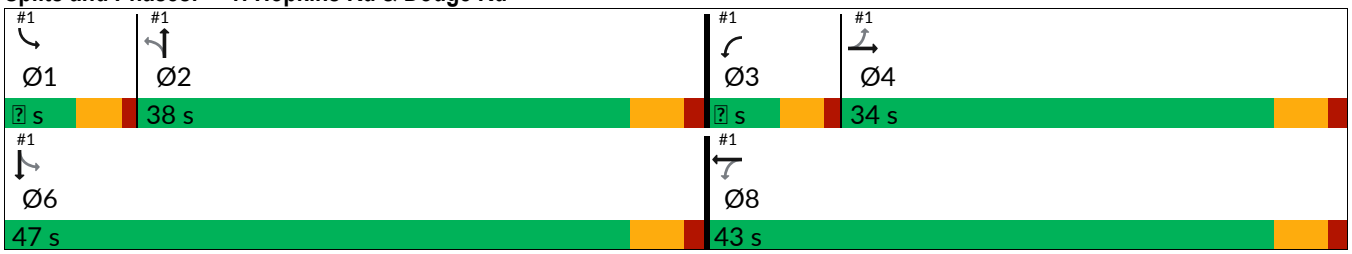


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	284	95	120	256	104	95	301	159	102	349	31
Future Volume (vph)	45	284	95	120	256	104	95	301	159	102	349	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.957			0.948			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1828	0	1805	1793	0	1805	1767	0	1787	1860	0
Flt Permitted	0.533			0.248			0.523			0.203		
Satd. Flow (perm)	1013	1828	0	471	1793	0	994	1767	0	382	1860	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			28			33			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	3%	0%	1%	1%	0%
Adj. Flow (vph)	48	305	102	129	275	112	102	324	171	110	375	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	407	0	129	387	0	102	495	0	110	408	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		4.0	15.0		15.0	15.0		4.0	15.0	
Minimum Split (s)	29.0	29.0		8.0	29.0		29.0	29.0		8.0	29.0	
Total Split (s)	34.0	34.0		9.0	43.0		38.0	38.0		9.0	47.0	
Total Split (%)	37.8%	37.8%		10.0%	47.8%		42.2%	42.2%		10.0%	52.2%	
Maximum Green (s)	29.0	29.0		5.0	38.0		33.0	33.0		5.0	42.0	
Yellow Time (s)	3.6	3.6		3.0	3.6		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.4	1.4		1.0	1.4		1.4	1.4		1.0	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		4.0	5.0		5.0	5.0		4.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	9.0	9.0			9.0		9.0	9.0			9.0	
Flash Don't Walk (s)	15.0	15.0			15.0		15.0	15.0			15.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	22.4	22.4		30.0	28.9		25.6	25.6		33.2	32.1	
Actuated g/C Ratio	0.31	0.31		0.42	0.40		0.36	0.36		0.46	0.45	
v/c Ratio	0.15	0.70		0.43	0.53		0.29	0.76		0.39	0.49	
Control Delay (s/veh)	23.0	30.8		20.1	19.3		22.1	30.0		16.5	16.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	23.0	30.8		20.1	19.3		22.1	30.0		16.5	16.9	
LOS	C	C		C	B		C	C		B	B	
Approach Delay (s/veh)		30.0			19.5			28.6			16.8	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 72			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 23.7		Intersection LOS: C	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	19	16	593	494	38
Future Volume (vph)	16	19	16	593	494	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1863	1864	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1863	1864	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	17	21	17	645	537	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	21	17	645	578	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	19	16	593	494	38
Future Vol, veh/h	16	19	16	593	494	38
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	17	21	17	645	537	41

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1237	558	578	0	-	0
Stage 1	558	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	196	533	1005	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	193	533	1005	-	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.19	0.23	0
HCM LOS	C		

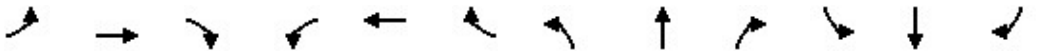
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1005	-	193	533	-	-
HCM Lane V/C Ratio	0.017	-	0.09	0.039	-	-
HCM Ctrl Dly (s/v)	8.6	-	25.5	12	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.1	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	166.32
Level of Service	F
Average Dissatisfaction Prob	0.811
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1087
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.87
Prob of Delayed Crossing	0.98
Delay for adq Gap (s)	169.39
Avg Ped Delay (s)	166.32

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	166.32
Level of Service	F
Average Dissatisfaction Prob	0.811
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1087
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.87
Prob of Delayed Crossing	0.98
Delay for adq Gap (s)	169.39
Avg Ped Delay (s)	166.32



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	24	24	1	51	16	537	18	33	463	12
Future Volume (vph)	15	1	24	24	1	51	16	537	18	33	463	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.856			0.853			0.995			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1596	0	1805	1621	0	1752	1855	0	1805	1874	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	1596	0	1805	1621	0	1752	1855	0	1805	1874	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
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
Heavy Vehicles (%)	4%	0%	2%	0%	0%	0%	3%	2%	0%	0%	1%	0%
Adj. Flow (vph)	16	1	25	25	1	54	17	565	19	35	487	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	26	0	25	55	0	17	584	0	35	500	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

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	15	1	24	24	1	51	16	537	18	33	463	12
Future Vol, veh/h	15	1	24	24	1	51	16	537	18	33	463	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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	0	2	0	0	0	3	2	0	0	1	0
Mvmt Flow	16	1	25	25	1	54	17	565	19	35	487	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1163	1181	494	1166	1178	575	500	0	0	584	0	0
Stage 1	563	563	-	608	608	-	-	-	-	-	-	-
Stage 2	599	618	-	557	569	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.22	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.318	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	170	192	576	173	192	522	1059	-	-	1000	-	-
Stage 1	507	512	-	486	489	-	-	-	-	-	-	-
Stage 2	485	484	-	518	509	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	182	576	156	183	522	1059	-	-	1000	-	-
Mov Cap-2 Maneuver	144	182	-	156	183	-	-	-	-	-	-	-
Stage 1	490	494	-	478	481	-	-	-	-	-	-	-
Stage 2	427	476	-	477	491	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	19.97	19.18	0.24	0.57
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1059	-	-	144	530	156	504	1000	-	-
HCM Lane V/C Ratio	0.016	-	-	0.109	0.05	0.162	0.109	0.035	-	-
HCM Ctrl Dly (s/v)	8.5	-	-	33	12.2	32.5	13	8.7	-	-
HCM Lane LOS	A	-	-	D	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0.6	0.4	0.1	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	127.34
Level of Service	F
Average Dissatisfaction Prob	0.801
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1000
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.84
Prob of Delayed Crossing	0.98
Delay for adq Gap (s)	130.60
Avg Ped Delay (s)	127.34

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	127.34
Level of Service	F
Average Dissatisfaction Prob	0.801
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1000
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.84
Prob of Delayed Crossing	0.98
Delay for adq Gap (s)	130.60
Avg Ped Delay (s)	127.34



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	429	30	2	359	22	11
Future Volume (vph)	429	30	2	359	22	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991				0.954	
Flt Protected					0.968	
Satd. Flow (prot)	1883	0	0	1881	1755	0
Flt Permitted					0.968	
Satd. Flow (perm)	1883	0	0	1881	1755	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	456	32	2	382	23	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	488	0	0	384	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	429	30	2	359	22	11
Future Vol, veh/h	429	30	2	359	22	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	456	32	2	382	23	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	859	472
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	386	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1085	-	330	596
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1085	-	329	596
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	691	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.05	15.24
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	387	-	-	10	-
HCM Lane V/C Ratio	0.091	-	-	0.002	-
HCM Ctrl Dly (s/v)	15.2	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Approach		
Approach Direction	EB	
Median Refuge?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	5.81	
Level of Service	B	
Average Dissatisfaction Prob	0.280	
Ped Crossing LOS	D	

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	429	359
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.54	0.47
Prob of Delayed Crossing	0.54	0.47
Delay for adq Gap (s)	6.04	5.45
Avg Ped Delay (s)	3.23	2.58

Approach	
Approach Direction	WB
Median Refuge?	Yes
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	5.81
Level of Service	B
Average Dissatisfaction Prob	0.280
Ped Crossing LOS	D

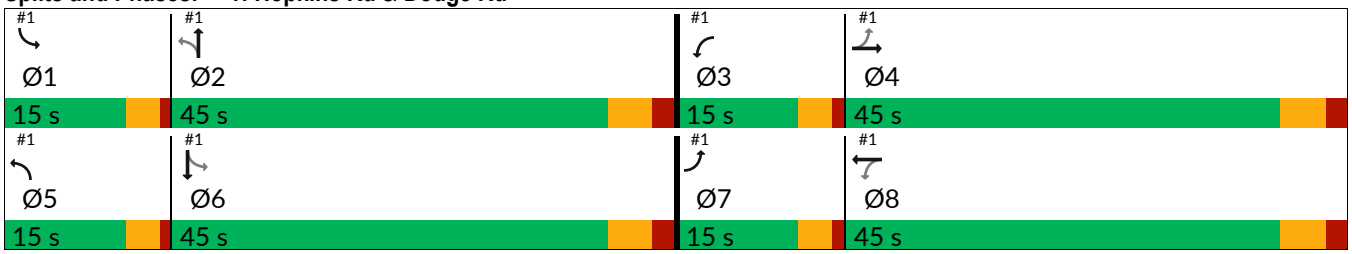
Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	359	429
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.47	0.54
Prob of Delayed Crossing	0.47	0.54
Delay for adq Gap (s)	5.45	6.04
Avg Ped Delay (s)	2.58	3.23

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	273	98	148	242	116	136	352	178	113	347	40
Future Volume (vph)	28	273	98	148	242	116	136	352	178	113	347	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.951			0.950			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1824	0	1787	1789	0	1805	1781	0	1787	1853	0
Flt Permitted	0.432			0.233			0.312			0.153		
Satd. Flow (perm)	821	1824	0	438	1789	0	593	1781	0	288	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			21			22			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	1%	2%	1%	1%	0%
Adj. Flow (vph)	29	284	102	154	252	121	142	367	185	118	361	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	386	0	154	373	0	142	552	0	118	403	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	35.1	26.4		42.3	34.4		46.8	35.2		45.5	34.5	
Actuated g/C Ratio	0.35	0.26		0.42	0.34		0.46	0.35		0.45	0.34	
v/c Ratio	0.08	0.79		0.49	0.60		0.37	0.87		0.45	0.63	
Control Delay (s/veh)	18.8	46.5		24.6	32.6		18.3	47.0		21.2	34.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.8	46.5		24.6	32.6		18.3	47.0		21.2	34.4	
LOS	B	D		C	C		B	D		C	C	
Approach Delay (s/veh)		44.6			30.3			41.1			31.4	
Approach LOS		D			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 101			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 36.8		Intersection LOS: D	
Intersection Capacity Utilization 80.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	17	15	617	561	24
Future Volume (vph)	10	17	15	617	561	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1845	1887	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1845	1887	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	3%	0%	2%
Adj. Flow (vph)	10	18	15	636	578	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	18	15	636	603	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	17	15	617	561	24
Future Vol, veh/h	10	17	15	617	561	24
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	3	0	2
Mvmt Flow	10	18	15	636	578	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1258	591	603	0	-	0
Stage 1	591	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	191	511	984	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	511	984	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.12	0.21	0
HCM LOS	C		

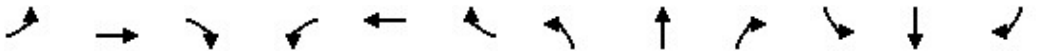
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	984	-	188	511	-	-
HCM Lane V/C Ratio	0.016	-	0.055	0.034	-	-
HCM Ctrl Dly (s/v)	8.7	-	25.3	12.3	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	219.82
Level of Service	F
Average Dissatisfaction Prob	0.820
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1178
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.89
Prob of Delayed Crossing	0.99
Delay for adq Gap (s)	222.70
Avg Ped Delay (s)	219.82

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	219.82
Level of Service	F
Average Dissatisfaction Prob	0.820
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	1178
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.89
Prob of Delayed Crossing	0.99
Delay for adq Gap (s)	222.70
Avg Ped Delay (s)	219.82



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	18	94	2	152	15	480	65	104	468	6
Future Volume (vph)	7	0	18	94	2	152	15	480	65	104	468	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.852			0.982			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	1615	0	1805	1619	0	1805	1818	0	1805	1842	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	1615	0	1805	1619	0	1805	1818	0	1805	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	7	0	19	98	2	158	16	500	68	108	488	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	19	0	98	160	0	16	568	0	108	494	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	0	18	94	2	152	15	480	65	104	468	6
Future Vol, veh/h	7	0	18	94	2	152	15	480	65	104	468	6
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	14	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	7	0	19	98	2	158	16	500	68	108	488	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1240	1306	491	1269	1276	534	494	0	0	568	0	0
Stage 1	707	707	-	565	565	-	-	-	-	-	-	-
Stage 2	532	599	-	704	710	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	144	161	582	146	168	550	1080	-	-	1014	-	-
Stage 1	407	441	-	513	511	-	-	-	-	-	-	-
Stage 2	510	494	-	431	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	89	142	582	125	148	550	1080	-	-	1014	-	-
Mov Cap-2 Maneuver	89	142	-	125	148	-	-	-	-	-	-	-
Stage 1	364	394	-	506	504	-	-	-	-	-	-	-
Stage 2	356	486	-	372	393	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	21.93	46.01	0.22	1.61
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1080	-	-	89	582	125	531	1014	-	-
HCM Lane V/C Ratio	0.014	-	-	0.082	0.032	0.785	0.302	0.107	-	-
HCM Ctrl Dly (s/v)	8.4	-	-	49	11.4	97.3	14.7	9	-	-
HCM Lane LOS	A	-	-	E	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	4.6	1.3	0.4	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	108.49
Level of Service	F
Average Dissatisfaction Prob	0.794
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	948
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.83
Prob of Delayed Crossing	0.97
Delay for adq Gap (s)	111.88
Avg Ped Delay (s)	108.49

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	108.49
Level of Service	F
Average Dissatisfaction Prob	0.794
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	948
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.83
Prob of Delayed Crossing	0.97
Delay for adq Gap (s)	111.88
Avg Ped Delay (s)	108.49



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	413	24	7	416	17	8
Future Volume (vph)	413	24	7	416	17	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.957	
Flt Protected				0.999	0.967	
Satd. Flow (prot)	1852	0	0	1840	1758	0
Flt Permitted				0.999	0.967	
Satd. Flow (perm)	1852	0	0	1840	1758	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	14%	3%	0%	0%
Adj. Flow (vph)	469	27	8	473	19	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	496	0	0	481	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	413	24	7	416	17	8
Future Vol, veh/h	413	24	7	416	17	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	14	3	0	0
Mvmt Flow	469	27	8	473	19	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	497	0	972	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	489	-
Critical Hdwy	-	-	4.24	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.326	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1008	-	283	588
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1008	-	280	588
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	621	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.14	16.7
HCM LOS			C

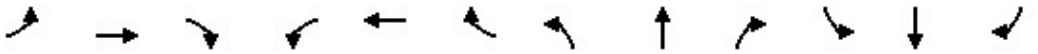
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	-	-	30	-
HCM Lane V/C Ratio	0.085	-	-	0.008	-
HCM Ctrl Dly (s/v)	16.7	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Approach		
Approach Direction	EB	
Median Refuge?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	6.19	
Level of Service	B	
Average Dissatisfaction Prob	0.290	
Ped Crossing LOS	D	

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	413	416
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.52	0.52
Prob of Delayed Crossing	0.52	0.52
Delay for adq Gap (s)	5.90	5.93
Avg Ped Delay (s)	3.08	3.11

Approach	
Approach Direction	WB
Median Refuge?	Yes
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	6.19
Level of Service	B
Average Dissatisfaction Prob	0.290
Ped Crossing LOS	D

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	416	413
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.52	0.52
Prob of Delayed Crossing	0.52	0.52
Delay for adq Gap (s)	5.93	5.90
Avg Ped Delay (s)	3.11	3.08

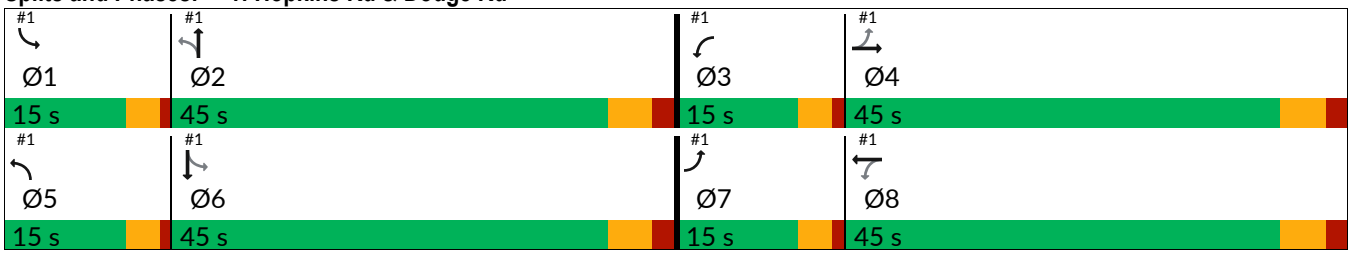


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	159	48	111	191	71	54	205	115	55	226	36
Future Volume (vph)	18	159	48	111	191	71	54	205	115	55	226	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965			0.959			0.946			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1834	0	1805	1822	0	1805	1780	0	1805	1825	0
Flt Permitted	0.583			0.475			0.476			0.389		
Satd. Flow (perm)	1045	1834	0	902	1822	0	904	1780	0	739	1825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			17			25			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	14%
Adj. Flow (vph)	20	175	53	122	210	78	59	225	126	60	248	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	228	0	122	288	0	59	351	0	60	288	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	24.6	17.7		29.2	23.8		26.5	20.3		26.2	20.1	
Actuated g/C Ratio	0.37	0.27		0.44	0.36		0.40	0.31		0.39	0.30	
v/c Ratio	0.04	0.46		0.24	0.43		0.13	0.63		0.15	0.52	
Control Delay (s/veh)	14.4	27.1		14.8	21.9		12.6	26.5		12.9	25.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.4	27.1		14.8	21.9		12.6	26.5		12.9	25.2	
LOS	B	C		B	C		B	C		B	C	
Approach Delay (s/veh)		26.1			19.8			24.5			23.1	
Approach LOS		C			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 66.5			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay (s/veh): 23.1		Intersection LOS: C	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	10	4	354	364	19
Future Volume (vph)	17	10	4	354	364	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1900	1887	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1900	1887	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	18	11	4	381	391	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	11	4	381	411	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	10	4	354	364	19
Future Vol, veh/h	17	10	4	354	364	19
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	11	4	381	391	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	791	402	412	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	361	653	1158	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	360	653	1158	-	-	-
Mov Cap-2 Maneuver	360	-	-	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.71	0.09	0
HCM LOS	B		

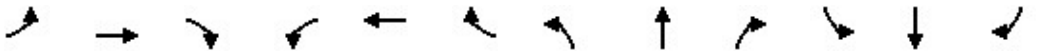
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1158	-	360	653	-	-
HCM Lane V/C Ratio	0.004	-	0.051	0.016	-	-
HCM Ctrl Dly (s/v)	8.1	-	15.5	10.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	52.65
Level of Service	F
Average Dissatisfaction Prob	0.756
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	718
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.73
Prob of Delayed Crossing	0.93
Delay for adq Gap (s)	56.65
Avg Ped Delay (s)	52.65

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	52.65
Level of Service	F
Average Dissatisfaction Prob	0.756
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	718
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.73
Prob of Delayed Crossing	0.93
Delay for adq Gap (s)	56.65
Avg Ped Delay (s)	52.65



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	0	22	5	0	4	10	340	4	3	363	9
Future Volume (vph)	14	0	22	5	0	4	10	340	4	3	363	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.850			0.998			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1615	0	1805	1615	0	1805	1896	0	1805	1892	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1615	0	1805	1615	0	1805	1896	0	1805	1892	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	17	0	26	6	0	5	12	405	5	4	432	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	26	0	6	5	0	12	410	0	4	443	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	0	22	5	0	4	10	340	4	3	363	9
Future Vol, veh/h	14	0	22	5	0	4	10	340	4	3	363	9
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	0	26	6	0	5	12	405	5	4	432	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	873	878	438	870	881	407	443	0	0	410	0	0
Stage 1	445	445	-	431	431	-	-	-	-	-	-	-
Stage 2	429	433	-	439	450	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	273	289	623	274	288	648	1128	-	-	1160	-	-
Stage 1	596	578	-	607	586	-	-	-	-	-	-	-
Stage 2	608	585	-	600	575	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	267	285	623	259	284	648	1128	-	-	1160	-	-
Mov Cap-2 Maneuver	267	285	-	259	284	-	-	-	-	-	-	-
Stage 1	595	576	-	600	580	-	-	-	-	-	-	-
Stage 2	598	579	-	573	573	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.28	15.39	0.23	0.06
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1128	-	-	267	623	259	648	1160	-	-
HCM Lane V/C Ratio	0.011	-	-	0.062	0.042	0.023	0.007	0.003	-	-
HCM Ctrl Dly (s/v)	8.2	-	-	19.4	11	19.2	10.6	8.1	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	0	0	-	-

Approach	
Approach Direction	NB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	50.16
Level of Service	F
Average Dissatisfaction Prob	0.753
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	703
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.73
Prob of Delayed Crossing	0.93
Delay for adq Gap (s)	54.20
Avg Ped Delay (s)	50.16

Approach	
Approach Direction	SB
Median Refuge?	No
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	50.16
Level of Service	F
Average Dissatisfaction Prob	0.753
Ped Crossing LOS	F

Crosswalk	
Length (ft)	36
Lanes Crossed	2
Veh Vol Crossed (veh/h)	703
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	13.29
Prob of Blocked Lane	0.73
Prob of Delayed Crossing	0.93
Delay for adq Gap (s)	54.20
Avg Ped Delay (s)	50.16



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	228	12	2	280	10	3
Future Volume (vph)	228	12	2	280	10	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.973	
Flt Protected					0.962	
Satd. Flow (prot)	1887	0	0	1900	1778	0
Flt Permitted					0.962	
Satd. Flow (perm)	1887	0	0	1900	1778	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	265	14	2	326	12	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	279	0	0	328	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	228	12	2	280	10	3
Future Vol, veh/h	228	12	2	280	10	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	265	14	2	326	12	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	279	0	602	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	330	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1295	-	466	771
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1295	-	465	771
Mov Cap-2 Maneuver	-	-	-	-	465	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.06	12.25
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	512	-	-	13	-
HCM Lane V/C Ratio	0.03	-	-	0.002	-
HCM Ctrl Dly (s/v)	12.2	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

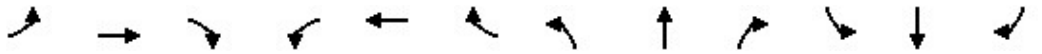
Approach		
Approach Direction	EB	
Median Refuge?	Yes	
Marked Crosswalk?	No	
RRFB?	No	
K-Factor	0.08	
Approach Delay(s)	3.42	
Level of Service	A	
Average Dissatisfaction Prob	0.210	
Ped Crossing LOS	C	

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	228	280
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.33	0.39
Prob of Delayed Crossing	0.33	0.39
Delay for adq Gap (s)	4.50	4.86
Avg Ped Delay (s)	1.51	1.91

Approach	
Approach Direction	WB
Median Refuge?	Yes
Marked Crosswalk?	No
RRFB?	No
K-Factor	0.08
Approach Delay(s)	3.42
Level of Service	A
Average Dissatisfaction Prob	0.210
Ped Crossing LOS	C

Crosswalk		
Length (ft)	12	12
Lanes Crossed	1	1
Veh Vol Crossed (veh/h)	280	228
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	6.43
Prob of Blocked Lane	0.39	0.33
Prob of Delayed Crossing	0.39	0.33
Delay for adq Gap (s)	4.86	4.50
Avg Ped Delay (s)	1.91	1.51

APPENDIX D: LOS CALCULATIONS – BACKGROUND CONDITIONS

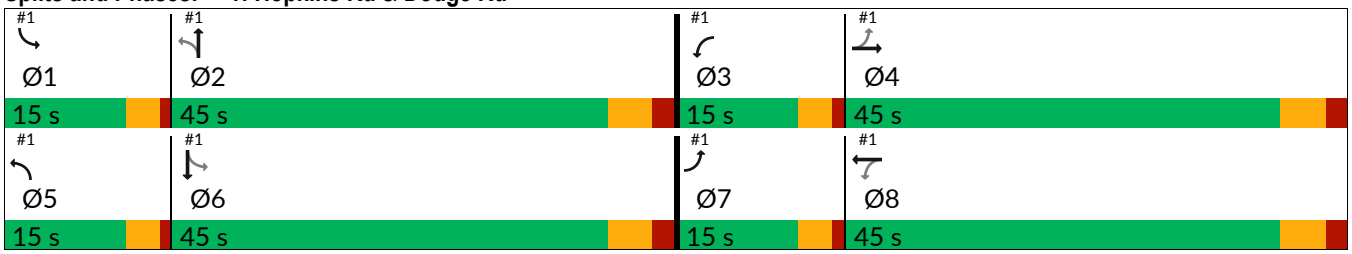


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	262	117	142	280	86	80	244	100	123	422	34
Future Volume (vph)	24	262	117	142	280	86	80	244	100	123	422	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.954			0.965			0.956			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1692	0	1719	1785	0	1719	1726	0	1719	1729	0
Flt Permitted	0.302			0.151			0.104			0.233		
Satd. Flow (perm)	541	1692	0	273	1785	0	188	1726	0	422	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			14			18			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	6%	9%	3%	5%	2%	5%	5%	7%	1%	5%	9%	5%
Adj. Flow (vph)	32	345	154	187	368	113	105	321	132	162	555	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	499	0	187	481	0	105	453	0	162	600	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	44.3	35.6		51.9	43.6		49.8	38.4		51.3	39.2	
Actuated g/C Ratio	0.39	0.31		0.45	0.38		0.43	0.33		0.45	0.34	
v/c Ratio	0.12	0.93		0.73	0.70		0.51	0.77		0.53	1.01	
Control Delay (s/veh)	18.6	62.0		37.1	37.0		27.6	44.0		25.3	79.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.6	62.0		37.1	37.0		27.6	44.0		25.3	79.1	
LOS	B	E		D	D		C	D		C	E	
Approach Delay (s/veh)		59.4			37.1			40.9			67.7	
Approach LOS		E			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay (s/veh): 51.9		Intersection LOS: D	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	9	16	346	686	6
Future Volume (vph)	6	9	16	346	686	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1863	1843	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1863	1843	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Adj. Flow (vph)	8	12	22	468	927	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	12	22	468	935	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	9	16	346	686	6
Future Vol, veh/h	6	9	16	346	686	6
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	2	3	0
Mvmt Flow	8	12	22	468	927	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1442	931	935	0	-	0
Stage 1	931	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	147	326	741	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	143	326	741	-	-	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	607	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	22.54	0.44	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	741	-	143	326	-	-
HCM Lane V/C Ratio	0.029	-	0.057	0.037	-	-
HCM Ctrl Dly (s/v)	10	-	31.7	16.5	-	-
HCM Lane LOS	B	-	D	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	10	16	0	34	10	326	153	182	504	6
Future Volume (vph)	2	0	10	16	0	34	10	326	153	182	504	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.850			0.952			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1615	0	1805	1615	0	1805	1773	0	1805	1877	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1615	0	1805	1615	0	1805	1773	0	1805	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	4%
Adj. Flow (vph)	3	0	15	25	0	52	15	502	235	280	775	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	15	0	25	52	0	15	737	0	280	784	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	10	16	0	34	10	326	153	182	504	6
Future Vol, veh/h	2	0	10	16	0	34	10	326	153	182	504	6
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	1	0	0	0	0	0	0	3	0	0	1	4
Mvmt Flow	3	0	15	25	0	52	15	502	235	280	775	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1872	2108	780	1985	1995	619	785	0	0	737	0	0
Stage 1	1340	1340	-	650	650	-	-	-	-	-	-	-
Stage 2	532	768	-	1335	1345	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	55	52	399	46	61	492	843	-	-	878	-	-
Stage 1	189	223	-	461	468	-	-	-	-	-	-	-
Stage 2	533	414	-	191	222	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	33	35	399	30	41	492	843	-	-	878	-	-
Mov Cap-2 Maneuver	33	35	-	30	41	-	-	-	-	-	-	-
Stage 1	129	152	-	453	460	-	-	-	-	-	-	-
Stage 2	467	406	-	125	151	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	32.8	105.9	0.19	2.9
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	843	-	-	33	399	30	492	878	-	-
HCM Lane V/C Ratio	0.018	-	-	0.093	0.039	0.827	0.106	0.319	-	-
HCM Ctrl Dly (s/v)	9.4	-	-	124.8	14.4$	302.9	13.2	11	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	2.7	0.4	1.4	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	385	11	7	402	9	8
Future Volume (vph)	385	11	7	402	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.936	
Flt Protected				0.999	0.974	
Satd. Flow (prot)	1839	0	0	1826	1732	0
Flt Permitted				0.999	0.974	
Satd. Flow (perm)	1839	0	0	1826	1732	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	0%	0%	4%	0%	0%
Adj. Flow (vph)	433	12	8	452	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	445	0	0	460	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.8%		ICU Level of Service A	
Analysis Period (min) 15			

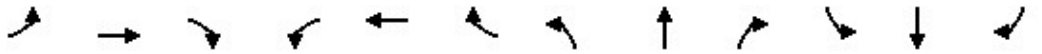
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	385	11	7	402	9	8
Future Vol, veh/h	385	11	7	402	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	3	0	0	4	0	0
Mvmt Flow	433	12	8	452	10	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	445	0	906	439
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	467	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1126	-	309	622
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1126	-	306	622
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	635	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.14	14.39
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	402	-	-	31	-
HCM Lane V/C Ratio	0.047	-	-	0.007	-
HCM Ctrl Dly (s/v)	14.4	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

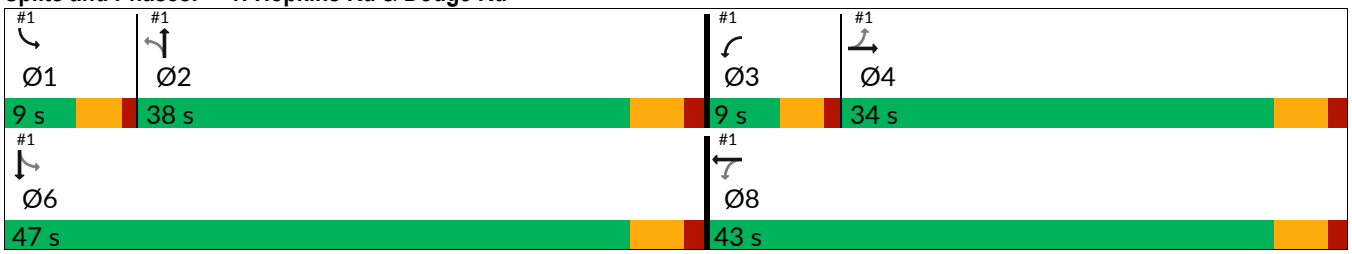


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	295	96	126	267	106	96	309	163	104	355	38
Future Volume (vph)	48	295	96	126	267	106	96	309	163	104	355	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963			0.957			0.948			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1830	0	1805	1793	0	1805	1766	0	1787	1855	0
Flt Permitted	0.526			0.238			0.515			0.193		
Satd. Flow (perm)	999	1830	0	452	1793	0	978	1766	0	363	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			27			33			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	3%	0%	1%	1%	0%
Adj. Flow (vph)	52	317	103	135	287	114	103	332	175	112	382	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	420	0	135	401	0	103	507	0	112	423	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		4.0	15.0		15.0	15.0		4.0	15.0	
Minimum Split (s)	29.0	29.0		8.0	29.0		29.0	29.0		8.0	29.0	
Total Split (s)	34.0	34.0		9.0	43.0		38.0	38.0		9.0	47.0	
Total Split (%)	37.8%	37.8%		10.0%	47.8%		42.2%	42.2%		10.0%	52.2%	
Maximum Green (s)	29.0	29.0		5.0	38.0		33.0	33.0		5.0	42.0	
Yellow Time (s)	3.6	3.6		3.0	3.6		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.4	1.4		1.0	1.4		1.4	1.4		1.0	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		4.0	5.0		5.0	5.0		4.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	9.0	9.0			9.0		9.0	9.0			9.0	
Flash Don't Walk (s)	15.0	15.0			15.0		15.0	15.0			15.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	23.1	23.1		30.8	29.7		26.1	26.1		33.8	32.7	
Actuated g/C Ratio	0.32	0.32		0.42	0.41		0.36	0.36		0.46	0.45	
v/c Ratio	0.17	0.71		0.47	0.54		0.30	0.78		0.41	0.51	
Control Delay (s/veh)	23.2	31.5		21.1	19.8		22.5	31.3		17.2	17.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	23.2	31.5		21.1	19.8		22.5	31.3		17.2	17.4	
LOS	C	C		C	B		C	C		B	B	
Approach Delay (s/veh)		30.6			20.1			29.8			17.4	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 73.3			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 24.5		Intersection LOS: C	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	30	28	599	499	43
Future Volume (vph)	26	30	28	599	499	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.989	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1863	1862	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1863	1862	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	28	33	30	651	542	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	33	30	651	589	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	30	28	599	499	43
Future Vol, veh/h	26	30	28	599	499	43
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	28	33	30	651	542	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1278	566	589	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	185	528	996	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	180	528	996	-	-	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	490	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.92	0.39	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	996	-	180	528	-	-
HCM Lane V/C Ratio	0.031	-	0.157	0.062	-	-
HCM Ctrl Dly (s/v)	8.7	-	28.7	12.3	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	2	25	25	2	52	19	554	19	34	481	13
Future Volume (vph)	16	2	25	25	2	52	19	554	19	34	481	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.861			0.855			0.995			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1606	0	1805	1624	0	1752	1855	0	1805	1874	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	1606	0	1805	1624	0	1752	1855	0	1805	1874	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
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
Heavy Vehicles (%)	4%	0%	2%	0%	0%	0%	3%	2%	0%	0%	1%	0%
Adj. Flow (vph)	17	2	26	26	2	55	20	583	20	36	506	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	28	0	26	57	0	20	603	0	36	520	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	2	25	25	2	52	19	554	19	34	481	13
Future Vol, veh/h	16	2	25	25	2	52	19	554	19	34	481	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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	0	2	0	0	0	3	2	0	0	1	0
Mvmt Flow	17	2	26	26	2	55	20	583	20	36	506	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1209	1228	513	1212	1225	593	520	0	0	603	0	0
Stage 1	585	585	-	633	633	-	-	-	-	-	-	-
Stage 2	624	643	-	579	592	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.22	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.318	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	158	180	561	160	180	509	1041	-	-	984	-	-
Stage 1	494	501	-	471	476	-	-	-	-	-	-	-
Stage 2	470	471	-	504	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	170	561	143	171	509	1041	-	-	984	-	-
Mov Cap-2 Maneuver	132	170	-	143	171	-	-	-	-	-	-	-
Stage 1	476	483	-	462	467	-	-	-	-	-	-	-
Stage 2	409	462	-	461	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	21.65	20.65	0.27	0.57
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1041	-	-	132	479	143	474	984	-	-
HCM Lane V/C Ratio	0.019	-	-	0.128	0.059	0.184	0.12	0.036	-	-
HCM Ctrl Dly (s/v)	8.5	-	-	36.3	13	35.8	13.6	8.8	-	-
HCM Lane LOS	A	-	-	E	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.2	0.6	0.4	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	434	39	16	363	31	23
Future Volume (vph)	434	39	16	363	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989				0.943	
Flt Protected				0.998	0.972	
Satd. Flow (prot)	1879	0	0	1878	1742	0
Flt Permitted				0.998	0.972	
Satd. Flow (perm)	1879	0	0	1878	1742	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	462	41	17	386	33	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	503	0	0	403	57	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.1%		ICU Level of Service A	
Analysis Period (min) 15			

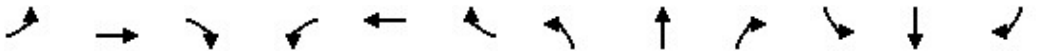
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	434	39	16	363	31	23
Future Vol, veh/h	434	39	16	363	31	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	462	41	17	386	33	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	503	0	903	482
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	420	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1072	-	310	588
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	667	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1072	-	304	588
Mov Cap-2 Maneuver	-	-	-	-	304	-
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	667	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.36	16.05
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	-	-	76	-
HCM Lane V/C Ratio	0.15	-	-	0.016	-
HCM Ctrl Dly (s/v)	16.1	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

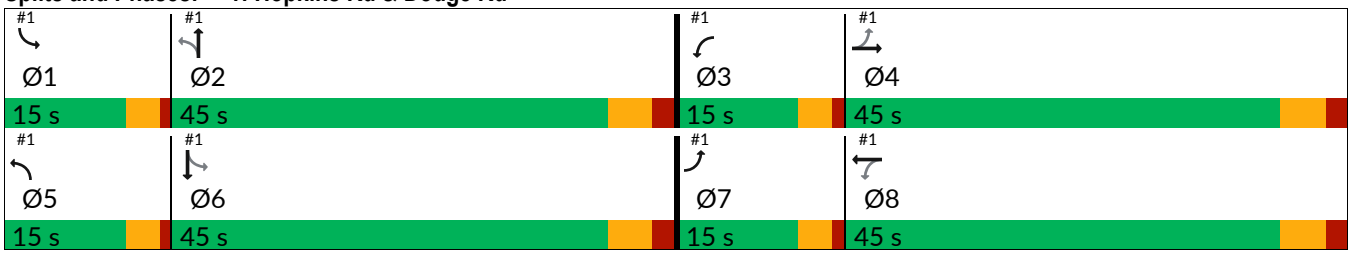


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	283	99	153	251	118	138	359	182	115	353	46
Future Volume (vph)	31	283	99	153	251	118	138	359	182	115	353	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.952			0.949			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1826	0	1787	1791	0	1805	1779	0	1787	1851	0
Flt Permitted	0.409			0.218			0.301			0.143		
Satd. Flow (perm)	777	1826	0	410	1791	0	572	1779	0	269	1851	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			21			23			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	1%	2%	1%	1%	0%
Adj. Flow (vph)	32	295	103	159	261	123	144	374	190	120	368	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	398	0	159	384	0	144	564	0	120	416	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	30.0		8.0	30.0		9.5	30.0		8.0	30.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		9.0			9.0			9.0			9.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	35.9	27.1		43.1	35.1		48.0	36.3		46.9	35.8	
Actuated g/C Ratio	0.35	0.26		0.42	0.34		0.47	0.35		0.46	0.35	
v/c Ratio	0.09	0.81		0.52	0.62		0.38	0.88		0.47	0.64	
Control Delay (s/veh)	19.0	48.2		25.8	33.5		18.7	48.0		22.0	34.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	19.0	48.2		25.8	33.5		18.7	48.0		22.0	34.9	
LOS	B	D		C	C		B	D		C	C	
Approach Delay (s/veh)		46.0			31.2			42.0			32.0	
Approach LOS		D			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 103			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 37.7		Intersection LOS: D	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	28	26	624	567	29
Future Volume (vph)	15	28	26	624	567	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1845	1885	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1845	1885	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	3%	0%	2%
Adj. Flow (vph)	15	29	27	643	585	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	29	27	643	615	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

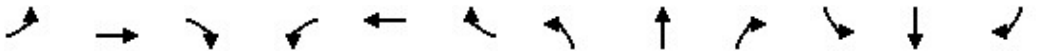
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	28	26	624	567	29
Future Vol, veh/h	15	28	26	624	567	29
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	3	0	2
Mvmt Flow	15	29	27	643	585	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1296	599	614	0	-	0
Stage 1	599	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	181	505	975	-	-	-
Stage 1	552	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	176	505	975	-	-	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.76	0.35	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	975	-	176	505	-	-
HCM Lane V/C Ratio	0.027	-	0.088	0.057	-	-
HCM Ctrl Dly (s/v)	8.8	-	27.5	12.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	19	95	3	154	18	495	66	106	483	7
Future Volume (vph)	8	0	19	95	3	154	18	495	66	106	483	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.853			0.982			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	1615	0	1805	1621	0	1805	1818	0	1805	1842	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	1615	0	1805	1621	0	1805	1818	0	1805	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	8	0	20	99	3	160	19	516	69	110	503	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	20	0	99	163	0	19	585	0	110	510	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	10.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	19	95	3	154	18	495	66	106	483	7
Future Vol, veh/h	8	0	19	95	3	154	18	495	66	106	483	7
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	14	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	8	0	20	99	3	160	19	516	69	110	503	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1282	1349	507	1311	1319	550	510	0	0	584	0	0
Stage 1	728	728	-	588	588	-	-	-	-	-	-	-
Stage 2	555	622	-	724	731	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	134	152	570	137	159	539	1065	-	-	1000	-	-
Stage 1	397	432	-	499	499	-	-	-	-	-	-	-
Stage 2	495	482	-	420	430	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	133	570	116	139	539	1065	-	-	1000	-	-
Mov Cap-2 Maneuver	81	133	-	116	139	-	-	-	-	-	-	-
Stage 1	353	384	-	490	491	-	-	-	-	-	-	-
Stage 2	340	474	-	361	383	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.33	54.04	0.26	1.61
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1065	-	-	81	570	116	510	1000	-	-
HCM Lane V/C Ratio	0.018	-	-	0.103	0.035	0.856	0.32	0.11	-	-
HCM Ctrl Dly (s/v)	8.4	-	-	54.7	11.5	118	15.3	9	-	-
HCM Lane LOS	A	-	-	F	B	F	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	5.1	1.4	0.4	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	418	32	20	421	24	17
Future Volume (vph)	418	32	20	421	24	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990				0.944	
Flt Protected				0.998	0.971	
Satd. Flow (prot)	1847	0	0	1832	1742	0
Flt Permitted				0.998	0.971	
Satd. Flow (perm)	1847	0	0	1832	1742	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	14%	3%	0%	0%
Adj. Flow (vph)	475	36	23	478	27	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	511	0	0	501	46	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	418	32	20	421	24	17
Future Vol, veh/h	418	32	20	421	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	14	3	0	0
Mvmt Flow	475	36	23	478	27	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	511	0	1017	493
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	524	-
Critical Hdwy	-	-	4.24	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.326	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	995	-	266	580
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	598	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	995	-	257	580
Mov Cap-2 Maneuver	-	-	-	-	257	-
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.39	17.5
HCM LOS			C

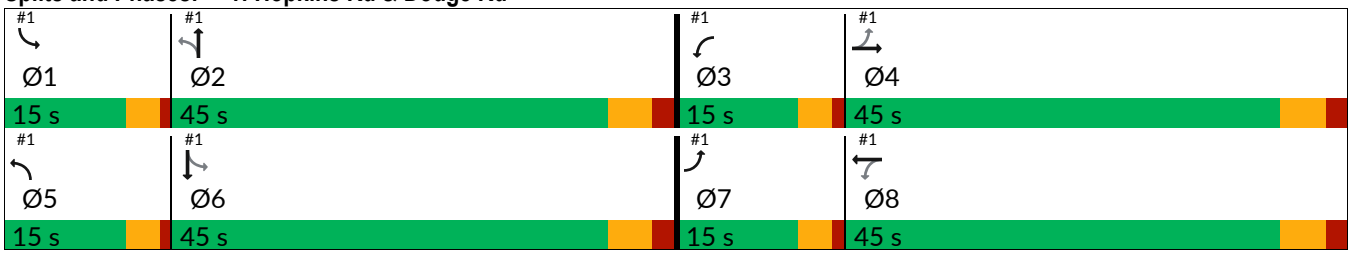
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	334	-	-	82	-
HCM Lane V/C Ratio	0.139	-	-	0.023	-
HCM Ctrl Dly (s/v)	17.5	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	168	49	116	199	72	55	211	119	56	231	42
Future Volume (vph)	21	168	49	116	199	72	55	211	119	56	231	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.960			0.946			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1835	0	1805	1824	0	1805	1780	0	1805	1817	0
Flt Permitted	0.578			0.448			0.503			0.347		
Satd. Flow (perm)	1036	1835	0	851	1824	0	956	1780	0	659	1817	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			16			25			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	14%
Adj. Flow (vph)	23	185	54	127	219	79	60	232	131	62	254	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	239	0	127	298	0	60	363	0	62	300	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	24.9	18.0		29.6	24.1		28.8	21.1		29.4	23.2	
Actuated g/C Ratio	0.36	0.26		0.42	0.34		0.41	0.30		0.42	0.33	
v/c Ratio	0.05	0.50		0.27	0.47		0.12	0.66		0.16	0.50	
Control Delay (s/veh)	14.8	29.1		16.0	23.6		12.6	28.6		13.0	24.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.8	29.1		16.0	23.6		12.6	28.6		13.0	24.5	
LOS	B	C		B	C		B	C		B	C	
Approach Delay (s/veh)		27.8			21.3			26.3			22.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 70.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 24.2		Intersection LOS: C	
Intersection Capacity Utilization 57.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	22	15	358	368	24
Future Volume (vph)	23	22	15	358	368	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1900	1885	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1900	1885	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	25	24	16	385	396	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	24	16	385	422	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	22	15	358	368	24
Future Vol, veh/h	23	22	15	358	368	24
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	25	24	16	385	396	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	826	409	422	0	-	0
Stage 1	409	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	345	647	1149	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	647	1149	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	669	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.66	0.33	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1149	-	340	647	-	-
HCM Lane V/C Ratio	0.014	-	0.073	0.037	-	-
HCM Ctrl Dly (s/v)	8.2	-	16.4	10.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	23	6	0	5	13	354	5	4	378	10
Future Volume (vph)	15	0	23	6	0	5	13	354	5	4	378	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.850			0.998			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1615	0	1805	1615	0	1805	1896	0	1805	1892	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1615	0	1805	1615	0	1805	1896	0	1805	1892	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	18	0	27	7	0	6	15	421	6	5	450	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	27	0	7	6	0	15	427	0	5	462	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

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	15	0	23	6	0	5	13	354	5	4	378	10
Future Vol, veh/h	15	0	23	6	0	5	13	354	5	4	378	10
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	18	0	27	7	0	6	15	421	6	5	450	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	918	924	456	915	927	424	462	0	0	427	0	0
Stage 1	465	465	-	455	455	-	-	-	-	-	-	-
Stage 2	452	458	-	460	471	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	254	272	609	256	270	634	1110	-	-	1143	-	-
Stage 1	581	566	-	588	572	-	-	-	-	-	-	-
Stage 2	591	570	-	585	563	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	247	267	609	240	266	634	1110	-	-	1143	-	-
Mov Cap-2 Maneuver	247	267	-	240	266	-	-	-	-	-	-	-
Stage 1	579	564	-	580	564	-	-	-	-	-	-	-
Stage 2	577	562	-	557	560	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.94	16.05	0.29	0.08
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	247	609	240	634	1143	-	-
HCM Lane V/C Ratio	0.014	-	-	0.072	0.045	0.03	0.009	0.004	-	-
HCM Ctrl Dly (s/v)	8.3	-	-	20.7	11.2	20.5	10.7	8.2	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	0	0	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	231	20	14	283	17	13
Future Volume (vph)	231	20	14	283	17	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989				0.942	
Flt Protected				0.998	0.972	
Satd. Flow (prot)	1879	0	0	1896	1740	0
Flt Permitted				0.998	0.972	
Satd. Flow (perm)	1879	0	0	1896	1740	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	269	23	16	329	20	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	292	0	0	345	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.8

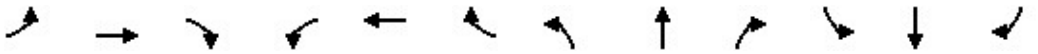
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	231	20	14	283	17	13
Future Vol, veh/h	231	20	14	283	17	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	269	23	16	329	20	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	292	0	642	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	362	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1281	-	442	763
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1281	-	435	763
Mov Cap-2 Maneuver	-	-	-	-	435	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.37	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	535	-	-	85	-
HCM Lane V/C Ratio	0.065	-	-	0.013	-
HCM Ctrl Dly (s/v)	12.2	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

APPENDIX E: LOS CALCULATIONS – FULL BUILD CONDITIONS

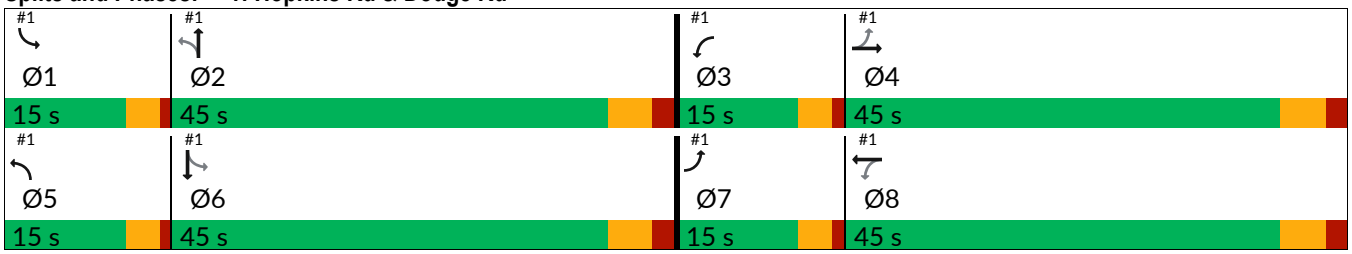


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	262	117	144	284	86	80	245	101	123	423	37
Future Volume (vph)	25	262	117	144	284	86	80	245	101	123	423	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.954			0.965			0.956			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1692	0	1719	1785	0	1719	1726	0	1719	1727	0
Flt Permitted	0.294			0.150			0.104			0.231		
Satd. Flow (perm)	527	1692	0	271	1785	0	188	1726	0	418	1727	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			13			18			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	6%	9%	3%	5%	2%	5%	5%	7%	1%	5%	9%	5%
Adj. Flow (vph)	33	345	154	189	374	113	105	322	133	162	557	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	499	0	189	487	0	105	455	0	162	606	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	44.4	35.6		51.9	43.7		49.8	38.4		51.3	39.2	
Actuated g/C Ratio	0.39	0.31		0.45	0.38		0.43	0.33		0.45	0.34	
v/c Ratio	0.12	0.93		0.74	0.71		0.51	0.77		0.54	1.03	
Control Delay (s/veh)	18.6	62.1		37.9	37.6		27.6	44.3		25.4	82.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.6	62.1		37.9	37.6		27.6	44.3		25.4	82.1	
LOS	B	E		D	D		C	D		C	F	
Approach Delay (s/veh)		59.4			37.7			41.1			70.2	
Approach LOS		E			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay (s/veh): 52.8		Intersection LOS: D	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	40	38	330	661	33
Future Volume (vph)	24	40	38	330	661	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1863	1836	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1863	1836	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Adj. Flow (vph)	32	54	51	446	893	45
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	54	51	446	938	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	40	38	330	661	33
Future Vol, veh/h	24	40	38	330	661	33
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	2	3	0
Mvmt Flow	32	54	51	446	893	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1464	916	938	0	-	0
Stage 1	916	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	143	333	739	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	133	333	739	-	-	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	366	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	26.41	1.06	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	739	-	133	333	-	-
HCM Lane V/C Ratio	0.07	-	0.244	0.162	-	-
HCM Ctrl Dly (s/v)	10.2	-	40.6	17.9	-	-
HCM Lane LOS	B	-	E	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	0.6	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	10	16	0	34	11	332	153	182	510	6
Future Volume (vph)	2	0	10	16	0	34	11	332	153	182	510	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.850			0.953			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1615	0	1805	1615	0	1805	1774	0	1805	1877	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	1615	0	1805	1615	0	1805	1774	0	1805	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	4%
Adj. Flow (vph)	3	0	15	25	0	52	17	511	235	280	785	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	15	0	25	52	0	17	746	0	280	794	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	10	16	0	34	11	332	153	182	510	6
Future Vol, veh/h	2	0	10	16	0	34	11	332	153	182	510	6
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	1	0	0	0	0	0	0	3	0	0	1	4
Mvmt Flow	3	0	15	25	0	52	17	511	235	280	785	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1894	2129	789	2007	2016	628	794	0	0	746	0	0
Stage 1	1349	1349	-	662	662	-	-	-	-	-	-	-
Stage 2	545	780	-	1345	1354	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	53	50	394	45	59	486	836	-	-	871	-	-
Stage 1	187	221	-	454	462	-	-	-	-	-	-	-
Stage 2	525	409	-	189	220	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	32	33	394	29	39	486	836	-	-	871	-	-
Mov Cap-2 Maneuver	32	33	-	29	39	-	-	-	-	-	-	-
Stage 1	127	150	-	445	453	-	-	-	-	-	-	-
Stage 2	459	400	-	123	149	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	33.85	112.57	0.21	2.89
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	836	-	-	32	394	29	486	871	-	-
HCM Lane V/C Ratio	0.02	-	-	0.097	0.039	0.862	0.108	0.321	-	-
HCM Ctrl Dly (s/v)	9.4	-	-	130.5	14.5	$ 323.5	13.3	11.1	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	2.8	0.4	1.4	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	366	40	34	382	32	33
Future Volume (vph)	366	40	34	382	32	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987				0.932	
Flt Protected				0.996	0.976	
Satd. Flow (prot)	1826	0	0	1825	1728	0
Flt Permitted				0.996	0.976	
Satd. Flow (perm)	1826	0	0	1825	1728	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	0%	0%	4%	0%	0%
Adj. Flow (vph)	411	45	38	429	36	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	456	0	0	467	73	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

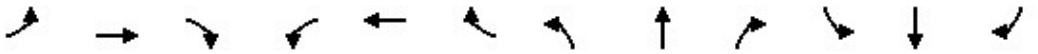
Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	366	40	34	382	32	33
Future Vol, veh/h	366	40	34	382	32	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	3	0	0	4	0	0
Mvmt Flow	411	45	38	429	36	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	456	0	939	434
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1115	-	295	626
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	610	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1115	-	282	626
Mov Cap-2 Maneuver	-	-	-	-	282	-
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	610	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.68	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	391	-	-	147	-
HCM Lane V/C Ratio	0.187	-	-	0.034	-
HCM Ctrl Dly (s/v)	16.3	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

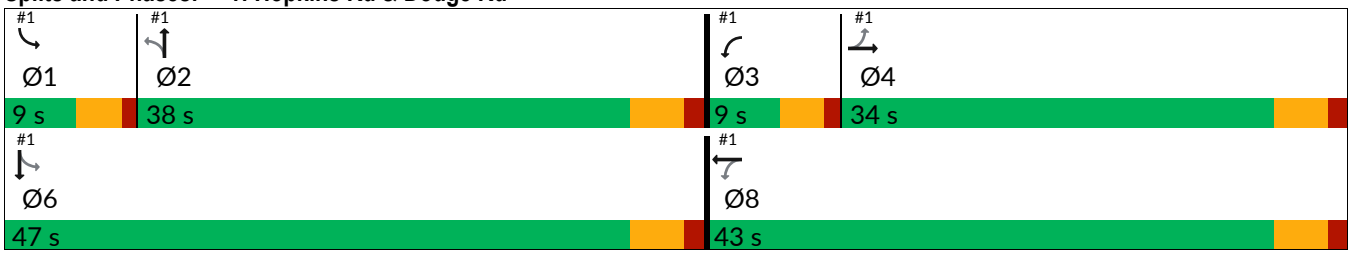


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	297	96	127	269	106	96	310	164	104	356	40
Future Volume (vph)	49	297	96	127	269	106	96	310	164	104	356	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963			0.958			0.948			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1830	0	1805	1794	0	1805	1767	0	1787	1855	0
Flt Permitted	0.524			0.236			0.513			0.191		
Satd. Flow (perm)	996	1830	0	448	1794	0	975	1767	0	359	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			27			33			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	3%	0%	1%	1%	0%
Adj. Flow (vph)	53	319	103	137	289	114	103	333	176	112	383	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	422	0	137	403	0	103	509	0	112	426	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		4.0	15.0		15.0	15.0		4.0	15.0	
Minimum Split (s)	29.0	29.0		8.0	29.0		29.0	29.0		8.0	29.0	
Total Split (s)	34.0	34.0		9.0	43.0		38.0	38.0		9.0	47.0	
Total Split (%)	37.8%	37.8%		10.0%	47.8%		42.2%	42.2%		10.0%	52.2%	
Maximum Green (s)	29.0	29.0		5.0	38.0		33.0	33.0		5.0	42.0	
Yellow Time (s)	3.6	3.6		3.0	3.6		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.4	1.4		1.0	1.4		1.4	1.4		1.0	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		4.0	5.0		5.0	5.0		4.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	9.0	9.0			9.0		9.0	9.0			9.0	
Flash Don't Walk (s)	15.0	15.0			15.0		15.0	15.0			15.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	23.2	23.2		30.8	29.7		26.2	26.2		33.8	32.7	
Actuated g/C Ratio	0.32	0.32		0.42	0.40		0.36	0.36		0.46	0.45	
v/c Ratio	0.17	0.71		0.47	0.54		0.30	0.78		0.41	0.51	
Control Delay (s/veh)	23.3	31.6		21.4	19.8		22.6	31.5		17.4	17.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	23.3	31.6		21.4	19.8		22.6	31.5		17.4	17.6	
LOS	C	C		C	B		C	C		B	B	
Approach Delay (s/veh)		30.6			20.2			30.0			17.5	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 73.4			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 24.6		Intersection LOS: C	
Intersection Capacity Utilization 83.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	41	39	591	492	51
Future Volume (vph)	36	41	39	591	492	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.987	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1863	1858	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1863	1858	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	39	45	42	642	535	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	45	42	642	590	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

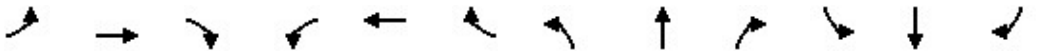
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	41	39	591	492	51
Future Vol, veh/h	36	41	39	591	492	51
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	39	45	42	642	535	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1290	563	590	0	-	0
Stage 1	563	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	182	530	995	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	530	995	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	21.34	0.54	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	995	-	174	530	-	-
HCM Lane V/C Ratio	0.043	-	0.224	0.084	-	-
HCM Ctrl Dly (s/v)	8.8	-	31.5	12.4	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	0.3	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	2	25	25	2	52	20	557	19	34	485	13
Future Volume (vph)	16	2	25	25	2	52	20	557	19	34	485	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.861			0.855			0.995			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1606	0	1805	1624	0	1752	1855	0	1805	1874	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	1606	0	1805	1624	0	1752	1855	0	1805	1874	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
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
Heavy Vehicles (%)	4%	0%	2%	0%	0%	0%	3%	2%	0%	0%	1%	0%
Adj. Flow (vph)	17	2	26	26	2	55	21	586	20	36	511	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	28	0	26	57	0	21	606	0	36	525	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	2	25	25	2	52	20	557	19	34	485	13
Future Vol, veh/h	16	2	25	25	2	52	20	557	19	34	485	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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	0	2	0	0	0	3	2	0	0	1	0
Mvmt Flow	17	2	26	26	2	55	21	586	20	36	511	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1218	1237	517	1222	1234	596	524	0	0	606	0	0
Stage 1	589	589	-	638	638	-	-	-	-	-	-	-
Stage 2	629	648	-	583	596	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.22	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.318	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	156	177	558	158	178	507	1037	-	-	982	-	-
Stage 1	491	499	-	468	474	-	-	-	-	-	-	-
Stage 2	467	469	-	502	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	130	167	558	140	168	507	1037	-	-	982	-	-
Mov Cap-2 Maneuver	130	167	-	140	168	-	-	-	-	-	-	-
Stage 1	473	481	-	459	464	-	-	-	-	-	-	-
Stage 2	406	459	-	459	477	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	21.91	20.88	0.29	0.56
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1037	-	-	130	476	140	472	982	-	-
HCM Lane V/C Ratio	0.02	-	-	0.13	0.06	0.187	0.12	0.036	-	-
HCM Ctrl Dly (s/v)	8.5	-	-	36.9	13	36.5	13.7	8.8	-	-
HCM Lane LOS	A	-	-	E	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.2	0.7	0.4	0.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	427	48	26	357	39	33
Future Volume (vph)	427	48	26	357	39	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.938	
Flt Protected				0.997	0.974	
Satd. Flow (prot)	1873	0	0	1877	1736	0
Flt Permitted				0.997	0.974	
Satd. Flow (perm)	1873	0	0	1877	1736	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	454	51	28	380	41	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	505	0	0	408	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

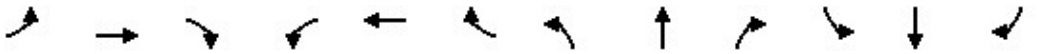
Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	427	48	26	357	39	33
Future Vol, veh/h	427	48	26	357	39	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	454	51	28	380	41	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	505	0	915	480
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	435	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1070	-	305	590
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	657	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1070	-	295	590
Mov Cap-2 Maneuver	-	-	-	-	295	-
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.57	16.73
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	-	-	122	-
HCM Lane V/C Ratio	0.2	-	-	0.026	-
HCM Ctrl Dly (s/v)	16.7	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

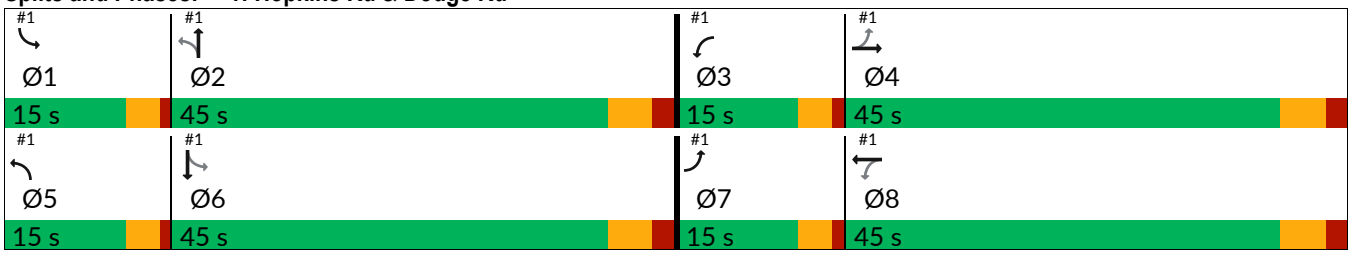


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	286	99	155	254	118	138	361	183	115	354	48
Future Volume (vph)	32	286	99	155	254	118	138	361	183	115	354	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.952			0.949			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1826	0	1787	1791	0	1805	1779	0	1787	1850	0
Flt Permitted	0.405			0.215			0.300			0.139		
Satd. Flow (perm)	770	1826	0	404	1791	0	570	1779	0	261	1850	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			21			23			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	1%	2%	1%	1%	0%
Adj. Flow (vph)	33	298	103	161	265	123	144	376	191	120	369	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	401	0	161	388	0	144	567	0	120	419	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.5	30.0		8.0	30.0		9.5	30.0		8.0	30.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		9.0			9.0			9.0			9.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	36.1	27.4		43.4	35.4		48.2	36.6		47.2	36.1	
Actuated g/C Ratio	0.35	0.26		0.42	0.34		0.47	0.35		0.46	0.35	
v/c Ratio	0.10	0.81		0.53	0.62		0.38	0.88		0.48	0.65	
Control Delay (s/veh)	19.0	48.7		26.1	33.7		18.8	48.4		22.3	35.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	19.0	48.7		26.1	33.7		18.8	48.4		22.3	35.1	
LOS	B	D		C	C		B	D		C	D	
Approach Delay (s/veh)		46.4			31.5			42.4			32.2	
Approach LOS		D			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 103.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 38.1		Intersection LOS: D	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	40	39	616	560	38
Future Volume (vph)	25	40	39	616	560	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1845	1881	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1845	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	3%	0%	2%
Adj. Flow (vph)	26	41	40	635	577	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	41	40	635	616	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	40	39	616	560	38
Future Vol, veh/h	25	40	39	616	560	38
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	3	0	2
Mvmt Flow	26	41	40	635	577	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1312	597	616	0	-	0
Stage 1	597	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	177	507	973	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	169	507	973	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.39	0.53	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	973	-	169	507	-	-
HCM Lane V/C Ratio	0.041	-	0.152	0.081	-	-
HCM Ctrl Dly (s/v)	8.9	-	30	12.7	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	19	95	3	154	19	500	66	106	488	7
Future Volume (vph)	8	0	19	95	3	154	19	500	66	106	488	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.853			0.982			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	1615	0	1805	1621	0	1805	1818	0	1805	1842	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	1615	0	1805	1621	0	1805	1818	0	1805	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	8	0	20	99	3	160	20	521	69	110	508	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	20	0	99	163	0	20	590	0	110	515	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.1%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	19	95	3	154	19	500	66	106	488	7
Future Vol, veh/h	8	0	19	95	3	154	19	500	66	106	488	7
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	14	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	8	0	20	99	3	160	20	521	69	110	508	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1295	1362	512	1324	1331	555	516	0	0	590	0	0
Stage 1	733	733	-	595	595	-	-	-	-	-	-	-
Stage 2	562	629	-	729	736	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	131	149	566	134	156	535	1060	-	-	996	-	-
Stage 1	394	429	-	494	496	-	-	-	-	-	-	-
Stage 2	491	478	-	417	428	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	79	130	566	113	136	535	1060	-	-	996	-	-
Mov Cap-2 Maneuver	79	130	-	113	136	-	-	-	-	-	-	-
Stage 1	350	382	-	485	486	-	-	-	-	-	-	-
Stage 2	335	469	-	358	380	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.78	56.42	0.27	1.6
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1060	-	-	79	566	113	507	996	-	-
HCM Lane V/C Ratio	0.019	-	-	0.106	0.035	0.875	0.323	0.111	-	-
HCM Ctrl Dly (s/v)	8.5	-	-	56.1	11.6	124.1	15.5	9.1	-	-
HCM Lane LOS	A	-	-	F	B	F	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	5.3	1.4	0.4	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	412	41	31	415	33	28
Future Volume (vph)	412	41	31	415	33	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988				0.938	
Flt Protected				0.997	0.974	
Satd. Flow (prot)	1844	0	0	1826	1736	0
Flt Permitted				0.997	0.974	
Satd. Flow (perm)	1844	0	0	1826	1736	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	14%	3%	0%	0%
Adj. Flow (vph)	468	47	35	472	38	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	515	0	0	507	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

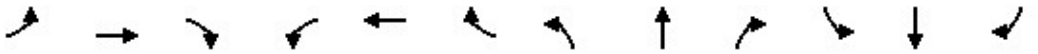
Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	412	41	31	415	33	28
Future Vol, veh/h	412	41	31	415	33	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	14	3	0	0
Mvmt Flow	468	47	35	472	38	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	515	0	1034	491
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	542	-
Critical Hdwy	-	-	4.24	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.326	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	992	-	260	581
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	587	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	992	-	247	581
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	587	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.61	18.49
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	-	-	125	-
HCM Lane V/C Ratio	0.206	-	-	0.036	-
HCM Ctrl Dly (s/v)	18.5	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

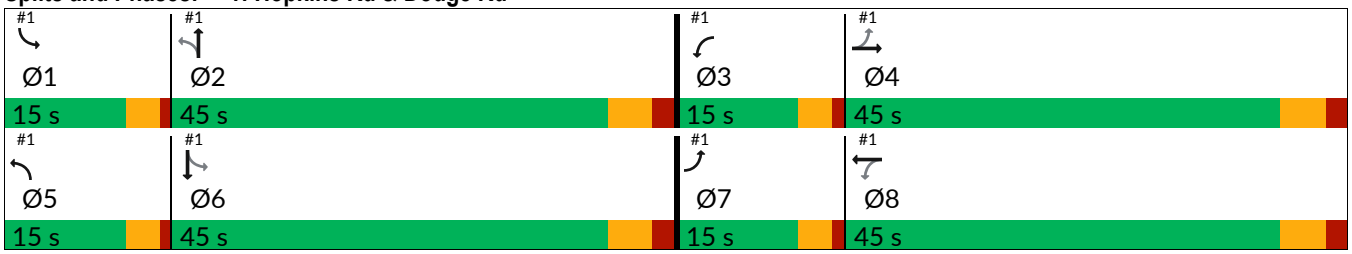


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	173	49	119	204	72	55	214	120	56	232	46
Future Volume (vph)	22	173	49	119	204	72	55	214	120	56	232	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	75		0	130		0	90		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967			0.961			0.946			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1837	0	1805	1826	0	1805	1780	0	1805	1810	0
Flt Permitted	0.575			0.440			0.491			0.346		
Satd. Flow (perm)	1031	1837	0	836	1826	0	933	1780	0	657	1810	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			16			25			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		279			302			491			406	
Travel Time (s)		6.3			6.9			11.2			9.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	14%
Adj. Flow (vph)	24	190	54	131	224	79	60	235	132	62	255	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	244	0	131	303	0	60	367	0	62	306	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	15.0		4.0	15.0	
Minimum Split (s)	8.0	28.0		8.0	28.0		9.5	28.0		8.0	28.0	
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	
Maximum Green (s)	11.0	39.0		11.0	39.0		11.0	39.0		11.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		15.0			15.0			15.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	25.2	18.2		29.9	24.3		29.1	21.3		29.7	23.5	
Actuated g/C Ratio	0.36	0.26		0.42	0.34		0.41	0.30		0.42	0.33	
v/c Ratio	0.06	0.51		0.28	0.47		0.13	0.66		0.16	0.50	
Control Delay (s/veh)	14.9	29.4		16.2	23.8		12.8	28.9		13.1	24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.9	29.4		16.2	23.8		12.8	28.9		13.1	24.8	
LOS	B	C		B	C		B	C		B	C	
Approach Delay (s/veh)		28.1			21.5			26.6			22.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 70.7			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 24.5		Intersection LOS: C	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hopkins Rd & Dodge Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	44	36	345	355	40
Future Volume (vph)	41	44	36	345	355	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.986	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	1900	1873	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	1900	1873	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	111			255	491	
Travel Time (s)	2.5			5.8	11.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	44	47	39	371	382	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	47	39	371	425	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	44	36	345	355	40
Future Vol, veh/h	41	44	36	345	355	40
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	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	44	47	39	371	382	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	852	403	425	0	-	0
Stage 1	403	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	333	652	1145	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	322	652	1145	-	-	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.34	0.78	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1145	-	322	652	-	-
HCM Lane V/C Ratio	0.034	-	0.137	0.073	-	-
HCM Ctrl Dly (s/v)	8.3	-	18	11	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	23	6	0	5	14	362	5	4	387	10
Future Volume (vph)	15	0	23	6	0	5	14	362	5	4	387	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.850			0.998			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1615	0	1805	1615	0	1805	1896	0	1805	1892	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1615	0	1805	1615	0	1805	1896	0	1805	1892	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		135			157			393			255	
Travel Time (s)		3.1			3.6			8.9			5.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	18	0	27	7	0	6	17	431	6	5	461	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	27	0	7	6	0	17	437	0	5	473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.1%		ICU Level of Service A	
Analysis Period (min) 15			

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	15	0	23	6	0	5	14	362	5	4	387	10
Future Vol, veh/h	15	0	23	6	0	5	14	362	5	4	387	10
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	-	-	0	-	-	300	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	18	0	27	7	0	6	17	431	6	5	461	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	940	946	467	938	949	434	473	0	0	437	0	0
Stage 1	476	476	-	467	467	-	-	-	-	-	-	-
Stage 2	464	470	-	470	482	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	246	263	600	247	262	626	1100	-	-	1134	-	-
Stage 1	573	560	-	580	565	-	-	-	-	-	-	-
Stage 2	582	563	-	578	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	239	258	600	231	257	626	1100	-	-	1134	-	-
Mov Cap-2 Maneuver	239	258	-	231	257	-	-	-	-	-	-	-
Stage 1	571	558	-	571	556	-	-	-	-	-	-	-
Stage 2	568	555	-	549	554	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.24	16.41	0.31	0.08
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1100	-	-	239	600	231	626	1134	-	-
HCM Lane V/C Ratio	0.015	-	-	0.075	0.046	0.031	0.01	0.004	-	-
HCM Ctrl Dly (s/v)	8.3	-	-	21.3	11.3	21.1	10.8	8.2	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	0	0	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	222	34	34	272	34	30
Future Volume (vph)	222	34	34	272	34	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.982				0.937	
Flt Protected				0.994	0.974	
Satd. Flow (prot)	1866	0	0	1889	1734	0
Flt Permitted				0.994	0.974	
Satd. Flow (perm)	1866	0	0	1889	1734	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	167			279	151	
Travel Time (s)	3.8			6.3	3.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	258	40	40	316	40	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	298	0	0	356	75	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	222	34	34	272	34	30
Future Vol, veh/h	222	34	34	272	34	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	258	40	40	316	40	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	673	278
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1275	-	423	766
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	685	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1275	-	408	766
Mov Cap-2 Maneuver	-	-	-	-	408	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.88	13.04
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	522	-	-	200	-
HCM Lane V/C Ratio	0.143	-	-	0.031	-
HCM Ctrl Dly (s/v)	13	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Town of Amherst – Drive-Thru

Noise Impact Assessment

Benderson Development

570 Delaware Avenue, Buffalo, NY 14202

Prepared by:

SLR International Corporation

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SLR Project No.: 135.012741.00001

October 7, 2026

Revision: 1

Revision Record

Revision	Status	Date	Prepared By	Checked By	Authorized By
1	Issued for Information	October 7, 2026	VPL	SMG	DMJ

Limitations

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This work product presents professional opinions and findings of a scientific and technical nature. The work product shall not be construed to offer legal opinion or representations as to the requirements of, nor the compliance with, environmental laws rules, regulations, or policies of federal, state or local governmental agencies.

Executive Summary

SLR International Corporation (SLR) has prepared a noise impact assessment at the request of Benderson Development for Town of Amherst Drive-Thru (Project) located at 1640 Hopkins Rd, Williamsville, NY 14221. The Project site is previously a Rite-Aid location situated between a residential community and a high school. This report presents the results of the ambient survey and noise modeling to accurately predict the potential change in sound level and compliance with applicable noise regulations.

Town of Amherst has a noise limit of 70 dBA during daytime hours (7 a.m. – 11 p.m.) and 50 dBA during nighttime hours (11 p.m. – 7 a.m.). An ambient survey was conducted by SLR on September 8 – 9, 2026, and a three-dimensional computer noise model was constructed to analyze the noise contributions expected from the proposed drive-thru. Sound levels were measured at the closest property line near a noise sensitive area (NSA). Traffic, birds, and human activity noise were audible during the survey.

Table A summarizes the predicted future sound level contribution at the closest property line at the Project site during maximum operation.

Table A: Future Drive-thru Sound Level Predictions – Maximum Operation

NSA	Existing Ambient Sound Levels, dBA			Predicted Contribution of Mitigated New Station Equipment, dBA	Combined, All Sources Including Proposed Equipment and Existing Ambient, dBA	Increase Above Existing Day-Night Condition
	Day, L_d	Night, L_n	Day-Night, L_{dn}	Night, L_n	Night, L_n	Δ dBA
1	56.6	48.4	57.4	**46.6**	50.6	2.2

The proposed drive-thru site would contribute 46.6 dBA L_n during maximum operation at the closest property line, resulting in a potential increase over existing sound level between 2.2 dBA. The site is below 50 dBA L_n and therefore would be compliant with the town of Amherst noise limit.

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Appendix A Glossary of Common Acoustical Terminology

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Acronyms and Abbreviations

dB	Decibel
dBA	A-Weighted Decibel
DIL	Dynamic Insertion Loss
FERC	Federal Energy Regulatory Commission
Hz	Hertz
ISO	International Organization for Standardization
L_d	Daytime Average Sound Level
L_n	Nighttime Average Sound Level
L_{dn}	Day-Night Sound Level
L_{eq}	Equivalent Continuous Sound Level
L_p	Sound Pressure Level
L_w	Sound Power Level
ML	Measurement Location
NSA	Noise Sensitive Area
SLM	Sound Level Meter
SLR	SLR International Corporation
STC	Sound Transmission Class
TL	Transmission Loss

1.0 Introduction

SLR International Corporation (SLR) has prepared a noise impact assessment at the request of Benderson Development for Town of Amherst Drive-Thru (Project) located at 1640 Hopkins Rd, Williamsville, NY 14221. The Project site is a previous Rite-Aid location situated between a residential community and a high school. This report presents the results of the pre-construction sound survey and noise modeling to accurately predict the potential change in sound level and compliance with applicable noise regulations.

A glossary of common acoustical terminology and metrics is included in **Appendix A**.

2.0 Sound Level Criteria

The town of Amherst "Chapter 138 Noise, Section 138-5 Prohibited Acts" ordinance states:

A. Noise levels by land use:

1) For noise that is not defined as a violation in items A through O of § 138-5, it shall be unlawful for any person to operate or permit to be operated any stationary noise source in such a manner as to create a sound-pressure level in dB(A)s which exceeds the limits set forth for the receiving land use category in Table I when measured at the property boundary.

Table I: Maximum Permissible Sound Levels by Receiving Land Use Category			
		Maximum Permissible Sound Level (dBAs) Receiving Land Use	
Sound Source Land Use Category	Time Period	Residential	Non-residential
Residential	7:00 a.m. to 11:00 p.m.	70	75
	11:00 p.m. to 7:00 a.m.	50	50
Non-residential	7:00 a.m. to 11:00 p.m.	70	75
	11:00 p.m. to 7:00 a.m.	50	75

2) The restrictions set forth in this section shall not apply to alarms as defined in § 138-5H of this chapter.

The Project site is located within a non-residential area next to a residential area. Based on Town of Amherst ordinance, the noise limit for daytime for the Project site is 70 dBA and 50 dBA for nighttime.

3.0 Description of Site and Facility

3.1 Description of Site

The Project site is located within a shopping mall at 1640 Hopkins Rd, Williamsville, NY 14221. The surrounding area consists of residences and a high school.

4.0 Sound Level Survey

A sound level survey was conducted by Valen Peterson of SLR on September 8 – 9, 2026, to capture existing sound levels at the nearest NSA.

4.1 Measurement Equipment

Sound level equipment used during the sound study included the following instruments:

- Larson Davis Model 821 SLMs; Type 1; s/n 40679
- Larson Davis CAL200 Calibrator; s/n 19864

A windscreen was used on the measurement microphone. The sound level meter was field-calibrated before and after measurement intervals, showing no significant change in sensitivity over the survey period. All instruments have current laboratory certification that can be provided upon request. Measurements were conducted five feet above the ground.

4.2 Weather Conditions

There was a brief period of rain/drizzle, however, overall weather conditions were appropriate for an outdoor sound level study. A summary of the weather conditions is shown in **Table 4-1**.

Table 4-1: Summary of Weather Conditions

Date	September 8 – 9, 2026
Temperature Range	56°F – 77°F
Relative Humidity Range	40 % – 93 %
Wind Speed	Calm to 16 mph
Wind From	Variable
Sky Condition	Fair
Ground Condition	Mostly dry

Complete weather data from the measurement survey were obtained from Weather Underground[1,2] and are shown in **Appendix C**.

[1] https://www.wunderground.com/history/daily/us/ny/cheektowaga/KBUF/date/2026-9-8

[2] https://www.wunderground.com/history/daily/us/ny/cheektowaga/KBUF/date/2026-9-9

4.3 Measurement Methodology

For continuous overnight sound monitoring, measurements were in terms of 1-second and 15-minute samples. Sound levels were measured using the slow meter response and A-weighting. Broadband A-weighted (dBA) levels and linear whole and one-third octave band data were also collected.

4.4 Measurement Locations

Various nearby noise sensitive areas (NSAs), typically consisting of residences, schools, etc., were identified during the sound study using aerial imagery and field observations. Continuous sound level was measured with sound monitoring equipment at one location to best represent the conditions at the closest property line. The closest NSA and sound measurement location are shown in **Figure B-1**. The measurement location (ML) is summarized in **Table 4-1** showing the distance and directions from the approximate center of the proposed drive-thru building to the measurement location.

Table 4-1: Summary of Measurement Locations

NSA	Measurement Location (ML)	Description	Approximate Distance from Center of Drive-thru to NSA, Feet	Direction to NSA from Proposed Station
1	ML 1	Residence	95	W

The measurement approximately 24-hours in duration. Observations at the measurement locations are summarized in **Table 4-2.**

Table 4-2: Observed Sound Sources During Measurement Survey

NSA	Measurement Location (ML)	Measurement Duration HH:MM	Source Observations During Measurements
1	ML 1	23:46	Audible sound sources at this location included traffic on Dodge Rd and Hopkins Rd, human activity noise within the shipping mall, birds, etc.

4.5 Measurement Results

The sound survey measurement results are summarized in **Table 4-3**. The measured sound levels for daytime (L_d), nighttime (L_n), and the equivalent day-night sound level (L_{dn}) are shown. The results include influence from all sounds present during the measurement duration. These include traffic, birds, and anything else that occurred during the measurement period.

Table 4-3: Summary of Sound Level Measurements

Measurement Location	Measured Levels, Period Average, dBA		
	Day	Night	Day-Night
	L_d	L_n	L_{dn}
ML 1	56.6	48.4	57.4

Sound Level vs. Time graphs from each measurement location are included in **Appendix D**. The upper graph shows the 10-second L_{eq}, represented by a solid blue line, the 15-minute L_{eq}, a stepped red line, and the 15-minute L_{90}, a stepped green line. The L_{90} sound level is the level exceeded 90% of the time during a measurement interval and can be considered the "background" sound level, minimally influenced by brief sound events (such as vehicle pass-bys or aircraft flyovers). All results are presented using the A-weighted sound level.

The lower portion of the graph shows frequency-based data. Sound frequency is plotted on the vertical axis and time on the horizontal axis. The color indicates the A-weighted sound pressure level at each frequency. The frequency data are useful for characterizing the presence of specific noise emissions.

5.0 Proposed Equipment Noise Impact Evaluation

5.1 Noise Model Development

A three-dimensional noise model was developed to analyze the sound level contributions expected from the proposed drive-thru site. The model was developed using CadnaA, version 2026 MR 1 (build: 215.5625), a commercial modeling package developed by DataKustik GmbH. The software considers spreading losses, ground and atmospheric effects, shielding from barriers and buildings, reflections from surfaces and other sound propagation properties. Local topography was imported into the 3D model space from USGS topography maps with 10 by 10 meter spacing. The CadnaA software is based on published engineering standards. The ISO 9613-2 standard was used for air absorption and other noise propagation calculations.

Ground absorption for the entire Project area was conservatively set as 0.5, representing a mix of reflective and absorptive ground. This is a conservative assumption, as the majority of the surrounding area is undeveloped forests or fields, which are ground types that would typically be assigned a higher ground absorption coefficient of 1.0 (Kephalopoulos 2012). The station pad ground was modeled as reflective, with a 0.1 absorption coefficient.

To be conservative, foliage was not included in the model. The terrain was modeled based on USGS topographical data at a resolution of 10 by 10 meters. A temperature of 20 degrees Celsius and 70 percent relative humidity were used for the atmospheric absorption calculations.

5.2 Data and Assumptions

Table 5-1 shows the sound pressure levels used as input to the model for the proposed drive-thru location. The sound pressure levels were measured from a generic drive-thru restaurant on September 22, 2026.

Table 5-1: Sound Pressure Levels (L_p) and Sound Power Levels (L_w) for Station Equipment

Source	Linear L_p or L_w at Octave Center Frequency									Total
	31.5	63	125	250	500	1k	2k	4k	8k	dBA
Sound Pressure Levels (L_p)										
Car Idling exhaust hood, L_p[1]	71	65	61	61	62	61	59	53	43	66
Drive-thru speaker, L_p[1]	68	64	60	70	75	69	67	61	42	75

5.3 Noise Model Results

Table 5-2 shows a summary of the calculated sound level contribution from the proposed drive-thru site at the closest property line.

Table 5-2: Future Drive-thru Sound Level Predictions – Maximum Operation

NSA	Existing Ambient Sound Levels, dBA			Predicted Contribution of Mitigated New Station Equipment, dBA	Combined, All Sources Including Proposed Equipment and Existing Ambient, dBA	Increase Above Existing Day-Night Condition
	Day, L_d	Night, L_n	Day-Night, L_{dn}	Night, L_n	Night, L_n	Δ dBA
1	56.6	48.4	57.4	**46.6**	50.6	2.2

The proposed drive-thru site would contribute 46.6 dBA L_n during maximum operation at the closest property line, resulting in a potential increase over existing sound level between 2.2 dBA. The site is below 50 dBA L_n and therefore would be compliant with the town of Amherst noise limit.

6.0 Conclusions

SLR has completed a noise impact assessment for the proposed drive-thru location at 1640 Hopkins Rd, Williamsville, NY 14221. Measurement near the Project site show that the current ambient sound level is 56.6 dBA L_d and 48.8 L_n. A noise model was developed to predict sound level contributions from the proposed drive-thru site at the nearest residential property boundary. The proposed drive-thru site would contribute 46.6 dBA L_n at the closest property line, resulting in a potential increase over existing sound level between 2.2 dBA. The site is below 50 dBA L_n and therefore would be compliant with the town of Amherst noise limit.

7.0 Closure

This document has been prepared by SLR International Corporation (SLR). The material and data in this report were prepared under the supervision and direction of the undersigned.

Sincerely,

SLR International Corporation

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Appendix A Glossary of Common Acoustical Terminology

Town of Amherst – Drive-Thru

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A-weighting: a weighting scale in which sound pressure levels in individual frequency bands are adjusted to match the response for the human ear. The reference adjustment is 0 dB at 1,000 Hz. The human ear is much less responsive at low frequencies. An A-weighted sound level is the total contribution from all sound frequencies, with the appropriate weighting factors applied and is designated as dBA.

C-weighting: a weighting scale that is relatively flat from 31.5 Hz to 8,000 Hz with a roll-off higher and lower than those frequencies. The adjustment is 0 dB from 200 Hz to 1,250 Hz. A C-weighted sound level is the total contribution from all sound frequencies, with the appropriate weighting factors applied and is designated as dBC.

Hertz (Hz): the unit of measure of frequency or the speed of vibration of a sound wave. Also referred to as "cycles per second".

Insertion Loss (IL): the decrease (in decibels, dB) in sound power level measured at the location of the receiver when a sound attenuator (e.g., muffler), barrier, or other sound reduction element is inserted in the transmission path between the source and receiver.

L_d: the daytime average sound level. The L_{eq} averaged over daytime hours. Daytime hours may be defined differently by various ordinances and regulations. The hours between 7:00 am and 10:00 pm is the interval used by the U.S. Federal Energy Regulatory Commission (FERC) and the U.S. Department of Housing and Urban Development (HUD).

L_{dn} (also DNL): the day-night average sound level, a metric used by many regulatory bodies (including FERC and HUD) as an overall representation of the sound at a measurement location. The L_{dn} is calculated by averaging the sound measured over a 24-hour period, with 10 decibels added to sound levels measured during nighttime hours.

L_{eq}: the equivalent-continuous sound level is a time-average sound level for a specified time period. It is the most commonly used form of sound level averaging. Specifically, the Leq is the level of a steady sound that has the same sound energy as a time-varying sound during a stated time period and at a stated location.

L_n: the nighttime average sound level. The L_{eq} averaged over nighttime hours. Nighttime hours may be defined differently by various ordinances and regulations. The hours between 10:00 pm and 7:00 am is the interval used by the U.S. Federal Energy Regulatory Commission (FERC) and the U.S. Department of Housing and Urban Development (HUD).

L_{90}: a statistical parameter (percentile) that describes the sound level that is exceeded 90 percent of the time during a stated time period. For example, for a stated hourly L_{90} of 45 dBA, the sound level at the measurement location has a 90% chance of being greater than 45 dBA and a 10% chance of being less than or equal to 45 dBA. The L_{90} is often used as the "background" or "ambient" sound level for a given measurement period. Other percentile values are defined similarly (e.g., L_{50}, L_{10}, etc.).

Sound Power Level (PWL or L_w): a logarithmic parameter that describes the power characteristics of a noise source, relative to a reference power value, expressed in decibels, dB or dBA. The sound power level should not be confused with the sound pressure level. The sound power level is a characteristic of a noise source analogous to the wattage rating of a light bulb, and it is independent of the surroundings. It is calculated from measurements of the sound pressure level. A 75-watt light bulb will look much brighter in a white, reflective room than in a black, absorptive one. A noise source rated with a sound power level if 95 dBA will produce a much higher sound pressure level (will be much louder) in a small hard box than outside in a soft grass meadow.

Sound Pressure Level (SPL or L_p): a logarithmic parameter that describes the quantity of sound relative to a reference pressure value, expressed in decibels, dB or dBA. The SPL is the quantity that is measured with a sound level meter, and it is dependent upon the surroundings of a noise source.

Sound Transmission Class (STC): a single number rating for describing sound transmission loss of a wall or partition. A rating system designed to facilitate comparison of the sound transmission characteristics of various architectural materials and constructions.

Transmission Loss (TL): the difference (in decibels) between sound power incident upon a sound reduction element (wall or muffler) to that transmitted. The less sound energy is transmitted, the higher the TL value.

Appendix B Figures

Town of Amherst – Drive-Thru

Noise Impact Assessment

Benderson Development

SLR Project No.: 135.012741.00001

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Figure B-1: Aerial Image Showing Measurement Locations and Noise Sensitive Areas

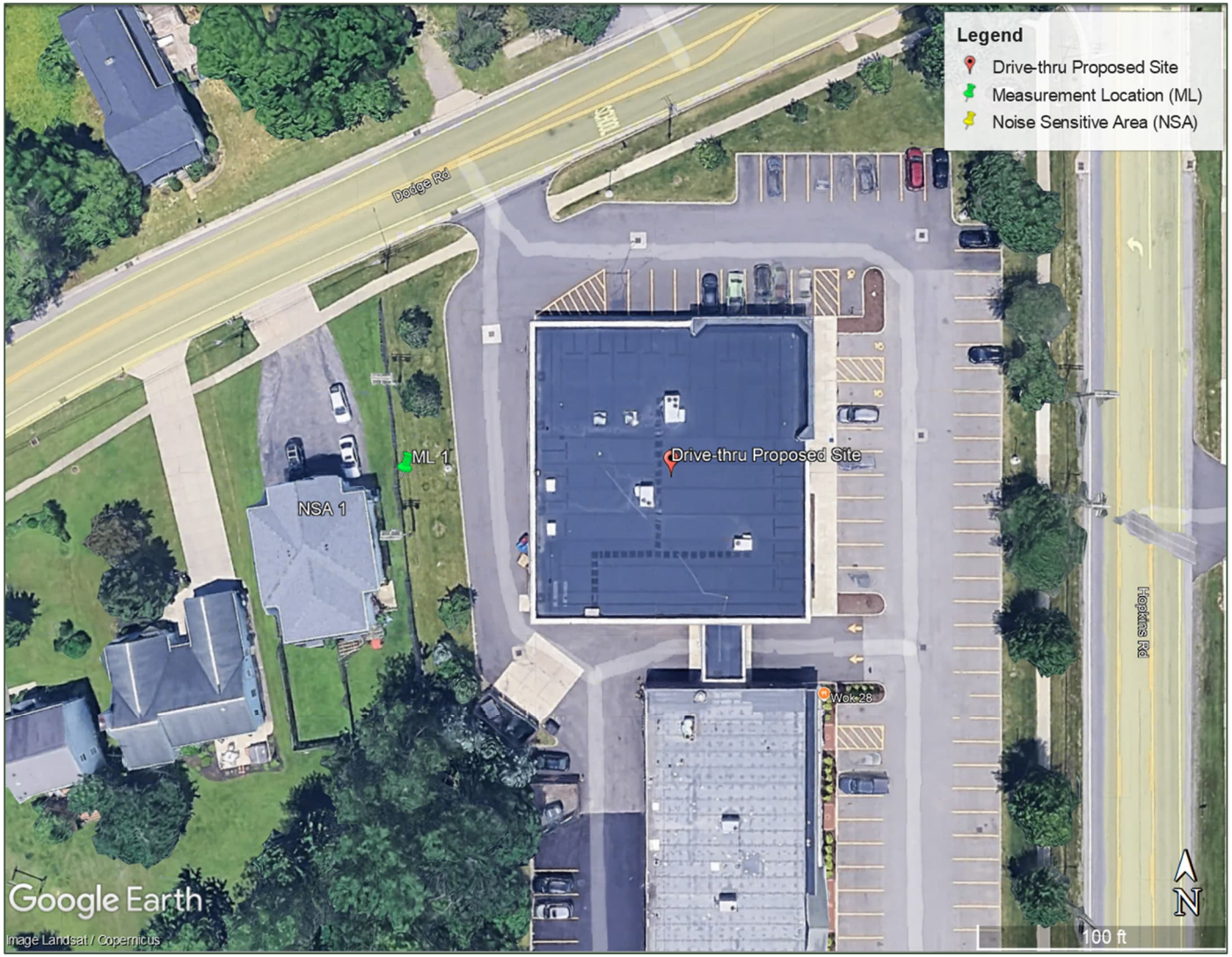
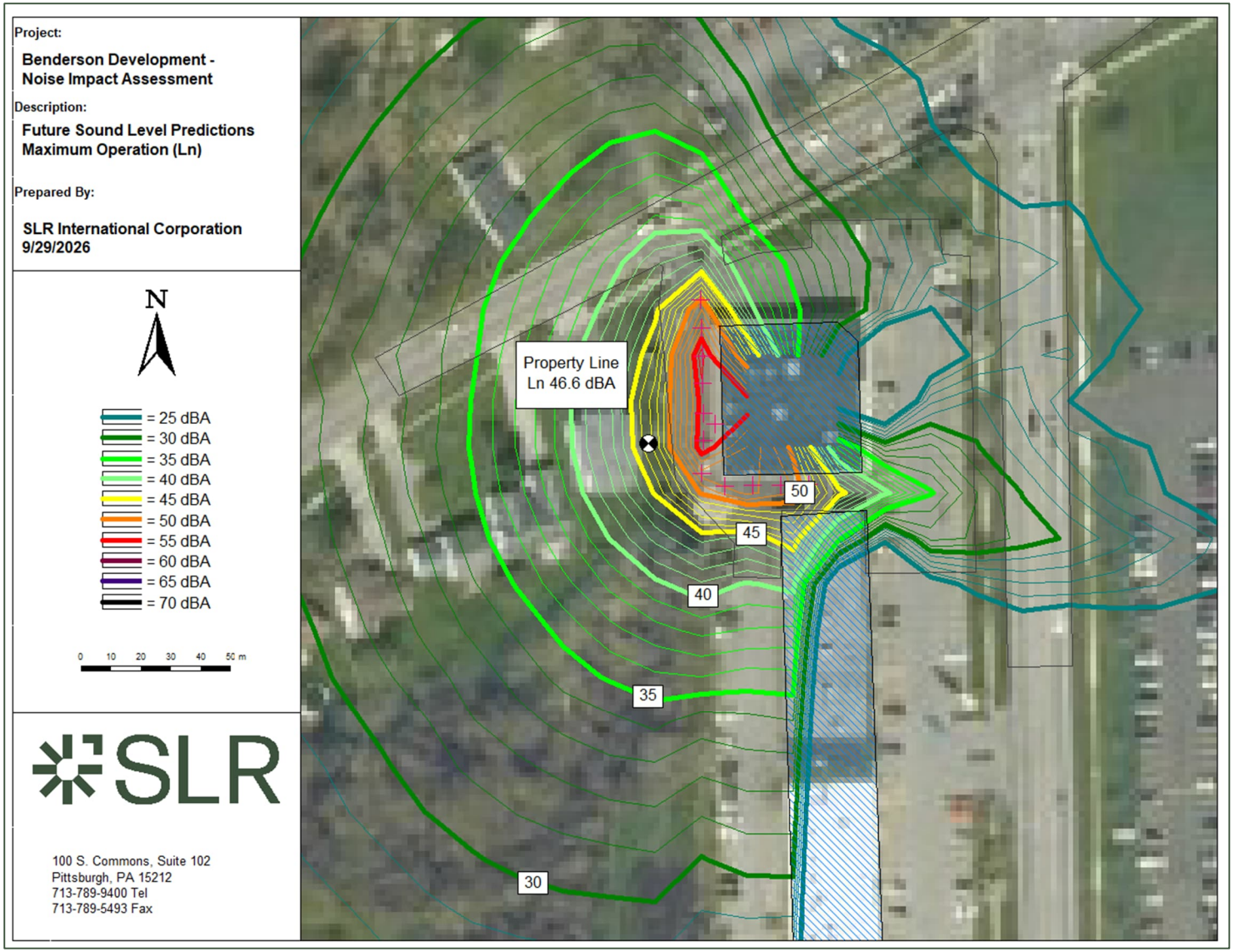


Figure B-2: Noise Contour Plot – Maximum Operation – dBA L_n



Appendix C Weather Data

Town of Amherst – Drive-Thru

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Figure C-1: Weather Data – September 8, 2026



Figure C-2: Weather Data – September 9, 2026



Appendix D Level vs. Time Graphs

Town of Amherst – Drive-Thru

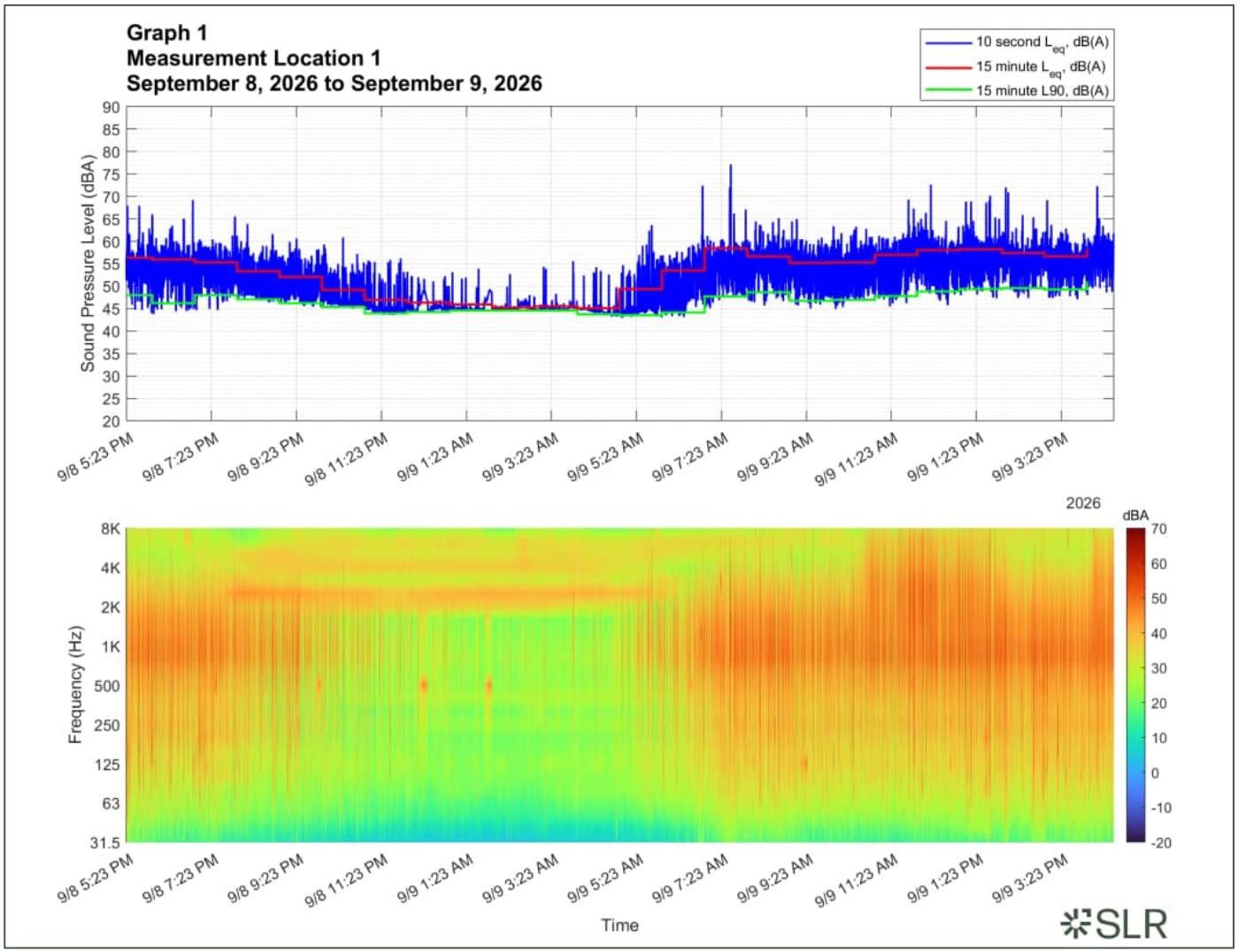
Noise Impact Assessment

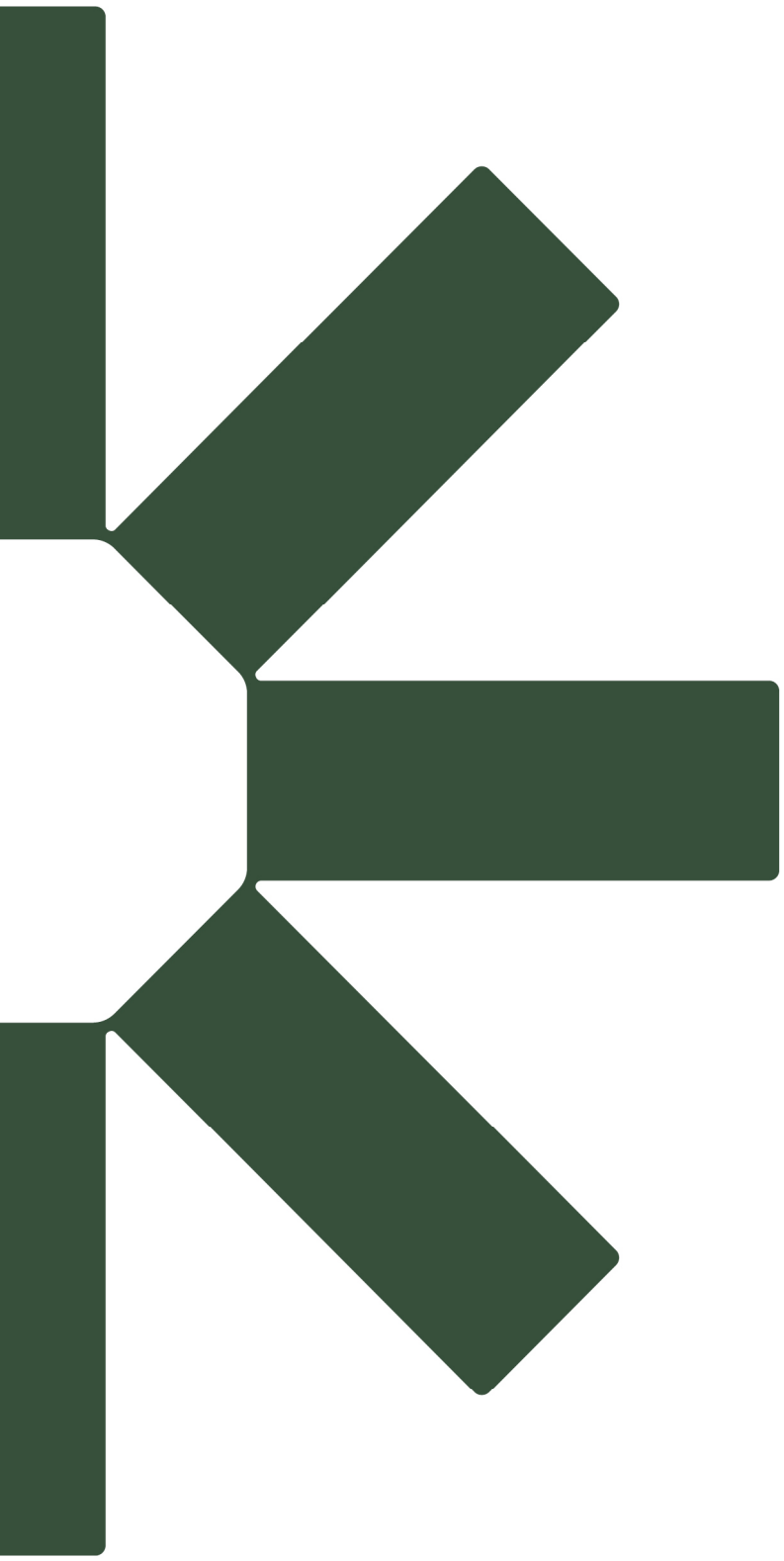
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Figure D-1: Level vs. Time Graph – ML 1 – September 8 – 9, 2026





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