

Transportation Impact Study Update 2

PROPOSED MIXED-USE COMMUNITY

Snell's Hollow (Heart Lake Rd & Mayfield Rd),
TOWN OF CALEDON, ONTARIO

November 2024
Project No: NT-20-018

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NextEng Consulting Group Inc.

November 1, 2024

Attention: Mr. Jason Afonso, Trustee

Snell's Hollow Developers Group
c/o 700-10 Kingsbridge Garden Circle
Mississauga, ON L5R 3K6

**Re: Transportation Impact Study Update 2
 Proposed Mixed-Use Community
 Snell's Hollow, Town of Caledon
 Our Project No. NT-20-018**

NexTrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study Update 2 for the above noted site in support of an Official Plan Amendment application for a proposed mixed-used community. The purposes of this Study Update 2 are to address the Town and the Region comments, as well as providing the assessment on the latest proposed development plan. It should be noted that NexTrans has provided a comprehensive Transportation Impact Study Update dated October 2023 that supports the proposed residential development.

The subject lands are bounded by Highway 410 to the north, Highway 410 southbound off-ramp to the east, Kennedy Road to the west and Mayfield Road to the south, in the Town of Caledon. To address the Province housing requirements and the current market conditions, the current development proposal consists of 1,444 residential dwelling units of mixed types and approximately 496 jobs (estimated 145 commercial land use jobs plus 351 work-from-home / no fixed employment). One full moves intersection will be provided onto Heart Lake Road, a full moves intersection will be provided onto Kennedy Road opposite Snellview Boulevard, and one full moves intersection onto Mayfield Road opposite Stonegate Drive, to service the overall proposed development.

The transportation study update 2 concludes that the proposed development can adequately be accommodated by the existing transportation network, the proposed transportation improvements, as well as the Transportation Demand Management measures and incentives recommended in this report.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

Nexttrans Consulting Engineers
A Division of NextEng Consulting Group Inc.

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Record of Report Submission

Identification	Date	Description of issued and/or revision
Final Report	November 1, 2024	For Final Submission

RESPONSES TO COMMENTS

The following comments have been received from the Town and the Region. Appropriate responses are provided based on the findings of this Study Update.

Town of Caledon

36. Due to the proposed location, the application should be circulated to the City of Brampton and Region of Peel.

Response: Noted. All reports will be circulated to both the Region and the City of Brampton.

37. Please ensure policies related to active transportation and transportation demand management are included in the Secondary Plan to support the Town of Caledon's objectives. These policies should include, but not be limited to, public transit, transit stops, transportation demand management, a pedestrian and cycling network, a recreational trail network, sidewalks, parking, and electric vehicle infrastructure. Propose a policy to ensure the construction of trails around stormwater management facilities, where feasible.

Response: Noted. We are open to additional transportation-related policies, as long as they are reasonable and achievable within the scope of the project.

38. Comments on the Phasing Plan:

- a. Ongoing Comment #7.40: Due to the existing traffic congestion along Kennedy Road, connection to Heart Lake Road needs to be completed before Registration of any plan of subdivision.
- b. Town requests that a policy be added in the Secondary Plan OPA text noting that a connection to Heart Lake Road will be provided prior to occupancy. Update phasing plan as needed.

Response: We disagree with these comments for the following reasons:

Development Phasing needs to be determined based on actual transportation capacity assessment using background data and assumptions coincident with the timing that development is anticipated to occur. Until this is undertaken in conjunction with future Draft Plan of Subdivision Applications, it is premature to implement a policy requiring a connection Heart Lake Road prior to occupancies.

- c. Phase Plan 1: Staff require further information regarding the noted 'temporary access' in 'Non-Participating Lands – Phase Plan 1'. Specifically, the road operations along Street 'E,' Street 'F' and Street 'I'.

Response: The Temporary Access shown on Phasing Plan 1 is intended to accommodate traffic circulation instead of a temporary turn-around or cul-de-sac until such time that the non-participating lands develop. A temporary turn-around or cul-de-sac consumes significantly more land and the temporary crescent option avoids the need for a turnaround. There are no adverse impacts to road operations as the temporary access facilities minor local traffic.

39. Comments on the Transportation Impact Study (October 2023):

- a. LUC 210 has the incorrect equations referenced, and as such, the forecasted trips may not be correct. It is crucial to review and revise this issue, especially where it materially impacts the findings of the report. Please append the relevant ITE Trip Gen Excerpts in the next submission to assist Town Staff in their review.

Response: Both equations and site trip generation have been updated and reflected in the revised analysis. The ITE Trip Generation excerpts are included in **Appendix K**.

- b. Transportation Staff could not confirm the average vehicular trip generation rates for ITE LUC 231 'Mid-rise Residential with Ground-Floor Commercial'. Review, clarify, and revise as the results would materially impact the report's conclusions. Please append the relevant ITE Trip Gen Excerpts in the next submission to assist Town Staff in their review.

Response: The average rates and site trip generation have been updated and reflected in the revised analysis. The ITE Trip Generation excerpts are included in [Appendix K](#).

- c. Traffic Counts at Kennedy Road and Snellview Boulevard are not included in the Appendix. Revise to include.

Response: It should be noted that this intersection was not counted at the time due to on-going construction and lane shutdown. Instead, the turning movement counts were estimated based on the through movement traffic and trip generation from the existing homes. This methodology was documented in all of our previous submission.

- d. Note that consideration should be given to the maneuverability of vehicles, including but not limited to snowplows. This will need be demonstrated at the Draft Plan of Subdivision.

Response: The proposed local road networks follow municipal right-of-way standards. We do not anticipate the need to provide maneuverability plans at the Draft Plan of Subdivision stage but this can be revisited at that time.

- e. The following comments remain outstanding or were only partially addressed in the latest submission. Original comments are noted below with an explanation of the response and additional items needed to satisfy the comments:

Response: Noted.

- i. Original Comment #7.4: The existing levels of service results (Table 2) notes a few movements operating over capacity. The calibration of the Synchro model should be revisited to adequately model existing conditions by adjusting parameters such as peak hour factors, lane utilization factors, lost time adjustments, saturation flow rate, etc., with appropriate justification. These adjustments need to be approved by the Region.

Response: It should be noted that there are no movements that are currently over capacity under the existing conditions, based on the analysis results provided in this Study and previous Study Update. The existing peak hour factors, lane utilization and saturation flow rates are inputs from the existing traffic counts and default Synchro parameters and Peel Region's Synchro guidelines. We did not adjust any of these parameters.

It should be noted that, we have removed lost time adjustments for all of the movements under the existing conditions. Given that some movements are more aggressive with gaps based on our video observations and vehicle behaviours (i.e. short gaps between vehicles), under the future conditions, these movements are subject to some lost time adjustment. This is a typical condition for the majority of the major intersections in the Region of Peel. The City of Mississauga Traffic Impact Study guidelines allow up to -5s lost time adjustment in Synchro as Synchro is conservative.

- It is noted that the report states that the existing conditions were calibrated model existing conditions. Based on the submitted material, a lost time adjustment factor has been applied without any supporting justification in the Appendices. Model calibration is typically done through studies of metrics including but not limited to gap analysis—consultant to review and clarify.

Response: Similar to the responses provided above, it should be noted that there are no movements that are currently over capacity under the existing conditions, based on the analysis results provided in this Study and previous Study Update. The existing peak hour factors, lane utilization and saturation flow rates are inputs from the existing traffic counts and default Synchro parameters and Peel Region's Synchro guidelines. We did not adjust any of these parameters.

It should be noted that, we have removed lost time adjustments for all of the movements under the existing conditions. Given that some movements are more aggressive with gaps based on our video observations and vehicle behaviours (i.e. short gaps between vehicles), under the future conditions, these movements are subject to some lost time adjustment. This is a typical condition for the majority of the major intersections in the Region of Peel. The City of Mississauga Traffic Impact Study guidelines allow up to -5s lost time adjustment in Synchro as Synchro is conservative.

- The lost time adjustment factor appears to have been applied to intersections without v/c ratios exceeding 1 and to new/proposed signalization treatments. Review and revise where this materially impact the report's findings.

Response: It should be noted that, we have removed lost time adjustments for all of the movements under the existing conditions. Given that some movements are more aggressive with gaps based on our video observations and vehicle behaviours (i.e. short gaps between vehicles), under the future conditions, these movements are subject to some lost time adjustment. This is a typical condition for the majority of the major intersections in the Region of Peel. The City of Mississauga Traffic Impact Study guidelines allow up to -5s lost time adjustment in Synchro as Synchro is conservative.

The analyses have been updated based on the above and it is confirmed that lost time has very little impact on the intersection operation.

- ii. Town has received resident complaints indicating that queueing at Kennedy Road and Mayfield Road occasionally backs up over the bridge. It is unclear if this is a regular or rare occurrence. Confirm with evidence whether queueing at Mayfield Road is anticipated to impact the operations of the proposed access at Snellview Boulevard.

Response: It should be noted that the existing intersection of Snellview Boulevard is located approximately 285 m north of Mayfield Road (from centreline). Therefore, it is not possible to relocate this intersection. It should be noted that this spacing is suitable for traffic signal.

Our site observation and video camera indicate that there are some occasional queues along Kennedy Road due to heavy left turning movements. This is typical for any major intersections along this corridor. Our analysis indicates that with the future proposed traffic signal at this location, the intersection and corridor are expected to operate sufficiently. However, in the long term (i.e. prior to or by 2033), double southbound left turn at the Kennedy Road/Mayfield Road will be required to accommodate the background traffic for the area.

- iii. Original Comment #7.25: Please illustrate the recommended/proposed improvements for each horizon year/scenario in Figure 15. Please also illustrate the recommended/proposed improvements in a different color to the existing lane configuration.

Response: Noted and provided in Figures 16 and 17 of this Study Update.

- iv. If revisions are required for other matters, please include the differentiation between lanes and capacity in the figure.

Response: Noted, no revisions are required.

- v. Original Comment #7.28 – According to the Town's Road Design Standards, sidewalks are required along both sides of a Local Road with a Right of Way width of 18 meters or greater.

Response: Noted and has been addressed in the Urban Design and Architectural Guidelines in Appendix L and in this Study Update.

- vi. For clarity, please add a note to the Pedestrian and Cyclist Circulation plan (or Figure 17 'Proposed Active Transportation Network') that local roadways can accommodate sidewalks on both sides but may be implemented with only one sidewalk, to be confirmed at the draft Plan of Subdivision Stage. A policy in the Secondary Plan OPA should also be included to confirm this.

Response: Noted and has been addressed in the Urban Design and Architectural Guidelines in Appendix L and in this Study Update.

- vii. Comment 7.39 – Please ensure consistent road ROW and classifications for the internal road network.

Response: We do not wish to propose a consistent ROW width for the internal collector road as we do not believe all of the elements of a 26-metre collector road standard is required throughout the plan. Different sections of the collector road have different widths depending on the streetscape elements required within different segments of the road. We are available to discuss this in greater detail with Town staff, as needed. The 26-metre ROW standard uses an excessive amount of land and is contrary to the Provincial Policy Statement which requires efficient use of land.

- viii. Transportation Staff request the collector roadway be continuous from Kennedy Road to Heart Lake Road to facilitate the proposed transit route. It is noted that the proposed ROW in the conceptual plan reduces along this stretch. Provide a roadway classification diagram.

Response: The proposed collector road provides for a pavement / travel lane standard which facilitates transit from Kennedy Road to Heart Lake Road. The configuration of the land within the easterly portion of the plan does not promote a continuous collector road design. Such a design will result in inefficient development pattern. We intend to maintain the current collector road design.

- f. General Town Response to 2nd submission Comments 7.29, 7.31, 7.32, & 7.33:

Response: Noted.

- g. Transportation Engineering requests a single comprehensive Active Transportation Network Plan with sidewalk locations, intersection and crossing locations (including controls), cycling facilities, and multi-use trail locations. This should be provided for both existing and proposed facilities, which are either within or close to the site.

Response: Noted and provided in Figures 19 and 20 of this Study Update.

- h. Only internal provisions have been highlighted in Figure 17 Proposed Active Transportation Network. Connections the external network (both existing and proposed facilities) should be illustrated in a manner that is easy to distinguish. This would assist in the review of proposed connections.

Response: Noted and provided in Figures 19 and 20 of this Study Update.

- i. Brampton facilities (both existing and proposed) should be included to ensure this proposal includes seamless connections between municipalities.

Response: Noted and provided in Figures 19 and 20 of this Study Update.

- j. As highlighted in other comments, the roadway classification should be reviewed with respect to the proposed transit route, roadway classification and the presence of transit, could impact Active Transportation Facility recommendations.

Response: Noted and provided in Figures 23 and 30 of the TIS Update.

- k. Ideally the proposed network should follow Council Approved MMTMP and ATMP recommendations with regards to proposed active transportation facilities. Review collector road provisions.
[Response: Noted and provided in Figures 19 and 20 of this Study Update.](#)
- l. Based on the submitted materials Transportation Staff ask for the following revisions:
[Response: Noted.](#)
- m. Proposed cycling facilities should connect from Kennedy Road to Heart Lake Road.
[Response: Noted and provided in Figures 19 and 20 of this Study Update.](#)
- n. Town Transportation Engineering staff are concerned with the proposed measures to mitigate pedestrian and vehicular conflicts at Street C and Heart Lake Roads. Review the pedestrian lines of desire and proposed mitigation measures to facilitate this crossing as following OTM Book 18 recommendations.
[Response: Noted and this comment will be addressed at the engineering design stage.](#)
- o. The following Active Transportation connections should be provided as per the markup below:
[Response: Noted and provided in Figures 19 and 20 of this Study Update.](#)
40. Town Transportation Staff will be requesting a pedestrian and cyclist circulation plan confirming local roadway provisions though the Draft Plan of Subdivision Applications. Additionally, Staff will be requesting for 1.8m sidewalks at Detailed Design.
[Response: Noted and these requirements have been provided in the revised draft plan of subdivision as included in Appendix L.](#)
41. Please note that as per the Town's Official Plan, Kennedy Road and Heart Lake Road are arterial Roadways. Please also note that the posted speed limit of Heart Lake Road is currently 80 km/hr.
[Response: Noted and included in this Study Update.](#)
42. Please note that transit service times have been extended for Brampton Transit Route 81, and Brampton Transit Route 18 has been extended into Caledon.
[Response: Noted and has been included in this Study Update.](#)
43. Transportation Staff reserves the right for additional comments based on a revised submission. Transportation Engineering requests that the consultant provide a response with the re-submission package clearly reiterating the Town's comments in order and including details for how each comment has been addressed. Town Transportation Staff reserve the right to provide comments relevant to subsequent application types, Draft Plan of Subdivision, Site Plan, and Re-Zoning under their respective applications.
[Response: Noted. Additional responses to these comments will be provided the appropriate stage of the proposed development.](#)
44. The Traffic Impact Study, must be prepared by a RAQS (Registry, Appraisal and Qualification System) qualified consultant, stamped, and signed by a Professional Engineer of Ontario.
- a. Nextrans Consulting Engineers are not RAQS qualified, but I believe they are getting RAQS qualified, please confirm.
[Response: Nextrans' application for RAQS is waiting for approval. It will be updated for the subsequent development application.](#)

EXECUTIVE SUMMARY

Nextrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained by Snell's Hollow Developers Group (the 'Client') to undertake a Transportation Impact Study Update in support of an Official Plan Amendment application for a proposed mixed-use community.

The purposes of this Study Update are to address the Town and the Region comments, as well as providing the assessment on the latest development proposal statistics and changes. It should be noted that Nextrans has provided a comprehensive Transportation Impact Study dated April, 2021 and October 2023 that supports the previous development proposal.

The subject lands are bounded by Highway 410 to the north, Highway 410 southbound off-ramp to the east, Kennedy Road to the west and Mayfield Road to the south, in the Town of Caledon.

Proposed Development

Currently the subject site is mostly vacant, with two existing single-detached residential units and two farm houses (one on Kennedy Road and one on Heart Lake Road). To address the Province housing requirements and the current market conditions, the current development proposal consists of approximately 1,444 residential dwelling units of mixed types and approximately 496 jobs (expected 145 commercial land use jobs plus 351 work-from-home / no fixed employment). The proposed development is expected to generate:

- 740 two-way auto trips (224 inbound and 516 outbound) and 901 two-way auto trips (548 inbound and 353 outbound) during the AM and PM peak hours, respectively; and
- 38 two-way transit trips (11 inbound and 27 outbound) and 49 two-way transit trips (29 inbound and 20 outbound) during the AM and PM peak hours, respectively.

Proposed Development Access

The following access arrangement will be provided to accommodate each block of the proposed development and the recommended lane configurations and traffic control types based on the findings of this Study:

- One full moves intersection onto Kennedy Road, opposite the existing Snellview Boulevard. This proposed intersection is located approximately 285 m from centreline of the Mayfield Road/Kennedy Road intersection. The lane configurations and traffic control type include:
 - Traffic signals should be provided by 2028 horizon, based on the intersection capacity analysis
 - One exclusive northbound and southbound left turn lanes with minimum of 30 m storage length
 - One exclusive westbound left turn lane with 15 m storage, a shared through/right and one inbound lane
 - Convert the existing eastbound exclusive right turn lane on Snellview Boulevard to a shared through/right lane
- One full moves intersection onto Heart Lake Road is located approximately 230 m from the centreline of Mayfield Road/Heart Lake Road intersection. The lane configurations and traffic control type include:
 - A full moves intersection with stop signs on the east-west direction
 - One southbound and one northbound left turn lane with minimum of 30 m storage length and a shared northbound and southbound through/right lane
 - One westbound and one eastbound exclusive left turn lanes with minimum of 15 m storage and a shared westbound and eastbound through/right lane
- One access onto Mayfield Road to accommodate the proposed mixed-use development. This proposed access will be located opposite Stonegate Drive. The lane configurations and traffic control type include:
 - Require traffic signals by 2028 with the proposed completion of the mixed-use development;

- One exclusive westbound and eastbound left turn with minimum of 30 m storage length.
- One exclusive southbound left turn with 15 m storage and a shared through/right, as well as one inbound lane be provided for the proposed Site Access #3.

The analysis indicates that the proposed traffic control types and lane configurations are appropriate for the proposed development accesses. The proposed development accesses are expected to operate at acceptable levels of service for all horizon years considered in the analysis.

Transportation Analysis

Auto Mode Assessment

The intersection capacity analysis indicates that under the existing conditions with new traffic turning movement counts, all intersections are currently operating at acceptable levels of service with all v/c ratios are under 1.0, no improvements are required at this time.

Under the 2028 and 2033 future background conditions with the planned widening of Mayfield Road from its existing 4-lane cross-section west of Heart Lake Road to a 6-lane cross-section, all intersections are expected to operate at acceptable levels of service. However, for the Mayfield Road/Kennedy Road intersection, a westbound exclusive right turn lane and southbound double left turn lanes are required beyond 2028 or by 2033. It is recommended that these improvements to be included as part of the Mayfield Road improvement project.

Under the 2028 future total conditions with the planned widening of Mayfield Road from its existing 4-lane cross-section west of Heart Lake Road to a 6-lane cross-section, the majority of the intersections are expected to operate at acceptable levels of service with v/c ratios are under 1.0. However, for the Mayfield Road/Kennedy Road intersection, a westbound exclusive right turn lane and southbound double left turn lanes are required beyond 2028. For the Mayfield Road/Stonegate Drive/Site Access #3, a traffic signal will be required prior to or by 2028 to improve operation and help facilitate pedestrian and cyclist crossing from the south side to the north side of Mayfield Road. Although traffic signals are not numerically warranted, it is recommended that the traffic signals be installed as part of the proposed development.

Walking Mode Assessment

Currently, sidewalk is available on the east side on Kennedy Road, north and south of Mayfield Road. Sidewalks are currently provided on both sides of Snellview Boulevard and Stonegate Drive. However, no sidewalks are currently provided along Mayfield Road and Heart Lake Road in the area.

As part of the capital road improvement for Mayfield Road, a 3.0 m multi-use path will be provided along both sides of Mayfield Road to the west of Kennedy Road, but only on the south side of Mayfield Road to the east of Kennedy Road. Nextrans recommends that the proposed 3.0 multi-use path should continue on the north side of Mayfield Road from Kennedy Road to Heart Lake Road. This should be included in the detailed design and construction of Mayfield Road.

It is our understanding that the Town of Caledon is currently undertaking a Multi-Modal Transportation Master Plan and Active Transportation Master Plan, which will identify future transportation requirements, including active transportation facilities, for Kennedy Road and Heart Lake Road. In preparation to complete the active transportation network in this area, as part of the proposed development sidewalks, will be provided on one or both sides of the 18m road right-of-way or greater, sidewalk will be provided on one side for 16m road right-of-way. In addition, the proposed development will also provide a multiuse trail (MUT) that connects the development areas 1 and 2 with development area 4. All these facilities will connect to Heart Lake Road, Kennedy Road and Mayfield Road. **Figure 17** of this Study illustrates the proposed sidewalk network within the proposed development.

Cycling Mode Assessment

Existing Conditions

Under the existing conditions, there are no dedicated cycling lanes along Mayfield Road, Kennedy Road and Heart Lake Road. However, there are existing multiuse trails along Mayfield Road from east of Kennedy Road to the east of Stonegate Drive that connects with Heart Lake off-road multiuse trail. The Etobicoke trail is on the west side of Kennedy Road running from north of Mayfield Road, west of Kennedy Road to Abbotside Way and then continue north along Kennedy Road.

Future Conditions

As indicated, as part of the capital road improvement for Mayfield Road, a 3.0 m multi-use path will be provided along both sides of Mayfield Road to the west of Kennedy Road, but only on the south side of Mayfield Road to the east of Kennedy Road. Nextrans recommends that the proposed 3.0 multi-use path should continue on the north side of Mayfield Road from Kennedy Road to Heart Lake Road. This should be included in the detailed design and construction of Mayfield Road.

It is our understanding that the Town is currently undertaking a Multi-Modal Transportation Master Plan and Active Transportation Master Plan, which will identify future requirement for Kennedy Road and Heart Lake Road including active transportation facilities. The proposed development east-west MUT that will connect to both Kennedy Road and Mayfield Road to connect with the future facilities as noted.

Proposed Development Initiatives

The following cycling initiatives will be provided by the proposed development:

- The proposed development is proposing a multiuse trail (MUT) that runs along the southerly limit of the proposed development located south of Hwy 410, east of Kennedy Road and west of Heart Lake Road. This MUT will connect to both Kennedy Road and Mayfield Road. The Town has indicated that this MUT should be connected to the Etobicoke Trail. At this time, this proposed MUT will be connected to the Snellview Boulevard/Kennedy Road intersection. Therefore, cyclists can connect to the Etobicoke Trail via the Snellview Boulevard intersection and the existing connection from Snellview Boulevard to the existing Etobicoke Trail.
- The proposed development provides short-term bicycle parking spaces and long-term bicycle parking spaces for the medium-high density and mixed-used component of the proposed development. This provision will encourage residents to use more sustainable modes of transportation instead of driving single-occupant-vehicles.
- The proposed development provides bicycle repair stations for the mixed-use and medium-high density blocks in the future. The numbers of the repair stations and locations will be determined at the site plan application for each associated block.

Transit Mode Assessment

The proposed development is expected to generate 38 two-way transit trips (11 inbound and 27 outbound) and 49 two-way transit trips (29 inbound and 20 outbound) during the AM and PM peak hours, respectively.

The analysis indicates that the transit passenger demands generated by the proposed development per transit vehicle is low due to limited transit opportunities in the area under the existing conditions. However, it is suggested that the Town of Caledon works with Brampton Transit to extend the existing Kennedy Bus Route 7/7A to service this future area.

Vehicle Parking Review

Based the applicable Zoning By-law requirement, the proposed development will be required to provide approximately 2,629 vehicle parking spaces for residential component. The non-residential component will be confirmed at the subsequent application stage. It is Nextrans' opinion that this requirement is very excessive, especially for the apartment component. Appropriate vehicle parking rates will be recommended at the site plan stage.

Bicycle Parking Review

It is Nextrans' understanding that the Town of Caledon currently does not have bicycle requirements in the current Zoning By-law. The Town comment indicates that bicycle parking rates should be established for the proposed development. For the starting point, the bicycle parking rates for this area should be similar to the City of Brampton. However, City of Brampton only has bicycle parking rates for the Hurontario Street/Steeles Avenue area.

Based on Nextrans' review of the City of Brampton's Zoning By-law No. 82-2012 as amended to Zoning By-law No. 270-2004 for the developments located along the Hurontario Street Corridor in the City of Brampton, 0.50 spaces per unit are required per dwelling units. If these are applied to the proposed development apartment component with 697 units, a total of 349 bicycle parking spaces (697 new units x 0.50 spaces/unit) would be required. A more detailed assessment will be provided at the subsequent stage of the proposed development and more detailed will be provided.

Transportation Demand Management Measures and Incentives

The TDM measures and incentives related to the proposed development have been assessed and recommended in Section 9 of this report to support active transportation and transit, to meet the objectives and requirements of the Town of Caledon and Peel Region sustainable transportation objectives.

Loading Requirement

The vehicle turning movement templates will be provided at the subsequent development stages.

Study Conclusions and Recommendations

Based on the findings of this Study, the following recommendations are provided:

- External Road Network for 2028 Horizon
 - Traffic signals should be provided for the Kennedy Road/Site Access #1 intersection by 2028;
 - Traffic signals should be provided for the Mayfield Road/Stonegate Drive/Site Access #3 intersection by 2028;
 - Full turning lanes at the intersection of Heart Lake Road/Site Access #2;
 - Westbound exclusive right turn at the Mayfield Road/Kennedy Road intersection; and
 - MTO to monitor the Hwy 410 Northbound Off-ramp in the future and potentially an additional northbound right turn lane may be required to accommodate heavy truck traffic that will be destined to the employment/warehousing land use areas to the east of Hwy 410.
- External Road Network for 2033 Horizon
 - All improvements identified for the 2028 horizon noted above;
 - The southbound double left turn and westbound exclusive right turn lanes should be provided for the Mayfield Road/Kennedy Road intersection prior to or by 2033; and
 - MTO to monitor the Hwy 410 Northbound Off-ramp in the future and potentially an additional northbound right turn lane may be required to accommodate heavy truck traffic that will be destined to the employment/warehousing land use areas to the east of Hwy 410.
- Improvements at the proposed development intersections
 - Provide traffic signals at the Kennedy Road/Snellview Boulevard/Site Access #1 intersection by 2028 or the completion of the proposed development. The proposed lane configurations include:
 - One exclusive northbound and southbound left turn lanes with minimum of 30 m storage length

- One exclusive westbound left turn lane with 15 m storage, a shared through/right and one inbound lane
 - Convert the existing eastbound exclusive right turn lane on Snellview Boulevard to a shared through/right lane
- Provide a full moves intersection at the Heart Lake Road/Site Access #2 with stop signs on the east-west direction. The lane configurations include:
 - One southbound and one northbound left turn lane with minimum of 30 m storage length and a shared northbound and southbound through/right lane
 - One westbound and one eastbound exclusive left turn lanes with minimum of 15 m storage and a shared westbound and eastbound through/right lane
- Provide traffic signals the Mayfield Road/Stonegate Drive/Site Access #3 intersection by 2028 or the completion of the proposed mixed-use development blocks. The proposed lane configurations include:
 - One exclusive westbound left turn with minimum of 30 m storage length and one exclusive eastbound left turn with minimum of 30 m storage
 - One exclusive southbound left turn with 15 m storage and a shared through/right, as well as one inbound lane be provided for the proposed Site Access #3
- Provide/maintain a westbound exclusive right turn and southbound double left turn lanes at the Mayfield Road/Kennedy Road intersection as part of the Mayfield Road widening project (2026).
- Other recommendations
 - The proposed development implements the TDM measures and incentives identified in this report to support active transportation and transit and to reduce the numbers of single-occupant-vehicle trips to and from the proposed development;
 - The proposed development provides 0.5 bicycle spaces/unit for the apartment component of the proposed development. This is similar to the City of Brampton Hurontario Street corridor bicycle parking requirement;
 - The Town and the Region provides 3.0 multi-use path on the north side of Mayfield Road from Kennedy Road to Heart Lake Road. This should be included in the detailed design and construction of Mayfield Road; and
 - The proposed development provides the recommended internal active transportation network, as provided in this Study.

Figure E1 – 2028 Proposed Improvements and Intersection Control Devices

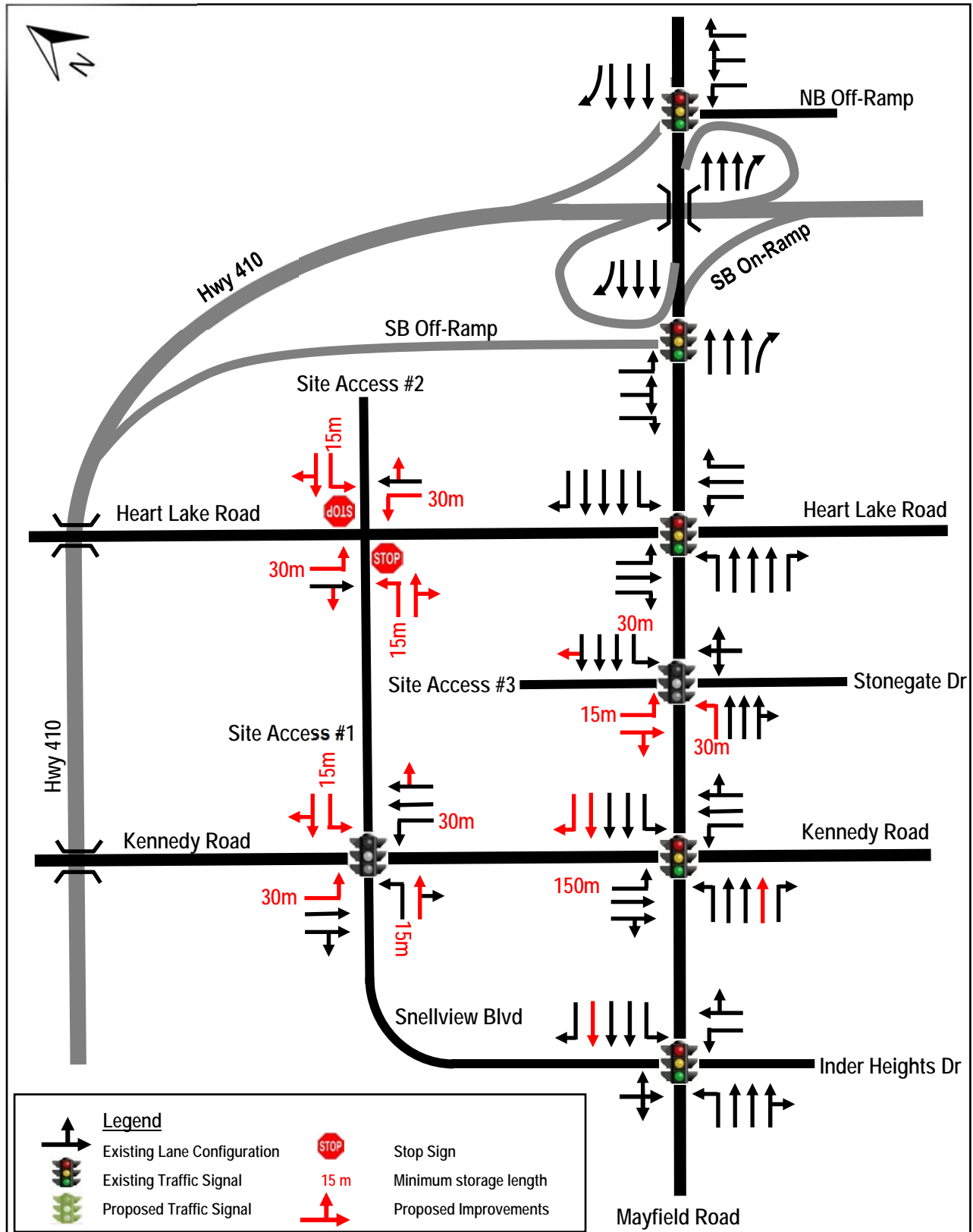


Figure E2 – 2033 Proposed Improvements and Intersection Control Devices

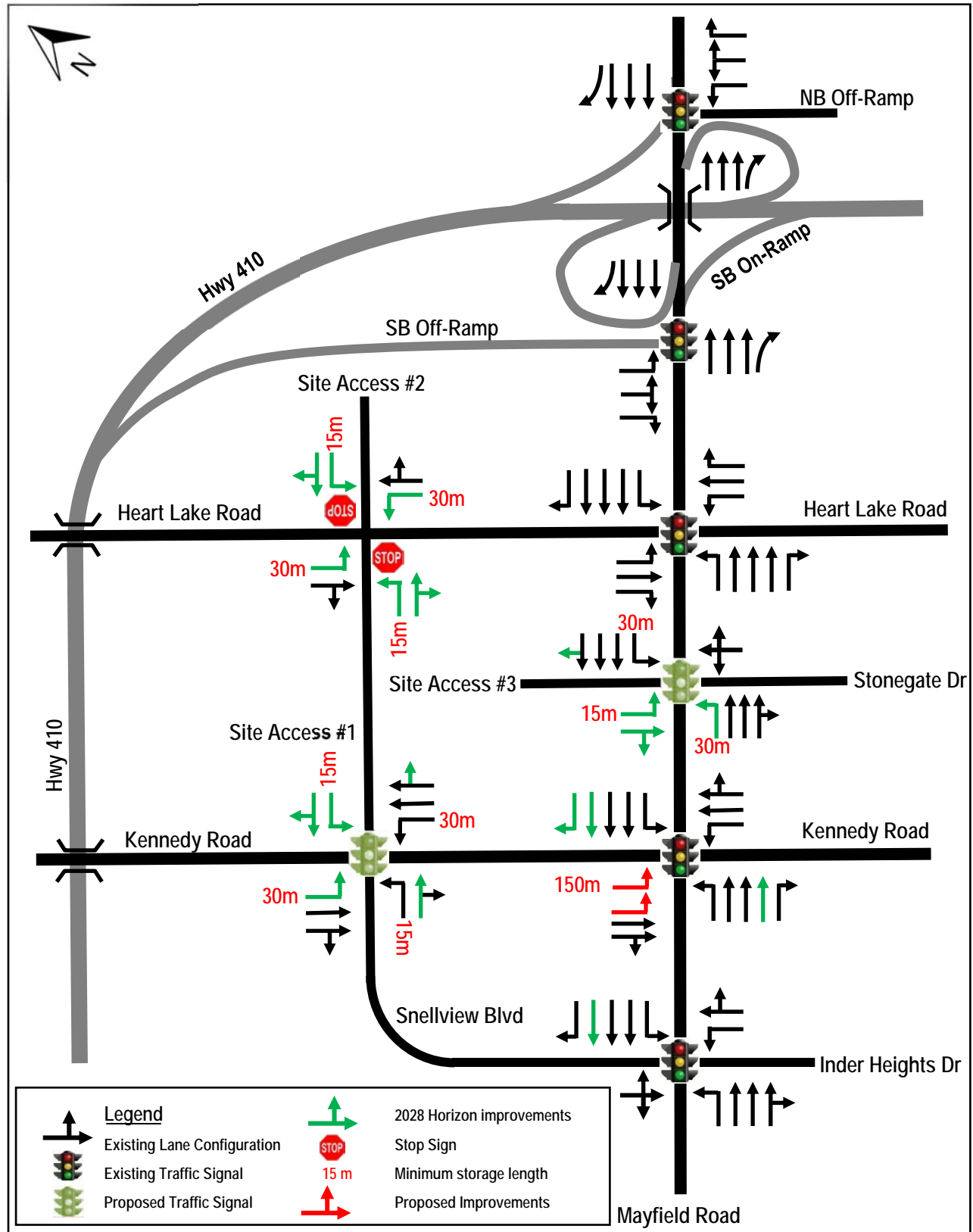


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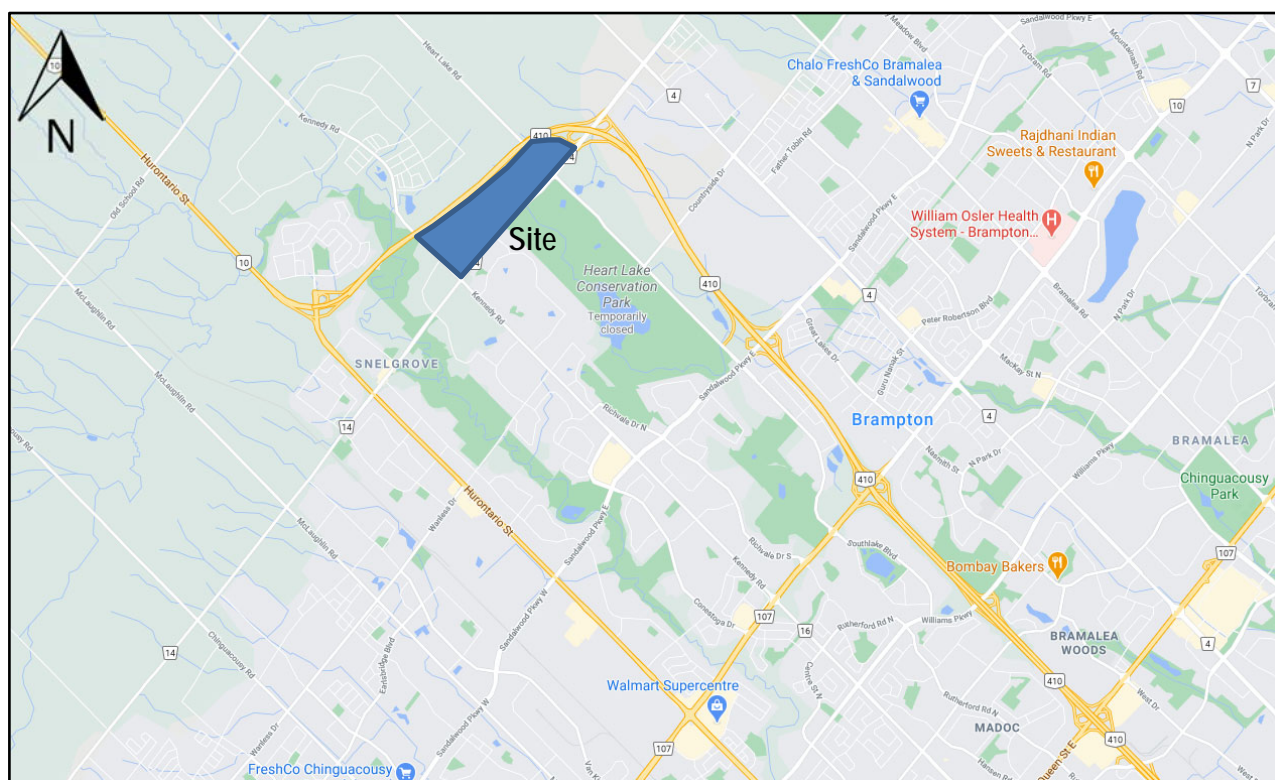
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1.0 INTRODUCTION

Nextrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained by Snell's Hollow Developers Group (the 'Client') to undertake a Transportation Impact Study Update in support of an Official Plan Amendment application for a proposed mixed-use. The purposes of this Study Update are to address the Town and the Region comments, as well as providing the assessment on the latest development proposal statistics and changes. It should be noted that Nextrans has provided a comprehensive Transportation Impact Study dated April, 2021 that supports the previous development proposal.

The subject lands are bounded by Highway 410 to the north, Highway 410 southbound off-ramp to the east, Kennedy Road to the west and Mayfield Road to the south, in the Town of Caledon. The location of the proposed development is illustrated in **Figure 1**. It should be noted that as part of the previous Study, a study terms of reference based on Peel Region, the Town of Caledon and MTO Traffic Impact Study Guidelines have been submitted to the Region and the Town staff. The Region and the Town have accepted with some comments on the proposed study methodology for the technical analysis and traffic turning movement count estimates (**Appendix A**).

Figure 1 – Proposed Development Location



Source: Google Map

Currently the subject site is mostly vacant, with two existing single-detached residential units and two farm houses (one on Kennedy Road and one on Heart Lake Road). To address the Province housing requirements and the current market conditions, the current development proposal consists of approximately 1,444 residential dwelling units of mixed types and approximately 496 jobs (expected 145 commercial land use jobs plus 351 work-from-home / no fixed employment).

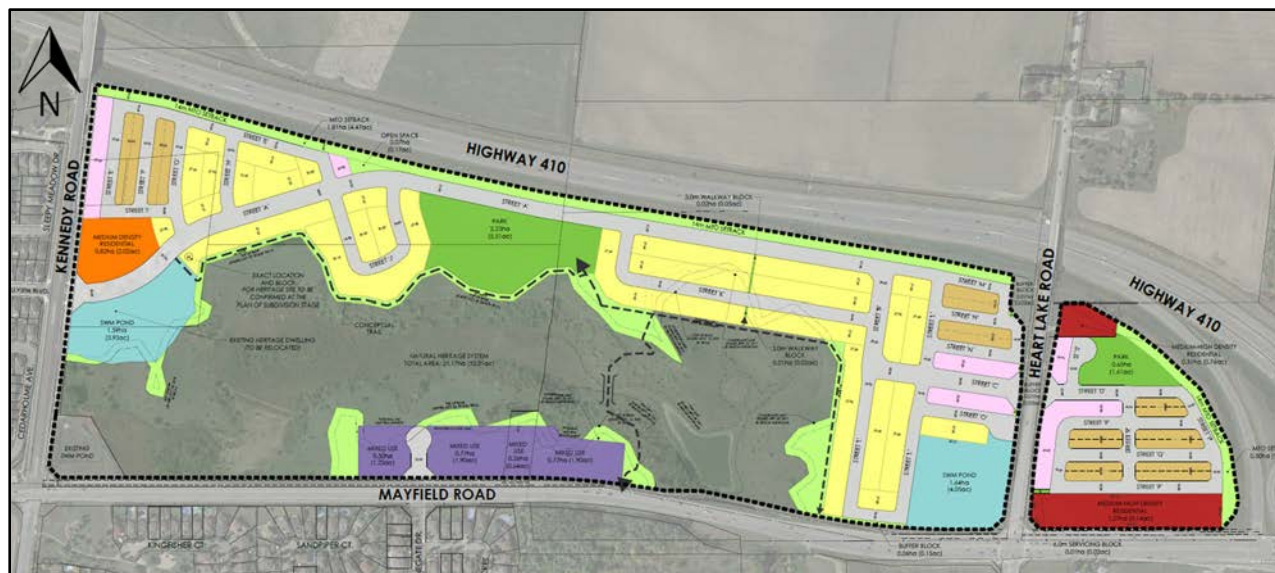
The following access arrangement will be provided to accommodate each block of the proposed development and the recommended lane configurations and traffic control types based on the findings of this Study:

- One full moves intersection onto Kennedy Road, opposite the existing Snellview Boulevard. This proposed intersection is located approximately 285 m from centreline of the Mayfield Road/Kennedy Road intersection;

- One full moves intersection onto Heart Lake Road is located approximately 215 m from the centreline of Mayfield Road/Heart Lake Road intersection;
- One access onto Mayfield Road to accommodate the proposed medium-high density residential and commercial parcel. This proposed access will be located opposite Stonegate Drive.

Figure 2 illustrates the proposed draft plan of subdivision.

Figure 2 – Proposed Draft Plan of Subdivision



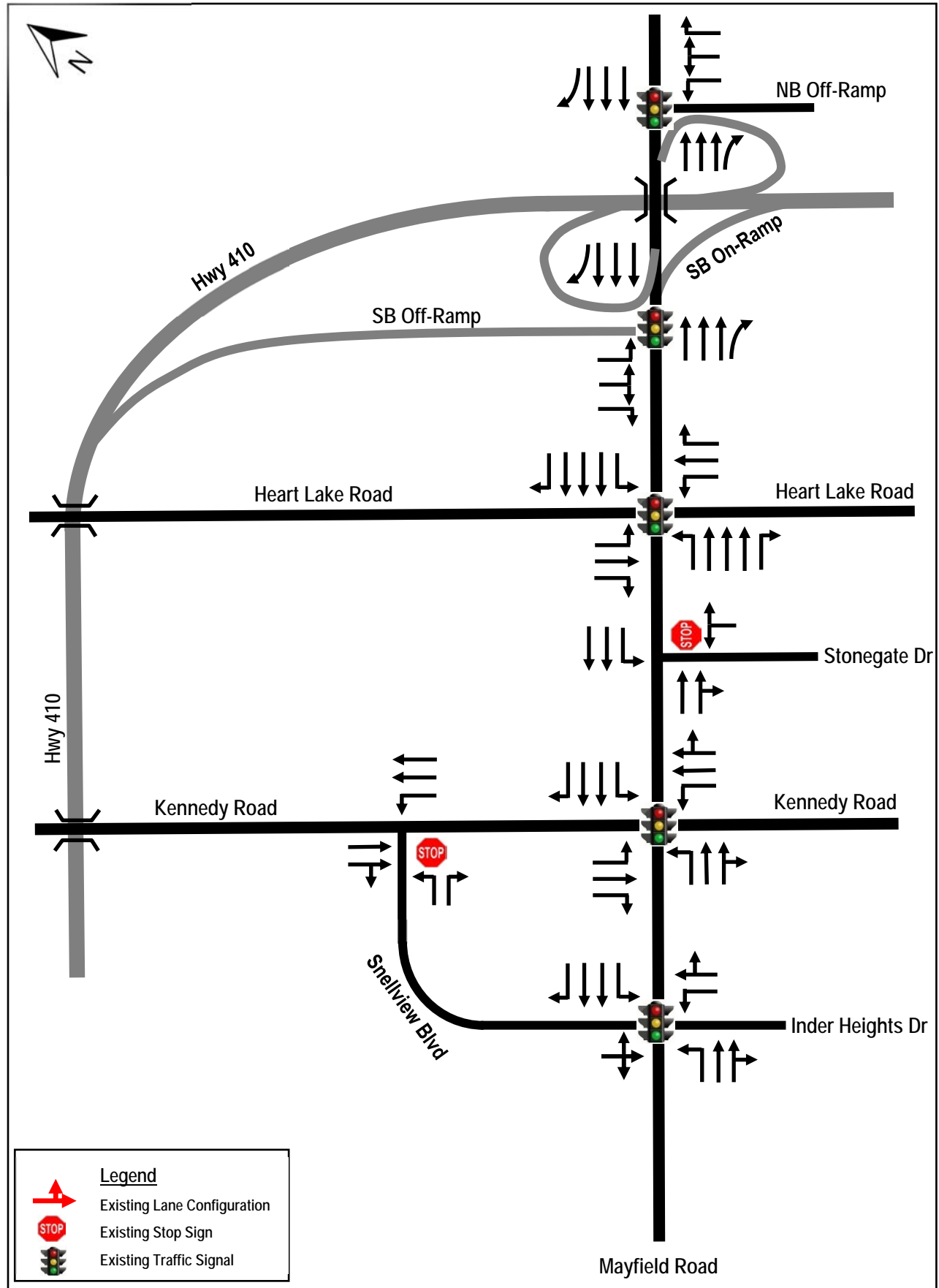
2.0 EXISTING TRAFFIC CONDITIONS

2.1. Existing Road Network

The existing road network, lane configuration and existing traffic control for the study area are shown in **Figure 3** (Existing Lane Configurations). The details area described below:

- **Mayfield Road:** is an east-west arterial road under the jurisdiction of Peel Region. It generally has a six-lane cross-section between Hwy 410 and approximately 280 m west of Heart Lake Road. After that, it generally has a four-lane cross-section with turning lanes at the major intersections in the vicinity of the proposed development. It maintains a posted speed limit of 60 km/h near the subject site.
- **Heart lake Road:** is a north-south arterial road under the jurisdiction of the Town of Caledon. It generally has two general purpose lanes north and south of Mayfield Road with turning lanes at the major intersections in the vicinity of the proposed development. The operation speed is 80km/h, as per the Town Official Plan.
- **Kennedy Road:** is a north-south arterial road under the jurisdiction of the Town of Caledon. It generally has two general purpose lanes north and south of Mayfield Road with turning lanes at the major intersections in the vicinity of the proposed development. The operation speed is 80km/h, as per the Town Official Plan.
- **Stonegate Drive:** is a north-south local road under the jurisdiction of the City of Brampton. It has two general purpose lanes and maintains a posted speed limit of 40 km/h near the subject site.
- **Snellview Boulevard:** is a north-south to east-west local road under the jurisdiction of the Town of Caledon. It has two general purpose lanes and maintains a posted speed limit of 40 km/h near the subject site.
- **Highway 410:** is a 400-Series Highway generally runs north-south under the jurisdiction of the Ontario Ministry of Transportation. It has four general purpose lanes and maintains a posted speed limit of 100 km/h near the subject site.

Figure 3 – Existing Lane Configuration and Traffic Control



2.2. Active Transportation Network Assessment

2.2.1. Walking Mode Assessment

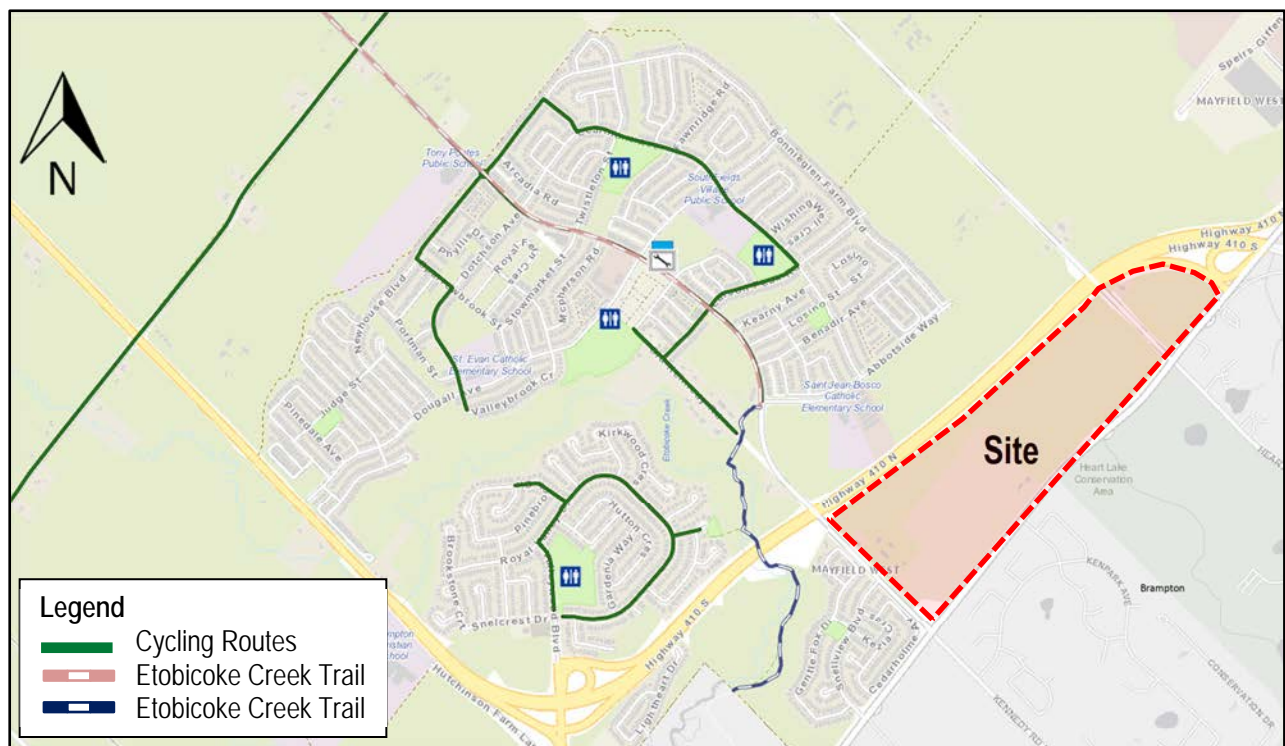
Currently, sidewalk is available on the east side on Kennedy Road, north and south of Mayfield Road. Sidewalks are currently provided on both sides of Snellview Boulevard and Stonegate Drive. However, no sidewalks are currently provided along Mayfield Road and Heart Lake Road in the area. As part of this Study, Nextrans will assess and identify potential sidewalk improvements within the proposed draft plan of subdivisions to accommodate the proposed development.

2.2.2. Cycling Mode Assessment

Under the existing conditions, there are no dedicated cycling lanes along Mayfield Road, Kennedy Road and Heart Lake Road. However, there are existing multiuse trails along Mayfield Road from east of Kennedy Road to the east of Stonegate Drive that connects with Heart Lake off-road multiuse trail. The Etobicoke trail is on the west side of Kennedy Road running from north of Mayfield Road, west of Kennedy Road to Abbotside Way and then continue north along Kennedy Road.

As part of this Study, Nextrans will assess and identify potential cycling facility improvements within the proposed draft plan of subdivision to accommodate the proposed development. **Figure 4** illustrates the existing active transportation network in the study area based on the Town of Caledon Trails and Cycling Routes and our site visit.

Figure 4 – Existing Cycling Network in the Study Area



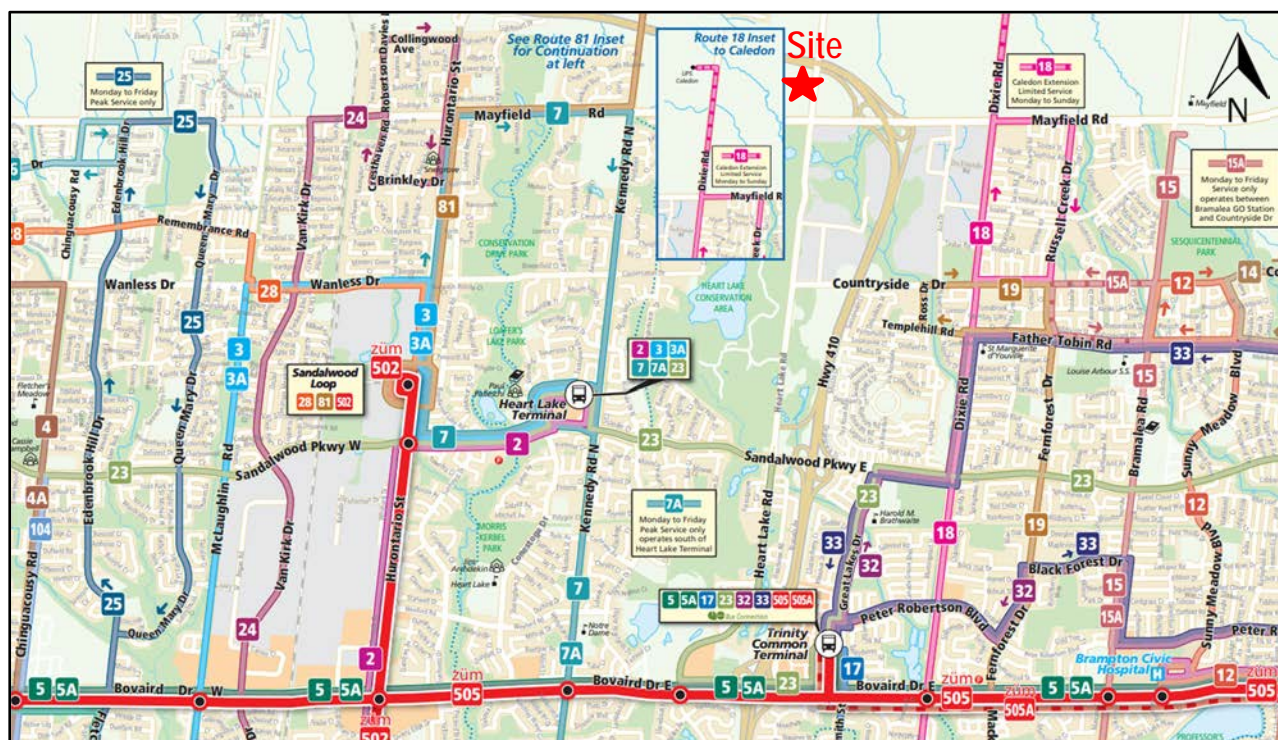
Source: Town of Caledon Trails & Cycling Routes (<https://maps.caledon.ca/h5/index.html?viewer=Trails.Trails>)

2.2.3. Transit Mode Assessment

Currently, the Town of Caledon does not have its own transit system, it is dependent on the Metrolinx and City of Brampton Transit for inter-regional transit connections and trips. The proposed development is located adjacent to Brampton Transit Bus Routes 81 Mayfield West, 18 Dixie and 7/7A Kennedy. In addition, the site is located about 8.5

km to the existing Brampton GO Train Station and about 10.0 km to the existing Mount Pleasant GO Train Station. The existing transit network in the area is illustrated in Figure 5.

Figure 5 – Existing Transit Network in the Study Area



Source: Brampton Transit Map System (https://www.brampton.ca/EN/residents/transit/plan-your-trip/Documents/Brampton_System_M-F_2024.pdf)

The existing Brampton Transit Route descriptions are provided below:

- Route 7/7A Kennedy** – This route is operating between Kennedy Road north of Derry Road in Mississauga to Hurontario Street at 11975 Hurontario Street (south of Mayfield Road) in Brampton. This route generally operates in the north-south direction on Kennedy Road and Hurontario Street, and east-west direction on Conestoga Drive and Sandalwood Parkway East from Monday to Sunday, with an approximate frequency of 7-minute during the peak periods. The proposed development centre is located approximately 2.6km from this route.
- Route 18 Dixie** – This route is operating between Meyerside Drive at Dixie Road in Mississauga to Dixie Road at UPS in Caledon. This route generally operates in the north-south direction, from Monday to Sunday, with an approximate frequency of 7-minute during the peak periods. The proposed development centre is located approximately 2km from this route.
- Route 81 Mayfield West** - This route is operating between Sandalwood Loop in Brampton to Kennedy Road North and Newhouse Boulevard. This route generally operates in the north-south direction on Hurontario Street and Kennedy Road, and east-west on Mayfield Road, from Monday to Sunday, with an approximate frequency of 45-minute during the peak periods. The proposed development centre is located less than 900m from this route.

Based on Nextrans review of the existing Brampton Transit Map as of July 2020, as well as Metrolinx GO Expansion project along the Kitchener Line, when Brampton Transit and GO Transit resume to full operation post-pandemic, it is Nextrans' opinion that transit service is excellent in the area there is no noticeable constrain in service at this time. In addition, with the future GO Expansion projects, it will provide viable options for the existing and future residents with longer distance and inter-regional trips.

2.3. Existing Traffic Volumes

The most recent existing traffic volumes at the study area intersections were obtained from Spectrum for the following intersections in the study area (included in **Appendix B**). It is our understanding that these counts were conducted for Peel Region:

- Mayfield Road and Kennedy Road (signalized) – Count date Wednesday June 1, 2022
- Mayfield Road and Heart Lake Road (signalized) – Count date Wednesday June 1, 2022
- Mayfield Road and Hwy 410 Southbound Off-Ramp (signalized) – Count date Tuesday June 21, 2022
- Mayfield Road and Hwy 410 Northbound Off-Ramp (signalized) – Count date Tuesday June 21, 2022
- Mayfield Road and Stonegate Drive (unsignalized) – Count date Tuesday October 18, 2022
- Mayfield Road and Snellview Boulevard/Inder Heights Drive (signalized) – Count date Wednesday May 17, 2023

The turning movement counts were conducted during the morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) peak periods for all area intersections.

Nextrans contacted Peel Region and obtained the growth rates for the area under both medium term and longer term. The Region has indicated that the growth rate for Mayfield Road east of Kennedy Road is 1.5% per annum between 2016 and 2021 and 5% between 2021-2031. This growth rate is estimated based on multiple sources including Peel Travel Demand forecasting model, ATR and land use/forecasts data. Nextrans contacted the Town of Caledon for available existing traffic counts at the Kennedy Road/Snellview Boulevard intersection. However, it is Nextrans' understanding that recent traffic counts are not available at this intersection at this time. For purposes of this assessment, the traffic turning movement counts at this intersection will be estimated based on:

- Trip generation for the existing homes in the north-west quadrant of the Kennedy Road/Mayfield Road intersection (approximately 250 single-detached family homes) based on Institute of Transportation Engineers Trip Generation Manual, 10th Edition (to be consistent with the previous analysis);
- Existing traffic counts on Kennedy Road north of Mayfield Road; and
- Existing traffic turning movement counts at Mayfield Road/Snellview Boulevard/Inder Heights Drive intersection

Table 1 summarizes the trip generation for the existing Snellview Boulevard subdivision.

Table 1 – Snellview Subdivision Trip Generation

ITE Land Use	Magnitude (units)	Parameters	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing LUC 210 General Urban/Suburban	250	Trip Rates	0.18	0.55	0.73	0.62	0.36	0.98
		<i>Total Trips</i>	<i>46</i>	<i>136</i>	<i>182</i>	<i>154</i>	<i>91</i>	<i>245</i>

It is estimated that the existing Snellview subdivision currently generates 182 and 245 two-way auto trips during the morning and afternoon peak periods, respectively. The trip distribution and assignment are based on the existing traffic turning movement counts and 2016 TTS data as included in **Appendix E**. Turning movement counts are included in **Appendix B**, using the methodology noted above. The existing volumes are illustrated in **Figures 6A** and **6B**, for the morning and afternoon peak hours, respectively.

2.4. Existing Traffic Assessment

The existing volumes in **Figures 6A** and **6B** were analyzed using Synchro Version 11 software. It should be noted that the printouts for unsignalized intersections are based on HCM 2000 outputs and the results for signalized intersections are based on Synchro Lanes, Volumes and Timings so that queues and more detailed information are provided. As requested by the Town, the existing conditions have been calibrated to ensure that the analysis reflect the field conditions and match the theoretical intersection capacity based on the existing counts.

The detailed results are provided in **Appendix C** and summarized in **Table 2**. The analysis reflects the existing signal timing plans provided by Peel Region. The Town has requested that queueing analysis be conducted using SimTraffic software. To address this comment, the SimTraffic queueing analysis is included in **Appendix J**.

Table 2 – Existing Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Available Storage Length
		LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	
Mayfield Road/ Kennedy Road (Signalized)	Overall	C (0.89)	35		D (0.88)	41		
	EB – L	C (0.42)	23	63	D (0.72)	42	61	~45
	EB – TR	D (0.79)	41	251	C (0.59)	32	168	~390
	WB – L	C (0.37)	23	39	C (0.53)	25	117	~85
	WB – T	D (0.54)	41	111	D (0.71)	48	537	~520
	WB – R	B (0.51)	15	60	D (0.88)	41	51	~60
	NB – L	C (0.39)	33	32	E (0.58)	66	56	~45
	NB – TR	C (0.66)	31	64	E (0.75)	58	83	~515
	SB – L	D (0.89)	45	181	D (0.88)	50	168	~150
Mayfield Road/ Heart Lake Road (Signalized)	SB – T	D (0.65)	41	272	C (0.31)	31	273	~250
	SB – R	A (0.37)	4	82	A (0.32)	4	108	~250
	Overall	B (0.69)	12		C (0.86)	21		
	EB – L	A (0.11)	8	19	B (0.21)	20	25	~125
	EB – T	A (0.38)	9	55	B (0.34)	17	55	~240
	EB – R	A (0.44)	1	58	A (0.26)	8	25	~200
	WB – L	A (0.24)	6	30	A (0.09)	7	16	~160
	WB – T	A (0.21)	5	41	B (0.41)	11	76	~310
	WB – R	A (0.01)	0	5	A (0.03)	1	11	~160
Mayfield Road/ Snellview Blvd/Inder Heights Drive (Signalized)	NB – L	E (0.69)	66	163	E (0.86)	64	143	~125
	NB – T	D (0.04)	50	400	D (0.09)	41	564	~450
	NB – R	A (0.10)	3	14	A (0.06)	0	13	~60
	SB – L	E (0.25)	66	19	E (0.46)	72	25	~85
	SB – T	E (0.49)	73	33	E (0.23)	61	21	~800
	SB – R	B (0.34)	14	20	C (0.59)	34	35	~90
	Overall	A (0.61)	5		A (0.46)	3		
	EB – L	A (0.12)	3	21	A (0.19)	3	21	~45
	EB – TR	A (0.41)	3	64	A (0.35)	3	52	~100
Mayfield Road/ Hwy 410 SB Off-Ramp (Signalized)	WB – L	A (0.04)	2	9	A (0.04)	1	7	~45
	WB – T	A (0.30)	1	24	A (0.37)	1	21	~390
	WB – R	A (0.01)	0	3	A (0.01)	0	3	~45
	NB – L	F (0.40)	82	15	E (0.18)	64	12	~45
	NB – TR	C (0.11)	31	10	C (0.11)	30	10	~130
Mayfield Road/ Hwy 410 NB Off-Ramp (Signalized)	SB – LTR	C (0.61)	30	38	C (0.46)	23	21	~95
	Overall	B (0.59)	10		A (0.41)	7		
	EB – T	A (0.34)	7	42	A (0.23)	4	34	~300
	WB – T	A (0.26)	6	39	A (0.41)	5	41	~425
	SB – L	C (0.59)	27	40	C (0.38)	27	28	~175
Kennedy Road/ Snellview Boulevard (Unsignalized)	SB – R	A (0.13)	9	14	B (0.07)	13	21	~110
	Overall	C (0.89)	24		C (0.88)	27		
	EB – T	B (0.43)	15	71	B (0.33)	17	65	~425
	WB – T	B (0.38)	15	91	C (0.66)	22	131	~195
	NB – L	C (0.70)	35	86	D (0.84)	37	108	~465
Mayfield Road/ Stonegate Drive (Unsignalized)	NB – R	D (0.89)	55	82	D (0.88)	44	100	~90
	EB – L	F (0.05)	101	4	F (0.03)	62	3	~15
	EB – R	C (0.16)	16	22	B (0.06)	10	15	~90
	NB – L	B (0.06)	13	14	A (0.07)	9	14	~30
	NB – T	A (0.35)	0	0	A (0.58)	0	0	~475
Mayfield Road/ Stonegate Drive (Unsignalized)	SB – T	A (0.56)	0	46	A (0.21)	0	6	~500
	SB – TR	A (0.28)	0	38	A (0.11)	0	0	~500
	EB – TR	A (0.67)	0	1	A (0.50)	0	1	~520
	EB – T	A (0.34)	0	3	A (0.26)	0	18	~520
	WB – L	C (0.06)	15	11	B (0.12)	13	154	~190
Mayfield Road/ Stonegate Drive (Unsignalized)	WB – T	A (0.30)	0	0	A (0.49)	0	9	~800
	NB – LR	D (0.34)	27	19	C (0.18)	18	17	~200

Based on the intersection capacity analysis, under the existing traffic conditions, the following observations are made:

- The signalized intersection of Mayfield Road and Kennedy Road is currently operating at acceptable levels of service during the morning and afternoon peak hour, with no v/c ratio above 1.0. The southbound left turn movement is currently operating with slightly higher delay during both peak hours. This is due to heavy through and southbound left turn volumes. However, this is expected for this major intersection along Mayfield Road during the peak hours. Given the heavy turning movement volumes for the southbound, a double left turn lane, signal timing optimization and planned improvements along Mayfield Road will be required in the future to mitigate these operational issues. This will be reviewed under the future horizon years.
- The signalized intersection of Mayfield Road and Heart Lake Road is currently operating at acceptable levels of service during both the morning peak hour and afternoon peak hours, with no critical movements;
- The signalized intersection of Mayfield Road and Snellview Blvd/Inder Heights Drive is currently operating at acceptable levels of service during both the morning peak hour and afternoon peak hours;
- The existing Hwy 410 southbound off-ramp and northbound off-ramp are current operating at acceptable levels of services; and
- Both of the unsignalized intersections at Kennedy Road/Snellview Blvd and Mayfield Road/Stonegate Drive are currently operating at acceptable levels of service. The eastbound left turn out of Snellview Blvd onto Kennedy Road is currently operating at higher delay due to the heavy through traffic on Kennedy Road. However, the volume is very low and this is a typical condition for an unsignalized intersection along Kennedy Road.

The analysis indicates that no improvements are required under the existing traffic conditions based on the latest traffic turning movement counts.

3.0 TRANSPORTATION PLANNING CONTEXT IN THE AREA

3.1. Land Use Context

A comprehensive review of the general area indicates that the area is relatively new and comprises mostly residential development to the north and south of Hwy 410, as well as automall and employment to the east of Hwy 410. The majority of the existing shopping centres are located south of Mayfield Road along Hurontario Street and Kennedy Road corridors. As the majority of the proposed development is residential, with a proposed neighbourhood commercial, it has similar transportation characteristics as the existing developments to the north and south of the subject site.

3.2. Transportation Planning Context

As indicated, the subject lands are bounded by Highway 410 to the north, Highway 410 southbound off-ramp to the east, Kennedy Road to the west and Mayfield Road to the south, in the Town of Caledon. The area is currently servicing by Highway 410 for northbound and southbound longer distance travel, as well as Kennedy Road, Heart Lake Road and Mayfield Road for shorter distance travel to and from the area. There are proposed road improvements along Mayfield Road, with the proposed widening from its current 4-lane to 6-lane cross-section by 2026 to accommodate east-west traffic in the area.

The proposed development is located adjacent to Brampton Transit Bus Routes 81 Hurontario, 7/7A Kennedy and 24 Van Kirk. In addition, the site is located about 8.5 km to the existing Brampton GO Train Station and about 10.0 km to the existing Mount Pleasant GO Train Station. There are existing sidewalk facilities along Kennedy Road and multiuse trails along Mayfield Road and Kennedy Road.

It is our understanding that the Town of Caledon is currently undertaking a Multi-Modal Transportation Master Plan and Active Transportation Master Plan, which will identify future transportation requirements, including active transportation facilities, for Kennedy Road and Heart Lake Road.

It is Nextrans' opinion that the area is currently servicing by excellent transportation road network. The future transit and active transportation network will be improved and developed over time as the area builds up. Supportive land uses are required to support the ridership, as well as development charges to pay for the infrastructure to support growth in the Town of Caledon.

3.3. Hurontario Light-Rail-Transit (LRT) - Expected Completion 2024

It is Nextrans' understanding that Metrolinx is partnered with the City of Mississauga and the City of Brampton to build the new 18-km Hurontario LRT (19 stations) that services Mississauga and Brampton with better and more convenient way of travel. Based on the project website information (<http://www.metrolinx.com/en/greaterregion/projects/hurontario-lrt.aspx>) Metrolinx and Infrastructure Ontario (IO) have officially announced the winning bidder for the Hurontario Light Rail Transit project. Mobilinx, the winning team, will design, build, finance, operate and maintain the new transit project for a 30-year term. Metrolinx has announced the naming the Hurontario light-rail-transit (LRT) project as the Hazel McCallion Line, to commemorate the former Mississauga mayor. The project will continue to be referred to as the Hurontario LRT project while construction is underway, but will adopt the name once the line opens.

Once in service, the 18-kilometre Hazel McCallion Line will bring a new, environmentally friendly and reliable method of transportation to a rapidly growing region. The new transit system will feature 19 stations, travel through two urban growth centres and connect to major transit systems including GO Transit (Milton and Lakeshore West lines), the Mississauga Transitway, Brampton Transit, ZUM and MiWay. The Hazel McCallion Line will operate in its own dedicated lane ensuring a smooth, reliable and convenient ride along the region's busiest street. As Peel Region expands with new residents, businesses and amenities, sustainable and reliable transit becomes vital. The Hazel McCallion Line will operate with clean, electrically powered light rail vehicles, producing near zero emissions. So, not only does the LRT line get cars off the road, but it's a more sustainable, environmentally conscious way to travel. This project will further encourage existing and future residents to take more convenient and sustainable mode of transportation in transit, instead of driving single-occupant-vehicles.

3.4. Future Main LRT

Based on the information obtained from the City of Brampton's website (www.brampton.ca), it is Nextrans' understanding that, at the June 23 Committee of Brampton Council Meeting, staff presented Brampton Council the preferred surface and preferred underground options along Main Street as part of the Hurontario Main LRT Extension EA Study. Council unanimously directed that staff move forward with two preferred alignments one surface and one tunnel for the 30% preliminary design and draft environmental project report for the Light Rail Transit (LRT) extension from Steeles Avenue to Downtown Brampton. In addition, Brampton Council unanimously supported the tunnel option as the preferred alignment to advance funding advocacy with the current provincial and federal governments.

4.0 FUTURE BACKGROUND CONDITIONS

4.1. Analysis Horizon

The full build-out of the proposed development is expected to be completed by 2028. For the purposes of this assessment, the 2028 and 2033 horizons have been carried out for the study analysis. This is consistent with Peel Region, Town of Caledon, City of Brampton and MTO Traffic Impact Study Guidelines and other background studies conducted in the area.

4.2. Widening of Mayfield Road to Accommodate Growth

It is Nextrans' understanding that Peel Region has completed the widening of Mayfield Road from 300m east of Bramalea Road to Airport Road, including the intersection of Mayfield Road at Torbram Road. The Region is also planning to widen Mayfield Road from Heart Lake Road to Chinguacousy Road by 2026 from existing 4-lane cross-section to 6-lane cross-section with 3.0 m multi-use path on the south side of Mayfield Road. However, it should be noted that:

- At the Mayfield Road/Snellview Blvd/Inder Heights Drive intersection, there will be three lanes in the eastbound direction, with the curb lane to be a shared through/right. In the westbound direction, there will be three through lane plus an exclusive right turn lane; and
- At the Mayfield Road/Kennedy Road intersection, there will be three lanes in the eastbound direction plus an exclusive right turn lane. However, in the westbound direction, there will be three through lane with the curb lane to be shared through/right.

Given that the Environmental Study Report (ESR) for this section of Mayfield Road was completed and file in July, 2014, the traffic volumes estimated in the ESR are quite old. For the purposes of this assessment, Nextrans will estimate the background traffic based on the modelling data using land use forecasts and other historical count information. This forecast and analysis will provide inputs into the future detailed design process for Mayfield Road, as well as any additional improvements at Kennedy Road and Heart Lake Road that could incorporated into the drawings and potentially construction.

4.3. Future Background Corridor Growth

Nextrans has received the growth rates information from Peel Region and the Town of Caledon. The growth rate information is provided in **Appendix D**. It is anticipated that:

- Mayfield Road – 5.0% growth per annum between 2021 and 2031
- Kennedy Road and Heart Lake Road – 2.0% per annum

Based on various discussion with the Regional staff, these growth rates are estimated based on multiple sources including Peel Travel Demand forecasting model, ATR and land use/forecasts data for each traffic zones (2006 Traffic Zones). These rates also assumed a road widening of Mayfield Road from 2 to 3 lanes in each direction by 2026. The information above indicates that there will be a significant growth in background traffic in the Study area, for both Mayfield Road, Kennedy Road and Heart Lake Road. For the purposes of this assessment, a 2% growth rate per annum will also be applied to Highway 410 ramps, which will be applied to all movements. This is mostly related to through traffic growth in the area and not related to the background developments.

Background development traffic volumes will be added separately to the ramps, where appropriate. It should be noted that these growth rates will be compounded and applied to all movements at the intersections included in the Study Area, with the exception of the Snellview Boulevard and Stonegate Drive as these subdivisions are already completed and no growth is expected in these existing and established neighbourhood. Since the growth rate forecasts were based on the land use forecasts using population and employment data in each traffic zones, the subject lands population and employment forecasts were also included in the growth rates provided by the Region and the Town. Given that these population and land use forecasts were not taken out as part of the growth rate forecast, the analysis is conservative and may represent over estimation of the traffic volumes in the Study Area.

Figures 7A and 7B illustrate the 2028 background corridor growth, with **Figures 8A and 8B** illustrating the 2033 background corridor growth.

4.4. Background Development Applications

As indicated in Section 4.3 above, the forecasted growth rates for Mayfield Road and other major roads and highway in the area also included the land use forecast data for the traffic zones in the Study Area and beyond. Therefore, the growth rates provided above also included all the anticipated population and employment growth from the background developments in the area. However, for completeness and address the terms of reference comments from Peel Region, a full review of active developments within the study area was conducted based on the information extracted from the Town of Caledon and City of Brampton Development Portal, as well some information from Peel Region. However, it should be noted that these development site traffic will be applied to the turning movements only and some through traffic, however, most of the through traffic volumes will be captured through very high growth rates provided by Peel Region and Town of Caledon. The two immediate proposed developments that will impact the turning movements are the proposed residential subdivision (17014B) located at the south-west quadrant of the Kennedy Road/Mayfield Road

intersection (currently under appeal) and the “proposed west employment lands countryside villages” located south of Mayfield Road, east of Heart Lake Road. The background traffic volume estimates are provided in **Appendix E**. There two proposed subdivisions that are located at 2256 Mayfield Road and 2650 Mayfield Road (west of Hurontario Street). These subdivisions are located further away from the study area and it is expected that the site generated traffic will be capture through the very high growth rate along Mayfield Road.

Figures 9A and 9B illustrate the 2028 future background traffic volumes, with **Figures 10A and 10B** illustrating the 2033 future background traffic volumes.

4.5. Future Background Traffic Assessment

The estimated 2028 and 2033 future background traffic volumes that are illustrated in **Figures 9A** through **10B** (background corridor growth + background development traffic) were analyzed using Synchro Version 11 software. The detailed calculations are provided in **Appendix F** and summarized in **Table 3** and **Table 4** for 2028 and 2033 horizons, respectively. It should be noted that given that the widening of Mayfield Road is expected to be completed by 2026, the analysis will reflect the widening of Mayfield Road through the study area. However, additional improvements beyond what have been identified in the ESR will be identified for both horizon years. As road widening will automatically require signal timing optimization in the 2026 horizon based on the actual traffic counts at that time, however, Nextrans will provide an initial signal timing plan and optimization to assist the Regional staff to review and have an idea the signal timing requirements in the future.

Table 3 – 2028 Future Background Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Available Storage Length
		LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	
Mayfield Road/ Kennedy Road (Signalized)	Overall	D (0.94)	40		D (0.98)	46		
	EB – L	C (0.51)	27	64	E (0.80)	63	52	~45
	EB – TR	D (0.85)	47	383	D (0.63)	36	484	~390
	WB – L	C (0.47)	30	33	D (0.72)	38	114	~85
	WB – T	D (0.68)	50	106	D (0.79)	52	641	~520
	WB – R	B (0.65)	18	59	D (0.98)	53	48	~60
	NB – L	C (0.44)	34	33	E (0.61)	66	67	~45
	NB – TR	D (0.73)	37	69	E (0.78)	59	214	~515
	SB – L	D (0.94)	50	181	D (0.89)	47	170	~150
	SB – T	D (0.69)	39	303	C (0.31)	27	327	~250
	SB – R	A (0.39)	5	172	A (0.33)	5	328	~250
Mayfield Road/ Heart Lake Road (Signalized)	Overall	B (0.77)	15		C (0.95)	24		
	EB – L	B (0.20)	12	21	D (0.47)	40	23	~125
	EB – T	B (0.61)	14	92	C (0.47)	22	64	~240
	EB – R	A (0.54)	1	105	A (0.30)	9	70	~200
	WB – L	C (0.53)	24	62	A (0.19)	9	18	~160
	WB – R	A (0.28)	6	48	B (0.55)	13	89	~310
	WB – T	A (0.01)	0	5	A (0.04)	1	9	~160
	NB – L	E (0.77)	72	133	E (0.95)	77	135	~125
	NB – T	D (0.04)	50	548	D (0.10)	40	545	~450
	NB – R	A (0.14)	7	16	B (0.14)	10	24	~60
	SB – L	E (0.27)	65	19	E (0.49)	72	26	~85
	SB – T	E (0.52)	73	37	E (0.23)	59	19	~800
	SB – R	B (0.37)	17	19	D (0.64)	40	34	~90
Mayfield Road/ Snellview Blvd/Inder Heights Drive (Signalized)	Overall	A (0.63)	5		A (0.48)	3		
	EB – L	A (0.17)	4	22	A (0.30)	6	64	~45
	EB – TR	A (0.38)	3	68	A (0.33)	2	142	~100
	WB – L	A (0.08)	2	10	A (0.10)	1	14	~45
	WB – T	A (0.28)	1	27	A (0.35)	1	17	~390
	WB – R	A (0.01)	0	3	A (0.01)	0	2	~45
	NB – L	F (0.63)	105	25	E (0.24)	65	15	~45
	NB – TR	C (0.17)	26	11	C (0.15)	27	12	~130
Mayfield Road/ Hwy 410 SB Off-Ramp	Overall	A (0.62)	11		A (0.56)	7		
	EB – T	A (0.46)	8	65	A (0.32)	5	46	~300
	WB – T	A (0.39)	7	50	A (0.56)	7	53	~425

(Signalized)	SB – L	C (0.62)	28	42	C (0.41)	27	29	~175
	SB – R	B (0.16)	10	39	C (0.09)	21	23	~110
Mayfield Road/ Hwy 410 NB Off-Ramp (Signalized)	Overall	C (0.90)	28		D (0.97)	39		
	EB – T	C (0.61)	20	101	C (0.49)	21	90	~425
	WB – T	B (0.54)	19	108	D (0.95)	40	200	~195
	NB – L	D (0.88)	41	109	D (0.89)	42	169	~465
	NB – R	E (0.90)	56	99	E (0.97)	64	108	~90
Kennedy Road/ Snellview Boulevard (Unsignalized)	EB – L	F (0.08)	163	5	F (0.17)	369	6	~15
	EB – R	C (0.17)	18	46	B (0.09)	12	131	~90
	NB – L	B (0.06)	14	16	B (0.11)	11	19	~30
	NB – T	A (0.40)	0	0	A (0.77)	0	0	~475
	SB – T	A (0.61)	0	135	A (0.37)	0	384	~500
	SB – TR	A (0.31)	0	116	A (0.19)	0	369	~500
Mayfield Road/ Stonegate Drive (Unsignalized)	EB – TR	A (0.54)	0	75	A (0.40)	0	2	~520
	EB – T	A (0.28)	0	14	A (0.21)	0	22	~520
	WB – L	C (0.09)	23	2	C (0.18)	17	250	~190
	WB – T	A (0.27)	0	2	A (0.44)	0	17	~800
	NB – LR	D (0.39)	32	28	C (0.19)	19	19	~200

Table 4 – 2033 Future Background Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Available Storage Length
		LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	
Mayfield Road/ Kennedy Road (Signalized)	Overall	E (1.14)	70		E (1.11)	56		
	EB – L	D (0.60)	38	66	F (0.92)	82	53	~45
	EB – TR	F (1.14)	112	421	D (0.85)	45	480	~390
	WB – L	C (0.49)	31	51	D (0.81)	41	118	~85
	WB – T	E (0.99)	78	143	E (0.98)	58	621	~520
	WB – R	C (0.81)	33	58	F (1.11)	86	48	~60
	NB – L	C (0.47)	34	35	E (0.62)	66	69	~45
	NB – TR	D (0.77)	44	76	E (0.79)	59	372	~515
	SB – L	E (1.01)	66	167	E (0.95)	57	166	~150
	SB – T	C (0.72)	39	307	C (0.32)	26	304	~250
	SB – R	A (0.42)	7	289	A (0.35)	6	323	~250
Mayfield Road/ Kennedy Road (Signalized) With Southbound Double Left	Overall	D (0.91)	39		D (0.96)	43		
	EB – L	C (0.64)	28	50	F (0.92)	83	52	~45
	EB – TR	D (0.83)	38	381	C (0.66)	31	493	~390
	WB – L	C (0.47)	25	39	C (0.80)	32	103	~85
	WB – T	C (0.50)	33	104	D (0.80)	40	560	~520
	WB – R	B (0.50)	12	59	D (0.96)	43	48	~60
	NB – L	C (0.41)	28	36	E (0.62)	66	66	~45
	NB – TR	D (0.55)	39	65	E (0.79)	59	408	~515
	SB – LL	E (0.91)	68	184	E (0.85)	67	167	~150
	SB – T	D (0.83)	51	307	C (0.39)	34	202	~250
	SB – R	B (0.49)	14	221	B (0.41)	10	116	~250
Mayfield Road/ Heart Lake Road (Signalized)	Overall	B (0.82)	17		C (0.93)	27		
	EB – L	B (0.28)	13	23	B (0.36)	13	22	~125
	EB – T	B (0.79)	17	142	C (0.60)	23	84	~240
	EB – R	A (0.58)	2	116	A (0.33)	8	24	~200
	WB – L	D (0.53)	37	41	B (0.27)	12	20	~160
	WB – T	A (0.34)	6	33	C (0.78)	25	126	~310
	WB – R	A (0.01)	0	5	A (0.04)	0	11	~160
	NB – L	E (0.82)	76	150	E (0.93)	71	137	~125
	NB – T	D (0.04)	49	587	D (0.10)	38	585	~450
	NB – R	A (0.15)	8	16	A (0.13)	10	26	~60
	SB – L	E (0.29)	65	23	E (0.51)	74	32	~85
	SB – T	E (0.54)	74	42	E (0.25)	60	26	~800
	SB – R	B (0.39)	17	19	B (0.55)	18	42	~90
Mayfield Road/ Snellview Blvd/Inder Heights Drive (Signalized)	Overall	A (0.66)	6		A (0.51)	4		
	EB – L	A (0.24)	6	31	B (0.49)	17	66	~45
	EB – TR	A (0.49)	5	100	A (0.42)	3	146	~100
	WB – L	A (0.14)	4	11	A (0.15)	1	14	~45
	WB – T	A (0.37)	3	36	A (0.45)	1	21	~390
	WB – R	A (0.01)	0	4	A (0.02)	0	2	~45
	NB – L	E (0.47)	78	21	E (0.21)	62	17	~45

	NB – TR	C (0.15)	35	13	C (0.14)	25	13	~130
	SB – LTR	D (0.66)	52	34	D (0.51)	37	21	~95
Mayfield Road/ Hwy 410 SB Off-Ramp (Signalized)	Overall	B (0.65)	12		A (0.70)	9		
	EB – T	A (0.59)	10	73	A (0.41)	6	52	~300
	WB – T	A (0.50)	9	85	A (0.70)	9	98	~425
	SB – L	C (0.65)	28	47	C (0.43)	27	32	~175
	SB – R	B (0.17)	16	46	C (0.09)	22	8	~110
Mayfield Road/ Hwy 410 NB Off-Ramp (Signalized)	Overall	C (0.95)	30		E (1.14)	65		
	EB – T	C (0.77)	25	132	C (0.61)	24	110	~425
	WB – T	C (0.68)	23	141	F (1.14)	96	208	~195
	NB – L	D (0.86)	38	188	D (0.89)	41	235	~465
	NB – R	E (0.95)	65	110	E (0.99)	69	110	~90
Kennedy Road/ Snellview Boulevard (Unsignalized)	EB – L	F (0.13)	282	5	F (0.34)	808	3	~15
	EB – R	C (0.20)	20	91	B (0.09)	13	20	~90
	NB – L	C (0.07)	15	15	B (0.12)	11	16	~30
	NB – T	A (0.44)	0	0	A (0.86)	0	0	~475
	SB – T	A (0.67)	0	406	A (0.41)	0	43	~500
	SB – TR	A (0.34)	0	391	A (0.21)	0	27	~500
Mayfield Road/ Stonegate Drive (Unsignalized)	EB – TR	A (0.69)	0	7	A (0.52)	0	4	~520
	EB – T	A (0.35)	0	7	A (0.27)	0	0	~520
	WB – L	E (0.17)	40	13	C (0.27)	26	20	~190
	WB – T	A (0.35)	0	2	A (0.56)	0	120	~800
	NB – LR	F (0.88)	140	65	E (0.37)	38	20	~200

Based on the intersection capacity analysis, the following observations are made for the 2028 and 2033 Future Background Conditions:

2028 Future Background Conditions

Under this horizon, it is assumed that the planned improvements on Mayfield Road are completed with the lane configurations identified in the approved ESR, including the westbound exclusive right turn lane at the Mayfield Road/Kennedy Road intersection. Signal timing plan modification are also required to improve intersection operations.

- The signalized intersection of Mayfield Road and Kennedy Road is expected to operate at acceptable levels of service during the morning and afternoon peak hours with no v/c ratio above 1.0. Similar to the existing conditions, the southbound left turn movement is expected to operate at or near capacity under the 2028 future background conditions. This is due to the following reasons:
 - Currently, there is no interchange at Kennedy Road and Hwy 410;
 - In order to access Hwy 410 south, all southbound traffic from Kennedy Road will have to make southbound left turn lane at Mayfield Road and then driving eastbound to take Hwy 410 on-ramp at Mayfield Road and Hwy 410;
 - Currently, there is only a single southbound left turn lane at the Kennedy Road/Mayfield Road intersection; and
 - High through traffic volumes in both directions on Mayfield Road

The westbound right turn movement is also expected to operate near or at capacity during the afternoon peak hour due to heavy turning volumes and intersection constraints. Although this may be acceptable in a short-term, it should be mitigated beyond the 2028 horizon. Under the 2033 Future Background Conditions, Nextrans will test the intersection operations with the proposed physical improvements for this intersection.

The proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours:

- The signalized intersection of Mayfield Road and Heart Lake Road is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours, with no v/c ratio above 1.0;

- The signalized intersection of Mayfield Road and Snellview Blvd/Inder Heights Drive is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours, with no v/c ratio above 1.0;
- The Hwy 410 northbound off-ramp and southbound off-ramp are expected to operate at acceptable levels of services, with no v/c ratio above 1.0; and
- Both of the unsignalized intersections at Kennedy Road/Snellview Blvd and Mayfield Road/Stonegate Drive are expected to operate at acceptable levels of service. The eastbound left turn out of Snellview Blvd onto Kennedy Road and northbound left turn out of Stonegate Drive onto Mayfield Road are expected to operate at higher delay due to the heavy through traffic on Kennedy Road and Mayfield Road. However, the volume is very low and this is a typical condition for an unsignalized intersection along Kennedy Road and Mayfield Road.

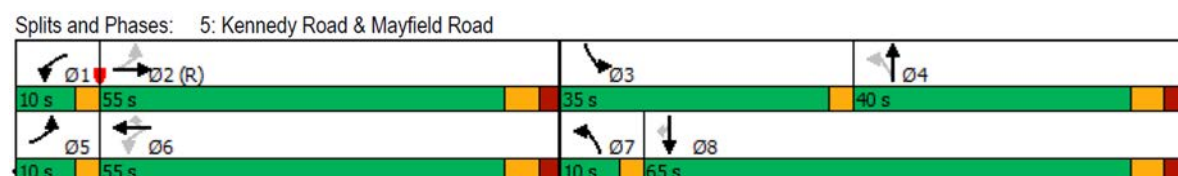
2033 Future Background Conditions

Under this horizon, it is assumed that the planned improvements on Mayfield Road are completed with the lane configurations identified in the approved ESR, including the westbound exclusive right turn lane at the Mayfield Road/Kennedy Road intersection. Signal timing plan modification are also required to improve intersection operations.

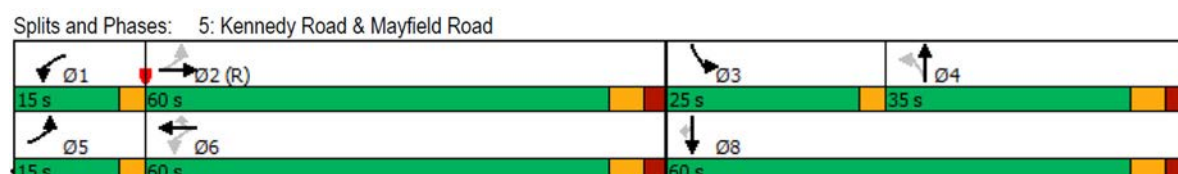
- The signalized intersection of Mayfield Road and Kennedy Road is expected to operate at higher delay and v/c ratio over 1.0 without the southbound double left turn. However, with the southbound double left and westbound exclusive right turn lanes, this intersection is expected to operate at acceptable levels of service during the morning and afternoon peak hours. The intersection operations with the proposed double left turn on the southbound direction are summarized in **Table 4** above.

The proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours:

AM Peak Hour



PM Peak Hour



- The signalized intersection of Mayfield Road and Heart Lake Road is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours;
- The signalized intersection of Mayfield Road and Snellview Blvd/Inder Heights Drive is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours;
- The Hwy 410 southbound off-ramp is expected to operate at acceptable levels of services with no v/c ratio over 1.0;

- The Hwy 410 northbound off-ramp is expected to operate at acceptable levels of service during the morning peak hour, and over capacity for the westbound through movement during the afternoon peak hour. The northbound movements are acceptable with no v/c ratio is over 1.0. This is due to the fact that:
 - A heavy westbound through movement is projected for the 2033 horizon with 5% growth per annum compounded from 2022 through to 2033. This is almost equivalent to 55% increase in already heavy turning movement;
 - It is expected after the 2028 horizon, the growth rate on Mayfield is expected to taper off from 5% to close to typical 1.5% to 2%; and
 - Heavy truck traffic in the area due to the employment and warehousing land uses in the area east of Hwy 410

Potential mitigation measures for this intersection:

- For the subsequent phase of the proposed development, a transportation impact study will be provided for each site plan. Therefore, the transportation impact study at that time will include new traffic turning movement counts and confirm if the growth rates and traffic volumes are still valid;
 - The Town should work with the City of Brampton to bring and extend existing Brampton transit to the new development areas north of Mayfield Road and Hwy 410;
 - Require new development to provide transportation demand management measures including building active transportation connections from the new development to the facilities on Kennedy Road and Mayfield Road; and
 - MTO to provide an additional northbound right turn lane for Hwy 410 Northbound Off-Ramp to accommodate heavy truck volumes that will be destined to the east of Hwy 410 toward the employment lands and warehousing land uses
- Both of the unsignalized intersections at Kennedy Road/Snellview Blvd and Mayfield Road/Stonegate Drive are expected to operate at acceptable levels of service but with higher delay for the eastbound left turn out of Snellview Blvd onto Kennedy Road and northbound left turn out of Stonegate Drive onto Mayfield Road due to the heavy through traffic on Kennedy Road and Mayfield Road. Traffic signal warrant analysis and other improvements will be examined under the Future Total Conditions.

In summary, the findings indicate that the southbound double left turn and westbound exclusive right turn lanes should be provided for the Mayfield Road/Kennedy Road intersection by 2028. It is recommended that Peel Region considers these improvements as part of the Mayfield Road detailed design and construction as planned for 2026. These improvements, along with signal timing plan optimization, should address the majority of the operational concerns up to the 2033 horizon.

5.0 SITE TRAFFIC

5.1. Proposed Development

As indicated, the proposed development consists of approximately 1,444 residential dwelling units of mixed types and approximately 2.30 ha of commercial development area. The anticipated breakdowns are as follows:

- Low density (detached, semi-detached and street townhouses) – 316 dwelling units
- Dual-frontage townhouses – 90 units
- Back-to-back townhouse – 226 units

- Medium density (townhouses) – 115 dwelling units
- Medium-high density (townhouses and apartments) – 237 dwelling units
- Mixed-use (apartments) – 460 units
- Commercial (63 jobs/ha) – 496 jobs (expected 145 commercial land use jobs plus 351 work-from-home / no fixed employment)

The 2016 Transportation Tomorrow Survey (TTS), the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE) and information was reviewed to estimate the modal split, trip distribution and trip generation for the proposed development.

5.2. Modes of Travel Assessment in the Area

Table 6 summarizes the travel mode split information based on the review of the 2016 Transportation Tomorrow Survey data for Traffic Zones 3007, 3008, 3009 and 3010. The 2016 TTS data extraction is included in **Appendix G**.

Table 5 – Modal Split based on 2016 TTS Data for Traffic Zones

Time	Trips Made by Traffic Zones				
	Auto Driver	Auto Passenger	Transit	Cycle	Walk
AM Peak Period (6:00AM – 9:00AM)	81%	12%	5%	0%	2%
PM Peak Period (4:00PM – 7:00PM)	81%	15%	4%	0%	0%

Based on the information above, as expected, the predominant mode of travel in the area is auto trips, which accounts for 81% during the morning and afternoon peak periods, respectively. The non single-occupant-vehicle mode accounts for approximately 19% during the morning and afternoon peak periods, respectively. Although this is a great trend for a new area, however, the auto driver mode is still very high, which is not sustainable and does not meet the sustainable objective of the Town and the Region's Official Plan policies and directions. In addition, there is none or very little bicycle trips, despite there are existing cycling facilities. For the purposes of this assessment, only a moderate 5% modal split (all non-auto modes) will be utilized for the proposed development. This assessment is reasonable given that the analysis horizon years will be 2028 and 2033.

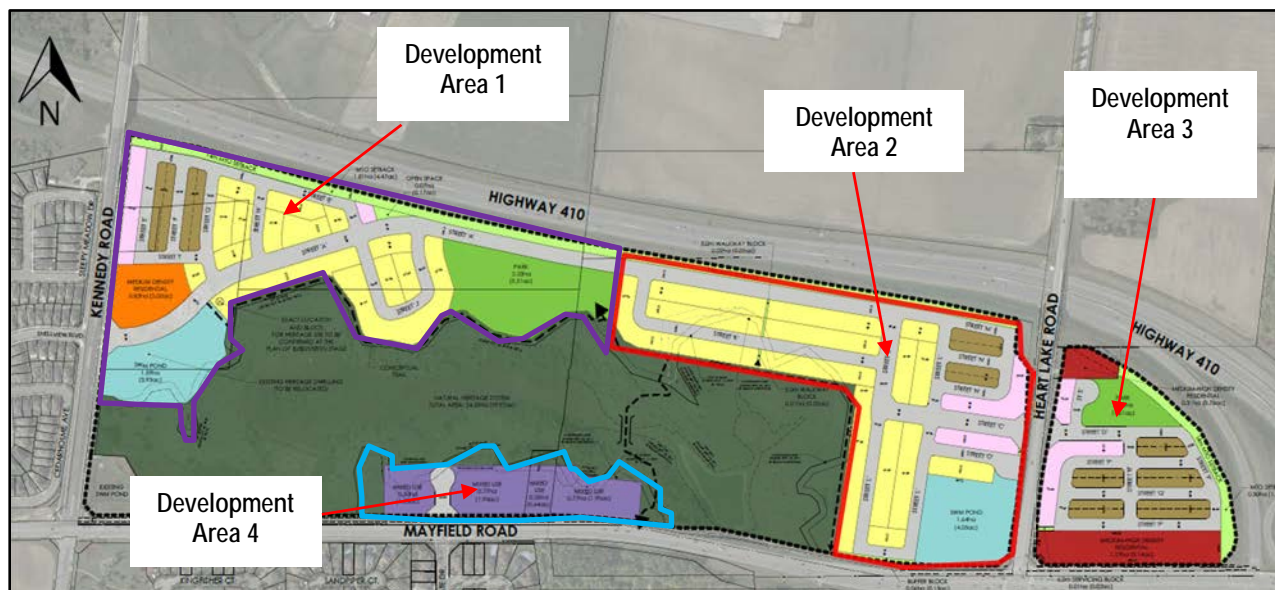
5.3. Site Trip Generation

The trip generation forecasts were undertaken using the information contained in the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). For the purposes of this assessment, the following ITE Land Use Codes (LUC) will be utilized in this Study:

- LUC 210 "Single-Family Detached Housing General Urban/Suburban"
- LUC 220 "Multifamily Housing Low-Rise General Urban/Suburban"
- LUC 221 "Multifamily Housing Mid-Rise General Urban/Suburban"
- LUC 231 "Mid-rise Residential with Ground-Floor Commercial GFA (25,000-65,000 ft²)"

Fitted curve equations or average rates, where appropriate, will be utilized for the respective land use. **Figure 9** below illustrates the estimated the numbers of proposed units, for the purposes of trip generation, trip distribution and assignment. The site trip generation is summarized in **Table 7**.

Figure 11 – Development Area Map for Trip Generation and Trip Assignment Purposes



Development Area 1:

- Detached/Semi-detached: ~158 units
- Back-to-back townhouses: ~38 units
- Dual frontage town: ~30 units
- Medium density residential: ~115 units

Development Area 2:

- Detached/semi-detached: ~158 units
- Back-to-back townhouses: ~38 units
- Dual frontage town: ~30 units

Development Area 3:

- Back-to-back townhouses: ~150 units
- Dual frontage town: ~30 units
- Medium-high density: ~237 units

Development Area 4:

- Mixed-use: ~460 units
- Number of commercial related jobs: ~ 145 jobs/employees
- Work from home & no fix employment: ~351 jobs

Based on the analysis noted above, the proposed development is expected to generate:

- 740 two-way auto trips (224 inbound and 516 outbound) and 901 two-way auto trips (548 inbound and 353 outbound) during the AM and PM peak hours, respectively; and
- 38 two-way transit trips (11 inbound and 27 outbound) and 49 two-way transit trips (29 inbound and 20 outbound) during the AM and PM peak hours, respectively.

Table 6 – Site Trip Generation for the Proposed Development

ITE Land Use	Magnitude (units)	Parameters	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Development Area 1 Trip Generation								
Single-Family Detached Housing LUC 210 General Urban/Suburban	158	Trip Rates AM - $\text{Ln}(T) = 0.91 \cdot \text{Ln}(X) + 0.12$ PM - $\text{Ln}(T) = 0.94 \cdot \text{Ln}(X) + 0.27$	0.19	0.53	0.72	0.61	0.36	0.97
		Total Auto Trips	29	84	113	96	57	153
Multifamily Housing (Low-Rise) LUC 220 General Urban/Suburban	68	Trip Rates AM - $T = 0.31 \cdot (X) + 22.85$ PM - $T = 0.43 \cdot (X) + 20.55$	0.16	0.49	0.65	0.47	0.27	0.74
		Total Auto Trips	11	33	44	32	18	50
Multifamily Housing (Mid-Rise) LUC 221 General Urban/Suburban	115	Trip Rates AM - $T = 0.44 \cdot (X) - 11.61$ PM - $T = 0.39 \cdot (X) + 0.34$	0.08	0.26	0.34	0.24	0.15	0.39
		Total Auto Trips	9	30	39	27	18	45
Development Area 1 Sub-Total			49	147	196	155	93	248
5% Modal Split			2	7	9	8	5	13
Development Area 1 Total New Auto Trips			47	140	187	147	88	235
Development Area 2 Trip Generation								
Single-Family Detached Housing LUC 210 General Urban/Suburban	158	Trip Rates AM - $\text{Ln}(T) = 0.91 \cdot \text{Ln}(X) + 0.12$ PM - $\text{Ln}(T) = 0.94 \cdot \text{Ln}(X) + 0.27$	0.19	0.53	0.72	0.61	0.36	0.97
		Total Auto Trips	29	84	113	96	57	153
Multifamily Housing (Low-Rise) LUC 220 General Urban/Suburban	68	Trip Rates AM - $T = 0.31 \cdot (X) + 22.85$ PM - $T = 0.43 \cdot (X) + 20.55$	0.16	0.49	0.65	0.47	0.27	0.74
		Total Auto Trips	11	33	44	32	18	50
Development Area 2 - Sub-Total			40	117	157	128	75	203
5% Modal Split			2	6	8	6	4	10
Development Area 2 Total New Auto Trips			38	111	149	122	71	193
Development Area 3 Trip Generation								
Multifamily Housing (Low-Rise) LUC 220 General Urban/Suburban	180	Trip Rates AM - $T = 0.31 \cdot (X) + 22.85$ PM - $T = 0.43 \cdot (X) + 20.55$	0.11	0.33	0.44	0.34	0.20	0.54
		Total Auto Trips	19	60	79	62	36	98
Multifamily Housing (Mid-Rise) LUC 221 General Urban/Suburban	237	Trip Rates AM - $T = 0.44 \cdot (X) - 11.61$ PM - $T = 0.39 \cdot (X) + 0.34$	0.09	0.30	0.39	0.24	0.15	0.39
		Total Auto Trips	21	72	93	57	36	93
Development Area 3 Sub-Total			40	132	172	119	72	191
5% Modal Split			2	7	9	6	4	10
Development Area 3 Total New Auto Trips			38	125	163	113	68	181
Development Area 4 Trip Generation								
Mid-rise Residential with Ground-Floor Commercial GFA (25-65k) LUC 231 General Urban/Suburban	460	Trip Rate (Average rates)	0.23	0.32	0.55	0.38	0.29	0.67
		Total Auto Trips	106	147	253	175	133	308
Development Area 4 - Total			106	147	253	175	133	308
5% Modal Split			5	7	12	9	7	16
Development Area 3 Total New Auto Trips			101	140	241	166	126	292
Total Development New Auto Trips			224	516	740	548	353	901
Total Development Non-Auto Mode Trips			11	27	38	29	20	49

5.4. Site Trip Distribution and Assignment

The 2016 Transportation Tomorrow Survey (TTS) data was reviewed for Traffic Zones 3007, 3008, 3009 and 3010 in order to estimate the general trip distribution for the proposed development. **Table 8** summarizes the planning district/traffic zones distribution based on the 2016 TTS data, with **Table 9** summarizing the site trip assignment based on the 2016 TTS data and the existing traffic turning movement counts for the existing intersections in the area.

Table 7 – Site Trip Distribution

Mode	Caledon	Brampton	Mississauga	Toronto	York Region	Halton	Waterloo	Hamilton
Auto	16%	40%	18%	16%	6%	2%	1%	3%
Transit	33%	19%	0%	48%	0%	0%	0%	0%

Table 8 – Site Trip Assignment

General Direction (To/From)	Auto		General Direction (To/From)	Transit	
	Inbound	Outbound		Inbound	Outbound
East (via Mayfield Road)	5%	5%	NA	NA	NA
West (via Mayfield Road)	30%	30%	NA	NA	NA
North (via Hwy 410/Kennedy Road/Heart Lake Road/Hurontario Street)	5%	5%	North (via Hurontario Street/Kennedy Road)	0%	0%
South (via Hwy 410/Kennedy Road/Heart Lake Road/Hurontario Street)	60%	60%	South (via Hurontario Street/Kennedy Road)	100%	100%

Figures 12B and **12C** illustrate the proposed development generated traffic volumes, with **Figures 13A** through **13D** illustrating the separated inbound and outbound site traffic volumes, as requested by the Town staff, for the morning and afternoon peak hours, respectively.

It should be noted that the auto site trip distribution and assignment have been taken into consideration the 2016 TTS information, existing turning movement and intersection operations, as well as the Town staff comments.

6.0 FUTURE TOTAL TRAFFIC CONDITIONS

6.1. Future Total Traffic Assessment for Auto Mode

The future total traffic volumes for 2028 and 2033 horizons are provided in **Figures 14A, 14B, 15A** and **15B**. These traffic volumes were analyzed using Synchro Version 10 software. The detailed calculations are provided in **Appendix H** and summarized in **Tables 9** and **10**.

Table 9 – 2028 Future Total Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Available Storage Length
		LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	
Mayfield Road/ Kennedy Road (Signalized)	Overall	D (0.98)	45		D (0.98)	42		
	EB – L	C (0.58)	31	65	F (0.98)	92	53	~45
	EB – TR	E (0.97)	62	462	D (0.62)	35	491	~390
	WB – L	D (0.57)	52	64	C (0.76)	31	110	~85
	WB – T	D (0.67)	39	77	D (0.72)	38	581	~520
	WB – R	A (0.64)	10	56	D (0.95)	40	48	~60
	NB – L	C (0.41)	32	35	D (0.48)	54	61	~45
	NB – TR	D (0.79)	47	80	D (0.74)	51	102	~515
	SB – L	E (0.98)	62	184	E (0.93)	59	163	~150
	SB – T	D (0.77)	43	303	C (0.32)	24	303	~250
	SB – R	A (0.49)	10	227	A (0.34)	5	321	~250

Mayfield Road/ Heart Lake Road (Signalized)	Overall	B (0.78)	21		C (0.83)	26		
	EB – L	B (0.30)	19	29	C (0.48)	21	34	~125
	EB – T	B (0.68)	20	95	C (0.48)	25	94	~240
	EB – R	A (0.58)	5	88	B (0.31)	10	27	~200
	WB – L	D (0.71)	43	69	B (0.17)	11	21	~160
	WB – T	B (0.32)	11	53	C (0.66)	24	121	~310
	WB – R	A (0.06)	3	11	A (0.17)	4	30	~160
	NB – L	E (0.76)	63	157	D (0.83)	54	134	~125
	NB – T	D (0.06)	39	474	C (0.13)	33	574	~450
	NB – R	A (0.10)	5	22	A (0.10)	8	20	~60
	SB – L	E (0.78)	79	69	E (0.61)	65	59	~85
	SB – T	D (0.39)	54	45	D (0.20)	49	34	~800
	SB – R	B (0.40)	14	28	B (0.47)	17	43	~90
Mayfield Road/ Snellview Blvd/Inder Heights Drive (Signalized)	Overall	A (0.64)	6		A (0.39)	2		
	EB – L	A (0.20)	5	46	A (0.32)	6	64	~45
	EB – TR	A (0.40)	4	120	A (0.34)	2	142	~100
	WB – L	A (0.09)	3	12	A (0.11)	1	14	~45
	WB – T	A (0.32)	2	32	A (0.35)	1	21	~390
	WB – R	A (0.01)	0	4	A (0.01)	0	2	~45
	NB – L	F (0.57)	92	25	E (0.23)	63	14	~45
	NB – TR	C (0.16)	25	13	C (0.12)	24	12	~130
Mayfield Road/ Hwy 410 SB Off-Ramp (Signalized)	SB – LTR	D (0.64)	45	37	C (0.39)	22	31	~95
	Overall	A (0.62)	11		A (0.55)	6		
	EB – T	A (0.47)	8	58	A (0.30)	4	47	~300
	WB – T	A (0.42)	8	51	A (0.55)	5	58	~425
	SB – L	C (0.62)	28	43	C (0.31)	23	30	~175
Mayfield Road/ Hwy 410 NB Off-Ramp (Signalized)	SB – R	B (0.16)	13	16	B (0.06)	18	25	~110
	Overall	C (0.95)	30		C (0.95)	33		
	EB – T	C (0.63)	21	94	B (0.46)	19	87	~425
	WB – T	B (0.55)	20	111	C (0.89)	31	197	~195
	NB – L	D (0.85)	44	126	D (0.86)	37	169	~465
Kennedy Road/ Snellview Boulevard (Unsignalized)	NB – R	E (0.95)	68	105	E (0.95)	57	211	~90
	EB – L	F (0.05)	110	2	F (0.04)	80	4	~15
	EB – TR	C (0.17)	18	30	B (0.09)	12	95	~85
	WB – L	F (2.42)	--	25	F (3.26)	--	228	~180
	WB – TR	B (0.01)	11	218	B (0.01)	14	204	~180
	NB – L	B (0.06)	14	14	B (0.11)	11	19	~30
	NB – TR	A (0.27)	0	0	A (0.52)	0	2	~250
	SB – L	A (0.00)	9	2	B (0.02)	13	23	~30
Kennedy Road/ Snellview Boulevard With Traffic Signals	SB – TR	A (0.61)	0	74	A (0.37)	0	232	~470
	Overall	B (0.62)	10		A (0.53)	6		
	EB – L	C (0.01)	25	4	C (0.01)	26	3	~15
	EB – TR	B (0.18)	11	20	A (0.12)	2	22	~85
	WB – L	D (0.56)	38	24	C (0.27)	31	36	~180
	WB – TR	A (0.02)	0	39	A (0.01)	0	5	~180
	NB – L	B (0.17)	10	16	A (0.19)	5	27	~30
	NB – TR	A (0.30)	6	37	A (0.53)	6	73	~250
Mayfield Road/ Stonegate Drive (Unsignalized)	SB – L	A (0.00)	7	2	A (0.02)	4	18	~30
	SB – TR	A (0.62)	10	374	A (0.35)	4	483	~470
	EB – L	B (0.12)	14	16	D (0.42)	34	31	~30
	EB – TR	A (0.54)	0	75	E (0.42)	0	6	~520
	WB – L	C (0.10)	23	13	C (0.19)	18	18	~190
	WB – TR	A (0.34)	0	1	A (0.54)	0	10	~800
	NB – LTR	F (0.74)	97	117	C (0.32)	51	19	~200
Mayfield Road/ Stonegate Drive With Traffic Signals	SB – L	F (6.93)	--	25	F (33.26)	--	22	~15
	SB – TR	B (0.16)	13	75	C (0.22)	19	67	~30
	Overall	A (0.59)	9		A (0.60)	7		
	EB – L	A (0.24)	4	19	D (0.60)	36	26	~30
	EB – TR	A (0.59)	5	57	A (0.42)	3	38	~520
	WB – L	B (0.25)	16	13	B (0.36)	14	45	~190
	WB – TR	A (0.41)	9	66	A (0.54)	7	190	~800
	NB – LTR	D (0.46)	48	24	C (0.30)	30	22	~200
	SB – L	E (0.57)	78	24	E (0.25)	60	24	~15
	SB – TR	C (0.38)	22	38	C (0.19)	26	33	~30

Heart Lake Road/ Site Access #2 (Unsignalized)	EB – L	B (0.01)	11	0	B (0.01)	15	6	~15
	EB – TR	B (0.15)	10	18	A (0.10)	10	16	~85
	WB – L	C (0.32)	18	15	C (0.27)	24	15	~15
	WB – TR	A (0.01)	9	8	A (0.00)	9	6	~85
	NB – L	A (0.03)	8	6	A (0.10)	8	16	~30
	NB – TR	A (0.07)	0	0	A (0.15)	0	0	~230
	SB – L	A (0.00)	7	0	A (0.01)	8	4	~30
	SB – TR	A (0.11)	0	0	A (0.14)	0	0	~300

Table 10 – 2033 Future Total Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Available Storage Length
		LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	LOS (v/c)	Delay (s)	SimTraffic Queue 95 th	
Mayfield Road/ Kennedy Road (Signalized)	Overall	F (1.53)	120		E (1.19)	61		
	EB – L	D (0.72)	47	66	F (1.10)	118	53	~45
	EB – TR	F (1.53)	278	418	D (0.78)	43	504	~390
	WB – L	D (0.56)	49	87	E (0.85)	58	112	~85
	WB – T	E (0.99)	74	182	D (0.88)	49	359	~520
	WB – R	C (0.82)	31	58	E (1.03)	64	49	~60
	NB – L	C (0.45)	32	36	E (0.57)	63	66	~45
	NB – TR	D (0.81)	49	78	E (0.90)	67	155	~515
	SB – L	E (1.01)	68	181	F (1.19)	142	157	~150
	SB – T	D (0.77)	39	307	C (0.40)	32	259	~250
Mayfield Road/ Kennedy Road (Signalized) With Southbound Double Left	Overall	D (0.98)	47		D (0.99)	49		
	EB – L	E (0.88)	56	54	F (0.99)	85	53	~45
	EB – TR	E (0.98)	56	476	D (0.67)	35	450	~390
	WB – L	F (0.87)	83	110	D (0.81)	45	111	~85
	WB – T	C (0.55)	24	213	D (0.81)	43	350	~520
	WB – R	A (0.54)	5	54	D (0.98)	49	50	~60
	NB – L	D (0.59)	41	43	E (0.57)	63	66	~45
	NB – TR	D (0.63)	44	88	E (0.90)	67	169	~515
	SB – L	E (0.91)	68	180	F (0.97)	91	173	~150
	SB – T	E (0.93)	63	276	D (0.45)	38	338	~250
Mayfield Road/ Heart Lake Road (Signalized)	Overall	C (0.84)	26		C (0.92)	32		
	EB – L	C (0.40)	24	30	D (0.60)	43	39	~125
	EB – T	C (0.84)	28	125	C (0.66)	22	111	~240
	EB – R	A (0.62)	6	83	A (0.36)	2	39	~200
	WB – L	D (0.76)	55	77	B (0.30)	16	21	~160
	WB – R	B (0.39)	11	80	D (0.92)	39	127	~310
	WB – T	A (0.06)	3	12	A (0.22)	4	25	~160
	NB – L	E (0.83)	71	137	E (0.90)	60	133	~125
	NB – T	D (0.06)	39	567	C (0.16)	34	503	~450
	NB – R	A (0.10)	6	19	A (0.11)	8	16	~60
Mayfield Road/ Snellview Blvd/Inder Heights Drive (Signalized)	Overall	A (0.67)	7		A (0.55)	5		
	EB – L	A (0.29)	8	60	C (0.55)	24	58	~45
	EB – TR	A (0.51)	5	147	A (0.45)	3	134	~100
	WB – L	A (0.15)	5	13	A (0.18)	6	22	~45
	WB – T	A (0.41)	3	45	A (0.47)	3	67	~390
	WB – R	A (0.01)	0	4	A (0.02)	1	16	~45
	NB – L	E (0.43)	73	23	E (0.21)	62	16	~45
	NB – TR	D (0.15)	37	13	C (0.14)	25	11	~130
	SB – LTR	E (0.67)	62	37	D (0.51)	54	25	~95
Mayfield Road/ Hwy 410 SB Off-Ramp (Signalized)	Overall	B (0.65)	12		A (0.76)	9		
	EB – T	A (0.60)	10	84	A (0.41)	6	52	~300
	WB – T	A (0.52)	9	70	A (0.76)	10	130	~425
	SB – L	C (0.65)	28	48	C (0.43)	27	34	~175
	SB – R	B (0.18)	18	47	C (0.09)	23	29	~110

Mayfield Road/ Hwy 410 NB Off-Ramp (Signalized)	Overall EB – T WB – T NB – L NB – R	C (0.95) C (0.78) C (0.69) D (0.86) E (0.95)	31 25 23 40 65	127 145 168 231	E (1.15) C (0.62) F (1.15) D (0.96) F (1.09)	72 24 100 50 97	98 209 593 570	~425 ~195 ~465 ~90
Kennedy Road/ Snellview Boulevard With Traffic Signals	Overall EB – L EB – TR WB – L WB – TR NB – L NB – TR SB – L SB – TR	B (0.69) C (0.01) B (0.18) D (0.56) A (0.02) B (0.23) A (0.33) A (0.00) B (0.69)	11 25 11 38 0 13 7 7 11	3 23 24 35 17 39 1 550	A (0.63) C (0.01) A (0.15) D (0.40) A (0.01) A (0.22) A (0.63) A (0.05) A (0.41)	8 28 8 36 0 8 9 6 6	4 26 36 5 29 76 14 542	~15 ~85 ~180 ~180 ~30 ~250 ~30 ~470
Mayfield Road/ Stonegate Drive With Traffic Signals	Overall EB – L EB – TR WB – L WB – TR NB – LTR SB – L SB – TR	B (0.75) A (0.15) A (0.75) C (0.39) B (0.50) D (0.46) E (0.57) D (0.45)	11 5 9 35 10 48 78 45	12 90 14 82 27 26 42	B (0.82) C (0.55) A (0.57) D (0.73) C (0.82) C (0.32) E (0.44) B (0.32)	19 32 6 54 27 23 67 12	33 77 22 140 23 25 42	~30 ~515 ~190 ~800 ~200 ~15 ~30
Heart Lake Road/ Site Access #2 (Unsignalized)	EB – L EB – TR WB – L WB – TR NB – L NB – TR SB – L SB – TR	B (0.01) A (0.15) C (0.34) A (0.01) A (0.03) A (0.08) A (0.00) A (0.13)	12 10 19 9 8 0 8 0	0 19 14 8 9 0 2 0	C (0.01) B (0.10) D (0.29) A (0.00) A (0.10) A (0.15) A (0.01) A (0.16)	16 10 26 9 8 0 8 0	5 15 15 5 15 0 3 0	~15 ~85 ~15 ~85 ~30 ~230 ~30 ~300

Based on the intersection capacity analysis, the following observations are made for the 2028 and 2033 Future Total Conditions:

6.1.1. 2028 Future Total Condition Finding Summary

Mayfield Road and Kennedy Road

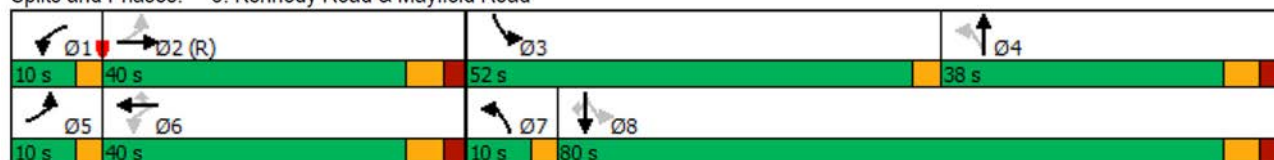
Under this horizon, it is assumed that the planned improvements on Mayfield Road are completed with the lane configurations identified in the approved ESR, including the westbound exclusive right turn lane at the Mayfield Road/Kennedy Road intersection. Signal timing plan modification are also required to improve intersection operations. The signalized intersection of Mayfield Road and Kennedy Road is expected to operate at acceptable levels of service during the morning and afternoon peak hours with no v/c ratio above 1.0. Similar to the future background conditions, the southbound left turn movement is expected to operate at or near capacity under the 2028 future total conditions. This is due to the following reasons:

- Currently, there is no interchange at Kennedy Road and Hwy 410;
- In order to access Hwy 410 south, all southbound traffic from Kennedy Road will have to make southbound left turn lane at Mayfield Road and then driving eastbound to take Hwy 410 on-ramp at Mayfield Road and Hwy 410;
- Currently, there is only a single southbound left turn lane at the Kennedy Road/Mayfield Road intersection; and
- High through traffic volumes in both directions on Mayfield Road

The westbound right turn movement is also expected to operate near or at capacity during the afternoon peak hour due to heavy turning volumes and intersection constraints. Although this may be acceptable in a short-term, it should be mitigated beyond the 2028 horizon. As indicated above, under the 2033 Future Background conditions, these improvements are required based on the sensitivity analysis. This movement is trigger by the background conditions, not by the proposed development as the proposed development will have access onto Heart Lake Road, which will by-pass this heavy movement. If signals are accepted by the Town and the Region in principle, the proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours, respectively:

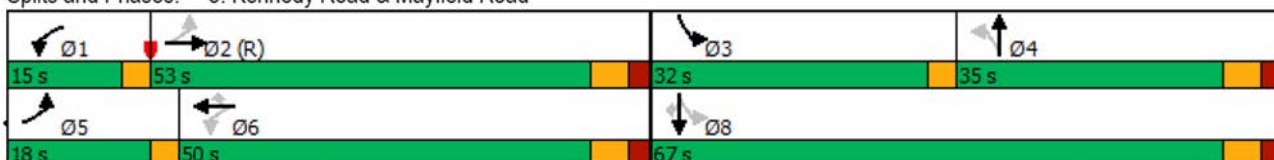
AM Peak Hour

Splits and Phases: 5: Kennedy Road & Mayfield Road



PM Peak Hour

Splits and Phases: 5: Kennedy Road & Mayfield Road



Mayfield Road and Heart Lake Road

The signalized intersection of Mayfield Road and Heart Lake Road is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours, with no v/c ratio above 1.0;

Mayfield Road and Snellview Blvd/Inder Heights Drive

The signalized intersection of Mayfield Road and Snellview Blvd/Inder Heights Drive is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours, with no v/c ratio above 1.0.

Hwy 410 Northbound Off-Ramp/Mayfield Road

The Hwy 410 northbound off-ramp is expected to operate at acceptable levels of services, with no v/c ratio above 1.0.

Southbound Off-Ramp/Mayfield Road

The Hwy 410 southbound off-ramp is expected to operate at acceptable levels of services, with no v/c ratio above 1.0.

Kennedy Road/Snellview Blvd

The unsignalized intersection of Kennedy Road/Snellview Blvd is expected to operate at high delay and v/c ratios for the left turn outbound movements. Based on the intersection capacity analysis noted in **Table 9** above, this intersection should be signalized under the 2028 horizon with the full buildout of the proposed development. Signal warrant analysis Justification 7 has been provided in **Appendix I** of this Study. The analysis indicates that the signals are not numerically warranted due to low crossing traffic volumes. The crossing volumes would need to be reached around 100 vehicles per direction in order to be warranted. However, given that the minor movements are expected to operate at poor levels of service, as well as there are potential for pedestrian crossing these intersections in the future to access the transit stops, Nextrans recommends that these signals should be installed as part of the first phase of the proposed development. If signals are accepted by the Town and the Region in principle, the proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours, respectively:

AM Peak Hour

Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



PM Peak Hour

Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Mayfield Road/Stonegate Drive

The unsignalized intersection of Kennedy Road/Snellview Blvd is expected to operate at high delay and v/c ratios for the left turn outbound movements. Based on the intersection capacity analysis noted in **Table 9** above, this intersection should be signalized under the 2028 horizon with the full buildout of the proposed development. Signal warrant analysis Justification 7 has been provided in **Appendix I** of this Study. The analysis indicates that the signals are not numerically warranted due to low crossing traffic volumes. The crossing volumes would need to be reached around 100 vehicles per direction in order to be warranted. However, given that the minor movements are expected to operate at poor levels of service, as well as there are potential for pedestrian crossing these intersections in the future to access the transit stops, Nextrans recommends that these signals should be installed as part of the first phase of the proposed development. If signals are accepted by the Town and the Region in principle, the proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours, respectively:

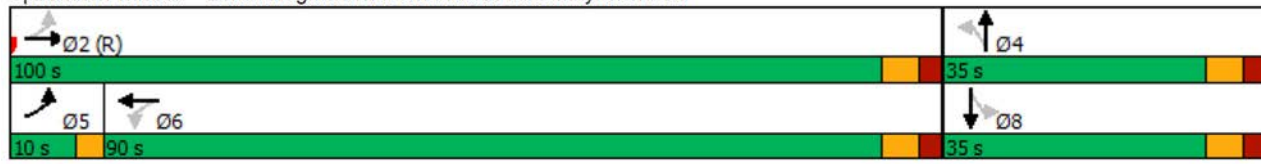
AM Peak Hour

Splits and Phases: 20: Stonegate Drive/Site Access 3 & Mayfield Road



PM Peak Hour

Splits and Phases: 20: Stonegate Drive/Site Access #3 & Mayfield Road



Heart Lake Road and Access #2

The analysis indicates that this unsignalized intersection is expected to operate at acceptable levels of service without long delay or queue. Traffic signals are not required for vehicular operations. However, if Brampton Transit considers the proposed the detour of the future bus routes to service the proposed development, traffic signal will be required at that time to facilitate pedestrian crossing Heart Lake Road. Detailed analysis can be provided at that time and traffic signal warrant analysis can be provided.

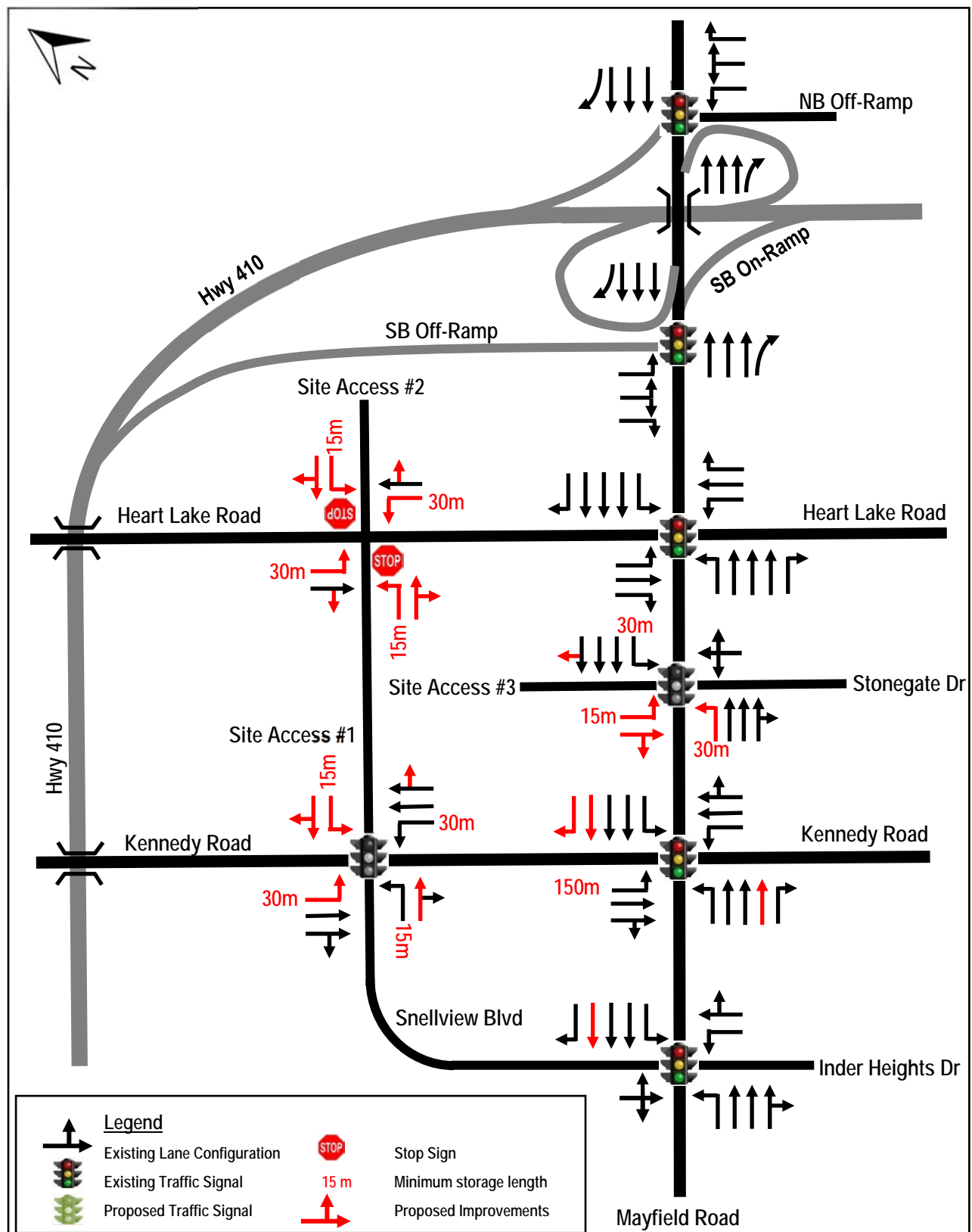
6.1.2. 2028 Horizon Proposed Improvement Summary

Based on the findings identified above, it is recommended that:

- Traffic signals should be provided for the Kennedy Road/Site Access #1 intersection by 2028;
- Traffic signals should be provided for the Mayfield Road/Stonegate Drive/Site Access #3 intersection by 2028;
- Full turning lanes at the intersection of Heart Lake Road/Site Access #2;
- Westbound exclusive right turn at the Mayfield Road/Kennedy Road intersection; and
- MTO to monitor the Hwy 410 Northbound Off-ramp in the future and potentially an additional northbound right turn lane may be required to accommodate heavy truck traffic that will be destined to the employment/warehousing land use areas to the east of Hwy 410.

The proposed improvements for 2028 horizon (or first phase of the proposed development) are summarized in **Figure 16** below.

Figure 16 – 2028 Proposed Improvements and Intersection Control Devices



6.1.3. 2033 Future Total Condition Finding Summary

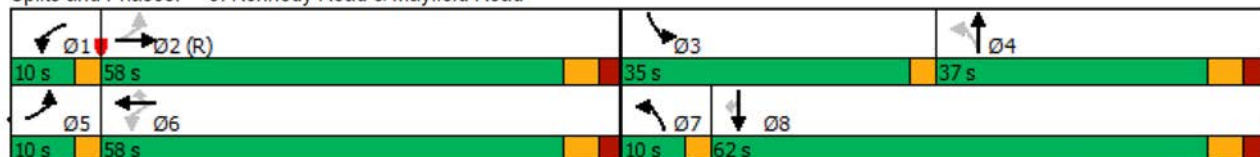
Mayfield Road and Kennedy Road

Under this horizon, it is assumed that the planned improvements on Mayfield Road are completed with the lane configurations identified in the approved ESR, including the westbound exclusive right turn lane at the Mayfield Road/Kennedy Road intersection. Signal timing plan modification are also required to improve intersection operations.

The signalized intersection of Mayfield Road and Kennedy Road is expected to operate at higher delay and v/c ratio over 1.0 without the southbound double left turn. However, with the southbound double left and westbound exclusive right turn lanes, this intersection is expected to operate at acceptable levels of service during the morning and afternoon peak hours. The intersection operations with the proposed double left turn on the southbound direction are summarized in Table 10 above. The proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours:

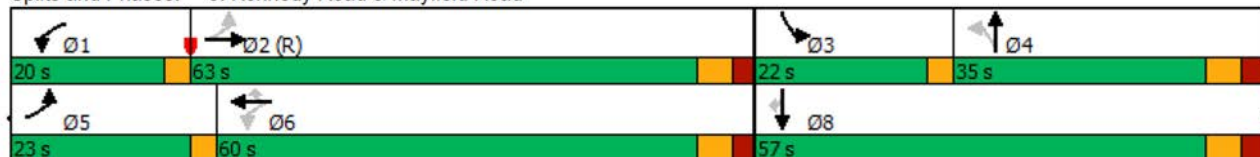
AM Peak Hour

Splits and Phases: 5: Kennedy Road & Mayfield Road



PM Peak Hour

Splits and Phases: 5: Kennedy Road & Mayfield Road



Mayfield Road and Heart Lake Road

The signalized intersection of Mayfield Road and Heart Lake Road is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours.

Mayfield Road and Snellview Blvd/Inder Heights Drive

The signalized intersection of Mayfield Road and Snellview Blvd/Inder Heights Drive is expected to operate at acceptable levels of service during both the morning peak hour and afternoon peak hours.

Hwy 410 Southbound Off-Ramp

The Hwy 410 southbound off-ramp is expected to operate at acceptable levels of services with no v/c ratio over 1.0.

The Hwy 410 Northbound Off-Ramp/Mayfield Road

The Hwy 410 northbound off-ramp is expected to operate at acceptable levels of service during the morning peak hour, and longer delay for the westbound through movement during the afternoon peak hour. The northbound movements are acceptable with no v/c ratio is over 1.0. However, potential reasons the longer delay in the westbound through movement are:

- A heavy westbound through movement is projected for the 2033 horizon with 5% growth per annum compounded from 2022 through to 2033. This is almost equivalent to 55% increase in already heavy turning movement;

- It is expected after the 2028 horizon, the growth rate on Mayfield is expected to taper off from 5% to close to typical 1.5% to 2%; and
- Heavy truck traffic in the area due to the employment and warehousing land uses in the area east of Hwy 410
- Potential mitigation measures for this intersection:
 - For the subsequent phase of the proposed development, a transportation impact study will be provided for each site plan. Therefore, the transportation impact study at that time will include new traffic turning movement counts and confirm if the growth rates and traffic volumes are still valid;
 - The Town should work with the City of Brampton to bring and extend existing Brampton transit to the new development areas north of Mayfield Road and Hwy 410;
 - Require new development to provide transportation demand management measures including building active transportation connections from the new development to the facilities on Kennedy Road and Mayfield Road; and
 - MTO to provide an additional northbound right turn lane for Hwy 410 Northbound Off-Ramp to accommodate heavy truck volumes that will be destined to the east of Hwy 410 toward the employment lands and warehousing land uses

Kennedy Road/Snellview Blvd

As indicated under the 2028 Future Total Conditions above, the unsignalized intersection of Kennedy Road/Snellview Blvd is expected to operate at high delay and v/c ratios for the left turn outbound movements. Based on the intersection capacity analysis noted in **Table 10** above, this intersection should be signalized under the 2028 horizon with the full buildout of the proposed development. Signal warrant analysis Justification 7 has been provided in Appendix I of this Study. The analysis indicates that the signals are not numerically warranted due to low crossing traffic volumes. The crossing volumes would need to be reached around 100 vehicles per direction in order to be warranted. However, given that the minor movements are expected to operate at poor levels of service, as well as there are potential for pedestrian crossing these intersections in the future to access the transit stops, Nextrans recommends that these signals should be installed by 2028.

If signals are accepted by the Town and the Region in principle, the proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours, respectively:

AM Peak Hour

Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



PM Peak Hour

Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Mayfield Road/Stonegate Drive

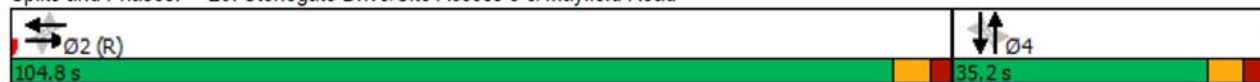
As indicated under the 2028 Future Total Conditions above, the unsignalized intersection of Mayfield Road/Stonegate Drive are expected to operate at high delay and v/c ratios for the left turn outbound movements. Based on the intersection capacity analysis noted in **Table 10** above, this intersection should be signalized under the 2028 horizon with the full buildout of the proposed development. Signal warrant analysis Justification 7 has been provided in Appendix I of this Study. The analysis indicates that the signals are not numerically warranted due to low crossing traffic volumes. The crossing volumes would need to be reached around 100 vehicles per direction in order to be warranted. However, given

that the minor movements are expected to operate at poor levels of service, as well as there are potential for pedestrian crossing these intersections in the future to access the transit stops, Nextrans recommends that these signals should be installed by 2028.

If signals are accepted by the Town and the Region in principle, the proposed signal timing plan for this intersection are illustrated below, for the morning and afternoon peak hours, respectively:

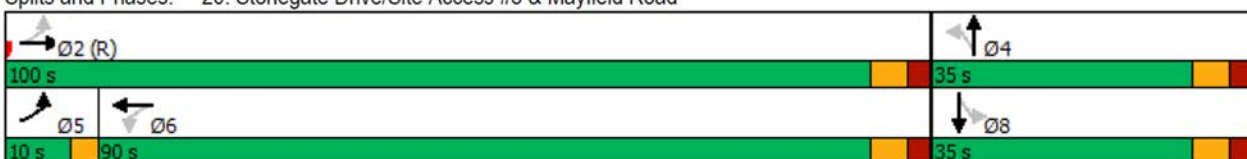
AM Peak Hour

Splits and Phases: 20: Stonegate Drive/Site Access 3 & Mayfield Road



PM Peak Hour

Splits and Phases: 20: Stonegate Drive/Site Access #3 & Mayfield Road



Heart Lake Road and Access #2

The analysis indicates that this unsignalized intersection is expected to operate at acceptable levels of service without long delay or queue. Traffic signals are not required for vehicular operations. However, if Brampton Transit considers the proposed the detour of the future bus routes to service the proposed development, traffic signal will be required at that time to facilitate pedestrian crossing Heart Lake Road. Detailed analysis can be provided at that time and traffic signal warrant analysis can be provided.

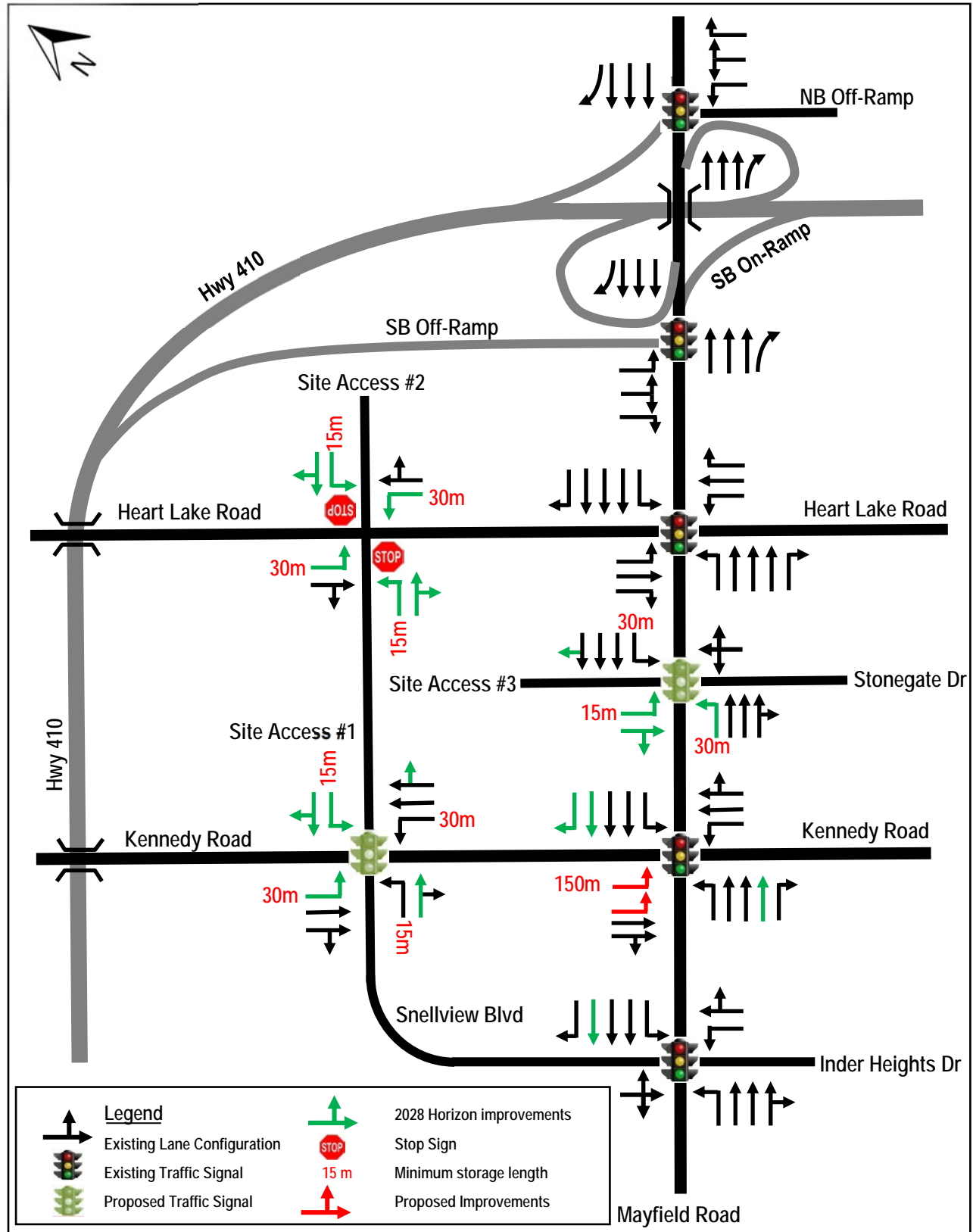
6.1.4. 2033 Horizon Proposed Improvement Summary

Based on the findings identified above, it is recommended that:

- All improvements identified for the 2028 horizon noted above;
- The southbound double left turn and westbound exclusive right turn lanes should be provided for the Mayfield Road/Kennedy Road intersection prior to or by 2033; and
- MTO to monitor the Hwy 410 Northbound Off-ramp in the future and potentially an additional northbound right turn lane may be required to accommodate heavy truck traffic that will be destined to the employment/warehousing land use areas to the east of Hwy 410.

The proposed improvements for 2028 horizon (or first phase of the proposed development) are summarized in **Figure 17** below.

Figure 17 – 2033 Proposed Improvements and Intersection Control Devices



6.2. Traffic Signal Warrant Analysis

As indicated, Nextrans has conducted a traffic signal warrant analysis for the Mayfield Road/Stonegate Drive/Site Access #3 and Kennedy Road/Snellview Blvd/Site Access #1 intersections based on the 2028 and 2033 future total forecast volumes and Justification 7 of the Ontario Traffic Manual Book 12. The traffic signal warrant analysis as outlined in **Appendix I** indicates that traffic signals are not numerically warranted at these two intersections due to low crossing volumes. The analysis indicates that in order for traffic signals to be warranted, the crossing traffic volumes should be at least 100 vehicles per direction. However, given that the minor movements are expected to operate at poor levels of service, as well as there are potential for pedestrian crossing these intersections in the future to access the transit stops, Nextrans recommends that these signals should be installed by or prior to 2028. It is recommended that:

- Traffic signal warrant analysis should be conducted and confirmed through each site plan application for the proposed development;
- Traffic signals should be provided for the Mayfield Road/Stonegate Drive/Site Access #3 intersection by or before 2028; and
- Traffic signals should be provided for the Kennedy Road/Site Access #1 intersection by or before 2028

However, it is our understanding that Region of Peel will only support warranted traffic signals. Nextrans recommends that additional analysis and signal warrant will be conducted, along with monitoring of the intersection as part of the future site plan application.

6.3. Active Transportation Assessment

6.3.1. Town of Caledon Approved Active Transportation Master Plan

As requested by the Town staff, Nextrans has reviewed the approved Town of Caledon Active Transportation Master Plan and align the proposed development active transportation plan to provide a seamless integration.

It is our understanding that the ATMP creates a path forward that is flexible and focused on community needs. It is a product of almost two years of technical review, more than 20 in-person and virtual public consultation events, discussions with the Caledon Active Transportation Task Force (ATTF), the Region of Peel and adjacent municipalities, internal and external discussions through the Technical Advisory Committee (TAC), Public Information Centre (PIC) and with Conservation Authorities and the Province.

It is also our understanding that the ATMP guiding principles are:

- **Planned and Context Sensitive:** Cycling facilities and trails will be considered when planning and developing the neighbourhood and future developments, in consultation with the community and stakeholders.
- **Connected:** The Caledon communities will be linked together both internally and externally by cycling facilities and trails, which will also connect key locations.
- **Diverse and Inclusive:** The bike and trail network will be created to accommodate a variety of users, skill levels, and interests.
- **Inspirational:** The Town's natural, cultural, and recreational assets will be promoted and encouraged through the utilisation of cycling facilities and trails.
- **Accessible:** Where possible, cycling facilities and trails will be accessible to people of all ages and abilities, following AODA requirements.
- **Safe:** The design and management of the cycling and trail network will take user comfort, safety, and security into account.
- **Sustainable:** The cycling and trails system will be created and run in a way that protects the environment, helps address climate change, and is fiscally responsible.

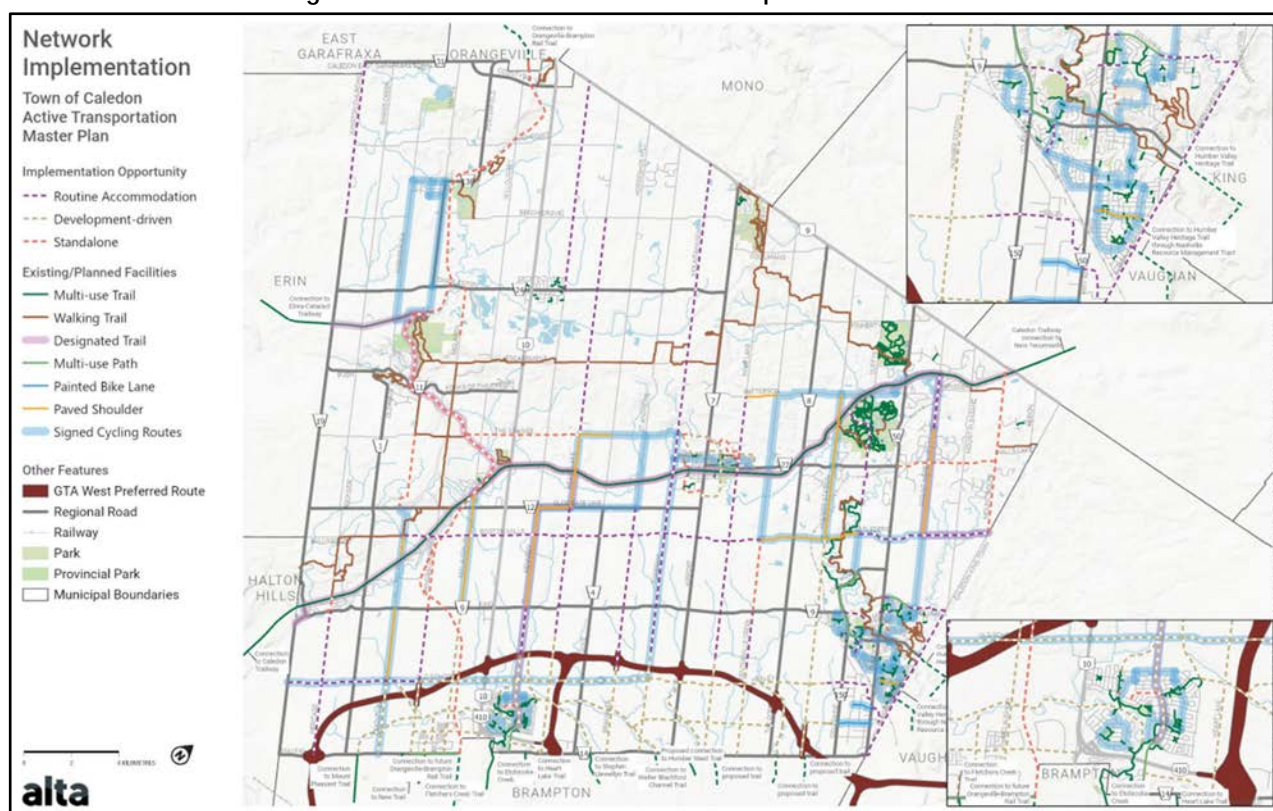
- **Collaborative:** The Town works collaboratively with its partners including all levels of governments and municipal partners to deliver active transportation projects to the community.
- **Measurable:** Outcomes and implementation strategies are evidence based and positively improve users' experience.

The ATMP outlines a dynamic strategic plan that centres around four key themes that emerged as community priorities through the study and as part of public engagement and discussions with stakeholders. The community priorities include:

- Infrastructure will be advanced in a cost-effective yet timely manner by leveraging capital projects and developments and annual active transportation planning and implementation program budgets to fill the gaps.
- Connectivity will occur by prioritizing bold initiatives such as the Caledon Rail to Trail (CRT) Conversion Project, localized neighbourhood mini-networks and intensification areas, as well as access across physical barriers (Etobicoke Creek Trail to Mayfield West 2 through Highway 10), and regional connection to adjacent municipalities such as Humber Valley Heritage Trail to the Super Trail Network in the City of Vaughan.
- Safety will be prioritized through physically separated pedestrian and cycling infrastructure for all ages and abilities, following best practices and most recent Provincial standards along Collectors and Arterials.
- Awareness and Culture within the organization and broader community will be fostered through ongoing education and outreach as well as expanding active transportation policies and guidelines in applicable Town plans.

Based on the guiding principles and community priorities noted above, the project team has developed the proposed development active transportation network that aligned with the approved active transportation network implementation noted in **Figure 18** below. Our detailed assessment and external connections are provided in the subsequent sections below.

Figure 18 – Town of Caledon Active Transportation Master Plan

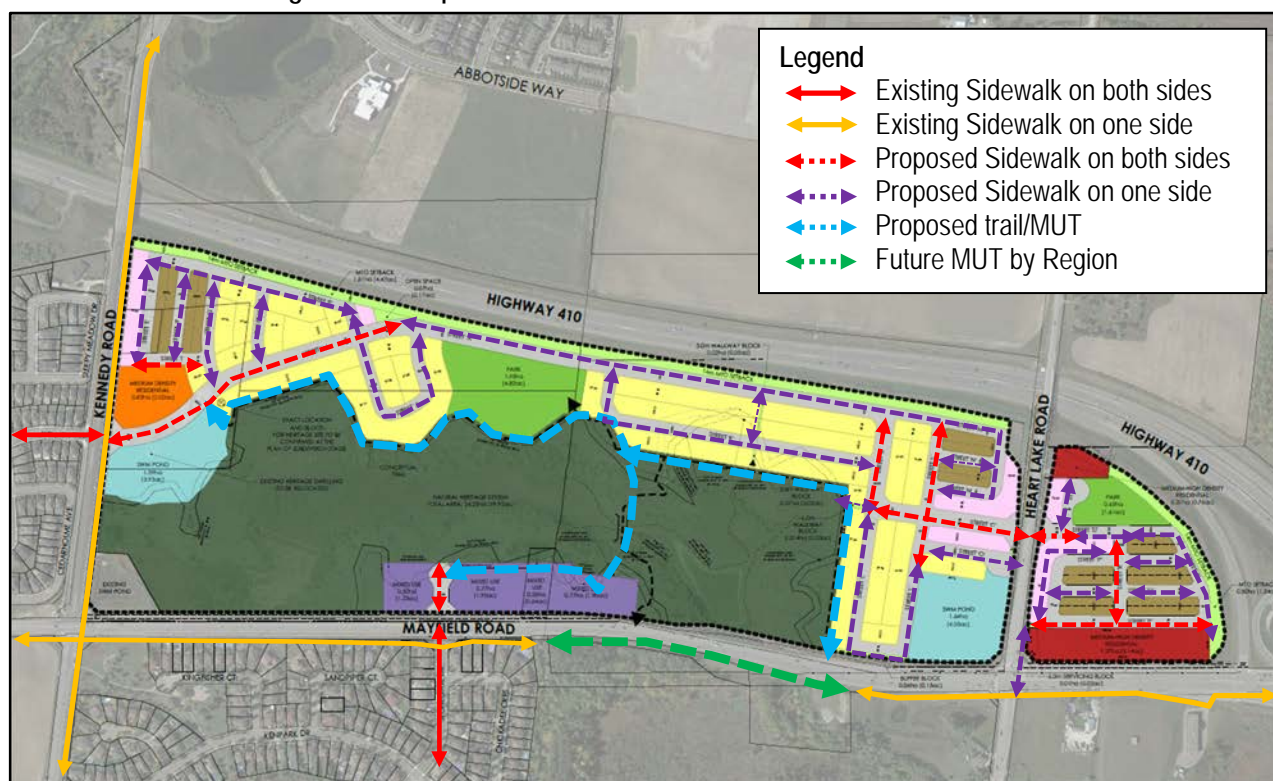


6.3.2. Walking Mode Assessment

Currently, sidewalk is available on the east side on Kennedy Road, north and south of Mayfield Road. Sidewalks are currently provided on both sides of Snellview Boulevard and Stonegate Drive. However, no sidewalks are currently provided along Mayfield Road and Heart Lake Road in the area.

As part of the capital road improvement for Mayfield Road, a 3.0 m multi-use path will be provided along both sides of Mayfield Road to the west of Kennedy Road, but only on the south side of Mayfield Road to the east of Kennedy Road. Nextrans recommends that the proposed 3.0 multi-use path should continue on the north side of Mayfield Road from Kennedy Road to Heart Lake Road. This should be included in the detailed design and construction of Mayfield Road. It is our understanding that the Town of Caledon is currently undertaking a Multi-Modal Transportation Master Plan and Active Transportation Master Plan, which will identify future transportation requirements, including active transportation facilities, for Kennedy Road and Heart Lake Road. In preparation to complete the active transportation network in this area, as part of the proposed development sidewalks, will be provided on one or both sides of the 18m road right-of-way or greater, sidewalk will be provided on one side for 16m road right-of-way. In addition, the proposed development will also provide a multiuse trail (MUT) that connects the development areas 1 and 2 with development area 4. All these facilities will connect to Heart Lake Road, Kennedy Road and Mayfield Road. **Figure 17** illustrates the proposed sidewalk network within the proposed development.

Figure 19 – Proposed Sidewalk Network and External Connections



6.3.3. Cycling Mode Assessment

Existing Conditions

Under the existing conditions, there are no dedicated cycling lanes along Mayfield Road, Kennedy Road and Heart Lake Road. However, there are existing multiuse trails along Mayfield Road from east of Kennedy Road to the east of Stonegate Drive that connects with Heart Lake off-road multiuse trail. The Etobicoke trail is on the west side of Kennedy Road running from north of Mayfield Road, west of Kennedy Road to Abbotside Way and then continue north along Kennedy Road.

Future Conditions

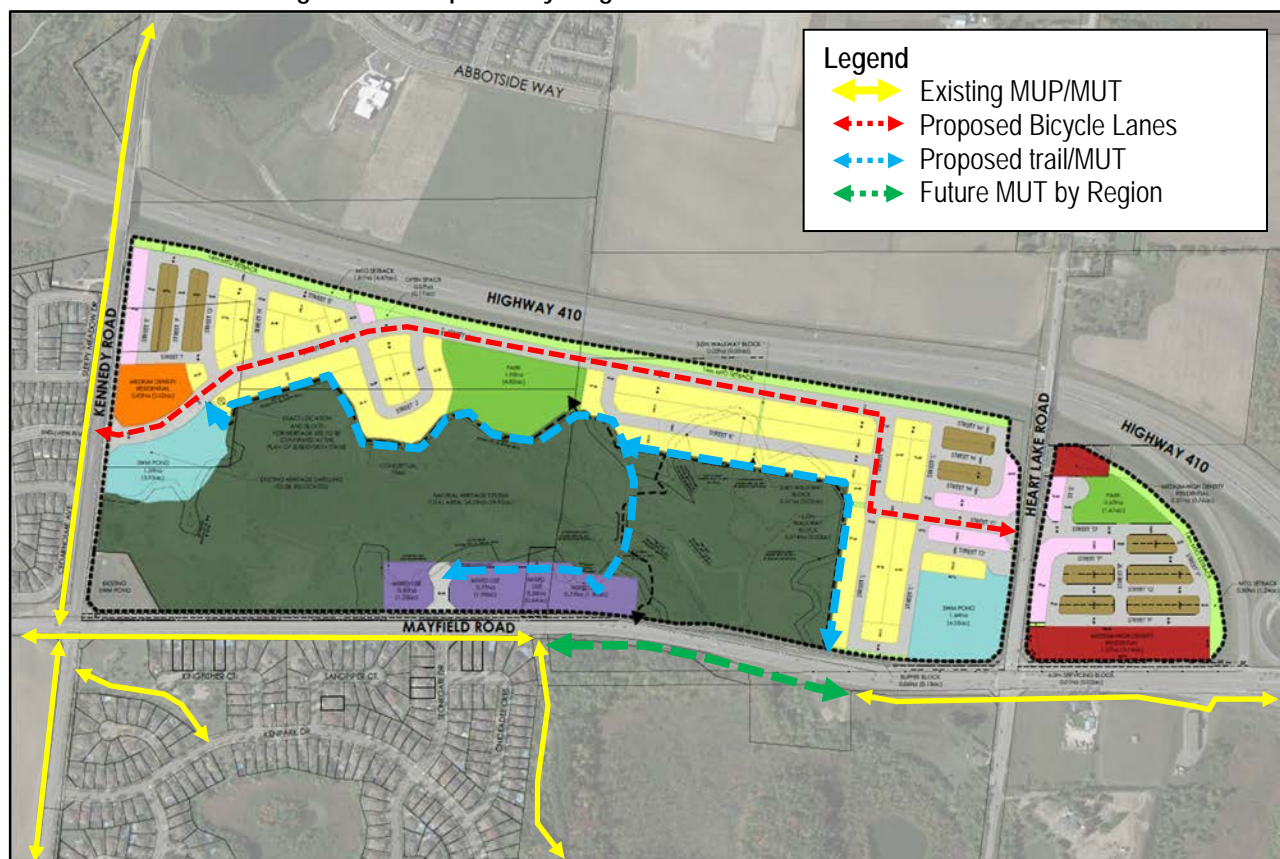
As indicated, as part of the capital road improvement for Mayfield Road, a 3.0 m multi-use path will be provided along both sides of Mayfield Road to the west of Kennedy Road, but only on the south side of Mayfield Road to the east of Kennedy Road. Nextrans recommends that the proposed 3.0 multi-use path should continue on the north side of Mayfield Road from Kennedy Road to Heart Lake Road. This should be included in the detailed design and construction of Mayfield Road. It is our understanding that the Town is currently undertaking a Multi-Modal Transportation Master Plan and Active Transportation Master Plan, which will identify future requirement for Kennedy Road and Heart Lake Road including active transportation facilities. The proposed development east-west MUT that will connect to both Kennedy Road and Mayfield Road to connect with the future facilities as noted.

Proposed Development Initiatives

The following cycling initiatives will be provided by the proposed development (**Figure 20**):

- The proposed development is proposing a multiuse trail (MUT) that runs along the southerly limit of the proposed development located south of Hwy 410, east of Kennedy Road and west of Heart Lake Road. This MUT will connect to both Kennedy Road and Mayfield Road. The Town has indicated that this MUT should be connected to the Etobicoke Trail. At this time, this proposed MUT will be connected to the Snellview Boulevard/Kennedy Road intersection. Therefore, cyclists can connect to the Etobicoke Trail via the Snellview Boulevard intersection and the existing connection from Snellview Boulevard to the existing Etobicoke Trail.
- The proposed development provides short-term bicycle parking spaces and long-term bicycle parking spaces for the medium-high density and mixed-used component of the proposed development. This provision will encourage residents to use more sustainable modes of transportation instead of driving single-occupant-vehicles.
- The proposed development provides bicycle repair stations for the mixed-use and medium-high density blocks in the future. The numbers of the repair stations and locations will be determined at the site plan application for each associated block.

Figure 20 – Proposed Cycling Network and External Connections



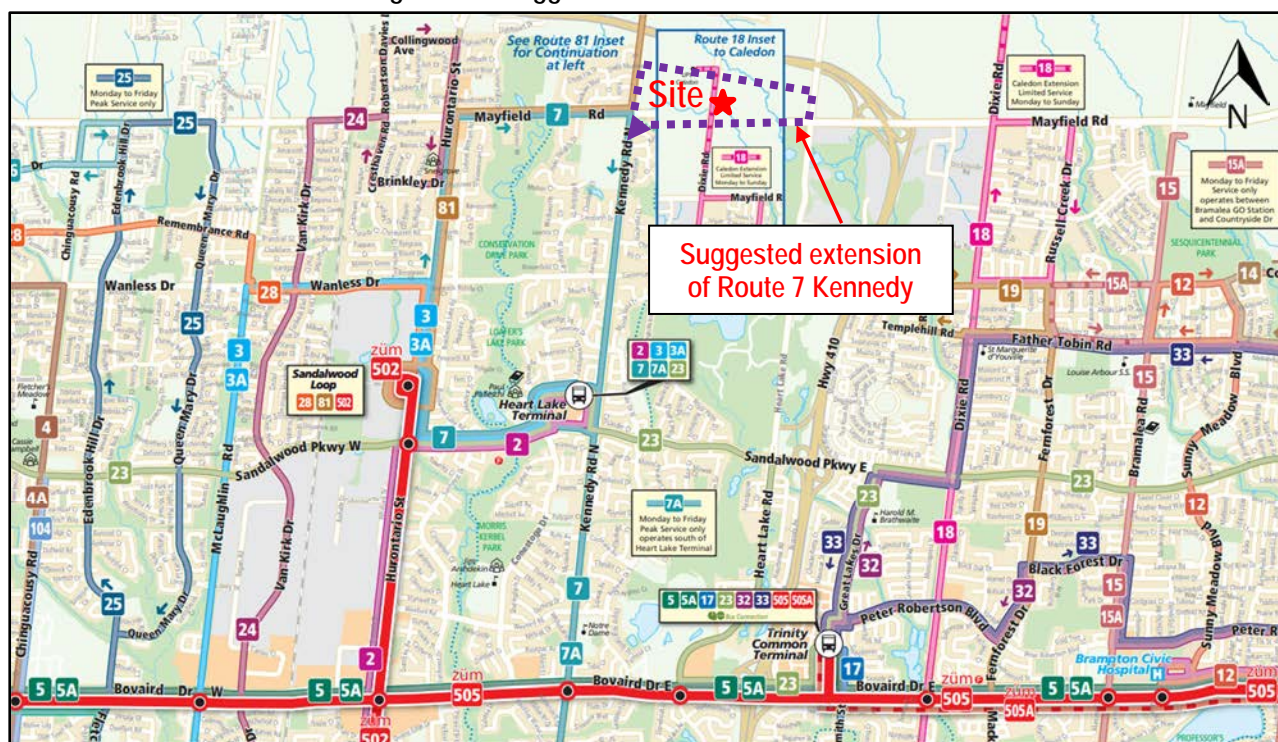
6.3.4. Transit Mode Assessment

As indicated, the proposed development is expected to generate 32 two-way non-auto trips (8 inbound and 24 outbound) and 37 two-way non-auto trips (22 inbound and 15 outbound) during the AM and PM peak hours, respectively. To be conservative and for the purposes of this assessment, it is assumed that these are transit related trips.

As indicated in Section 2.4 of the Study, Currently, the Town of Caledon does not have its own transit system, it is dependent on the Metrolinx and City of Brampton Transit for inter-regional transit connections and trips. The proposed development is located adjacent to Brampton Transit Bus Routes 81 Mayfield West, 18 Dixie and 7/7A Kennedy. In addition, the site is located about 8.5 km to the existing Brampton GO Train Station and about 10.0 km to the existing Mount Pleasant GO Train Station.

Given that a very low (to be conservative for intersection capacity analysis) transit modal split was assumed for the proposed development, the site generated transit trips can be accommodated by the existing transit services without any issues. However, in order to promote more sustainable trips for the proposed developments and the area in general, it is recommended that the public agencies work together to consider extending the existing Kennedy Bus Route 7 to service Mayfield Road and Heart Lake Road to the east Snellview Boulevard to the west. This proposed bus route could be a branch of Kennedy Route, such as 7C, as illustrated in **Figure 21** below.

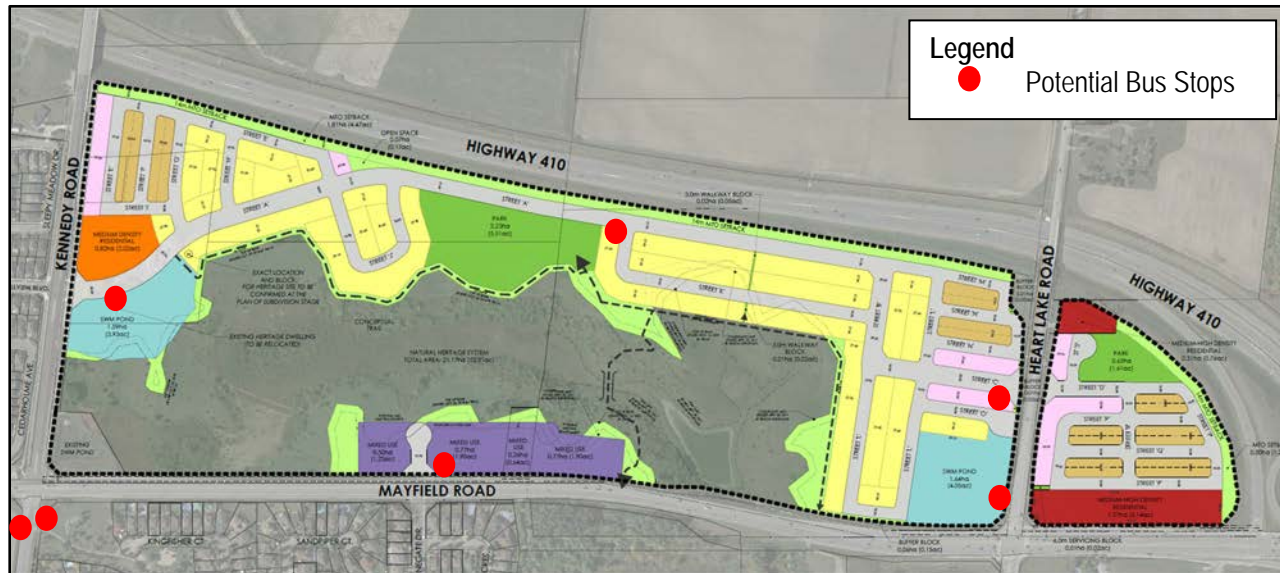
Figure 21 – Suggested Transit Service Extension



Source: Brampton Transit Service Map (2024)

If the above noted routes can be extended, the following potential bus stop locations are identified in **Figure 15** below for the future consideration and implementation.

Figure 22 – Potential Bus Stop Locations



7.0 SITE PLAN REVIEW

7.1. Waste Management Plan

As indicated, the proposed development consists of approximately 1,444 residential dwelling units of mixed types and approximately 2.30 ha of commercial development area.

Given that the medium-high density, commercial site and townhouse components will require separate site plan applications, the site-specific waste management plan will be provided at that time.

Loading Space Requirement

Similar to above, loading requirements will be assessed for each building in the next submission stage.

Garbage Truck Turning Movement Templates

Vehicular turning templates to confirm and demonstrate the accessibility for the proposed loading spaces and external/internal roads and intersections will be provided at the subsequent stage of the proposed development.

7.2. Proposed Development Access

The following access arrangement will be provided to accommodate each block of the proposed development and the recommended lane configurations and traffic control types based on the findings of this Study:

- One full moves intersection onto Kennedy Road, opposite the existing Snellview Boulevard. This proposed intersection is located approximately 285 m from centreline of the Mayfield Road/Kennedy Road intersection. The lane configurations and traffic control type include:
 - Traffic signals should be provided by 2028, based on the intersection capacity analysis
 - One exclusive northbound and southbound left turn lanes with minimum of 30 m storage length
 - One exclusive westbound left turn lane with 15 m storage, a shared through/right and one inbound lane
 - Convert the existing eastbound exclusive right turn lane on Snellview Boulevard to a shared through/right lane

- One full moves intersection onto Heart Lake Road is located approximately 215 m from the centreline of Mayfield Road/Heart Lake Road intersection. The lane configurations and traffic control type include:
 - A full moves intersection with stop signs on the east-west direction
 - One southbound and one northbound left turn lane with minimum of 30 m storage length and a shared northbound and southbound through/right lane
 - One westbound and one eastbound exclusive left turn lanes with minimum of 15 m storage and a shared westbound and eastbound through/right lane
- One access onto Mayfield Road to accommodate the proposed commercial and the proposed medium-high density parcels. This proposed access will be located opposite Stonegate Drive. The lane configurations and traffic control type include:
 - Require traffic signals by 2023 with the proposed completion of the commercial/medium-high density parcels
 - One exclusive westbound left turn with minimum of 60 m storage length and one exclusive eastbound left turn with minimum of 30 m storage
 - One exclusive southbound left turn with 15 m storage and a shared through/right, as well as one inbound lane be provided for the proposed Site Access #3

The analysis indicates that the proposed traffic control types and lane configurations are appropriate for the proposed development accesses. The proposed development accesses are expected to operate at acceptable levels of service for all horizon years considered in the analysis.

7.3. Internal Road Cross-section

Figure 23 illustrates the Key Map of proposed street right-of-way width, with Figures 24 through 30 illustrating various proposed cross-sections for the street right-of-way type.

Figure 23 – Proposed Right-of-Way Map

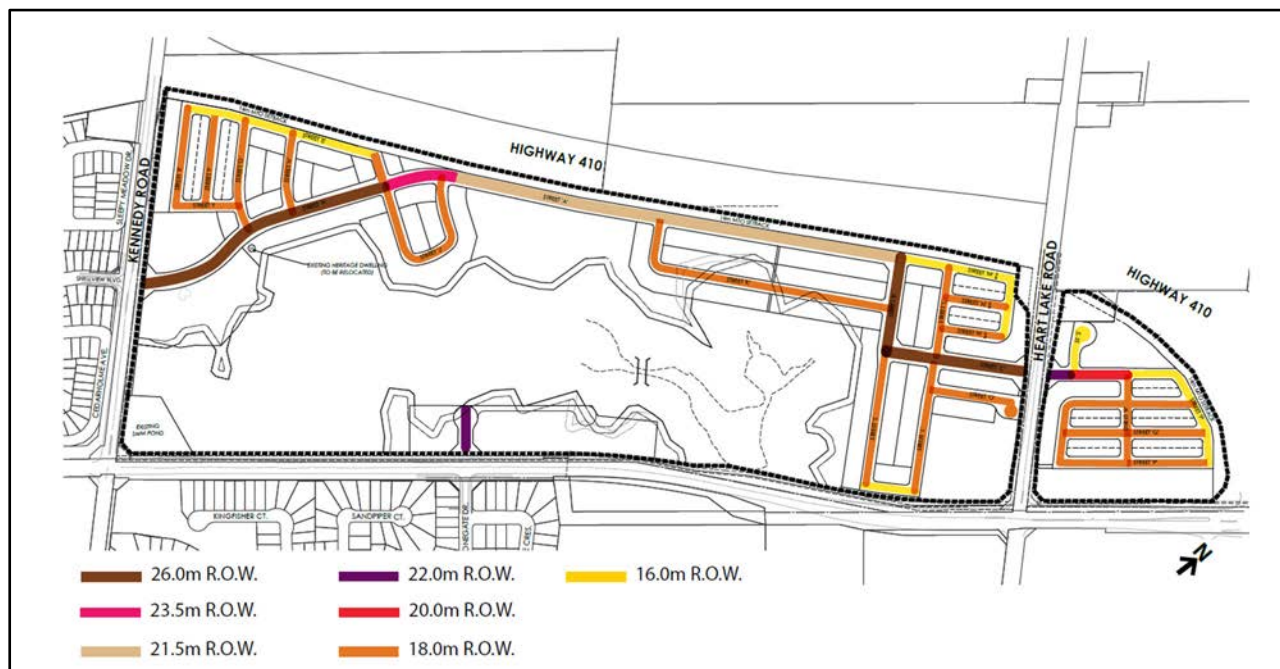


Figure 24 – 26m ROW Collector Road (Typical Cross-Section)

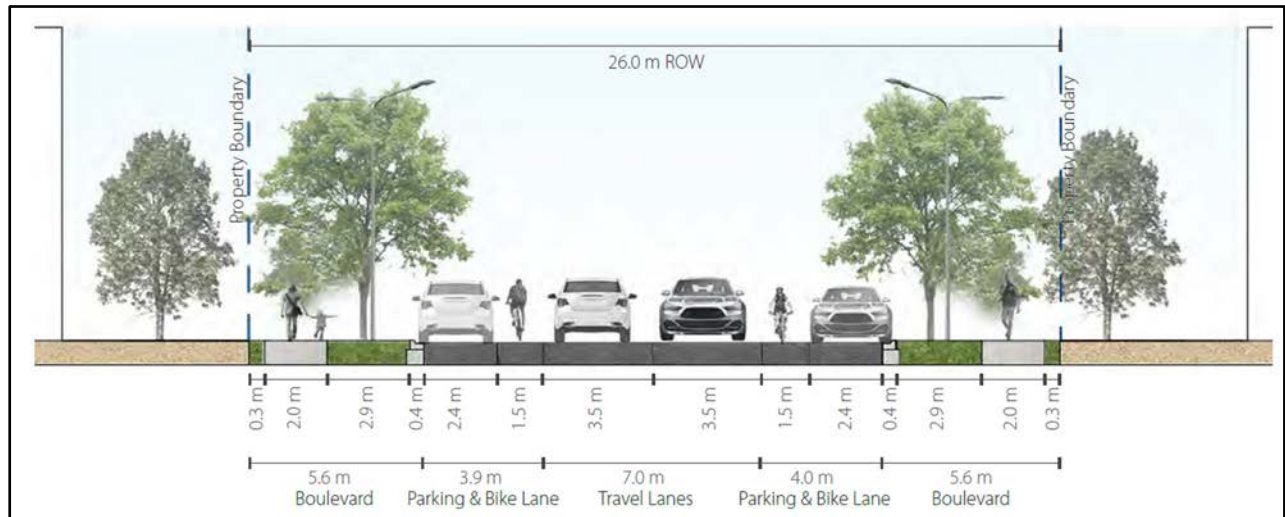


Figure 25 – 21.5m to 24.75m ROW Transition Section (Typical Cross-Section)

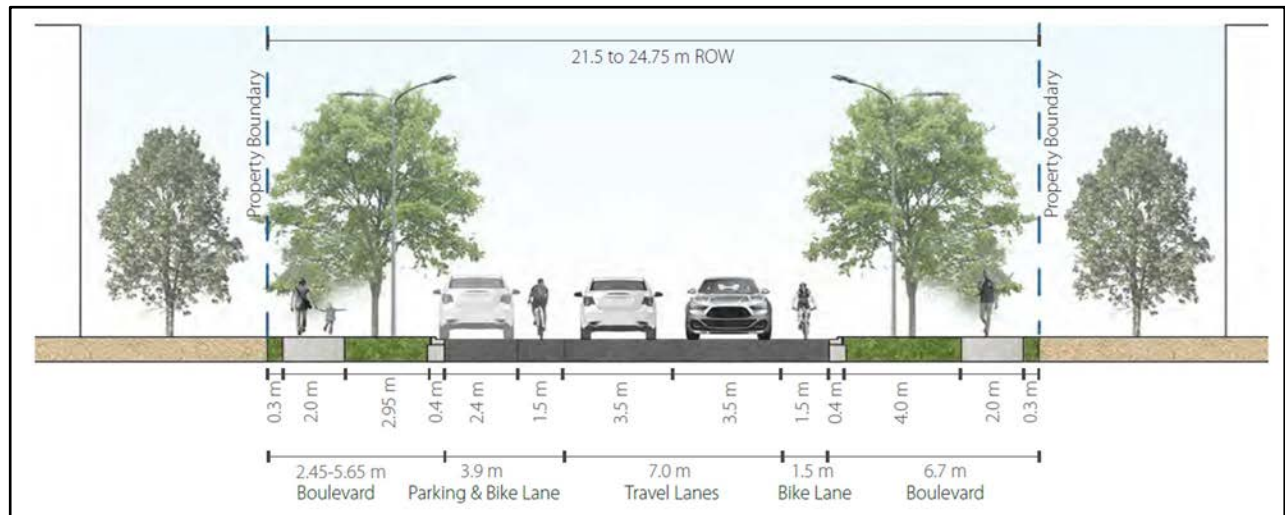


Figure 26 – 21.5m ROW Collector Road (Typical Cross-Section)

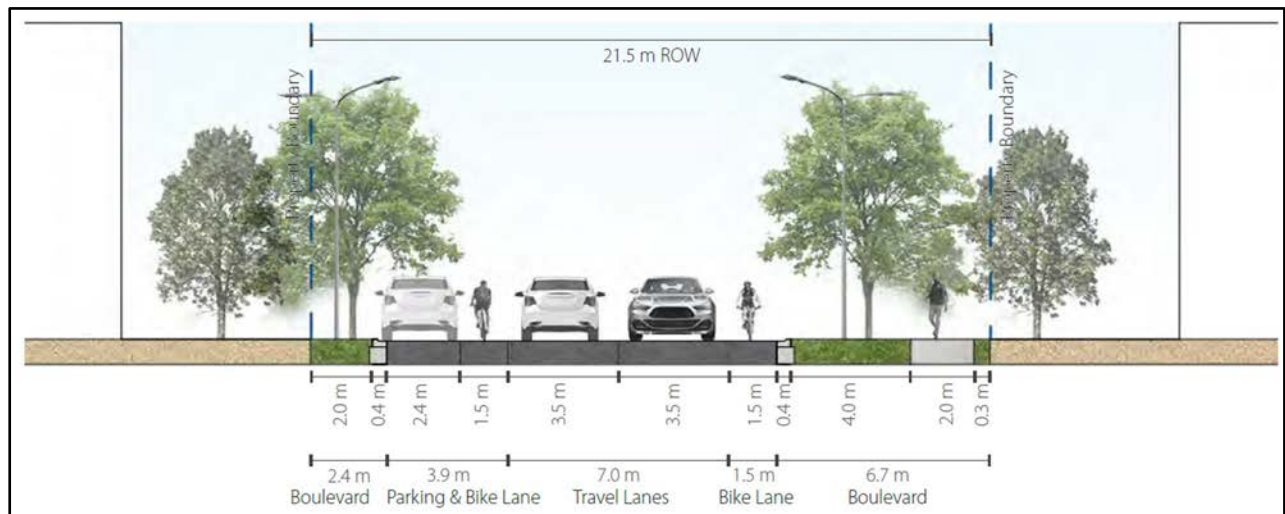


Figure 27 – 22.0m ROW Collector Road (Typical Cross-Section)

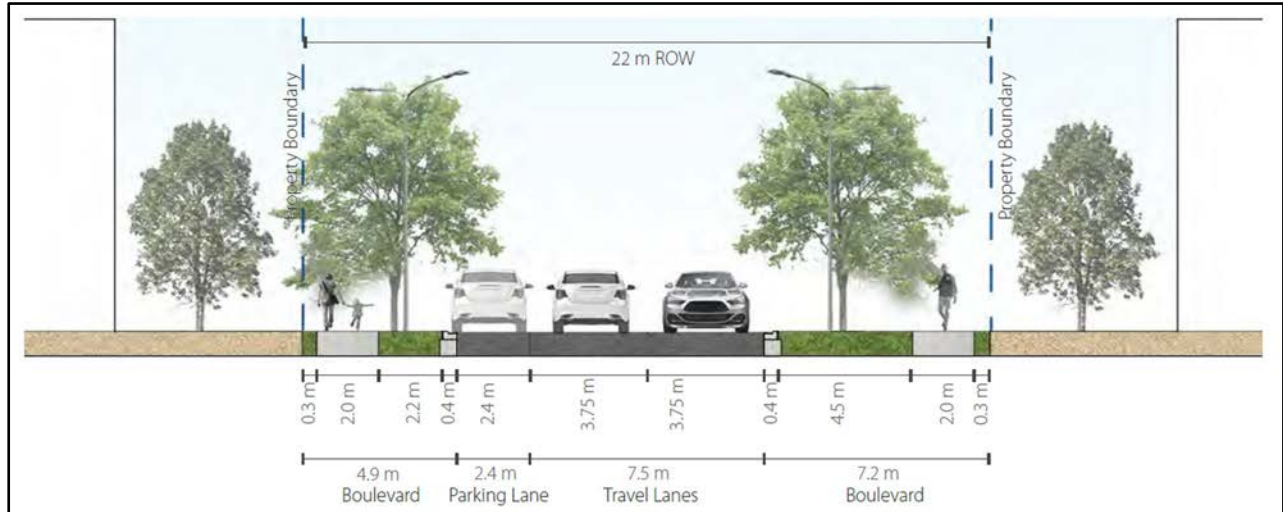


Figure 28 – 20.0m ROW Collector Road (Typical Cross-Section)

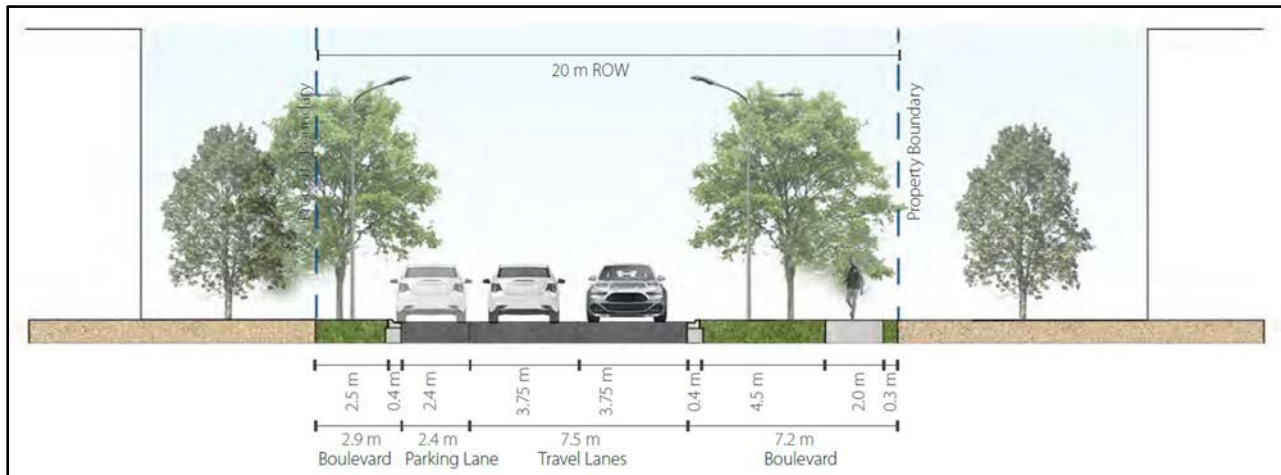


Figure 29 – 18.0m ROW Collector Road (Typical Cross-Section)

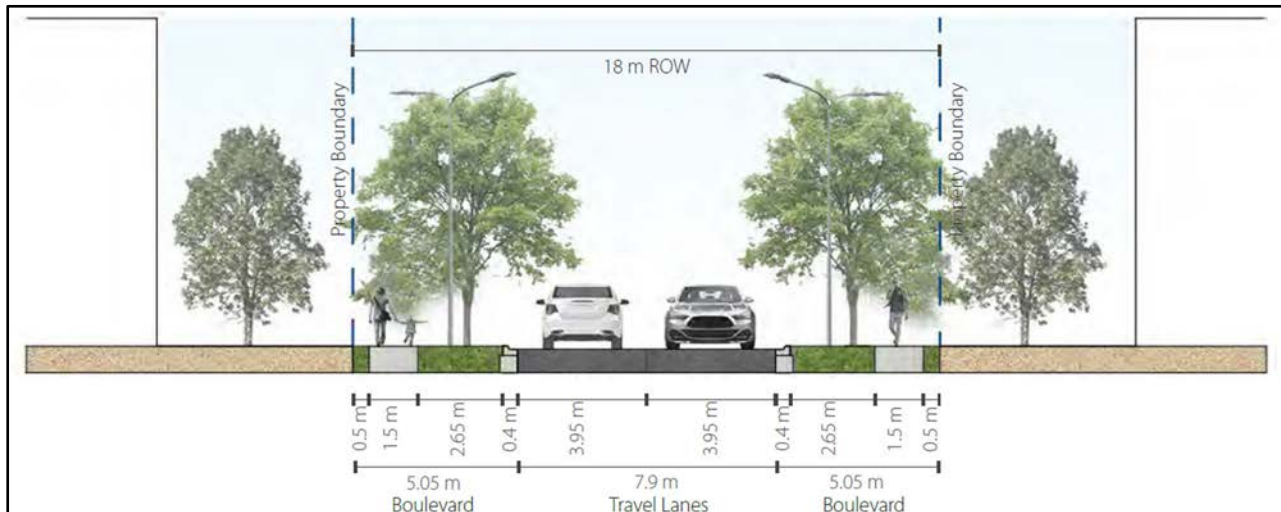
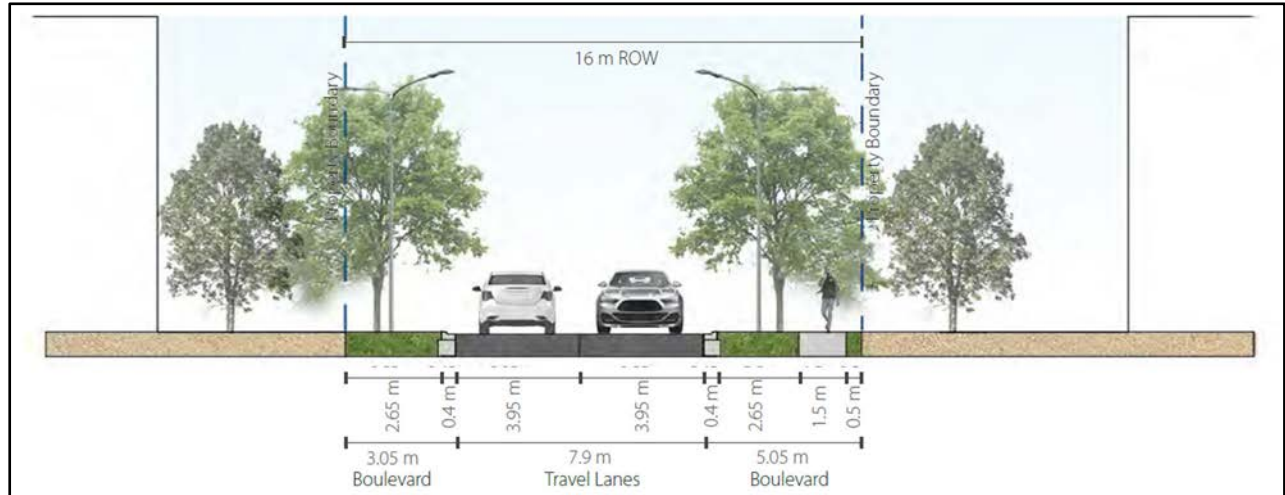


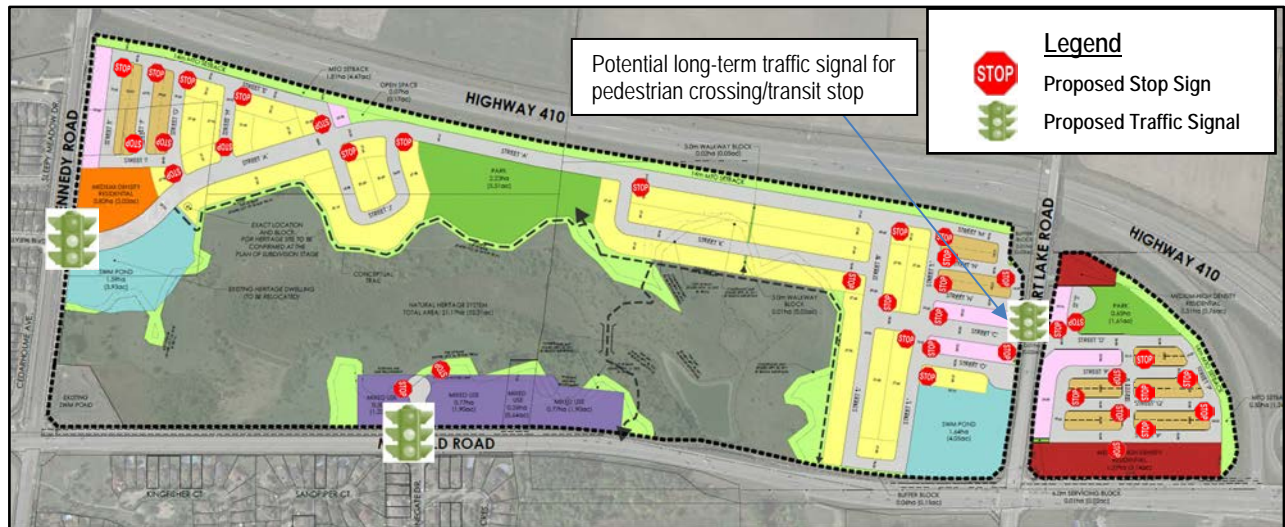
Figure 30 – 16.0m ROW Local Road (Typical Cross-Section)



7.3.1. Traffic Control Device

Based on Nextrans' review of the internal subdivision layout, traffic circulation pattern and forecast traffic volumes, the following traffic control devices are proposed, subject to more detailed review at the subsequent stage of the proposed development. **Figure 31** illustrates the proposed traffic control devices for the proposed development.

Figure 31 – Proposed Traffic Control Device



7.4. Safety Analysis

7.4.1. Sightlines

Proposed Site Access #1/Snellview Blvd at Kennedy Road

The proposed Site Access #1 will be located opposite the existing Snellview Boulevard, **Figure 32** illustrates the proposed Site Access #1/Snellview Boulevard at Kennedy Road. Based on this information, it is anticipated that sightline is acceptable at the proposed access location as there is an existing access and intersection at this location. The location is relatively flat with no significant horizontal or vertical curves.

Figure 32 – Existing Kennedy Road and Proposed Access Location



Source: Google Streetview

Proposed Site Access #2/Heart Lake Road

Based on Nextrans' courtesy review of the proposed Access #2 location, the existing Heart Lake Road at the proposed access location is relative flat with no horizontal curb and gradual up slope toward Hwy 410 overpass and gradual down slope toward Mayfield Road. **Figure 33** illustrates the approximate location of the proposed Access #2 at Heart Lake Road. Based on this information, it is anticipated that sightlines are acceptable at the proposed access location.

Figure 33 – Existing Heart Lake Road and Proposed Access Location



Source: Google Streetview

Proposed Site Access #3/Stonegate Drive/Mayfield Road

The proposed Site Access #3 will be located opposite the existing Stonegate Drive. **Figure 34** illustrates the approximate location of the proposed Access #3 at Mayfield Road. Based on this information, it is anticipated that sightline is acceptable at the proposed access location as there is an existing access and intersection at this location. The location is relatively flat with no significant horizontal or vertical curves.

Figure 34 – Existing Mayfield Road and Proposed Access Location



Source: Google Streetview

It should be noted that detailed sightline analysis can be provided once the proposed access locations and geometries are finalized, if necessary.

7.4.2. Pedestrian and Cycling Safety

7.4.2.1 Vehicle Speed

To support Vision Zero and to ensure pedestrian and cycling safety, it is recommended that the proposed development provides appropriate daylight triangles as required by the Town of Caledon on Kennedy Road and Heart Lake Road, as well as Peel Region's requirements on Mayfield Road.

As there are inconsistent posted speed limits on Mayfield Road, Kennedy Road and Heart Lake Road, it is recommended that the Region and the Town consider providing one consistent posted speed limits through this area. This is important and this area will be urbanized as part of the Mayfield Road widening project. The suggested posted speed limits are:

- 60 km/h for Mayfield Road
- 60 km/h for Kennedy Road;
- 60 km/h for Heart Lake Road; and
- Maximum of 40 km/h or less for all internal roads

7.4.2.2 Interaction/Conflict Area

As requested by the Town, the following pedestrian and cyclist conflict areas have been identified, based on a high-level assessment. A more detailed assessment will be provided at the subsequent stage of the proposed development so that more detailed information can be provided. **Figure 35** illustrates the potential interaction/conflict areas.

The following potential measures are recommended and to be confirmed at subsequent stage of the proposed development.

External Interaction/Conflict Areas:

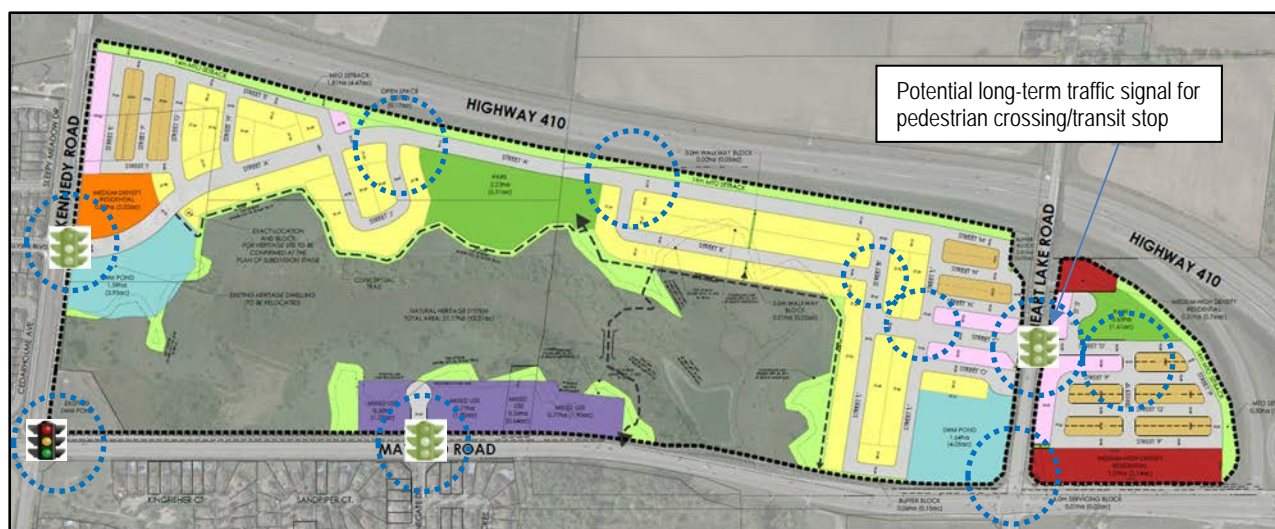
- For signalized intersections, ladder crossing be provided for all legs of the intersection as per OTM Book 15;

- For unsignalized intersection, ladder crossing or clear pavement markings be provided at the stop-controlled legs of the intersection; and
- Cycling facility treatments at the intersections be consistent with the recommendations of OTM Book 18, TAC and relevant guidelines and best practices such as cross-side treatments and intersection treatments

Internal Interaction/Conflict Areas:

- For major conflict area, all-way stop may be considered with ladder crossing treatment as per OTM Book 15;
- At the stop-controlled locations, ladder crossing or clear pavement marking treatments as per OTM Book 15 can be implemented; and
- Signage such as “prepare stop for pedestrian” and advisory speed signs can be implemented

Figure 35 – Interaction and Conflict Areas



7.4.3. Traffic Calming Review

Based on Nextrans' courtesy review of the area context and future plans for the area, for the external traffic calming measures, it is Nextrans' opinion that it should be reviewed as part of the larger study for the area, or part of the Town's on-going Active Transportation Master Plan Study. As for the proposed development, Nextrans recommended that the proposed development design minimizes the pavement width and curb radii to discourage speeding and to support pedestrian and cyclist crossing all internal roads and intersections.

8.0 PARKING ASSESSMENT

8.1. Vehicle Parking Requirement

As indicated, the proposed development consists of approximately 1,444 residential dwelling units of mixed types and approximately 2.30 ha of commercial development area. The anticipated breakdowns are as follows:

- Low density (detached, semi-detached and street townhouses) – 316 dwelling units
- Dual-frontage townhouses – 90 units
- Back-to-back townhouse – 226 units
- Medium density (townhouses) – 115 dwelling units
- Medium-high density (townhouses and apartments) – 237 dwelling units

- Mixed-use (apartments) – 460 units
- Commercial (63 jobs/ha) – 496 jobs

Table 11 below summarizes the vehicle parking requirements for the proposed development, based on Section 5 of the Town of Caledon current Zoning By-law No. 2006-50 (in effect).

Table 11 – Town of Caledon Zoning By-law Parking Requirements

Unit Type	No. of Unit	Parking Rates (Off-Street)	Parking Requirement
Residential	406 units (detached, semi-detached, duplex and link)	2.0 spaces/unit	812 spaces for residential
	341 units (townhouse)	1.5 spaces/unit for residential 0.25 spaces/unit for visitor	512 spaces for residential 85 spaces for visitor
	697 units (apartment)	1.5 space/unit for residential 0.25 spaces/unit for visitor	1,046 spaces for residential 174 spaces for visitor
Non-residential	3.63 acre	1.0 space/20 m ²	To be confirmed
Total			2,629 spaces residential

Based the applicable Zoning By-law requirement, the proposed development will be required to provide approximately 2,629 vehicle parking spaces for residential component. The non-residential component will be confirmed at the subsequent application stage. It is Nextrans' opinion that this requirement is very excessive, especially for the apartment component. Appropriate vehicle parking rates will be recommended at the site plan stage.

8.2. Bicycle Parking

It is Nextrans' understanding that the Town of Caledon currently does not have bicycle requirements in the current Zoning By-law. The Town comment indicates that bicycle parking rates should be established for the proposed development. For the starting point, the bicycle parking rates for this area should be similar to the City of Brampton. However, City of Brampton only has bicycle parking rates for the Hurontario Street/Steeles Avenue area.

Based on Nextrans' review of the City of Brampton's Zoning By-law No. 82-2012 as amended to Zoning By-law No. 270-2004 for the developments located along the Hurontario Street Corridor in the City of Brampton, 0.50 spaces per unit are required per dwelling units.

If these are applied to the proposed development apartment component with 697 units, a total of 349 bicycle parking spaces (697 new units x 0.50 spaces/unit) would be required. A more detailed assessment will be provided at the subsequent stage of the proposed development and more detailed will be provided.

9.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a co-ordinated series of actions aimed at maximizing the people moving capability of the transportation system. Intended to reduce single-occupant auto use, potential TDM measures include: TDM supportive land use, bicycle and pedestrian programs and facilities, public transit improvements, preferential treatments for buses and ridesharing, where appropriate.

The following TDM incentives are recommended for the proposed mixed-use community, based on Nextrans' review of the Town of Caledon and Region of Peel TDM Strategy:

- Given that parking management is the best TDM measures, the proposed development should implement the minimum parking rates based on the Town of Caledon applicable Zoning By-law to support TDM and minimize the numbers of single-occupant-vehicle trips;
- Provide sidewalks in all proposed internal roads;
- Provide multiuse trail as indicated in the proposed development plan;

- Provide direct shared pedestrian/bicycle connections from the proposed medium-high density blocks to Mayfield Road and Heart Lake Road, where appropriate;
- The Town and the Region to implement a multi-use path along the north side of Mayfield Road, between Kennedy Road and Heart Lake Road;
- The Town of Caledon to work with the City of Brampton to bring transit to the proposed development area via the extension of the existing Kennedy Bus Route 7/7A;
- Provide bicycle parking spaces based on the recommended bicycle parking rates provided in Section 8.2 of this Study; and
- Provide information package for new residents. The information package should include Brampton Transit and Metrolinx GO Transit bus route and GO train schedules, as well as community and cycling maps. The Information Package can be distributed at the sale office

10.0 CONCLUSIONS / FINDINGS

10.1. Study Conclusions

The findings and conclusions of the analysis are as follows:

- The proposed development is expected to generate:
 - 740 two-way auto trips (224 inbound and 516 outbound) and 901 two-way auto trips (548 inbound and 353 outbound) during the AM and PM peak hours, respectively; and
 - 38 two-way transit trips (11 inbound and 27 outbound) and 49 two-way transit trips (29 inbound and 20 outbound) during the AM and PM peak hours, respectively.
- The intersection capacity analysis indicates that under the existing conditions with new traffic turning movement counts, all intersections are currently operating at acceptable levels of service with all v/c ratios are under 1.0, no improvements are required at this time.
- Under the 2028 and 2033 future background conditions with the planned widening of Mayfield Road from its existing 4-lane cross-section west of Heart Lake Road to a 6-lane cross-section, all intersections are expected to operate at acceptable levels of service. However, for the Mayfield Road/Kennedy Road intersection, a westbound exclusive right turn lane and southbound double left turn lanes are required beyond 2028 or by 2033. It is recommended that these improvements to be included as part of the Mayfield Road improvement project.
- Under the 2028 future total conditions with the planned widening of Mayfield Road from its existing 4-lane cross-section west of Heart Lake Road to a 6-lane cross-section, the majority of the intersections are expected to operate at acceptable levels of service with v/c ratios are under 1.0. However, for the Mayfield Road/Kennedy Road intersection, a westbound exclusive right turn lane and southbound double left turn lanes are required beyond 2028. For the Mayfield Road/Stonegate Drive/Site Access #3, a traffic signal will be required by 2028 to improve operation and help facilitate pedestrian and cyclist crossing from the south side to the north side of Mayfield Road. Although traffic signals are not numerically warranted, it is recommended that the traffic signals be installed as part of the proposed development.
- The analysis indicates that the transit passenger demands generated by the proposed development per transit vehicle is low due to limited transit opportunities in the area under the existing conditions. However, it is suggested that the Town of Caledon work with Brampton Transit to extend the existing Kennedy Bus Route 7 to service this future area.
- Based on the applicable Zoning By-law requirement, the proposed development will be required to provide approximately 2,629 vehicle parking spaces for residential component. The non-residential component will be confirmed at the subsequent application stage. It is Nextrans' opinion that this requirement is very excessive,

especially for the apartment component. Appropriate vehicle parking rates will be recommended at the site plan stage.

- It is Nextrans' understanding that the Town of Caledon currently does not have bicycle requirements in the current Zoning By-law. The Town comment indicates that bicycle parking rates should be established for the proposed development. For the starting point, the bicycle parking rates for this area should be similar to the City of Brampton. However, City of Brampton only has bicycle parking rates for the Hurontario Street/Steeles Avenue area.

Based on Nextrans' review of the City of Brampton's Zoning By-law No. 82-2012 as amended to Zoning By-law No. 270-2004 for the developments located along the Hurontario Street Corridor in the City of Brampton, 0.50 spaces per unit are required per dwelling units.

If these are applied to the proposed development apartment component with 697 units, a total of 349 bicycle parking spaces (697 new units x 0.50 spaces/unit) would be required. A more detailed assessment will be provided at the subsequent stage of the proposed development and more detailed will be provided.

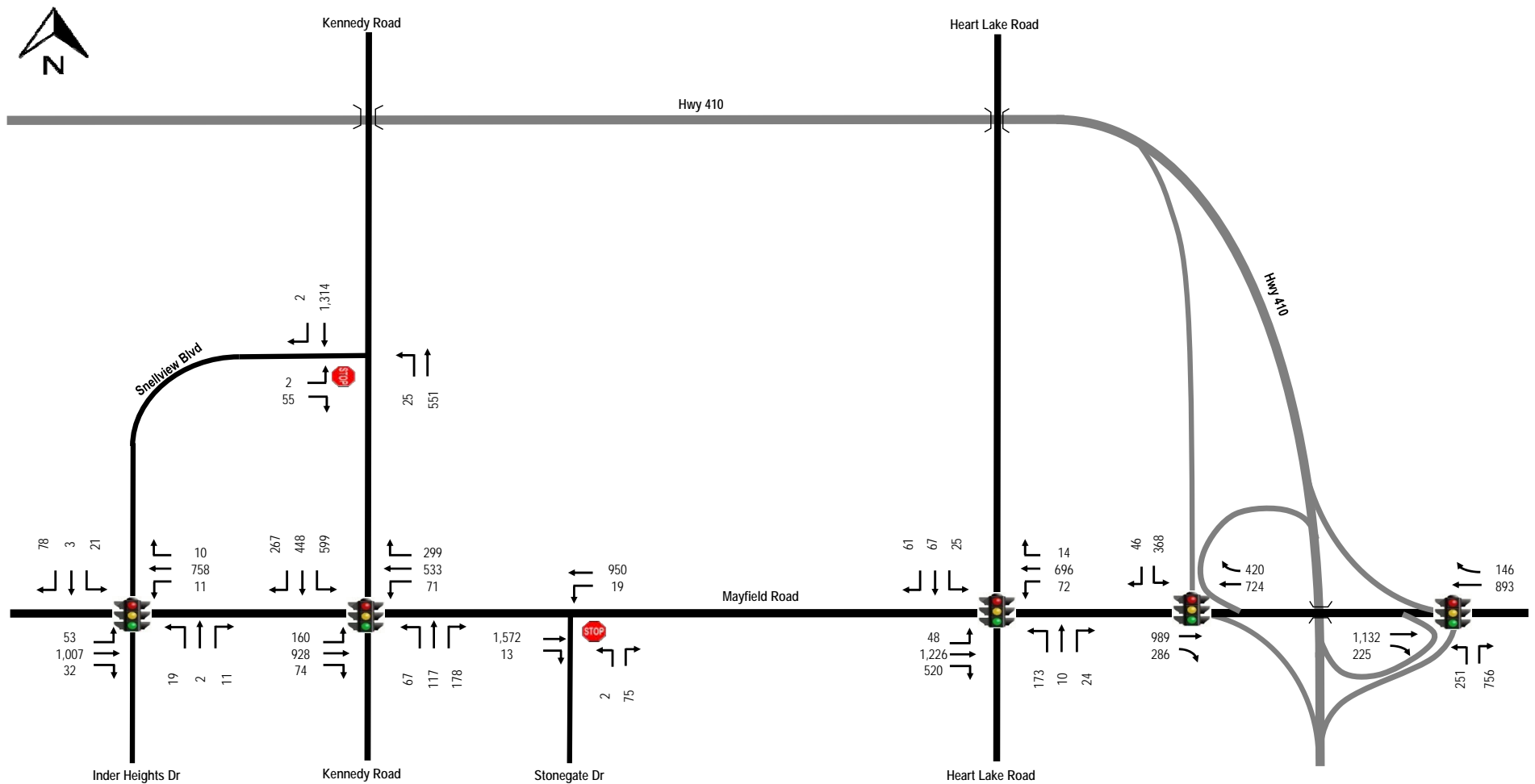
- The vehicle turning movement templates (for snow plow) has been provided in this Study and can be provided at the subsequent stage of the proposed development.

10.2. Study Recommendations

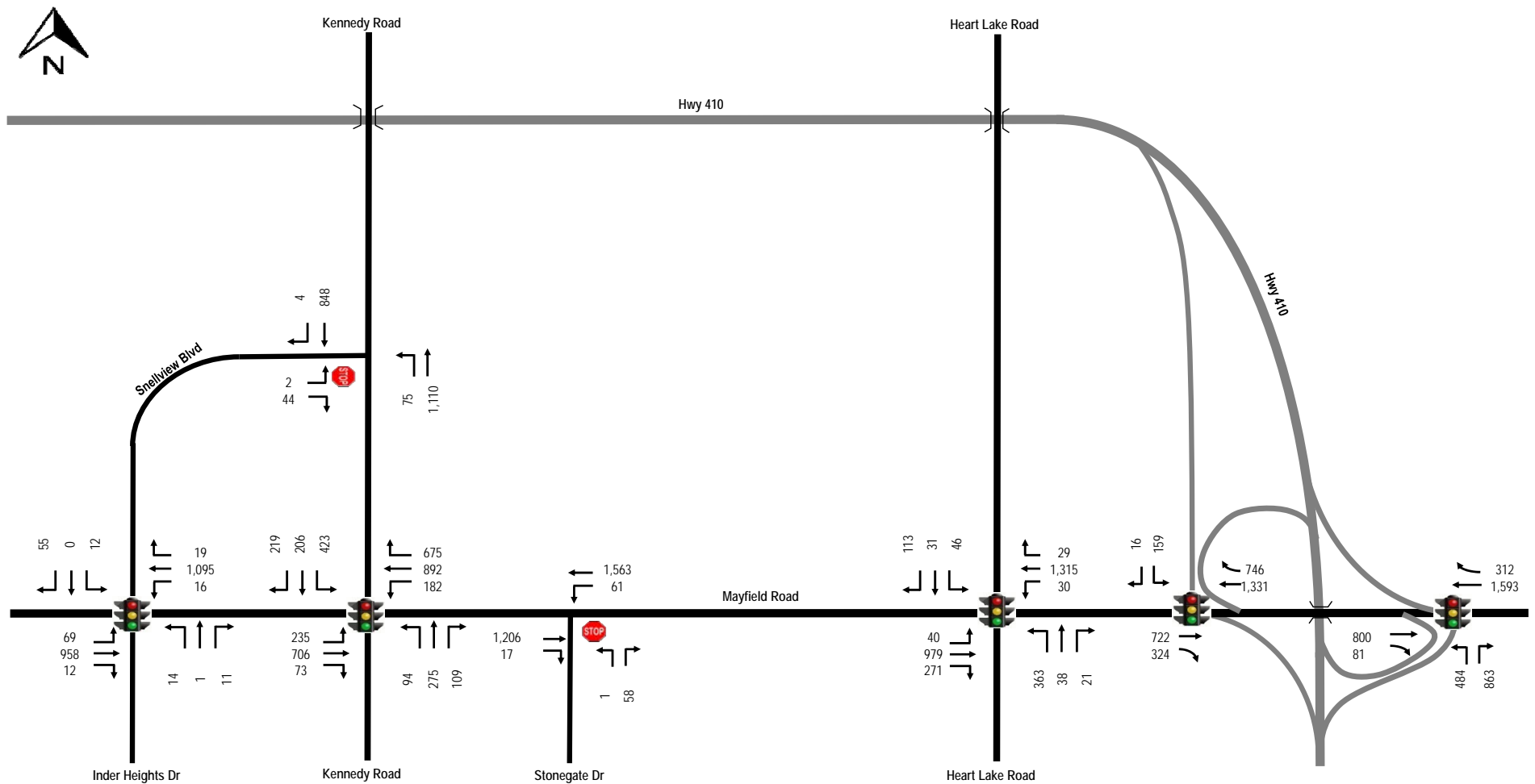
Based on the findings of this Study, the following recommendations are provided:

- External Road Network for 2028 Horizon
 - Traffic signals should be provided for the Kennedy Road/Site Access #1 intersection by 2028;
 - Traffic signals should be provided for the Mayfield Road/Stonegate Drive/Site Access #3 intersection by 2028;
 - Full turning lanes at the intersection of Heart Lake Road/Site Access #2;
 - Westbound exclusive right turn at the Mayfield Road/Kennedy Road intersection; and
 - MTO to monitor the Hwy 410 Northbound Off-ramp in the future and potentially an additional northbound right turn lane may be required to accommodate heavy truck traffic that will be destined to the employment/warehousing land use areas to the east of Hwy 410.
- External Road Network for 2033 Horizon
 - All improvements identified for the 2028 horizon noted above;
 - The southbound double left turn and westbound exclusive right turn lanes should be provided for the Mayfield Road/Kennedy Road intersection prior to or by 2033; and
 - MTO to monitor the Hwy 410 Northbound Off-ramp in the future and potentially an additional northbound right turn lane may be required to accommodate heavy truck traffic that will be destined to the employment/warehousing land use areas to the east of Hwy 410.
- Improvements at the proposed development intersections
 - Provide traffic signals at the Kennedy Road/Snellview Boulevard/Site Access #1 intersection by 2028 or the completion of the proposed development. The proposed lane configurations include:
 - One exclusive northbound and southbound left turn lanes with minimum of 30 m storage length
 - One exclusive westbound left turn lane with 15 m storage, a shared through/right and one inbound lane

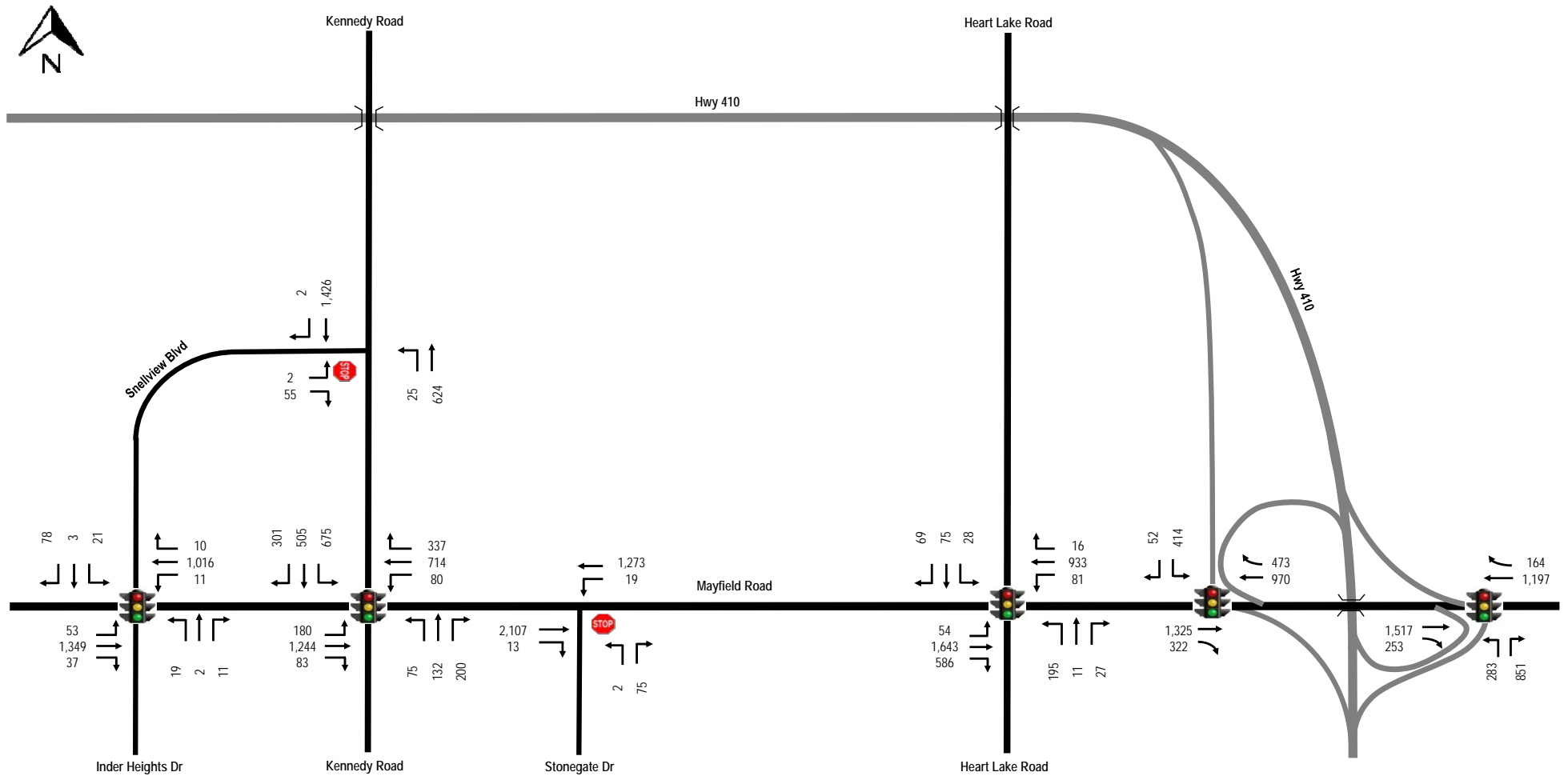
- Convert the existing eastbound exclusive right turn lane on Snellview Boulevard to a shared through/right lane
 - Provide a full moves intersection at the Heart Lake Road/Site Access #2 with stop signs on the east-west direction. The lane configurations include:
 - One southbound and one northbound left turn lane with minimum of 30 m storage length and a shared northbound and southbound through/right lane
 - One westbound and one eastbound exclusive left turn lanes with minimum of 15 m storage and a shared westbound and eastbound through/right lane
 - Provide traffic signals the Mayfield Road/Stonegate Drive/Site Access #3 intersection by 2028 or the completion of the proposed mixed-use development blocks. The proposed lane configurations include:
 - One exclusive westbound left turn with minimum of 30 m storage length and one exclusive eastbound left turn with minimum of 30 m storage
 - One exclusive southbound left turn with 15 m storage and a shared through/right, as well as one inbound lane be provided for the proposed Site Access #3
 - Provide/maintain a westbound exclusive right turn and southbound double left turn lanes at the Mayfield Road/Kennedy Road intersection as part of the Mayfield Road widening project (2026).
- Other recommendations
 - The proposed development implements the TDM measures and incentives identified in this report to support active transportation and transit and to reduce the numbers of single-occupant-vehicle trips to and from the proposed development;
 - The proposed development provides 0.5 bicycle spaces/unit for the apartment component of the proposed development. This is similar to the City of Brampton Hurontario Street corridor bicycle parking requirement;
 - The Town and the Region provides 3.0 multi-use path on the north side of Mayfield Road from Kennedy Road to Heart Lake Road. This should be included in the detailed design and construction of Mayfield Road; and
 - The proposed development provides the recommended internal active transportation network, as provided in this Study.



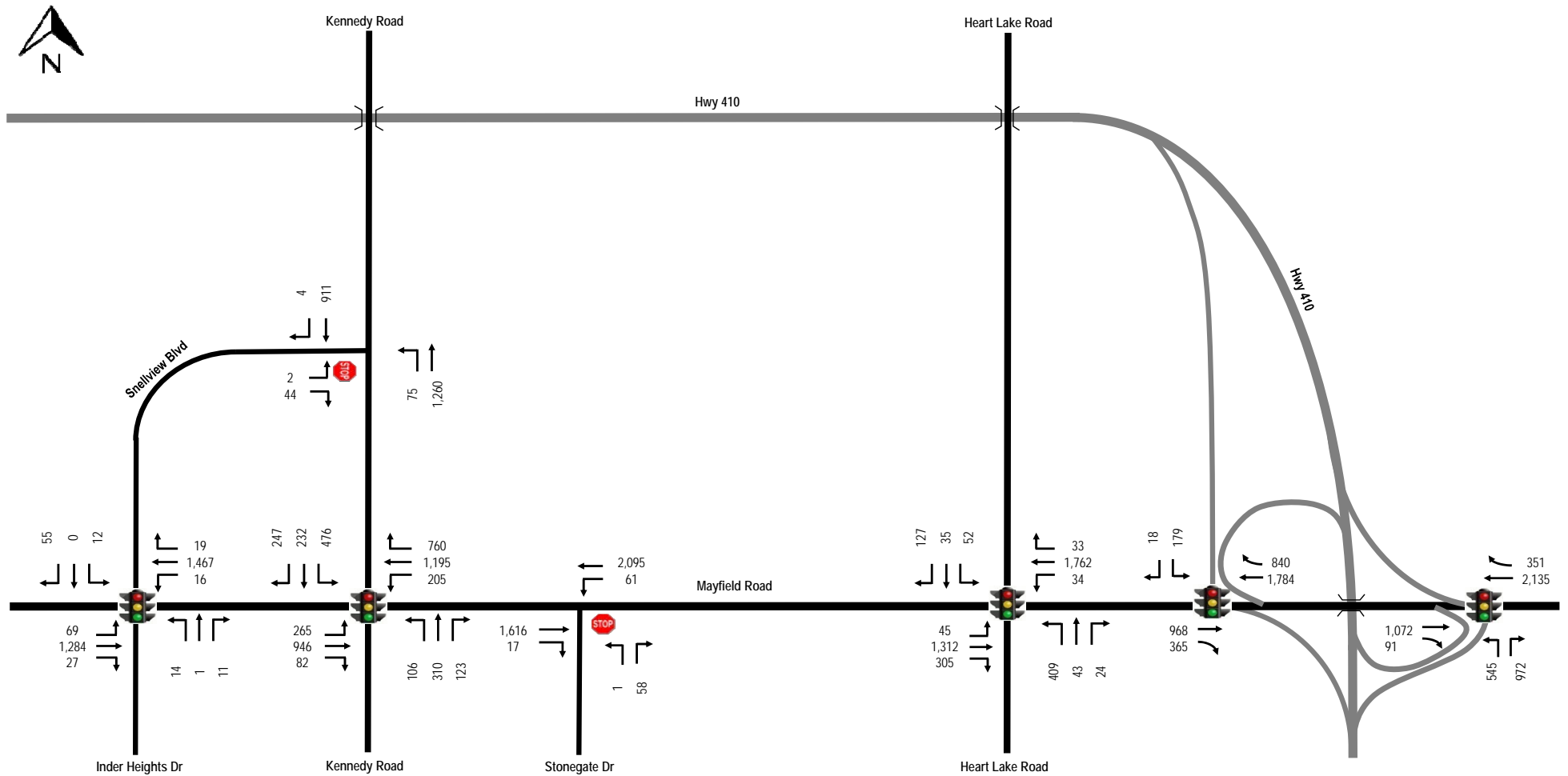
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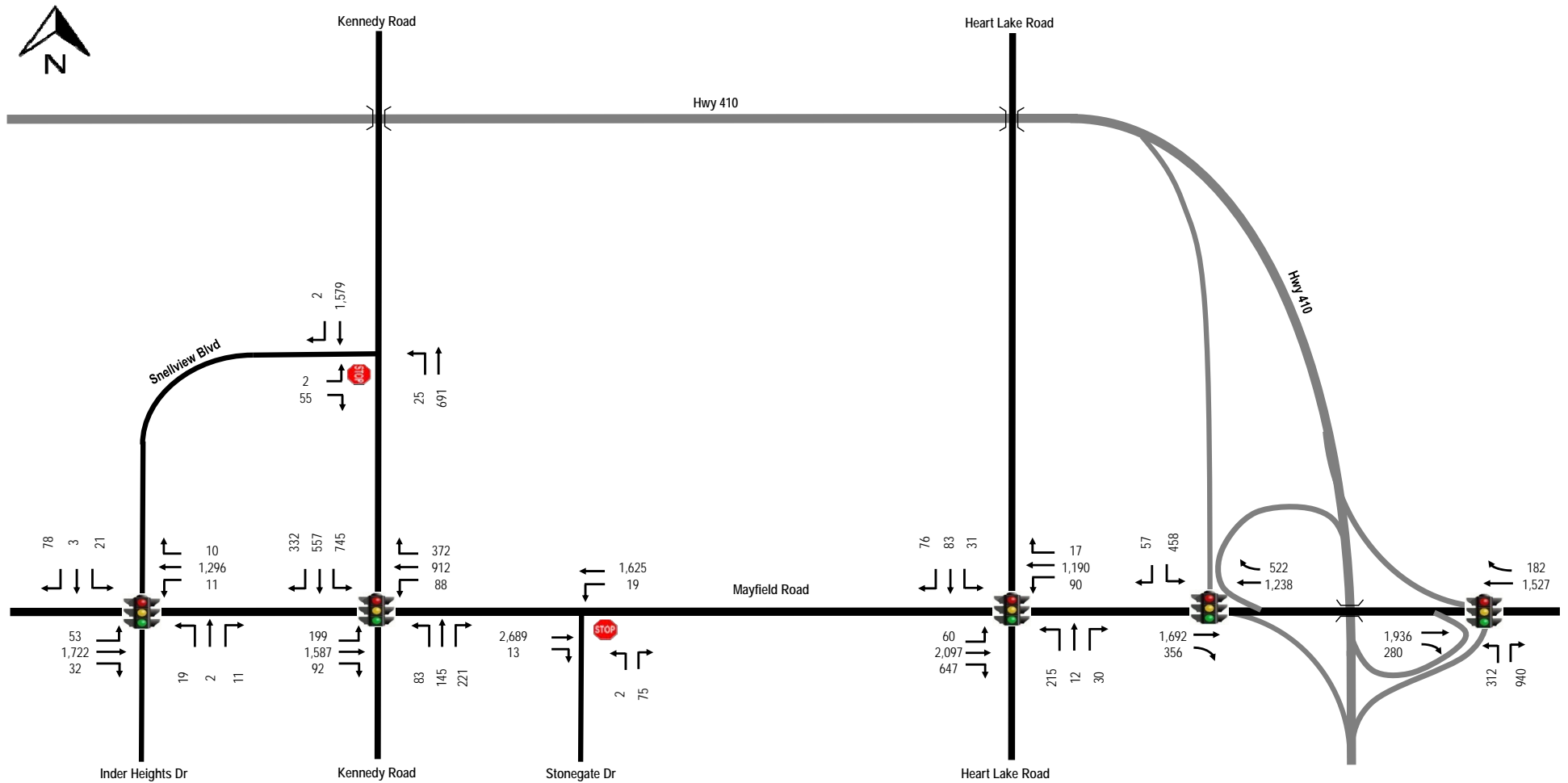
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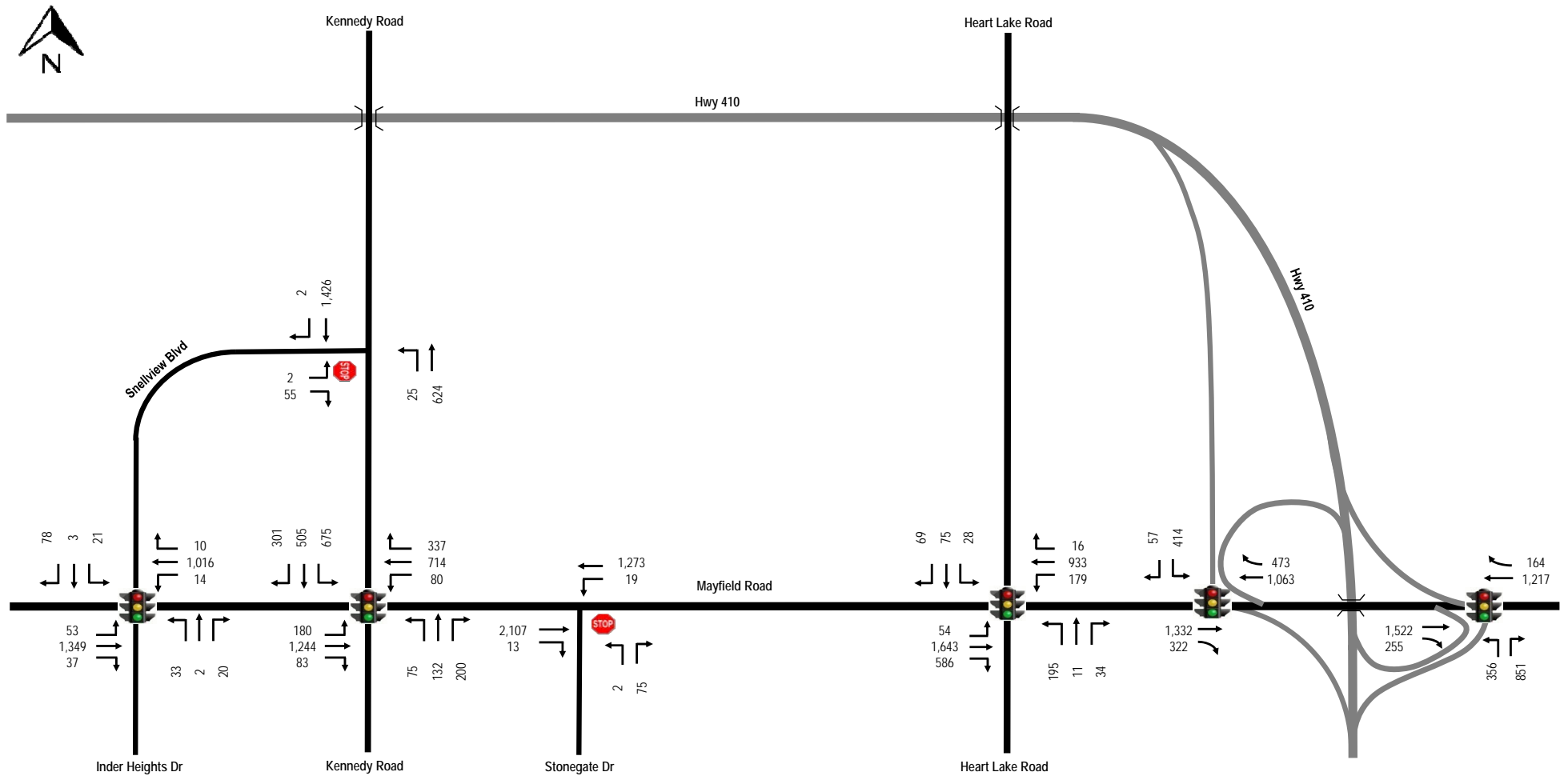
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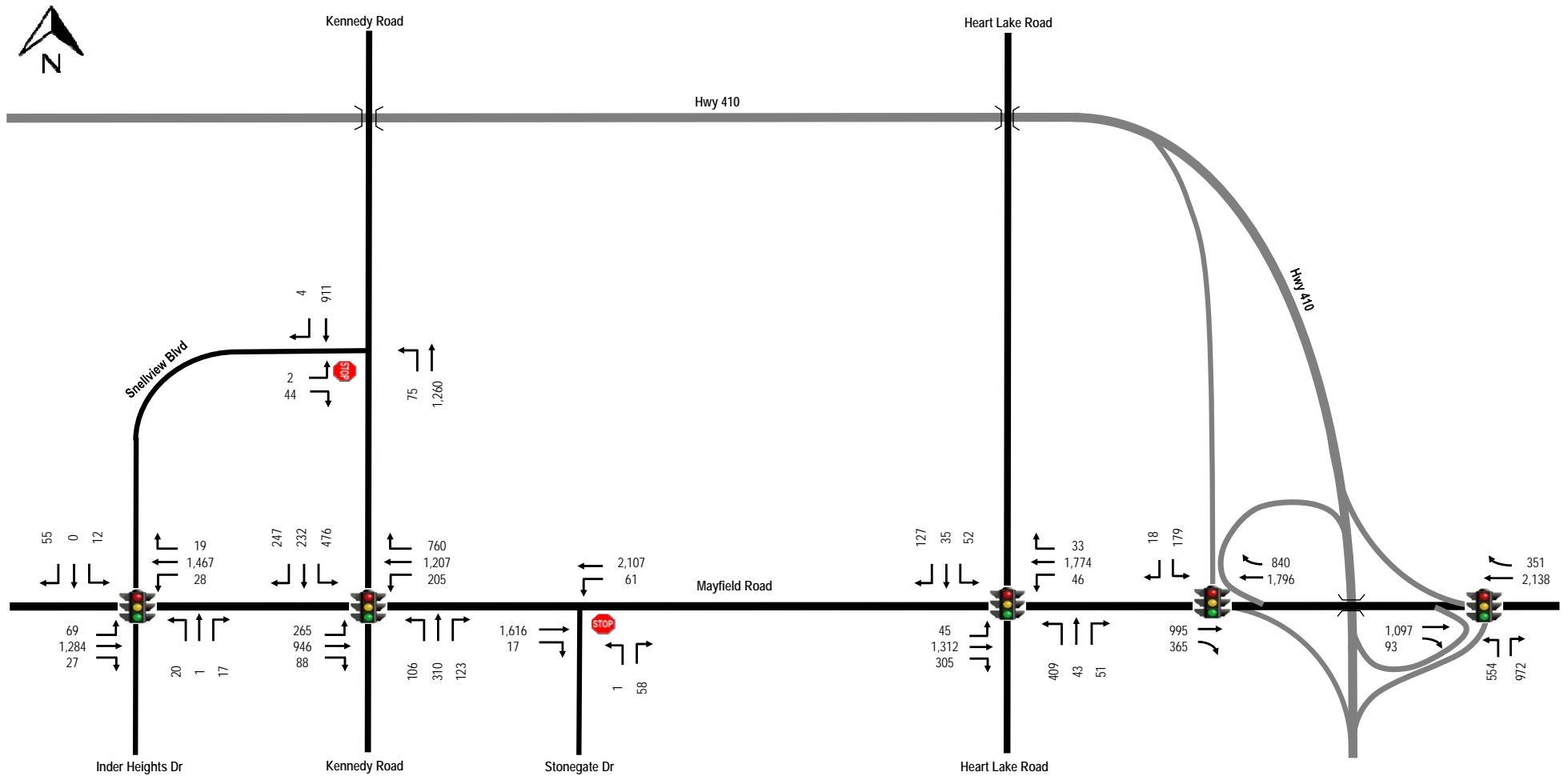
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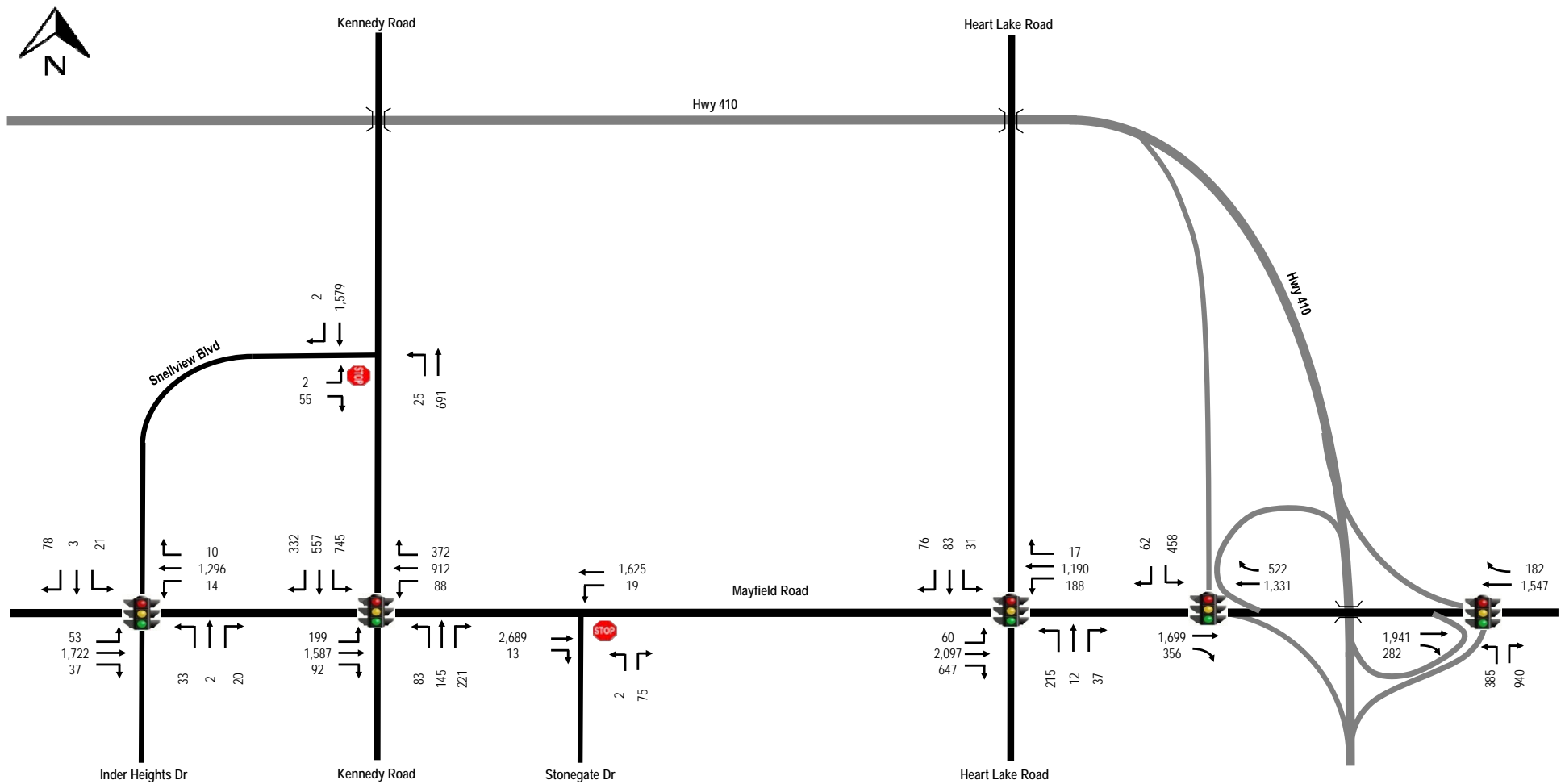
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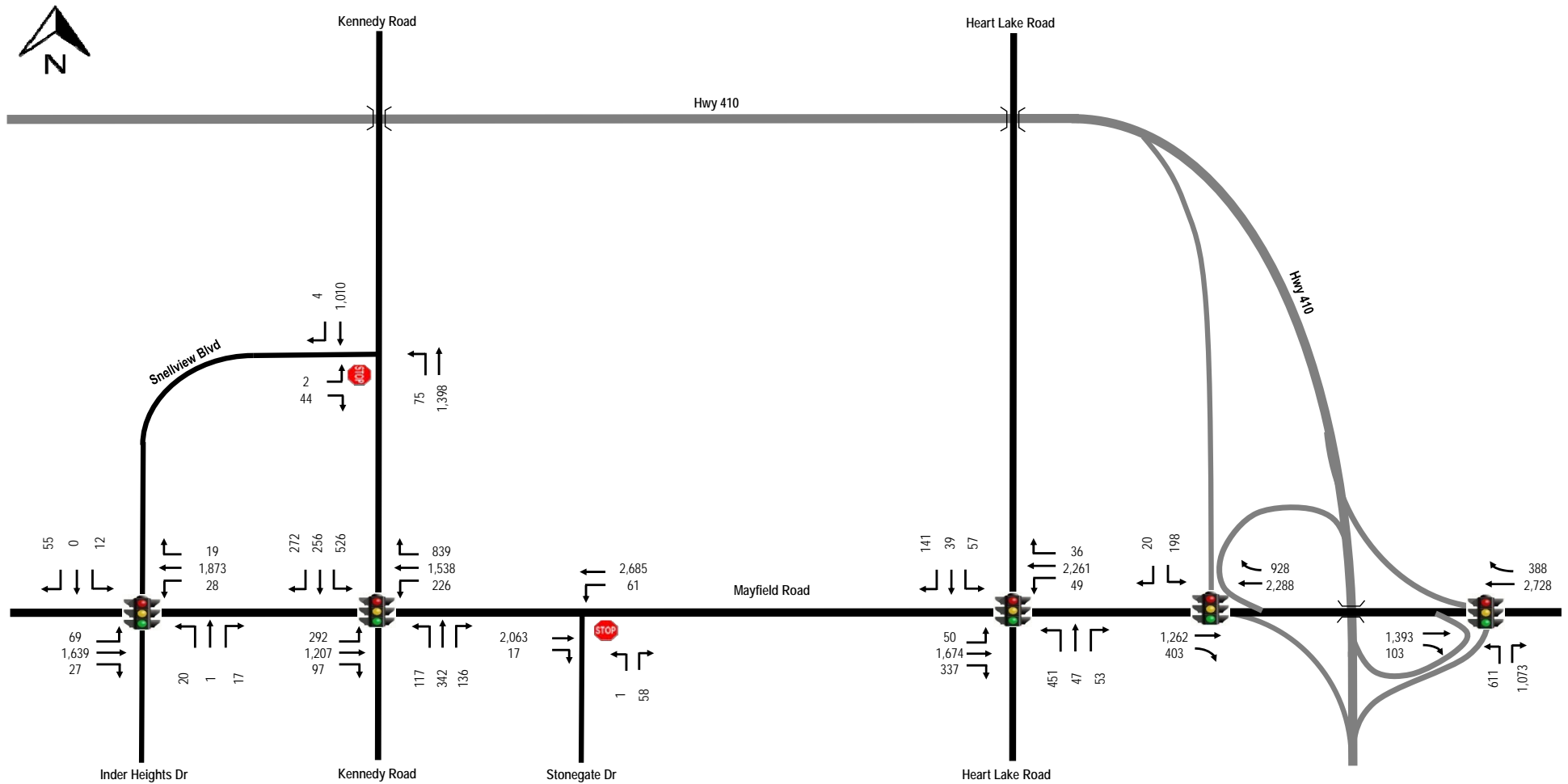
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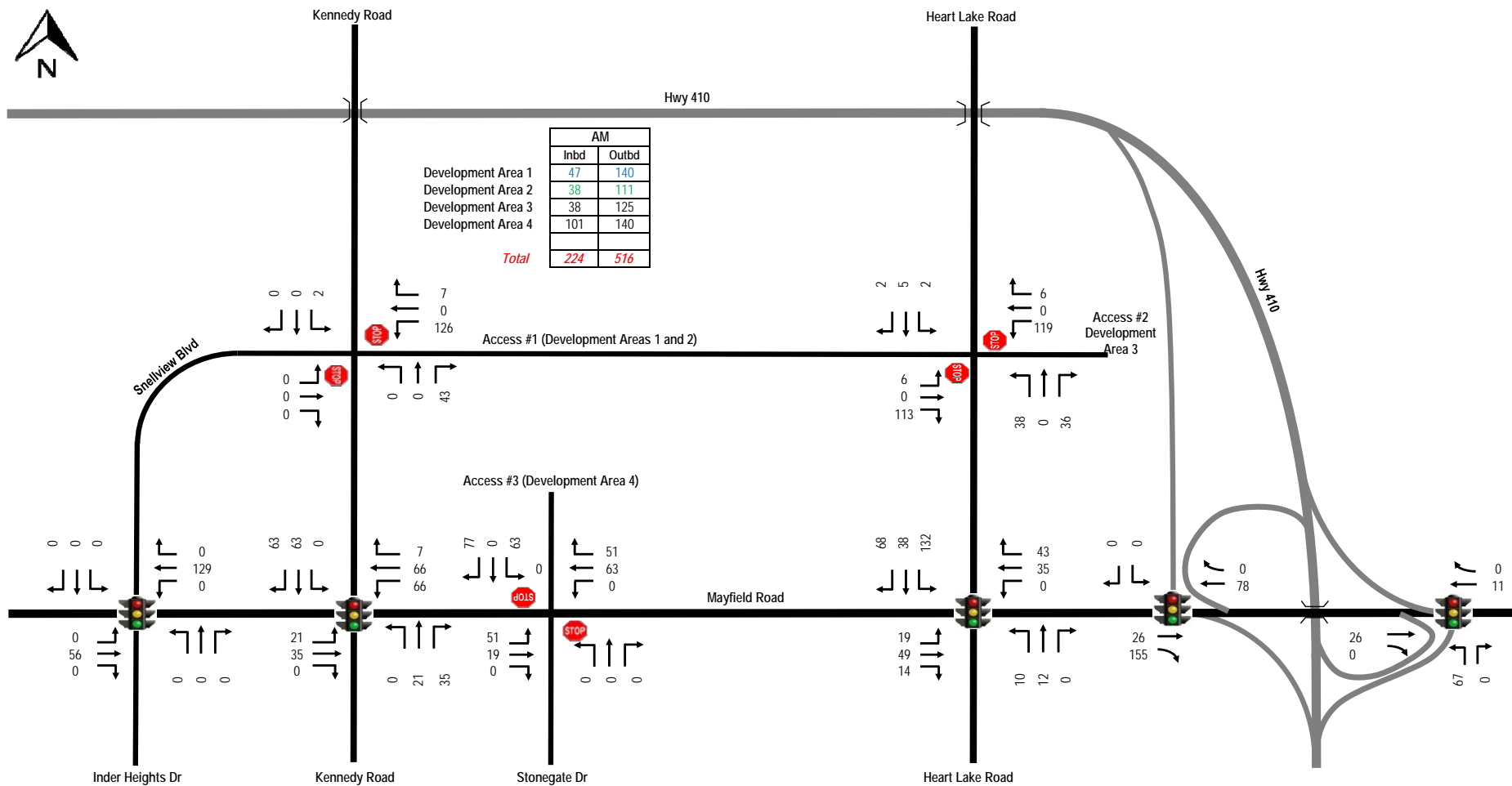
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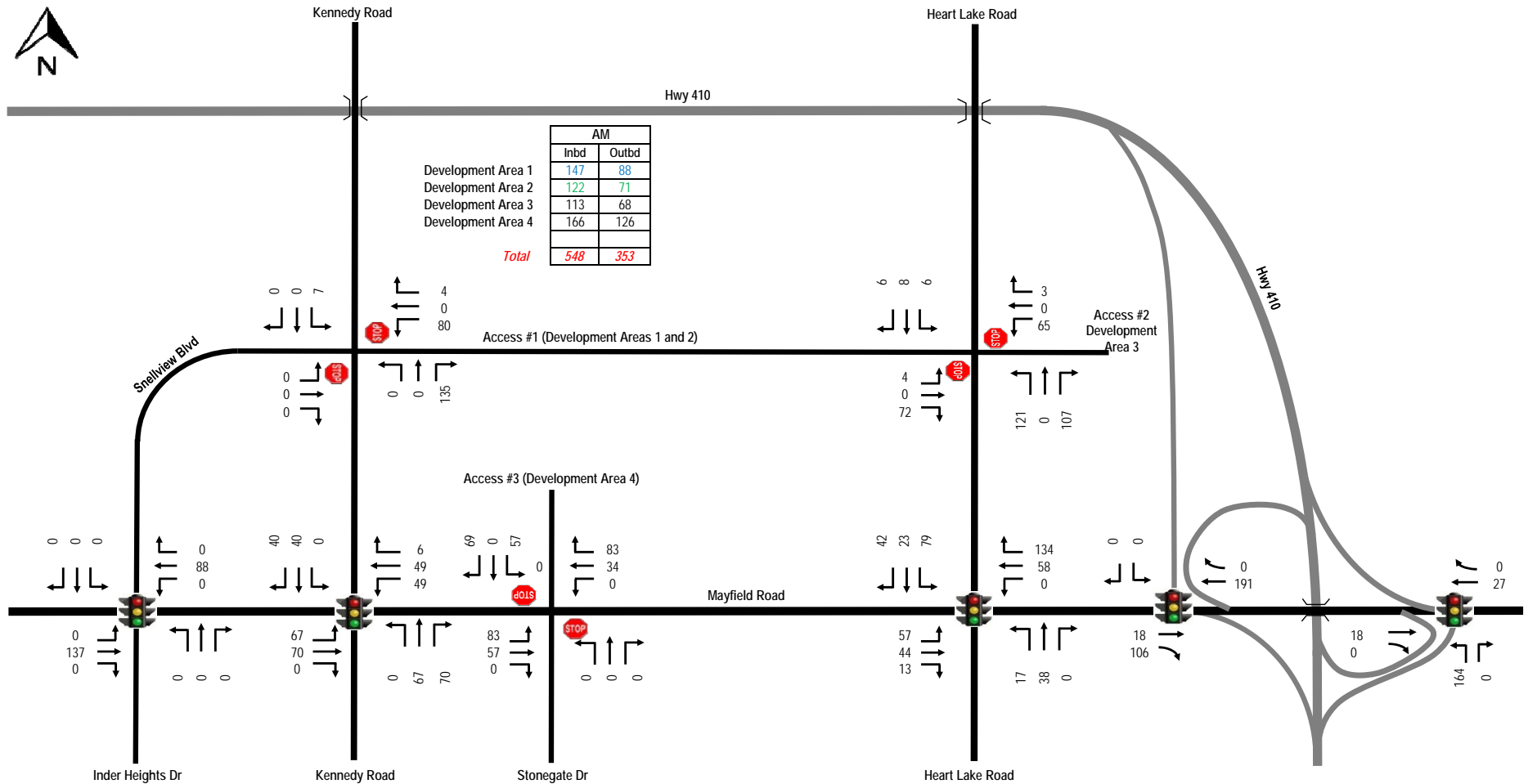
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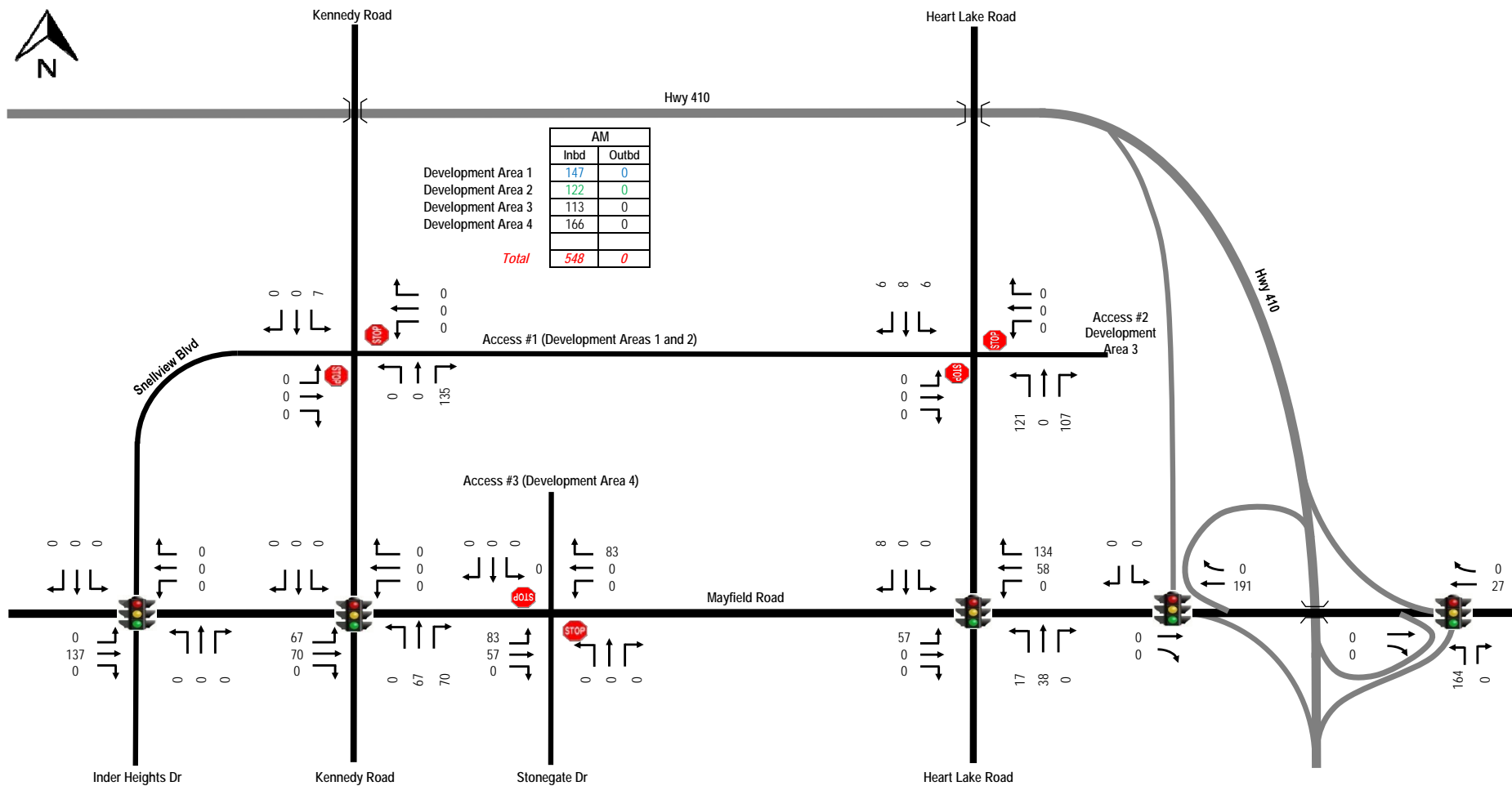
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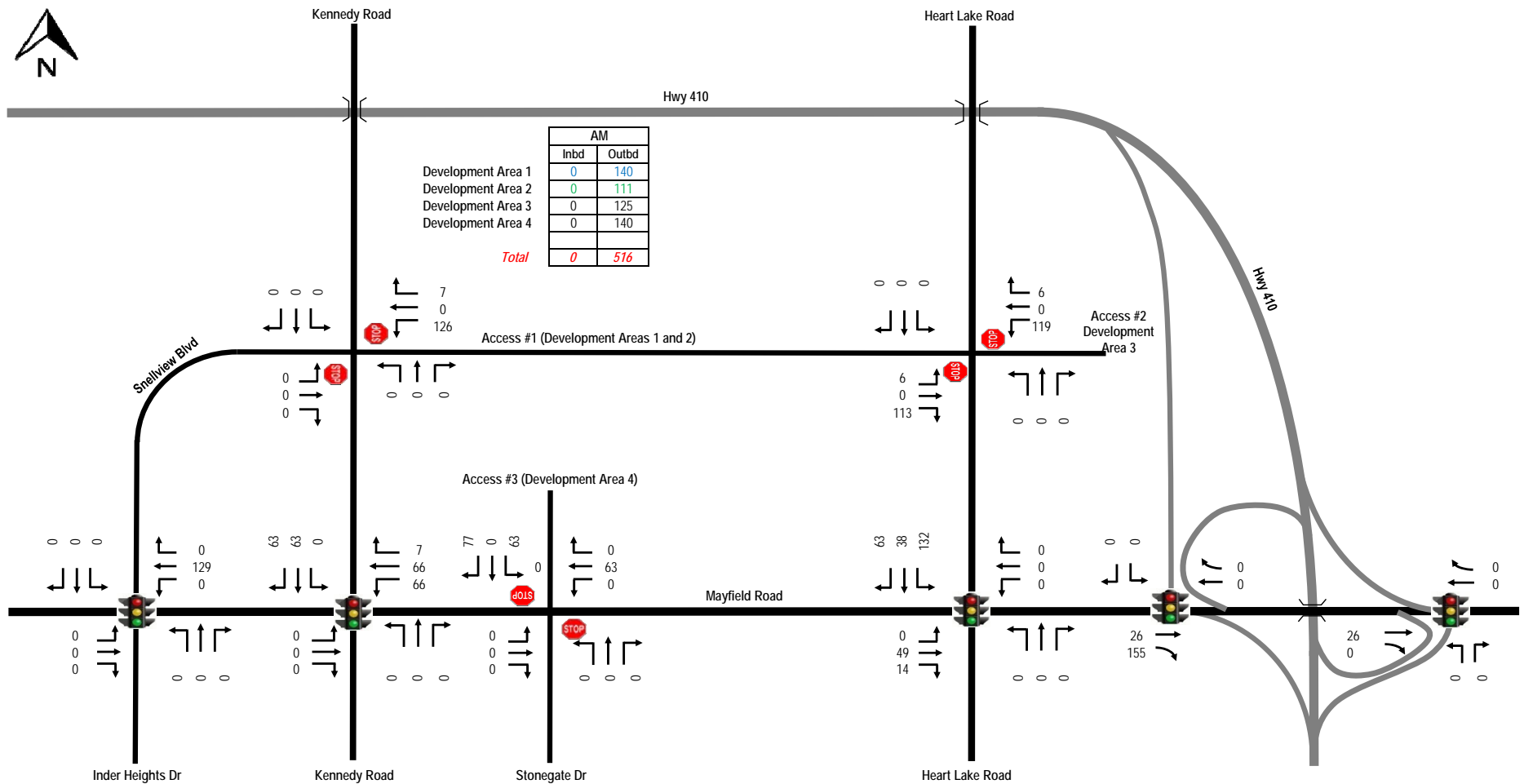
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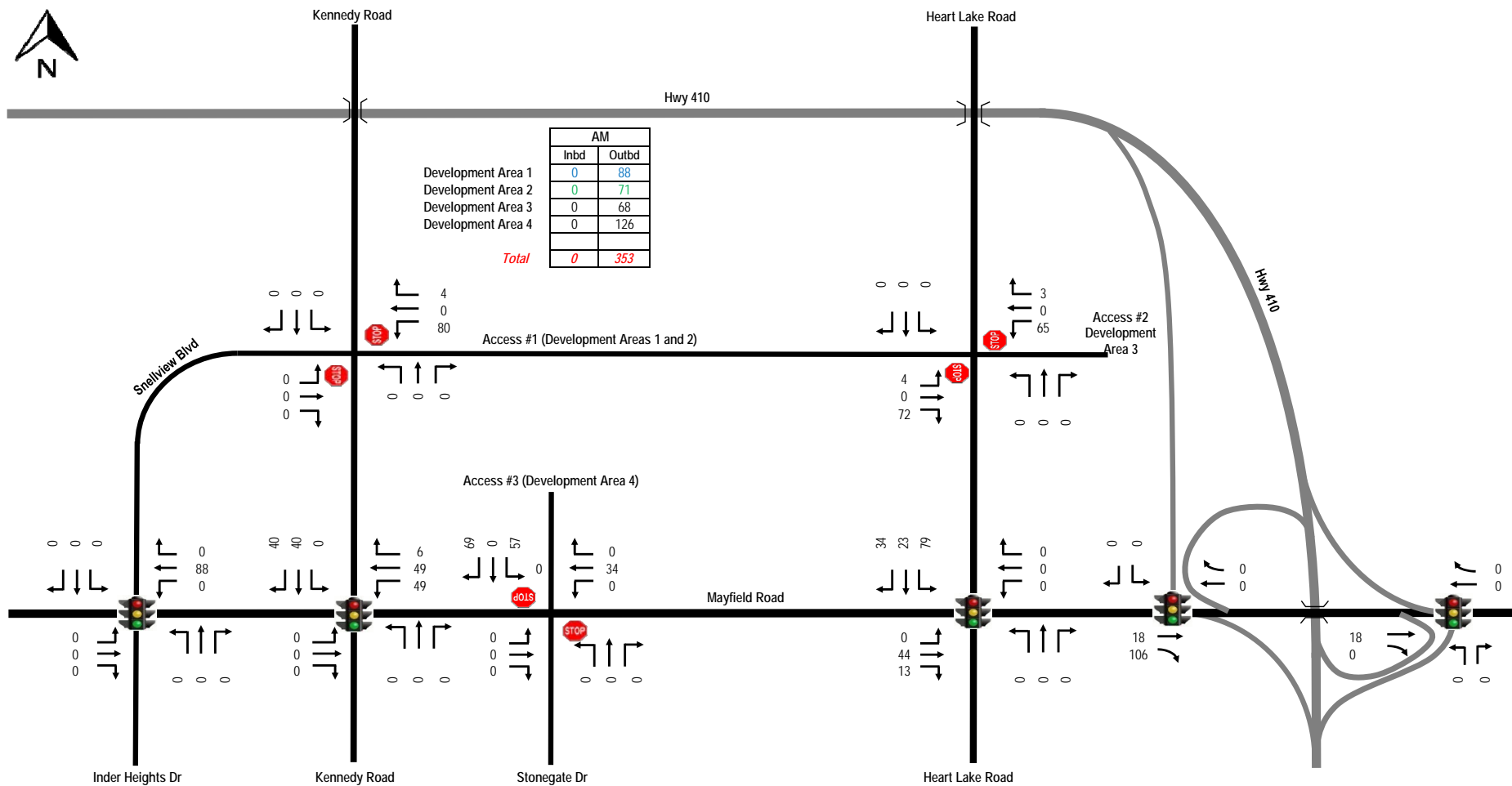
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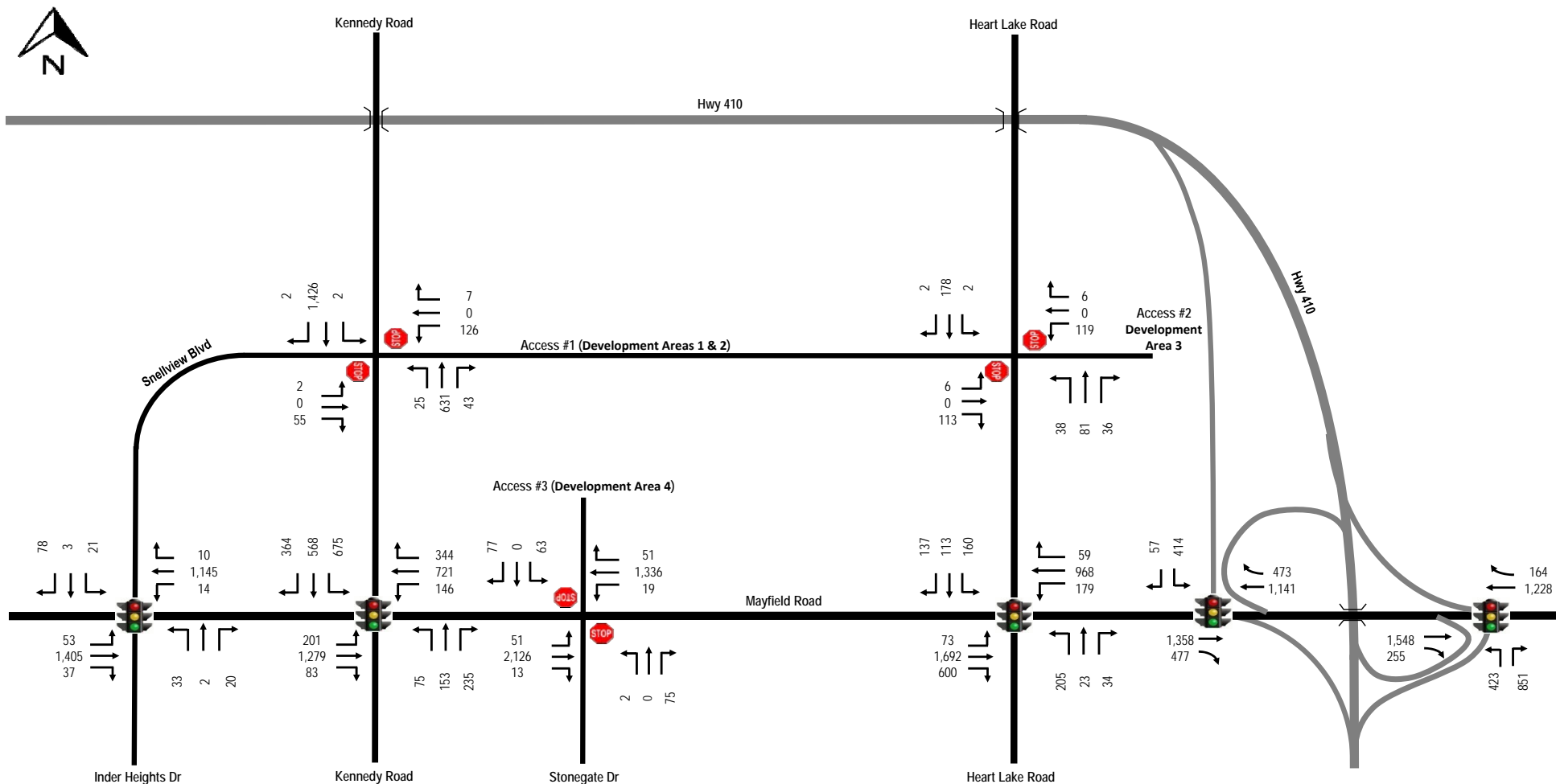
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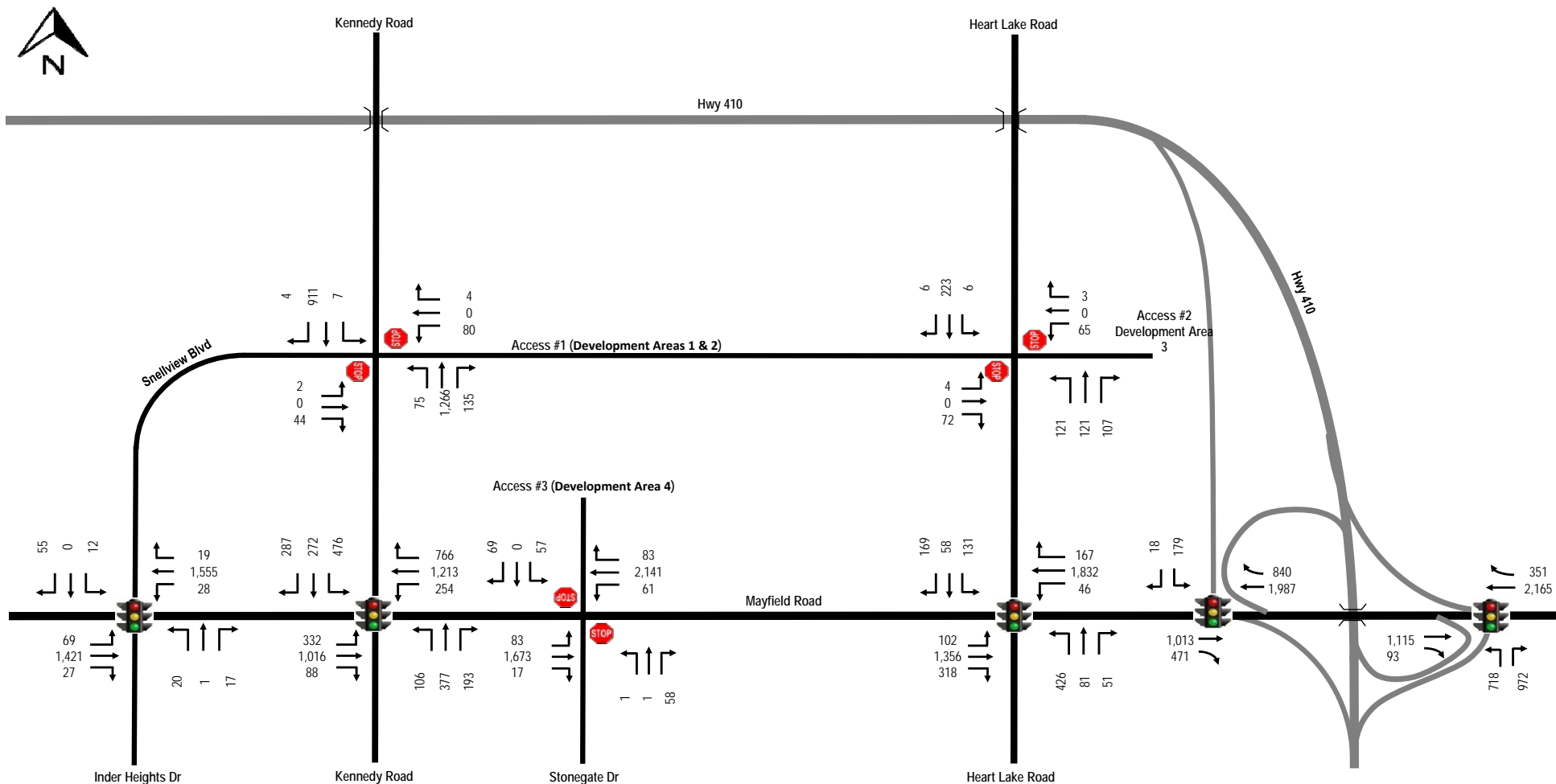
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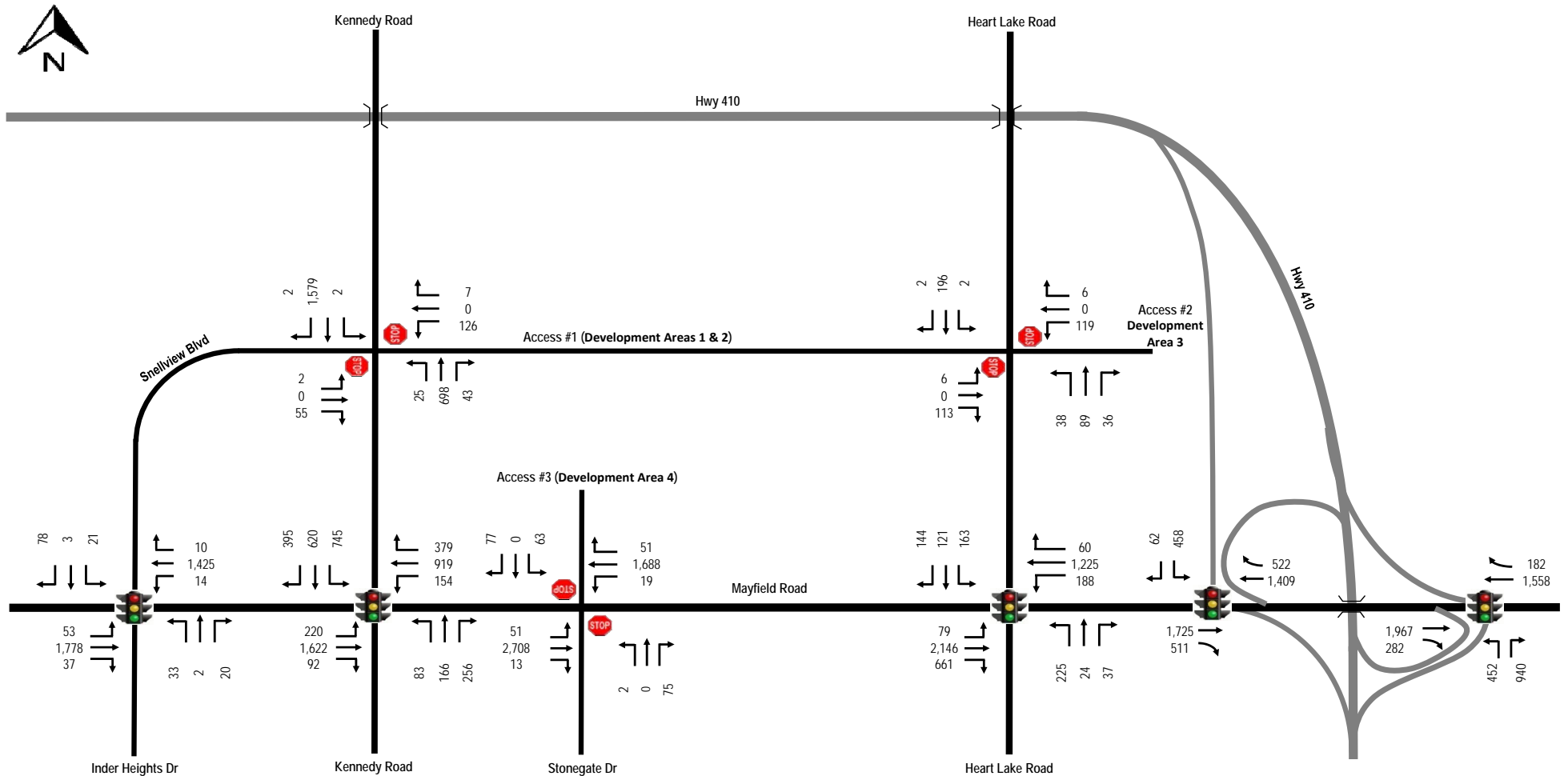
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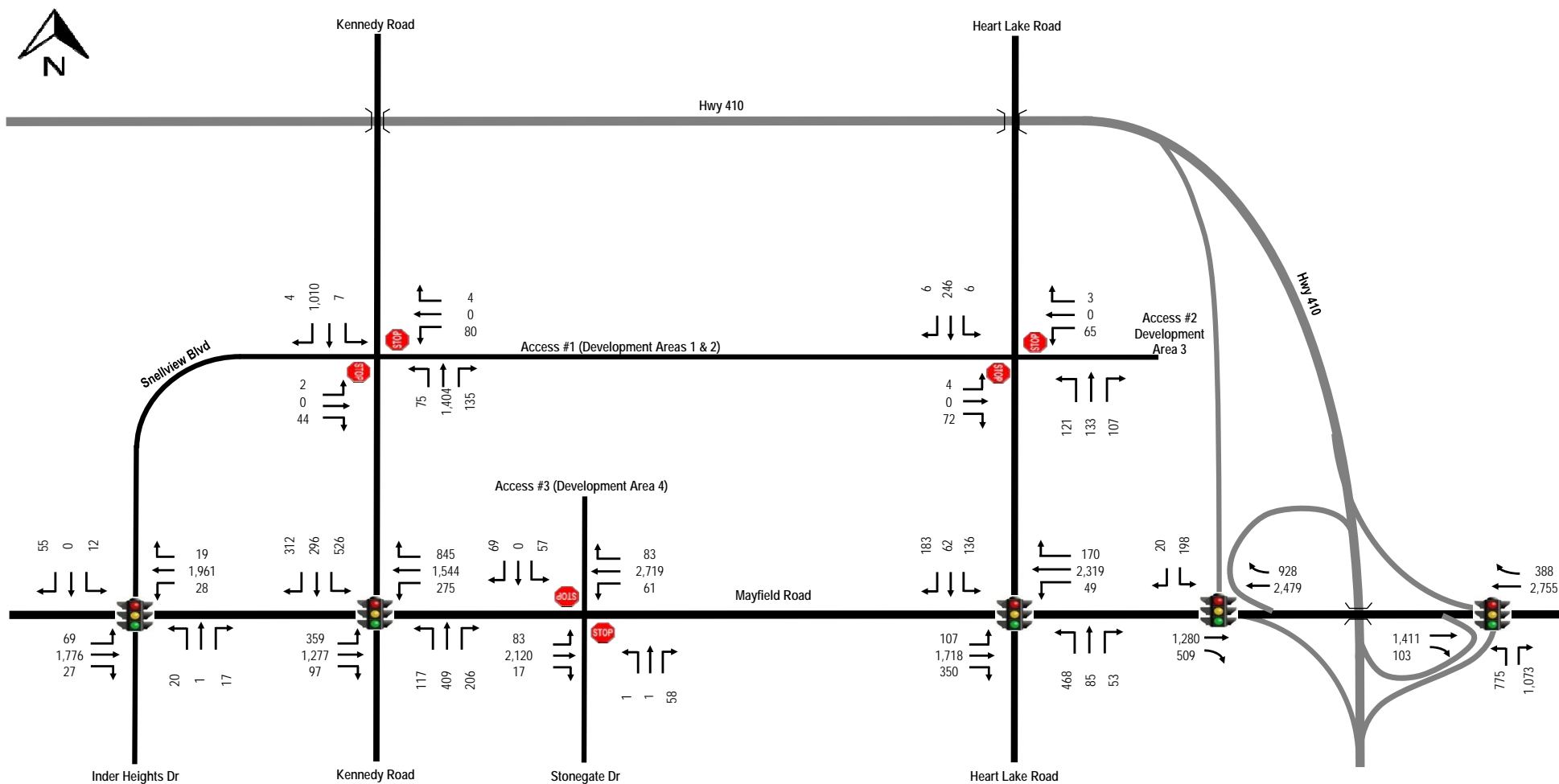
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Appendix A

Study Terms of Reference and Comments

From: Shan, Rosalie <rosalie.shan@peelregion.ca>

Sent: Friday, February 26, 2021 2:16 PM

To: Sam Nguyen <sam@nexttrans.ca>

Cc: Barnes, Catherine <catherine.barnes@peelregion.ca>; Hamdani, Hashim <hashimali.hamdani@peelregion.ca>

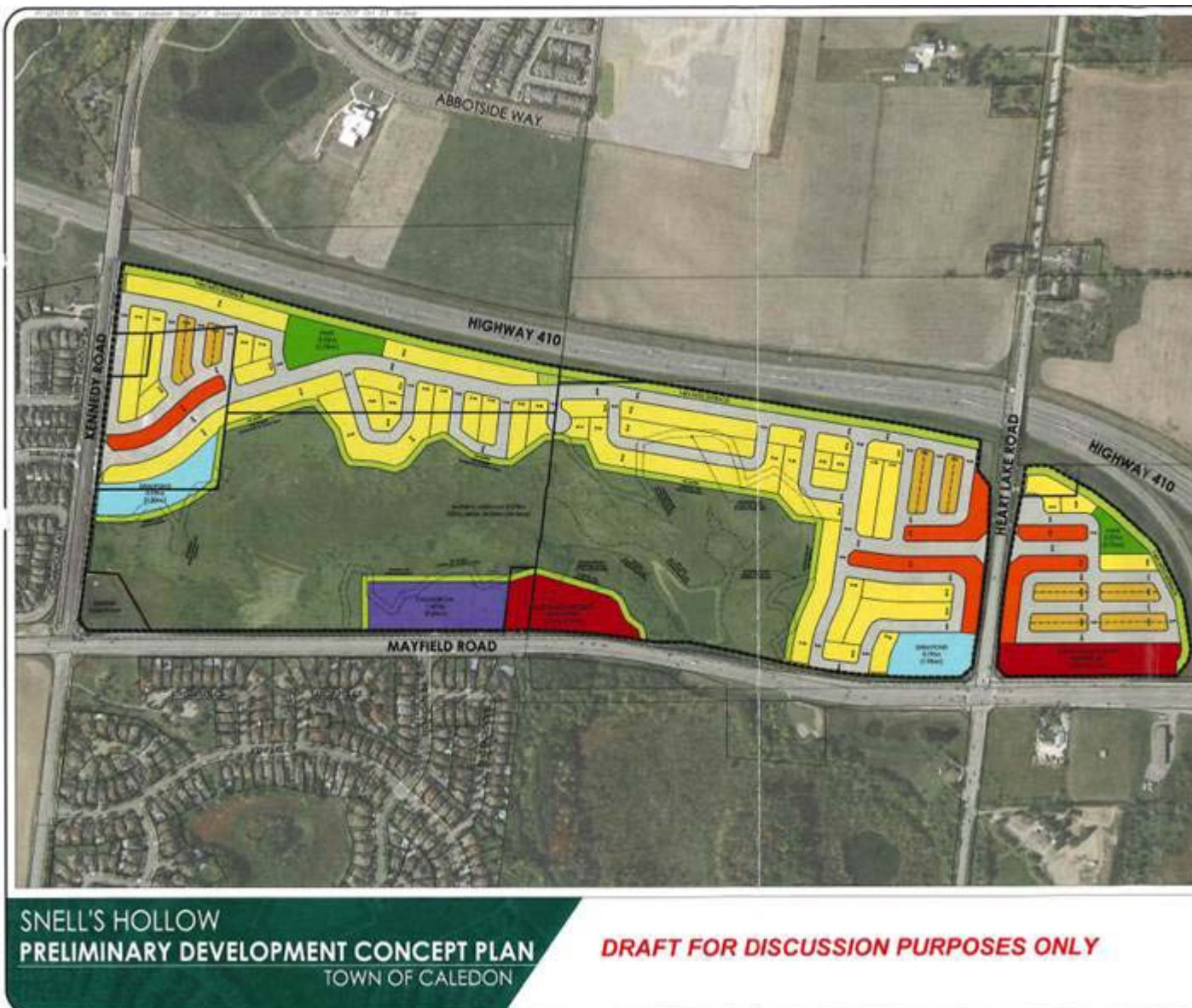
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

Hi Sam ,

This is Rosalie from Traffic Development, sorry for the late reply.

Thank you for the circulation. Please see the traffic comments below in red and the [link](#) here for the detailed Region of Peel TIS formatting and contact information for background traffic (growth rate, AADT, signal timing, etc.) on Regional Road. Let me know if you have any questions or concerns.

In addition, may I know the planning status of the site? In my end, I can only locate a pre consultation application 20-001C, planning drawing as below. Would you please provide us some information on this?



Regards,
Rosalie Shan
 Technical Analyst
 Traffic Development & Permits
 Region of Peel
 10 Peel Centre Drive Suite B, 4th Floor
 Brampton, ON L6T 4B9
 905 791-7800 Ext. 7999



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From: Sam Nguyen <sam@nextrans.ca>
Sent: February 25, 2021 3:08 PM
To: Hamdani, Hashim <hashimali.hamdani@peelregion.ca>
Cc: Carrick, Sean <sean.carrick@peelregion.ca>; Shan, Rosalie <rosalie.shan@peelregion.ca>; Barnes, Catherine <catherine.barnes@peelregion.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Hi Hashim,

I would like to follow up with you on the TOR.

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
e: sam@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

From: Sam Nguyen <sam@nextrans.ca>
Sent: January 22, 2021 11:29 AM
To: Carrick, Sean <sean.carrick@peelregion.ca>
Cc: Hamdani, Hashim <hashimali.hamdani@peelregion.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

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Thank you, please see attached. I don't have additional information yet.

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
c: 416-904-1461
e: sam@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.

From: Sam Nguyen <sam@nextrans.ca>

Sent: January 21, 2021 5:00 PM

To: Carrick, Sean <sean.carrick@peelregion.ca>

Subject: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Dear Sean,

Nextrans has been retained to undertake a TIS to support the proposed resident development for the lands located north of Mayfield Road, south of Hwy 410, east of Kennedy Road and west of Heart Lake Road, in the Town of Caledon. The following is a proposed scope of the TIS that takes into consideration of the Region, the Town of Caledon and MTO Traffic Impact Study Guidelines and contexts of the area/proposed development:

1. The Study will be consistent with the Region, MTO and Town of Caledon TIS Guidelines.
2. Transportation improvements in the area will be consistent with the Region and Town of Caledon Transportation Master Plans, as well as MTO future plans, where appropriate.
3. Study Area intersection – Nextrans will request the following intersection turning movement counts from the Region/Caledon. The existing turning movement counts will be adjusted for the 2020 conditions using background growth rates. If turning movement counts are not available, Nextrans may undertake the counts now and adjust for COVID-19 pandemic conditions using background growth rates, AADT, ATR, modelling data and/or first principle trip generation. - Agree
 1. Kennedy Road/Mayfield Road;
 2. Heart Lake Road/Mayfield Road;
 3. Hwy 410 Southbound Off-ramp/Mayfield Road;
 4. Snellview Blvd/Mayfield Road;
 5. Snellview Blvd/Kennedy Road N;
 6. Stonegate Drive/Mayfield Road; and
 7. All proposed development accesses
4. Horizon Year
 - a. Project completion by 2023 and assumed analysis horizon year 2028 (5 year horizon)
5. Background Developments and Growth Rate
 - a. Background corridor through traffic growth – we have received growth rates from the Region for Mayfield Road. Can the Town provide us with growth rates for Kennedy Road and Heart Lake Road?

Please contact Town of Caledon to obtain those information.

- b. The following background development will be included in the study, based on the development applications record on the Town's website:
 - 1. 2256 Mayfield Road
 - 2. 2650 Mayfield Road

Please contact Town of Caledon Planning for surrounding active planning applications.

For Brampton side, please contact City of Planning for surrounding active planning applications.

Please see the map below for some active subdivision application in the study area (from East to west T-11005B,11006B,12006B,1009B,17014B, 16008C,17001C) for your information



4. Trip Generation - **Agree**

ITE Trip Generation Manual 10th Edition

- a. Multimodal trip generation using 2016 TTS modal split data, where appropriate

5. Trip Distribution - **Agree**

Extract 2016 TTS data based on the surrounding traffic zones where appropriate

4. Transportation Assessment - **Agree**

Transportation assessment for existing conditions;

- a. Transportation assessment for future background conditions based on forecast conditions; and

- b. Future total assessment:

- Future Total Traffic Assessment for Auto Mode
- Future non-auto mode assessment
- Proposed Access assessment
- Vehicular and Bicycle Parking Assessment
- Internal Site Circulation assessment

7. Transit, Active Transportation and TDM -- **Agree**

Conduct a review of the existing and proposed future transit network in the area. Based on these findings, appropriate recommendations will be provided to ensure adequate walking distances to/from the proposed development to transit stations/stops.

- a. Review the existing and proposed future active transportation network in the area. Based on these findings, Nextrans will identify missing gaps and additional interconnections and connections from the proposed development to adjacent land uses, the City and the Region's facilities, as well as to transition stations/stops.

A Transportation Demand Management (TDM) assessment will be undertaken to identify specific measures and programs to reduce single-occupant-vehicle trips to/from the proposed development. These TDM measures and programs may include but not limited to, Carpooling, Auto Share, Bike racks, Parking management strategies, etc. The TDM report will be completed and included as part of this Study for submission purposes submitted in accordance with the Town and the Region requirements. – **Agree**

It is noted NO access is proposed to Regional Road under this application. The study shall identify if any improvements are required at the two intersections (Heart Lake, Kennedy Road) to support the development.

Thanks,

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
c: 416-904-1461
e: sam@nextrans.ca
w: www.nextrans.ca

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Aurora ON L4G 6W8

From: Arash Olia <Arash.Olia@caledon.ca>
Sent: Thursday, February 25, 2021 3:17 PM
To: Sam Nguyen <sam@nextrans.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

You can assume 2%

Arash Olia, Ph.D., P.Eng.
Manager, Transportation Engineering
Engineering Services Department

Office: 905.584.2272 x.4073
Cell: 416.452.7091
Email: arash.olia@caledon.ca

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From: Sam Nguyen <sam@nextrans.ca>
Sent: Thursday, February 25, 2021 3:06 PM
To: Arash Olia <Arash.Olia@caledon.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

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Hi Arash,

Do you have appropriate growth rates for Kennedy Road and Heart Lake Road?

Thank you

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
e: sam@nextrans.ca
w: www.nextrans.ca

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A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

From: Arash Olia <Arash.Olia@caledon.ca>
Sent: Friday, January 22, 2021 7:36 PM
To: Sam Nguyen <sam@nextrans.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

Hi Sam,

Here are my comments:

1. Please review the parking as per the Town's Zoning By-law; and
2. Please conduct the traffic signal warrant analysis at the development accesses at Kennedy Road and Heart Lake Road.

Thanks,

Arash Olia, Ph.D., P.Eng.
Manager, Transportation Engineering
Engineering Services Department

Office: 905.584.2272 x.4073
Cell: 416.452.7091
Email: arash.olia@caledon.ca

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From: Sam Nguyen <sam@nextrans.ca>
Sent: Friday, January 22, 2021 9:14 AM
To: Arash Olia <Arash.Olia@caledon.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

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Hi Arash,

Please see attached. And yes I did send email to Region of Peel, waiting for response.

Thanks,

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
c: 416-904-1461
e: sam@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

From: Arash Olia <Arash.Olia@caledon.ca>
Sent: Thursday, January 21, 2021 6:29 PM
To: Sam Nguyen <sam@nextrans.ca>
Subject: RE: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

Hi Sam,

Do you have the site plan? Also, have you circulated the TOR with the Region of Peel?

Thanks,

Arash Olia, Ph.D., P.Eng.
Manager, Transportation Engineering
Engineering Services Department

Office: 905.584.2272 x.4073
Cell: 416.452.7091
Email: arash.olia@caledon.ca

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From: Sam Nguyen <sam@nextrans.ca>
Sent: Thursday, January 21, 2021 4:45 PM
To: Arash Olia <Arash.Olia@caledon.ca>
Subject: Transportation Impact Assessment - Proposed Scope of Work for Snell's Hollow

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Dear Arash,

Nextrans has been retained to undertake a TIS to support the proposed resident development for the lands located north of Mayfield Road, south of Hwy 410, east of Kennedy Road and west of Heart Lake Road, in the Town of Caledon. The following is a proposed scope of the TIS that takes into consideration of the Region, the Town of Caledon and MTO Traffic Impact Study Guidelines and contexts of the area/proposed development:

1. The Study will be consistent with the Region, MTO and Town of Caledon TIS Guidelines.

2. Transportation improvements in the area will be consistent with the Region and Town of Caledon Transportation Master Plans, as well as MTO future plans, where appropriate.
3. Study Area intersection – Nextrans will request the following intersection turning movement counts from the Region/Caledon. The existing turning movement counts will be adjusted for the 2020 conditions using background growth rates. If turning movement counts are not available, Nextrans may undertake the counts now and adjust for COVID-19 pandemic conditions using background growth rates, AADT, ATR, modelling data and/or first principle trip generation.
 1. Kennedy Road/Mayfield Road;
 2. Heart Lake Road/Mayfield Road;
 3. Hwy 410 Southbound Off-ramp/Mayfield Road;
 4. Snellview Blvd/Mayfield Road;
 5. Snellview Blvd/Kennedy Road N;
 6. Stonegate Drive/Mayfield Road; and
 7. All proposed development accesses
4. Horizon Year
 - a. Project completion by 2023 and assumed analysis horizon year 2028 (5 year horizon)
5. Background Developments and Growth Rate
 - a. Background corridor through traffic growth – we have received growth rates from the Region for Mayfield Road. Can the Town provide us with growth rates for Kennedy Road and Heart Lake Road?
 - b. The following background development will be included in the study, based on the development applications record on the Town's website:
 1. 2256 Mayfield Road
 2. 2650 Mayfield Road
4. Trip Generation
 - a. ITE Trip Generation Manual 10th Edition
 - b. Multimodal trip generation using 2016 TTS modal split data, where appropriate
5. Trip Distribution
 - a. Extract 2016 TTS data based on the surrounding traffic zones where appropriate
6. Transportation Assessment
 - a. Transportation assessment for existing conditions;
 - b. Transportation assessment for future background conditions based on forecast conditions; and
 - c. Future total assessment:
 - Future Total Traffic Assessment for Auto Mode
 - Future non-auto mode assessment
 - Proposed Access assessment
 - Vehicular and Bicycle Parking Assessment
 - Internal Site Circulation assessment
7. Transit, Active Transportation and TDM

- a. Conduct a review of the existing and proposed future transit network in the area. Based on these findings, appropriate recommendations will be provided to ensure adequate walking distances to/from the proposed development to transit stations/stops.
- b. Review the existing and proposed future active transportation network in the area. Based on these findings, Nextrans will identify missing gaps and additional interconnections and connections from the proposed development to adjacent land uses, the City and the Region's facilities, as well as to transition stations/stops.
- c. A Transportation Demand Management (TDM) assessment will be undertaken to identify specific measures and programs to reduce single-occupant-vehicle trips to/from the proposed development. These TDM measures and programs may include but not limited to, Carpooling, Auto Share, Bike racks, Parking management strategies, etc. The TDM report will be completed and included as part of this Study for submission purposes submitted in accordance with the Town and the Region requirements.

Thanks,

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
c: 416-904-1461
e: sam@nextrans.ca
w: www.nextrans.ca

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A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

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Appendix B

Existing Traffic Data and Signal Timing Plans



Ministry of Transportation

Ministère des Transports

2019

Intersection Layout Sheet

Version: 1.0 Feb 1, 2016

Contract # 9015-E-0009

Work Order # 295

Date: Sep 11 / Day: Wed / Hrs: 7 - 9 + 11 - 14 + 15 - 18

Location: Hwy 410 & Mayfield Rd Ramps: ERT /

Reg/Mun: CR Town/City: Kleinburg Area:

File Name: 3490850000 Device: Gretch Jamar Unit # 8 / Interval 1: AM NN / PM

Observer: Olga Bdit'skikh Weather: clear / clear Road Condition: dry / dry

LHRS & O/S: 49085 0.00

Comments:

GPS: G-Star IV

Datum: WGS 84 (Y) / N

Lat: 43.758149

Long: -79.797234

SIGNALIZED (Y) / N

If intersection is unsignalized;

Sign Type: Stop / Yield

Sign Size: cm x cm

Sign Condition:

NA: New / Good / Poor / Missing

SA: New / Good / Poor / Missing

WA: New / Good / Poor / Missing

EA: New / Good / Poor / Missing

Photograph all approach's
including all Signs (Y) / N

60

Hwy / Street Name

HWY 410 Ramp

(sign)

INDICATE LOCATION &
DIRECTION OF VEHICLE

Vehicle

N S (E) (W)

Hwy / Street Name

Mayfield Rd

N/A

① ② ... ⑤
62

④ ... ② ①

52

①
②
...
⑥

24

80

Mayfield Rd

Note:

Hwy / Street Name

Show all lanes approaching and
leaving the intersection.

Show all channelization

If there are two or more through
lane in one direction, indicate
if these lanes are not continuous

Show pedestrian crosswalks

Hwy / Street Name

Hwy 410 ramp

60

Layout of "Special Condition"

Page 1 / 1



Ministry of Transportation

TVIS II - Traffic Volume Information System

AdHoc Turning Movement Total Count and Peak Summary Report

Description: **HWY 410 @ MAYFIELD RD (ERT)**

Region: **CENTRAL**

Survey Type: **TM - Interchange**

Hwy: **410**

Start Date: **11-Sep-2019 (Wed)**

I/C Side: **E**

LHRS: **49085**

End Date: **11-Sep-2019 (Wed)**

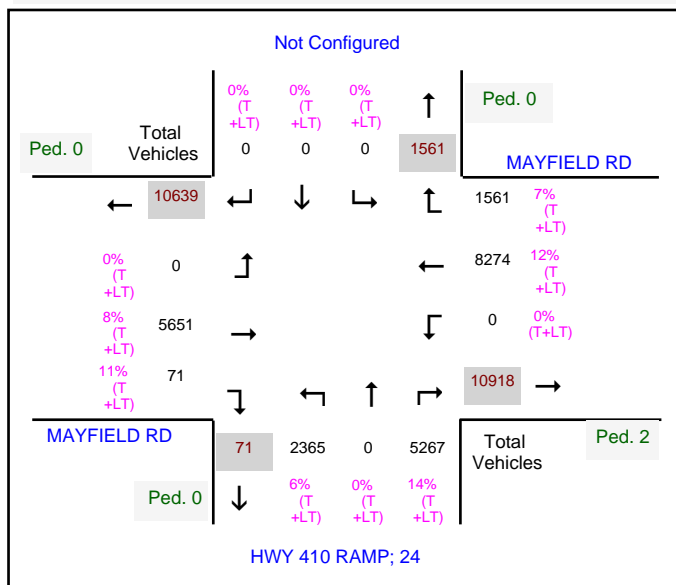
Int. Type: **T - S**

Offset: **0**

Schedule Summary: **TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00**

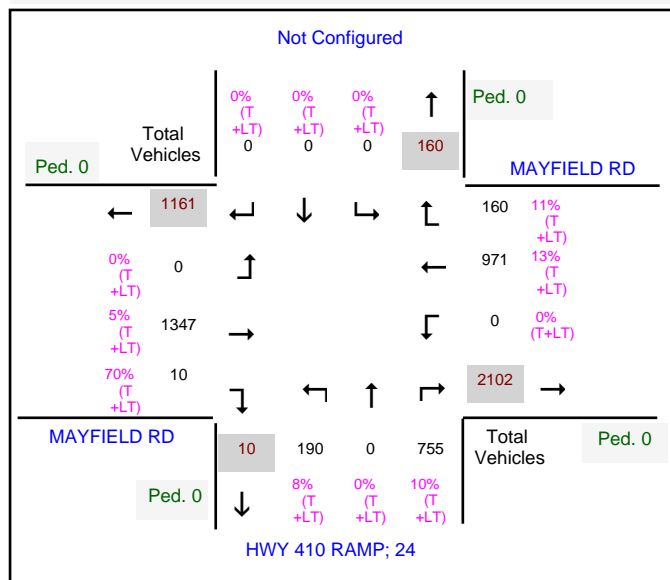
Total Count

Number of hours: **8**



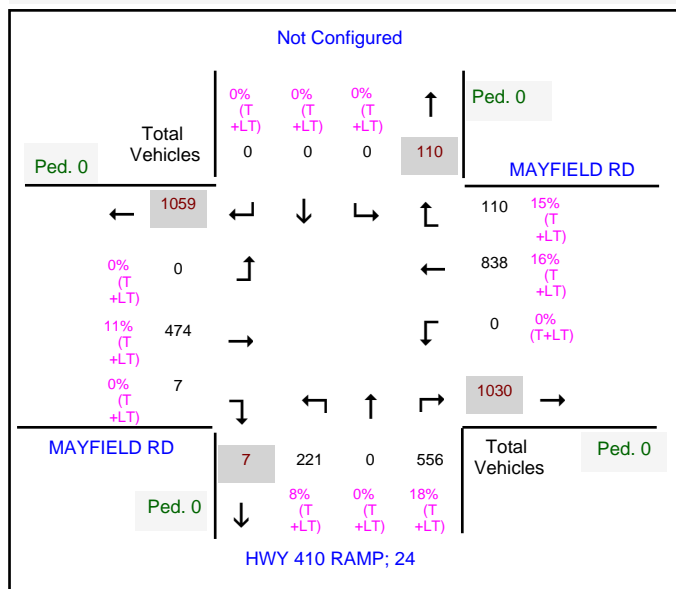
AM Peak Hour Report

Start Time: **07:30**



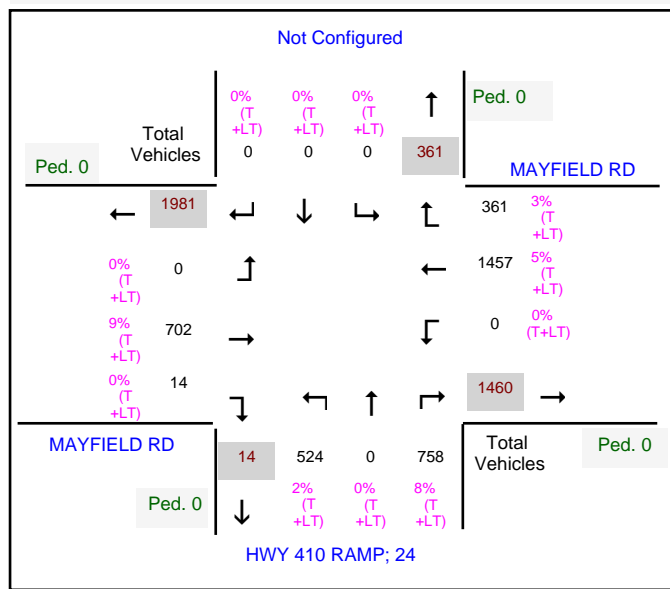
Midday Peak Hour Report

Start Time: **13:00**



PM Peak Hour Report

Start Time: **17:00**





Ministry of Transportation

TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: **HWY 410 @ MAYFIELD RD (ERT)**

Region: **CENTRAL**

Survey Type: **TM – Interchange**

Hwy: **410**

Start Date: **11-Sep-2019 (Wed)**

I/C Side: **E**

LHRS: **49085**

End Date: **11-Sep-2019 (Wed)**

Int. Type: **T - S**

Offset: **0**

Schedule Summary: **TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00**

Start Time	Major Road Approaches																		Minor Road Approaches														Total Veh.
	East MAYFIELD RD									West MAYFIELD RD									South HWY 410 RAMP: Ramp(s): 24							Not Configured							
	Cars ← ↑ →			Trucks ← ↑ →			Long Trucks ← ↑ →			Ped	Cars ← ↑ →			Trucks ← ↑ →			Long Trucks ← ↑ →			Ped	Cars ← ↑ →			Trucks ← ↑ →			Long Trucks ← ↑ →			Ped			
Period 1																																	
07:00	0	159	21	0	5	0	0	23	2	0	0	209	0	0	2	0	0	4	0	0	33	0	122	5	0	4	0	0	13	0	602		
07:15	0	201	17	0	12	0	0	18	3	0	0	219	0	0	6	0	0	3	0	0	44	0	161	4	0	7	4	0	8	0	707		
07:30	0	165	32	0	9	0	0	14	6	0	0	404	0	0	24	0	0	8	2	0	40	0	182	1	0	7	7	0	14	0	915		
07:45	0	269	29	0	18	1	0	32	3	0	0	351	1	0	7	1	0	5	4	0	36	0	197	0	0	7	1	0	13	0	975		
08:00	0	241	49	0	12	2	0	11	1	0	0	275	1	0	10	0	0	7	0	0	52	0	151	2	0	10	2	0	8	0	834		
08:15	0	173	32	0	5	2	0	22	3	0	0	248	1	0	3	0	0	5	0	0	47	0	147	2	0	8	0	0	11	0	709		
08:30	0	177	67	0	8	3	0	15	2	0	0	250	0	0	6	0	0	11	0	0	30	0	145	1	0	13	2	0	11	0	741		
08:45	0	125	28	0	14	1	0	19	3	0	0	263	3	0	6	0	0	10	0	0	36	0	133	6	0	13	3	0	12	0	675		
Period 2																																	
11:00	0	151	18	0	12	0	0	28	5	0	0	100	2	0	5	0	0	10	0	0	36	0	97	5	0	10	6	0	19	0	504		
11:15	0	175	22	0	9	1	0	23	1	0	0	95	5	0	3	0	0	8	0	0	37	0	102	0	0	6	1	0	19	0	507		
11:30	0	182	27	0	11	1	0	27	3	2	0	115	0	0	1	0	0	1	0	0	10	0	20	2	0	2	6	0	5	0	413		
11:45	0	166	29	0	5	1	0	30	3	0	0	107	2	0	3	0	0	4	1	0	43	0	98	7	0	3	3	0	19	0	524		
12:00	0	176	21	0	8	1	0	26	5	0	0	94	1	0	4	0	0	5	0	0	42	0	95	1	0	9	2	0	24	0	514		
12:15	0	172	18	0	8	1	0	21	5	0	0	100	1	0	8	0	0	5	0	0	38	0	95	0	0	12	3	0	18	0	505		
12:30	0	162	20	0	7	1	0	38	4	0	0	101	4	0	4	0	0	14	0	0	51	0	101	3	0	10	2	0	16	0	538		
12:45	0	161	20	0	10	0	0	29	1	0	0	87	0	0	2	0	0	5	0	0	54	0	112	1	0	10	0	0	15	0	507		
13:00	0	164	20	0	14	1	0	30	3	0	0	112	2	0	3	0	0	7	0	0	54	0	109	4	0	5	0	0	19	0	547		
13:15	0	189	21	0	13	1	0	17	6	0	0	94	2	0	3	0	0	10	0	0	45	0	102	4	0	5	2	0	18	0	532		
13:30	0	182	21	0	11	1	0	13	1	0	0	109	1	0	5	0	0	7	0	0	47	0	105	0	0	7	2	0	19	0	531		
13:45	0	169	32	0	12	1	0	24	2	0	0	107	2	0	8	0	0	9	0	0	58	0	138	0	0	11	5	0	18	0	596		



Ministry of Transportation

TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: **HWY 410 @ MAYFIELD RD (ERT)**

Region: **CENTRAL**

Survey Type: **TM – Interchange**

Hwy: **410**

Start Date: **11-Sep-2019 (Wed)**

I/C Side: **E**

LHRS: **49085**

End Date: **11-Sep-2019 (Wed)**

Int. Type: **T - S**

Offset: **0**

Schedule Summary: **TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00**

Start Time	Major Road Approaches																Minor Road Approaches																Total Veh.
	East MAYFIELD RD								West MAYFIELD RD								South HWY 410 RAMP: Ramp(s): 24								Not Configured								
	Cars		Trucks		Long Trucks		Ped	Cars		Trucks		Long Trucks		Ped	Cars		Trucks		Long Trucks		Ped	Cars		Trucks		Long Trucks		Ped					
←	↑	→	←	↑	→	←		↑	→	←	↑	→	←		↑	→	←	↑	→	←		↑	→	←	↑	→	←		↑	→			
Period 3																																	
15:00	0	248	64	0	16	1	0	20	2	0	0	133	3	0	5	0	0	6	0	0	88	0	178	1	0	5	1	0	23	0	794		
15:15	0	301	63	0	13	0	0	16	2	0	0	136	4	0	8	0	0	7	0	0	108	0	159	3	0	14	2	0	21	0	857		
15:30	0	311	93	0	14	2	0	21	1	0	0	147	4	0	6	0	0	9	0	0	105	0	165	1	0	4	1	0	23	0	907		
15:45	0	254	76	0	18	0	0	17	2	0	0	159	5	0	6	0	0	8	0	0	110	0	159	0	0	3	3	0	19	0	839		
16:00	0	312	61	0	13	0	0	21	2	0	0	127	3	0	9	0	0	8	0	0	100	0	193	1	0	9	5	0	18	0	882		
16:15	0	305	67	0	5	1	0	16	1	0	0	149	0	0	6	0	0	9	0	0	121	0	202	1	0	6	6	0	21	0	916		
16:30	0	298	65	0	14	0	0	19	1	0	0	145	1	0	4	0	0	9	0	0	124	0	197	1	0	4	0	0	14	0	896		
16:45	0	316	68	0	5	2	0	22	1	0	0	146	1	0	3	0	0	13	0	0	124	0	191	2	0	2	1	0	9	0	906		
17:00	0	357	84	0	6	2	0	21	4	0	0	158	2	0	5	0	0	9	0	0	118	0	190	1	0	3	1	0	11	0	972		
17:15	0	354	89	0	7	2	0	9	2	0	0	158	5	0	4	0	0	14	0	0	132	0	163	0	0	6	1	0	12	0	958		
17:30	0	340	100	0	7	0	0	14	0	0	0	169	4	0	5	0	0	10	0	0	128	0	157	0	0	5	2	0	12	0	953		
17:45	0	326	78	0	5	0	0	11	0	0	0	157	3	0	2	0	0	11	0	0	138	0	184	1	0	5	2	0	10	0	933		



Ministry of Transportation

Ministère des Transports

2019

Intersection Layout Sheet

Version: 1.0 Feb 1, 2016

Contract # 9015-E-00 09

Work Order # 296

Date: Sep 11 Day: Wed 1 Hrs: 7 - 9 + 11 - 14 + 15 - 18

Location: Hwy 410 & Mayfield Rd Ramps: WRT 1

Reg/Mun: CR Town/City: Kleinburg Area:

File Name: 4490850000 Device: Gretch Jamar Unit # 8 1 Interval 1: AM NN / PM

Observer: Olga Bditskikh Weather: clear / clear Road Condition: dry / dry

LHRS & O/S: 49085 0.00

Comments:

GPS: G-Star IV

Datum: WGS 84 (Y) / N

Lat: 43.755149

Long: -79.800619

SIGNALIZED (Y) / N

If intersection is unsignalized;

Sign Type: Stop / Yield

Sign Size: cm x cm

Sign Condition:

NA: New / Good / Poor / Missing

SA: New / Good / Poor / Missing

WA: New / Good / Poor / Missing

EA: New / Good / Poor / Missing

Photograph all approach's including all Signs (Y) / N

80
Hwy / Street Name
Hwy 410 ramp
(sign)

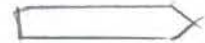
INDICATE LOCATION & DIRECTION OF VEHICLE

Vehicle N S E W

Hwy / Street Name

Mayfield Rd N/A

30 km/hr

⑤
④
③
②
①

① ② ... ⑤

④ ... ② ①

80

Mayfield Rd



53

Note:

Hwy / Street Name

Show all lanes approaching and leaving the intersection.

Show all channelization

If there are two or more through lane in one direction, indicate if these lanes are not continuous

Show pedestrian crosswalks

Hwy / Street Name
HWY 410 Ramp
(sign)

70

Layout of "Special Condition"

Page 1 / 1



Ministry of Transportation

TVIS II - Traffic Volume Information System

AdHoc Turning Movement Total Count and Peak Summary Report

Description: **HWY 410 @ MAYFIELD RD (WRT)**

Region: **CENTRAL**

Survey Type: **TM - Interchange**

Hwy: **410**

Start Date: **11-Sep-2019 (Wed)**

I/C Side: **W**

LHRS: **49085**

End Date: **11-Sep-2019 (Wed)**

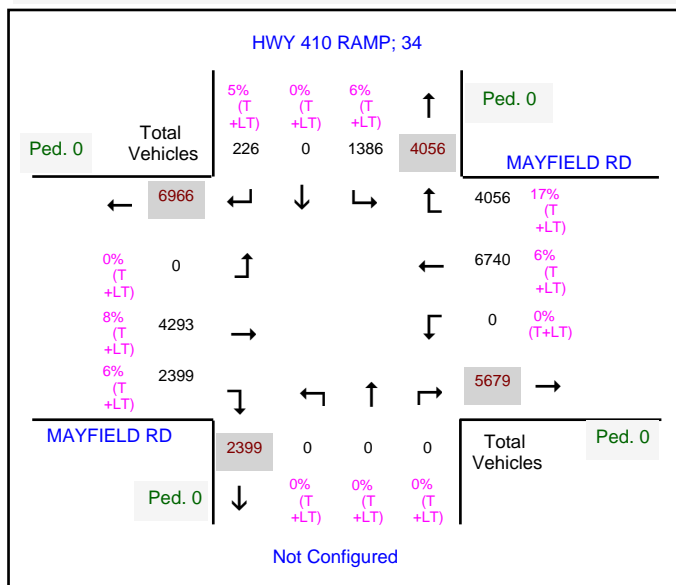
Int. Type: **T - N**

Offset: **0**

Schedule Summary: **TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00**

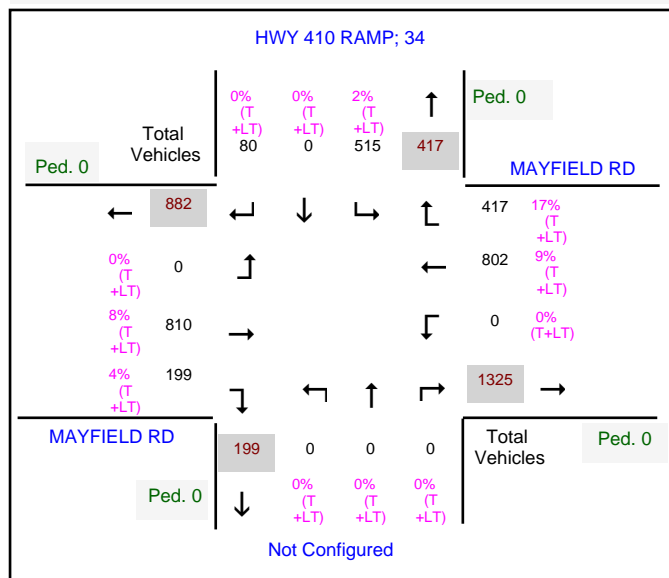
Total Count

Number of hours: 8



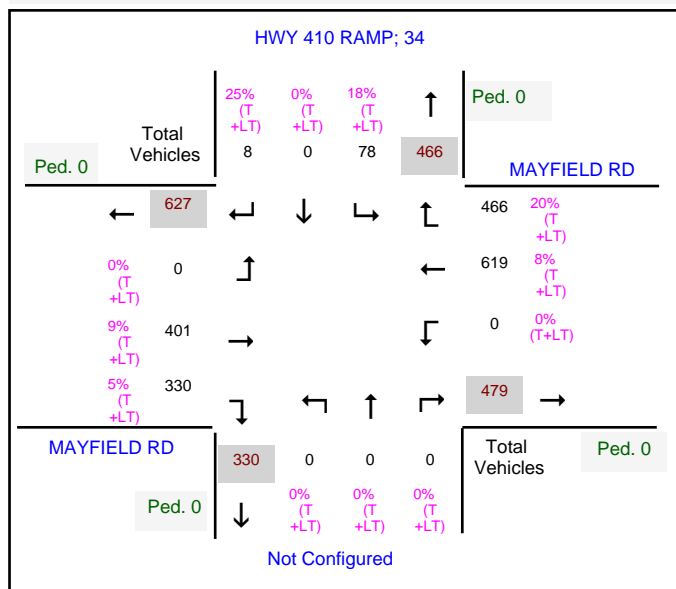
AM Peak Hour Report

Start Time: 07:15



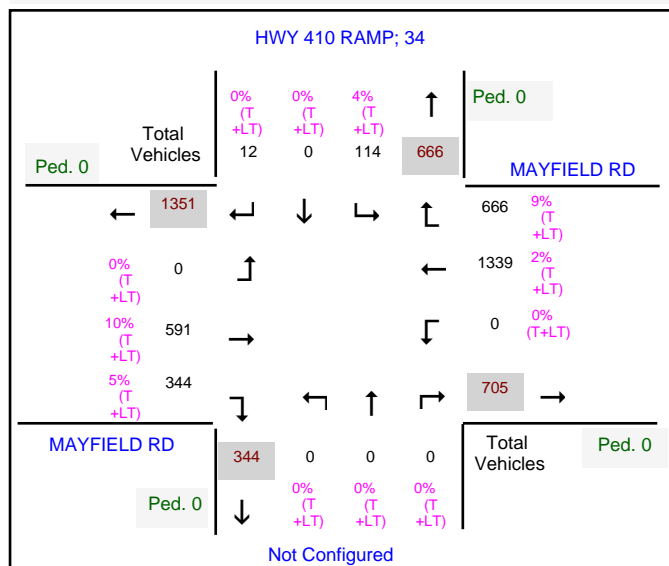
Midday Peak Hour Report

Start Time: 13:00



PM Peak Hour Report

Start Time: 17:00





Ministry of Transportation

TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: **HWY 410 @ MAYFIELD RD (WRT)**

Region: **CENTRAL**

Survey Type: **TM – Interchange**

Hwy: **410**

Start Date: **11-Sep-2019 (Wed)**

I/C Side: **W**

LHRS: **49085**

End Date: **11-Sep-2019 (Wed)**

Int. Type: **T - N**

Offset: **0**

Schedule Summary: **TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00**

Start Time	Major Road Approaches																Minor Road Approaches																Total Veh.
	East MAYFIELD RD								West MAYFIELD RD								North HWY 410 RAMP: Ramp(s): 34								Not Configured								
	Cars ← ↑ →	Trucks ← ↑ →	Long Trucks ← ↑ →	Ped	Cars ← ↑ →	Trucks ← ↑ →	Long Trucks ← ↑ →	Ped	Cars ← ↑ →	Trucks ← ↑ →	Long Trucks ← ↑ →	Ped	Cars ← ↑ →	Trucks ← ↑ →	Long Trucks ← ↑ →	Ped	Cars ← ↑ →	Trucks ← ↑ →	Long Trucks ← ↑ →	Ped													
Period 1																																	
07:00	0	123	91	0	13	5	0	12	8	0	0	145	96	0	2	1	0	1	0	0	69	0	9	1	0	0	3	0	0	0	579		
07:15	0	157	94	0	7	2	0	11	16	0	0	144	66	0	5	0	0	3	0	0	120	0	11	3	0	0	0	0	0	0	639		
07:30	0	148	72	0	13	2	0	10	11	0	0	230	38	0	21	2	0	8	3	0	137	0	25	2	0	0	3	0	0	0	725		
07:45	0	212	108	0	13	4	0	7	23	0	0	204	49	0	7	0	0	8	1	0	150	0	21	0	0	0	0	0	0	0	807		
08:00	0	209	74	0	9	3	0	6	8	0	0	166	39	0	8	1	0	6	0	0	97	0	23	1	0	0	2	0	0	0	652		
08:15	0	151	58	0	5	3	0	8	10	0	0	159	48	0	3	1	0	7	0	0	75	0	24	1	0	0	0	0	0	0	553		
08:30	0	143	66	0	14	1	0	5	9	0	0	180	45	0	6	2	0	7	0	0	83	0	34	0	0	0	3	0	1	0	599		
08:45	0	98	74	0	9	8	0	13	12	0	0	170	67	0	7	1	0	8	1	0	76	0	17	1	0	1	1	0	0	0	564		
Period 2																																	
11:00	0	93	94	0	7	12	0	11	20	0	0	82	82	0	3	2	0	7	8	0	13	0	1	0	0	0	3	0	1	0	439		
11:15	0	110	108	0	4	6	0	4	22	0	0	80	72	0	1	4	0	8	6	0	16	0	4	2	0	0	0	0	0	0	447		
11:30	0	114	85	0	9	9	0	4	24	0	0	88	83	0	1	0	0	2	3	0	24	0	1	0	0	0	0	0	4	0	451		
11:45	0	119	101	0	0	4	0	14	19	0	0	97	85	0	3	3	0	7	0	0	16	0	3	0	0	0	0	0	1	0	472		
12:00	0	128	93	0	4	4	0	11	19	0	0	82	65	0	2	3	0	2	6	0	13	0	0	3	0	0	2	0	0	0	437		
12:15	0	128	84	0	3	8	0	4	24	0	0	87	72	0	5	3	0	15	3	0	13	0	3	1	0	0	0	0	0	0	453		
12:30	0	127	86	0	2	5	0	10	26	0	0	89	79	0	3	1	0	5	4	0	15	0	3	2	0	0	0	0	0	0	457		
12:45	0	132	79	0	4	10	0	7	27	0	0	72	80	0	2	3	0	5	7	0	14	0	1	0	0	0	1	0	0	0	444		
13:00	0	128	95	0	6	13	0	15	17	0	0	96	75	0	3	2	0	6	2	0	18	0	0	0	0	0	1	0	1	0	478		
13:15	0	150	91	0	6	6	0	3	15	0	0	83	87	0	2	2	0	8	3	0	13	0	3	1	0	0	4	0	1	0	478		
13:30	0	145	89	0	1	10	0	8	11	0	0	87	72	0	1	0	0	8	3	0	16	0	0	4	0	0	0	0	0	0	455		
13:45	0	144	96	0	4	8	0	9	15	0	0	99	78	0	3	2	0	5	4	0	17	0	3	2	0	0	2	0	0	0	491		



Ministry of Transportation

TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: **HWY 410 @ MAYFIELD RD (WRT)**

Region: **CENTRAL**

Survey Type: **TM – Interchange**

Hwy: **410**

Start Date: **11-Sep-2019 (Wed)**

I/C Side: **W**

LHRS: **49085**

End Date: **11-Sep-2019 (Wed)**

Int. Type: **T - N**

Offset: **0**

Schedule Summary: **TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00**

	Major Road Approaches																		Minor Road Approaches																		Total Veh.
	East MAYFIELD RD									West MAYFIELD RD									North HWY 410 RAMP: Ramp(s): 34									Not Configured									
	Cars ← ↑ →			Trucks ← ↑ →			Long Trucks ← ↑ →			Ped	Cars ← ↑ →			Trucks ← ↑ →			Long Trucks ← ↑ →			Ped	Cars ← ↑ →			Trucks ← ↑ →			Long Trucks ← ↑ →			Ped							
Start Time																																					
Period 3																																					
15:00	0	239	108	0	6	7	0	4	16	0	0	105	67	0	4	1	0	4	2	0	16	0	1	2	0	0	1	0	0	0				583			
15:15	0	266	152	0	7	12	0	5	13	0	0	124	71	0	6	2	0	3	5	0	21	0	7	0	0	0	3	0	0	0				697			
15:30	0	285	119	0	6	8	0	6	16	0	0	127	75	0	6	0	0	6	3	0	29	0	0	2	0	0	3	0	0	0				691			
15:45	0	265	106	0	11	6	0	11	9	0	0	119	69	0	4	5	0	7	7	0	30	0	2	3	0	1	0	0	0	0				655			
16:00	0	275	133	0	6	8	0	8	15	0	0	110	85	0	9	2	0	7	3	0	32	0	0	1	0	0	1	0	0	0				695			
16:15	0	296	137	0	4	1	0	7	16	0	0	123	52	0	4	1	0	5	3	0	27	0	3	1	0	0	2	0	0	0				682			
16:30	0	307	118	0	4	10	0	6	13	0	0	107	73	0	2	0	0	7	5	0	24	0	3	3	0	0	2	0	0	0				684			
16:45	0	306	147	0	4	2	0	3	21	0	0	143	53	0	5	2	0	11	4	0	23	0	1	1	0	0	1	0	0	0				727			
17:00	0	304	173	0	6	2	0	6	14	0	0	121	77	0	3	1	0	11	2	0	20	0	1	0	0	0	0	0	0	0				741			
17:15	0	344	158	0	3	3	0	4	7	0	0	142	92	0	5	3	0	13	2	0	28	0	1	0	0	0	1	0	0	0				806			
17:30	0	339	132	0	2	1	0	1	14	0	0	137	77	0	5	2	0	9	4	0	37	0	4	0	0	0	2	0	0	0				766			
17:45	0	324	145	0	3	5	0	3	12	0	0	134	82	0	3	1	0	8	1	0	25	0	6	0	0	0	1	0	0	0				753			

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	July 2017		Prepared Date	January 8, 2021
Database Rev	22		Completed By	JP
Timing Card / Field rev	22		Checked By	SJ

Location	Mayfield Road at Heart Lake Road								
Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Mayfield Road - WB PP LT	5	0	0	3.0	0	9	9	9
2	Mayfield Road - EB	12	8	21	4.6	2.1	81	71	76
3	Not in use	-	-	-	-	-	-	-	-
4	Heart Lake Road - NB	8	8	25	4.0	2.9	50	50	50
5	Not in use	-	-	-	-	-	-	-	-
6	Mayfield Road - WB	12	8	21	4.6	2.1	90	80	85
7	Heart Lake Road - NB PP LT	5	0	0	3.0	0	9	9	9
8	Heart Lake Road - SB	8	8	25	4.0	2.9	41	41	41

System Control Yes Semi-Actuated Mode No, Fully	TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
	06:00 - 09:30	AM	140	78
	09:30 - 16:00 20:00 - 22:00	OFF	130	66
	16:00 - 20:00	PM	135	26

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	April 18, 2013		Prepared Date	January 8, 2021
Database Rev	2		Completed By	JP
Timing Card / Field rev	2		Checked By	SJ

Location	Mayfield Road at Highway 410 Southbound Off Ramp (E/W Ramp)						
Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)
			WALK	FDWALK			AM/OFF/PM MAX
1	Not in use	-	-	-	-	-	-
2	Mayfield Road - EB	16	10	6	4	2	46
3	Not in use	-	-	-	-	-	-
4	Hwy 410 SB Off Ramp	8	20	6	4	2	14 (min), 41 (max)
5	Not in use	-	-	-	-	-	-
6	Mayfield Road - WB	16	10	6	4	2	46
7	Not in use	-	-	-	-	-	-
8	Not in use	-	-	-	-	-	-

System Control Yes Semi-Actuated Mode Yes	TIME (M-F)		PEAK	CYCLE LENGTH (s)	OFFSET (s)
	FREE		AM	N/A	N/A
	FREE		OFF	N/A	N/A
	FREE		PM	N/A	N/A

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	August 2018		Prepared Date	January 8, 2021
Database Rev	34		Completed By	JP
Timing Card / Field rev	34		Checked By	SJ

Location	Mayfield Road at Kennedy Road								
Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Mayfield Road - WB PP LT	6	0	0	3.0	0	10	10	20
2	Mayfield Road - EB	8	8	20	4.0	2.6	55	59	54
3	Kennedy Road - SB PP LT	6	0	0	3.0	0	35	25	25
4	Kennedy Road - NB	12	8	20	4.0	2.9	40	36	36
5	Mayfield Road - EB PP LT	6	0	0	3.0	0	10	10	20
6	Mayfield Road - WB	8	8	20	4.0	2.6	55	59	54
7	Not in use	-	-	-	-	-	-	-	-
8	Kennedy Road - SB	12	8	20	4.0	2.9	75	61	61

System Control Yes Semi-Actuated Mode Yes	TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
	06:00 - 09:30	AM	140	17
	09:30 - 16:00 20:00 - 22:00	OFF	130	123
	16:00 - 20:00	PM	135	13

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	July 2017		Prepared Date	January 8, 2021
Database Rev	3		Completed By	JP
Timing Card / Field rev	3		Checked By	SJ

Location	Mayfield Road at Snellview Boulevard/Inder Heights Drive								
Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Not in use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB/WB	12	8	11	4.0	2.0	90	90	95
3	Not in use	-	-	-	-	-	-	-	-
4	Snellview Blvd/Inder Heights Dr - NB/SB	8	8	18	4.0	2.6	50	40	40
5	Not in use	-	-	-	-	-	-	-	-
6	Not in use	-	-	-	-	-	-	-	-
7	Not in use	-	-	-	-	-	-	-	-
8	Not in use	-	-	-	-	-	-	-	-

System Control Yes Semi-Actuated Mode Yes	TIME (M-F)		PEAK	CYCLE LENGTH (s)	OFFSET (s)
	06:00 - 09:30		AM	140	0
	09:30 - 16:00 20:00 - 22:00		OFF	130	124
	16:00 - 20:00		PM	135	15

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	January 8, 2018		Prepared Date	February 22, 2021
Database Rev	5		Completed By	JP
Timing Card / Field rev	5		Checked By	BL

Location	Mayfield Road at Highway 410 NB Off Ramp								
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Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM SPLITS	OFF MIN/MAX	PM SPLITS
1	Not in use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB	12	8	19	4.6	2.0	70	51.6 (max)	65
3	Not in use	-	-	-	-	-	-	-	-
4	Ring Balance/Computer Phase	10	0	0	4.6	2.3	50	16.9/41.9	55
5	Not in use	-	-	-	-	-	-	-	-
6	Mayfield Road - WB	12	8	19	4.6	2.0	70	51.6 (max)	65
7	Not in use	-	-	-	-	-	-	-	-
8	Hwy 410 NB Off Ramp	10	0	0	4.6	2.3	50	16.9/41.9	55

System Control Yes Semi-Actuated Mode Yes	TIME (M-F)		PEAK	CYCLE LENGTH (s)	OFFSET (s)
	07:00 - 09:00		AM	120	32
	FREE		OFF	0	0
	15:00 - 18:00		PM	120	19



Turning Movement Count (144 . MAYFIELD RD & HEART LAKE ROAD) CustID: 01413759 Mioid:

Start Time	Southbound HEART LAKE ROAD						Westbound MAYFIELD RD						Northbound HEART LAKE ROAD						Eastbound MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)	
	Left N:E	Thru N:S	Right N:W	UTurn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	UTurn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	UTurn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total			
07:00:00	8	5	13	0	0	26	10	121	4	0	0	135	20	6	3	0	1	29	15	243	97	0	0	355	545		
07:15:00	6	7	21	0	0	34	8	153	4	0	0	165	23	2	1	0	0	26	9	284	107	0	0	400	625		
07:30:00	3	9	10	1	0	23	16	153	6	0	0	175	19	2	1	0	0	22	15	309	135	0	0	459	679		
07:45:00	7	26	18	0	0	51	25	170	3	0	0	198	65	1	6	0	0	72	16	324	130	0	0	470	791	2640	
08:00:00	9	15	16	0	0	40	28	187	3	0	0	218	34	2	5	0	0	41	11	307	155	0	0	473	772	2867	
08:15:00	6	13	17	0	0	36	12	179	5	0	0	196	40	2	5	0	0	47	10	289	113	0	0	412	691	2933	
08:30:00	3	13	10	0	0	26	7	160	3	0	0	170	34	5	8	0	0	47	11	306	122	0	0	439	682	2936	
08:45:00	9	14	21	0	0	44	12	150	7	0	0	169	42	4	4	0	0	50	10	267	118	0	0	395	658	2803	
BREAK																											
11:00:00	6	1	8	0	0	15	4	129	3	1	0	137	34	1	10	0	0	45	8	210	33	0	0	251	448		
11:15:00	6	2	6	0	0	14	6	141	2	0	0	149	28	3	11	0	0	42	4	201	46	0	0	251	456		
11:30:00	5	3	12	0	0	20	6	127	2	1	0	136	37	5	3	0	0	45	5	208	37	0	0	250	451		
11:45:00	2	6	9	0	0	17	1	159	4	0	0	164	36	2	5	0	0	43	6	208	44	0	0	258	482	1837	
12:00:00	5	4	6	0	0	15	6	133	6	0	0	145	45	3	8	0	0	56	8	192	45	0	0	245	461	1850	
12:15:00	5	3	5	0	0	13	4	159	4	0	0	167	38	4	5	0	0	47	3	197	51	0	0	251	478	1872	
12:30:00	13	7	13	0	0	33	5	151	3	1	0	160	58	6	3	0	0	67	8	191	49	0	0	248	508	1929	
12:45:00	4	2	10	0	1	16	6	135	9	0	0	150	39	1	5	0	0	45	2	215	48	0	0	265	476	1923	
13:00:00	7	6	5	0	0	18	3	151	5	0	0	159	33	3	1	0	0	37	5	184	43	0	0	232	446	1908	
13:15:00	4	3	11	0	0	18	2	164	6	1	0	173	43	4	7	0	0	54	4	172	49	0	0	225	470	1900	
13:30:00	8	4	5	0	0	17	4	160	6	0	0	170	39	2	8	0	0	49	11	213	45	0	0	269	505	1897	
13:45:00	7	1	9	0	0	17	3	169	3	0	0	175	30	6	8	0	0	44	9	183	50	0	0	242	478	1899	
BREAK																											
15:00:00	6	5	9	0	0	20	10	281	12	1	0	304	67	7	11	0	0	85	21	220	62	0	1	303	712		
15:15:00	6	6	18	0	0	30	6	269	10	0	0	285	76	8	11	0	0	95	15	239	60	0	0	314	724		
15:30:00	18	2	17	0	0	37	10	263	7	0	0	280	105	11	6	0	0	122	9	214	58	0	0	281	720		
15:45:00	16	6	24	0	1	46	9	293	12	0	0	314	101	8	8	0	0	117	16	236	70	0	0	322	799	2955	
16:00:00	13	9	30	0	0	52	5	313	11	1	0	330	75	9	8	0	1	92	15	230	66	0	0	311	785	3028	
16:15:00	6	10	29	0	0	45	5	300	5	0	0	310	94	7	9	0	0	110	9	235	71	0	0	315	780	3084	
16:30:00	10	5	28	0	0	43	5	302	7	1	0	315	82	7	5	0	0	94	14	214	72	0	0	300	752	3116	
16:45:00	17	7	29	0	0	53	4	312	10	0	0	326	100	14	10	0	0	124	9	253	74	1	0	337	840	3157	
17:00:00	6	9	24	0	0	39	9	321	7	1	0	338	93	7	3	0	1	103	5	239	50	0	0	294	774	3146	
17:15:00	14	10	29	0	0	53	8	358	8	0	0	374	80	10	5	0	1	95	13	232	95	0	0	340	862	3228	
17:30:00	9	5	31	0	0	45	9	324	4	0	0	337	90	7	3	0	0	100	13	255	52	0	0	320	802	3278	
17:45:00	7	6	25	0	0	38	10	327	7	1	0	345	85	6	9	0	0	100	9	239	62	0	0	310	793	3231	
Grand Total	251	224	518	1	2	994	258	6714	188	9	0	7169	1785	165	195	0	4	2145	318	7509	2309	1	1	10137	20445	-	
Approach%	25.3%	22.5%	52.1%	0.1%	-	-	3.6%	93.7%	2.6%	0.1%	-	-	83.2%	7.7%	9.1%	0%	-	-	3.1%	74.1%	22.8%	0%	-	-	-	-	
Totals %	1.2%	1.1%	2.5%	0%	4.9%	4.9%	1.3%	32.8%	0.9%	0%	35.1%	8.7%	0.8%	1%	0%	10.5%	1.6%	36.7%	11.3%	0%	0%	49.6%	-	-	-		
Heavy	12	7	19	0	-	-	14	397	14	0	-	55	4	13	0	-	29	445	71	0	-	-	-	-	-		
Heavy %	4.8%	3.1%	3.7%	0%	-	-	5.4%	5.9%	7.4%	0%	-	3.1%	2.4%	6.7%	0%	-	9.1%	5.9%	3.1%	0%	-	-	-	-	-		
Bicycles	0	0	1	0	-	-	0	0	0	0	-	0	1	0	0	-	0	0	1	0	-	-	-	-	-		
Bicycle %	0%	0%	0.2%	0%	-	-	0%	0%	0%	0%	-	0%	0.6%	0%	0%	-	0%	0%	0%	0%	-	-	-	-	-		



Turning Movement Count
Location Name: MAYFIELD RD & HEART LAKE ROAD
Date: Wed, Jun 01, 2022 Deployment Lead: Tasos Issaakidis

Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (23.15 °C)

Start Time	Southbound HEART LAKE ROAD						Westbound MAYFIELD RD						Northbound HEART LAKE ROAD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
07:45:00	7	26	18	0	0	51	25	170	3	0	0	198	65	1	6	0	0	72	16	324	130	0	0	470	791
08:00:00	9	15	16	0	0	40	28	187	3	0	0	218	34	2	5	0	0	41	11	307	155	0	0	473	772
08:15:00	6	13	17	0	0	36	12	179	5	0	0	196	40	2	5	0	0	47	10	289	113	0	0	412	691
08:30:00	3	13	10	0	0	26	7	160	3	0	0	170	34	5	8	0	0	47	11	306	122	0	0	439	682
Grand Total	25	67	61	0	0	153	72	696	14	0	0	782	173	10	24	0	0	207	48	1226	520	0	0	1794	2936
Approach%	16.3%	43.8%	39.9%	0%		-	9.2%	89%	1.8%	0%		-	83.6%	4.8%	11.6%	0%		-	2.7%	68.3%	29%	0%		-	-
Totals %	0.9%	2.3%	2.1%	0%		5.2%	2.5%	23.7%	0.5%	0%		26.6%	5.9%	0.3%	0.8%	0%		7.1%	1.6%	41.8%	17.7%	0%		61.1%	-
PHF	0.69	0.64	0.85	0		0.75	0.64	0.93	0.7	0		0.9	0.67	0.5	0.75	0		0.72	0.75	0.95	0.84	0		0.95	-
Heavy	2	1	3	0		6	5	61	0	0		66	15	0	3	0		18	2	51	13	0		66	-
Heavy %	8%	1.5%	4.9%	0%		3.9%	6.9%	8.8%	0%	0%		8.4%	8.7%	0%	12.5%	0%		8.7%	4.2%	4.2%	2.5%	0%		3.7%	-
Lights	23	66	58	0		147	67	635	14	0		716	158	10	21	0		189	46	1175	507	0		1728	-
Lights %	92%	98.5%	95.1%	0%		96.1%	93.1%	91.2%	100%	0%		91.6%	91.3%	100%	87.5%	0%		91.3%	95.8%	95.8%	97.5%	0%		96.3%	-
Single-Unit Trucks	0	0	2	0		2	3	32	0	0		35	5	0	3	0		8	1	24	1	0		26	-
Single-Unit Trucks %	0%	0%	3.3%	0%		1.3%	4.2%	4.6%	0%	0%		4.5%	2.9%	0%	12.5%	0%		3.9%	2.1%	2%	0.2%	0%		1.4%	-
Buses	1	1	1	0		3	2	16	0	0		18	10	0	0	0		10	1	14	11	0		26	-
Buses %	4%	1.5%	1.6%	0%		2%	2.8%	2.3%	0%	0%		2.3%	5.8%	0%	0%	0%		4.8%	2.1%	1.1%	2.1%	0%		1.4%	-
Articulated Trucks	1	0	0	0		1	0	13	0	0		13	0	0	0	0		0	0	13	1	0		14	-
Articulated Trucks %	4%	0%	0%	0%		0.7%	0%	1.9%	0%	0%		1.7%	0%	0%	0%	0%		0%	0%	1.1%	0.2%	0%		0.8%	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Road	0	0	1	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Turning Movement Count
Location Name: MAYFIELD RD & HEART LAKE ROAD
Date: Wed, Jun 01, 2022 Deployment Lead: Tasos Issaakidis

Peak Hour: 11:45 AM - 12:45 PM Weather: Light Rain (18.78 °C)

Start Time	Southbound HEART LAKE ROAD						Westbound MAYFIELD RD						Northbound HEART LAKE ROAD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
11:45:00	2	6	9	0	0	17	1	159	4	0	0	164	36	2	5	0	0	43	6	208	44	0	0	258	482
12:00:00	5	4	6	0	0	15	6	133	6	0	0	145	45	3	8	0	0	56	8	192	45	0	0	245	461
12:15:00	5	3	5	0	0	13	4	159	4	0	0	167	38	4	5	0	0	47	3	197	51	0	0	251	478
12:30:00	13	7	13	0	0	33	5	151	3	1	0	160	58	6	3	0	0	67	8	191	49	0	0	248	508
Grand Total	25	20	33	0	0	78	16	602	17	1	0	636	177	15	21	0	0	213	25	788	189	0	0	1002	1929
Approach%	32.1%	25.6%	42.3%	0%		-	2.5%	94.7%	2.7%	0.2%		-	83.1%	7%	9.9%	0%		-	2.5%	78.6%	18.9%	0%		-	-
Totals %	1.3%	1%	1.7%	0%		4%	0.8%	31.2%	0.9%	0.1%		33%	9.2%	0.8%	1.1%	0%		11%	1.3%	40.9%	9.8%	0%		51.9%	-
PHF	0.48	0.71	0.63	0		0.59	0.67	0.95	0.71	0.25		0.95	0.76	0.63	0.66	0		0.79	0.78	0.95	0.93	0		0.97	-
Heavy	0	0	2	0		2	2	38	0	0		40	4	0	1	0		5	3	54	6	0		63	-
Heavy %	0%	0%	6.1%	0%		2.6%	12.5%	6.3%	0%	0%		6.3%	2.3%	0%	4.8%	0%		2.3%	12%	6.9%	3.2%	0%		6.3%	-
Lights	25	20	31	0		76	14	564	17	1		596	173	15	20	0		208	22	734	183	0		939	-
Lights %	100%	100%	93.9%	0%		97.4%	87.5%	93.7%	100%	100%		93.7%	97.7%	100%	95.2%	0%		97.7%	88%	93.1%	96.8%	0%		93.7%	-
Single-Unit Trucks	0	0	2	0		2	2	22	0	0		24	3	0	1	0		4	0	43	5	0		48	-
Single-Unit Trucks %	0%	0%	6.1%	0%		2.6%	12.5%	3.7%	0%	0%		3.8%	1.7%	0%	4.8%	0%		1.9%	0%	5.5%	2.6%	0%		4.8%	-
Buses	0	0	0	0		0	0	2	0	0		2	1	0	0	0		1	0	0	1	0		1	-
Buses %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0.6%	0%	0%	0%		0.5%	0%	0%	0.5%	0%		0.1%	-
Articulated Trucks	0	0	0	0		0	0	14	0	0		14	0	0	0	0		0	3	11	0	0		14	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	2.3%	0%	0%		2.2%	0%	0%	0%	0%		0%	12%	1.4%	0%	0%		1.4%	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Turning Movement Count
Location Name: MAYFIELD RD & HEART LAKE ROAD
Date: Wed, Jun 01, 2022 Deployment Lead: Tasos Issaakidis

Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (24.05 °C)

Start Time	Southbound HEART LAKE ROAD						Westbound MAYFIELD RD						Northbound HEART LAKE ROAD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
16:45:00	17	7	29	0	0	53	4	312	10	0	0	326	100	14	10	0	0	124	9	253	74	1	0	337	840
17:00:00	6	9	24	0	0	39	9	321	7	1	0	338	93	7	3	0	1	103	5	239	50	0	0	294	774
17:15:00	14	10	29	0	0	53	8	358	8	0	0	374	80	10	5	0	1	95	13	232	95	0	0	340	862
17:30:00	9	5	31	0	0	45	9	324	4	0	0	337	90	7	3	0	0	100	13	255	52	0	0	320	802
Grand Total	46	31	113	0	0	190	30	1315	29	1	0	1375	363	38	21	0	2	422	40	979	271	1	0	1291	3278
Approach%	24.2%	16.3%	59.5%	0%		-	2.2%	95.6%	2.1%	0.1%		-	86%	9%	5%	0%		-	3.1%	75.8%	21%	0.1%		-	-
Totals %	1.4%	0.9%	3.4%	0%		5.8%	0.9%	40.1%	0.9%	0%		41.9%	11.1%	1.2%	0.6%	0%		12.9%	1.2%	29.9%	8.3%	0%		39.4%	-
PHF	0.68	0.78	0.91	0		0.9	0.83	0.92	0.73	0.25		0.92	0.91	0.68	0.53	0		0.85	0.77	0.96	0.71	0.25		0.95	-
Heavy	2	1	1	0		4	1	17	4	0		22	0	0	1	0		1	2	44	1	0		47	-
Heavy %	4.3%	3.2%	0.9%	0%		2.1%	3.3%	1.3%	13.8%	0%		1.6%	0%	0%	4.8%	0%		0.2%	5%	4.5%	0.4%	0%		3.6%	-
Lights	44	30	112	0		186	29	1298	25	1		1353	363	38	20	0		421	38	935	270	1		1244	-
Lights %	95.7%	96.8%	99.1%	0%		97.9%	96.7%	98.7%	86.2%	100%		98.4%	100%	100%	95.2%	0%		99.8%	95%	95.5%	99.6%	100%		96.4%	-
Single-Unit Trucks	1	1	0	0		2	1	12	4	0		17	0	0	0	0		0	0	25	1	0		26	-
Single-Unit Trucks %	2.2%	3.2%	0%	0%		1.1%	3.3%	0.9%	13.8%	0%		1.2%	0%	0%	0%	0%		0%	0%	2.6%	0.4%	0%		2%	-
Buses	1	0	1	0		2	0	1	0	0		1	0	0	0	0		0	0	3	0	0		3	-
Buses %	2.2%	0%	0.9%	0%		1.1%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	-
Articulated Trucks	0	0	0	0		0	0	4	0	0		4	0	0	1	0		1	2	16	0	0		18	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	4.8%	0%		0.2%	5%	1.6%	0%	0%		1.4%	-
Pedestrians	-	-	-	-	0	-	-	-	-	0		-	-	-	-	0		-	-	-	-	0		-	-
Pedestrians%	-	-	-	-	0%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0		-	-	-	-	2		-	-	-	-	0		-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (23.15 °C)



Peak Hour: 11:45 AM - 12:45 PM Weather: Light Rain (18.78 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (24.05 °C)





Turning Movement Count (14 . MAYFIELD RD & HIGHWAY 410 NB OFF RAMP) CustID: 01413000 Miod:

Start Time	Westbound MAYFIELD RD						Northbound HIGHWAY 410 NB OFF RAMP						Eastbound MAYFIELD RD						Southbound HIGHWAY 410 NB ON RAMP			Int. Total (15 min)	Int. Total (1 hr)
	Left E:S	Thru E:W	Right E:N	UTurn E:E	Peds E:	Approach Total	Left S:W	Right S:E	UTurn S:S	Peds S:	Approach Total	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total	UTurn N:N	Peds N:	Approach Total				
07:00:00	0	229	30	0	0	259	58	170	0	0	228	211	0	0	0	211	0	0	0	698			
07:15:00	0	217	34	0	0	251	59	170	0	1	229	253	0	0	0	253	0	0	0	733			
07:30:00	0	211	41	0	0	252	63	226	0	0	289	282	0	0	0	282	0	0	0	823			
07:45:00	0	233	32	0	0	265	71	191	0	0	262	309	0	0	0	309	0	0	0	836	3090		
08:00:00	0	214	35	0	0	249	59	171	0	2	230	269	0	0	0	269	0	0	0	748	3140		
08:15:00	0	235	38	0	0	273	58	168	0	0	226	272	0	0	0	272	0	0	0	771	3178		
08:30:00	0	206	54	0	0	260	61	186	0	2	247	261	0	0	0	261	0	0	0	768	3123		
08:45:00	0	218	58	0	0	276	53	171	0	0	224	283	0	0	0	283	0	0	0	783	3070		
BREAK																							
11:00:00	0	188	18	0	0	206	57	130	0	0	187	130	0	0	0	130	0	0	0	523			
11:15:00	0	228	38	0	0	266	58	143	0	1	201	132	0	0	0	132	0	0	0	599			
11:30:00	0	236	24	0	0	260	71	147	0	0	218	130	0	0	0	130	0	0	0	608			
11:45:00	0	250	27	0	0	277	75	152	0	1	227	140	0	1	0	141	0	0	0	645	2375		
12:00:00	0	226	21	0	0	247	92	127	0	0	219	123	0	0	1	123	0	0	0	589	2441		
12:15:00	0	238	30	0	1	268	78	154	0	1	232	149	0	1	0	150	0	0	0	650	2492		
12:30:00	0	222	20	0	0	242	77	161	0	2	238	111	0	0	0	111	0	0	0	591	2475		
12:45:00	0	223	25	0	0	248	64	159	0	0	223	152	0	0	0	152	0	0	0	623	2453		
13:00:00	0	223	25	0	0	248	88	169	0	0	257	148	0	0	0	148	0	0	0	653	2517		
13:15:00	0	256	32	0	0	288	74	179	0	0	253	136	0	0	0	136	0	0	0	677	2544		
13:30:00	0	223	34	0	0	257	71	179	0	0	250	162	0	0	0	162	0	0	0	669	2622		
13:45:00	0	240	20	0	0	260	72	189	0	0	261	167	0	0	0	167	0	0	0	688	2687		
BREAK																							
15:00:00	0	332	66	0	0	398	105	233	0	0	338	163	0	0	0	163	0	0	0	899			
15:15:00	0	347	79	0	0	426	104	188	0	0	292	155	0	0	0	155	0	0	0	873			
15:30:00	0	358	82	0	0	440	115	226	0	0	341	176	0	0	0	176	0	0	0	957			
15:45:00	0	342	75	0	0	417	134	189	0	0	323	213	0	0	0	213	0	0	0	953	3682		
16:00:00	0	367	84	0	0	451	138	190	0	1	328	193	0	0	0	193	0	0	0	972	3755		
16:15:00	0	392	79	0	0	471	100	226	0	0	326	180	0	0	0	180	0	0	0	977	3859		
16:30:00	0	360	100	0	0	460	110	209	0	0	319	180	0	0	0	180	0	0	0	959	3861		
16:45:00	0	353	72	0	0	425	134	229	0	0	363	209	0	0	0	209	0	0	0	997	3905		
17:00:00	0	410	83	0	0	493	115	199	0	0	314	199	0	0	0	199	0	0	0	1006	3939		
17:15:00	0	416	68	0	0	484	117	231	0	1	348	182	0	0	0	182	0	0	0	1014	3976		
17:30:00	0	414	89	0	0	503	118	204	0	0	322	210	0	0	0	210	0	0	0	1035	4052		
17:45:00	0	345	71	0	0	416	134	205	0	0	339	201	0	0	0	201	0	0	0	956	4011		
Grand Total	0	8952	1584	0	1	10536	2783	5871	0	12	8654	6081	0	2	1	6083	0	0	0	25273	-		
Approach%	0%	85%	15%	0%		-	32.2%	67.8%	0%		-	100%	0%	0%		-	0%		-	-	-		
Totals %	0%	35.4%	6.3%	0%		41.7%	11%	23.2%	0%		34.2%	24.1%	0%	0%		24.1%	0%		0%	-	-		
Heavy	0	1190	102	0		-	135	844	0		-	448	0	0		-	0		-	-	-		
Heavy %	0%	13.3%	6.4%	0%		-	4.9%	14.4%	0%		-	7.4%	0%	0%		-	0%		-	-	-		
Bicycles	0	0	0	0		-	0	0	0		-	3	0	0		-	0		-	-	-		
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	0%		-	-	-		



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (16.92 °C)

Start Time	Westbound MAYFIELD RD						Northbound HIGHWAY 410 NB OFF RAMP					Eastbound MAYFIELD RD					Southbound HIGHWAY 410 NB ON RAMP			Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	
07:30:00	0	211	41	0	0	252	63	226	0	0	289	282	0	0	0	282	0	0	0	823
07:45:00	0	233	32	0	0	265	71	191	0	0	262	309	0	0	0	309	0	0	0	836
08:00:00	0	214	35	0	0	249	59	171	0	2	230	269	0	0	0	269	0	0	0	748
08:15:00	0	235	38	0	0	273	58	168	0	0	226	272	0	0	0	272	0	0	0	771
Grand Total	0	893	146	0	0	1039	251	756	0	2	1007	1132	0	0	0	1132	0	0	0	3178
Approach%	0%	85.9%	14.1%	0%		-	24.9%	75.1%	0%		-	100%	0%	0%		-	0%		-	-
Totals %	0%	28.1%	4.6%	0%		32.7%	7.9%	23.8%	0%		31.7%	35.6%	0%	0%		35.6%	0%		0%	-
PHF	0	0.95	0.89	0		0.95	0.88	0.84	0		0.87	0.92	0	0		0.92	0		0	-
Heavy	0	160	20	0		180	24	78	0		102	69	0	0		69	0		0	-
Heavy %	0%	17.9%	13.7%	0%		17.3%	9.6%	10.3%	0%		10.1%	6.1%	0%	0%		6.1%	0%		0%	-
Lights	0	733	126	0		859	227	678	0		905	1063	0	0		1063	0		0	-
Lights %	0%	82.1%	86.3%	0%		82.7%	90.4%	89.7%	0%		89.9%	93.9%	0%	0%		93.9%	0%		0%	-
Single-Unit Trucks	0	60	10	0		70	19	30	0		49	22	0	0		22	0		0	-
Single-Unit Trucks %	0%	6.7%	6.8%	0%		6.7%	7.6%	4%	0%		4.9%	1.9%	0%	0%		1.9%	0%		0%	-
Buses	0	29	4	0		33	3	4	0		7	36	0	0		36	0		0	-
Buses %	0%	3.2%	2.7%	0%		3.2%	1.2%	0.5%	0%		0.7%	3.2%	0%	0%		3.2%	0%		0%	-
Articulated Trucks	0	71	6	0		77	2	44	0		46	11	0	0		11	0		0	-
Articulated Trucks %	0%	8%	4.1%	0%		7.4%	0.8%	5.8%	0%		4.6%	1%	0%	0%		1%	0%		0%	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	0	-	-
Pedestrians%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	100%	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-



Peak Hour: 01:00 PM - 02:00 PM Weather: Clear Sky (24.71 °C)

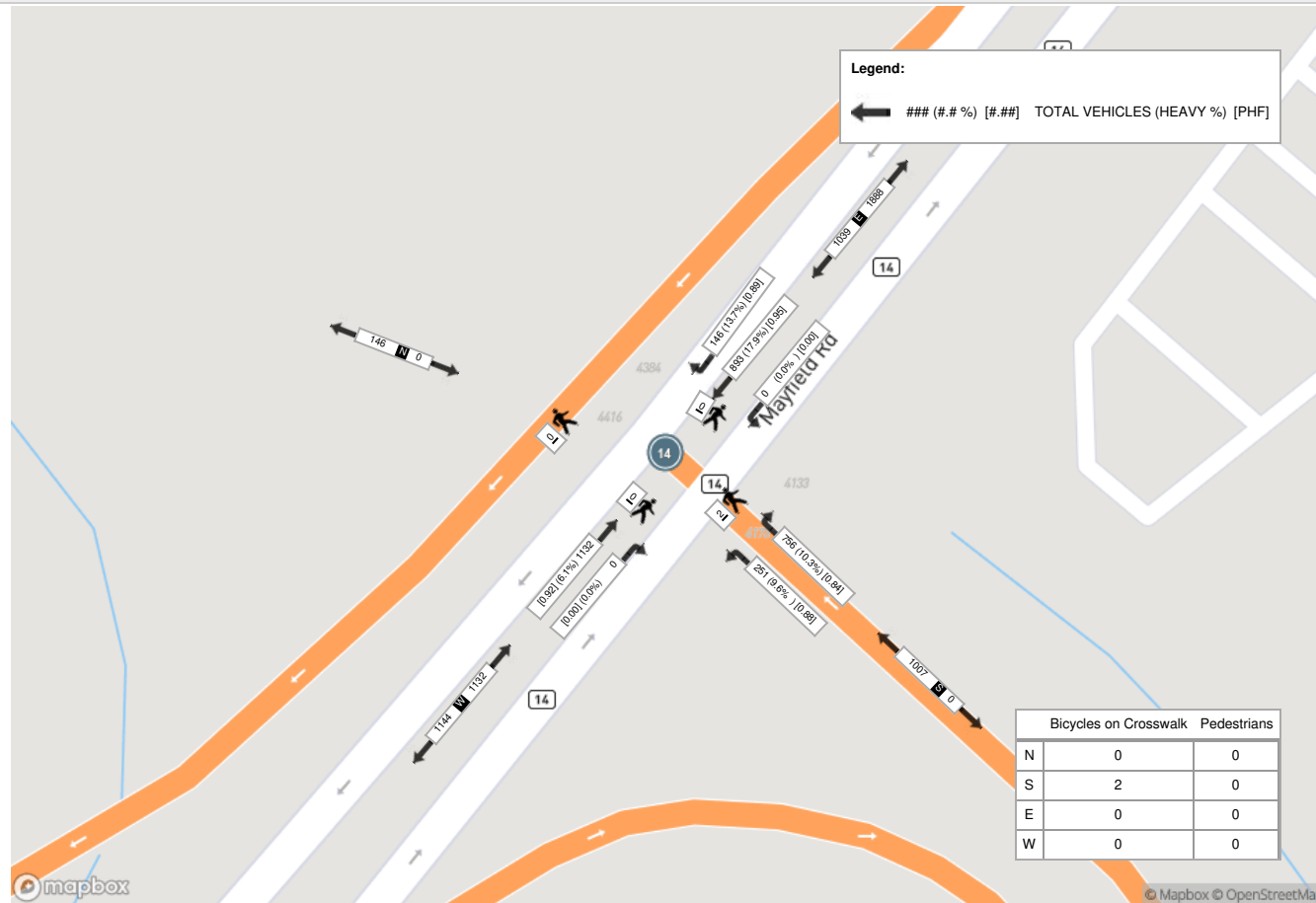
Start Time	Westbound MAYFIELD RD						Northbound HIGHWAY 410 NB OFF RAMP					Eastbound MAYFIELD RD					Southbound HIGHWAY 410 NB ON RAMP				Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total		
13:00:00	0	223	25	0	0	248	88	169	0	0	257	148	0	0	0	148	0	0	0	653	
13:15:00	0	256	32	0	0	288	74	179	0	0	253	136	0	0	0	136	0	0	0	677	
13:30:00	0	223	34	0	0	257	71	179	0	0	250	162	0	0	0	162	0	0	0	669	
13:45:00	0	240	20	0	0	260	72	189	0	0	261	167	0	0	0	167	0	0	0	688	
Grand Total	0	942	111	0	0	1053	305	716	0	0	1021	613	0	0	0	613	0	0	0	2687	
Approach%	0%	89.5%	10.5%	0%		-	29.9%	70.1%	0%		-	100%	0%	0%		-	0%		-	-	
Totals %	0%	35.1%	4.1%	0%		39.2%	11.4%	26.6%	0%		38%	22.8%	0%	0%		22.8%	0%		0%	-	
PHF	0	0.92	0.82	0		0.91	0.87	0.95	0		0.98	0.92	0	0		0.92	0		0	-	
Heavy	0	151	9	0		160	20	123	0		143	55	0	0		55	0		0	-	
Heavy %	0%	16%	8.1%	0%		15.2%	6.6%	17.2%	0%		14%	9%	0%	0%		9%	0%		0%	-	
Lights	0	791	102	0		893	285	593	0		878	558	0	0		558	0		0	-	
Lights %	0%	84%	91.9%	0%		84.8%	93.4%	82.8%	0%		86%	91%	0%	0%		91%	0%		0%	-	
Single-Unit Trucks	0	60	6	0		66	12	47	0		59	34	0	0		34	0		0	-	
Single-Unit Trucks %	0%	6.4%	5.4%	0%		6.3%	3.9%	6.6%	0%		5.8%	5.5%	0%	0%		5.5%	0%		0%	-	
Buses	0	11	0	0		11	3	5	0		8	6	0	0		6	0		0	-	
Buses %	0%	1.2%	0%	0%		1%	1%	0.7%	0%		0.8%	1%	0%	0%		1%	0%		0%	-	
Articulated Trucks	0	80	3	0		83	5	71	0		76	15	0	0		15	0		0	-	
Articulated Trucks %	0%	8.5%	2.7%	0%		7.9%	1.6%	9.9%	0%		7.4%	2.4%	0%	0%		2.4%	0%		0%	-	
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	0	-	-	
Pedestrians%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	0	-	-	
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	-	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	



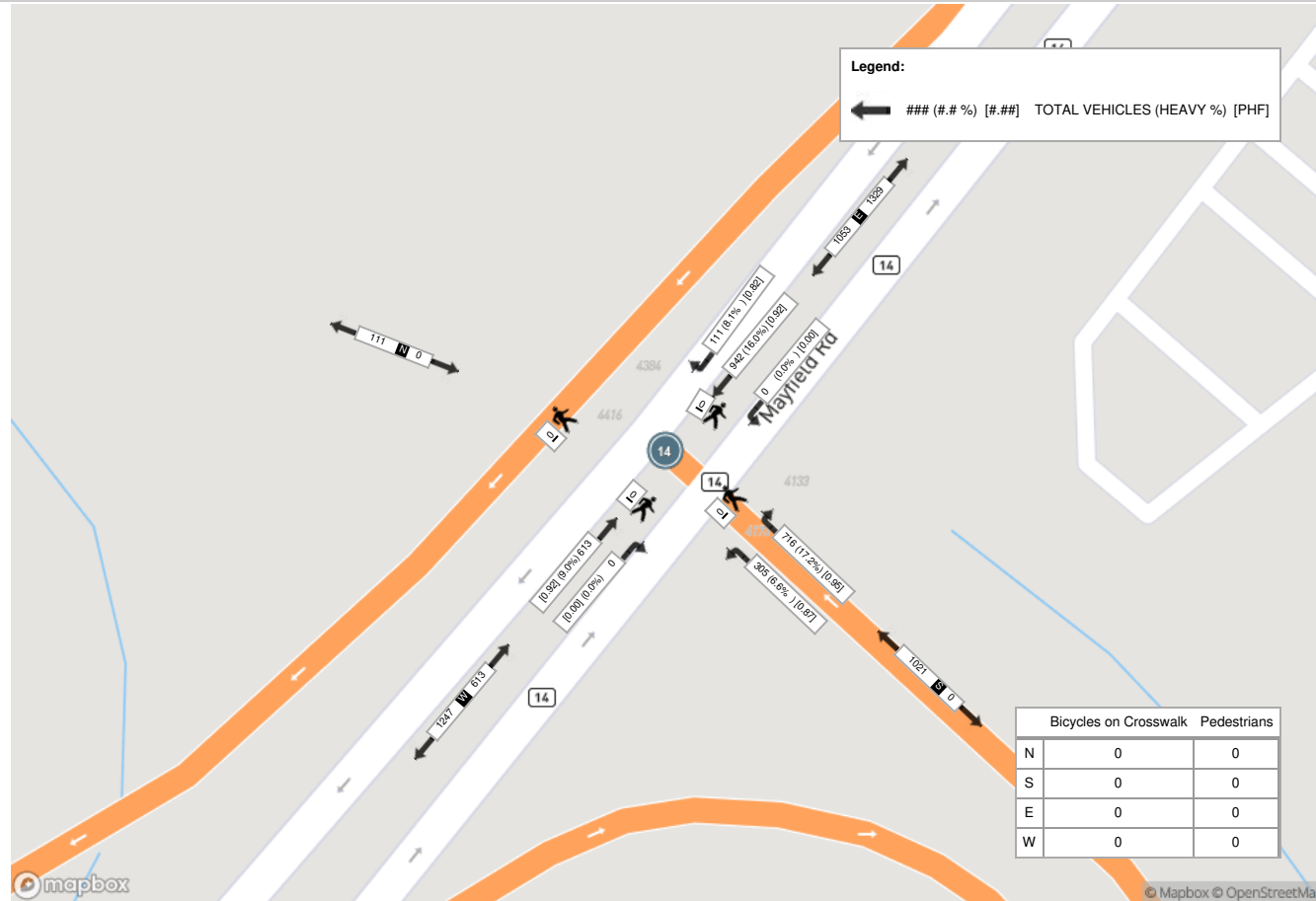
Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (28.82 °C)

Start Time	Westbound MAYFIELD RD						Northbound HIGHWAY 410 NB OFF RAMP					Eastbound MAYFIELD RD					Southbound HIGHWAY 410 NB ON RAMP				Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total		
16:45:00	0	353	72	0	0	425	134	229	0	0	363	209	0	0	0	209	0	0	0	997	
17:00:00	0	410	83	0	0	493	115	199	0	0	314	199	0	0	0	199	0	0	0	1006	
17:15:00	0	416	68	0	0	484	117	231	0	1	348	182	0	0	0	182	0	0	0	1014	
17:30:00	0	414	89	0	0	503	118	204	0	0	322	210	0	0	0	210	0	0	0	1035	
Grand Total	0	1593	312	0	0	1905	484	863	0	1	1347	800	0	0	0	800	0	0	0	4052	
Approach%	0%	83.6%	16.4%	0%		-	35.9%	64.1%	0%		-	100%	0%	0%		-	0%		-	-	
Totals %	0%	39.3%	7.7%	0%		47%	11.9%	21.3%	0%		33.2%	19.7%	0%	0%		19.7%	0%		0%	-	
PHF	0	0.96	0.88	0		0.95	0.9	0.93	0		0.93	0.95	0	0		0.95	0		0	-	
Heavy	0	109	7	0		116	9	120	0		129	58	0	0		58	0		0	-	
Heavy %	0%	6.8%	2.2%	0%		6.1%	1.9%	13.9%	0%		9.6%	7.3%	0%	0%		7.3%	0%		0%	-	
Lights	0	1484	305	0		1789	475	743	0		1218	742	0	0		742	0		0	-	
Lights %	0%	93.2%	97.8%	0%		93.9%	98.1%	86.1%	0%		90.4%	92.8%	0%	0%		92.8%	0%		0%	-	
Single-Unit Trucks	0	50	5	0		55	8	51	0		59	44	0	0		44	0		0	-	
Single-Unit Trucks %	0%	3.1%	1.6%	0%		2.9%	1.7%	5.9%	0%		4.4%	5.5%	0%	0%		5.5%	0%		0%	-	
Buses	0	5	2	0		7	0	4	0		4	2	0	0		2	0		0	-	
Buses %	0%	0.3%	0.6%	0%		0.4%	0%	0.5%	0%		0.3%	0.3%	0%	0%		0.3%	0%		0%	-	
Articulated Trucks	0	54	0	0		54	1	65	0		66	12	0	0		12	0		0	-	
Articulated Trucks %	0%	3.4%	0%	0%		2.8%	0.2%	7.5%	0%		4.9%	1.5%	0%	0%		1.5%	0%		0%	-	
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	0	-	-	
Pedestrians%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	0	-	-	
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	100%	-	-	-	-	0%	-	-	0%	-	-	
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	-	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	

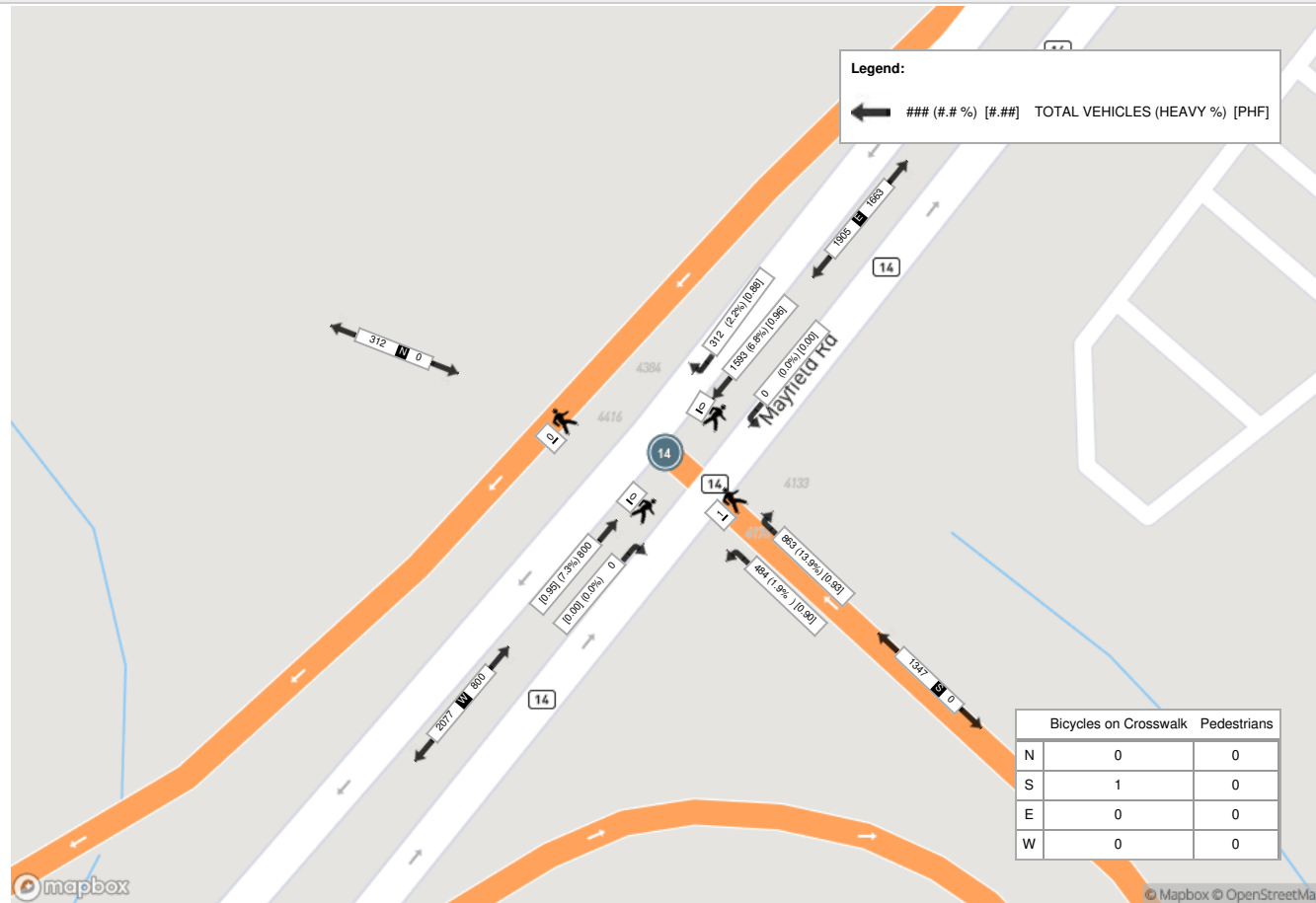
Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (16.92 °C)



Peak Hour: 01:00 PM - 02:00 PM Weather: Clear Sky (24.71 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (28.82 °C)





Turning Movement Count (13 . MAYFIELD RD & HIGHWAY 410 SB OFF RAMP) CustID: 01413422 MIOID:

Start Time	Southbound HWY 410					Westbound MAYFIELD RD					Eastbound MAYFIELD RD					Northbound			Int. Total (15 min)	Int. Total (1 hr)	
	Left N:E	Right N:W	UTurn N:N	Peds N:	Approach Total	Thru E:W	Right E:N	UTurn E:E	Peds E:	Approach Total	Left W:N	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total	UTurn S:S	Peds S:			Approach Total
07:00:00	65	1	0	0	66	141	0	0	0	141	0	149	103	0	0	252	0	0	0	459	
07:15:00	74	8	0	0	82	150	0	1	0	151	0	181	115	0	0	296	0	0	0	529	
07:30:00	82	10	0	0	92	153	0	0	0	153	0	202	88	0	0	290	0	0	0	535	
07:45:00	117	15	0	0	132	172	0	0	0	172	0	186	59	0	0	245	0	0	0	549	2072
08:00:00	81	11	0	0	92	187	0	0	0	187	0	206	74	0	0	280	0	2	0	559	2172
08:15:00	86	8	0	0	94	185	0	0	0	185	0	165	77	0	0	242	0	0	0	521	2164
08:30:00	84	12	0	0	96	180	0	0	0	180	0	200	76	0	0	276	0	2	0	552	2181
08:45:00	81	11	0	0	92	163	0	0	0	163	0	189	78	0	0	267	0	0	0	522	2154
BREAK																					
11:00:00	23	3	0	0	26	130	0	0	0	130	0	99	85	0	0	184	0	0	0	340	
11:15:00	28	2	0	0	30	149	0	0	0	149	0	104	107	0	0	211	0	1	0	390	
11:30:00	23	2	0	0	25	152	0	1	0	153	0	112	115	0	0	227	0	0	0	405	
11:45:00	20	3	0	1	23	166	0	0	0	166	0	124	99	0	0	223	0	0	0	412	1547
12:00:00	23	3	0	0	26	173	0	0	0	173	0	107	87	0	0	194	0	0	0	393	1600
12:15:00	31	6	0	0	37	192	0	0	0	192	0	114	81	0	0	195	0	0	0	424	1634
12:30:00	23	1	0	0	24	176	0	0	0	176	0	92	100	0	0	192	0	0	0	392	1621
12:45:00	14	3	0	0	17	181	0	1	0	182	0	137	94	0	0	231	0	0	0	430	1639
13:00:00	21	3	0	0	24	184	0	0	0	184	0	128	86	0	0	214	0	0	0	422	1668
13:15:00	22	2	0	0	24	186	0	0	0	186	0	116	76	0	0	192	0	0	0	402	1646
13:30:00	24	1	0	0	25	162	0	0	0	162	0	141	89	0	0	230	0	0	0	417	1671
13:45:00	25	4	0	0	29	168	0	0	0	168	0	145	85	0	0	230	0	0	0	427	1668
BREAK																					
15:00:00	20	5	0	0	25	240	0	0	0	240	0	151	89	0	0	240	0	0	0	505	
15:15:00	25	3	0	0	28	287	0	0	0	287	0	123	93	0	0	216	0	0	0	531	
15:30:00	40	2	0	0	42	325	0	0	0	325	0	157	110	0	0	267	0	0	0	634	
15:45:00	51	7	0	0	58	318	0	0	0	318	0	149	60	0	0	209	0	0	0	585	2255
16:00:00	46	2	0	0	48	303	0	0	0	303	0	147	70	0	0	217	0	0	0	568	2318
16:15:00	36	5	0	0	41	300	0	0	0	300	0	155	71	0	0	226	0	0	0	567	2354
16:30:00	46	4	0	0	50	295	0	0	0	295	0	137	92	0	0	229	0	0	0	574	2294
16:45:00	36	4	0	0	40	335	0	0	0	335	0	154	77	0	0	231	0	0	0	606	2315
17:00:00	40	1	0	0	41	345	0	0	0	345	0	173	87	0	0	260	0	0	0	646	2393
17:15:00	36	8	0	0	44	321	0	0	0	321	0	148	69	0	0	217	0	0	0	582	2408
17:30:00	47	3	0	0	50	330	0	0	0	330	0	153	91	0	0	244	0	0	0	624	2458
17:45:00	40	5	0	0	45	233	0	0	0	233	0	170	88	0	0	258	0	0	0	536	2388
Grand Total	1410	158	0	1	1568	6982	0	3	0	6985	0	4714	2771	0	0	7485	0	5	0	16038	-
Approach%	89.9%	10.1%	0%		-	100%	0%	0%		-	0%	63%	37%	0%		-	0%		-	-	-
Totals %	8.8%	1%	0%		9.8%	43.5%	0%	0%		43.6%	0%	29.4%	17.3%	0%		46.7%	0%		0%	-	-
Heavy	80	6	0		-	461	0	0		-	0	383	139	0		-	0		-	-	-
Heavy %	5.7%	3.8%	0%		-	6.6%	0%	0%		-	0%	8.1%	5%	0%		-	0%		-	-	-
Bicycles	0	0	0		-	0	0	0		-	0	4	0	0		-	0		-	-	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0%	0.1%	0%	0%		-	0%		-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (16.92 °C)

Start Time	Southbound HWY 410					Westbound MAYFIELD RD					Eastbound MAYFIELD RD					Northbound			Int. Total (15 min)	
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	UTurn	Peds		Approach Total
07:45:00	117	15	0	0	132	172	0	0	0	172	0	186	59	0	0	245	0	0	0	549
08:00:00	81	11	0	0	92	187	0	0	0	187	0	206	74	0	0	280	0	2	0	559
08:15:00	86	8	0	0	94	185	0	0	0	185	0	165	77	0	0	242	0	0	0	521
08:30:00	84	12	0	0	96	180	0	0	0	180	0	200	76	0	0	276	0	2	0	552
Grand Total	368	46	0	0	414	724	0	0	0	724	0	757	286	0	0	1043	0	4	0	2181
Approach%	88.9%	11.1%	0%		-	100%	0%	0%		-	0%	72.6%	27.4%	0%		-	0%		-	-
Totals %	16.9%	2.1%	0%		19%	33.2%	0%	0%		33.2%	0%	34.7%	13.1%	0%		47.8%	0%		0%	-
PHF	0.79	0.77	0		0.78	0.97	0	0		0.97	0	0.92	0.93	0		0.93	0		0	-
Heavy	9	0	0		9	93	0	0		93	0	41	12	0		53	0		0	-
Heavy %	2.4%	0%	0%		2.2%	12.8%	0%	0%		12.8%	0%	5.4%	4.2%	0%		5.1%	0%		0%	-
Lights	359	46	0		405	631	0	0		631	0	716	274	0		990	0		0	-
Lights %	97.6%	100%	0%		97.8%	87.2%	0%	0%		87.2%	0%	94.6%	95.8%	0%		94.9%	0%		0%	-
Single-Unit Trucks	7	0	0		7	55	0	0		55	0	15	10	0		25	0		0	-
Single-Unit Trucks %	1.9%	0%	0%		1.7%	7.6%	0%	0%		7.6%	0%	2%	3.5%	0%		2.4%	0%		0%	-
Buses	0	0	0		0	23	0	0		23	0	19	0	0		19	0		0	-
Buses %	0%	0%	0%		0%	3.2%	0%	0%		3.2%	0%	2.5%	0%	0%		1.8%	0%		0%	-
Articulated Trucks	2	0	0		2	15	0	0		15	0	7	2	0		9	0		0	-
Articulated Trucks %	0.5%	0%	0%		0.5%	2.1%	0%	0%		2.1%	0%	0.9%	0.7%	0%		0.9%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	0	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	4	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	100%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	1	0	0	0	-	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	0%	-	-



Peak Hour: 12:45 PM - 01:45 PM Weather: Clear Sky (24.71 °C)

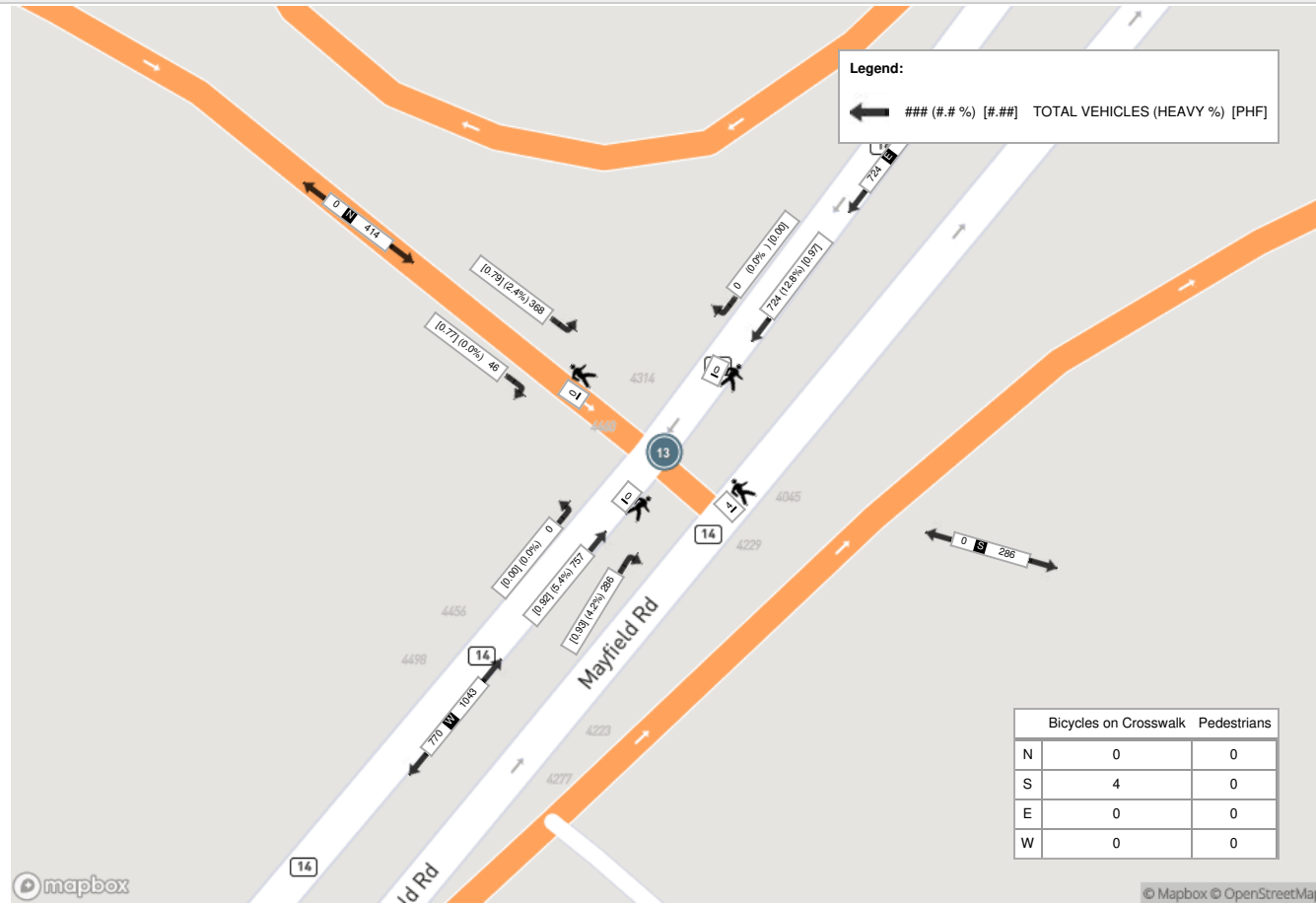
Start Time	Southbound HWY 410					Westbound MAYFIELD RD					Eastbound MAYFIELD RD					Northbound			Int. Total (15 min)	
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	UTurn	Peds		Approach Total
12:45:00	14	3	0	0	17	181	0	1	0	182	0	137	94	0	0	231	0	0	0	430
13:00:00	21	3	0	0	24	184	0	0	0	184	0	128	86	0	0	214	0	0	0	422
13:15:00	22	2	0	0	24	186	0	0	0	186	0	116	76	0	0	192	0	0	0	402
13:30:00	24	1	0	0	25	162	0	0	0	162	0	141	89	0	0	230	0	0	0	417
Grand Total	81	9	0	0	90	713	0	1	0	714	0	522	345	0	0	867	0	0	0	1671
Approach%	90%	10%	0%		-	99.9%	0%	0.1%		-	0%	60.2%	39.8%	0%		-	0%		-	-
Totals %	4.8%	0.5%	0%		5.4%	42.7%	0%	0.1%		42.7%	0%	31.2%	20.6%	0%		51.9%	0%		0%	-
PHF	0.84	0.75	0		0.9	0.96	0	0.25		0.96	0	0.93	0.92	0		0.94	0		0	-
Heavy	10	0	0		10	55	0	0		55	0	38	22	0		60	0		0	-
Heavy %	12.3%	0%	0%		11.1%	7.7%	0%	0%		7.7%	0%	7.3%	6.4%	0%		6.9%	0%		0%	-
Lights	71	9	0		80	658	0	1		659	0	484	323	0		807	0		0	-
Lights %	87.7%	100%	0%		88.9%	92.3%	0%	100%		92.3%	0%	92.7%	93.6%	0%		93.1%	0%		0%	-
Single-Unit Trucks	6	0	0		6	37	0	0		37	0	23	11	0		34	0		0	-
Single-Unit Trucks %	7.4%	0%	0%		6.7%	5.2%	0%	0%		5.2%	0%	4.4%	3.2%	0%		3.9%	0%		0%	-
Buses	1	0	0		1	6	0	0		6	0	5	3	0		8	0		0	-
Buses %	1.2%	0%	0%		1.1%	0.8%	0%	0%		0.8%	0%	1%	0.9%	0%		0.9%	0%		0%	-
Articulated Trucks	3	0	0		3	12	0	0		12	0	10	8	0		18	0		0	-
Articulated Trucks %	3.7%	0%	0%		3.3%	1.7%	0%	0%		1.7%	0%	1.9%	2.3%	0%		2.1%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	0		-	-	-	-	-	0	-	-	0	-	-
Pedestrians%	-	-	-	0%	-	-	-	0%		-	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0		-	-	-	-	-	0	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%		-	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	1	0	0	0	-	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%		-	-	-	-	-	0%	-	-	0%	-	-



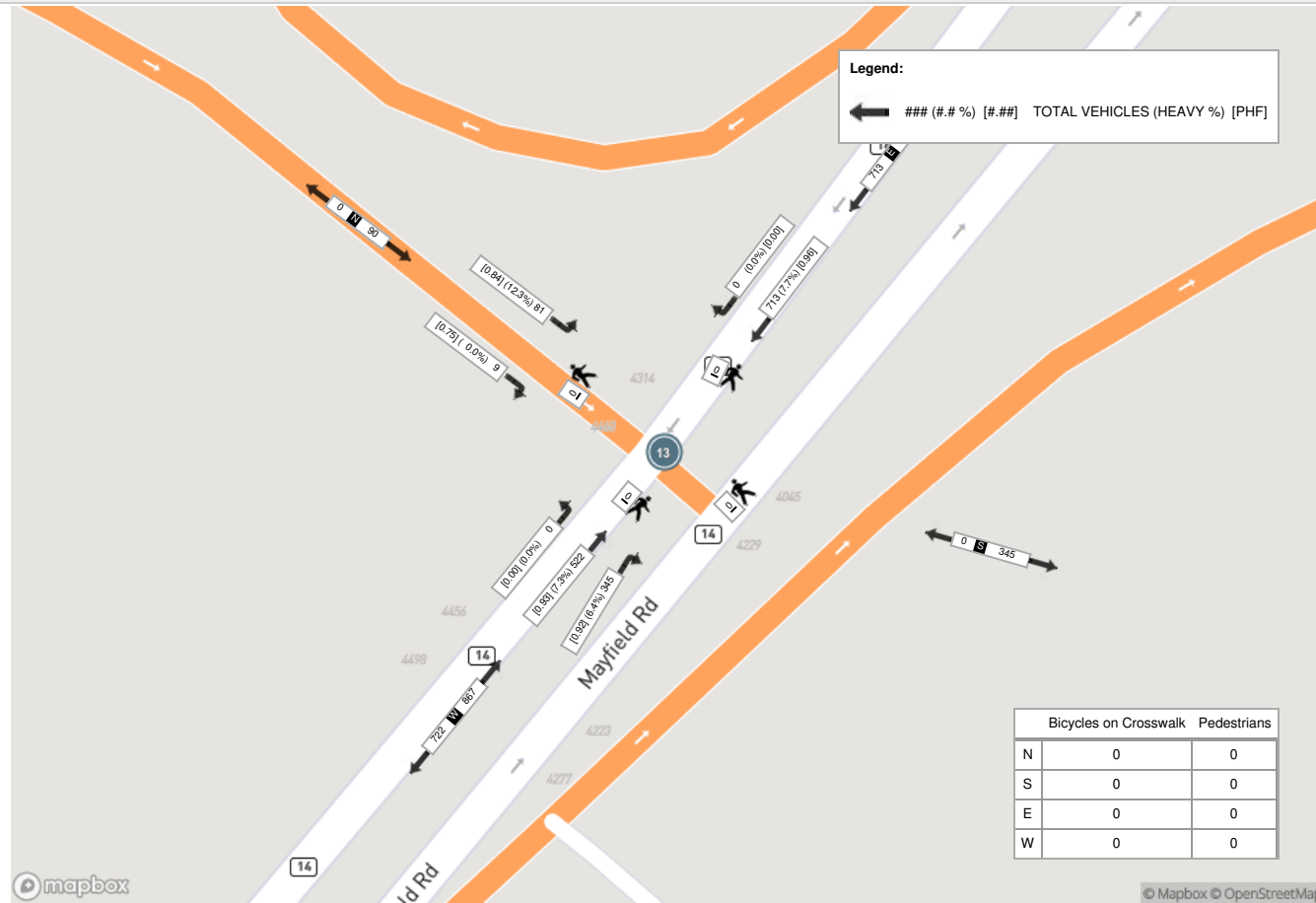
Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (28.82 °C)

Start Time	Southbound HWY 410					Westbound MAYFIELD RD					Eastbound MAYFIELD RD						Northbound			Int. Total (15 min)
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	
16:45:00	36	4	0	0	40	335	0	0	0	335	0	154	77	0	0	231	0	0	0	606
17:00:00	40	1	0	0	41	345	0	0	0	345	0	173	87	0	0	260	0	0	0	646
17:15:00	36	8	0	0	44	321	0	0	0	321	0	148	69	0	0	217	0	0	0	582
17:30:00	47	3	0	0	50	330	0	0	0	330	0	153	91	0	0	244	0	0	0	624
Grand Total	159	16	0	0	175	1331	0	0	0	1331	0	628	324	0	0	952	0	0	0	2458
Approach%	90.9%	9.1%	0%		-	100%	0%	0%		-	0%	66%	34%	0%		-	0%		-	-
Totals %	6.5%	0.7%	0%		7.1%	54.1%	0%	0%		54.1%	0%	25.5%	13.2%	0%		38.7%	0%		0%	-
PHF	0.85	0.5	0		0.88	0.96	0	0		0.96	0	0.91	0.89	0		0.92	0		0	-
Heavy	16	1	0		17	23	0	0		23	0	42	10	0		52	0		0	-
Heavy %	10.1%	6.3%	0%		9.7%	1.7%	0%	0%		1.7%	0%	6.7%	3.1%	0%		5.5%	0%		0%	-
Lights	143	15	0		158	1308	0	0		1308	0	586	314	0		900	0		0	-
Lights %	89.9%	93.8%	0%		90.3%	98.3%	0%	0%		98.3%	0%	93.3%	96.9%	0%		94.5%	0%		0%	-
Single-Unit Trucks	9	1	0		10	14	0	0		14	0	35	8	0		43	0		0	-
Single-Unit Trucks %	5.7%	6.3%	0%		5.7%	1.1%	0%	0%		1.1%	0%	5.6%	2.5%	0%		4.5%	0%		0%	-
Buses	1	0	0		1	2	0	0		2	0	1	0	0		1	0		0	-
Buses %	0.6%	0%	0%		0.6%	0.2%	0%	0%		0.2%	0%	0.2%	0%	0%		0.1%	0%		0%	-
Articulated Trucks	6	0	0		6	7	0	0		7	0	6	2	0		8	0		0	-
Articulated Trucks %	3.8%	0%	0%		3.4%	0.5%	0%	0%		0.5%	0%	1%	0.6%	0%		0.8%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	0	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	1	0	0	0	-	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	0%	-	-

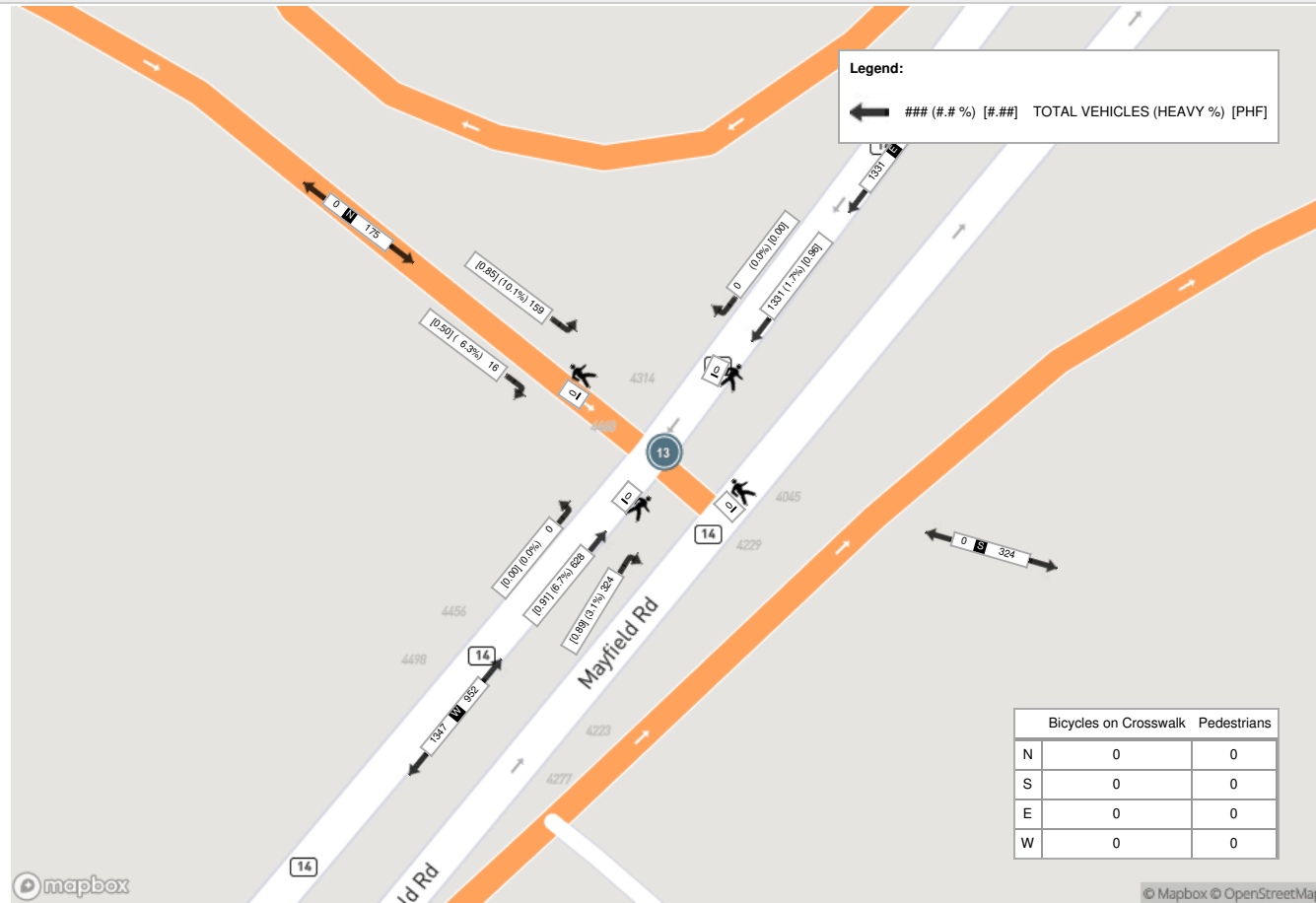
Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (16.92 °C)



Peak Hour: 12:45 PM - 01:45 PM Weather: Clear Sky (24.71 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (28.82 °C)





Turning Movement Count (122 . MAYFIELD RD & INDER HEIGHTS DR) CustID: 01415535 Miod:

Start Time	Southbound SHELLVIEW BLVD						Westbound MAYFIELD RD						Northbound INDER HEIGHTS DR						Eastbound MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)	
	Left N:E	Thru N:S	Right N:W	UTurn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	UTurn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	UTurn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total			
07:00:00	4	0	14	0	0	18	1	135	0	0	0	136	1	0	4	0	0	5	8	200	2	0	0	210	369		
07:15:00	3	1	8	0	0	12	2	138	2	0	0	142	1	0	6	0	1	7	6	218	4	0	2	228	389		
07:30:00	9	1	16	0	0	26	2	129	0	1	0	132	4	1	5	0	1	10	7	251	4	0	0	262	430		
07:45:00	6	0	14	0	0	20	1	171	2	0	0	174	0	0	4	0	0	4	9	197	3	0	0	209	407	1595	
08:00:00	5	1	20	0	0	26	4	187	2	0	0	193	6	1	3	0	0	10	5	254	2	0	1	261	490	1716	
08:15:00	5	1	17	0	1	23	1	216	4	0	0	221	4	0	2	0	0	6	13	283	8	0	4	304	554	1881	
08:30:00	6	0	23	0	0	29	5	204	4	0	0	213	6	1	4	0	0	11	13	216	7	0	1	236	489	1940	
08:45:00	5	1	18	0	0	24	1	151	0	0	2	152	3	0	2	0	2	5	22	254	15	0	0	291	472	2005	
BREAK																											
11:00:00	3	0	5	0	0	8	1	119	1	0	0	121	0	0	4	0	0	4	8	163	3	0	0	174	307		
11:15:00	6	0	12	0	0	18	2	131	3	0	0	136	3	0	6	0	2	9	7	153	4	0	0	164	327		
11:30:00	3	0	13	0	0	16	5	134	2	0	0	141	3	0	1	0	2	4	9	185	3	0	0	197	358		
11:45:00	1	0	5	0	0	6	1	135	2	0	0	138	3	0	2	0	0	5	10	191	1	0	0	202	351	1343	
12:00:00	0	0	13	0	1	13	1	172	6	0	0	179	2	0	1	0	0	3	10	153	3	0	0	166	361	1397	
12:15:00	2	0	12	0	0	14	3	154	4	0	0	161	5	1	2	0	1	8	14	156	0	0	1	170	353	1423	
12:30:00	1	0	13	0	0	14	1	140	5	0	1	146	2	0	6	0	1	8	11	172	3	0	2	186	354	1419	
12:45:00	2	0	11	0	0	13	5	159	2	0	0	166	4	1	3	0	0	8	12	187	6	0	0	205	392	1460	
13:00:00	2	0	10	0	0	12	5	152	3	0	0	160	1	0	6	0	0	7	11	170	3	0	0	184	363	1462	
13:15:00	0	0	10	0	0	10	3	143	3	0	0	149	5	0	4	0	0	9	5	167	4	0	3	176	344	1453	
13:30:00	6	0	11	0	0	17	2	179	3	0	1	184	3	0	0	0	2	3	11	180	3	0	0	194	398	1497	
13:45:00	6	0	7	0	0	13	2	146	5	0	0	153	4	0	3	0	1	7	8	217	3	0	1	228	401	1506	
BREAK																											
15:00:00	2	0	17	0	0	19	5	220	5	0	0	230	6	0	4	0	1	10	16	207	6	0	1	229	488		
15:15:00	1	0	12	1	0	14	5	228	3	0	2	236	2	0	2	0	2	4	15	222	5	3	0	245	499		
15:30:00	4	0	14	0	0	18	4	229	6	0	0	239	5	1	5	0	0	11	10	204	5	0	1	219	487		
15:45:00	2	0	10	0	0	12	8	211	5	0	1	224	3	0	3	0	0	6	40	231	5	0	2	276	518	1992	
16:00:00	0	1	13	0	0	14	3	242	2	0	1	247	0	0	1	0	0	1	20	226	8	0	4	254	516	2020	
16:15:00	3	1	13	0	1	17	4	229	5	0	0	238	2	0	1	0	0	3	13	253	9	0	0	275	533	2054	
16:30:00	3	0	14	0	0	17	3	213	6	0	0	222	5	0	4	0	0	9	26	244	5	0	0	275	523	2090	
16:45:00	3	0	12	0	0	15	5	263	5	0	1	273	2	1	2	0	2	5	18	252	1	0	5	271	564	2136	
17:00:00	1	0	18	0	0	19	4	284	8	0	0	296	3	0	3	0	0	6	12	244	2	0	0	258	579	2199	
17:15:00	3	0	13	0	1	16	1	265	3	0	1	269	7	0	1	0	1	8	20	197	3	0	3	220	513	2179	
17:30:00	5	0	12	0	0	17	6	283	3	0	0	292	2	0	5	0	0	7	19	265	6	1	0	291	607	2263	
17:45:00	0	0	16	0	0	16	4	234	6	0	0	244	1	0	3	0	1	4	17	242	2	0	1	261	525	2224	
Grand Total	102	7	416	1	4	526	100	5996	110	1	10	6207	98	7	102	0	20	207	425	6754	138	4	32	7321	14261	-	
Approach%	19.4%	1.3%	79.1%	0.2%	-	-	1.6%	96.6%	1.8%	0%	-	-	47.3%	3.4%	49.3%	0%	-	-	5.8%	92.3%	1.9%	0.1%	-	-	-	-	
Totals %	0.7%	0%	2.9%	0%	-	3.7%	0.7%	42%	0.8%	0%	-	43.5%	0.7%	0%	0.7%	0%	-	1.5%	3%	47.4%	1%	0%	-	51.3%	-	-	
Heavy	10	1	13	0	-	-	7	374	6	0	-	-	9	0	2	0	-	-	17	450	8	0	-	-	-	-	
Heavy %	9.8%	14.3%	3.1%	0%	-	-	7%	6.2%	5.5%	0%	-	-	9.2%	0%	2%	0%	-	-	4%	6.7%	5.8%	0%	-	-	-	-	
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (1.59 °C)

Start Time	Southbound SHELLVIEW BLVD						Westbound MAYFIELD RD						Northbound INDER HEIGHTS DR						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
08:00:00	5	1	20	0	0	26	4	187	2	0	0	193	6	1	3	0	0	10	5	254	2	0	1	261	490
08:15:00	5	1	17	0	1	23	1	216	4	0	0	221	4	0	2	0	0	6	13	283	8	0	4	304	554
08:30:00	6	0	23	0	0	29	5	204	4	0	0	213	6	1	4	0	0	11	13	216	7	0	1	236	489
08:45:00	5	1	18	0	0	24	1	151	0	0	2	152	3	0	2	0	2	5	22	254	15	0	0	291	472
Grand Total	21	3	78	0	1	102	11	758	10	0	2	779	19	2	11	0	2	32	53	1007	32	0	6	1092	2005
Approach%	20.6%	2.9%	76.5%	0%		-	1.4%	97.3%	1.3%	0%		-	59.4%	6.3%	34.4%	0%		-	4.9%	92.2%	2.9%	0%		-	-
Totals %	1%	0.1%	3.9%	0%		5.1%	0.5%	37.8%	0.5%	0%		38.9%	0.9%	0.1%	0.5%	0%		1.6%	2.6%	50.2%	1.6%	0%		54.5%	-
PHF	0.88	0.75	0.85	0		0.88	0.55	0.88	0.63	0		0.88	0.79	0.5	0.69	0		0.73	0.6	0.89	0.53	0		0.9	-
Heavy	3	0	1	0		4	2	59	1	0		62	1	0	0	0		1	3	58	4	0		65	-
Heavy %	14.3%	0%	1.3%	0%		3.9%	18.2%	7.8%	10%	0%		8%	5.3%	0%	0%	0%		3.1%	5.7%	5.8%	12.5%	0%		6%	-
Lights	18	3	77	0		98	9	699	9	0		717	18	2	11	0		31	50	949	28	0		1027	-
Lights %	85.7%	100%	98.7%	0%		96.1%	81.8%	92.2%	90%	0%		92%	94.7%	100%	100%	0%		96.9%	94.3%	94.2%	87.5%	0%		94%	-
Single-Unit Trucks	0	0	0	0		0	1	20	1	0		22	0	0	0	0		0	0	23	0	0		23	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	9.1%	2.6%	10%	0%		2.8%	0%	0%	0%	0%		0%	0%	2.3%	0%	0%		2.1%	-
Buses	3	0	1	0		4	1	27	0	0		28	1	0	0	0		1	3	19	4	0		26	-
Buses %	14.3%	0%	1.3%	0%		3.9%	9.1%	3.6%	0%	0%		3.6%	5.3%	0%	0%	0%		3.1%	5.7%	1.9%	12.5%	0%		2.4%	-
Articulated Trucks	0	0	0	0		0	0	12	0	0		12	0	0	0	0		0	0	16	0	0		16	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.5%	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.5%	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	6	-	-
Pedestrians%	-	-	-	-	9.1%	-	-	-	-	-	18.2%	-	-	-	-	-	18.2%	-	-	-	-	-	54.5%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (6.39 °C)

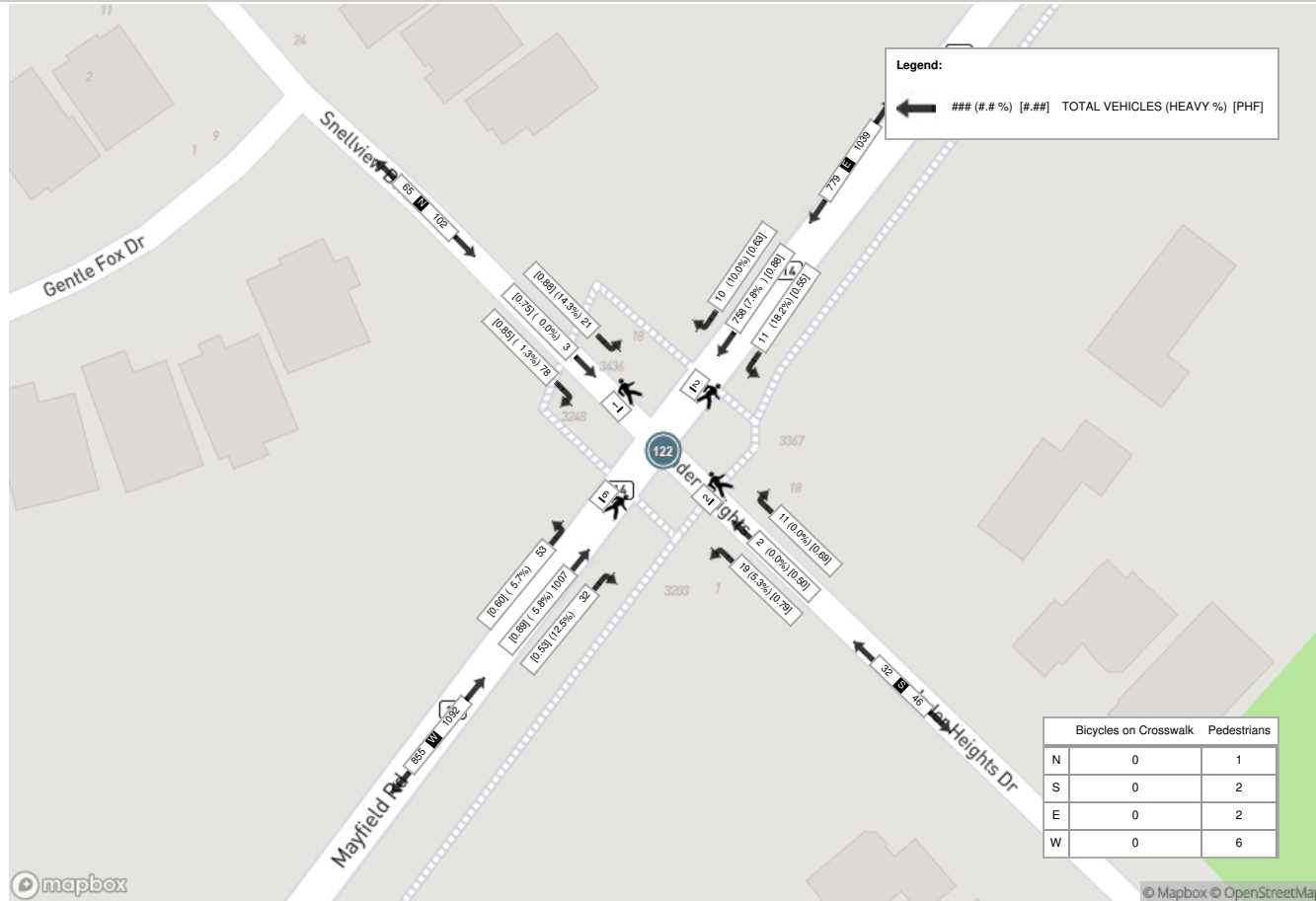
Start Time	Southbound SHELLVIEW BLVD						Westbound MAYFIELD RD						Northbound INDER HEIGHTS DR						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
13:00:00	2	0	10	0	0	12	5	152	3	0	0	160	1	0	6	0	0	7	11	170	3	0	0	184	363
13:15:00	0	0	10	0	0	10	3	143	3	0	0	149	5	0	4	0	0	9	5	167	4	0	3	176	344
13:30:00	6	0	11	0	0	17	2	179	3	0	1	184	3	0	0	0	2	3	11	180	3	0	0	194	398
13:45:00	6	0	7	0	0	13	2	146	5	0	0	153	4	0	3	0	1	7	8	217	3	0	1	228	401
Grand Total	14	0	38	0	0	52	12	620	14	0	1	646	13	0	13	0	3	26	35	734	13	0	4	782	1506
Approach%	26.9%	0%	73.1%	0%		-	1.9%	96%	2.2%	0%		-	50%	0%	50%	0%		-	4.5%	93.9%	1.7%	0%		-	-
Totals %	0.9%	0%	2.5%	0%		3.5%	0.8%	41.2%	0.9%	0%		42.9%	0.9%	0%	0.9%	0%		1.7%	2.3%	48.7%	0.9%	0%		51.9%	-
PHF	0.58	0	0.86	0		0.76	0.6	0.87	0.7	0		0.88	0.65	0	0.54	0		0.72	0.8	0.85	0.81	0		0.86	-
Heavy	3	0	0	0		3	2	43	1	0		46	1	0	0	0		1	1	54	0	0		55	-
Heavy %	21.4%	0%	0%	0%		5.8%	16.7%	6.9%	7.1%	0%		7.1%	7.7%	0%	0%	0%		3.8%	2.9%	7.4%	0%	0%		7%	-
Lights	11	0	38	0		49	10	577	13	0		600	12	0	13	0		25	34	680	13	0		727	-
Lights %	78.6%	0%	100%	0%		94.2%	83.3%	93.1%	92.9%	0%		92.9%	92.3%	0%	100%	0%		96.2%	97.1%	92.6%	100%	0%		93%	-
Single-Unit Trucks	2	0	0	0		2	2	22	1	0		25	1	0	0	0		1	1	26	0	0		27	-
Single-Unit Trucks %	14.3%	0%	0%	0%		3.8%	16.7%	3.5%	7.1%	0%		3.9%	7.7%	0%	0%	0%		3.8%	2.9%	3.5%	0%	0%		3.5%	-
Buses	1	0	0	0		1	0	8	0	0		8	0	0	0	0		0	0	9	0	0		9	-
Buses %	7.1%	0%	0%	0%		1.9%	0%	1.3%	0%	0%		1.2%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		1.2%	-
Articulated Trucks	0	0	0	0		0	0	13	0	0		13	0	0	0	0		0	0	19	0	0		19	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	2.1%	0%	0%		2%	0%	0%	0%	0%		0%	0%	2.6%	0%	0%		2.4%	-
Pedestrians	-	-	-	-	0		-	-	-	-	1		-	-	-	-	1		-	-	-	-	4		-
Pedestrians%	-	-	-	-	0%		-	-	-	-	12.5%		-	-	-	-	12.5%		-	-	-	-	50%		-
Bicycles on Crosswalk	-	-	-	-	0		-	-	-	-	0		-	-	-	-	2		-	-	-	-	0		-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	25%		-	-	-	-	0%		-



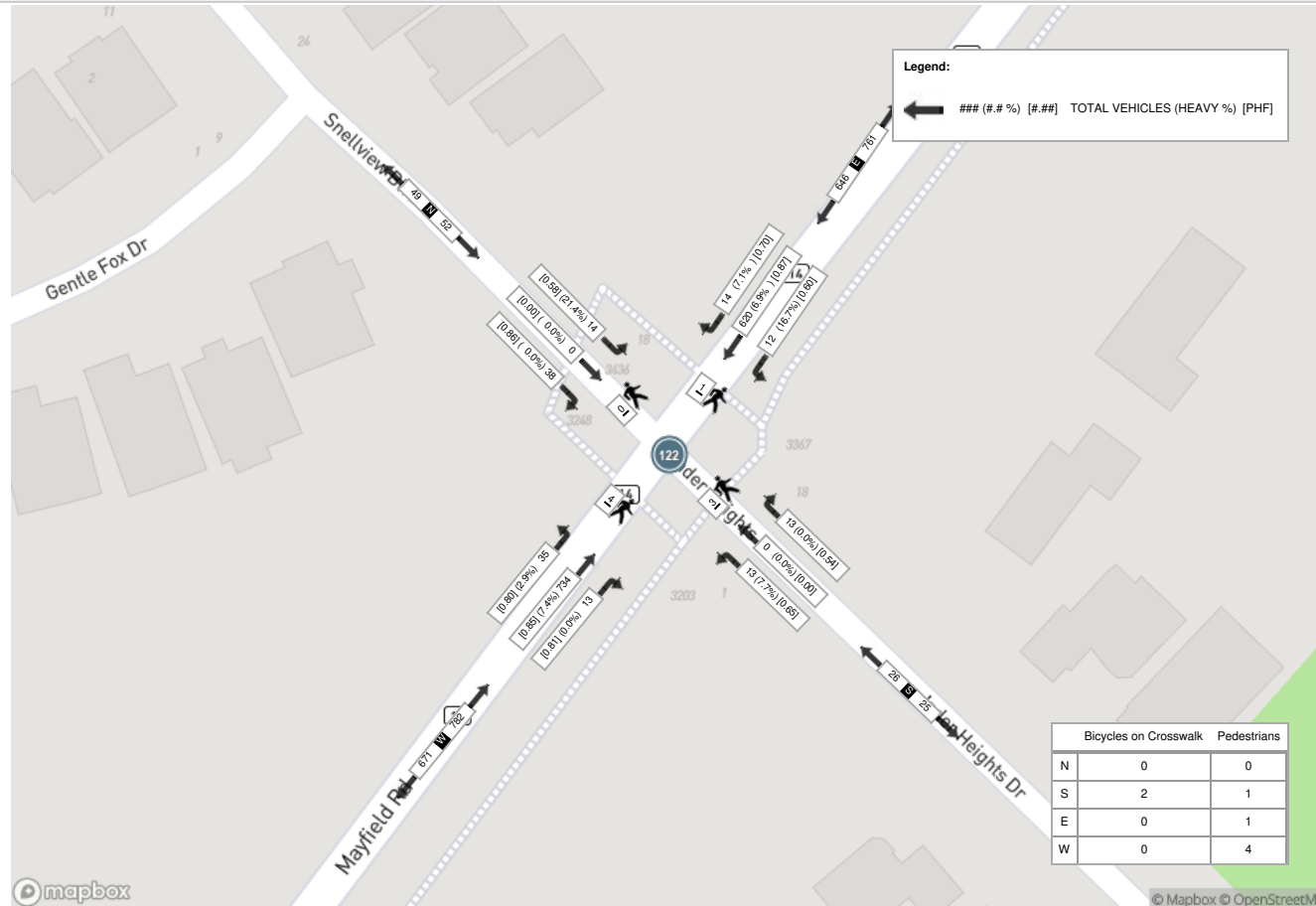
Peak Hour: 04:45 PM - 05:45 PM Weather: Scattered Clouds (10.07 °C)

Start Time	Southbound SHELLVIEW BLVD						Westbound MAYFIELD RD						Northbound INDER HEIGHTS DR						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
16:45:00	3	0	12	0	0	15	5	263	5	0	1	273	2	1	2	0	2	5	18	252	1	0	5	271	564
17:00:00	1	0	18	0	0	19	4	284	8	0	0	296	3	0	3	0	0	6	12	244	2	0	0	258	579
17:15:00	3	0	13	0	1	16	1	265	3	0	1	269	7	0	1	0	1	8	20	197	3	0	3	220	513
17:30:00	5	0	12	0	0	17	6	283	3	0	0	292	2	0	5	0	0	7	19	265	6	1	0	291	607
Grand Total	12	0	55	0	1	67	16	1095	19	0	2	1130	14	1	11	0	3	26	69	958	12	1	8	1040	2263
Approach%	17.9%	0%	82.1%	0%		-	1.4%	96.9%	1.7%	0%		-	53.8%	3.8%	42.3%	0%		-	6.6%	92.1%	1.2%	0.1%		-	-
Totals %	0.5%	0%	2.4%	0%		3%	0.7%	48.4%	0.8%	0%		49.9%	0.6%	0%	0.5%	0%		1.1%	3%	42.3%	0.5%	0%		46%	-
PHF	0.6	0	0.76	0		0.88	0.67	0.96	0.59	0		0.95	0.5	0.25	0.55	0		0.81	0.86	0.9	0.5	0.25		0.89	-
Heavy	0	0	0	0		0	0	27	0	0		27	0	0	0	0		0	1	43	0	0		44	-
Heavy %	0%	0%	0%	0%		0%	0%	2.5%	0%	0%		2.4%	0%	0%	0%	0%		0%	1.4%	4.5%	0%	0%		4.2%	-
Lights	12	0	55	0		67	16	1068	19	0		1103	14	1	11	0		26	68	915	12	1		996	-
Lights %	100%	0%	100%	0%		100%	100%	97.5%	100%	0%		97.6%	100%	100%	100%	0%		100%	98.6%	95.5%	100%	100%		95.8%	-
Single-Unit Trucks	0	0	0	0		0	0	14	0	0		14	0	0	0	0		0	0	27	0	0		27	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	1.3%	0%	0%		1.2%	0%	0%	0%	0%		0%	0%	2.8%	0%	0%		2.6%	-
Buses	0	0	0	0		0	0	5	0	0		5	0	0	0	0		0	1	10	0	0		11	-
Buses %	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	1.4%	1%	0%	0%		1.1%	-
Articulated Trucks	0	0	0	0		0	0	8	0	0		8	0	0	0	0		0	0	6	0	0		6	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.6%	-
Pedestrians	-	-	-	-	0		-	-	-	-	1		-	-	-	-	2		-	-	-	-	6		-
Pedestrians%	-	-	-	-	0%		-	-	-	-	7.1%		-	-	-	-	14.3%		-	-	-	-	42.9%		-
Bicycles on Crosswalk	-	-	-	-	1		-	-	-	-	1		-	-	-	-	1		-	-	-	-	2		-
Bicycles on Crosswalk%	-	-	-	-	7.1%		-	-	-	-	7.1%		-	-	-	-	7.1%		-	-	-	-	14.3%		-

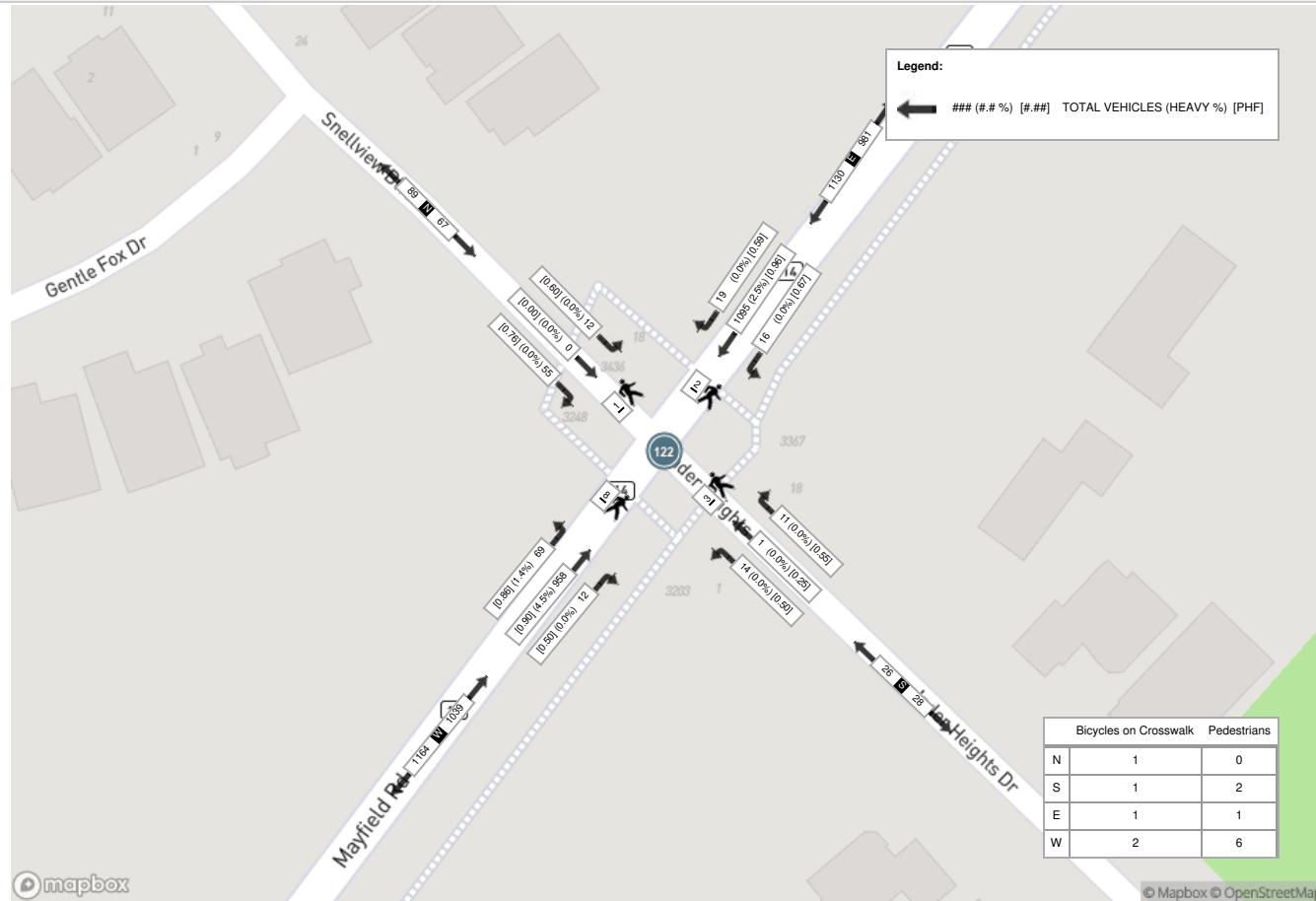
Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (1.59 °C)



Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (6.39 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Scattered Clouds (10.07 °C)





Turning Movement Count
Location Name: MAYFIELD RD & KENNEDY RD
Date: Wed, Jun 01, 2022 Deployment Lead: Tasos Issaakidis

Turning Movement Count (145 . MAYFIELD RD & KENNEDY RD) CustID: 01415126 MIdID:

Start Time	Southbound KENNEDY RD						Westbound MAYFIELD RD						Northbound KENNEDY RD N						Eastbound MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)	
	Left N:E	Thru N:S	Right N:W	UTurn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	UTurn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	UTurn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total			
07:00:00	129	28	33	0	0	190	12	104	35	0	0	151	6	12	20	0	0	38	19	202	14	0	6	235	614		
07:15:00	152	53	46	0	0	251	19	110	54	0	0	183	9	14	23	0	0	46	14	223	19	0	2	256	736		
07:30:00	150	92	43	0	0	285	16	117	59	0	0	192	14	16	47	0	1	77	30	240	19	0	2	289	843		
07:45:00	153	108	40	0	0	301	17	148	66	0	0	231	15	26	52	0	1	93	27	261	20	0	2	308	933	3126	
08:00:00	157	111	61	0	0	329	23	117	84	0	1	224	18	24	48	0	1	90	46	221	12	0	0	279	922	3434	
08:15:00	141	119	92	0	0	352	26	147	84	0	0	257	18	35	38	0	2	91	48	245	21	0	0	314	1014	3712	
08:30:00	148	110	74	0	0	332	5	121	65	0	0	191	16	32	40	0	1	88	39	201	21	0	1	261	872	3741	
08:45:00	151	59	52	0	0	262	18	137	78	0	0	233	18	29	19	0	0	66	54	217	22	0	3	293	854	3662	
BREAK																											
11:00:00	90	25	59	0	0	174	11	107	56	0	1	174	10	22	11	0	0	43	27	134	15	0	0	176	567		
11:15:00	86	30	38	0	0	154	10	99	59	0	0	168	7	22	20	0	0	49	39	136	11	0	0	186	557		
11:30:00	100	22	34	0	0	156	8	91	68	0	0	167	16	21	19	0	1	56	38	124	11	0	2	173	552		
11:45:00	83	30	36	0	0	149	19	105	74	0	1	198	16	23	11	0	0	50	40	145	19	0	0	204	601	2277	
12:00:00	80	29	42	0	0	151	18	101	58	0	1	177	10	22	13	0	0	45	36	142	12	0	3	190	563	2273	
12:15:00	96	36	39	0	0	171	16	106	72	0	0	194	12	23	12	0	0	47	29	133	15	0	0	177	589	2305	
12:30:00	89	27	21	0	0	137	22	117	67	0	0	206	13	35	16	0	0	64	45	131	17	0	1	193	600	2353	
12:45:00	77	35	35	0	0	147	14	106	65	0	0	185	8	27	16	0	0	51	30	155	9	0	0	194	577	2329	
13:00:00	87	35	36	0	1	158	13	92	52	0	0	157	8	25	12	0	1	45	33	128	19	0	1	180	540	2306	
13:15:00	79	31	36	0	0	146	10	122	86	0	1	218	10	27	15	0	0	52	44	131	9	0	5	184	600	2317	
13:30:00	89	21	36	0	0	146	19	103	86	0	1	208	9	26	18	0	1	53	43	154	10	0	3	207	614	2331	
13:45:00	82	27	33	0	0	142	12	120	76	0	0	208	14	32	16	0	3	62	40	137	13	0	2	190	602	2356	
BREAK																											
15:00:00	107	52	65	0	0	224	27	182	134	0	0	343	14	54	37	0	0	105	53	162	35	0	2	250	922		
15:15:00	102	43	48	0	0	193	23	201	133	0	0	357	30	53	25	0	0	108	50	158	21	0	0	229	887		
15:30:00	89	44	46	0	0	179	23	182	156	0	0	361	30	73	36	0	0	139	49	150	17	0	0	216	895		
15:45:00	100	49	48	0	1	197	33	189	159	0	0	381	24	64	38	0	1	126	48	163	18	0	2	229	933	3637	
16:00:00	103	52	56	0	0	211	42	213	168	0	0	423	20	77	28	0	1	125	63	187	24	0	2	274	1033	3748	
16:15:00	112	51	58	0	0	221	34	198	162	0	1	394	31	56	26	0	0	113	54	156	10	0	1	220	948	3809	
16:30:00	101	49	54	0	0	204	43	206	149	1	0	399	22	55	24	0	0	101	71	184	22	0	3	277	981	3895	
16:45:00	109	46	58	0	1	213	43	220	171	0	2	434	14	69	28	0	1	111	57	190	16	0	0	263	1021	3983	
17:00:00	109	50	61	0	0	220	44	209	165	0	1	418	27	80	22	0	0	129	53	136	14	0	1	203	970	3920	
17:15:00	109	60	40	0	0	209	49	232	191	0	0	472	17	67	29	0	2	113	71	210	21	0	1	302	1096	4068	
17:30:00	96	50	60	0	0	206	46	231	148	0	0	425	36	59	30	0	1	125	54	170	22	0	0	246	1002	4089	
17:45:00	110	53	59	0	1	222	36	202	169	0	0	407	25	74	33	0	0	132	66	157	13	0	1	236	997	4065	
Grand Total	3466	1627	1539	0	4	6632	751	4735	3249	1	10	8736	537	1274	822	0	18	2633	1410	5483	541	0	46	7434	25435	-	
Approach%	52.3%	24.5%	23.2%	0%		-	8.6%	54.2%	37.2%	0%		-	20.4%	48.4%	31.2%	0%		-	19%	73.8%	7.3%	0%		-	-	-	
Totals %	13.6%	6.4%	6.1%	0%		26.1%	3%	18.6%	12.8%	0%		34.3%	2.1%	5%	3.2%	0%		10.4%	5.5%	21.6%	2.1%	0%		29.2%	-	-	
Heavy	117	30	57	0		-	28	331	119	0		-	30	33	30	0		-	58	393	52	0		-	-	-	
Heavy %	3.4%	1.8%	3.7%	0%		-	3.7%	7%	3.7%	0%		-	5.6%	2.6%	3.6%	0%		-	4.1%	7.2%	9.6%	0%		-	-	-	
Bicycles	0	4	0	0		-	0	0	1	0		-	0	2	0	0		-	0	0	0	0		-	-	-	
Bicycle %	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	0%	0.2%	0%	0%		-	0%	0%	0%	0%		-	-	-	



Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (23.15 °C)

Start Time	Southbound KENNEDY RD						Westbound MAYFIELD RD						Northbound KENNEDY RD N						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
07:45:00	153	108	40	0	0	301	17	148	66	0	0	231	15	26	52	0	1	93	27	261	20	0	2	308	933
08:00:00	157	111	61	0	0	329	23	117	84	0	1	224	18	24	48	0	1	90	46	221	12	0	0	279	922
08:15:00	141	119	92	0	0	352	26	147	84	0	0	257	18	35	38	0	2	91	48	245	21	0	0	314	1014
08:30:00	148	110	74	0	0	332	5	121	65	0	0	191	16	32	40	0	1	88	39	201	21	0	1	261	872
Grand Total	599	448	267	0	0	1314	71	533	299	0	1	903	67	117	178	0	5	362	160	928	74	0	3	1162	3741
Approach%	45.6%	34.1%	20.3%	0%		-	7.9%	59%	33.1%	0%		-	18.5%	32.3%	49.2%	0%		-	13.8%	79.9%	6.4%	0%		-	-
Totals %	16%	12%	7.1%	0%		35.1%	1.9%	14.2%	8%	0%		24.1%	1.8%	3.1%	4.8%	0%		9.7%	4.3%	24.8%	2%	0%		31.1%	-
PHF	0.95	0.94	0.73	0		0.93	0.68	0.9	0.89	0		0.88	0.93	0.84	0.86	0		0.97	0.83	0.89	0.88	0		0.93	-
Heavy	19	7	12	0		38	2	52	23	0		77	8	3	7	0		18	18	42	6	0		66	-
Heavy %	3.2%	1.6%	4.5%	0%		2.9%	2.8%	9.8%	7.7%	0%		8.5%	11.9%	2.6%	3.9%	0%		5%	11.3%	4.5%	8.1%	0%		5.7%	-
Lights	580	441	255	0		1276	69	481	276	0		826	59	114	171	0		344	142	886	68	0		1096	-
Lights %	96.8%	98.4%	95.5%	0%		97.1%	97.2%	90.2%	92.3%	0%		91.5%	88.1%	97.4%	96.1%	0%		95%	88.8%	95.5%	91.9%	0%		94.3%	-
Single-Unit Trucks	3	0	3	0		6	0	27	11	0		38	0	1	3	0		4	5	21	0	0		26	-
Single-Unit Trucks %	0.5%	0%	1.1%	0%		0.5%	0%	5.1%	3.7%	0%		4.2%	0%	0.9%	1.7%	0%		1.1%	3.1%	2.3%	0%	0%		2.2%	-
Buses	15	7	9	0		31	2	14	5	0		21	8	2	3	0		13	11	9	6	0		26	-
Buses %	2.5%	1.6%	3.4%	0%		2.4%	2.8%	2.6%	1.7%	0%		2.3%	11.9%	1.7%	1.7%	0%		3.6%	6.9%	1%	8.1%	0%		2.2%	-
Articulated Trucks	1	0	0	0		1	0	11	7	0		18	0	0	1	0		1	2	12	0	0		14	-
Articulated Trucks %	0.2%	0%	0%	0%		0.1%	0%	2.1%	2.3%	0%		2%	0%	0%	0.6%	0%		0.3%	1.3%	1.3%	0%	0%		1.2%	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	5	-	-	-	-	-	3	-	-
Pedestrians%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	55.6%	-	-	-	-	-	33.3%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	11.1%	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-



Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (18.78 °C)

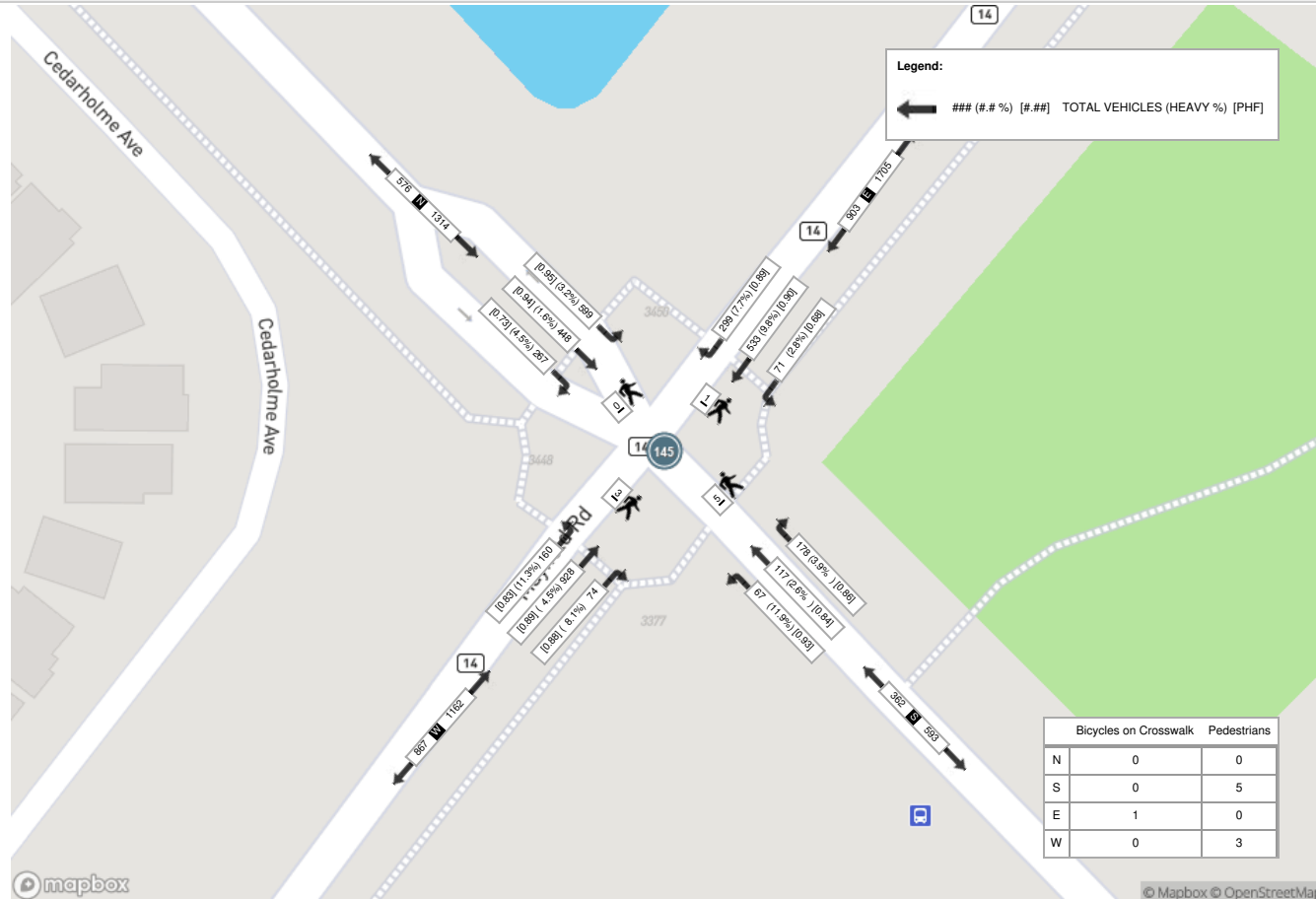
Start Time	Southbound KENNEDY RD						Westbound MAYFIELD RD						Northbound KENNEDY RD N						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
13:00:00	87	35	36	0	1	158	13	92	52	0	0	157	8	25	12	0	1	45	33	128	19	0	1	180	540
13:15:00	79	31	36	0	0	146	10	122	86	0	1	218	10	27	15	0	0	52	44	131	9	0	5	184	600
13:30:00	89	21	36	0	0	146	19	103	86	0	1	208	9	26	18	0	1	53	43	154	10	0	3	207	614
13:45:00	82	27	33	0	0	142	12	120	76	0	0	208	14	32	16	0	3	62	40	137	13	0	2	190	602
Grand Total	337	114	141	0	1	592	54	437	300	0	2	791	41	110	61	0	5	212	160	550	51	0	11	761	2356
Approach%	56.9%	19.3%	23.8%	0%	-	-	6.8%	55.2%	37.9%	0%	-	-	19.3%	51.9%	28.8%	0%	-	-	21%	72.3%	6.7%	0%	-	-	-
Totals %	14.3%	4.8%	6%	0%	25.1%	-	2.3%	18.5%	12.7%	0%	33.6%	-	1.7%	4.7%	2.6%	0%	9%	-	6.8%	23.3%	2.2%	0%	-	32.3%	-
PHF	0.95	0.81	0.98	0	0.94	-	0.71	0.9	0.87	0	0.91	-	0.73	0.86	0.85	0	0.85	-	0.91	0.89	0.67	0	-	0.92	-
Heavy	6	2	2	0	10	-	6	48	6	0	60	-	1	1	1	0	3	-	2	40	6	0	-	48	-
Heavy %	1.8%	1.8%	1.4%	0%	1.7%	-	11.1%	11%	2%	0%	7.6%	-	2.4%	0.9%	1.6%	0%	1.4%	-	1.3%	7.3%	11.8%	0%	-	6.3%	-
Lights	331	112	139	0	582	-	48	389	294	0	731	-	40	109	60	0	209	-	158	510	45	0	-	713	-
Lights %	98.2%	98.2%	98.6%	0%	98.3%	-	88.9%	89%	98%	0%	92.4%	-	97.6%	99.1%	98.4%	0%	98.6%	-	98.8%	92.7%	88.2%	0%	-	93.7%	-
Single-Unit Trucks	2	2	1	0	5	-	4	31	5	0	40	-	0	0	0	0	0	-	2	22	1	0	-	25	-
Single-Unit Trucks %	0.6%	1.8%	0.7%	0%	0.8%	-	7.4%	7.1%	1.7%	0%	5.1%	-	0%	0%	0%	0%	0%	-	1.3%	4%	2%	0%	-	3.3%	-
Buses	4	0	1	0	5	-	2	5	1	0	8	-	1	1	1	0	3	-	0	4	5	0	-	9	-
Buses %	1.2%	0%	0.7%	0%	0.8%	-	3.7%	1.1%	0.3%	0%	1%	-	2.4%	0.9%	1.6%	0%	1.4%	-	0%	0.7%	9.8%	0%	-	1.2%	-
Articulated Trucks	0	0	0	0	0	-	0	12	0	0	12	-	0	0	0	0	0	-	0	14	0	0	-	14	-
Articulated Trucks %	0%	0%	0%	0%	0%	-	0%	2.7%	0%	0%	1.5%	-	0%	0%	0%	0%	0%	-	0%	2.5%	0%	0%	-	1.8%	-
Pedestrians	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-	5	-	-	-	-	-	10	-	-
Pedestrians%	-	-	-	-	5.3%	-	-	-	-	10.5%	-	-	-	-	-	-	26.3%	-	-	-	-	-	52.6%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	5.3%	-	-
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	-	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



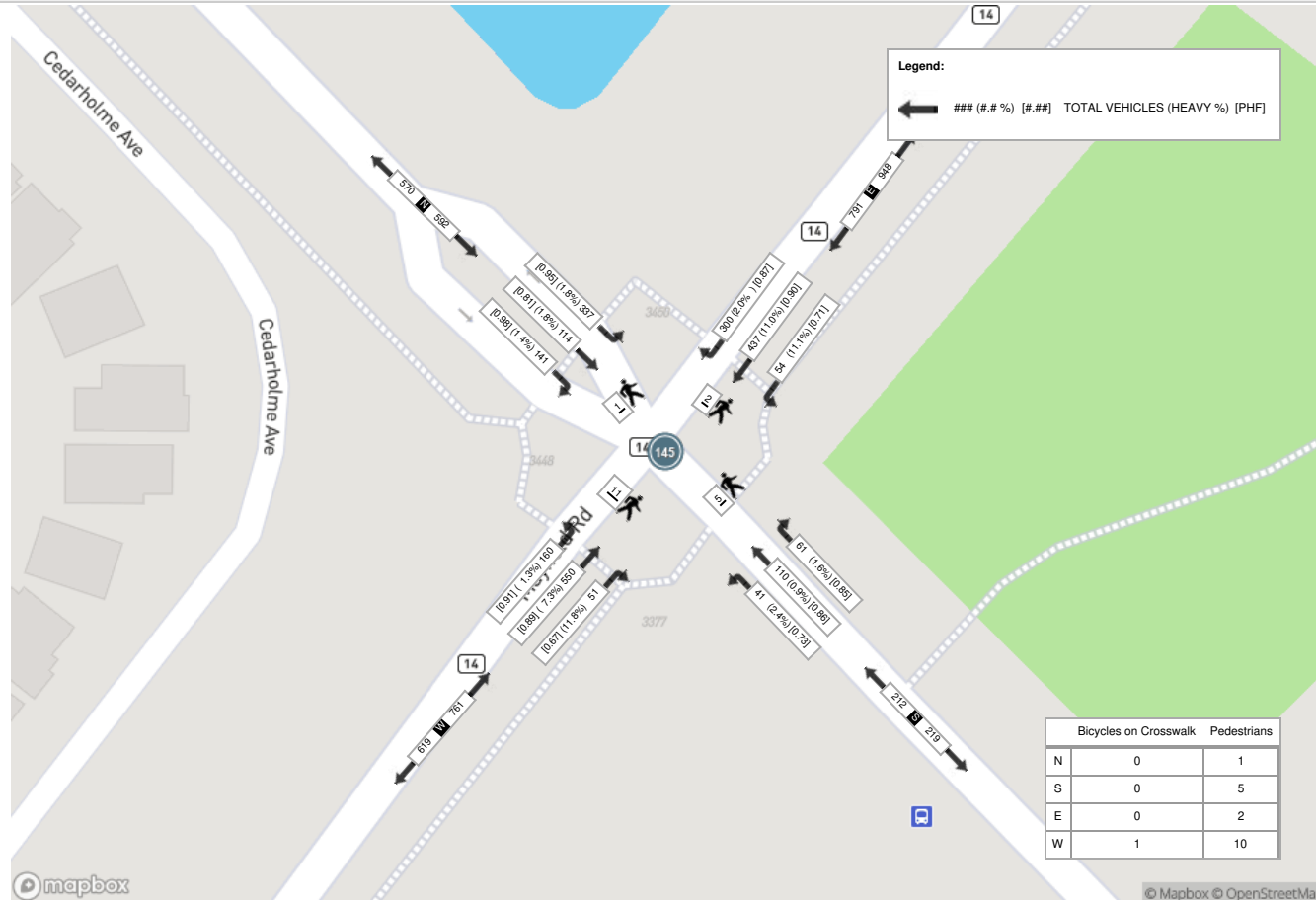
Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (24.05 °C)

Start Time	Southbound KENNEDY RD						Westbound MAYFIELD RD						Northbound KENNEDY RD N						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
16:45:00	109	46	58	0	1	213	43	220	171	0	2	434	14	69	28	0	1	111	57	190	16	0	0	263	1021
17:00:00	109	50	61	0	0	220	44	209	165	0	1	418	27	80	22	0	0	129	53	136	14	0	1	203	970
17:15:00	109	60	40	0	0	209	49	232	191	0	0	472	17	67	29	0	2	113	71	210	21	0	1	302	1096
17:30:00	96	50	60	0	0	206	46	231	148	0	0	425	36	59	30	0	1	125	54	170	22	0	0	246	1002
Grand Total	423	206	219	0	1	848	182	892	675	0	3	1749	94	275	109	0	4	478	235	706	73	0	2	1014	4089
Approach%	49.9%	24.3%	25.8%	0%		-	10.4%	51%	38.6%	0%		-	19.7%	57.5%	22.8%	0%		-	23.2%	69.6%	7.2%	0%		-	-
Totals %	10.3%	5%	5.4%	0%		20.7%	4.5%	21.8%	16.5%	0%		42.8%	2.3%	6.7%	2.7%	0%		11.7%	5.7%	17.3%	1.8%	0%		24.8%	-
PHF	0.97	0.86	0.9	0		0.96	0.93	0.96	0.88	0		0.93	0.65	0.86	0.91	0		0.93	0.83	0.84	0.83	0		0.84	-
Heavy	5	1	7	0		13	1	10	7	0		18	0	0	0	0		0	4	40	5	0		49	-
Heavy %	1.2%	0.5%	3.2%	0%		1.5%	0.5%	1.1%	1%	0%		1%	0%	0%	0%	0%		0%	1.7%	5.7%	6.8%	0%		4.8%	-
Lights	418	205	212	0		835	181	882	668	0		1731	94	275	109	0		478	231	666	68	0		965	-
Lights %	98.8%	99.5%	96.8%	0%		98.5%	99.5%	98.9%	99%	0%		99%	100%	100%	100%	0%		100%	98.3%	94.3%	93.2%	0%		95.2%	-
Single-Unit Trucks	3	1	4	0		8	0	4	7	0		11	0	0	0	0		0	3	22	1	0		26	-
Single-Unit Trucks %	0.7%	0.5%	1.8%	0%		0.9%	0%	0.4%	1%	0%		0.6%	0%	0%	0%	0%		0%	1.3%	3.1%	1.4%	0%		2.6%	-
Buses	1	0	2	0		3	1	1	0	0		2	0	0	0	0		0	1	1	4	0		6	-
Buses %	0.2%	0%	0.9%	0%		0.4%	0.5%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0.4%	0.1%	5.5%	0%		0.6%	-
Articulated Trucks	1	0	1	0		2	0	5	0	0		5	0	0	0	0		0	0	17	0	0		17	-
Articulated Trucks %	0.2%	0%	0.5%	0%		0.2%	0%	0.6%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	2.4%	0%	0%		1.7%	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-
Pedestrians%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	30%	-	-	-	-	-	20%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	10%	-	-	-	-	-	30%	-	-	-	-	-	10%	-	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (23.15 °C)



Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (18.78 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (24.05 °C)





Turning Movement Count (1 . MAYFIELD RD & STONEGATE DR) CustID: 01414592 MIdID:

Start Time	Westbound MAYFIELD RD					Northbound STONEGATE DRIVE					Eastbound MAYFIELD RD					Int. Total (15 min)	Int. Total (1 hr)
	Left E:S	Thru E:W	UTurn E:E	Peds E:	Approach Total	Left S:W	Right S:E	UTurn S:S	Peds S:	Approach Total	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total		
07:00:00	3	170	0	0	173	4	12	0	0	16	329	0	0	0	329	518	
07:15:00	6	191	0	0	197	1	20	0	0	21	362	2	0	0	364	582	
07:30:00	4	188	0	0	192	0	27	0	0	27	428	1	0	0	429	648	
07:45:00	2	245	0	0	247	0	19	0	0	19	400	2	0	0	402	668	2416
08:00:00	8	280	0	0	288	0	11	0	0	11	366	2	0	0	368	667	2565
08:15:00	5	237	0	0	242	2	18	0	0	20	378	8	0	0	386	648	2631
08:30:00	5	225	0	0	230	0	17	0	0	17	363	0	0	0	363	610	2593
08:45:00	4	208	0	0	212	1	11	0	0	12	330	3	0	0	333	557	2482
BREAK																	
11:00:00	11	146	0	0	157	1	9	0	0	10	222	5	0	0	227	394	
11:15:00	8	151	0	0	159	2	7	0	0	9	237	3	0	0	240	408	
11:30:00	11	160	0	0	171	1	14	0	0	15	225	1	0	0	226	412	
11:45:00	6	155	0	0	161	0	11	0	0	11	238	8	0	0	246	418	1632
12:00:00	6	172	0	0	178	3	12	0	0	15	203	1	0	0	204	397	1635
12:15:00	2	183	0	0	185	3	7	0	0	10	225	4	0	0	229	424	1651
12:30:00	14	196	0	0	210	0	9	0	0	9	217	2	0	0	219	438	1677
12:45:00	6	173	0	0	179	0	10	0	0	10	203	4	0	0	207	396	1655
13:00:00	7	193	0	0	200	0	9	0	0	9	207	3	0	0	210	419	1677
13:15:00	14	186	0	0	200	0	20	0	0	20	234	1	0	0	235	455	1708
13:30:00	13	209	0	0	222	1	10	0	0	11	244	2	0	0	246	479	1749
13:45:00	11	199	0	0	210	0	10	0	0	10	241	2	0	0	243	463	1816
BREAK																	
15:00:00	15	329	0	0	344	1	10	0	0	11	298	5	0	0	303	658	
15:15:00	12	341	0	0	353	2	4	0	0	6	304	2	0	0	306	665	
15:30:00	15	343	0	0	358	0	5	0	0	5	295	4	0	0	299	662	
15:45:00	12	379	0	0	391	0	10	0	0	10	275	4	0	0	279	680	2665
16:00:00	14	373	0	0	387	0	8	0	0	8	292	2	0	0	294	689	2696
16:15:00	21	403	0	0	424	2	15	0	0	17	291	6	0	0	297	738	2769
16:30:00	20	374	0	0	394	1	7	0	0	8	297	6	0	0	303	705	2812
16:45:00	23	375	0	0	398	2	14	0	0	16	285	3	0	0	288	702	2834
17:00:00	16	386	0	0	402	0	17	0	0	17	290	5	0	0	295	714	2859
17:15:00	12	370	0	0	382	0	16	0	0	16	321	3	1	0	325	723	2844
17:30:00	14	376	0	0	390	0	16	0	0	16	298	2	0	0	300	706	2845
17:45:00	19	431	0	0	450	1	9	0	0	10	297	7	0	0	304	764	2907



Grand Total	339	8347	0	0	8686	28	394	0	0	422	9195	103	1	0	9299	18407	-
Approach%	3.9%	96.1%	0%		-	6.6%	93.4%	0%		-	98.9%	1.1%	0%		-	-	-
Totals %	1.8%	45.3%	0%		47.2%	0.2%	2.1%	0%		2.3%	50%	0.6%	0%		50.5%	-	-
Heavy	4	586	0		-	0	10	0		-	650	8	0		-	-	-
Heavy %	1.2%	7%	0%		-	0%	2.5%	0%		-	7.1%	7.8%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-



Peak Hour: 07:30 AM - 08:30 AM Weather: Mist (1.74 °C)

Start Time	Westbound MAYFIELD RD					Northbound STONEGATE DRIVE					Eastbound MAYFIELD RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
07:30:00	4	188	0	0	192	0	27	0	0	27	428	1	0	0	429	648
07:45:00	2	245	0	0	247	0	19	0	0	19	400	2	0	0	402	668
08:00:00	8	280	0	0	288	0	11	0	0	11	366	2	0	0	368	667
08:15:00	5	237	0	0	242	2	18	0	0	20	378	8	0	0	386	648
Grand Total	19	950	0	0	969	2	75	0	0	77	1572	13	0	0	1585	2631
Approach%	2%	98%	0%		-	2.6%	97.4%	0%		-	99.2%	0.8%	0%		-	-
Totals %	0.7%	36.1%	0%		36.8%	0.1%	2.9%	0%		2.9%	59.7%	0.5%	0%		60.2%	-
PHF	0.59	0.85	0		0.84	0.25	0.69	0		0.71	0.92	0.41	0		0.92	-
Heavy	0	100	0		100	0	2	0		2	80	5	0		85	-
Heavy %	0%	10.5%	0%		10.3%	0%	2.7%	0%		2.6%	5.1%	38.5%	0%		5.4%	-
Lights	19	850	0		869	2	73	0		75	1492	8	0		1500	-
Lights %	100%	89.5%	0%		89.7%	100%	97.3%	0%		97.4%	94.9%	61.5%	0%		94.6%	-
Single-Unit Trucks	0	51	0		51	0	0	0		0	29	0	0		29	-
Single-Unit Trucks %	0%	5.4%	0%		5.3%	0%	0%	0%		0%	1.8%	0%	0%		1.8%	-
Buses	0	34	0		34	0	2	0		2	37	5	0		42	-
Buses %	0%	3.6%	0%		3.5%	0%	2.7%	0%		2.6%	2.4%	38.5%	0%		2.6%	-
Articulated Trucks	0	15	0		15	0	0	0		0	14	0	0		14	-
Articulated Trucks %	0%	1.6%	0%		1.5%	0%	0%	0%		0%	0.9%	0%	0%		0.9%	-



Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (6.07 °C)

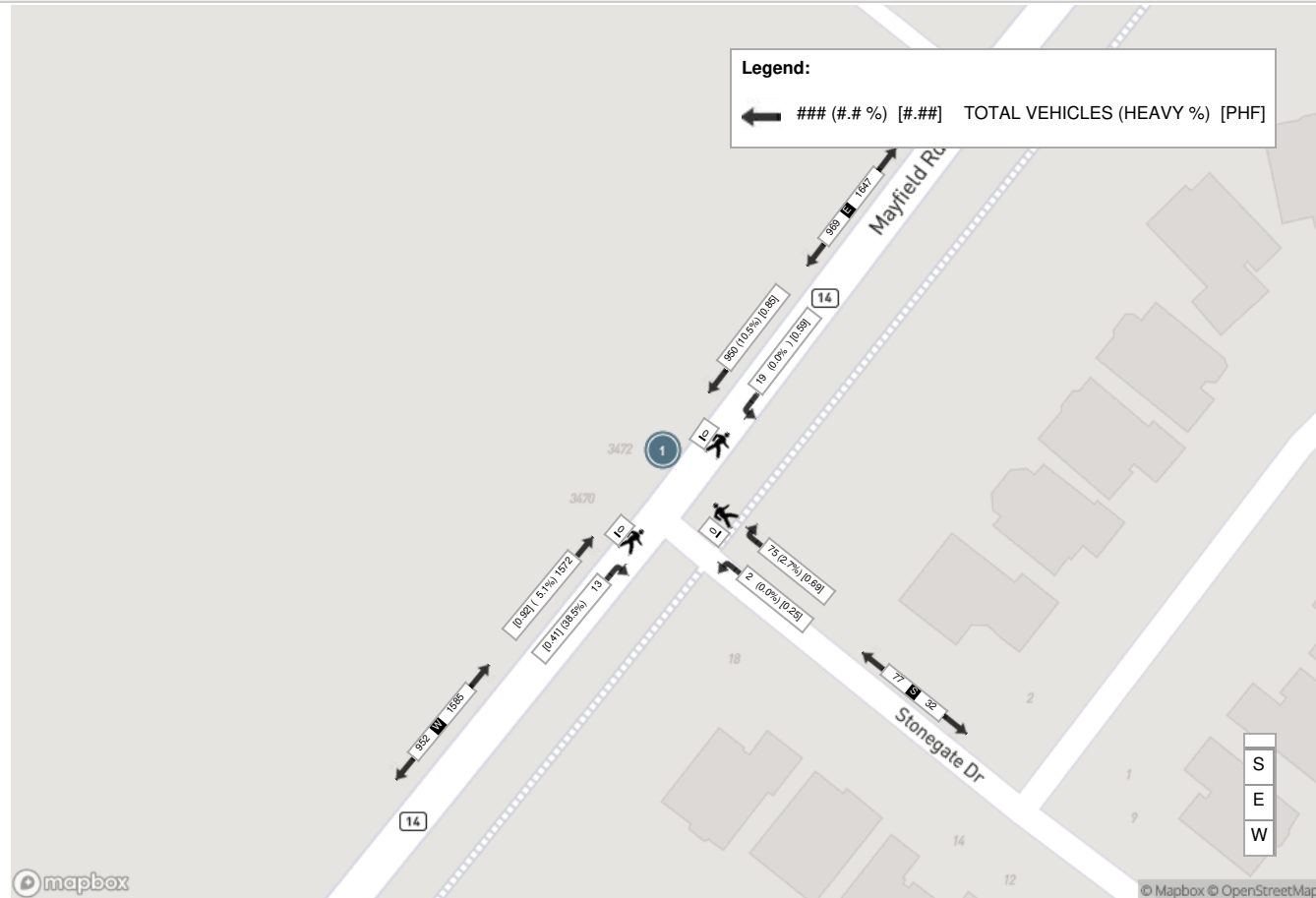
Start Time	Westbound MAYFIELD RD					Northbound STONEGATE DRIVE					Eastbound MAYFIELD RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
13:00:00	7	193	0	0	200	0	9	0	0	9	207	3	0	0	210	419
13:15:00	14	186	0	0	200	0	20	0	0	20	234	1	0	0	235	455
13:30:00	13	209	0	0	222	1	10	0	0	11	244	2	0	0	246	479
13:45:00	11	199	0	0	210	0	10	0	0	10	241	2	0	0	243	463
Grand Total	45	787	0	0	832	1	49	0	0	50	926	8	0	0	934	1816
Approach%	5.4%	94.6%	0%		-	2%	98%	0%		-	99.1%	0.9%	0%		-	-
Totals %	2.5%	43.3%	0%		45.8%	0.1%	2.7%	0%		2.8%	51%	0.4%	0%		51.4%	-
PHF	0.8	0.94	0		0.94	0.25	0.61	0		0.63	0.95	0.67	0		0.95	-
Heavy	0	72	0		72	0	1	0		1	90	0	0		90	-
Heavy %	0%	9.1%	0%		8.7%	0%	2%	0%		2%	9.7%	0%	0%		9.6%	-
Lights	45	715	0		760	1	48	0		49	836	8	0		844	-
Lights %	100%	90.9%	0%		91.3%	100%	98%	0%		98%	90.3%	100%	0%		90.4%	-
Single-Unit Trucks	0	49	0		49	0	1	0		1	59	0	0		59	-
Single-Unit Trucks %	0%	6.2%	0%		5.9%	0%	2%	0%		2%	6.4%	0%	0%		6.3%	-
Buses	0	11	0		11	0	0	0		0	7	0	0		7	-
Buses %	0%	1.4%	0%		1.3%	0%	0%	0%		0%	0.8%	0%	0%		0.7%	-
Articulated Trucks	0	12	0		12	0	0	0		0	24	0	0		24	-
Articulated Trucks %	0%	1.5%	0%		1.4%	0%	0%	0%		0%	2.6%	0%	0%		2.6%	-



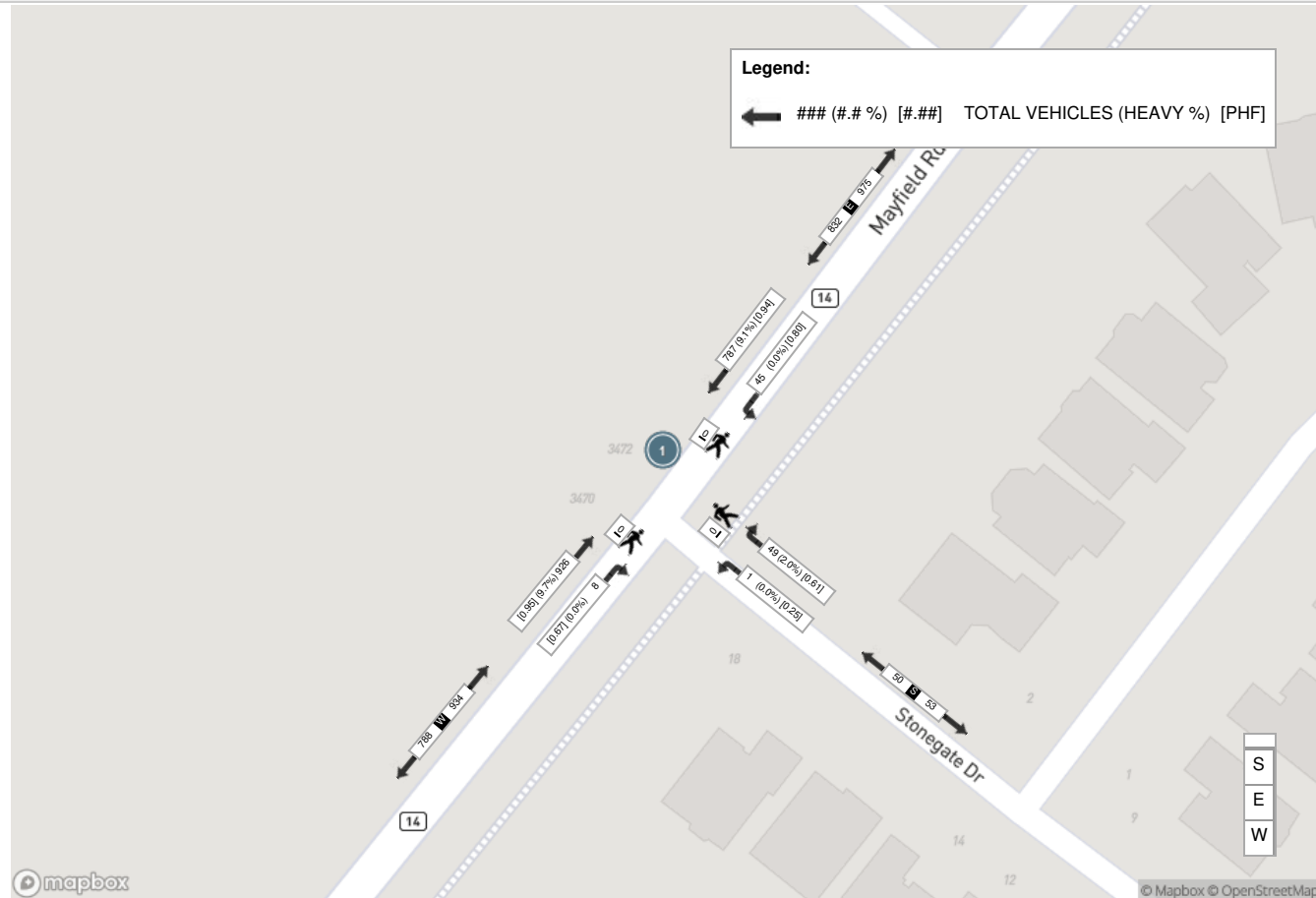
Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (6.41 °C)

Start Time	Westbound MAYFIELD RD					Northbound STONEGATE DRIVE					Eastbound MAYFIELD RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
17:00:00	16	386	0	0	402	0	17	0	0	17	290	5	0	0	295	714
17:15:00	12	370	0	0	382	0	16	0	0	16	321	3	1	0	325	723
17:30:00	14	376	0	0	390	0	16	0	0	16	298	2	0	0	300	706
17:45:00	19	431	0	0	450	1	9	0	0	10	297	7	0	0	304	764
Grand Total	61	1563	0	0	1624	1	58	0	0	59	1206	17	1	0	1224	2907
Approach%	3.8%	96.2%	0%		-	1.7%	98.3%	0%		-	98.5%	1.4%	0.1%		-	-
Totals %	2.1%	53.8%	0%		55.9%	0%	2%	0%		2%	41.5%	0.6%	0%		42.1%	-
PHF	0.8	0.91	0		0.9	0.25	0.85	0		0.87	0.94	0.61	0.25		0.94	-
Heavy	0	26	0		26	0	1	0		1	46	0	0		46	-
Heavy %	0%	1.7%	0%		1.6%	0%	1.7%	0%		1.7%	3.8%	0%	0%		3.8%	-
Lights	61	1537	0		1598	1	57	0		58	1160	17	1		1178	-
Lights %	100%	98.3%	0%		98.4%	100%	98.3%	0%		98.3%	96.2%	100%	100%		96.2%	-
Single-Unit Trucks	0	11	0		11	0	1	0		1	28	0	0		28	-
Single-Unit Trucks %	0%	0.7%	0%		0.7%	0%	1.7%	0%		1.7%	2.3%	0%	0%		2.3%	-
Buses	0	4	0		4	0	0	0		0	5	0	0		5	-
Buses %	0%	0.3%	0%		0.2%	0%	0%	0%		0%	0.4%	0%	0%		0.4%	-
Articulated Trucks	0	11	0		11	0	0	0		0	13	0	0		13	-
Articulated Trucks %	0%	0.7%	0%		0.7%	0%	0%	0%		0%	1.1%	0%	0%		1.1%	-

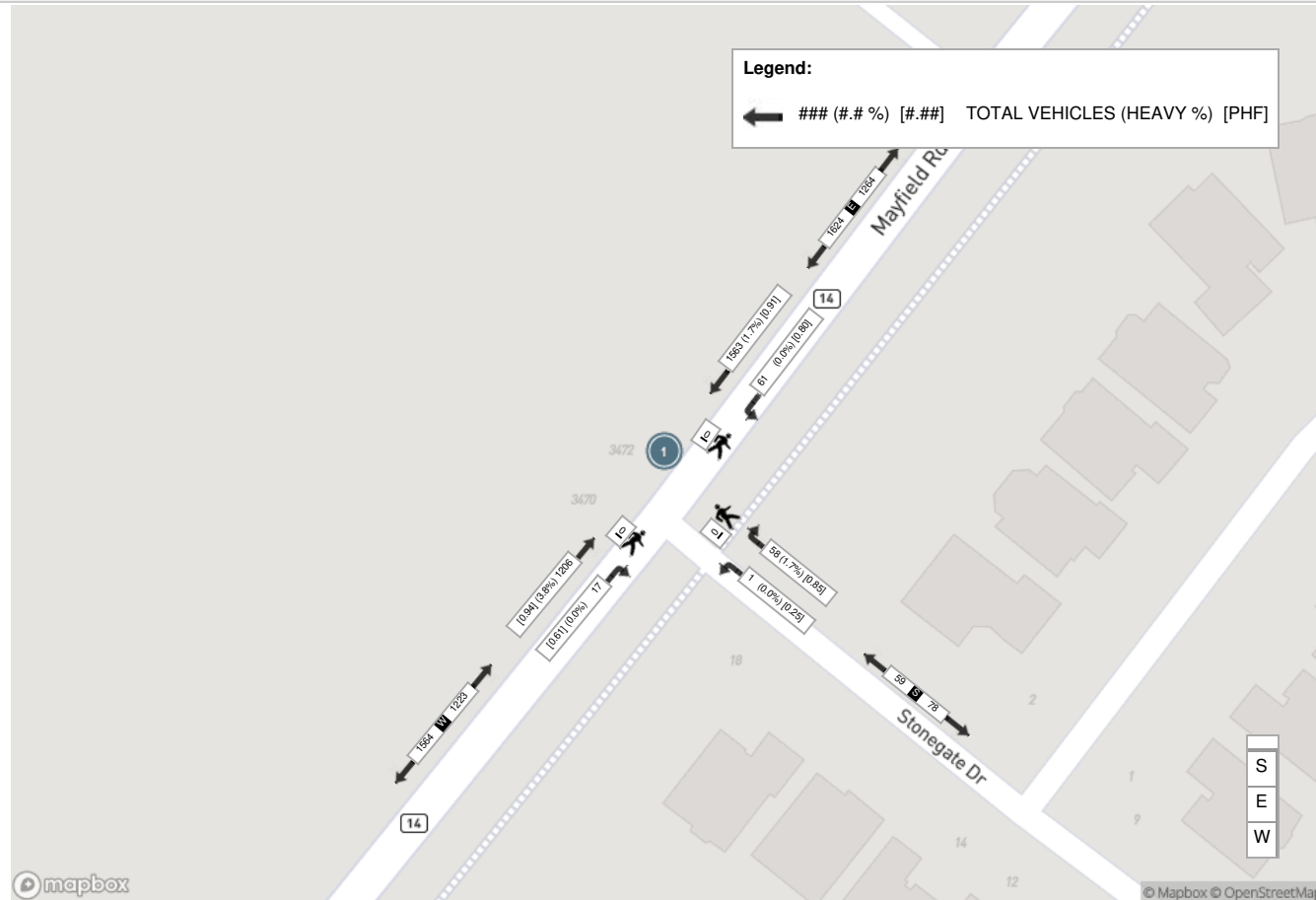
Peak Hour: 07:30 AM - 08:30 AM Weather: Mist (1.74 °C)



Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (6.07 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (6.41 °C)

























Appendix C

Existing Traffic Level of Service Calculations

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	928	74	71	533	299	67	117	178	599	448	267
Future Volume (vph)	160	928	74	71	533	299	67	117	178	599	448	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	3347	0	1733	3245	1479	1594	3110	0	1719	1842	1521
Flt Permitted	0.302			0.147			0.497			0.381		
Satd. Flow (perm)	511	3347	0	268	3245	1479	832	3110	0	689	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				206		184				275
Link Speed (k/h)		60			60			50				50
Link Distance (m)		416.2			542.7			529.5				286.9
Travel Time (s)		25.0			32.6			38.1				20.7
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	1033	0	73	549	308	69	305	0	618	462	275
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	35.0		10.0	35.0	35.0	10.0	45.0		50.0	85.0	85.0
Total Split (%)	7.1%	25.0%		7.1%	25.0%	25.0%	7.1%	32.1%		35.7%	60.7%	60.7%
Maximum Green (s)	7.0	28.4		7.0	28.4	28.4	7.0	38.1		47.0	78.1	78.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	6.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Existing AM Peak 8:19 pm 10-27-2024 2021 Existing Traffic Conditions

Synchro 10 Light Report
Page 1

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	68.3	54.8		56.0	43.7	43.7	23.9	13.2		68.7	53.8	53.8
Actuated g/C Ratio	0.49	0.39		0.40	0.31	0.31	0.17	0.09		0.49	0.38	0.38
v/c Ratio	0.42	0.79		0.37	0.54	0.51	0.39	0.66		0.89	0.65	0.37
Control Delay	23.2	41.0		23.1	40.8	14.8	33.3	31.3		44.6	40.6	4.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	23.2	41.0		23.1	40.8	14.8	33.3	31.3		44.6	40.6	4.4
LOS	C	D		C	D	B	C	C		D	D	A
Approach Delay		38.5			30.8			31.6			35.1	
Approach LOS		D			C			C			D	
Queue Length 50th (m)	22.4	141.3		9.9	73.6	28.4	10.9	17.9		139.7	112.4	0.0
Queue Length 95th (m)	33.7	#199.9		m17.7	99.0	62.9	19.0	33.5		#192.8	144.6	17.8
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	390	1312		200	1011	603	181	980		705	1027	956
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.42	0.79		0.36	0.54	0.51	0.38	0.31		0.88	0.45	0.29

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 34.8

Intersection LOS: C

Intersection Capacity Utilization 94.6%

ICU Level of Service F

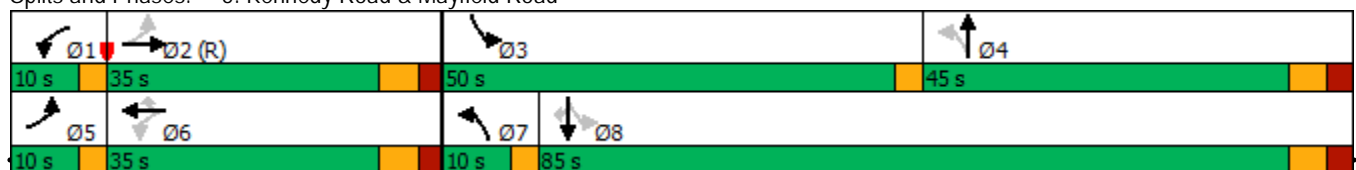
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



Existing AM Peak 8:19 pm 10-27-2024 2021 Existing Traffic Conditions




























Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

																		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations		  			  													
Traffic Volume (vph)	48	1226	520	72	696	14	173	10	24	25	67	61						
Future Volume (vph)	48	1226	520	72	696	14	173	10	24	25	67	61						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900						
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5						
Grade (%)	0%		0%				0%			0%								
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0							
Storage Lanes	1	1		1	1		1	1		1	1							
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5							
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521						
Flt Permitted	0.362	0.178		0.711			0.750											
Satd. Flow (perm)	654	4932	1551	313	4706	1597	1226	1879	1413	1305	1842	1521						
Right Turn on Red			Yes			Yes			Yes			Yes						
Satd. Flow (RTOR)			547			54			52			76						
Link Speed (k/h)	60				60			50			50							
Link Distance (m)	261.4				340.3			475.3			830.2							
Travel Time (s)	15.7				20.4			34.2			59.8							
Confl. Peds. (#/hr)																		
Confl. Bikes (#/hr)																		
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						
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%						
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%						
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0						
Parking (#/hr)																		
Mid-Block Traffic (%)	0%				0%			0%			0%							
Shared Lane Traffic (%)																		
Lane Group Flow (vph)	51	1291	547	76	733	15	182	11	25	26	71	64						
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(m)	3.5				3.5			3.5			3.5							
Link Offset(m)	0.0				0.0			0.0			0.0							
Crosswalk Width(m)	4.8				4.8			4.8			4.8							
Two way Left Turn Lane																		
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01						
Turning Speed (k/h)	25	15		25	15		25	15		25	15							
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm						
Protected Phases	2		1		6	7		4			8							
Permitted Phases	2	2		6	6		4	4		8	8							
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8						
Switch Phase																		
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0						
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9						
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0						
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%						
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1						
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0						
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9						
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0						
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9						













Existing AM Peak 8:19 pm 10-27-2024 2021 Existing Traffic Conditions

Synchro 10 Light Report
Page 3

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	96.4	96.4	96.4	110.1	106.4	106.4	26.9	20.0	20.0	11.0	11.0	11.0
Actuated g/C Ratio	0.69	0.69	0.69	0.79	0.76	0.76	0.19	0.14	0.14	0.08	0.08	0.08
v/c Ratio	0.11	0.38	0.44	0.24	0.21	0.01	0.69	0.04	0.10	0.25	0.49	0.34
Control Delay	7.6	8.6	1.2	5.5	5.1	0.0	66.1	50.4	3.0	65.6	72.6	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	8.6	1.2	5.5	5.1	0.0	66.1	50.4	3.0	65.6	72.6	13.6
LOS	A	A	A	A	A	A	E	D	A	E	E	B
Approach Delay		6.4			5.0			58.1			48.0	
Approach LOS		A			A			E			D	
Queue Length 50th (m)	4.4	47.1	1.6	4.2	19.3	0.0	48.8	2.8	0.0	7.3	20.2	0.0
Queue Length 95th (m)	m6.1	57.3	m3.1	9.0	27.1	0.0	72.8	8.7	2.0	17.2	36.1	11.4
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	450	3395	1238	313	3575	1226	262	578	470	317	448	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.38	0.44	0.24	0.21	0.01	0.69	0.02	0.05	0.08	0.16	0.15

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 11.9

Intersection LOS: B

Intersection Capacity Utilization 58.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 8: Heart Lake Road & Mayfield Road



Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1007	32	11	758	10	19	2	11	21	3	78
Future Volume (vph)	53	1007	32	11	758	10	19	2	11	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	3341	0	1513	3305	1452	1700	1615	0	0	1582	0
Flt Permitted	0.331			0.234			0.433				0.925	
Satd. Flow (perm)	586	3341	0	373	3305	1418	769	1615	0	0	1477	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				28		12			87	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1155	0	12	842	11	21	14	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	117.5	117.5		117.5	117.5	117.5	9.9	9.9			9.9	
Actuated g/C Ratio	0.84	0.84		0.84	0.84	0.84	0.07	0.07			0.07	
v/c Ratio	0.12	0.41		0.04	0.30	0.01	0.40	0.11			0.61	
Control Delay	2.9	3.4		1.5	1.4	0.1	82.0	30.9			30.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	2.9	3.4		1.5	1.4	0.1	82.0	30.9			30.3	
LOS	A	A		A	A	A	F	C			C	
Approach Delay		3.4			1.3			61.6			30.3	
Approach LOS		A			A			E			C	
Queue Length 50th (m)	2.1	30.1		0.1	4.7	0.0	6.1	0.6			7.4	
Queue Length 95th (m)	6.5	52.4		m0.8	16.9	m0.0	15.1	7.8			26.4	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	491	2804		313	2774	1194	238	508			517	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.12	0.41		0.04	0.30	0.01	0.09	0.03			0.22	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

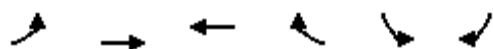
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024

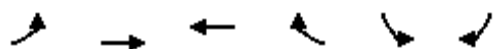


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	989	724	0	368	46
Future Volume (vph)	0	989	724	0	368	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	42
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1020	746	0	384	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.0	40.0		12.4	12.4
Actuated g/C Ratio		0.62	0.62		0.19	0.19
v/c Ratio		0.34	0.26		0.59	0.13
Control Delay		6.5	6.1		27.4	8.8
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		6.5	6.1		27.4	8.8
LOS		A	A		C	A
Approach Delay		6.5	6.1		25.6	
Approach LOS		A	A		C	
Queue Length 50th (m)		19.3	13.4		22.6	0.0
Queue Length 95th (m)		30.2	21.8		34.9	7.8
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3037	2821		1850	809
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.34	0.26		0.21	0.05

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64.4

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 10.1

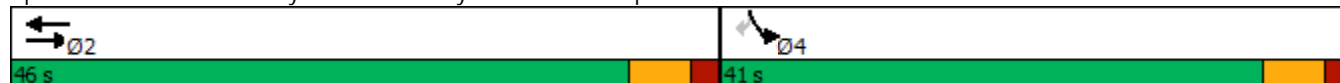
Intersection LOS: B

Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1132	0	0	893	251	756
Future Volume (vph)	1132	0	0	893	251	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2955	1321
Flt Permitted					0.980	
Satd. Flow (perm)	4839	0	0	4347	2955	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					53	53
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1192	0	0	940	662	398
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.6			6.6	6.9	6.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.7			63.7	34.7	34.7
Actuated g/C Ratio	0.57			0.57	0.31	0.31
v/c Ratio	0.43			0.38	0.70	0.89
Control Delay	15.4			14.8	34.9	54.9
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	15.4			14.8	34.9	54.9
LOS	B			B	C	D
Approach Delay	15.4			14.8	42.4	
Approach LOS	B			B	D	
Queue Length 50th (m)	57.5			43.5	63.2	84.3
Queue Length 95th (m)	77.3			60.2	83.4	#140.7
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2754			2473	1175	543
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.43			0.38	0.56	0.73

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 112

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.2

Intersection LOS: C

Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.













Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard











10-27-2024

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	55	25	551	1314	2
Future Volume (Veh/h)	2	55	25	551	1314	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	60	27	599	1428	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				287		
pX, platoon unblocked	0.94					
vC, conflicting volume	2082	715	1430			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2119	715	1430			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	84	94			
cM capacity (veh/h)	39	378	482			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	60	27	599	952	478
Volume Left	2	0	27	0	0	0
Volume Right	0	60	0	0	0	2
cSH	39	378	482	1700	1700	1700
Volume to Capacity	0.05	0.16	0.06	0.35	0.56	0.28
Queue Length 95th (m)	1.2	4.5	1.4	0.0	0.0	0.0
Control Delay (s)	101.4	16.3	12.9	0.0	0.0	0.0
Lane LOS	F	C	B			
Approach Delay (s)	19.1	0.6		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			46.5%		ICU Level of Service	
Analysis Period (min)			15			
			A			

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive & Mayfield Road























10-27-2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1572	13	19	950	2	75
Future Volume (Veh/h)	1572	13	19	950	2	75
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1709	14	21	1033	2	82
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume				1723	2274	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				1723	2274	862
tC, single (s)				4.1	6.8	7.0
tC, 2 stage (s)						
tF (s)				2.2	3.5	3.3
p0 queue free %				94	94	72
cM capacity (veh/h)				372	33	297
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1139	584	21	516	516	84
Volume Left	0	0	21	0	0	2
Volume Right	0	14	0	0	0	82
cSH	1700	1700	372	1700	1700	249
Volume to Capacity	0.67	0.34	0.06	0.30	0.30	0.34
Queue Length 95th (m)	0.0	0.0	1.4	0.0	0.0	11.4
Control Delay (s)	0.0	0.0	15.3	0.0	0.0	26.7
Lane LOS				C	D	
Approach Delay (s)	0.0	0.3		26.7		
Approach LOS				D		
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			55.3%		ICU Level of Service	
Analysis Period (min)			15		B	

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	706	73	182	892	675	94	275	109	423	206	219
Future Volume (vph)	235	706	73	182	892	675	94	275	109	423	206	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	3359	0	1785	3466	1597	1785	3402	0	1771	1879	1597
Flt Permitted	0.150			0.249			0.622			0.324		
Satd. Flow (perm)	279	3359	0	467	3466	1561	1159	3402	0	603	1879	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				339		40				231
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	820	0	192	939	711	99	404	0	445	217	231
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	20.0	50.0		20.0	50.0	50.0	35.0	35.0		30.0	65.0	65.0
Total Split (%)	14.8%	37.0%		14.8%	37.0%	37.0%	25.9%	25.9%		22.2%	48.1%	48.1%
Maximum Green (s)	17.0	43.4		17.0	43.4	43.4	28.1	28.1		27.0	58.1	58.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	6.6		3.0	6.6	6.6	6.9	6.9		0.0	6.9	6.9

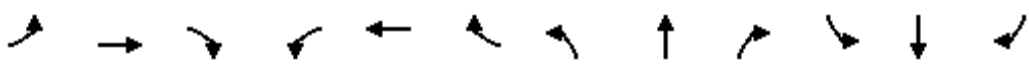
Existing PM Peak 8:24 pm 10-27-2024 2021 Existing Traffic Conditions

Synchro 10 Light Report
Page 1

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	75.2	56.0		68.3	51.7	51.7	20.0	20.0		56.4	49.5	49.5
Actuated g/C Ratio	0.56	0.41		0.51	0.38	0.38	0.15	0.15		0.42	0.37	0.37
v/c Ratio	0.72	0.59		0.53	0.71	0.88	0.58	0.75		0.88	0.31	0.32
Control Delay	42.3	31.8		25.3	47.5	40.7	66.4	58.3		49.6	31.2	4.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	42.3	31.8		25.3	47.5	40.7	66.4	58.3		49.6	31.2	4.3
LOS	D	C		C	D	D	E	E		D	C	A
Approach Delay		34.3			42.5			59.9			33.4	
Approach LOS		C			D			E			C	
Queue Length 50th (m)	42.5	70.1		33.8	130.5	130.8	26.3	52.3		95.4	43.1	0.0
Queue Length 95th (m)	76.6	131.6		m54.6	162.1	m#210.7	44.4	67.6		#126.2	59.9	16.1
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	362	1398		417	1327	806	241	739		511	808	802
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.68	0.59		0.46	0.71	0.88	0.41	0.55		0.87	0.27	0.29

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 13 (10%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 40.6

Intersection LOS: D

Intersection Capacity Utilization 91.0%

ICU Level of Service E

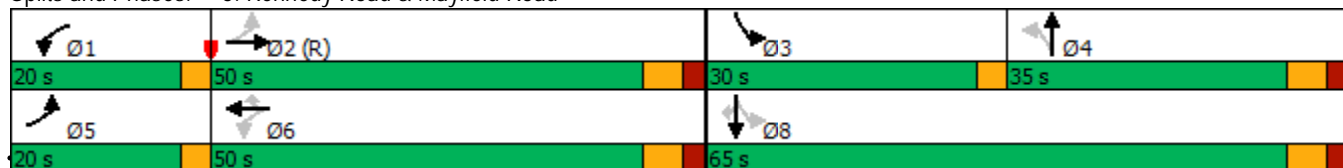
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



Existing PM Peak 8:24 pm 10-27-2024 2021 Existing Traffic Conditions






























Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

																
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		  			  						 					
Traffic Volume (vph)	40	979	271	30	1315	29	363	38	21	46	31	113				
Future Volume (vph)	40	979	271	30	1315	29	363	38	21	46	31	113				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5				
Grade (%)	0%		0%				0%		0%							
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0					
Storage Lanes	1	1		1	1		1	1		1	1					
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5					
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581				
Flt Permitted	0.175	0.235		0.736				0.731								
Satd. Flow (perm)	313	4885	1558	428	5079	1401	1383	1879	1521	1321	1824	1581				
Right Turn on Red			Yes			Yes			Yes			Yes				
Satd. Flow (RTOR)			285			56			54			82				
Link Speed (k/h)	60				60			50			50					
Link Distance (m)	261.4				340.3			475.3			830.2					
Travel Time (s)	15.7				20.4			34.2			59.8					
Confl. Peds. (#/hr)			2	2												
Confl. Bikes (#/hr)																
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				
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%				
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0				
Parking (#/hr)																
Mid-Block Traffic (%)	0%				0%			0%			0%					
Shared Lane Traffic (%)																
Lane Group Flow (vph)	42	1031	285	32	1384	31	382	40	22	48	33	119				
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(m)	3.5				3.5			3.5			3.5					
Link Offset(m)	0.0				0.0			0.0			0.0					
Crosswalk Width(m)	4.8				4.8			4.8			4.8					
Two way Left Turn Lane																
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01				
Turning Speed (k/h)	25	15		25	15		25	15		25	15					
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm				
Protected Phases	2		1		6	7		4			8					
Permitted Phases	2	2		6	6		4	4		8	8					
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8				
Switch Phase																
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0				
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9				
Total Split (s)	66.0	66.0	66.0	9.0	75.0	75.0	20.0	60.0	60.0	40.0	40.0	40.0				
Total Split (%)	48.9%	48.9%	48.9%	6.7%	55.6%	55.6%	14.8%	44.4%	44.4%	29.6%	29.6%	29.6%				
Maximum Green (s)	59.3	59.3	59.3	6.0	68.3	68.3	17.0	53.1	53.1	33.1	33.1	33.1				
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0				
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9				
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9				

Existing PM Peak 8:24 pm 10-27-2024 2021 Existing Traffic Conditions

Synchro 10 Light Report
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Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	84.8	84.8	84.8	94.3	90.6	90.6	37.7	30.8	30.8	10.8	10.8	10.8
Actuated g/C Ratio	0.63	0.63	0.63	0.70	0.67	0.67	0.28	0.23	0.23	0.08	0.08	0.08
v/c Ratio	0.21	0.34	0.26	0.09	0.41	0.03	0.86	0.09	0.06	0.46	0.23	0.59
Control Delay	19.9	17.4	7.5	7.4	10.7	0.7	64.0	40.5	0.3	72.1	60.5	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	17.4	7.5	7.4	10.7	0.7	64.0	40.5	0.3	72.1	60.5	33.5
LOS	B	B	A	A	B	A	E	D	A	E	E	C
Approach Delay		15.4			10.4			58.7			47.2	
Approach LOS		B			B			E			D	
Queue Length 50th (m)	6.7	64.1	20.1	2.5	58.7	0.0	99.2	9.0	0.0	13.2	8.9	10.0
Queue Length 95th (m)	m11.2	76.7	m35.8	6.5	76.3	1.4	#132.4	18.6	0.4	26.2	19.5	30.1
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	196	3067	1084	360	3407	958	446	739	631	323	447	449
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.34	0.26	0.09	0.41	0.03	0.86	0.05	0.03	0.15	0.07	0.27

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 20.7

Intersection LOS: C

Intersection Capacity Utilization 71.4%

ICU Level of Service C

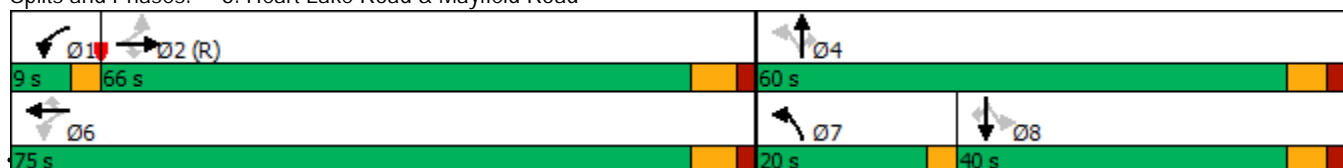
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



Existing PM Peak 8:24 pm 10-27-2024 2021 Existing Traffic Conditions





















Synchro 10 Light Report

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Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	958	12	16	1095	19	14	1	11	12	0	55
Future Volume (vph)	69	958	12	16	1095	19	14	1	11	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	3359	0	1767	3535	1581	1785	1595	0	0	1595	0
Flt Permitted	0.240			0.278			0.697				0.932	
Satd. Flow (perm)	442	3359	0	516	3535	1544	1306	1595	0	0	1499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				29		11			57	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1011	0	17	1141	20	15	12	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	













Existing PM Peak 8:24 pm 10-27-2024 2021 Existing Traffic Conditions

Synchro 10 Light Report
Page 5

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	117.7	117.7		117.7	117.7	117.7	8.9	8.9			8.9	
Actuated g/C Ratio	0.87	0.87		0.87	0.87	0.87	0.07	0.07			0.07	
v/c Ratio	0.19	0.35		0.04	0.37	0.01	0.18	0.11			0.46	
Control Delay	3.3	2.5		0.7	0.8	0.1	63.7	30.4			22.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	3.3	2.5		0.7	0.8	0.1	63.7	30.4			22.9	
LOS	A	A		A	A	A	E	C			C	
Approach Delay		2.6			0.8			48.9			22.9	
Approach LOS		A			A			D			C	
Queue Length 50th (m)	2.8	24.7		0.1	6.7	0.0	4.1	0.3			5.8	
Queue Length 95th (m)	7.5	37.3		m0.4	11.6	m0.0	11.6	6.9			m10.1	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	385	2927		449	3081	1349	323	402			413	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.19	0.35		0.04	0.37	0.01	0.05	0.03			0.17	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 2.8

Intersection LOS: A

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

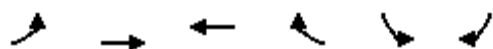
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024

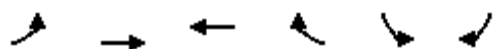


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	722	1331	0	159	16
Future Volume (vph)	0	722	1331	0	159	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3153	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3153	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	15
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	752	1386	0	168	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		43.6	43.6		9.0	9.0
Actuated g/C Ratio		0.67	0.67		0.14	0.14
v/c Ratio		0.23	0.41		0.38	0.07
Control Delay		4.4	5.3		26.5	12.9
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		4.4	5.3		26.5	12.9
LOS		A	A		C	B
Approach Delay		4.4	5.3		25.4	
Approach LOS		A	A		C	
Queue Length 50th (m)		10.5	22.6		9.2	0.0
Queue Length 95th (m)		16.8	33.6		17.1	4.8
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3232	3390		1719	754
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.23	0.41		0.10	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64.6

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 6.6

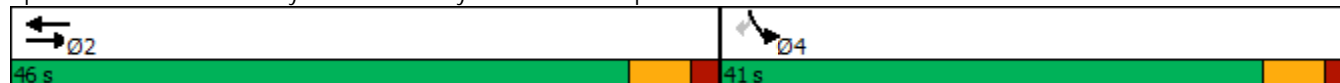
Intersection LOS: A

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	800	0	0	1593	484	863
Future Volume (vph)	800	0	0	1593	484	863
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3064	1275
Flt Permitted					0.974	
Satd. Flow (perm)	4794	0	0	4794	3064	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					110	110
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	842	0	0	1677	963	454
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.6			6.6	6.9	6.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.7			58.7	39.0	39.0
Actuated g/C Ratio	0.53			0.53	0.35	0.35
v/c Ratio	0.33			0.66	0.84	0.88
Control Delay	16.5			21.9	36.5	44.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	16.5			21.9	36.5	44.2
LOS	B			C	D	D
Approach Delay	16.5			21.9	39.0	
Approach LOS	B			C	D	
Queue Length 50th (m)	40.0			101.0	92.8	83.5
Queue Length 95th (m)	56.7			135.3	118.8	#138.5
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2530			2530	1394	616
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.33			0.66	0.69	0.74

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 111.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 26.9

Intersection LOS: C

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.












Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard











10-27-2024

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	44	75	940	513	4
Future Volume (Veh/h)	2	44	75	940	513	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	46	78	979	534	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				287		
pX, platoon unblocked	0.84					
vC, conflicting volume	1671	269	538			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1704	269	538			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	94	93			
cM capacity (veh/h)	65	735	1040			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	46	78	979	356	182
Volume Left	2	0	78	0	0	0
Volume Right	0	46	0	0	0	4
cSH	65	735	1040	1700	1700	1700
Volume to Capacity	0.03	0.06	0.07	0.58	0.21	0.11
Queue Length 95th (m)	0.8	1.6	1.9	0.0	0.0	0.0
Control Delay (s)	62.0	10.2	8.7	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	12.4	0.6		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			59.5%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive & Mayfield Road

10-27-2024

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1206	17	61	1563	1	58
Future Volume (Veh/h)	1206	17	61	1563	1	58
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1283	18	65	1663	1	62
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1301		2254	650
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1301		2254	650
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		97	85
cM capacity (veh/h)			539		32	411
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	855	446	65	832	832	63
Volume Left	0	0	65	0	0	1
Volume Right	0	18	0	0	0	62
cSH	1700	1700	539	1700	1700	346
Volume to Capacity	0.50	0.26	0.12	0.49	0.49	0.18
Queue Length 95th (m)	0.0	0.0	3.3	0.0	0.0	5.3
Control Delay (s)	0.0	0.0	12.6	0.0	0.0	17.7
Lane LOS			B			C
Approach Delay (s)	0.0		0.5			17.7
Approach LOS						C
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			53.5%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Appendix D

Background Growth Rates

Date: January 8, 2021

From: Sam Nguyen, NexTrans Consulting Engineers

Re: Growth Rates Data Request – Mayfield Road east of Kennedy Road

Sam,

Here are the estimated CAGR values for Mayfield Road east of Kennedy Road:

2016 – 2021	2021 - 2031
1.5%	5.0%

These growth rates are estimated based on multiple sources including Peel Travel Demand forecasting model, ATR and land use/forecasts data. These rates assume a road widening from 2 to 3 lanes in each direction taking place around 2026. Please note that this area may be further affected by future growth (after 2031 and beyond). Please use your professional judgement when using these values.

If you require further assistance, please contact me at (905) 791-7800 ext. 4810.

Regards,

Tiggy Chen

Co-op Student, Transportation System Planning

Transportation Division, Public Works Services, Region of Peel

10 Peel Centre Drive, Suite B, 4th Floor

Brampton, ON L6T 4B9

W: (905) 791-7800 x4810 C: (647) 918-2827

E: tiggy.chen@peelregion.ca

Appendix E

Background Development Traffic Volumes

Subdivision 17014B (South-west corner of Kennedy and Mayfield)

ITE Land Use	Magnitude (units)	Parameters			Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
Single-Family Detached Housing LUC 210 General Urban/Suburban	182	Trip Rates AM - $T = 0.71(X) + 4.80$ PM - $\ln(T) = 0.96\ln(X) + 0.20$			0.19	0.55	0.74	0.62	0.37	0.99
		Total Trips			34	100	134	114	67	181
		Mode	AM	PM						
		Transit	5%	5%	2	5	7	6	3	9
		New Auto Trips			32	95	127	108	64	172
Multifamily Housing (Low-Rise) LUC 220 General Urban/Suburban	177	Trip Rates AM - $\ln(T) = 0.05\ln(X) - 0.51$			0.11	0.35	0.46	0.35	0.2	0.55
		Total Trips			19	63	82	62	36	98
		Mode	AM	PM						
		Transit	5%	5%	1	3	4	3	2	5
		New Auto Trips			18	60	78	59	34	93
Total Trips					53	163	216	176	103	279
Transit Modal Split (5%)					3	8	11	9	5	14
Total New Auto Trips					50	155	205	167	98	265

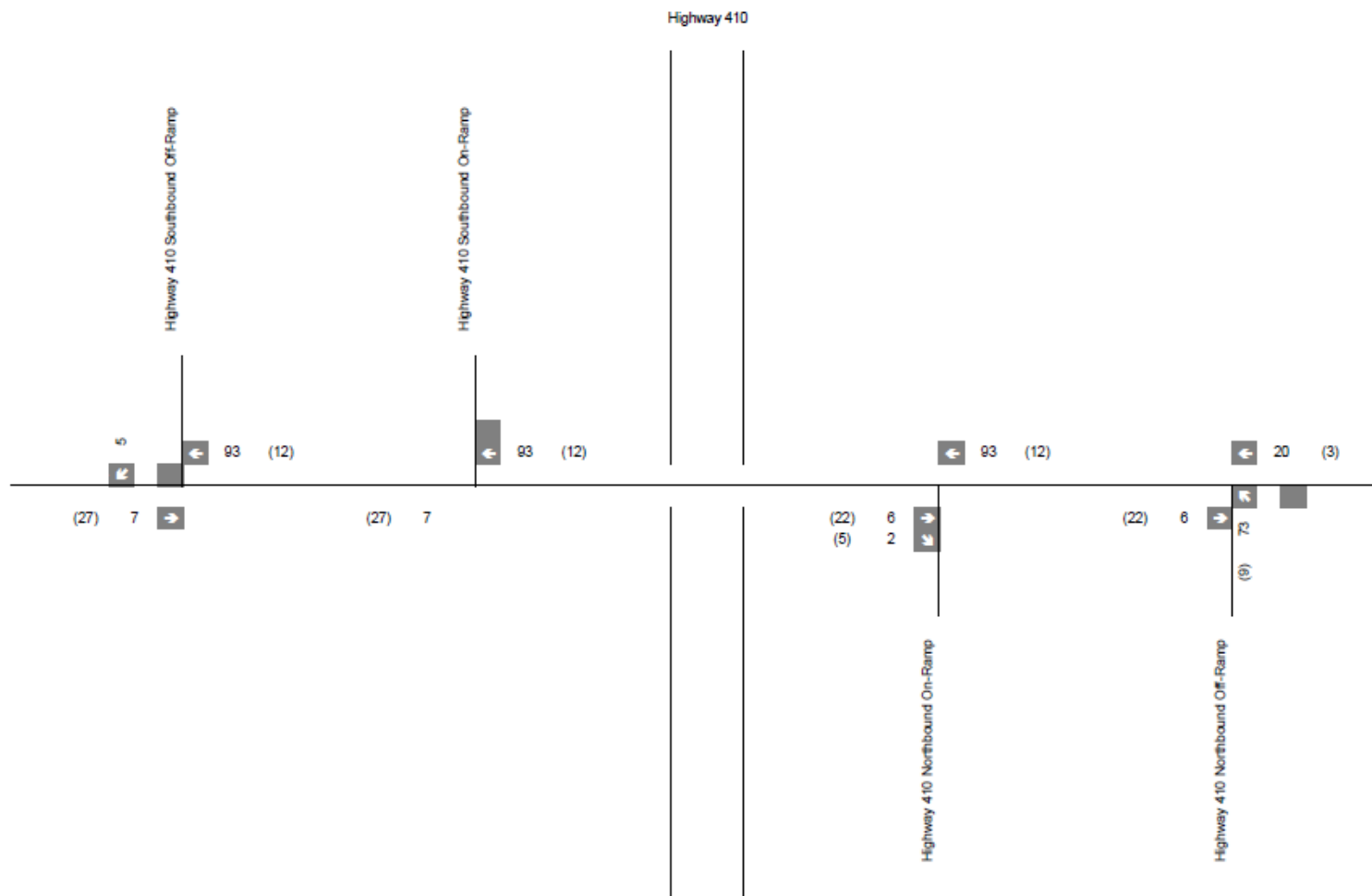
225600 ONTARIO LIMITED

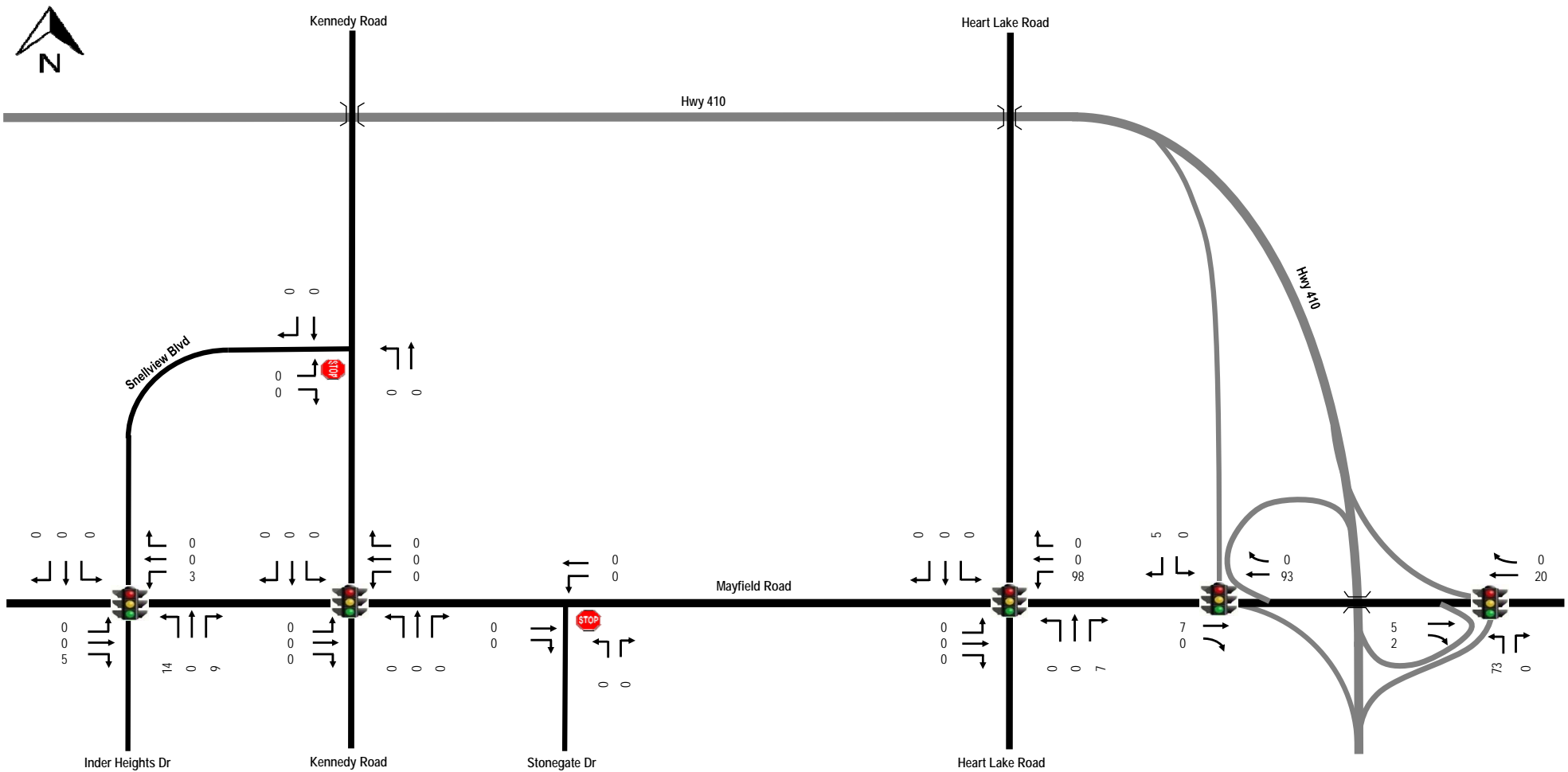
REVISED UPDATED TRAFFIC IMPACT STUDY

PROPOSED WEST EMPLOYMENT LANDS COUNTRYSIDE VILLAGES

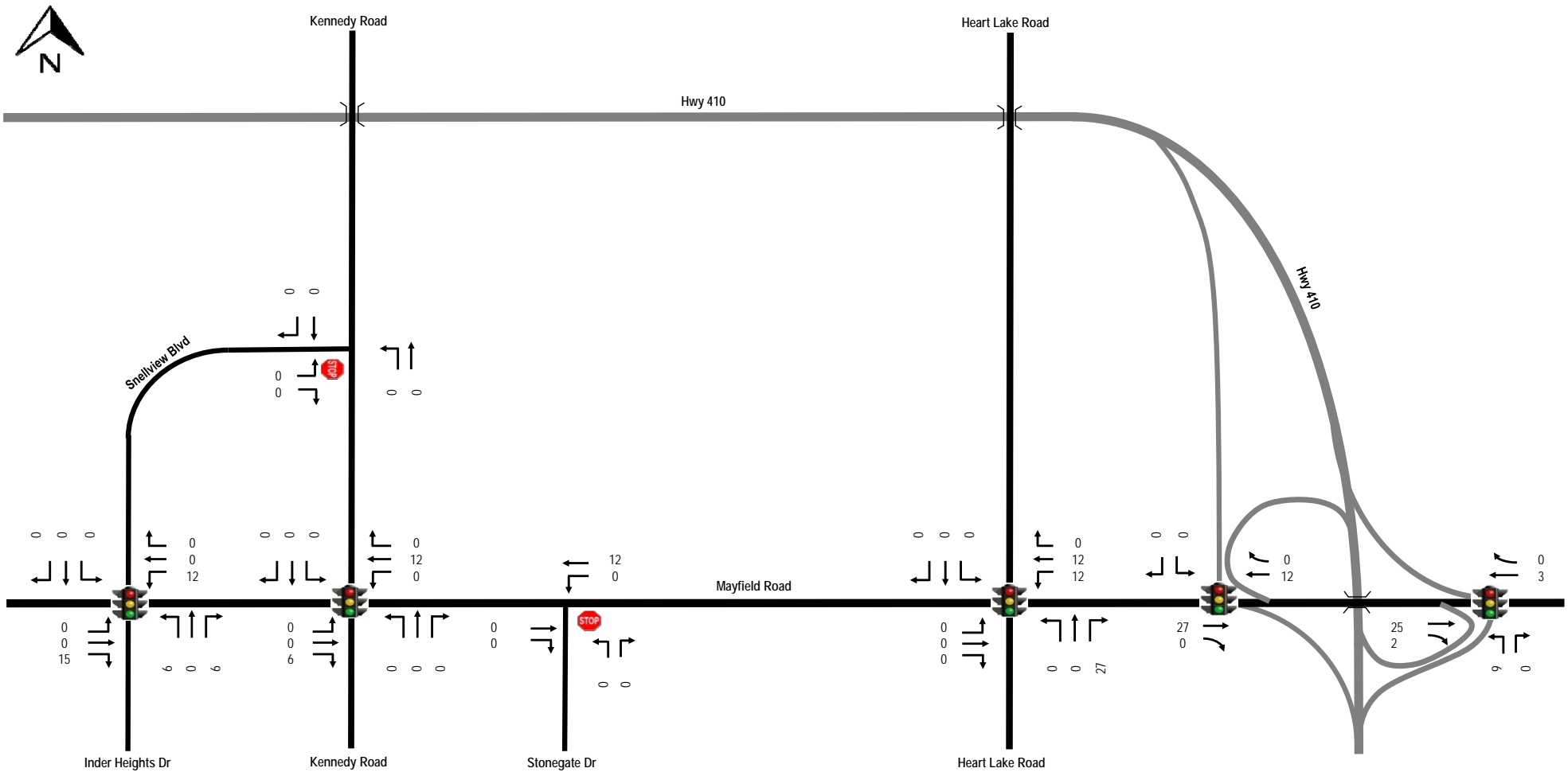
NOVEMBER 27, 2017







Not to Scale



Not to Scale




























Appendix F

Future Background Level of Service Calculations

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	180	1244	83	80	714	337	75	132	200	675	505	301
Future Volume (vph)	180	1244	83	80	714	337	75	132	200	675	505	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4823	0	1733	4663	1479	1594	3110	0	1719	1842	1521
Flt Permitted	0.203			0.124			0.471			0.313		
Satd. Flow (perm)	344	4823	0	226	4663	1479	788	3110	0	566	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				249		187				289
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	1368	0	82	736	347	77	342	0	696	521	310
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	35.0		10.0	35.0	35.0	10.0	40.0		55.0	85.0	85.0
Total Split (%)	7.1%	25.0%		7.1%	25.0%	25.0%	7.1%	28.6%		39.3%	60.7%	60.7%
Maximum Green (s)	7.0	28.4		7.0	28.4	28.4	7.0	33.1		52.0	78.1	78.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	6.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	62.7	46.6		45.4	32.3	32.3	24.4	13.6		74.3	57.6	57.6
Actuated g/C Ratio	0.45	0.33		0.32	0.23	0.23	0.17	0.10		0.53	0.41	0.41
v/c Ratio	0.51	0.85		0.47	0.68	0.65	0.44	0.73		0.94	0.69	0.39
Control Delay	27.4	46.8		29.5	50.3	18.2	33.9	36.8		50.3	38.9	5.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	27.4	46.8		29.5	50.3	18.2	33.9	36.8		50.3	38.9	5.0
LOS	C	D		C	D	B	C	D		D	D	A
Approach Delay		44.5			39.3			36.2			37.2	
Approach LOS		D			D			D			D	
Queue Length 50th (m)	25.3	134.5		11.2	72.8	28.6	11.4	23.3		165.5	124.4	3.7
Queue Length 95th (m)	37.4	#189.1		m20.4	92.7	m66.9	18.8	39.5		#233.5	155.5	21.4
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	368	1610		176	1076	532	178	878		753	1027	962
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.51	0.85		0.47	0.68	0.65	0.43	0.39		0.92	0.51	0.32

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 40.1

Intersection LOS: D

Intersection Capacity Utilization 96.8%

ICU Level of Service F

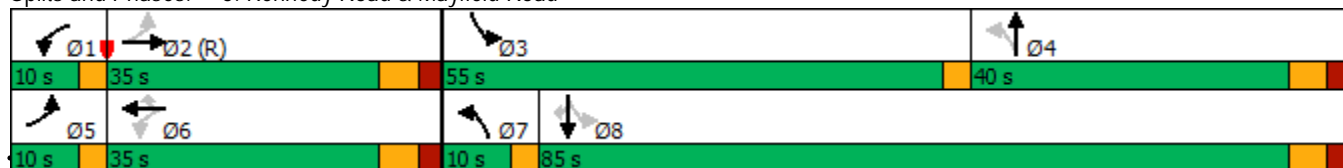
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



2028 Future Background Traffic Volumes 8:43 pm 10-27-2024 with road improvements






























Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road













10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	54	1643	586	179	933	16	195	11	34	28	75	69
Future Volume (vph)	54	1643	586	179	933	16	195	11	34	28	75	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521
Flt Permitted	0.280			0.083			0.706			0.750		
Satd. Flow (perm)	506	4932	1551	146	4706	1597	1217	1879	1413	1305	1842	1521
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			617			54			52			76
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			830.2	
Travel Time (s)		15.7			20.4			34.2			59.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	1729	617	188	982	17	205	12	36	29	79	73
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	80.4	80.4	80.4	109.5	105.8	105.8	27.5	20.6	20.6	11.6	11.6	11.6
Actuated g/C Ratio	0.57	0.57	0.57	0.78	0.76	0.76	0.20	0.15	0.15	0.08	0.08	0.08
v/c Ratio	0.20	0.61	0.54	0.53	0.28	0.01	0.77	0.04	0.14	0.27	0.52	0.37
Control Delay	11.8	14.1	1.3	23.8	5.7	0.0	71.8	49.8	7.2	65.2	73.0	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	14.1	1.3	23.8	5.7	0.0	71.8	49.8	7.2	65.2	73.0	16.9
LOS	B	B	A	C	A	A	E	D	A	E	E	B
Approach Delay		10.7			8.5			61.5			49.1	
Approach LOS		B			A			E			D	
Queue Length 50th (m)	5.6	76.3	0.0	20.9	28.2	0.0	55.6	3.1	0.0	8.1	22.5	0.0
Queue Length 95th (m)	m7.8	86.5	m0.1	48.9	38.7	0.0	80.8	9.2	6.2	18.6	39.2	14.7
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	290	2830	1153	358	3556	1220	266	578	470	317	448	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.61	0.54	0.53	0.28	0.01	0.77	0.02	0.08	0.09	0.18	0.17

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 15.0

Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 8: Heart Lake Road & Mayfield Road



Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

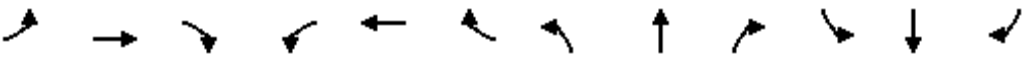
10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1349	37	14	1016	10	33	2	20	21	3	78
Future Volume (vph)	53	1349	37	14	1016	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4808	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.238			0.149			0.448				0.923	
Satd. Flow (perm)	422	4808	0	237	4749	1418	795	1597	0	0	1474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				28		22			87	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1540	0	16	1129	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	117.0	117.0		117.0	117.0	117.0	10.4	10.4			10.4	
Actuated g/C Ratio	0.84	0.84		0.84	0.84	0.84	0.07	0.07			0.07	
v/c Ratio	0.17	0.38		0.08	0.28	0.01	0.63	0.17			0.59	
Control Delay	3.7	3.2		2.1	1.3	0.0	104.8	25.8			29.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	3.7	3.2		2.1	1.3	0.0	104.8	25.8			29.1	
LOS	A	A		A	A	A	F	C			C	
Approach Delay		3.2			1.3			73.7			29.1	
Approach LOS		A			A			E			C	
Queue Length 50th (m)	2.5	29.9		0.2	6.1	0.0	10.7	0.6			7.2	
Queue Length 95th (m)	7.1	44.6		m0.9	14.1	m0.0	23.3	10.1			m25.2	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	352	4018		198	3968	1189	246	510			516	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.17	0.38		0.08	0.28	0.01	0.15	0.05			0.22	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 67.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024

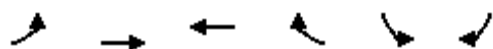


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1332	1063	0	414	57
Future Volume (vph)	0	1332	1063	0	414	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	44
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1373	1096	0	433	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.1	40.1		13.4	13.4
Actuated g/C Ratio		0.61	0.61		0.20	0.20
v/c Ratio		0.46	0.39		0.62	0.16
Control Delay		7.8	7.3		27.8	10.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		7.8	7.3		27.8	10.1
LOS		A	A		C	B
Approach Delay		7.8	7.3		25.8	
Approach LOS		A	A		C	
Queue Length 50th (m)		30.2	22.7		25.9	0.9
Queue Length 95th (m)		46.3	35.9		39.1	9.6
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		2989	2777		1821	798
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.46	0.39		0.24	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 65.5

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.6

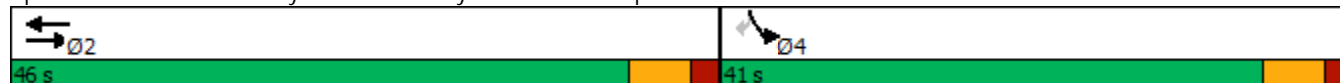
Intersection LOS: B

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1522	0	0	1217	356	851
Future Volume (vph)	1522	0	0	1217	356	851
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2975	1321
Flt Permitted					0.978	
Satd. Flow (perm)	4839	0	0	4347	2975	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					17	17
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1602	0	0	1281	823	448
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	0.0	-3.0
Total Lost Time (s)	6.6			6.6	6.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.5			63.5	40.4	43.4
Actuated g/C Ratio	0.54			0.54	0.34	0.37
v/c Ratio	0.61			0.54	0.88dr	0.90
Control Delay	20.2			19.1	40.5	56.1
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	20.2			19.1	40.5	56.1
LOS	C			B	D	E
Approach Delay	20.2			19.1	46.0	
Approach LOS	C			B	D	
Queue Length 50th (m)	98.7			74.8	90.3	107.6
Queue Length 95th (m)	114.7			89.0	115.2	#176.5
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2617			2351	1104	529
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.61			0.54	0.75	0.85

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 117.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 27.8

Intersection LOS: C

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road








HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard

10-27-2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	55	25	624	1426	2
Future Volume (Veh/h)	2	55	25	624	1426	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	60	27	678	1550	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				287		
pX, platoon unblocked	0.89					
vC, conflicting volume	2283	776	1552			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2377	776	1552			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	83	94			
cM capacity (veh/h)	25	345	433			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	60	27	678	1033	519
Volume Left	2	0	27	0	0	0
Volume Right	0	60	0	0	0	2
cSH	25	345	433	1700	1700	1700
Volume to Capacity	0.08	0.17	0.06	0.40	0.61	0.31
Queue Length 95th (m)	1.9	5.0	1.6	0.0	0.0	0.0
Control Delay (s)	162.5	17.6	13.9	0.0	0.0	0.0
Lane LOS	F	C	B			
Approach Delay (s)	22.3		0.5	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			49.6%		ICU Level of Service	
Analysis Period (min)			15		A	

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive & Mayfield Road





























10-27-2024

	→	↘	↙	←	↖	↗			
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑↑↘		↙	↑↑↑	↖				
Traffic Volume (veh/h)	2107	13	19	1273	2	75			
Future Volume (Veh/h)	2107	13	19	1273	2	75			
Sign Control	Free			Free	Stop				
Grade	0%			0%	0%				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Hourly flow rate (vph)	2290	14	21	1384	2	82			
Pedestrians									
Lane Width (m)									
Walking Speed (m/s)									
Percent Blockage									
Right turn flare (veh)									
Median type	None		None						
Median storage veh									
Upstream signal (m)									
pX, platoon unblocked									
vC, conflicting volume			2304			2800	770		
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol			2304			2800	770		
tC, single (s)			4.1			6.8	7.0		
tC, 2 stage (s)									
tF (s)			2.2			3.5	3.3		
p0 queue free %			91			85	76		
cM capacity (veh/h)			221			14	341		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	
Volume Total	916	916	472	21	461	461	461	84	
Volume Left	0	0	0	21	0	0	0	2	
Volume Right	0	0	14	0	0	0	0	82	
cSH	1700	1700	1700	221	1700	1700	1700	217	
Volume to Capacity	0.54	0.54	0.28	0.09	0.27	0.27	0.27	0.39	
Queue Length 95th (m)	0.0	0.0	0.0	2.5	0.0	0.0	0.0	13.7	
Control Delay (s)	0.0	0.0	0.0	23.0	0.0	0.0	0.0	31.7	
Lane LOS				C				D	
Approach Delay (s)	0.0			0.3				31.7	
Approach LOS								D	
Intersection Summary									
Average Delay			0.8						
Intersection Capacity Utilization			52.4%		ICU Level of Service		A		
Analysis Period (min)			15						

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road


10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	265	946	88	205	1207	760	106	310	123	476	232	247
Future Volume (vph)	265	946	88	205	1207	760	106	310	123	476	232	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4830	0	1785	4980	1597	1785	3402	0	1771	1879	1597
Flt Permitted	0.095			0.172			0.607			0.285		
Satd. Flow (perm)	177	4830	0	323	4980	1561	1131	3402	0	531	1879	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				419		39				240
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	279	1089	0	216	1271	800	112	455	0	501	244	260
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	15.0	50.0		15.0	50.0	50.0	35.0	35.0		35.0	70.0	70.0
Total Split (%)	11.1%	37.0%		11.1%	37.0%	37.0%	25.9%	25.9%		25.9%	51.9%	51.9%
Maximum Green (s)	12.0	43.4		12.0	43.4	43.4	28.1	28.1		32.0	63.1	63.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		3.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	71.9	48.2		61.4	43.7	46.7	22.0	22.0		63.1	56.2	56.2
Actuated g/C Ratio	0.53	0.36		0.45	0.32	0.35	0.16	0.16		0.47	0.42	0.42
v/c Ratio	0.80	0.63		0.72	0.79	0.98	0.61	0.78		0.89	0.31	0.33
Control Delay	63.3	36.3		37.7	51.9	53.1	66.0	58.5		47.0	26.8	4.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	63.3	36.3		37.7	51.9	53.1	66.0	58.5		47.0	26.8	4.6
LOS	E	D		D	D	D	E	E		D	C	A
Approach Delay		41.8			51.0			60.0			31.1	
Approach LOS		D			D			E			C	
Queue Length 50th (m)	64.7	95.2		43.0	131.2	142.3	29.6	59.8		101.3	44.9	3.3
Queue Length 95th (m)	#130.2	114.5		m#73.5	m147.8	m#218.2	48.7	75.3		#147.4	60.6	18.5
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	349	1731		301	1610	813	235	739		569	878	856
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.80	0.63		0.72	0.79	0.98	0.48	0.62		0.88	0.28	0.30

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 13 (10%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 45.7

Intersection LOS: D

Intersection Capacity Utilization 95.6%

ICU Level of Service F

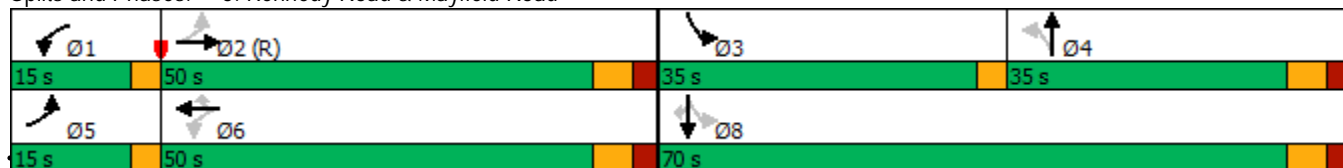
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



2028 Future Background PM Peak 8:48 pm 10-27-2024 with road improvements






























Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

																
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		  			  						 					
Traffic Volume (vph)	45	1312	305	46	1774	33	409	43	51	52	35	127				
Future Volume (vph)	45	1312	305	46	1774	33	409	43	51	52	35	127				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5				
Grade (%)	0%		0%				0%			0%						
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0					
Storage Lanes	1	1		1	1		1	1		1	1					
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5					
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581				
Flt Permitted	0.093	0.146		0.733			0.728									
Satd. Flow (perm)	166	4885	1558	266	5079	1401	1377	1879	1521	1315	1824	1581				
Right Turn on Red			Yes			Yes			Yes			Yes				
Satd. Flow (RTOR)			321			56			54			78				
Link Speed (k/h)	60				60			50			50					
Link Distance (m)	261.4				340.3			475.3			830.2					
Travel Time (s)	15.7				20.4			34.2			59.8					
Confl. Peds. (#/hr)			2	2												
Confl. Bikes (#/hr)																
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				
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%				
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0				
Parking (#/hr)																
Mid-Block Traffic (%)	0%				0%			0%			0%					
Shared Lane Traffic (%)																
Lane Group Flow (vph)	47	1381	321	48	1867	35	431	45	54	55	37	134				
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(m)	3.5				3.5			3.5			3.5					
Link Offset(m)	0.0				0.0			0.0			0.0					
Crosswalk Width(m)	4.8				4.8			4.8			4.8					
Two way Left Turn Lane																
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01				
Turning Speed (k/h)	25	15		25	15		25	15		25	15					
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm				
Protected Phases	2		1		6	7		4			8					
Permitted Phases	2	2		6	6		4	4		8	8					
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8				
Switch Phase																
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0				
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9				
Total Split (s)	66.0	66.0	66.0	9.0	75.0	75.0	20.0	60.0	60.0	40.0	40.0	40.0				
Total Split (%)	48.9%	48.9%	48.9%	6.7%	55.6%	55.6%	14.8%	44.4%	44.4%	29.6%	29.6%	29.6%				
Maximum Green (s)	59.3	59.3	59.3	6.0	68.3	68.3	17.0	53.1	53.1	33.1	33.1	33.1				
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0				
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9				
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9				

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	81.7	81.7	81.7	93.4	89.7	89.7	38.6	31.7	31.7	11.7	11.7	11.7
Actuated g/C Ratio	0.61	0.61	0.61	0.69	0.66	0.66	0.29	0.23	0.23	0.09	0.09	0.09
v/c Ratio	0.47	0.47	0.30	0.19	0.55	0.04	0.95	0.10	0.14	0.49	0.23	0.64
Control Delay	40.1	21.5	9.3	9.0	13.2	1.1	77.4	39.7	10.2	71.9	59.4	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	21.5	9.3	9.0	13.2	1.1	77.4	39.7	10.2	71.9	59.4	40.3
LOS	D	C	A	A	B	A	E	D	B	E	E	D
Approach Delay		19.7			12.8			67.3			51.2	
Approach LOS		B			B			E			D	
Queue Length 50th (m)	8.8	95.1	30.1	3.8	92.7	0.0	115.1	10.0	0.0	15.1	9.9	15.2
Queue Length 95th (m)	m17.9	123.0	m46.3	9.3	121.7	2.1	#162.3	19.7	10.6	28.6	20.8	36.3
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	100	2955	1069	258	3374	949	454	739	631	322	447	446
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.47	0.30	0.19	0.55	0.04	0.95	0.06	0.09	0.17	0.08	0.30

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 24.0

Intersection LOS: C

Intersection Capacity Utilization 79.5%

ICU Level of Service D

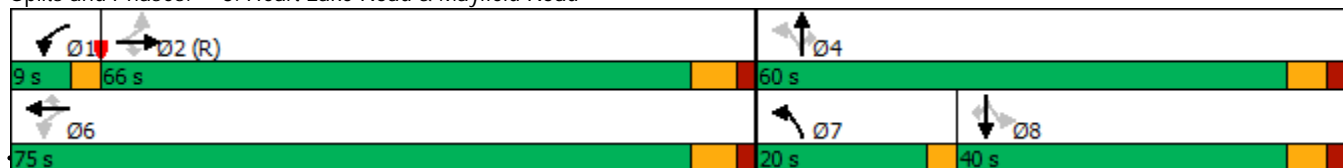
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2028 Future Background PM Peak 8:48 pm 10-27-2024 with road improvements


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	69	1284	27	28	1467	19	20	1	17	12	0	55
Future Volume (vph)	69	1284	27	28	1467	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4820	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.153			0.184			0.699				0.930	
Satd. Flow (perm)	282	4820	0	342	5079	1544	1310	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				29		18			48	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1366	0	29	1528	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	117.4	117.4		117.4	117.4	117.4	9.2	9.2			9.2	
Actuated g/C Ratio	0.87	0.87		0.87	0.87	0.87	0.07	0.07			0.07	
v/c Ratio	0.30	0.33		0.10	0.35	0.01	0.24	0.15			0.48	
Control Delay	5.9	2.4		0.8	0.5	0.0	65.4	26.7			25.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	5.9	2.4		0.8	0.5	0.0	65.4	26.7			25.4	
LOS	A	A		A	A	A	E	C			C	
Approach Delay		2.6			0.5			47.0			25.4	
Approach LOS		A			A			D			C	
Queue Length 50th (m)	3.1	22.5		0.2	3.0	0.0	5.8	0.3			6.7	
Queue Length 95th (m)	10.1	33.8		m0.3	5.0	m0.0	14.6	8.5			m10.3	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	244	4190		297	4415	1345	324	406			405	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.30	0.33		0.10	0.35	0.01	0.06	0.05			0.17	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 2.6

Intersection LOS: A

Intersection Capacity Utilization 65.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

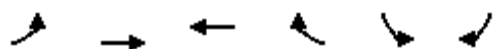
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024

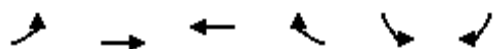


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	995	1796	0	179	18
Future Volume (vph)	0	995	1796	0	179	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3153	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3153	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					1	4
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1036	1871	0	188	17
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		43.1	43.1		9.3	9.3
Actuated g/C Ratio		0.67	0.67		0.14	0.14
v/c Ratio		0.32	0.56		0.41	0.09
Control Delay		5.0	6.6		26.9	20.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.0	6.6		26.9	20.6
LOS		A	A		C	C
Approach Delay		5.0	6.6		26.3	
Approach LOS		A	A		C	
Queue Length 50th (m)		16.0	36.1		10.4	1.5
Queue Length 95th (m)		24.7	53.3		18.8	6.7
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3204	3361		1725	751
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.32	0.56		0.11	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64.4

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 7.4

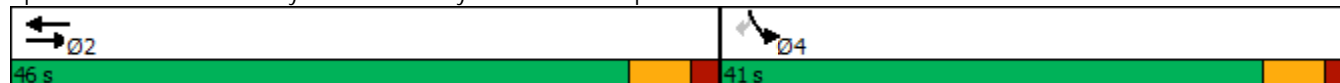
Intersection LOS: A

Intersection Capacity Utilization 78.6%

ICU Level of Service D







Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↑↑↑	↑
Traffic Volume (vph)	1097	0	0	2138	554	972
Future Volume (vph)	1097	0	0	2138	554	972
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3068	1275
Flt Permitted					0.974	
Satd. Flow (perm)	4794	0	0	4794	3068	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					45	45
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1155	0	0	2251	1095	511
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.6			6.6	6.9	6.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.4			58.4	46.8	46.8
Actuated g/C Ratio	0.49			0.49	0.39	0.39
v/c Ratio	0.49			0.95	0.89	0.97
Control Delay	21.2			39.9	42.0	64.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	21.2			39.9	42.0	64.2
LOS	C			D	D	E
Approach Delay	21.2			39.9	49.1	
Approach LOS	C			D	D	
Queue Length 50th (m)	68.8			192.1	122.7	124.0
Queue Length 95th (m)	82.0			#234.9	153.9	#205.7
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2360			2360	1270	544
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.49			0.95	0.86	0.94

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 118.7

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 38.6

Intersection LOS: D

Intersection Capacity Utilization 78.6%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.













Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard

10-27-2024

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	44	75	1260	911	4
Future Volume (Veh/h)	2	44	75	1260	911	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	46	78	1312	949	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				287		
pX, platoon unblocked	0.76					
vC, conflicting volume	2419	476	953			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2716	476	953			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	91	89			
cM capacity (veh/h)	12	540	729			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	46	78	1312	633	320
Volume Left	2	0	78	0	0	0
Volume Right	0	46	0	0	0	4
cSH	12	540	729	1700	1700	1700
Volume to Capacity	0.17	0.09	0.11	0.77	0.37	0.19
Queue Length 95th (m)	3.6	2.2	2.9	0.0	0.0	0.0
Control Delay (s)	368.5	12.3	10.5	0.0	0.0	0.0
Lane LOS	F	B	B			
Approach Delay (s)	27.1	0.6		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	0.9					
Intersection Capacity Utilization			76.3%	ICU Level of Service		D
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive & Mayfield Road




























10-27-2024

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑↘		↙	↑↑↑	↖↗			
Traffic Volume (veh/h)	1616	17	61	2107	1	58		
Future Volume (Veh/h)	1616	17	61	2107	1	58		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	1719	18	65	2241	1	62		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage veh								
Upstream signal (m)								
pX, platoon unblocked								
vC, conflicting volume			1737			2605	582	
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			1737			2605	582	
tC, single (s)			4.1			6.8	6.9	
tC, 2 stage (s)								
tF (s)			2.2			3.5	3.3	
p0 queue free %			82			94	86	
cM capacity (veh/h)			367			17	456	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	688	688	362	65	747	747	747	63
Volume Left	0	0	0	65	0	0	0	1
Volume Right	0	0	18	0	0	0	0	62
cSH	1700	1700	1700	367	1700	1700	1700	324
Volume to Capacity	0.40	0.40	0.21	0.18	0.44	0.44	0.44	0.19
Queue Length 95th (m)	0.0	0.0	0.0	5.1	0.0	0.0	0.0	5.7
Control Delay (s)	0.0	0.0	0.0	16.9	0.0	0.0	0.0	18.8
Lane LOS				C			C	
Approach Delay (s)	0.0			0.5			18.8	
Approach LOS							C	
Intersection Summary								
Average Delay			0.6					
Intersection Capacity Utilization			51.0%	ICU Level of Service			A	
Analysis Period (min)			15					

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road













10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	199	1587	92	88	912	372	83	145	221	745	557	332
Future Volume (vph)	199	1587	92	88	912	372	83	145	221	745	557	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4830	0	1733	4663	1479	1594	3107	0	1719	1842	1521
Flt Permitted	0.127			0.141			0.451			0.283		
Satd. Flow (perm)	215	4830	0	257	4663	1479	755	3107	0	512	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				216		168				278
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	1713	0	90	931	380	85	374	0	760	568	339
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	35.0		10.0	35.0	35.0	10.0	40.0		55.0	85.0	85.0
Total Split (%)	7.1%	25.0%		7.1%	25.0%	25.0%	7.1%	28.6%		39.3%	60.7%	60.7%
Maximum Green (s)	7.0	28.4		7.0	28.4	28.4	7.0	33.1		52.0	78.1	78.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	6.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	60.0	43.3		42.1	28.4	28.4	25.9	15.1		77.0	60.2	60.2
Actuated g/C Ratio	0.43	0.31		0.30	0.20	0.20	0.18	0.11		0.55	0.43	0.43
v/c Ratio	0.60	1.14		0.49	0.99	0.81	0.47	0.77		1.01	0.72	0.42
Control Delay	38.1	112.3		31.0	77.5	33.0	34.0	44.0		66.0	38.6	6.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.1	112.3		31.0	77.5	33.0	34.0	44.0		66.0	38.6	6.7
LOS	D	F		C	E	C	C	D		E	D	A
Approach Delay		104.5			62.5			42.2			44.6	
Approach LOS		F			E			D			D	
Queue Length 50th (m)	27.5	~210.5		12.2	101.0	50.7	12.1	31.4		~199.7	136.1	10.6
Queue Length 95th (m)	#66.7	#280.0		m24.0	#132.8	m#98.5	19.6	48.0		#274.4	168.2	30.7
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	341	1498		184	945	472	182	862		755	1027	957
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.60	1.14		0.49	0.99	0.81	0.47	0.43		1.01	0.55	0.35

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 70.1

Intersection LOS: E

Intersection Capacity Utilization 108.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

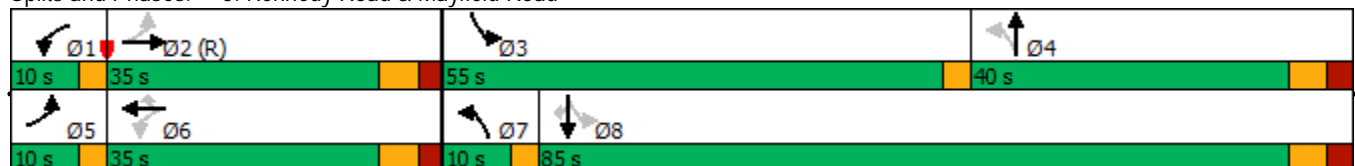
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	60	2097	647	188	1190	17	215	12	37	31	83	76
Future Volume (vph)	60	2097	647	188	1190	17	215	12	37	31	83	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521
Flt Permitted	0.219			0.050			0.702			0.750		
Satd. Flow (perm)	396	4932	1551	88	4706	1597	1210	1879	1413	1305	1842	1521
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			660			54			52			78
Link Speed (k/h)		60			60			50				50
Link Distance (m)		261.4			340.3			475.3				830.2
Travel Time (s)		15.7			20.4			34.2				59.8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	2140	660	192	1214	17	219	12	38	32	85	78
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	76.6	76.6	76.6	109.1	105.4	105.4	27.9	21.0	21.0	12.0	12.0	12.0
Actuated g/C Ratio	0.55	0.55	0.55	0.78	0.75	0.75	0.20	0.15	0.15	0.09	0.09	0.09
v/c Ratio	0.28	0.79	0.58	0.53	0.34	0.01	0.82	0.04	0.15	0.29	0.54	0.39
Control Delay	13.2	16.6	2.2	36.7	6.3	0.0	76.2	49.3	8.2	65.4	73.5	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	16.6	2.2	36.7	6.3	0.0	76.2	49.3	8.2	65.4	73.5	17.4
LOS	B	B	A	D	A	A	E	D	A	E	E	B
Approach Delay		13.2			10.3			65.4			49.7	
Approach LOS		B			B			E			D	
Queue Length 50th (m)	6.0	95.0	0.0	34.3	37.8	0.0	59.7	3.0	0.0	8.9	24.2	0.0
Queue Length 95th (m)	m7.2	m90.9	m0.0	62.4	51.1	0.0	#86.2	9.1	6.9	19.6	41.4	16.1
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	216	2697	1147	360	3544	1215	268	578	470	317	448	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.79	0.58	0.53	0.34	0.01	0.82	0.02	0.08	0.10	0.19	0.18

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 16.8

Intersection LOS: B

Intersection Capacity Utilization 84.2%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2033 Future Background Traffic Volumes 10:51 pm 10-16-2023 with road improvements





















Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1722	37	14	1296	10	33	2	20	21	3	78
Future Volume (vph)	53	1722	37	14	1296	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4815	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.166			0.090			0.500				0.923	
Satd. Flow (perm)	294	4815	0	143	4749	1418	888	1597	0	0	1474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				28		14			43	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1954	0	16	1440	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	114.8	114.8		114.8	114.8	114.8	12.6	12.6				12.6
Actuated g/C Ratio	0.82	0.82		0.82	0.82	0.82	0.09	0.09				0.09
v/c Ratio	0.24	0.49		0.14	0.37	0.01	0.47	0.15				0.66
Control Delay	6.3	4.6		3.5	2.5	0.0	77.8	34.6				51.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0				0.0
Total Delay	6.3	4.6		3.5	2.5	0.0	77.8	34.6				51.7
LOS	A	A		A	A	A	E	C				D
Approach Delay		4.6			2.5			60.8				51.7
Approach LOS		A			A			E				D
Queue Length 50th (m)	3.1	49.9		0.3	11.6	0.0	10.5	2.7				19.0
Queue Length 95th (m)	10.0	75.8		m0.9	m19.4	m0.0	22.2	11.9				m36.6
Internal Link Dist (m)		91.1			392.2			120.8				98.1
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	241	3949		117	3894	1167	275	504				486
Starvation Cap Reductn	0	0		0	0	0	0	0				0
Spillback Cap Reductn	0	0		0	0	0	0	0				0
Storage Cap Reductn	0	0		0	0	0	0	0				0
Reduced v/c Ratio	0.24	0.49		0.14	0.37	0.01	0.13	0.05				0.23

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 6.2

Intersection LOS: A

Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

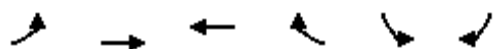
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024

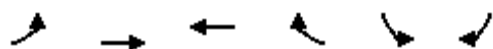


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1699	1331	0	458	62
Future Volume (vph)	0	1699	1331	0	458	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	20
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1734	1358	0	473	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.1	40.1		14.2	14.2
Actuated g/C Ratio		0.60	0.60		0.21	0.21
v/c Ratio		0.59	0.50		0.65	0.17
Control Delay		9.5	8.5		28.0	16.4
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		9.5	8.5		28.0	16.4
LOS		A	A		C	B
Approach Delay		9.5	8.5		26.8	
Approach LOS		A	A		C	
Queue Length 50th (m)		44.2	31.9		28.8	4.2
Queue Length 95th (m)		67.2	49.5		42.6	13.5
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		2951	2741		1798	777
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.59	0.50		0.26	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 66.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.6

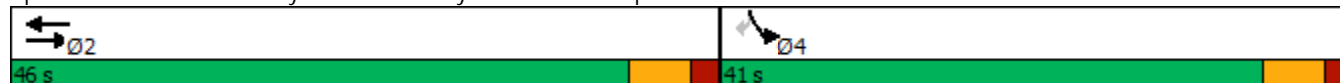
Intersection LOS: B

Intersection Capacity Utilization 85.1%

ICU Level of Service E







Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↓↓↓	↓
Traffic Volume (vph)	1941	0	0	1547	385	940
Future Volume (vph)	1941	0	0	1547	385	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2975	1321
Flt Permitted					0.978	
Satd. Flow (perm)	4839	0	0	4347	2975	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					6	6
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1981	0	0	1579	873	479
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	-3.0	-3.0
Total Lost Time (s)	6.6			6.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.4			63.4	45.3	45.3
Actuated g/C Ratio	0.53			0.53	0.38	0.38
v/c Ratio	0.77			0.68	0.86dr	0.95
Control Delay	24.8			22.6	37.6	65.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	24.8			22.6	37.6	65.2
LOS	C			C	D	E
Approach Delay	24.8			22.6	47.4	
Approach LOS	C			C	D	
Queue Length 50th (m)	138.2			102.1	95.4	122.9
Queue Length 95th (m)	158.5			119.8	120.9	#199.5
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2573			2311	1154	514
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.77			0.68	0.76	0.93

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 30.3

Intersection LOS: C

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard

10-31-2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	55	25	691	1579	2
Future Volume (Veh/h)	2	55	25	691	1579	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	60	27	751	1716	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked	0.87					
vC, conflicting volume	2522	859	1718			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2676	859	1718			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	80	93			
cM capacity (veh/h)	15	304	374			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	60	27	751	1144	574
Volume Left	2	0	27	0	0	0
Volume Right	0	60	0	0	0	2
cSH	15	304	374	1700	1700	1700
Volume to Capacity	0.13	0.20	0.07	0.44	0.67	0.34
Queue Length 95th (m)	3.0	5.8	1.9	0.0	0.0	0.0
Control Delay (s)	282.1	19.7	15.4	0.0	0.0	0.0
Lane LOS	F	C	C			
Approach Delay (s)	28.2		0.5		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			53.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive & Mayfield Road





























10-31-2024

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑↘		↙	↑↑↑	↖			
Traffic Volume (veh/h)	2689	13	19	1625	2	75		
Future Volume (Veh/h)	2689	13	19	1625	2	75		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	2923	14	21	1766	2	82		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage veh								
Upstream signal (m)								
pX, platoon unblocked								
vC, conflicting volume			2937			3561	981	
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			2937			3561	981	
tC, single (s)			4.1			6.8	7.0	
tC, 2 stage (s)								
tF (s)			2.2			3.5	3.3	
p0 queue free %			83			45	67	
cM capacity (veh/h)			124			4	247	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	1169	1169	599	21	589	589	589	84
Volume Left	0	0	0	21	0	0	0	2
Volume Right	0	0	14	0	0	0	0	82
cSH	1700	1700	1700	124	1700	1700	1700	96
Volume to Capacity	0.69	0.69	0.35	0.17	0.35	0.35	0.35	0.88
Queue Length 95th (m)	0.0	0.0	0.0	4.7	0.0	0.0	0.0	39.4
Control Delay (s)	0.0	0.0	0.0	39.8	0.0	0.0	0.0	140.2
Lane LOS				E		F		
Approach Delay (s)	0.0			0.5			140.2	
Approach LOS						F		
Intersection Summary								
Average Delay			2.6					
Intersection Capacity Utilization			63.7%	ICU Level of Service				B
Analysis Period (min)			15					

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 		
Traffic Volume (vph)	199	1587	92	88	912	372	83	145	221	745	557	332
Future Volume (vph)	199	1587	92	88	912	372	83	145	221	745	557	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4830	0	1733	4663	1479	1594	3107	0	3348	1842	1521
Flt Permitted	0.211			0.071			0.253			0.950		
Satd. Flow (perm)	357	4830	0	130	4663	1479	424	3107	0	3345	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				272		98				208
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	1713	0	90	931	380	85	374	0	760	568	339
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(m)		3.5			3.5			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4					8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	55.0		10.0	55.0	55.0	10.0	40.0		35.0	65.0	65.0
Total Split (%)	7.1%	39.3%		7.1%	39.3%	39.3%	7.1%	28.6%		25.0%	46.4%	46.4%
Maximum Green (s)	7.0	48.4		7.0	48.4	48.4	7.0	33.1		32.0	58.1	58.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0	-3.0	-3.0	-3.0		-3.0	-3.0	-3.0
Total Lost Time (s)	0.0	3.6		0.0	3.6	3.6	0.0	3.9		0.0	3.9	3.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-31-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	74.1	59.4		70.9	56.2	56.2	41.1	27.2		34.7	52.0	52.0
Actuated g/C Ratio	0.53	0.42		0.51	0.40	0.40	0.29	0.19		0.25	0.37	0.37
v/c Ratio	0.64	0.83		0.47	0.50	0.50	0.41	0.55		0.91	0.83	0.49
Control Delay	27.7	38.2		25.0	33.3	11.6	27.9	39.0		67.6	50.6	13.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	27.7	38.2		25.0	33.3	11.6	27.9	39.0		67.6	50.6	13.7
LOS	C	D		C	C	B	C	D		E	D	B
Approach Delay		37.1			26.9			36.9			50.8	
Approach LOS		D			C			D			D	
Queue Length 50th (m)	27.0	166.0		14.9	82.4	28.7	13.3	38.0		111.5	147.2	26.9
Queue Length 95th (m)	#63.3	#213.2		m27.7	m97.5	m60.3	21.1	51.2		#147.2	178.7	50.4
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	317	2054		194	1870	756	208	873		837	803	770
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.64	0.83		0.46	0.50	0.50	0.41	0.43		0.91	0.71	0.44

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 38.7

Intersection LOS: D

Intersection Capacity Utilization 85.0%

ICU Level of Service E

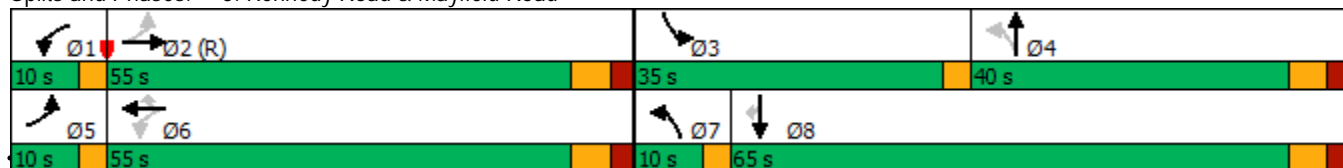
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



2033 Future Background Traffic Volumes 10:51 pm 10-16-2023 with road improvements






























Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	60	2097	647	188	1190	17	215	12	37	31	83	76
Future Volume (vph)	60	2097	647	188	1190	17	215	12	37	31	83	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521
Flt Permitted	0.219			0.049			0.594			0.750		
Satd. Flow (perm)	396	4932	1551	86	4706	1597	1024	1879	1413	1305	1842	1521
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			660			54			52			78
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			830.2	
Travel Time (s)		15.7			20.4			34.2			59.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	2140	660	192	1214	17	219	12	38	32	85	78
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	3.7	3.7	3.7	0.0	3.7	3.7	0.0	3.9	3.9	3.9	3.9	3.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-31-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	82.1	82.1	82.1	112.1	108.4	108.4	27.9	24.0	24.0	15.0	15.0	15.0
Actuated g/C Ratio	0.59	0.59	0.59	0.80	0.77	0.77	0.20	0.17	0.17	0.11	0.11	0.11
v/c Ratio	0.26	0.74	0.56	0.52	0.33	0.01	0.90	0.04	0.13	0.23	0.43	0.34
Control Delay	20.7	22.7	5.1	35.8	5.3	0.0	90.2	46.8	7.6	60.0	64.7	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	22.7	5.1	35.8	5.3	0.0	90.2	46.8	7.6	60.0	64.7	15.2
LOS	C	C	A	D	A	A	F	D	A	E	E	B
Approach Delay	18.6			9.3			76.6			44.1		
Approach LOS	B			A			E			D		
Queue Length 50th (m)	8.1	120.3	11.1	33.9	33.8	0.0	59.7	3.0	0.0	8.7	23.6	0.0
Queue Length 95th (m)	m13.8	152.4	m41.9	60.6	46.4	0.0	#97.4	8.9	6.7	19.1	40.4	15.7
Internal Link Dist (m)	237.4			316.3			451.3			806.2		
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	232	2891	1182	366	3645	1248	243	618	500	345	488	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.74	0.56	0.52	0.33	0.01	0.90	0.02	0.08	0.09	0.17	0.17

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 20.1

Intersection LOS: C

Intersection Capacity Utilization 79.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2033 Future Background Traffic Volumes 10:51 pm 10-16-2023 with road improvements


























Synchro 10 Light Report

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Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	53	1722	37	14	1296	10	33	2	20	21	3	78
Future Volume (vph)	53	1722	37	14	1296	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4815	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.164			0.090			0.434				0.932	
Satd. Flow (perm)	291	4815	0	143	4749	1418	771	1597	0	0	1488	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				28		16			48	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1954	0	16	1440	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0	-3.0	-3.0	-3.0			-3.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6			3.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	118.2	118.2		118.2	118.2	118.2	15.2	15.2			15.2	
Actuated g/C Ratio	0.84	0.84		0.84	0.84	0.84	0.11	0.11			0.11	
v/c Ratio	0.24	0.48		0.13	0.36	0.01	0.45	0.13			0.55	
Control Delay	5.3	3.5		3.9	2.0	0.0	73.8	30.0			41.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	5.3	3.5		3.9	2.0	0.0	73.8	30.0			41.0	
LOS	A	A		A	A	A	E	C			D	
Approach Delay		3.6			2.0			56.6			41.0	
Approach LOS		A			A			E			D	
Queue Length 50th (m)	2.5	40.5		0.4	14.6	0.0	10.3	2.1			17.6	
Queue Length 95th (m)	8.7	65.3		m1.2	23.0	m0.0	22.1	11.1			m35.8	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	245	4065		120	4009	1201	255	539			525	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.24	0.48		0.13	0.36	0.01	0.15	0.04			0.22	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 5.0

Intersection LOS: A

Intersection Capacity Utilization 65.5%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

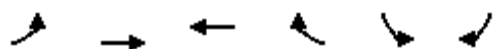
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024

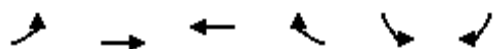


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1699	1331	0	458	62
Future Volume (vph)	0	1699	1331	0	458	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	26
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1734	1358	0	473	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		-3.0	-3.0		-3.0	-3.0
Total Lost Time (s)		3.0	3.0		3.0	3.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		43.1	43.1		17.2	17.2
Actuated g/C Ratio		0.65	0.65		0.26	0.26
v/c Ratio		0.55	0.46		0.53	0.14
Control Delay		7.5	6.8		23.3	12.7
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		7.5	6.8		23.3	12.7
LOS		A	A		C	B
Approach Delay		7.5	6.8		22.1	
Approach LOS		A	A		C	
Queue Length 50th (m)		37.6	27.1		26.9	3.2
Queue Length 95th (m)		58.9	43.4		39.8	11.8
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3172	2947		1951	845
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.55	0.46		0.24	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 66.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 9.4

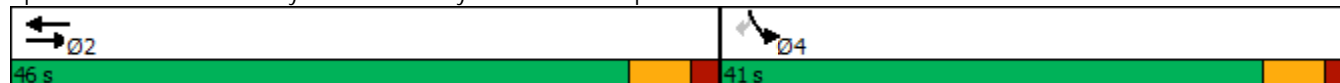
Intersection LOS: A

Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-31-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1941	0	0	1547	385	940
Future Volume (vph)	1941	0	0	1547	385	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2975	1321
Flt Permitted					0.978	
Satd. Flow (perm)	4839	0	0	4347	2975	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					8	8
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1981	0	0	1579	873	479
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	-3.0			-3.0	-3.0	-3.0
Total Lost Time (s)	3.6			3.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-31-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	66.4			66.4	45.2	45.2
Actuated g/C Ratio	0.56			0.56	0.38	0.38
v/c Ratio	0.73			0.65	0.86dr	0.95
Control Delay	22.0			20.1	37.5	64.8
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	22.0			20.1	37.5	64.8
LOS	C			C	D	E
Approach Delay	22.0			20.1	47.2	
Approach LOS	C			C	D	
Queue Length 50th (m)	130.0			96.0	95.1	122.4
Queue Length 95th (m)	149.1			112.7	120.6	#198.9
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2697			2423	1156	516
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.73			0.65	0.76	0.93

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.





























Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road


10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	292	1207	97	226	1538	839	117	342	136	526	256	272
Future Volume (vph)	292	1207	97	226	1538	839	117	342	136	526	256	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4839	0	1785	4980	1597	1785	3402	0	1771	1879	1597
Flt Permitted	0.086			0.092			0.598			0.262		
Satd. Flow (perm)	160	4839	0	173	4980	1561	1115	3402	0	488	1879	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				363		40				237
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	298	1331	0	231	1569	856	119	488	0	537	261	278
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	15.0	50.0		15.0	50.0	50.0	35.0	35.0		35.0	70.0	70.0
Total Split (%)	11.1%	37.0%		11.1%	37.0%	37.0%	25.9%	25.9%		25.9%	51.9%	51.9%
Maximum Green (s)	12.0	43.4		12.0	43.4	43.4	28.1	28.1		32.0	63.1	63.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		3.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	70.2	43.6		63.9	43.4	46.4	23.2	23.2		64.8	57.9	57.9
Actuated g/C Ratio	0.52	0.32		0.47	0.32	0.34	0.17	0.17		0.48	0.43	0.43
v/c Ratio	0.92	0.85		0.81	0.98	1.11	0.62	0.79		0.95	0.32	0.35
Control Delay	82.1	45.4		40.5	57.6	85.7	65.9	58.7		57.2	26.2	5.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	82.1	45.4		40.5	57.6	85.7	65.9	58.7		57.2	26.2	5.5
LOS	F	D		D	E	F	E	E		E	C	A
Approach Delay		52.1			65.2			60.1			36.3	
Approach LOS		D			E			E			D	
Queue Length 50th (m)	72.5	126.9		40.7	165.1	~204.7	31.3	64.3		114.2	47.7	6.6
Queue Length 95th (m)	#146.4	147.4		m#85.8 m#197.4	m#314.3		51.7	81.3		#177.1	64.8	23.1
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	323	1570		284	1600	774	232	739		567	878	855
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.92	0.85		0.81	0.98	1.11	0.51	0.66		0.95	0.30	0.33

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 13 (10%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 55.9

Intersection LOS: E

Intersection Capacity Utilization 107.4%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

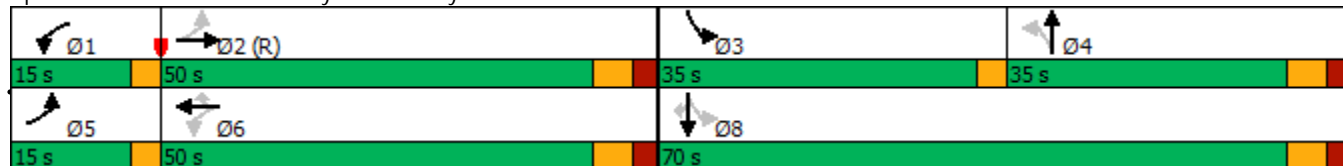
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	50	1674	337	49	2261	36	451	47	53	57	39	141
Future Volume (vph)	50	1674	337	49	2261	36	451	47	53	57	39	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581
Flt Permitted	0.051			0.090			0.731			0.726		
Satd. Flow (perm)	91	4885	1558	164	5079	1401	1373	1879	1521	1312	1824	1581
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			344			80			54			139
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			830.2	
Travel Time (s)		15.7			20.4			34.2			59.8	
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	1708	344	50	2307	37	460	48	54	58	40	144
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.0	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	9.0	63.0	63.0	9.0	63.0	63.0	23.0	63.0	63.0	40.0	40.0	40.0
Total Split (%)	6.7%	46.7%	46.7%	6.7%	46.7%	46.7%	17.0%	46.7%	46.7%	29.6%	29.6%	29.6%
Maximum Green (s)	6.0	56.3	56.3	6.0	56.3	56.3	20.0	56.1	56.1	33.1	33.1	33.1
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-27-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0	0	0	0
Act Effect Green (s)	88.0	78.5	78.5	88.0	78.5	78.5	41.6	34.7	34.7	11.7	11.7	11.7
Actuated g/C Ratio	0.65	0.58	0.58	0.65	0.58	0.58	0.31	0.26	0.26	0.09	0.09	0.09
v/c Ratio	0.36	0.60	0.33	0.27	0.78	0.04	0.93	0.10	0.13	0.51	0.25	0.55
Control Delay	12.5	22.8	7.8	12.0	25.2	0.1	71.1	37.6	9.6	73.7	60.1	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	22.8	7.8	12.0	25.2	0.1	71.1	37.6	9.6	73.7	60.1	17.7
LOS	B	C	A	B	C	A	E	D	A	E	E	B
Approach Delay		20.1			24.6			62.3			38.1	
Approach LOS		C			C			E			D	
Queue Length 50th (m)	5.4	137.4	31.8	4.4	177.9	0.0	120.9	10.4	0.0	15.9	10.7	1.3
Queue Length 95th (m)	m7.9	m166.5	m40.8	10.1	224.9	0.0	#171.8	20.1	10.3	30.3	22.3	21.7
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	142	2842	1050	187	2953	847	493	780	663	321	447	492
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.60	0.33	0.27	0.78	0.04	0.93	0.06	0.08	0.18	0.09	0.29

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 27.4

Intersection LOS: C

Intersection Capacity Utilization 92.1%

ICU Level of Service F

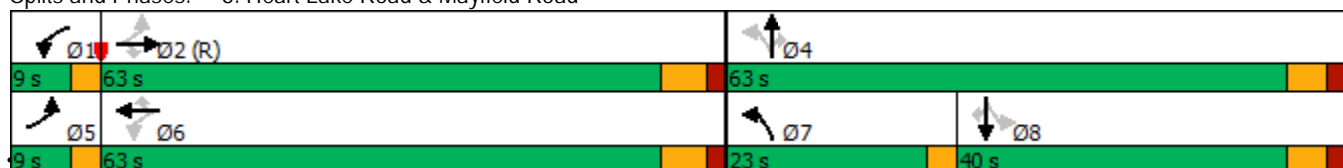
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2033 Future Background PM Peak 8:57 pm 10-27-2024 with road improvements


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	69	1639	27	28	1873	19	20	1	17	12	0	55
Future Volume (vph)	69	1639	27	28	1873	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4826	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.093			0.120			0.707				0.930	
Satd. Flow (perm)	171	4826	0	223	5079	1544	1325	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		18			24	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1735	0	29	1951	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-27-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	116.2	116.2		116.2	116.2	116.2	10.3	10.3			10.3	
Actuated g/C Ratio	0.86	0.86		0.86	0.86	0.86	0.08	0.08			0.08	
v/c Ratio	0.49	0.42		0.15	0.45	0.02	0.21	0.14			0.51	
Control Delay	17.3	3.1		1.3	1.4	0.0	62.1	25.4			36.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	17.3	3.1		1.3	1.4	0.0	62.1	25.4			36.5	
LOS	B	A		A	A	A	E	C			D	
Approach Delay		3.7			1.3			44.7			36.5	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	4.5	35.4		0.2	4.2	0.0	5.7	0.3			12.1	
Queue Length 95th (m)	25.4	52.4		m0.4	m8.2	m0.0	14.3	8.3			m13.9	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	147	4156		192	4373	1333	327	406			387	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.49	0.42		0.15	0.45	0.02	0.06	0.05			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 3.5

Intersection LOS: A

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

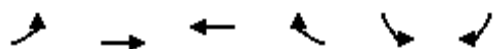
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024

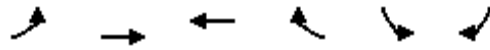


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1262	2288	0	198	20
Future Volume (vph)	0	1262	2288	0	198	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3156	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3156	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					1	1
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1288	2335	0	204	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-27-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		42.4	42.4		9.5	9.5
Actuated g/C Ratio		0.66	0.66		0.15	0.15
v/c Ratio		0.41	0.70		0.43	0.09
Control Delay		5.6	8.5		26.9	22.3
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.6	8.5		26.9	22.3
LOS		A	A		C	C
Approach Delay		5.6	8.5		26.5	
Approach LOS		A	A		C	
Queue Length 50th (m)		21.7	53.8		11.4	1.9
Queue Length 95th (m)		33.1	79.6		20.2	7.4
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3177	3332		1734	753
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.41	0.70		0.12	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 88.1%

ICU Level of Service E







Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

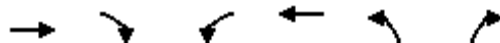
10-27-2024

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1393	0	0	2728	611	1073
Future Volume (vph)	1393	0	0	2728	611	1073
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3068	1275
Flt Permitted					0.974	
Satd. Flow (perm)	4794	0	0	4794	3068	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					20	20
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1421	0	0	2784	1171	547
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			-3.0	-3.0	-3.0
Total Lost Time (s)	6.6			3.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-27-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.4			61.4	51.1	51.1
Actuated g/C Ratio	0.49			0.51	0.43	0.43
v/c Ratio	0.61			1.14	0.89	0.99
Control Delay	23.9			95.6	41.0	69.0
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	23.9			95.6	41.0	69.0
LOS	C			F	D	E
Approach Delay	23.9			95.6	49.9	
Approach LOS	C			F	D	
Queue Length 50th (m)	91.4			~294.2	133.9	141.2
Queue Length 95th (m)	107.2			#322.4	#169.8	#227.2
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2333			2452	1317	554
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.61			1.14	0.89	0.99

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 65.1

Intersection LOS: E

Intersection Capacity Utilization 88.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.












Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard

10-27-2024

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	44	75	1398	1010	4
Future Volume (Veh/h)	2	44	75	1398	1010	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	46	78	1456	1052	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				287		
pX, platoon unblocked	0.72					
vC, conflicting volume	2666	528	1056			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3109	528	1056			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	91	88			
cM capacity (veh/h)	6	500	667			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	46	78	1456	701	355
Volume Left	2	0	78	0	0	0
Volume Right	0	46	0	0	0	4
cSH	6	500	667	1700	1700	1700
Volume to Capacity	0.34	0.09	0.12	0.86	0.41	0.21
Queue Length 95th (m)	5.3	2.4	3.2	0.0	0.0	0.0
Control Delay (s)	807.5	12.9	11.1	0.0	0.0	0.0
Lane LOS	F	B	B			
Approach Delay (s)	46.0	0.6		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			83.6%	ICU Level of Service		E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive & Mayfield Road





























10-27-2024

	→	↘	↙	←	↖	↗			
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑↑↘		↙	↑↑↑	↖				
Traffic Volume (veh/h)	2063	17	61	2685	1	58			
Future Volume (Veh/h)	2063	17	61	2685	1	58			
Sign Control	Free			Free	Stop				
Grade	0%			0%	0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94			
Hourly flow rate (vph)	2195	18	65	2856	1	62			
Pedestrians									
Lane Width (m)									
Walking Speed (m/s)									
Percent Blockage									
Right turn flare (veh)									
Median type	None			None					
Median storage veh									
Upstream signal (m)									
pX, platoon unblocked									
vC, conflicting volume			2213			3286	741		
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol			2213			3286	741		
tC, single (s)			4.1			6.8	6.9		
tC, 2 stage (s)									
tF (s)			2.2			3.5	3.3		
p0 queue free %			73			80	83		
cM capacity (veh/h)			240			5	359		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	
Volume Total	878	878	457	65	952	952	952	63	
Volume Left	0	0	0	65	0	0	0	1	
Volume Right	0	0	18	0	0	0	0	62	
cSH	1700	1700	1700	240	1700	1700	1700	170	
Volume to Capacity	0.52	0.52	0.27	0.27	0.56	0.56	0.56	0.37	
Queue Length 95th (m)	0.0	0.0	0.0	8.5	0.0	0.0	0.0	12.7	
Control Delay (s)	0.0	0.0	0.0	25.5	0.0	0.0	0.0	38.2	
Lane LOS				D				E	
Approach Delay (s)	0.0			0.6			38.2		
Approach LOS								E	
Intersection Summary									
Average Delay			0.8						
Intersection Capacity Utilization			62.2%	ICU Level of Service				B	
Analysis Period (min)			15						

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 		
Traffic Volume (vph)	292	1207	97	226	1538	839	117	342	136	526	256	272
Future Volume (vph)	292	1207	97	226	1538	839	117	342	136	526	256	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4839	0	1785	4980	1597	1785	3402	0	3449	1879	1597
Flt Permitted	0.071			0.121			0.598			0.950		
Satd. Flow (perm)	132	4839	0	227	4980	1561	1115	3402	0	3444	1879	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				409		40				204
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	298	1331	0	231	1569	856	119	488	0	537	261	278
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(m)		3.5			3.5			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4					8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	15.0	60.0		15.0	60.0	60.0	35.0	35.0		25.0	60.0	60.0
Total Split (%)	11.1%	44.4%		11.1%	44.4%	44.4%	25.9%	25.9%		18.5%	44.4%	44.4%
Maximum Green (s)	12.0	53.4		12.0	53.4	53.4	28.1	28.1		22.0	53.1	53.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		3.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-31-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	80.2	56.0		71.6	53.4	56.4	23.2	23.2		24.7	47.9	47.9
Actuated g/C Ratio	0.59	0.41		0.53	0.40	0.42	0.17	0.17		0.18	0.35	0.35
v/c Ratio	0.92	0.66		0.80	0.80	0.96	0.62	0.79		0.85	0.39	0.41
Control Delay	83.0	31.2		31.7	40.0	42.7	65.9	58.7		67.0	33.9	10.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	83.0	31.2		31.7	40.0	42.7	65.9	58.7		67.0	33.9	10.2
LOS	F	C		C	D	D	E	E		E	C	B
Approach Delay		40.7			40.2			60.1			44.3	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	72.5	112.0		36.3	154.4	181.9	31.3	64.3		75.7	54.4	14.0
Queue Length 95th (m)	#146.8	129.4		m#64.4	m175.8	m#246.3	51.7	81.3		#102.5	74.6	35.2
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	323	2012		289	1969	890	232	739		638	739	737
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.92	0.66		0.80	0.80	0.96	0.51	0.66		0.84	0.35	0.38

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 13 (10%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 43.1

Intersection LOS: D

Intersection Capacity Utilization 95.1%

ICU Level of Service F

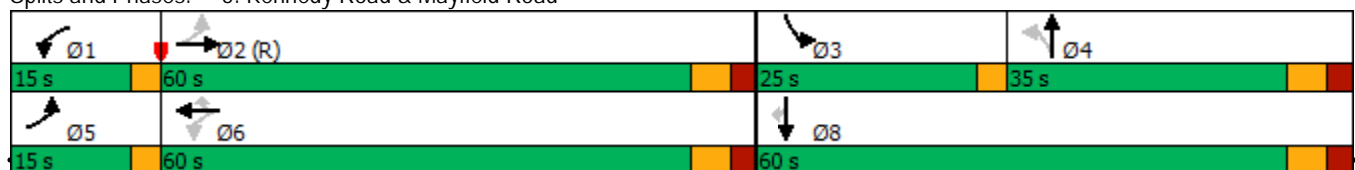
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



2033 Future Background PM Peak 9:08 pm 10-27-2024 with road improvements


Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1674	337	49	2261	36	451	47	53	57	39	141
Future Volume (vph)	50	1674	337	49	2261	36	451	47	53	57	39	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%			0%			0%		
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581
Flt Permitted	0.051			0.090			0.731			0.726		
Satd. Flow (perm)	91	4885	1558	164	5079	1401	1373	1879	1521	1312	1824	1581
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			344			80			54			139
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			830.2	
Travel Time (s)		15.7			20.4			34.2			59.8	
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	1708	344	50	2307	37	460	48	54	58	40	144
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.0	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	9.0	63.0	63.0	9.0	63.0	63.0	23.0	63.0	63.0	40.0	40.0	40.0
Total Split (%)	6.7%	46.7%	46.7%	6.7%	46.7%	46.7%	17.0%	46.7%	46.7%	29.6%	29.6%	29.6%
Maximum Green (s)	6.0	56.3	56.3	6.0	56.3	56.3	20.0	56.1	56.1	33.1	33.1	33.1
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-31-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0	0	0	0
Act Effect Green (s)	88.0	78.5	78.5	88.0	78.5	78.5	41.6	34.7	34.7	11.7	11.7	11.7
Actuated g/C Ratio	0.65	0.58	0.58	0.65	0.58	0.58	0.31	0.26	0.26	0.09	0.09	0.09
v/c Ratio	0.36	0.60	0.33	0.27	0.78	0.04	0.93	0.10	0.13	0.51	0.25	0.55
Control Delay	14.4	22.4	7.6	12.0	25.2	0.1	71.1	37.6	9.6	73.7	60.1	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	22.4	7.6	12.0	25.2	0.1	71.1	37.6	9.6	73.7	60.1	17.7
LOS	B	C	A	B	C	A	E	D	A	E	E	B
Approach Delay		19.8			24.6			62.3			38.1	
Approach LOS		B			C			E			D	
Queue Length 50th (m)	5.4	120.3	27.8	4.4	177.9	0.0	120.9	10.4	0.0	15.9	10.7	1.3
Queue Length 95th (m)	m9.0	174.3	m45.7	10.1	224.9	0.0	#171.8	20.1	10.3	30.3	22.3	21.7
Internal Link Dist (m)		237.4			316.3			451.3			806.2	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	142	2842	1050	187	2953	847	493	780	663	321	447	492
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.60	0.33	0.27	0.78	0.04	0.93	0.06	0.08	0.18	0.09	0.29

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 27.3

Intersection LOS: C

Intersection Capacity Utilization 92.1%

ICU Level of Service F

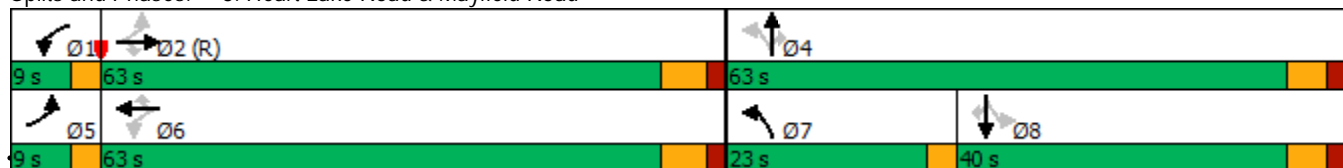
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2033 Future Background PM Peak 9:08 pm 10-27-2024 with road improvements


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	69	1639	27	28	1873	19	20	1	17	12	0	55
Future Volume (vph)	69	1639	27	28	1873	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4826	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.093			0.120			0.707				0.930	
Satd. Flow (perm)	171	4826	0	223	5079	1544	1325	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		18			24	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1735	0	29	1951	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	116.2	116.2		116.2	116.2	116.2	10.3	10.3			10.3	
Actuated g/C Ratio	0.86	0.86		0.86	0.86	0.86	0.08	0.08			0.08	
v/c Ratio	0.49	0.42		0.15	0.45	0.02	0.21	0.14			0.51	
Control Delay	17.3	3.1		1.9	0.9	0.0	62.1	25.4			42.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	17.3	3.1		1.9	0.9	0.0	62.1	25.4			42.1	
LOS	B	A		A	A	A	E	C			D	
Approach Delay		3.7			0.9			44.7			42.1	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	4.5	35.4		0.2	4.2	0.0	5.7	0.3			12.4	
Queue Length 95th (m)	25.4	52.4		m0.7	14.8	m0.0	14.3	8.3			m15.9	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	147	4156		192	4373	1333	327	406			387	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.49	0.42		0.15	0.45	0.02	0.06	0.05			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 3.4

Intersection LOS: A

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

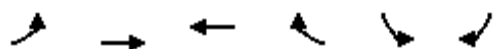
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024

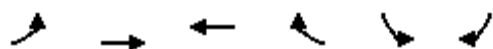


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1262	2288	0	198	20
Future Volume (vph)	0	1262	2288	0	198	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3156	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3156	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					1	1
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1288	2335	0	204	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		42.4	42.4		9.5	9.5
Actuated g/C Ratio		0.66	0.66		0.15	0.15
v/c Ratio		0.41	0.70		0.43	0.09
Control Delay		5.6	8.5		26.9	22.3
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.6	8.5		26.9	22.3
LOS		A	A		C	C
Approach Delay		5.6	8.5		26.5	
Approach LOS		A	A		C	
Queue Length 50th (m)		21.7	53.8		11.4	1.9
Queue Length 95th (m)		33.1	79.6		20.2	7.4
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3177	3332		1734	753
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.41	0.70		0.12	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 8.6

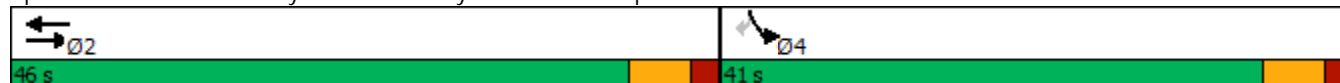
Intersection LOS: A

Intersection Capacity Utilization 88.1%

ICU Level of Service E







Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

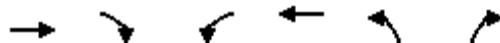
10-31-2024

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1393	0	0	2728	611	1073
Future Volume (vph)	1393	0	0	2728	611	1073
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3068	1275
Flt Permitted					0.974	
Satd. Flow (perm)	4794	0	0	4794	3068	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					20	20
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1421	0	0	2784	1171	547
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			-3.0	-3.0	-3.0
Total Lost Time (s)	6.6			3.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-31-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.4			61.4	51.1	51.1
Actuated g/C Ratio	0.49			0.51	0.43	0.43
v/c Ratio	0.61			1.14	0.89	0.99
Control Delay	23.9			95.6	41.0	69.0
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	23.9			95.6	41.0	69.0
LOS	C			F	D	E
Approach Delay	23.9			95.6	49.9	
Approach LOS	C			F	D	
Queue Length 50th (m)	91.4			~294.2	133.9	141.2
Queue Length 95th (m)	107.2			#322.4	#169.8	#227.2
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2333			2452	1317	554
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.61			1.14	0.89	0.99

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 65.1

Intersection LOS: E

Intersection Capacity Utilization 88.1%

ICU Level of Service E

Analysis Period (min) 15

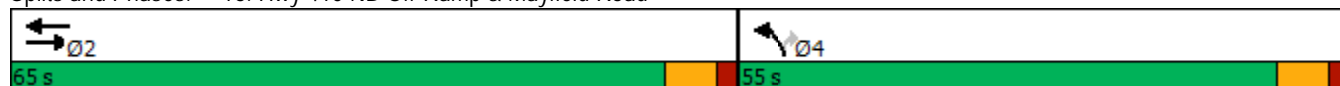
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Appendix G

2016 Transportation Tomorrow Survey (TTS)

Data Analysis

Mode of Transportation - AM Peak Period

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Primary travel mode of trip - mode_prime

Column: 2006 GTA zone of household - gta06_hhld

Filters:

Primary travel mode of trip - mode_prime In B

and

2006 GTA zone of household - gta06_hhld In 3007

and

Start time of trip - start_time In 600-900

Trip 2016

Table:

Mode of Transportation/Traffic Zones	3007	3008	3009	3010	Total	Percentage
Transit excluding GO rail	20	22	0	131	173	4%
Auto driver	782	790	62	2239	3873	81%
GO rail only	9	23	0	13	45	1%
Joint GO rail and local transit	0	10	0	13	23	0%
Auto passenger	103	87	0	385	575	12%
Paid rideshare	0	19	0	0	19	0%
Walk	0	0	0	103	103	2%
Total	914	951	62	2884	4811	100%

Mode of Transportation - PM Peak Period

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Primary travel mode of trip - mode_prime

Column: 2006 GTA zone of household - gta06_hhld

Filters:

Primary travel mode of trip - mode_prime In B

and

2006 GTA zone of household - gta06_hhld In 3007

and

Start time of trip - start_time In 1600-1900

Trip 2016

Table:

Mode of Transportation/Traffic Zones	3007	3008	3010	Total	Percentage
Transit excluding GO rail	16	0	83	99	2.0%
Auto driver	919	800	2306	4025	81.3%
GO rail only	9	23	13	45	0.9%
Joint GO rail and local transit	0	10	13	23	0.5%
Auto passenger	128	144	483	755	15.2%
Walk	0	0	6	6	0.1%
Total	1072	977	2904	4953	100%

Auto Distribution	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
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90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: Planning district of destination - pd_dest

Filters:	M	P	T	U
Primary travel mode of trip - mode_prime in D				
2006 GTA zone of origin - gta06_orig in 3007 and		3008	3009	3010
Start time of trip - start_time in 600-900				

Trip 2016
Table:

[illegible]

Transit Distribution

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig

Column: Planning district of destination - pd_dest

Filters:

Primary travel mode of trip - mode_prime In B

and

2006 GTA zone of origin - gta06_orig In 3007

and

Start time of trip - start_time In 600-900

Trip 2016

Table:

	C	G	J	W			
		3008	3009	3010			
3007	5	0	16	0	0	0	
3008	45	0	0	10	0	0	
3010	62	7	7	0	103	59	
	112	7	23	10	103	59	314
	36%	2%	7%	3%	33%	19%	100%
	Toronto	48%					
	Caledon	33%					
	Brampton	19%					
		100%					




























Appendix H

Future Total Level of Service Calculations

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	201	1279	83	146	721	344	75	153	235	675	568	364
Future Volume (vph)	201	1279	83	146	721	344	75	153	235	675	568	364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4823	0	1733	4663	1479	1594	3107	0	1719	1842	1521
Flt Permitted	0.207			0.120			0.443			0.264		
Satd. Flow (perm)	350	4823	0	219	4663	1479	742	3107	0	477	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				264		163				261
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1405	0	151	743	355	77	400	0	696	586	375
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	40.0		10.0	40.0	40.0	10.0	38.0		52.0	80.0	80.0
Total Split (%)	7.1%	28.6%		7.1%	28.6%	28.6%	7.1%	27.1%		37.1%	57.1%	57.1%
Maximum Green (s)	7.0	33.4		7.0	33.4	33.4	7.0	31.1		49.0	73.1	73.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	-3.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	3.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	61.6	41.9		53.8	33.4	33.4	27.2	16.4		74.7	57.9	57.9
Actuated g/C Ratio	0.44	0.30		0.38	0.24	0.24	0.19	0.12		0.53	0.41	0.41
v/c Ratio	0.58	0.97		0.57	0.67	0.64	0.41	0.79		0.98	0.77	0.49
Control Delay	30.6	62.0		35.0	46.4	13.9	31.6	46.5		61.5	42.6	10.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	30.6	62.0		35.0	46.4	13.9	31.6	46.5		61.5	42.6	10.3
LOS	C	E		C	D	B	C	D		E	D	B
Approach Delay		58.0			35.8			44.1			43.2	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	29.4	148.0		20.4	74.5	27.2	11.2	36.2		172.4	145.1	21.1
Queue Length 95th (m)	#61.8	#203.5		m41.1	90.4	63.9	18.4	52.9		#245.4	179.1	45.9
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	354	1449		265	1113	553	187	816		715	961	905
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.58	0.97		0.57	0.67	0.64	0.41	0.49		0.97	0.61	0.41

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 46.2

Intersection LOS: D

Intersection Capacity Utilization 100.1%

ICU Level of Service G

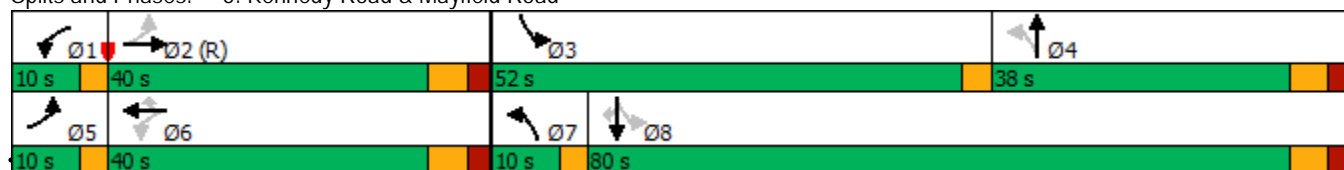
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Kennedy Road & Mayfield Road



2028 Future Total Traffic Volumes 10:05 pm 10-27-2024 with road improvements






























Synchro 10 Light Report

Page 2

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024

																		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations		  			  						 							
Traffic Volume (vph)	73	1692	600	179	968	59	205	23	34	160	113	137						
Future Volume (vph)	73	1692	600	179	968	59	205	23	34	160	113	137						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900						
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5						
Grade (%)	0%		0%				0%			0%								
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0							
Storage Lanes	1	1		1	1		1	1		1	1							
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5							
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521						
Flt Permitted	0.269	0.068		0.569			0.742											
Satd. Flow (perm)	486	4932	1551	119	4706	1597	981	1879	1413	1291	1842	1521						
Right Turn on Red			Yes			Yes			Yes			Yes						
Satd. Flow (RTOR)			580			62			52			126						
Link Speed (k/h)	60				60			50			50							
Link Distance (m)	261.4				340.3			475.3			229.3							
Travel Time (s)	15.7				20.4			34.2			16.5							
Confl. Peds. (#/hr)																		
Confl. Bikes (#/hr)																		
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						
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%						
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%						
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0						
Parking (#/hr)																		
Mid-Block Traffic (%)	0%				0%			0%			0%							
Shared Lane Traffic (%)																		
Lane Group Flow (vph)	77	1781	632	188	1019	62	216	24	36	168	119	144						
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(m)	3.5				3.5			3.5			3.5							
Link Offset(m)	0.0				0.0			0.0			0.0							
Crosswalk Width(m)	4.8				4.8			4.8			4.8							
Two way Left Turn Lane																		
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01						
Turning Speed (k/h)	25	15		25	15		25	15		25	15							
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm						
Protected Phases	2		1		6	7		4			8							
Permitted Phases	2	2		6	6		4	4		8	8							
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8						
Switch Phase																		
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0						
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9						
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0						
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%						
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1						
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0						
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9						
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	3.0	6.9	6.9	6.9	6.9	6.9						

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	74.3	74.3	74.3	97.6	93.9	93.9	36.4	32.5	32.5	23.5	23.5	23.5
Actuated g/C Ratio	0.53	0.53	0.53	0.70	0.67	0.67	0.26	0.23	0.23	0.17	0.17	0.17
v/c Ratio	0.30	0.68	0.58	0.71	0.32	0.06	0.76	0.06	0.10	0.78	0.39	0.40
Control Delay	17.8	19.2	3.1	43.0	10.6	2.5	63.3	38.9	5.0	78.5	53.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	19.2	3.1	43.0	10.6	2.5	63.3	38.9	5.0	78.5	53.9	13.7
LOS	B	B	A	D	B	A	E	D	A	E	D	B
Approach Delay		15.1			15.0			53.6			50.1	
Approach LOS		B			B			D			D	
Queue Length 50th (m)	10.0	94.3	0.0	31.1	42.5	0.0	54.0	5.5	0.0	47.4	31.3	4.5
Queue Length 95th (m)	m12.3	m103.1	m0.0	#95.1	61.0	6.0	74.0	12.5	5.3	69.4	47.6	22.9
Internal Link Dist (m)		237.4			316.3			451.3			205.3	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	257	2617	1095	266	3157	1092	283	578	470	314	448	465
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.68	0.58	0.71	0.32	0.06	0.76	0.04	0.08	0.54	0.27	0.31

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2028 Future Total Traffic Volumes 10:05 pm 10-27-2024 with road improvements


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

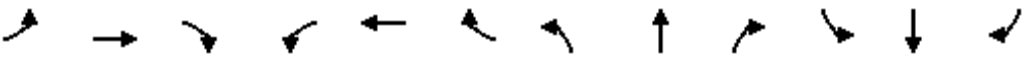
10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	53	1405	37	14	1145	10	33	2	20	21	3	78
Future Volume (vph)	53	1405	37	14	1145	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4808	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.202			0.139			0.467				0.923	
Satd. Flow (perm)	358	4808	0	221	4749	1418	829	1597	0	0	1474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				28		22			64	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1602	0	16	1272	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	116.3	116.3		116.3	116.3	116.3	11.1	11.1			11.1	
Actuated g/C Ratio	0.83	0.83		0.83	0.83	0.83	0.08	0.08			0.08	
v/c Ratio	0.20	0.40		0.09	0.32	0.01	0.57	0.16			0.64	
Control Delay	4.6	3.5		3.1	2.3	0.1	92.4	24.9			41.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	4.6	3.5		3.1	2.3	0.1	92.4	24.9			41.6	
LOS	A	A		A	A	A	F	C			D	
Approach Delay		3.6			2.3			65.8			41.6	
Approach LOS		A			A			E			D	
Queue Length 50th (m)	2.6	32.5		0.5	16.7	0.0	10.7	0.6			13.1	
Queue Length 95th (m)	8.4	51.8		m1.5	26.7	m0.0	22.8	9.9			m32.9	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	297	3993		183	3943	1182	256	510			501	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.20	0.40		0.09	0.32	0.01	0.14	0.05			0.23	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 5.6

Intersection LOS: A

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

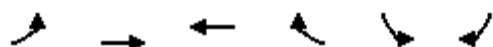
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024

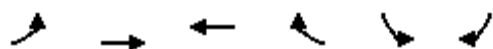


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1358	1141	0	414	57
Future Volume (vph)	0	1358	1141	0	414	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	34
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1400	1176	0	433	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.1	40.1		13.4	13.4
Actuated g/C Ratio		0.61	0.61		0.20	0.20
v/c Ratio		0.47	0.42		0.62	0.16
Control Delay		7.9	7.5		27.8	12.5
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		7.9	7.5		27.8	12.5
LOS		A	A		C	B
Approach Delay		7.9	7.5		26.1	
Approach LOS		A	A		C	
Queue Length 50th (m)		31.0	25.0		25.9	2.1
Queue Length 95th (m)		47.5	39.2		39.1	10.8
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		2989	2777		1821	793
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.47	0.42		0.24	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 65.5

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.6

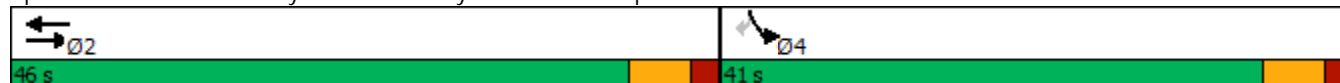
Intersection LOS: B

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

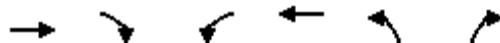
10-30-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1548	0	0	1228	423	851
Future Volume (vph)	1548	0	0	1228	423	851
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2992	1321
Flt Permitted					0.976	
Satd. Flow (perm)	4839	0	0	4347	2992	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					16	16
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1629	0	0	1293	893	448
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.6			6.6	6.9	6.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.5			63.5	41.3	41.3
Actuated g/C Ratio	0.54			0.54	0.35	0.35
v/c Ratio	0.63			0.55	0.85	0.95
Control Delay	20.8			19.5	43.6	67.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	20.8			19.5	43.6	67.7
LOS	C			B	D	E
Approach Delay	20.8			19.5	51.7	
Approach LOS	C			B	D	
Queue Length 50th (m)	101.2			75.8	101.4	112.8
Queue Length 95th (m)	117.4			90.0	128.5	#186.3
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2596			2332	1101	491
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.63			0.55	0.81	0.91

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 118.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard/Site Access #1



























10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	55	126	0	7	25	631	43	2	1426	2
Future Volume (Veh/h)	2	0	55	126	0	7	25	631	43	2	1426	2
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	60	137	0	8	27	686	47	2	1550	2
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	287											
pX, platoon unblocked												
vC, conflicting volume	1960	2342	776	1602	2320	366	1552				733	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1960	2342	776	1602	2320	366	1552				733	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	95	100	83	0	100	99	94				100	
cM capacity (veh/h)	36	34	345	57	35	636	433				881	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3		
Volume Total	2	60	137	8	27	457	276	2	1033	519		
Volume Left	2	0	137	0	27	0	0	2	0	0		
Volume Right	0	60	0	8	0	0	47	0	0	2		
cSH	36	345	57	636	433	1700	1700	881	1700	1700		
Volume to Capacity	0.05	0.17	2.42	0.01	0.06	0.27	0.16	0.00	0.61	0.31		
Queue Length 95th (m)	1.3	5.0	110.3	0.3	1.6	0.0	0.0	0.1	0.0	0.0		
Control Delay (s)	109.5	17.6	803.2	10.7	13.9	0.0	0.0	9.1	0.0	0.0		
Lane LOS	F	C	F	B	B	A						
Approach Delay (s)	20.6	759.4		0.5		0.0						
Approach LOS	C	F										
Intersection Summary												
Average Delay	44.3											
Intersection Capacity Utilization	59.8%			ICU Level of Service					B			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive/Site Access 3 & Mayfield Road





















10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	51	2126	13	19	1336	51	2	0	75	63	0	77
Future Volume (Veh/h)	51	2126	13	19	1336	51	2	0	75	63	0	77
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	2311	14	21	1452	55	2	0	82	68	0	84
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1507			2325			3038	3977	777	2484	3956	512
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1507			2325			3038	3977	777	2484	3956	512
tC, single (s)	4.1			4.1			7.5	6.5	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			90			50	100	76	0	100	84
cM capacity (veh/h)	450			217			4	2	337	10	3	513
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2	
Volume Total	55	924	924	476	21	581	581	345	84	68	84	
Volume Left	55	0	0	0	21	0	0	0	2	68	0	
Volume Right	0	0	0	14	0	0	0	55	82	0	84	
cSH	450	1700	1700	1700	217	1700	1700	1700	113	10	513	
Volume to Capacity	0.12	0.54	0.54	0.28	0.10	0.34	0.34	0.20	0.74	6.93	0.16	
Queue Length 95th (m)	3.3	0.0	0.0	0.0	2.5	0.0	0.0	0.0	32.6	Err	4.7	
Control Delay (s)	14.1	0.0	0.0	0.0	23.4	0.0	0.0	0.0	96.7	Err	13.4	
Lane LOS	B				C				F	F	B	
Approach Delay (s)	0.3				0.3				96.7	4480.6		
Approach LOS									F	F		
Intersection Summary												
Average Delay	166.6											
Intersection Capacity Utilization	59.2%			ICU Level of Service			B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

27: Heart Lake Road & Site Access #2




























10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	113	119	0	6	38	81	36	2	178	2
Future Volume (Veh/h)	6	0	113	119	0	6	38	81	36	2	178	2
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	0	123	129	0	7	41	88	39	2	193	2
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	229											
pX, platoon unblocked												
vC, conflicting volume	375	407	194	510	388	108	195				127	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	375	407	194	510	388	108	195				127	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	99	100	86	68	100	99	97				100	
cM capacity (veh/h)	568	517	853	399	530	952	1390				1472	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	5	125	129	7	41	127	2	195				
Volume Left	5	2	129	0	41	0	2	0				
Volume Right	0	123	0	7	0	39	0	2				
cSH	568	845	399	952	1390	1700	1472	1700				
Volume to Capacity	0.01	0.15	0.32	0.01	0.03	0.07	0.00	0.11				
Queue Length 95th (m)	0.2	4.2	11.0	0.2	0.7	0.0	0.0	0.0				
Control Delay (s)	11.4	10.0	18.3	8.8	7.7	0.0	7.4	0.0				
Lane LOS	B	B	C	A	A		A					
Approach Delay (s)	10.1		17.8		1.9		0.1					
Approach LOS	B		C									
Intersection Summary												
Average Delay	6.4											
Intersection Capacity Utilization	36.1%			ICU Level of Service					A			
Analysis Period (min)	15											

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	201	1279	83	146	721	344	75	153	235	675	568	364
Future Volume (vph)	201	1279	83	146	721	344	75	153	235	675	568	364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4823	0	1733	4663	1479	1594	3107	0	1719	1842	1521
Flt Permitted	0.207			0.120			0.443			0.264		
Satd. Flow (perm)	350	4823	0	219	4663	1479	742	3107	0	477	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				264		163				261
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	1405	0	151	743	355	77	400	0	696	586	375
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	40.0		10.0	40.0	40.0	10.0	38.0		52.0	80.0	80.0
Total Split (%)	7.1%	28.6%		7.1%	28.6%	28.6%	7.1%	27.1%		37.1%	57.1%	57.1%
Maximum Green (s)	7.0	33.4		7.0	33.4	33.4	7.0	31.1		49.0	73.1	73.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	-3.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	3.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	61.6	41.9		53.8	33.4	33.4	27.2	16.4		74.7	57.9	57.9
Actuated g/C Ratio	0.44	0.30		0.38	0.24	0.24	0.19	0.12		0.53	0.41	0.41
v/c Ratio	0.58	0.97		0.57	0.67	0.64	0.41	0.79		0.98	0.77	0.49
Control Delay	30.6	62.0		51.7	39.4	9.7	31.6	46.5		61.5	42.6	10.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	30.6	62.0		51.7	39.4	9.7	31.6	46.5		61.5	42.6	10.3
LOS	C	E		D	D	A	C	D		E	D	B
Approach Delay		58.0			32.5			44.1			43.2	
Approach LOS		E			C			D			D	
Queue Length 50th (m)	29.4	147.9		28.3	55.5	4.8	11.2	36.2		172.4	145.1	21.1
Queue Length 95th (m)	#61.8	#203.5		55.4	55.4	19.4	18.4	52.9		#245.4	179.1	45.9
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	354	1449		265	1113	553	187	816		715	961	905
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.58	0.97		0.57	0.67	0.64	0.41	0.49		0.97	0.61	0.41

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 45.4

Intersection LOS: D

Intersection Capacity Utilization 100.1%

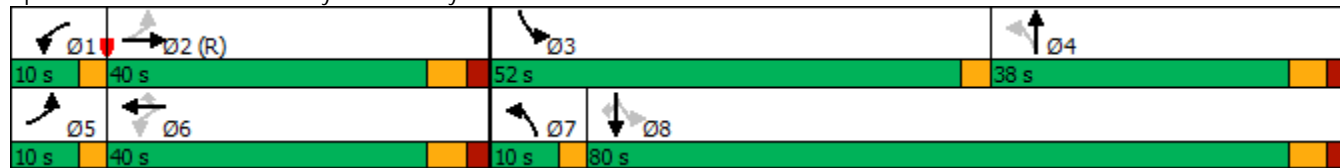
ICU Level of Service G

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	73	1692	600	179	968	59	205	23	34	160	113	137
Future Volume (vph)	73	1692	600	179	968	59	205	23	34	160	113	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521
Flt Permitted	0.269			0.068			0.569			0.742		
Satd. Flow (perm)	486	4932	1551	119	4706	1597	981	1879	1413	1291	1842	1521
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			580			62			52			126
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			229.3	
Travel Time (s)		15.7			20.4			34.2			16.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	1781	632	188	1019	62	216	24	36	168	119	144
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	3.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	74.3	74.3	74.3	97.6	93.9	93.9	36.4	32.5	32.5	23.5	23.5	23.5
Actuated g/C Ratio	0.53	0.53	0.53	0.70	0.67	0.67	0.26	0.23	0.23	0.17	0.17	0.17
v/c Ratio	0.30	0.68	0.58	0.71	0.32	0.06	0.76	0.06	0.10	0.78	0.39	0.40
Control Delay	18.9	19.5	5.0	43.0	10.6	2.5	63.3	38.9	5.0	78.5	53.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	19.5	5.0	43.0	10.6	2.5	63.3	38.9	5.0	78.5	53.9	13.7
LOS	B	B	A	D	B	A	E	D	A	E	D	B
Approach Delay		15.8			15.0			53.6			50.1	
Approach LOS		B			B			D			D	
Queue Length 50th (m)	10.8	98.6	24.4	31.1	42.5	0.0	54.0	5.5	0.0	47.4	31.3	4.5
Queue Length 95th (m)	m23.5	130.2	48.6	#95.1	61.0	6.0	74.0	12.5	5.3	69.4	47.6	22.9
Internal Link Dist (m)		237.4			316.3			451.3			205.3	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	257	2617	1095	266	3157	1092	283	578	470	314	448	465
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.68	0.58	0.71	0.32	0.06	0.76	0.04	0.08	0.54	0.27	0.31

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 21.2

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2028 Future Total Traffic Volumes 10:21 pm 10-30-2024 with traffic signals


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	53	1405	37	14	1145	10	33	2	20	21	3	78
Future Volume (vph)	53	1405	37	14	1145	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4808	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.202			0.139			0.467				0.923	
Satd. Flow (perm)	358	4808	0	221	4749	1418	829	1597	0	0	1474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				28		22			64	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1602	0	16	1272	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	116.3	116.3		116.3	116.3	116.3	11.1	11.1				11.1
Actuated g/C Ratio	0.83	0.83		0.83	0.83	0.83	0.08	0.08				0.08
v/c Ratio	0.20	0.40		0.09	0.32	0.01	0.57	0.16				0.64
Control Delay	4.6	3.5		3.1	2.3	0.1	92.4	24.9				45.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0				0.0
Total Delay	4.6	3.5		3.1	2.3	0.1	92.4	24.9				45.2
LOS	A	A		A	A	A	F	C				D
Approach Delay		3.6			2.3			65.8				45.2
Approach LOS		A			A			E				D
Queue Length 50th (m)	2.6	32.5		0.5	16.7	0.0	10.7	0.6				14.0
Queue Length 95th (m)	8.4	51.8		m1.5	26.7	m0.0	22.8	9.9				34.1
Internal Link Dist (m)		91.1			392.2			120.8				98.1
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	297	3993		183	3943	1182	256	510				501
Starvation Cap Reductn	0	0		0	0	0	0	0				0
Spillback Cap Reductn	0	0		0	0	0	0	0				0
Storage Cap Reductn	0	0		0	0	0	0	0				0
Reduced v/c Ratio	0.20	0.40		0.09	0.32	0.01	0.14	0.05				0.23

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 5.7

Intersection LOS: A

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

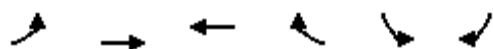
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024

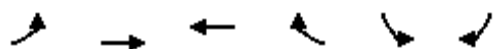


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1358	1141	0	414	57
Future Volume (vph)	0	1358	1141	0	414	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	34
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1400	1176	0	433	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.1	40.1		13.4	13.4
Actuated g/C Ratio		0.61	0.61		0.20	0.20
v/c Ratio		0.47	0.42		0.62	0.16
Control Delay		7.9	7.5		27.8	12.5
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		7.9	7.5		27.8	12.5
LOS		A	A		C	B
Approach Delay		7.9	7.5		26.1	
Approach LOS		A	A		C	
Queue Length 50th (m)		31.0	25.0		25.9	2.1
Queue Length 95th (m)		47.5	39.2		39.1	10.8
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		2989	2777		1821	793
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.47	0.42		0.24	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 65.5

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.6

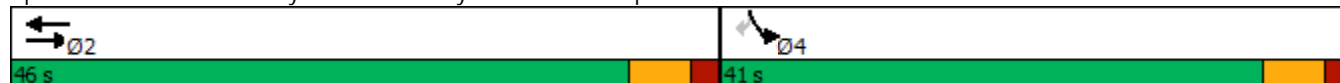
Intersection LOS: B

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1548	0	0	1228	423	851
Future Volume (vph)	1548	0	0	1228	423	851
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2992	1321
Flt Permitted					0.976	
Satd. Flow (perm)	4839	0	0	4347	2992	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					16	16
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	1629	0	0	1293	893	448
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.6			6.6	6.9	6.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.5			63.5	41.3	41.3
Actuated g/C Ratio	0.54			0.54	0.35	0.35
v/c Ratio	0.63			0.55	0.85	0.95
Control Delay	20.8			19.5	43.6	67.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	20.8			19.5	43.6	67.7
LOS	C			B	D	E
Approach Delay	20.8			19.5	51.7	
Approach LOS	C			B	D	
Queue Length 50th (m)	101.2			75.8	101.4	112.8
Queue Length 95th (m)	117.4			90.0	128.5	#186.3
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2596			2332	1101	491
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.63			0.55	0.81	0.91

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 118.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	55	126	0	7	25	631	43	2	1426	2
Future Volume (vph)	2	0	55	126	0	7	25	631	43	2	1426	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	15.0		0.0	30.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	3469	0	1785	3500	0
Flt Permitted	0.752			0.718			0.121			0.372		
Satd. Flow (perm)	1413	1597	0	1349	1597	0	227	3469	0	699	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			168			12				
Link Speed (k/h)		40			40			50				50
Link Distance (m)		110.9			194.9			286.9				482.7
Travel Time (s)		10.0			17.5			20.7				34.8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	60	0	137	8	0	27	733	0	2	1552	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	34.6	34.6		34.6	34.6		45.4	45.4		45.4	45.4	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.8%	56.8%		56.8%	56.8%	
Maximum Green (s)	28.0	28.0		28.0	28.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.9	6.9		6.9	6.9	

Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	14.6	14.6		14.6	14.6		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.71	0.71		0.71	0.71	
v/c Ratio	0.01	0.18		0.56	0.02		0.17	0.30		0.00	0.62	
Control Delay	24.5	10.5		38.3	0.1		10.0	6.3		6.5	9.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.5	10.5		38.3	0.1		10.0	6.3		6.5	9.9	
LOS	C	B		D	A		B	A		A	A	
Approach Delay		11.0			36.2			6.4			9.9	
Approach LOS		B			D			A			A	
Queue Length 50th (m)	0.3	1.0		20.5	0.0		1.4	22.2		0.1	68.3	
Queue Length 95th (m)	2.0	10.0		35.2	0.0		6.9	39.4		1.0	115.5	
Internal Link Dist (m)		86.9			170.9			262.9			458.7	
Turn Bay Length (m)	15.0			15.0			30.0			15.0		
Base Capacity (vph)	494	593		472	668		161	2476		498	2495	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.10		0.29	0.01		0.17	0.30		0.00	0.62	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.4

Intersection LOS: B

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15




















Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Lanes, Volumes, Timings

20: Stonegate Drive/Site Access 3 & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2126	13	19	1336	51	2	0	75	63	0	77
Future Volume (vph)	51	2126	13	19	1336	51	2	0	75	63	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	190.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	4871	0	1785	4615	0	0	1583	0	1785	1597	0
Flt Permitted	0.153			0.056				0.992		0.646		
Satd. Flow (perm)	287	4871	0	105	4615	0	0	1572	0	1214	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10			28			69	
Link Speed (k/h)		60			60			40			20	
Link Distance (m)		542.7			294.3			223.4			70.7	
Travel Time (s)		32.6			17.7			20.1			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	39%	0%	11%	0%	0%	0%	3%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	2325	0	21	1507	0	0	84	0	68	84	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	104.8	104.8		104.8	104.8		35.2	35.2		35.2	35.2	
Total Split (%)	74.9%	74.9%		74.9%	74.9%		25.1%	25.1%		25.1%	25.1%	
Maximum Green (s)	98.2	98.2		98.2	98.2		28.3	28.3		28.3	28.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6			6.9		6.9	6.9	

Lanes, Volumes, Timings

20: Stonegate Drive/Site Access 3 & Mayfield Road

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	112.6	112.6		112.6	112.6			13.9		13.9	13.9	
Actuated g/C Ratio	0.80	0.80		0.80	0.80			0.10		0.10	0.10	
v/c Ratio	0.24	0.59		0.25	0.41			0.46		0.57	0.38	
Control Delay	4.2	4.7		16.4	8.7			48.0		78.1	22.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.2	4.7		16.4	8.7			48.0		78.1	22.4	
LOS	A	A		B	A			D		E	C	
Approach Delay		4.7			8.8			48.0			47.3	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	2.4	50.8		2.5	73.8			15.7		19.4	4.1	
Queue Length 95th (m)	m3.4	m62.0		m8.5	96.3			32.5		35.3	20.3	
Internal Link Dist (m)		518.7			270.3			199.4			46.7	
Turn Bay Length (m)	30.0			190.0						15.0		
Base Capacity (vph)	230	3918		84	3714			340		245	377	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.24	0.59		0.25	0.41			0.25		0.28	0.22	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 63.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 20: Stonegate Drive/Site Access 3 & Mayfield Road



Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	332	1016	88	254	1213	766	106	377	193	476	272	287
Future Volume (vph)	332	1016	88	254	1213	766	106	377	193	476	272	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4834	0	1785	4980	1597	1785	3371	0	1771	1879	1597
Flt Permitted	0.102			0.147			0.589			0.195		
Satd. Flow (perm)	190	4834	0	276	4980	1576	1098	3371	0	363	1879	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				421		61				240
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	339	1127	0	259	1238	782	108	582	0	486	278	293
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	18.0	53.0		15.0	50.0	50.0	35.0	35.0		32.0	67.0	67.0
Total Split (%)	13.3%	39.3%		11.1%	37.0%	37.0%	25.9%	25.9%		23.7%	49.6%	49.6%
Maximum Green (s)	15.0	46.4		12.0	43.4	43.4	28.1	28.1		29.0	60.1	60.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		3.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	70.8	46.4		61.8	43.4	46.4	25.4	25.4		64.2	57.3	57.3
Actuated g/C Ratio	0.52	0.34		0.46	0.32	0.34	0.19	0.19		0.48	0.42	0.42
v/c Ratio	0.99	0.68		0.89	0.77	0.96	0.52	0.85		0.96	0.35	0.37
Control Delay	94.1	37.5		47.3	40.6	39.9	58.4	59.8		64.5	27.2	6.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	94.1	37.5		47.3	40.6	39.9	58.4	59.8		64.5	27.2	6.4
LOS	F	D		D	D	D	E	E		E	C	A
Approach Delay		50.6			41.1			59.6			38.6	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	-83.7	97.9		46.9	126.5	146.4	27.1	74.5		106.6	50.7	8.5
Queue Length 95th (m)	#155.1	115.4		m#94.4	m141.9	m#207.2	47.0	96.1		#175.9	72.5	27.3
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	342	1668		291	1600	817	228	749		506	836	827
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.99	0.68		0.89	0.77	0.96	0.47	0.78		0.96	0.33	0.35

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 13 (10%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 45.5

Intersection LOS: D

Intersection Capacity Utilization 103.2%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

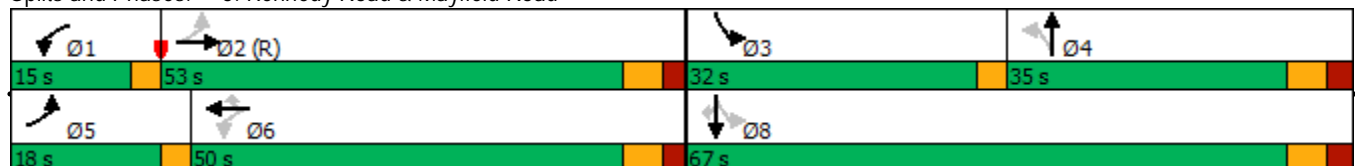
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.


Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	1356	318	46	1832	167	426	81	51	131	58	169
Future Volume (vph)	102	1356	318	46	1832	167	426	81	51	131	58	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%			0%			0%		
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581
Flt Permitted	0.055			0.147			0.623			0.703		
Satd. Flow (perm)	98	4885	1558	268	5079	1401	1171	1879	1521	1270	1824	1581
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			324			170			54			119
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			229.3	
Travel Time (s)		15.7			20.4			34.2			16.5	
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	1384	324	47	1869	170	435	83	52	134	59	172
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.0	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	9.0	66.0	66.0	9.0	66.0	66.0	20.0	60.0	60.0	40.0	40.0	40.0
Total Split (%)	6.7%	48.9%	48.9%	6.7%	48.9%	48.9%	14.8%	44.4%	44.4%	29.6%	29.6%	29.6%
Maximum Green (s)	6.0	59.3	59.3	6.0	59.3	59.3	17.0	53.1	53.1	33.1	33.1	33.1
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.7	6.7	3.0	6.7	6.7	3.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0	0	0	0
Act Effect Green (s)	85.4	73.6	73.6	79.7	69.0	69.0	43.4	39.5	39.5	19.5	19.5	19.5
Actuated g/C Ratio	0.63	0.55	0.55	0.59	0.51	0.51	0.32	0.29	0.29	0.14	0.14	0.14
v/c Ratio	0.58	0.52	0.33	0.20	0.72	0.21	0.96	0.15	0.11	0.73	0.22	0.52
Control Delay	29.5	25.1	10.1	13.1	28.7	3.7	75.4	34.3	7.8	76.6	50.7	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	25.1	10.1	13.1	28.7	3.7	75.4	34.3	7.8	76.6	50.7	22.8
LOS	C	C	B	B	C	A	E	C	A	E	D	C
Approach Delay		22.7			26.3			63.3			47.0	
Approach LOS		C			C			E			D	
Queue Length 50th (m)	16.0	104.2	27.0	4.7	144.6	0.0	109.3	17.3	0.0	36.4	14.8	13.3
Queue Length 95th (m)	m27.5	m134.2	m40.3	11.5	189.0	13.7	#148.2	28.2	9.0	56.4	26.9	34.7
Internal Link Dist (m)		237.4			316.3			451.3			205.3	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	178	2664	996	234	2597	799	454	739	631	311	447	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.52	0.33	0.20	0.72	0.21	0.96	0.11	0.08	0.43	0.13	0.36

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 86.0%

ICU Level of Service E

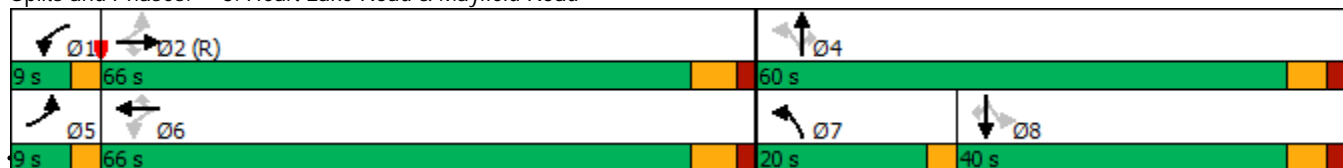
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2028 Future Total PM Peak 10:22 pm 10-30-2024 with road improvements


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	69	1421	27	28	1555	19	20	1	17	12	0	55
Future Volume (vph)	69	1421	27	28	1555	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4821	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.138			0.157			0.701				0.930	
Satd. Flow (perm)	254	4821	0	292	5079	1544	1313	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		18			40	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1508	0	29	1620	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	117.1	117.1		117.1	117.1	117.1	9.4	9.4			9.4	
Actuated g/C Ratio	0.87	0.87		0.87	0.87	0.87	0.07	0.07			0.07	
v/c Ratio	0.33	0.36		0.11	0.37	0.01	0.23	0.15			0.50	
Control Delay	7.2	2.6		1.1	0.7	0.0	64.5	26.3			29.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	7.2	2.6		1.1	0.7	0.0	64.5	26.3			29.3	
LOS	A	A		A	A	A	E	C			C	
Approach Delay		2.8			0.7			46.3			29.3	
Approach LOS		A			A			D			C	
Queue Length 50th (m)	3.3	26.1		0.2	4.0	0.0	5.7	0.3			8.0	
Queue Length 95th (m)	11.6	40.1		m0.5	7.3	m0.0	14.5	8.4			m10.3	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	220	4181		253	4404	1342	324	406			399	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.33	0.36		0.11	0.37	0.01	0.06	0.05			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 2.8

Intersection LOS: A

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

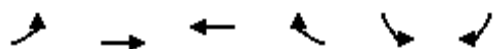
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024

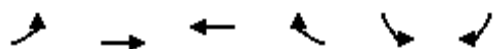


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1013	1987	0	179	18
Future Volume (vph)	0	1013	1987	0	179	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3153	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3153	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					1	2
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1034	2028	0	185	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		43.1	43.1		9.2	9.2
Actuated g/C Ratio		0.67	0.67		0.14	0.14
v/c Ratio		0.32	0.60		0.41	0.08
Control Delay		5.0	7.0		26.9	21.8
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.0	7.0		26.9	21.8
LOS		A	A		C	C
Approach Delay		5.0	7.0		26.4	
Approach LOS		A	A		C	
Queue Length 50th (m)		15.9	41.0		10.3	1.6
Queue Length 95th (m)		24.6	60.5		18.6	6.7
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3209	3367		1724	750
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.32	0.60		0.11	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64.4

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 7.6

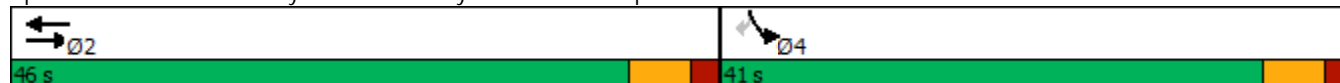
Intersection LOS: A

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

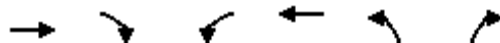
10-30-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1115	0	0	2165	718	972
Future Volume (vph)	1115	0	0	2165	718	972
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3130	1275
Flt Permitted					0.970	
Satd. Flow (perm)	4794	0	0	4794	3130	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					47	47
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						45%
Lane Group Flow (vph)	1138	0	0	2209	1179	546
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	-3.0	-3.0
Total Lost Time (s)	6.6			6.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.4			58.4	50.7	50.7
Actuated g/C Ratio	0.49			0.49	0.42	0.42
v/c Ratio	0.49			0.94	0.87	0.96
Control Delay	21.5			38.9	38.5	61.3
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	21.5			38.9	38.5	61.3
LOS	C			D	D	E
Approach Delay	21.5			38.9	45.7	
Approach LOS	C			D	D	
Queue Length 50th (m)	67.5			185.6	130.3	132.8
Queue Length 95th (m)	80.5			#218.5	162.3	#217.6
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2340			2340	1363	571
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.49			0.94	0.87	0.96

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.6

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 37.3

Intersection LOS: D

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

18: Kennedy Road & Snellview Boulevard/Site Access #1



























10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	44	80	0	4	75	1266	135	7	911	4
Future Volume (Veh/h)	2	0	44	80	0	4	75	1266	135	7	911	4
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Hourly flow rate (vph)	2	0	46	87	0	4	78	1319	147	8	949	4
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	287											
pX, platoon unblocked	0.95	0.95		0.95	0.95	0.95				0.95		
vC, conflicting volume	1786	2589	476	2085	2518	733	953			1466		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1728	2569	476	2041	2494	623	953			1392		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	91	0	100	99	89			98		
cM capacity (veh/h)	50	21	540	27	24	414	729			475		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3		
Volume Total	2	46	87	4	78	879	587	8	633	320		
Volume Left	2	0	87	0	78	0	0	8	0	0		
Volume Right	0	46	0	4	0	0	147	0	0	4		
cSH	50	540	27	414	729	1700	1700	475	1700	1700		
Volume to Capacity	0.04	0.09	3.26	0.01	0.11	0.52	0.35	0.02	0.37	0.19		
Queue Length 95th (m)	1.0	2.2	Err	0.2	2.9	0.0	0.0	0.4	0.0	0.0		
Control Delay (s)	80.4	12.3	Err	13.8	10.5	0.0	0.0	12.7	0.0	0.0		
Lane LOS	F	B	F	B	B			B				
Approach Delay (s)	15.1		9560.1		0.5			0.1				
Approach LOS	C		F									
Intersection Summary												
Average Delay				329.7								
Intersection Capacity Utilization				63.7%	ICU Level of Service					B		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

20: Stonegate Drive/Site Access #3 & Mayfield Road





















10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	83	1673	17	61	2141	83	1	0	58	57	0	69
Future Volume (Veh/h)	83	1673	17	61	2141	83	1	0	58	57	0	69
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	88	1780	18	65	2278	88	1	0	62	61	0	73
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2366			1798			2927	4461	602	3283	4426	803
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2366			1798			2927	4461	602	3283	4426	803
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	58			81			68	100	86	0	100	78
cM capacity (veh/h)	209			348			3	1	443	2	1	331
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2	
Volume Total	88	712	712	374	65	911	911	544	63	61	73	
Volume Left	88	0	0	0	65	0	0	0	1	61	0	
Volume Right	0	0	0	18	0	0	0	88	62	0	73	
cSH	209	1700	1700	1700	348	1700	1700	1700	138	2	331	
Volume to Capacity	0.42	0.42	0.42	0.22	0.19	0.54	0.54	0.32	0.46	33.26	0.22	
Queue Length 95th (m)	15.5	0.0	0.0	0.0	5.4	0.0	0.0	0.0	16.5	Err	6.6	
Control Delay (s)	34.2	0.0	0.0	0.0	17.7	0.0	0.0	0.0	51.2	Err	19.0	
Lane LOS	D				C				F	F	C	
Approach Delay (s)	1.6				0.5				51.2	4562.1		
Approach LOS									F	F		
Intersection Summary												
Average Delay				137.1								
Intersection Capacity Utilization			67.6%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

27: Heart Lake Road & Site Access #2




























10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	72	65	0	3	121	121	107	6	223	4
Future Volume (Veh/h)	4	0	72	65	0	3	121	121	107	6	223	4
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	78	71	0	3	132	132	116	7	242	4
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	229											
pX, platoon unblocked												
vC, conflicting volume	657	770	244	788	714	190	246				248	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	657	770	244	788	714	190	246				248	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	99	100	90	73	100	100	90				99	
cM capacity (veh/h)	349	297	800	259	320	857	1332				1330	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	4	78	71	3	132	248	7	246				
Volume Left	4	0	71	0	132	0	7	0				
Volume Right	0	78	0	3	0	116	0	4				
cSH	349	800	259	857	1332	1700	1330	1700				
Volume to Capacity	0.01	0.10	0.27	0.00	0.10	0.15	0.01	0.14				
Queue Length 95th (m)	0.3	2.6	8.7	0.1	2.6	0.0	0.1	0.0				
Control Delay (s)	15.4	10.0	24.1	9.2	8.0	0.0	7.7	0.0				
Lane LOS	C	A	C	A	A		A					
Approach Delay (s)	10.3		23.5		2.8		0.2					
Approach LOS	B		C									
Intersection Summary												
Average Delay				4.7								
Intersection Capacity Utilization				39.0%	ICU Level of Service				A			
Analysis Period (min)				15								

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	332	1016	88	254	1213	766	106	377	193	476	272	287
Future Volume (vph)	332	1016	88	254	1213	766	106	377	193	476	272	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4834	0	1785	4980	1597	1785	3371	0	1771	1879	1597
Flt Permitted	0.102			0.147			0.589			0.195		
Satd. Flow (perm)	190	4834	0	276	4980	1576	1098	3371	0	363	1879	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				421		61				240
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	339	1127	0	259	1238	782	108	582	0	486	278	293
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	18.0	53.0		15.0	50.0	50.0	35.0	35.0		32.0	67.0	67.0
Total Split (%)	13.3%	39.3%		11.1%	37.0%	37.0%	25.9%	25.9%		23.7%	49.6%	49.6%
Maximum Green (s)	15.0	46.4		12.0	43.4	43.4	28.1	28.1		29.0	60.1	60.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		3.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	70.8	46.4		61.8	43.4	46.4	25.4	25.4		64.2	57.3	57.3
Actuated g/C Ratio	0.52	0.34		0.46	0.32	0.34	0.19	0.19		0.48	0.42	0.42
v/c Ratio	0.99	0.68		0.89	0.77	0.96	0.52	0.85		0.96	0.35	0.37
Control Delay	94.1	37.5		65.9	40.9	36.5	58.4	59.8		64.5	27.2	6.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	94.1	37.5		65.9	40.9	36.5	58.4	59.8		64.5	27.2	6.4
LOS	F	D		E	D	D	E	E		E	C	A
Approach Delay		50.6			42.2			59.6			38.6	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	-83.7	97.9		54.7	67.3	49.7	27.1	74.5		106.6	50.7	8.5
Queue Length 95th (m)	#155.1	115.4		#108.4	102.6	#167.7	47.0	96.1		#175.9	72.5	27.3
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	342	1668		291	1600	817	228	749		506	836	827
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.99	0.68		0.89	0.77	0.96	0.47	0.78		0.96	0.33	0.35

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 13 (10%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 45.9

Intersection LOS: D

Intersection Capacity Utilization 103.2%

ICU Level of Service G

Analysis Period (min) 15

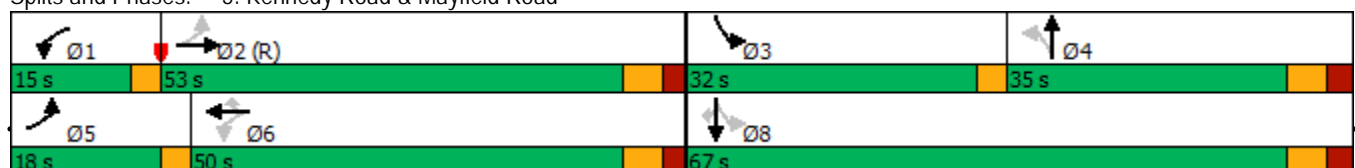
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	102	1356	318	46	1832	167	426	81	51	131	58	169
Future Volume (vph)	102	1356	318	46	1832	167	426	81	51	131	58	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581
Flt Permitted	0.055			0.147			0.623			0.703		
Satd. Flow (perm)	98	4885	1558	268	5079	1401	1171	1879	1521	1270	1824	1581
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			324			170			54			119
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			229.3	
Travel Time (s)		15.7			20.4			34.2			16.5	
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	1384	324	47	1869	170	435	83	52	134	59	172
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.0	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	9.0	66.0	66.0	9.0	66.0	66.0	20.0	60.0	60.0	40.0	40.0	40.0
Total Split (%)	6.7%	48.9%	48.9%	6.7%	48.9%	48.9%	14.8%	44.4%	44.4%	29.6%	29.6%	29.6%
Maximum Green (s)	6.0	59.3	59.3	6.0	59.3	59.3	17.0	53.1	53.1	33.1	33.1	33.1
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.7	6.7	3.0	6.7	6.7	3.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0	0	0	0
Act Effect Green (s)	85.4	73.6	73.6	79.7	69.0	69.0	43.4	39.5	39.5	19.5	19.5	19.5
Actuated g/C Ratio	0.63	0.55	0.55	0.59	0.51	0.51	0.32	0.29	0.29	0.14	0.14	0.14
v/c Ratio	0.58	0.52	0.33	0.20	0.72	0.21	0.96	0.15	0.11	0.73	0.22	0.52
Control Delay	37.6	23.1	9.7	13.1	28.7	3.7	75.4	34.3	7.8	76.6	50.7	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	23.1	9.7	13.1	28.7	3.7	75.4	34.3	7.8	76.6	50.7	22.8
LOS	D	C	A	B	C	A	E	C	A	E	D	C
Approach Delay		21.5			26.3			63.3			47.0	
Approach LOS		C			C			E			D	
Queue Length 50th (m)	17.8	93.5	26.2	4.7	144.6	0.0	109.3	17.3	0.0	36.4	14.8	13.3
Queue Length 95th (m)	0.0	104.7	42.5	11.5	189.0	13.7	#148.2	28.2	9.0	56.4	26.9	34.7
Internal Link Dist (m)		237.4			316.3			451.3			205.3	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	178	2664	996	234	2597	799	454	739	631	311	447	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.52	0.33	0.20	0.72	0.21	0.96	0.11	0.08	0.43	0.13	0.36

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 30.4

Intersection LOS: C

Intersection Capacity Utilization 86.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


























Splits and Phases: 8: Heart Lake Road & Mayfield Road



Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	69	1421	27	28	1555	19	20	1	17	12	0	55
Future Volume (vph)	69	1421	27	28	1555	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4821	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.138			0.157			0.701				0.930	
Satd. Flow (perm)	254	4821	0	292	5079	1544	1313	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		18			40	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1508	0	29	1620	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	117.1	117.1		117.1	117.1	117.1	9.4	9.4			9.4	
Actuated g/C Ratio	0.87	0.87		0.87	0.87	0.87	0.07	0.07			0.07	
v/c Ratio	0.33	0.36		0.11	0.37	0.01	0.23	0.15			0.50	
Control Delay	7.2	2.6		1.1	0.6	0.0	64.5	26.3			41.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	7.2	2.6		1.1	0.6	0.0	64.5	26.3			41.6	
LOS	A	A		A	A	A	E	C			D	
Approach Delay		2.8			0.6			46.3			41.6	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	3.3	26.1		0.2	4.0	0.0	5.7	0.3			8.2	
Queue Length 95th (m)	11.6	40.1		m0.5	7.3	m0.0	14.5	8.4			24.0	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	220	4181		253	4404	1342	324	406			399	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.33	0.36		0.11	0.37	0.01	0.06	0.05			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 3.1

Intersection LOS: A

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

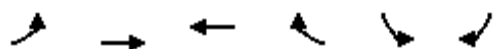
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024

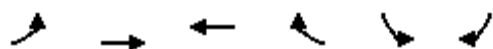


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1013	1987	0	179	18
Future Volume (vph)	0	1013	1987	0	179	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3153	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3153	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					1	2
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1034	2028	0	185	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		43.1	43.1		9.2	9.2
Actuated g/C Ratio		0.67	0.67		0.14	0.14
v/c Ratio		0.32	0.60		0.41	0.08
Control Delay		5.0	7.0		26.9	21.8
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.0	7.0		26.9	21.8
LOS		A	A		C	C
Approach Delay		5.0	7.0		26.4	
Approach LOS		A	A		C	
Queue Length 50th (m)		15.9	41.0		10.3	1.6
Queue Length 95th (m)		24.6	60.5		18.6	6.7
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3209	3367		1724	750
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.32	0.60		0.11	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64.4

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 7.6

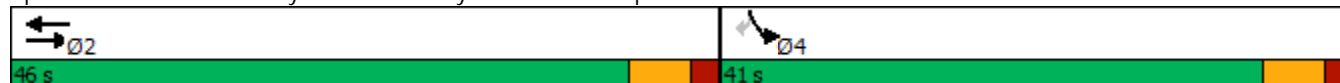
Intersection LOS: A

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

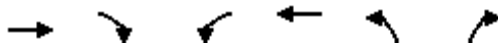
10-30-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1115	0	0	2165	718	972
Future Volume (vph)	1115	0	0	2165	718	972
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3130	1275
Flt Permitted					0.970	
Satd. Flow (perm)	4794	0	0	4794	3130	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					47	47
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						45%
Lane Group Flow (vph)	1138	0	0	2209	1179	546
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	-3.0	-3.0
Total Lost Time (s)	6.6			6.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.4			58.4	50.7	50.7
Actuated g/C Ratio	0.49			0.49	0.42	0.42
v/c Ratio	0.49			0.94	0.87	0.96
Control Delay	21.5			38.9	38.5	61.3
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	21.5			38.9	38.5	61.3
LOS	C			D	D	E
Approach Delay	21.5			38.9	45.7	
Approach LOS	C			D	D	
Queue Length 50th (m)	67.5			185.6	130.3	132.8
Queue Length 95th (m)	80.5			#218.5	162.3	#217.6
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2340			2340	1363	571
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.49			0.94	0.87	0.96

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.6

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 37.3

Intersection LOS: D

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	44	80	0	4	75	1266	135	7	911	4
Future Volume (vph)	2	0	44	80	0	4	75	1266	135	7	911	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	0.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	3454	0	1785	3497	0
Flt Permitted	0.755			0.727			0.288			0.144		
Satd. Flow (perm)	1419	1597	0	1366	1597	0	541	3454	0	271	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			53			20			1	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		110.9			194.9			286.9			482.7	
Travel Time (s)		10.0			17.5			20.7			34.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	46	0	87	4	0	78	1466	0	8	953	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	34.6	34.6		34.6	34.6		45.4	45.4		45.4	45.4	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.8%	56.8%		56.8%	56.8%	
Maximum Green (s)	28.0	28.0		28.0	28.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.9	6.9		6.9	6.9	

Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.7	12.7		12.7	12.7		58.9	58.9		58.9	58.9	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.74	0.74		0.74	0.74	
v/c Ratio	0.01	0.14		0.40	0.01		0.20	0.57		0.04	0.37	
Control Delay	27.5	3.7		36.1	0.0		6.8	7.7		5.6	5.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.5	3.7		36.1	0.0		6.8	7.7		5.6	5.8	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		4.7			34.5			7.7			5.8	
Approach LOS		A			C			A			A	
Queue Length 50th (m)	0.3	0.0		12.8	0.0		3.9	57.1		0.4	29.8	
Queue Length 95th (m)	2.1	4.0		25.6	0.0		11.2	87.3		2.0	46.1	
Internal Link Dist (m)		86.9			170.9			262.9			458.7	
Turn Bay Length (m)	15.0						30.0			30.0		
Base Capacity (vph)	496	610		478	593		398	2550		199	2576	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.08		0.18	0.01		0.20	0.57		0.04	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 77.4%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Lanes, Volumes, Timings

20: Stonegate Drive/Site Access #3 & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	83	1673	17	61	2141	83	1	0	58	57	0	69
Future Volume (vph)	83	1673	17	61	2141	83	1	0	58	57	0	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	190.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	4924	0	1785	5002	0	0	1596	0	1785	1597	0
Flt Permitted	0.044			0.118				0.995		0.779		
Satd. Flow (perm)	83	4924	0	222	5002	0	0	1590	0	1464	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			8			53			91	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		542.7			294.3			223.4			79.4	
Travel Time (s)		32.6			17.7			20.1			5.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	1798	0	65	2366	0	0	63	0	61	73	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	10.0	100.0		90.0	90.0		35.0	35.0		35.0	35.0	
Total Split (%)	7.4%	74.1%		66.7%	66.7%		25.9%	25.9%		25.9%	25.9%	
Maximum Green (s)	7.0	93.4		83.4	83.4		28.1	28.1		28.1	28.1	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	3.0	6.6		6.6	6.6			6.9		6.9	6.9	

Lanes, Volumes, Timings

20: Stonegate Drive/Site Access #3 & Mayfield Road

10-30-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead			Lag		Lag						
Lead-Lag Optimize?	Yes			Yes		Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		Max	Max		None	None		None	None	
Walk Time (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effect Green (s)	112.1	108.5		97.7	97.7			13.0		13.0	13.0	
Actuated g/C Ratio	0.83	0.80		0.72	0.72			0.10		0.10	0.10	
v/c Ratio	0.53	0.45		0.41	0.65			0.32		0.44	0.31	
Control Delay	28.6	3.4		25.5	19.0			22.6		67.2	9.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	28.6	3.4		25.5	19.0			22.6		67.2	9.9	
LOS	C	A		C	B			C		E	A	
Approach Delay		4.6			19.1			22.6			36.0	
Approach LOS		A			B			C			D	
Queue Length 50th (m)	9.4	36.6		9.3	136.6			2.6		16.5	0.0	
Queue Length 95th (m)	m17.9	m47.1		m19.8	m226.4			16.8		31.1	10.3	
Internal Link Dist (m)		518.7			270.3			199.4			55.4	
Turn Bay Length (m)	30.0			190.0						15.0		
Base Capacity (vph)	173	3959		160	3622			372		304	404	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.51	0.45		0.41	0.65			0.17		0.20	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 13.6

Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 20: Stonegate Drive/Site Access #3 & Mayfield Road



Lanes, Volumes, Timings

27: Heart Lake Road & Site Access #2




























10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	72	65	0	3	121	121	107	6	223	6
Future Volume (vph)	4	0	72	65	0	3	121	121	107	6	223	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	15.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	1729	0	1785	1836	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1785	1597	0	1785	1597	0	1785	1729	0	1785	1836	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		94.8			96.4			229.3			600.8	
Travel Time (s)		8.5			8.7			16.5			43.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	78	0	71	3	0	132	248	0	7	249	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.1%											
Analysis Period (min)	15											
ICU Level of Service A												

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	220	1622	92	154	919	379	83	166	256	745	620	395
Future Volume (vph)	220	1622	92	154	919	379	83	166	256	745	620	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4830	0	1733	4663	1479	1594	3106	0	1719	1842	1521
Flt Permitted	0.127			0.141			0.425			0.239		
Satd. Flow (perm)	215	4830	0	257	4663	1479	712	3106	0	432	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				218		163				275
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	1749	0	157	938	387	85	430	0	760	633	403
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	35.0		10.0	35.0	35.0	10.0	40.0		55.0	85.0	85.0
Total Split (%)	7.1%	25.0%		7.1%	25.0%	25.0%	7.1%	28.6%		39.3%	60.7%	60.7%
Maximum Green (s)	7.0	28.4		7.0	28.4	28.4	7.0	33.1		52.0	78.1	78.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	6.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	56.8	32.9		50.0	28.4	28.4	28.4	17.5		79.4	62.6	62.6
Actuated g/C Ratio	0.41	0.24		0.36	0.20	0.20	0.20	0.12		0.57	0.45	0.45
v/c Ratio	0.72	1.53		0.56	0.99	0.82	0.45	0.81		1.01	0.77	0.49
Control Delay	47.2	278.4		48.6	73.8	30.6	31.9	48.7		68.4	39.4	9.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	47.2	278.4		48.6	73.8	30.6	31.9	48.7		68.4	39.4	9.6
LOS	D	F		D	E	C	C	D		E	D	A
Approach Delay		252.1			59.8			45.9			45.0	
Approach LOS		F			E			D			D	
Queue Length 50th (m)	31.0	~260.5		29.3	85.8	18.5	11.5	41.0		~203.2	153.7	22.9
Queue Length 95th (m)	#100.9	#312.0		57.5	#130.0	#66.6	18.4	58.0		#277.7	187.5	47.0
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	311	1141		281	945	473	188	858		750	1027	956
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.72	1.53		0.56	0.99	0.82	0.45	0.50		1.01	0.62	0.42

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.53

Intersection Signal Delay: 119.8

Intersection LOS: F

Intersection Capacity Utilization 114.4%

ICU Level of Service H

Analysis Period (min) 15

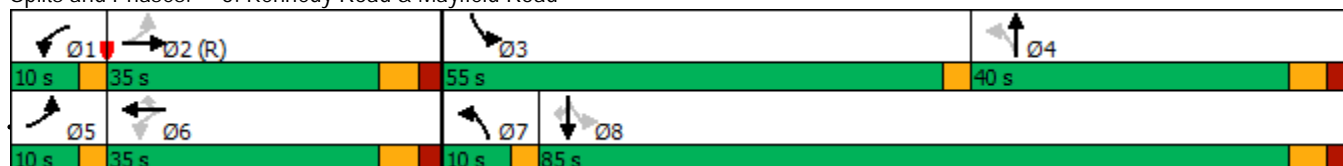
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024

																		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations		  			  						 							
Traffic Volume (vph)	79	2146	661	188	1225	60	225	24	37	163	121	144						
Future Volume (vph)	79	2146	661	188	1225	60	225	24	37	163	121	144						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900						
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5						
Grade (%)	0%		0%				0%			0%								
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0							
Storage Lanes	1	1		1	1		1	1		1	1							
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5							
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521						
Flt Permitted	0.211	0.052		0.557			0.742											
Satd. Flow (perm)	381	4932	1551	91	4706	1597	960	1879	1413	1291	1842	1521						
Right Turn on Red			Yes			Yes			Yes			Yes						
Satd. Flow (RTOR)			568			61			52			80						
Link Speed (k/h)	60				60			50			50							
Link Distance (m)	261.4				340.3			475.3			229.3							
Travel Time (s)	15.7				20.4			34.2			16.5							
Confl. Peds. (#/hr)																		
Confl. Bikes (#/hr)																		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98						
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%						
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%						
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0						
Parking (#/hr)																		
Mid-Block Traffic (%)	0%				0%			0%			0%							
Shared Lane Traffic (%)																		
Lane Group Flow (vph)	81	2190	674	192	1250	61	230	24	38	166	123	147						
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(m)	3.5				3.5			3.5			3.5							
Link Offset(m)	0.0				0.0			0.0			0.0							
Crosswalk Width(m)	4.8				4.8			4.8			4.8							
Two way Left Turn Lane																		
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01						
Turning Speed (k/h)	25	15		25	15		25	15		25	15							
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm						
Protected Phases	2		1		6	7		4			8							
Permitted Phases	2	2		6	6		4	4		8	8							
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8						
Switch Phase																		
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0						
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9						
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0						
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%						
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1						
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0						
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9						
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	3.0	6.9	6.9	6.9	6.9	6.9						

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	74.3	74.3	74.3	97.9	94.2	94.2	36.1	32.2	32.2	23.2	23.2	23.2
Actuated g/C Ratio	0.53	0.53	0.53	0.70	0.67	0.67	0.26	0.23	0.23	0.17	0.17	0.17
v/c Ratio	0.40	0.84	0.62	0.76	0.39	0.06	0.83	0.06	0.10	0.78	0.40	0.46
Control Delay	23.4	25.9	5.2	54.5	11.3	2.5	71.4	39.1	5.8	78.5	54.5	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	25.9	5.2	54.5	11.3	2.5	71.4	39.1	5.8	78.5	54.5	27.7
LOS	C	C	A	D	B	A	E	D	A	E	D	C
Approach Delay	21.1			16.5			60.2			54.6		
Approach LOS	C			B			E			D		
Queue Length 50th (m)	13.9	143.9	34.0	38.0	55.4	0.0	58.2	5.5	0.0	46.9	32.4	17.2
Queue Length 95th (m)	m18.7	179.2	24.4	#107.5	78.3	5.8	79.0	12.6	5.9	68.9	49.1	36.7
Internal Link Dist (m)	237.4			316.3			451.3			205.3		
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	202	2617	1089	253	3165	1093	276	578	470	314	448	430
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.84	0.62	0.76	0.39	0.06	0.83	0.04	0.08	0.53	0.27	0.34

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.8

Intersection LOS: C

Intersection Capacity Utilization 89.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2033 Future Total Traffic Volumes 11:28 pm 10-30-2024 with traffic signals


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	53	1778	37	14	1425	10	33	2	20	21	3	78
Future Volume (vph)	53	1778	37	14	1425	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4815	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.140			0.083			0.515				0.923	
Satd. Flow (perm)	248	4815	0	132	4749	1418	914	1597	0	0	1474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				28		12			31	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	2017	0	16	1583	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	114.0	114.0		114.0	114.0	114.0	13.4	13.4				13.4
Actuated g/C Ratio	0.81	0.81		0.81	0.81	0.81	0.10	0.10				0.10
v/c Ratio	0.29	0.51		0.15	0.41	0.01	0.43	0.15				0.67
Control Delay	8.2	5.0		4.6	3.3	0.0	72.6	36.5				62.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0				0.0
Total Delay	8.2	5.0		4.6	3.3	0.0	72.6	36.5				62.3
LOS	A	A		A	A	A	E	D				E
Approach Delay		5.1			3.3			58.4				62.3
Approach LOS		A			A			E				E
Queue Length 50th (m)	3.4	55.4		0.5	19.1	0.0	10.4	3.3				23.4
Queue Length 95th (m)	11.8	83.2		m11.1	m27.4	m0.0	22.0	12.3				43.3
Internal Link Dist (m)		91.1			392.2			120.8				98.1
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	201	3921		107	3866	1159	283	503				478
Starvation Cap Reductn	0	0		0	0	0	0	0				0
Spillback Cap Reductn	0	0		0	0	0	0	0				0
Storage Cap Reductn	0	0		0	0	0	0	0				0
Reduced v/c Ratio	0.29	0.51		0.15	0.41	0.01	0.13	0.05				0.24

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 6.9

Intersection LOS: A

Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

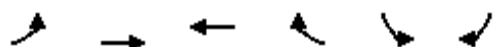
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024

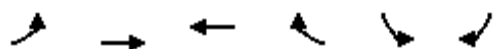


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1725	1409	0	458	62
Future Volume (vph)	0	1725	1409	0	458	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	15
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1760	1438	0	473	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.1	40.1		14.2	14.2
Actuated g/C Ratio		0.60	0.60		0.21	0.21
v/c Ratio		0.60	0.52		0.65	0.18
Control Delay		9.6	8.8		28.0	17.9
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		9.6	8.8		28.0	17.9
LOS		A	A		C	B
Approach Delay		9.6	8.8		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)		45.3	34.7		28.8	4.8
Queue Length 95th (m)		68.7	53.6		42.6	14.1
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		2951	2741		1798	774
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.60	0.52		0.26	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 66.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.7

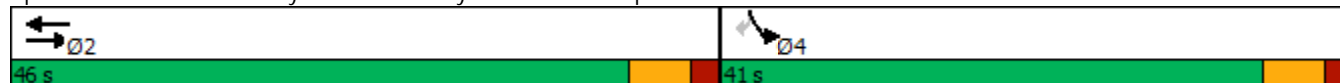
Intersection LOS: B

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1967	0	0	1558	432	940
Future Volume (vph)	1967	0	0	1558	432	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2985	1321
Flt Permitted					0.977	
Satd. Flow (perm)	4839	0	0	4347	2985	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					6	6
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	2007	0	0	1590	921	479
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	-3.0	-3.0
Total Lost Time (s)	6.6			6.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.4			63.4	45.3	45.3
Actuated g/C Ratio	0.53			0.53	0.38	0.38
v/c Ratio	0.78			0.69	0.86dr	0.95
Control Delay	25.2			22.7	39.6	65.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	25.2			22.7	39.6	65.2
LOS	C			C	D	E
Approach Delay	25.2			22.7	48.3	
Approach LOS	C			C	D	
Queue Length 50th (m)	141.3			103.3	102.9	122.9
Queue Length 95th (m)	162.2			121.1	129.9	#199.5
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2573			2311	1158	514
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.78			0.69	0.80	0.93

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.2

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.





















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	55	126	0	7	25	698	43	2	1579	2
Future Volume (vph)	2	0	55	126	0	7	25	698	43	2	1579	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	15.0		0.0	30.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	3472	0	1785	3500	0
Flt Permitted	0.752			0.718			0.090			0.341		
Satd. Flow (perm)	1413	1597	0	1349	1597	0	169	3472	0	641	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			136			11				
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		110.9			194.9			286.9			482.7	
Travel Time (s)		10.0			17.5			20.7			34.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	60	0	137	8	0	27	806	0	2	1718	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	34.6	34.6		34.6	34.6		45.4	45.4		45.4	45.4	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.8%	56.8%		56.8%	56.8%	
Maximum Green (s)	28.0	28.0		28.0	28.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.9	6.9		6.9	6.9	

Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	14.6	14.6		14.6	14.6		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.71	0.71		0.71	0.71	
v/c Ratio	0.01	0.18		0.56	0.02		0.23	0.33		0.00	0.69	
Control Delay	24.5	10.5		38.3	0.1		13.2	6.5		6.5	11.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.5	10.5		38.3	0.1		13.2	6.5		6.5	11.3	
LOS	C	B		D	A		B	A		A	B	
Approach Delay		11.0			36.2			6.7			11.3	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	0.3	1.0		20.5	0.0		1.5	25.2		0.1	82.6	
Queue Length 95th (m)	2.0	10.0		35.2	0.0		8.3	44.2		1.0	140.7	
Internal Link Dist (m)		86.9			170.9			262.9			458.7	
Turn Bay Length (m)	15.0			15.0			30.0			15.0		
Base Capacity (vph)	494	593		472	647		120	2478		457	2495	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.10		0.29	0.01		0.23	0.33		0.00	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 68.6%

ICU Level of Service C

Analysis Period (min) 15




















Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Lanes, Volumes, Timings

20: Stonegate Drive/Site Access 3 & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2708	13	19	1688	51	2	0	75	63	0	77
Future Volume (vph)	51	2708	13	19	1688	51	2	0	75	63	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	190.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	4873	0	1785	4616	0	0	1583	0	1785	1597	0
Flt Permitted	0.097			0.036				0.992		0.646		
Satd. Flow (perm)	182	4873	0	68	4616	0	0	1572	0	1214	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			7			28			32	
Link Speed (k/h)		60			60			40			20	
Link Distance (m)		542.7			294.3			223.4			70.7	
Travel Time (s)		32.6			17.7			20.1			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	39%	0%	11%	0%	0%	0%	3%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	2957	0	21	1890	0	0	84	0	68	84	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	104.8	104.8		104.8	104.8		35.2	35.2		35.2	35.2	
Total Split (%)	74.9%	74.9%		74.9%	74.9%		25.1%	25.1%		25.1%	25.1%	
Maximum Green (s)	98.2	98.2		98.2	98.2		28.3	28.3		28.3	28.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6			6.9		6.9	6.9	

Lanes, Volumes, Timings

20: Stonegate Drive/Site Access 3 & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	112.6	112.6		112.6	112.6			13.9		13.9	13.9	
Actuated g/C Ratio	0.80	0.80		0.80	0.80			0.10		0.10	0.10	
v/c Ratio	0.38	0.75		0.39	0.51			0.46		0.57	0.45	
Control Delay	6.9	12.6		34.6	10.1			48.0		78.1	44.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	6.9	12.6		34.6	10.1			48.0		78.1	44.9	
LOS	A	B		C	B			D		E	D	
Approach Delay		12.5			10.4			48.0			59.8	
Approach LOS		B			B			D			E	
Queue Length 50th (m)	2.3	78.9		2.8	101.2			15.7		19.4	14.5	
Queue Length 95th (m)	m2.7	m54.1		m11.6	133.0			32.5		35.3	31.2	
Internal Link Dist (m)		518.7			270.3			199.4			46.7	
Turn Bay Length (m)	30.0			190.0						15.0		
Base Capacity (vph)	146	3920		54	3714			340		245	348	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.38	0.75		0.39	0.51			0.25		0.28	0.24	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 74.0%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 20: Stonegate Drive/Site Access 3 & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

27: Heart Lake Road & Site Access #2





























10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	113	119	0	6	38	89	36	2	196	2
Future Volume (Veh/h)	6	0	113	119	0	6	38	89	36	2	196	2
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	0	123	129	0	7	41	97	39	2	213	2
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	229											
pX, platoon unblocked												
vC, conflicting volume	404	436	214	538	418	116	215				136	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	404	436	214	538	418	116	215				136	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	99	100	85	66	100	99	97				100	
cM capacity (veh/h)	543	498	831	380	510	941	1367				1461	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	5	125	129	7	41	136	2	215				
Volume Left	5	2	129	0	41	0	2	0				
Volume Right	0	123	0	7	0	39	0	2				
cSH	543	823	380	941	1367	1700	1461	1700				
Volume to Capacity	0.01	0.15	0.34	0.01	0.03	0.08	0.00	0.13				
Queue Length 95th (m)	0.2	4.3	11.8	0.2	0.7	0.0	0.0	0.0				
Control Delay (s)	11.7	10.2	19.3	8.9	7.7	0.0	7.5	0.0				
Lane LOS	B	B	C	A	A		A					
Approach Delay (s)	10.2		18.7		1.8		0.1					
Approach LOS	B		C									
Intersection Summary												
Average Delay	6.4											
Intersection Capacity Utilization	37.0%			ICU Level of Service					A			
Analysis Period (min)	15											

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road


10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 		
Traffic Volume (vph)	220	1622	92	154	919	379	83	166	256	745	620	395
Future Volume (vph)	220	1622	92	154	919	379	83	166	256	745	620	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1608	4830	0	1733	4663	1479	1594	3106	0	3348	1842	1521
Flt Permitted	0.211			0.078			0.174			0.950		
Satd. Flow (perm)	357	4830	0	142	4663	1479	291	3106	0	3346	1842	1496
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				274		94				180
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)			5	5			3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	5%	8%	3%	10%	8%	12%	3%	4%	3%	2%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	1749	0	157	938	387	85	430	0	760	633	403
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(m)		3.5			3.5			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4					8
Detector Phase	5	2		1	6	6	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	5.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	9.0	34.9		9.0	34.9	34.9
Total Split (s)	10.0	58.0		10.0	58.0	58.0	10.0	37.0		35.0	62.0	62.0
Total Split (%)	7.1%	41.4%		7.1%	41.4%	41.4%	7.1%	26.4%		25.0%	44.3%	44.3%
Maximum Green (s)	7.0	51.4		7.0	51.4	51.4	7.0	30.1		32.0	55.1	55.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	0.0	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	3.0	6.6		3.0	6.6	6.6	3.0	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0		8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	65.2	51.4		65.2	51.4	51.4	38.1	27.2		34.7	52.0	52.0
Actuated g/C Ratio	0.47	0.37		0.47	0.37	0.37	0.27	0.19		0.25	0.37	0.37
v/c Ratio	0.88	0.98		0.87	0.55	0.54	0.59	0.63		0.91	0.93	0.60
Control Delay	55.5	56.2		82.6	24.4	4.6	41.3	44.1		67.6	62.5	22.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	55.5	56.2		82.6	24.4	4.6	41.3	44.1		67.6	62.5	22.5
LOS	E	E		F	C	A	D	D		E	E	C
Approach Delay		56.1			25.4			43.7			55.7	
Approach LOS		E			C			D			E	
Queue Length 50th (m)	~41.0	184.1		~36.1	55.1	5.0	13.0	46.6		111.5	169.2	50.3
Queue Length 95th (m)	#93.4	#221.6		#84.2	42.9	10.4	23.2	65.3		#147.2	#239.8	85.2
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	256	1777		181	1711	716	144	741		837	724	697
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.88	0.98		0.87	0.55	0.54	0.59	0.58		0.91	0.87	0.58

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 17 (12%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 47.0

Intersection LOS: D

Intersection Capacity Utilization 97.1%

ICU Level of Service F

Analysis Period (min) 15

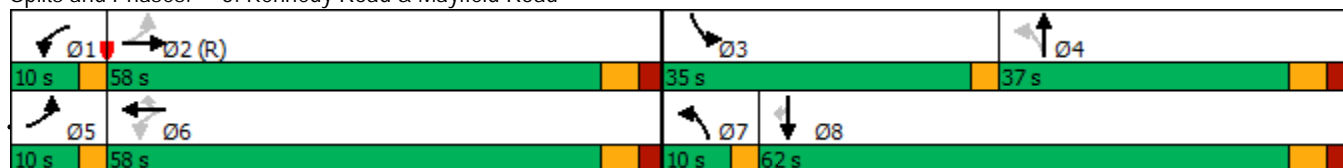
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.




























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024

																		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations		  			  													
Traffic Volume (vph)	79	2146	661	188	1225	60	225	24	37	163	121	144						
Future Volume (vph)	79	2146	661	188	1225	60	225	24	37	163	121	144						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900						
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5						
Grade (%)	0%		0%				0%		0%									
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0							
Storage Lanes	1	1		1	1		1	1		1	1							
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5							
Satd. Flow (prot)	1716	4932	1551	1668	4706	1597	1638	1879	1413	1653	1842	1521						
Flt Permitted	0.211	0.052		0.557				0.742										
Satd. Flow (perm)	381	4932	1551	91	4706	1597	960	1879	1413	1291	1842	1521						
Right Turn on Red			Yes			Yes			Yes			Yes						
Satd. Flow (RTOR)			568			61			52			80						
Link Speed (k/h)	60				60			50			50							
Link Distance (m)	261.4				340.3			475.3			229.3							
Travel Time (s)	15.7				20.4			34.2			16.5							
Confl. Peds. (#/hr)																		
Confl. Bikes (#/hr)																		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98						
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%						
Heavy Vehicles (%)	4%	4%	3%	7%	9%	0%	9%	0%	13%	8%	2%	5%						
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0						
Parking (#/hr)																		
Mid-Block Traffic (%)	0%				0%			0%			0%							
Shared Lane Traffic (%)																		
Lane Group Flow (vph)	81	2190	674	192	1250	61	230	24	38	166	123	147						
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(m)	3.5				3.5			3.5			3.5							
Link Offset(m)	0.0				0.0			0.0			0.0							
Crosswalk Width(m)	4.8				4.8			4.8			4.8							
Two way Left Turn Lane																		
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01						
Turning Speed (k/h)	25	15		25	15		25	15		25	15							
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm						
Protected Phases	2		1		6	7		4			8							
Permitted Phases	2	2		6	6		4	4		8	8							
Detector Phase	2	2	2	1	6	6	7	4	4	8	8	8						
Switch Phase																		
Minimum Initial (s)	12.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0						
Minimum Split (s)	35.7	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9						
Total Split (s)	81.0	81.0	81.0	9.0	90.0	90.0	9.0	50.0	50.0	41.0	41.0	41.0						
Total Split (%)	57.9%	57.9%	57.9%	6.4%	64.3%	64.3%	6.4%	35.7%	35.7%	29.3%	29.3%	29.3%						
Maximum Green (s)	74.3	74.3	74.3	6.0	83.3	83.3	6.0	43.1	43.1	34.1	34.1	34.1						
Yellow Time (s)	4.6	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0						
All-Red Time (s)	2.1	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9						
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total Lost Time (s)	6.7	6.7	6.7	3.0	6.7	6.7	3.0	6.9	6.9	6.9	6.9	6.9						

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	21.0	21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effect Green (s)	74.3	74.3	74.3	97.9	94.2	94.2	36.1	32.2	32.2	23.2	23.2	23.2
Actuated g/C Ratio	0.53	0.53	0.53	0.70	0.67	0.67	0.26	0.23	0.23	0.17	0.17	0.17
v/c Ratio	0.40	0.84	0.62	0.76	0.39	0.06	0.83	0.06	0.10	0.78	0.40	0.46
Control Delay	23.8	27.6	5.6	54.5	11.3	2.5	71.4	39.1	5.8	78.5	54.5	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	27.6	5.6	54.5	11.3	2.5	71.4	39.1	5.8	78.5	54.5	27.7
LOS	C	C	A	D	B	A	E	D	A	E	D	C
Approach Delay	22.4			16.5			60.2			54.6		
Approach LOS	C			B			E			D		
Queue Length 50th (m)	15.4	158.2	35.7	38.0	55.4	0.0	58.2	5.5	0.0	46.9	32.4	17.2
Queue Length 95th (m)	m18.7	179.3	24.2	#107.5	78.3	5.8	79.0	12.6	5.9	68.9	49.1	36.7
Internal Link Dist (m)	237.4			316.3			451.3			205.3		
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	202	2617	1089	253	3165	1093	276	578	470	314	448	430
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.84	0.62	0.76	0.39	0.06	0.83	0.04	0.08	0.53	0.27	0.34

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 25.5

Intersection LOS: C

Intersection Capacity Utilization 89.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Heart Lake Road & Mayfield Road



2033 Future Total Traffic Volumes 11:18 pm 10-30-2024 with traffic signals


























Synchro 10 Light Report

Page 4

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	53	1778	37	14	1425	10	33	2	20	21	3	78
Future Volume (vph)	53	1778	37	14	1425	10	33	2	20	21	3	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1684	4815	0	1513	4749	1452	1700	1597	0	0	1582	0
Flt Permitted	0.140			0.083			0.515				0.923	
Satd. Flow (perm)	248	4815	0	132	4749	1418	914	1597	0	0	1474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				28		12			31	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		2	2		1	6		2	2		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	13%	18%	8%	10%	5%	0%	0%	14%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	2017	0	16	1583	11	37	24	0	0	113	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	90.0	90.0		90.0	90.0	90.0	50.0	50.0		50.0	50.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%	64.3%	35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	84.0	84.0		84.0	84.0	84.0	43.4	43.4		43.4	43.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	114.0	114.0		114.0	114.0	114.0	13.4	13.4				13.4
Actuated g/C Ratio	0.81	0.81		0.81	0.81	0.81	0.10	0.10				0.10
v/c Ratio	0.29	0.51		0.15	0.41	0.01	0.43	0.15				0.67
Control Delay	8.2	5.0		5.4	2.8	0.1	72.6	36.5				62.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0				0.0
Total Delay	8.2	5.0		5.4	2.8	0.1	72.6	36.5				62.3
LOS	A	A		A	A	A	E	D				E
Approach Delay		5.1			2.8			58.4				62.3
Approach LOS		A			A			E				E
Queue Length 50th (m)	3.4	55.4		0.5	18.2	0.0	10.4	3.3				23.4
Queue Length 95th (m)	11.8	83.2		m1.5	36.4	m0.1	22.0	12.3				43.3
Internal Link Dist (m)		91.1			392.2			120.8				98.1
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	201	3921		107	3866	1159	283	503				478
Starvation Cap Reductn	0	0		0	0	0	0	0				0
Spillback Cap Reductn	0	0		0	0	0	0	0				0
Storage Cap Reductn	0	0		0	0	0	0	0				0
Reduced v/c Ratio	0.29	0.51		0.15	0.41	0.01	0.13	0.05				0.24

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 6.6

Intersection LOS: A

Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

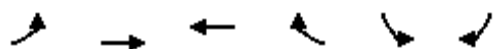
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024

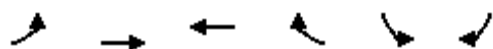


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1725	1409	0	458	62
Future Volume (vph)	0	1725	1409	0	458	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4885	4539	0	3400	1453
Flt Permitted					0.953	
Satd. Flow (perm)	0	4885	4539	0	3400	1453
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	15
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	13%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1760	1438	0	473	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-30-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0		20.0	20.0
Flash Dont Walk (s)		6.0	6.0		6.0	6.0
Pedestrian Calls (#/hr)		0	0		0	0
Act Effect Green (s)		40.1	40.1		14.2	14.2
Actuated g/C Ratio		0.60	0.60		0.21	0.21
v/c Ratio		0.60	0.52		0.65	0.18
Control Delay		9.6	8.8		28.0	17.9
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		9.6	8.8		28.0	17.9
LOS		A	A		C	B
Approach Delay		9.6	8.8		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)		45.3	34.7		28.8	4.8
Queue Length 95th (m)		68.7	53.6		42.6	14.1
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		2951	2741		1798	774
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.60	0.52		0.26	0.07

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 66.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.7

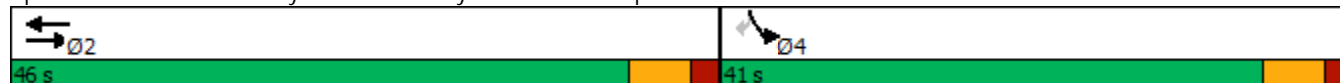
Intersection LOS: B

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1967	0	0	1558	432	940
Future Volume (vph)	1967	0	0	1558	432	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4839	0	0	4347	2985	1321
Flt Permitted					0.977	
Satd. Flow (perm)	4839	0	0	4347	2985	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					6	6
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	18%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	2007	0	0	1590	921	479
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	24.9	24.9
Total Split (s)	70.0			70.0	50.0	50.0
Total Split (%)	58.3%			58.3%	41.7%	41.7%
Maximum Green (s)	63.4			63.4	43.1	43.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			0.0	-3.0	-3.0
Total Lost Time (s)	6.6			6.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-30-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	63.4			63.4	45.3	45.3
Actuated g/C Ratio	0.53			0.53	0.38	0.38
v/c Ratio	0.78			0.69	0.86dr	0.95
Control Delay	25.2			22.7	39.6	65.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	25.2			22.7	39.6	65.2
LOS	C			C	D	E
Approach Delay	25.2			22.7	48.3	
Approach LOS	C			C	D	
Queue Length 50th (m)	141.3			103.3	102.9	122.9
Queue Length 95th (m)	162.2			121.1	129.9	#199.5
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2573			2311	1158	514
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.78			0.69	0.80	0.93

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.2

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.






















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	55	126	0	7	25	698	43	2	1579	2
Future Volume (vph)	2	0	55	126	0	7	25	698	43	2	1579	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	15.0		0.0	30.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	3472	0	1785	3500	0
Flt Permitted	0.752			0.718			0.090			0.341		
Satd. Flow (perm)	1413	1597	0	1349	1597	0	169	3472	0	641	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			136			11				
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		110.9			194.9			286.9			482.7	
Travel Time (s)		10.0			17.5			20.7			34.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	60	0	137	8	0	27	806	0	2	1718	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(m)		3.5			3.5			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	34.6	34.6		34.6	34.6		45.4	45.4		45.4	45.4	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.8%	56.8%		56.8%	56.8%	
Maximum Green (s)	28.0	28.0		28.0	28.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.9	6.9		6.9	6.9	

Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-30-2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	14.6	14.6		14.6	14.6		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.71	0.71		0.71	0.71	
v/c Ratio	0.01	0.18		0.56	0.02		0.23	0.33		0.00	0.69	
Control Delay	24.5	10.5		38.3	0.1		13.2	6.5		6.5	11.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.5	10.5		38.3	0.1		13.2	6.5		6.5	11.3	
LOS	C	B		D	A		B	A		A	B	
Approach Delay		11.0			36.2			6.7			11.3	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	0.3	1.0		20.5	0.0		1.5	25.2		0.1	82.6	
Queue Length 95th (m)	2.0	10.0		35.2	0.0		8.3	44.2		1.0	140.7	
Internal Link Dist (m)		86.9			170.9			262.9			458.7	
Turn Bay Length (m)	15.0			15.0			30.0			15.0		
Base Capacity (vph)	494	593		472	647		120	2478		457	2495	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.10		0.29	0.01		0.23	0.33		0.00	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 68.6%

ICU Level of Service C

Analysis Period (min) 15




















Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Lanes, Volumes, Timings

20: Stonegate Drive/Site Access 3 & Mayfield Road













10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	2708	13	19	1688	21	2	0	75	63	0	77
Future Volume (vph)	21	2708	13	19	1688	21	2	0	75	63	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	190.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	4873	0	1785	4617	0	0	1583	0	1785	1597	0
Flt Permitted	0.101			0.036				0.992		0.646		
Satd. Flow (perm)	190	4873	0	68	4617	0	0	1572	0	1214	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			3			28			32	
Link Speed (k/h)		60			60			40			20	
Link Distance (m)		542.7			294.3			223.4			70.7	
Travel Time (s)		32.6			17.7			20.1			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	39%	0%	11%	0%	0%	0%	3%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	2957	0	21	1858	0	0	84	0	68	84	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	104.8	104.8		104.8	104.8		35.2	35.2		35.2	35.2	
Total Split (%)	74.9%	74.9%		74.9%	74.9%		25.1%	25.1%		25.1%	25.1%	
Maximum Green (s)	98.2	98.2		98.2	98.2		28.3	28.3		28.3	28.3	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6			6.9		6.9	6.9	

Lanes, Volumes, Timings

20: Stonegate Drive/Site Access 3 & Mayfield Road

10-30-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	112.6	112.6		112.6	112.6			13.9		13.9	13.9	
Actuated g/C Ratio	0.80	0.80		0.80	0.80			0.10		0.10	0.10	
v/c Ratio	0.15	0.75		0.39	0.50			0.46		0.57	0.45	
Control Delay	4.7	8.7		34.6	10.1			48.0		78.1	44.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.7	8.7		34.6	10.1			48.0		78.1	44.9	
LOS	A	A		C	B			D		E	D	
Approach Delay		8.6			10.3			48.0			59.8	
Approach LOS		A			B			D			E	
Queue Length 50th (m)	1.0	116.0		2.8	99.5			15.7		19.4	14.5	
Queue Length 95th (m)	m1.8	m136.6		m11.6	130.8			32.5		35.3	31.2	
Internal Link Dist (m)		518.7			270.3			199.4			46.7	
Turn Bay Length (m)	30.0			190.0						15.0		
Base Capacity (vph)	152	3920		54	3714			340		245	348	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.15	0.75		0.39	0.50			0.25		0.28	0.24	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 74.0%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 20: Stonegate Drive/Site Access 3 & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

27: Heart Lake Road & Site Access #2





























10-30-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	113	119	0	6	38	89	36	2	196	2
Future Volume (Veh/h)	6	0	113	119	0	6	38	89	36	2	196	2
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	0	123	129	0	7	41	97	39	2	213	2
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	229											
pX, platoon unblocked												
vC, conflicting volume	404	436	214	538	418	116	215				136	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	404	436	214	538	418	116	215				136	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	99	100	85	66	100	99	97				100	
cM capacity (veh/h)	543	498	831	380	510	941	1367				1461	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	5	125	129	7	41	136	2	215				
Volume Left	5	2	129	0	41	0	2	0				
Volume Right	0	123	0	7	0	39	0	2				
cSH	543	823	380	941	1367	1700	1461	1700				
Volume to Capacity	0.01	0.15	0.34	0.01	0.03	0.08	0.00	0.13				
Queue Length 95th (m)	0.2	4.3	11.8	0.2	0.7	0.0	0.0	0.0				
Control Delay (s)	11.7	10.2	19.3	8.9	7.7	0.0	7.5	0.0				
Lane LOS	B	B	C	A	A		A					
Approach Delay (s)	10.2		18.7		1.8		0.1					
Approach LOS	B		C									
Intersection Summary												
Average Delay	6.4											
Intersection Capacity Utilization	37.0%			ICU Level of Service					A			
Analysis Period (min)	15											

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	359	1277	97	275	1544	845	117	409	206	526	296	312
Future Volume (vph)	359	1277	97	275	1544	845	117	409	206	526	296	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4838	0	1785	4980	1597	1785	3374	0	1771	1879	1597
Flt Permitted	0.076			0.091			0.579			0.166		
Satd. Flow (perm)	141	4838	0	171	4980	1576	1079	3374	0	309	1879	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				368		56				281
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour 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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	1374	0	275	1544	845	117	615	0	526	296	312
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.03	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4			8		8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	20.0	56.0		20.0	56.0	56.0	35.0	35.0		29.0	64.0	64.0
Total Split (%)	14.3%	40.0%		14.3%	40.0%	40.0%	25.0%	25.0%		20.7%	45.7%	45.7%
Maximum Green (s)	17.0	49.4		17.0	49.4	49.4	28.1	28.1		26.0	57.1	57.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		-3.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		0.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	77.4	50.9		76.0	49.4	52.4	26.7	26.7		62.6	55.7	55.7
Actuated g/C Ratio	0.55	0.36		0.54	0.35	0.37	0.19	0.19		0.45	0.40	0.40
v/c Ratio	1.10	0.78		0.85	0.88	1.03	0.57	0.90		1.19	0.40	0.40
Control Delay	118.4	43.4		57.6	49.4	64.0	62.9	66.6		141.8	31.8	5.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	118.4	43.4		57.6	49.4	64.0	62.9	66.6		141.8	31.8	5.9
LOS	F	D		E	D	E	E	E		F	C	A
Approach Delay		58.9			54.9			66.0			75.7	
Approach LOS		E			D			E			E	
Queue Length 50th (m)	~106.6	131.2		57.2	154.1	~191.6	30.9	84.2		~160.5	60.1	5.4
Queue Length 95th (m)	#171.6	150.9		#106.3	175.3	#273.2	52.9	#113.3		#233.5	85.8	25.7
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	326	1763		327	1757	820	216	721		441	766	802
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.10	0.78		0.84	0.88	1.03	0.54	0.85		1.19	0.39	0.39

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 61.1

Intersection LOS: E

Intersection Capacity Utilization 115.1%

ICU Level of Service H

Analysis Period (min) 15

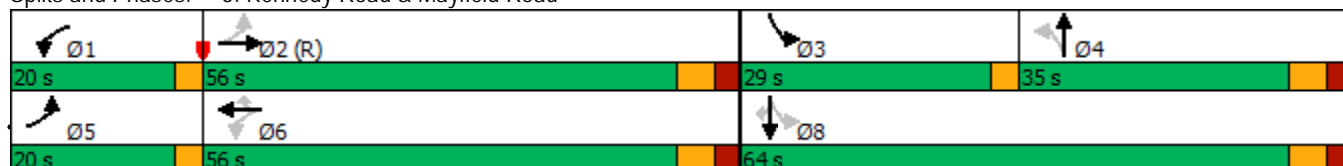
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	107	1718	350	49	2319	170	468	85	53	136	62	183
Future Volume (vph)	107	1718	350	49	2319	170	468	85	53	136	62	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%		0%			0%			0%			0%
Storage Length (m)	125.0	200.0		160.0	160.0		125.0	60.0		85.0	55.0	
Storage Lanes	1	1		1	1		1	1		1	1	
Taper Length (m)	7.5	7.5		7.5	7.5		7.5	7.5		7.5	7.5	
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581
Flt Permitted	0.056	0.080		0.716			0.701					
Satd. Flow (perm)	100	4885	1558	146	5079	1401	1345	1879	1521	1266	1824	1581
Right Turn on Red			Yes				Yes				Yes	Yes
Satd. Flow (RTOR)			357				173				54	122
Link Speed (k/h)	60		60			50			50			50
Link Distance (m)	261.4		340.3			475.3			229.3			
Travel Time (s)	15.7		20.4			34.2			16.5			
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%		0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1753	357	50	2366	173	478	87	54	139	63	187
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(m)	3.5		3.5			3.5			3.5			3.5
Link Offset(m)	0.0		0.0			0.0			0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8			4.8			4.8
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25	15		25	15		25	15		25	15	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.0	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	9.0	66.0	66.0	9.0	66.0	66.0	20.0	60.0	60.0	40.0	40.0	40.0
Total Split (%)	6.7%	48.9%	48.9%	6.7%	48.9%	48.9%	14.8%	44.4%	44.4%	29.6%	29.6%	29.6%
Maximum Green (s)	6.0	59.3	59.3	6.0	59.3	59.3	17.0	53.1	53.1	33.1	33.1	33.1
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0	0	0	0
Act Effect Green (s)	84.7	72.9	72.9	79.0	68.2	68.2	47.0	40.1	40.1	20.1	20.1	20.1
Actuated g/C Ratio	0.63	0.54	0.54	0.59	0.51	0.51	0.35	0.30	0.30	0.15	0.15	0.15
v/c Ratio	0.60	0.66	0.36	0.30	0.92	0.22	0.90	0.16	0.11	0.74	0.23	0.55
Control Delay	43.3	21.8	2.4	16.0	38.8	3.8	60.1	34.0	8.0	76.4	50.4	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	21.8	2.4	16.0	38.8	3.8	60.1	34.0	8.0	76.4	50.4	24.7
LOS	D	C	A	B	D	A	E	C	A	E	D	C
Approach Delay		19.7			36.0			51.9			47.3	
Approach LOS		B			D			D			D	
Queue Length 50th (m)	17.8	99.0	0.0	5.1	220.8	0.0	118.8	18.0	0.0	37.8	15.8	16.4
Queue Length 95th (m)	42.0	108.4	13.1	12.2	#295.6	13.8	147.6	29.0	9.3	58.0	28.0	38.9
Internal Link Dist (m)		237.4			316.3			451.3			205.3	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	182	2637	1005	169	2565	793	533	739	631	310	447	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.66	0.36	0.30	0.92	0.22	0.90	0.12	0.09	0.45	0.14	0.39

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 32.2

Intersection LOS: C

Intersection Capacity Utilization 98.0%

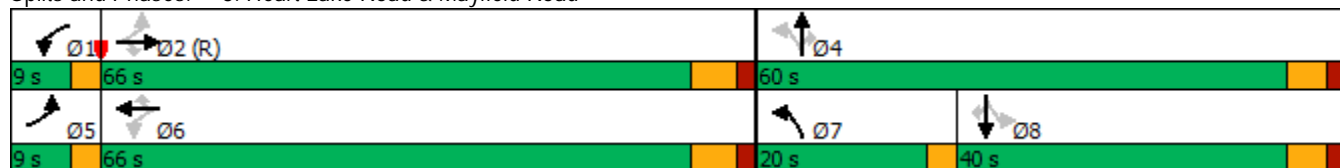
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


























Splits and Phases: 8: Heart Lake Road & Mayfield Road



Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	69	1776	27	28	1961	19	20	1	17	12	0	55
Future Volume (vph)	69	1776	27	28	1961	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4826	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.083			0.101			0.707				0.930	
Satd. Flow (perm)	153	4826	0	188	5079	1544	1325	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				29		18			24	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1878	0	29	2043	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	116.2	116.2		116.2	116.2	116.2	10.3	10.3			10.3	
Actuated g/C Ratio	0.86	0.86		0.86	0.86	0.86	0.08	0.08			0.08	
v/c Ratio	0.55	0.45		0.18	0.47	0.02	0.21	0.14			0.51	
Control Delay	23.5	3.3		5.6	3.4	0.6	62.1	25.4			53.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	23.5	3.3		5.6	3.4	0.6	62.1	25.4			53.6	
LOS	C	A		A	A	A	E	C			D	
Approach Delay		4.1			3.4			44.7			53.6	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	4.9	40.2		1.2	44.8	0.0	5.7	0.3			12.6	
Queue Length 95th (m)	#40.1	59.4		5.0	65.5	1.1	14.3	8.3			28.3	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	131	4156		162	4373	1333	327	406			387	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.55	0.45		0.18	0.47	0.02	0.06	0.05			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 75.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

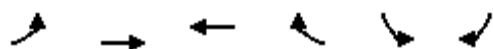
Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024

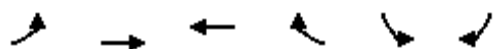


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1280	2479	0	198	20
Future Volume (vph)	0	1280	2479	0	198	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3156	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3156	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1306	2530	0	204	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		42.4	42.4		9.5	9.5
Actuated g/C Ratio		0.66	0.66		0.15	0.15
v/c Ratio		0.41	0.76		0.43	0.09
Control Delay		5.7	9.5		27.0	23.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.7	9.5		27.0	23.1
LOS		A	A		C	C
Approach Delay		5.7	9.5		26.7	
Approach LOS		A	A		C	
Queue Length 50th (m)		22.2	63.1		11.4	2.0
Queue Length 95th (m)		33.7	93.4		20.3	7.5
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3177	3332		1733	753
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.41	0.76		0.12	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 9.2

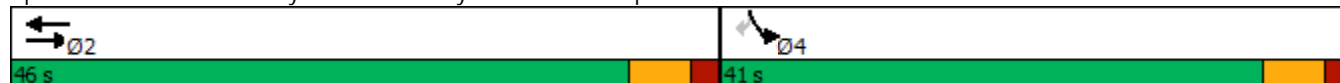
Intersection LOS: A

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

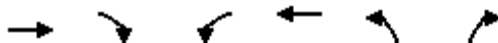
10-31-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1411	0	0	2755	775	1073
Future Volume (vph)	1411	0	0	2755	775	1073
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3124	1275
Flt Permitted					0.970	
Satd. Flow (perm)	4794	0	0	4794	3124	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					24	24
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						45%
Lane Group Flow (vph)	1440	0	0	2811	1284	602
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	-3.0			-3.0	-3.0	-3.0
Total Lost Time (s)	3.6			3.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-31-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	61.4			61.4	51.1	51.1
Actuated g/C Ratio	0.51			0.51	0.43	0.43
v/c Ratio	0.59			1.15	0.96	1.08
Control Delay	21.7			100.2	49.1	95.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	21.7			100.2	49.1	95.2
LOS	C			F	D	F
Approach Delay	21.7			100.2	63.8	
Approach LOS	C			F	E	
Queue Length 50th (m)	88.2			~299.3	153.8	~179.8
Queue Length 95th (m)	103.2			#327.5	#204.3	#260.0
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2452			2452	1344	556
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.59			1.15	0.96	1.08

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 70.6

Intersection LOS: E

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

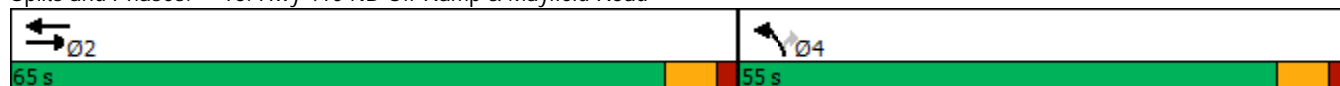
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	44	80	0	4	75	1404	135	7	1010	4
Future Volume (vph)	2	0	44	80	0	4	75	1404	135	7	1010	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	0.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	3457	0	1785	3497	0
Flt Permitted	0.755			0.727			0.253			0.116		
Satd. Flow (perm)	1419	1597	0	1366	1597	0	475	3457	0	218	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			53			18			1	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		110.9			194.9			286.9			482.7	
Travel Time (s)		10.0			17.5			20.7			34.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	46	0	87	4	0	78	1610	0	8	1056	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	34.6	34.6		34.6	34.6		45.4	45.4		45.4	45.4	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.8%	56.8%		56.8%	56.8%	
Maximum Green (s)	28.0	28.0		28.0	28.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.9	6.9		6.9	6.9	

Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.7	12.7		12.7	12.7		58.9	58.9		58.9	58.9	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.74	0.74		0.74	0.74	
v/c Ratio	0.01	0.15		0.40	0.01		0.22	0.63		0.05	0.41	
Control Delay	27.5	7.7		36.1	0.0		7.5	8.6		5.9	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.5	7.7		36.1	0.0		7.5	8.6		5.9	6.1	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		8.5			34.5			8.5			6.1	
Approach LOS		A			C			A			A	
Queue Length 50th (m)	0.3	0.0		12.8	0.0		4.1	67.8		0.4	34.5	
Queue Length 95th (m)	2.1	6.9		25.6	0.0		11.9	103.8		2.1	52.9	
Internal Link Dist (m)		86.9			170.9			262.9			458.7	
Turn Bay Length (m)	15.0						30.0			30.0		
Base Capacity (vph)	496	596		478	593		350	2551		160	2576	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.08		0.18	0.01		0.22	0.63		0.05	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 8.4

Intersection LOS: A

Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Lanes, Volumes, Timings

20: Stonegate Drive/Site Access #3 & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	83	2120	17	61	2719	83	1	0	58	57	0	69
Future Volume (vph)	83	2120	17	61	2719	83	1	0	58	57	0	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	190.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	4929	0	1785	5012	0	0	1596	0	1785	1597	0
Flt Permitted	0.040			0.066				0.995		0.779		
Satd. Flow (perm)	75	4929	0	124	5012	0	0	1590	0	1464	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			53			86	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		542.7			294.3			223.4			79.4	
Travel Time (s)		32.6			17.7			20.1			5.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	2273	0	65	2981	0	0	63	0	61	73	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	10.0	100.0		90.0	90.0		35.0	35.0		35.0	35.0	
Total Split (%)	7.4%	74.1%		66.7%	66.7%		25.9%	25.9%		25.9%	25.9%	
Maximum Green (s)	7.0	93.4		83.4	83.4		28.1	28.1		28.1	28.1	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	3.0	6.6		6.6	6.6			6.9		6.9	6.9	

Lanes, Volumes, Timings

20: Stonegate Drive/Site Access #3 & Mayfield Road

10-31-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead			Lag		Lag						
Lead-Lag Optimize?	Yes			Yes		Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		Max	Max		None	None		None	None	
Walk Time (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effect Green (s)	112.1	108.5		97.7	97.7			13.0		13.0	13.0	
Actuated g/C Ratio	0.83	0.80		0.72	0.72			0.10		0.10	0.10	
v/c Ratio	0.55	0.57		0.73	0.82			0.32		0.44	0.32	
Control Delay	31.5	5.6		54.0	27.4			22.6		67.2	11.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	31.5	5.6		54.0	27.4			22.6		67.2	11.6	
LOS	C	A		D	C			C		E	B	
Approach Delay		6.5			27.9			22.6			36.9	
Approach LOS		A			C			C			D	
Queue Length 50th (m)	6.5	67.0		13.1	242.4			2.6		16.5	0.0	
Queue Length 95th (m)	25.3	89.5		m17.6	303.2			16.8		31.1	11.7	
Internal Link Dist (m)		518.7			270.3			199.4			55.4	
Turn Bay Length (m)	30.0			190.0						15.0		
Base Capacity (vph)	167	3963		89	3628			372		304	400	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.53	0.57		0.73	0.82			0.17		0.20	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 19.1

Intersection LOS: B

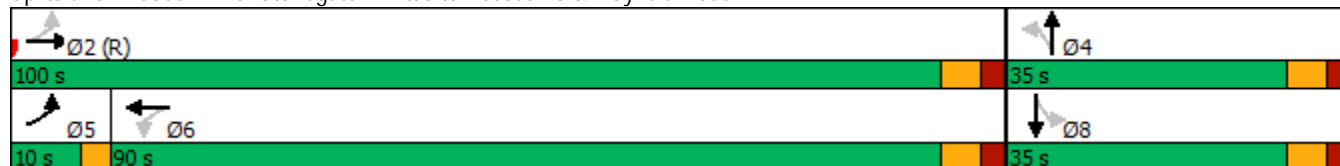
Intersection Capacity Utilization 83.6%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 20: Stonegate Drive/Site Access #3 & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

27: Heart Lake Road & Site Access #2





























10-30-2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	4	0	72	65	0	3	121	133	107	6	246	6	
Future Volume (Veh/h)	4	0	72	65	0	3	121	133	107	6	246	6	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	4	0	78	71	0	3	132	145	116	7	267	7	
Pedestrians													
Lane Width (m)													
Walking Speed (m/s)													
Percent Blockage													
Right turn flare (veh)													
Median type							None			None			
Median storage (veh)													
Upstream signal (m)	229												
pX, platoon unblocked													
vC, conflicting volume	696	810	270	826	755	203	274						261
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	696	810	270	826	755	203	274						261
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1						4.1
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
p0 queue free %	99	100	90	71	100	100	90						99
cM capacity (veh/h)	328	281	773	242	302	843	1301						1315
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total	4	78	71	3	132	261	7	274					
Volume Left	4	0	71	0	132	0	7	0					
Volume Right	0	78	0	3	0	116	0	7					
cSH	328	773	242	843	1301	1700	1315	1700					
Volume to Capacity	0.01	0.10	0.29	0.00	0.10	0.15	0.01	0.16					
Queue Length 95th (m)	0.3	2.7	9.4	0.1	2.7	0.0	0.1	0.0					
Control Delay (s)	16.1	10.2	25.9	9.3	8.1	0.0	7.8	0.0					
Lane LOS	C	B	D	A	A		A						
Approach Delay (s)	10.5		25.2		2.7		0.2						
Approach LOS	B		D										
Intersection Summary													
Average Delay				4.6									
Intersection Capacity Utilization				40.3%	ICU Level of Service				A				
Analysis Period (min)				15									

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road


10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 		
Traffic Volume (vph)	359	1277	97	275	1544	845	117	409	206	526	296	312
Future Volume (vph)	359	1277	97	275	1544	845	117	409	206	526	296	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	85.0		40.0	45.0		55.0	150.0		0.0
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1767	4838	0	1785	4980	1597	1785	3374	0	3449	1879	1597
Flt Permitted	0.071			0.121			0.579			0.950		
Satd. Flow (perm)	132	4838	0	227	4980	1576	1079	3374	0	3445	1879	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				380		56				266
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		416.2			542.7			529.5			286.9	
Travel Time (s)		25.0			32.6			38.1			20.7	
Confl. Peds. (#/hr)	1		3	3		1	8		2	2		8
Confl. Bikes (#/hr)												
Peak Hour 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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	1374	0	275	1544	845	117	615	0	526	296	312
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(m)		3.5			3.5			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases	5	2		1	6			4		3	8	
Permitted Phases	2			6		6	4					8
Detector Phase	5	2		1	6	6	4	4		3	8	8
Switch Phase												
Minimum Initial (s)	6.0	8.0		6.0	8.0	8.0	12.0	12.0		6.0	12.0	12.0
Minimum Split (s)	9.0	34.6		9.0	34.6	34.6	34.9	34.9		9.0	34.9	34.9
Total Split (s)	23.0	63.0		20.0	60.0	60.0	35.0	35.0		22.0	57.0	57.0
Total Split (%)	16.4%	45.0%		14.3%	42.9%	42.9%	25.0%	25.0%		15.7%	40.7%	40.7%
Maximum Green (s)	20.0	56.4		17.0	53.4	53.4	28.1	28.1		19.0	50.1	50.1
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.6		0.0	2.6	2.6	2.9	2.9		0.0	2.9	2.9
Lost Time Adjust (s)	-3.0	0.0		-3.0	0.0	-3.0	0.0	0.0		-3.0	0.0	0.0
Total Lost Time (s)	0.0	6.6		0.0	6.6	3.6	6.9	6.9		0.0	6.9	6.9

Lanes, Volumes, Timings

5: Kennedy Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
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	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		None	Max	Max	None	None		None	None	None
Walk Time (s)		8.0			8.0	8.0	8.0	8.0			8.0	8.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0			0	0
Act Effect Green (s)	84.4	58.8		79.0	53.4	56.4	26.7	26.7		22.0	48.7	48.7
Actuated g/C Ratio	0.60	0.42		0.56	0.38	0.40	0.19	0.19		0.16	0.35	0.35
v/c Ratio	0.99	0.67		0.81	0.81	0.98	0.57	0.90		0.97	0.45	0.44
Control Delay	85.4	35.1		44.6	43.1	49.3	62.9	66.6		90.7	37.7	8.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.4	35.1		44.6	43.1	49.3	62.9	66.6		90.7	37.7	8.1
LOS	F	D		D	D	D	E	E		F	D	A
Approach Delay		45.5			45.2			66.0			54.1	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	~94.7	120.2		46.6	146.8	162.2	30.9	84.2		79.6	65.6	8.9
Queue Length 95th (m)	#159.8	138.3		#88.4	167.1	#261.2	52.9	#113.3		#116.5	93.6	32.5
Internal Link Dist (m)		392.2			518.7			505.5			262.9	
Turn Bay Length (m)	45.0			85.0		40.0	45.0			150.0		
Base Capacity (vph)	364	2038		352	1899	861	216	721		541	672	728
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.99	0.67		0.78	0.81	0.98	0.54	0.85		0.97	0.44	0.43

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 49.3

Intersection LOS: D

Intersection Capacity Utilization 103.1%

ICU Level of Service G

Analysis Period (min) 15

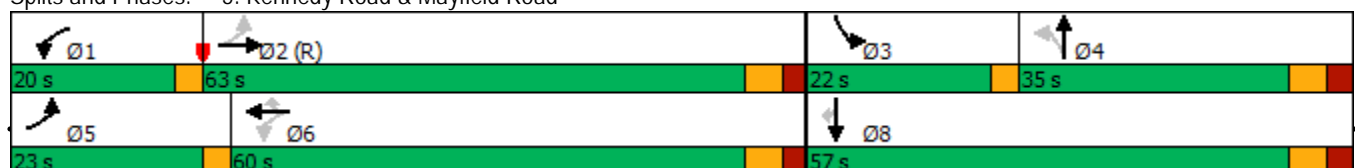
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





























Splits and Phases: 5: Kennedy Road & Mayfield Road



Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	107	1718	350	49	2319	170	468	85	53	136	62	183
Future Volume (vph)	107	1718	350	49	2319	170	468	85	53	136	62	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1700	4885	1597	1733	5079	1401	1785	1879	1521	1716	1824	1581
Flt Permitted	0.056			0.080			0.716			0.701		
Satd. Flow (perm)	100	4885	1558	146	5079	1401	1345	1879	1521	1266	1824	1581
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			357			173			54			122
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		261.4			340.3			475.3			229.3	
Travel Time (s)		15.7			20.4			34.2			16.5	
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	0%	3%	1%	14%	0%	0%	5%	4%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1753	357	50	2366	173	478	87	54	139	63	187
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.0	35.7	35.7	9.0	35.7	35.7	9.0	39.9	39.9	39.9	39.9	39.9
Total Split (s)	9.0	66.0	66.0	9.0	66.0	66.0	20.0	60.0	60.0	40.0	40.0	40.0
Total Split (%)	6.7%	48.9%	48.9%	6.7%	48.9%	48.9%	14.8%	44.4%	44.4%	29.6%	29.6%	29.6%
Maximum Green (s)	6.0	59.3	59.3	6.0	59.3	59.3	17.0	53.1	53.1	33.1	33.1	33.1
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.1	2.1	0.0	2.1	2.1	0.0	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.7	6.7	3.0	6.7	6.7	0.0	6.9	6.9	6.9	6.9	6.9

Lanes, Volumes, Timings

8: Heart Lake Road & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		21.0	21.0		21.0	21.0		25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0	0	0	0
Act Effect Green (s)	84.7	72.9	72.9	79.0	68.2	68.2	47.0	40.1	40.1	20.1	20.1	20.1
Actuated g/C Ratio	0.63	0.54	0.54	0.59	0.51	0.51	0.35	0.30	0.30	0.15	0.15	0.15
v/c Ratio	0.60	0.66	0.36	0.30	0.92	0.22	0.90	0.16	0.11	0.74	0.23	0.55
Control Delay	43.3	21.8	2.4	16.0	38.8	3.8	60.1	34.0	8.0	76.4	50.4	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	21.8	2.4	16.0	38.8	3.8	60.1	34.0	8.0	76.4	50.4	24.7
LOS	D	C	A	B	D	A	E	C	A	E	D	C
Approach Delay		19.7			36.0			51.9			47.3	
Approach LOS		B			D			D			D	
Queue Length 50th (m)	17.8	99.0	0.0	5.1	220.8	0.0	118.8	18.0	0.0	37.8	15.8	16.4
Queue Length 95th (m)	42.0	108.4	13.1	12.2	#295.6	13.8	147.6	29.0	9.3	58.0	28.0	38.9
Internal Link Dist (m)		237.4			316.3			451.3			205.3	
Turn Bay Length (m)	125.0		200.0	160.0		160.0	125.0		60.0	85.0		55.0
Base Capacity (vph)	182	2637	1005	169	2565	793	533	739	631	310	447	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.66	0.36	0.30	0.92	0.22	0.90	0.12	0.09	0.45	0.14	0.39

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 26 (19%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 32.2

Intersection LOS: C

Intersection Capacity Utilization 98.0%

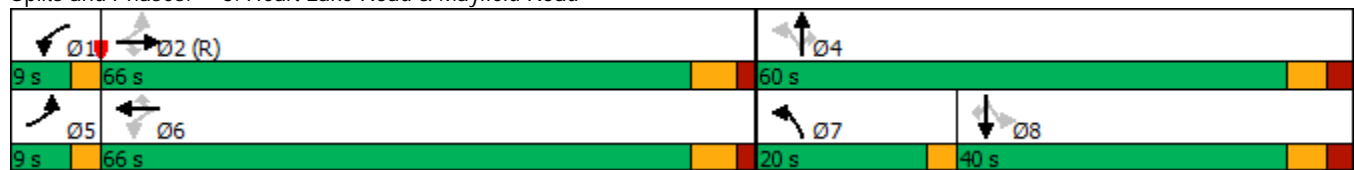
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















Splits and Phases: 8: Heart Lake Road & Mayfield Road



Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road













10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	1776	27	28	1961	19	20	1	17	12	0	55
Future Volume (vph)	69	1776	27	28	1961	19	20	1	17	12	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	45.0		0.0	45.0		45.0	45.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1750	4826	0	1767	5079	1581	1785	1587	0	0	1595	0
Flt Permitted	0.083			0.101			0.707				0.930	
Satd. Flow (perm)	153	4826	0	188	5079	1544	1325	1587	0	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				29		18			24	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		115.1			416.2			144.8			122.1	
Travel Time (s)		6.9			25.0			13.0			11.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	7%	1%	1%	1%	0%	0%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1878	0	29	2043	20	21	19	0	0	70	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Detector Phase	2	2		2	2	2	4	4		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	32.6	32.6		32.6	32.6	
Total Split (s)	95.0	95.0		95.0	95.0	95.0	40.0	40.0		40.0	40.0	
Total Split (%)	70.4%	70.4%		70.4%	70.4%	70.4%	29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	89.0	89.0		89.0	89.0	89.0	33.4	33.4		33.4	33.4	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.6	6.6			6.6	

Lanes, Volumes, Timings

11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effect Green (s)	116.2	116.2		116.2	116.2	116.2	10.3	10.3			10.3	
Actuated g/C Ratio	0.86	0.86		0.86	0.86	0.86	0.08	0.08			0.08	
v/c Ratio	0.55	0.45		0.18	0.47	0.02	0.21	0.14			0.51	
Control Delay	23.5	3.3		5.6	3.4	0.6	62.1	25.4			53.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	23.5	3.3		5.6	3.4	0.6	62.1	25.4			53.6	
LOS	C	A		A	A	A	E	C			D	
Approach Delay		4.1			3.4			44.7			53.6	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	4.9	40.2		1.2	44.8	0.0	5.7	0.3			12.6	
Queue Length 95th (m)	#40.1	59.4		5.0	65.5	1.1	14.3	8.3			28.3	
Internal Link Dist (m)		91.1			392.2			120.8			98.1	
Turn Bay Length (m)	45.0			45.0		45.0	45.0					
Base Capacity (vph)	131	4156		162	4373	1333	327	406			387	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.55	0.45		0.18	0.47	0.02	0.06	0.05			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 15 (11%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 75.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road



Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024

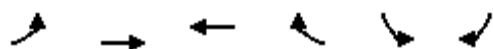


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (vph)	0	1280	2479	0	198	20
Future Volume (vph)	0	1280	2479	0	198	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	110.0
Storage Lanes	0			0	2	1
Taper Length (m)	7.5				7.5	
Satd. Flow (prot)	0	4794	5029	0	3156	1371
Flt Permitted					0.953	
Satd. Flow (perm)	0	4794	5029	0	3156	1371
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						
Link Speed (k/h)		60	60		80	
Link Distance (m)		340.3	442.1		199.5	
Travel Time (s)		20.4	26.5		9.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	0%	10%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	0	1306	2530	0	204	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		7.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25			15	25	15
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	2		4	
Permitted Phases						4
Detector Phase		2	2		4	4
Switch Phase						
Minimum Initial (s)		16.0	16.0		8.0	8.0
Minimum Split (s)		27.0	27.0		37.0	37.0
Total Split (s)		46.0	46.0		41.0	41.0
Total Split (%)		52.9%	52.9%		47.1%	47.1%
Maximum Green (s)		40.0	40.0		35.0	35.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0

Lanes, Volumes, Timings

14: Mayfield Road & Hwy 410 SB Off-Ramp

10-31-2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Minimum Gap (s)		3.0	3.0		3.0	3.0
Time Before Reduce (s)		0.0	0.0		0.0	0.0
Time To Reduce (s)		0.0	0.0		0.0	0.0
Recall Mode		Max	Max		None	None
Walk Time (s)		10.0	10.0			
Flash Dont Walk (s)		6.0	6.0			
Pedestrian Calls (#/hr)		0	0			
Act Effect Green (s)		42.4	42.4		9.5	9.5
Actuated g/C Ratio		0.66	0.66		0.15	0.15
v/c Ratio		0.41	0.76		0.43	0.09
Control Delay		5.7	9.5		27.0	23.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.7	9.5		27.0	23.1
LOS		A	A		C	C
Approach Delay		5.7	9.5		26.7	
Approach LOS		A	A		C	
Queue Length 50th (m)		22.2	63.1		11.4	2.0
Queue Length 95th (m)		33.7	93.4		20.3	7.5
Internal Link Dist (m)		316.3	418.1		175.5	
Turn Bay Length (m)						110.0
Base Capacity (vph)		3177	3332		1733	753
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.41	0.76		0.12	0.02

Intersection Summary

Area Type: Other

Cycle Length: 87

Actuated Cycle Length: 64

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 9.2

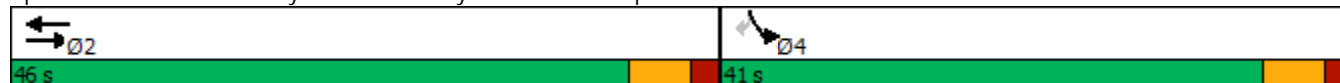
Intersection LOS: A

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 14: Mayfield Road & Hwy 410 SB Off-Ramp



Lanes, Volumes, Timings
16: Hwy 410 NB Off-Ramp & Mayfield Road

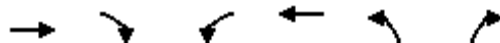
10-31-2024

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1411	0	0	2755	775	1073
Future Volume (vph)	1411	0	0	2755	775	1073
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)	0%			0%	0%	
Storage Length (m)		50.0	0.0		0.0	90.0
Storage Lanes		0	0		2	1
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	4794	0	0	4794	3124	1275
Flt Permitted					0.970	
Satd. Flow (perm)	4794	0	0	4794	3124	1275
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					19	19
Link Speed (k/h)	60			60	80	
Link Distance (m)	442.1			202.7	480.1	
Travel Time (s)	26.5			12.2	21.6	
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	7%	2%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						45%
Lane Group Flow (vph)	1440	0	0	2811	1284	602
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		15	25		25	15
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Detector Phase	2			2	4	4
Switch Phase						
Minimum Initial (s)	12.0			12.0	10.0	10.0
Minimum Split (s)	33.6			33.6	22.5	22.5
Total Split (s)	65.0			65.0	55.0	55.0
Total Split (%)	54.2%			54.2%	45.8%	45.8%
Maximum Green (s)	58.4			58.4	48.1	48.1
Yellow Time (s)	4.6			4.6	4.6	4.6
All-Red Time (s)	2.0			2.0	2.3	2.3
Lost Time Adjust (s)	0.0			-3.0	-3.0	-3.0
Total Lost Time (s)	6.6			3.6	3.9	3.9

Lanes, Volumes, Timings

16: Hwy 410 NB Off-Ramp & Mayfield Road

10-31-2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Minimum Gap (s)	3.0			3.0	3.0	3.0
Time Before Reduce (s)	0.0			0.0	0.0	0.0
Time To Reduce (s)	0.0			0.0	0.0	0.0
Recall Mode	Max			Max	None	None
Walk Time (s)	8.0			8.0		
Flash Dont Walk (s)	19.0			19.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	58.4			61.4	51.1	51.1
Actuated g/C Ratio	0.49			0.51	0.43	0.43
v/c Ratio	0.62			1.15	0.96	1.09
Control Delay	24.0			100.2	49.7	97.4
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	24.0			100.2	49.7	97.4
LOS	C			F	D	F
Approach Delay	24.0			100.2	64.9	
Approach LOS	C			F	E	
Queue Length 50th (m)	93.2			~299.3	154.4	~181.5
Queue Length 95th (m)	109.0			#327.5	#205.1	#261.6
Internal Link Dist (m)	418.1			178.7	456.1	
Turn Bay Length (m)						90.0
Base Capacity (vph)	2333			2452	1341	553
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.62			1.15	0.96	1.09

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 71.5

Intersection LOS: E

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 16: Hwy 410 NB Off-Ramp & Mayfield Road



Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1













10-31-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	44	80	0	4	75	1404	135	7	1010	4
Future Volume (vph)	2	0	44	80	0	4	75	1404	135	7	1010	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	15.0		0.0	0.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	1597	0	1785	1597	0	1785	3457	0	1785	3497	0
Flt Permitted	0.755			0.727			0.253			0.116		
Satd. Flow (perm)	1419	1597	0	1366	1597	0	475	3457	0	218	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			53			18			1	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		110.9			194.9			286.9			482.7	
Travel Time (s)		10.0			17.5			20.7			34.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	46	0	87	4	0	78	1610	0	8	1056	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(m)		3.5			3.5			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.6	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	34.6	34.6		34.6	34.6		45.4	45.4		45.4	45.4	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.8%	56.8%		56.8%	56.8%	
Maximum Green (s)	28.0	28.0		28.0	28.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.9	6.9		6.9	6.9	

Lanes, Volumes, Timings

18: Kennedy Road & Snellview Boulevard/Site Access #1

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.7	12.7		12.7	12.7		58.9	58.9		58.9	58.9	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.74	0.74		0.74	0.74	
v/c Ratio	0.01	0.15		0.40	0.01		0.22	0.63		0.05	0.41	
Control Delay	27.5	7.7		36.1	0.0		7.5	8.6		5.9	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.5	7.7		36.1	0.0		7.5	8.6		5.9	6.1	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		8.5			34.5			8.5			6.1	
Approach LOS		A			C			A			A	
Queue Length 50th (m)	0.3	0.0		12.8	0.0		4.1	67.8		0.4	34.5	
Queue Length 95th (m)	2.1	6.9		25.6	0.0		11.9	103.8		2.1	52.9	
Internal Link Dist (m)		86.9			170.9			262.9			458.7	
Turn Bay Length (m)	15.0						30.0			30.0		
Base Capacity (vph)	496	596		478	593		350	2551		160	2576	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.08		0.18	0.01		0.22	0.63		0.05	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 8.4

Intersection LOS: A

Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 18: Kennedy Road & Snellview Boulevard/Site Access #1



Lanes, Volumes, Timings

20: Stonegate Drive/Site Access #3 & Mayfield Road

10-31-2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	83	2120	17	61	2719	83	1	0	58	57	0	69
Future Volume (vph)	83	2120	17	61	2719	83	1	0	58	57	0	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	190.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	1785	4929	0	1785	5012	0	0	1596	0	1785	1597	0
Flt Permitted	0.040			0.066				0.995		0.779		
Satd. Flow (perm)	75	4929	0	124	5012	0	0	1590	0	1464	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			53			86	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		542.7			294.3			223.4			79.4	
Travel Time (s)		32.6			17.7			20.1			5.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	2273	0	65	2981	0	0	63	0	61	73	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	34.6		34.6	34.6		34.9	34.9		34.9	34.9	
Total Split (s)	10.0	100.0		90.0	90.0		35.0	35.0		35.0	35.0	
Total Split (%)	7.4%	74.1%		66.7%	66.7%		25.9%	25.9%		25.9%	25.9%	
Maximum Green (s)	7.0	93.4		83.4	83.4		28.1	28.1		28.1	28.1	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	2.6		2.6	2.6		2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	3.0	6.6		6.6	6.6			6.9		6.9	6.9	

Lanes, Volumes, Timings

20: Stonegate Drive/Site Access #3 & Mayfield Road

10-31-2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead			Lag		Lag						
Lead-Lag Optimize?	Yes			Yes		Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		Max	Max		None	None		None	None	
Walk Time (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effect Green (s)	112.1	108.5		97.7	97.7			13.0		13.0	13.0	
Actuated g/C Ratio	0.83	0.80		0.72	0.72			0.10		0.10	0.10	
v/c Ratio	0.55	0.57		0.73	0.82			0.32		0.44	0.32	
Control Delay	31.5	5.6		54.0	27.4			22.6		67.2	11.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	31.5	5.6		54.0	27.4			22.6		67.2	11.6	
LOS	C	A		D	C			C		E	B	
Approach Delay		6.5			27.9			22.6			36.9	
Approach LOS		A			C			C			D	
Queue Length 50th (m)	6.5	67.0		13.1	242.4			2.6		16.5	0.0	
Queue Length 95th (m)	25.3	89.5		m17.6	303.2			16.8		31.1	11.7	
Internal Link Dist (m)		518.7			270.3			199.4			55.4	
Turn Bay Length (m)	30.0			190.0						15.0		
Base Capacity (vph)	167	3963		89	3628			372		304	400	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.53	0.57		0.73	0.82			0.17		0.20	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 83.6%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 20: Stonegate Drive/Site Access #3 & Mayfield Road



HCM Unsignalized Intersection Capacity Analysis

27: Heart Lake Road & Site Access #2

10-31-2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	72	65	0	3	121	133	107	6	246	6
Future Volume (Veh/h)	4	0	72	65	0	3	121	133	107	6	246	6
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	78	71	0	3	132	145	116	7	267	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	229											
pX, platoon unblocked												
vC, conflicting volume	696	810	270	826	755	203	274				261	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	810	270	826	755	203	274				261	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	99	100	90	71	100	100	90				99	
cM capacity (veh/h)	328	281	773	242	302	843	1301				1315	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	4	78	71	3	132	261	7	274				
Volume Left	4	0	71	0	132	0	7	0				
Volume Right	0	78	0	3	0	116	0	7				
cSH	328	773	242	843	1301	1700	1315	1700				
Volume to Capacity	0.01	0.10	0.29	0.00	0.10	0.15	0.01	0.16				
Queue Length 95th (m)	0.3	2.7	9.4	0.1	2.7	0.0	0.1	0.0				
Control Delay (s)	16.1	10.2	25.9	9.3	8.1	0.0	7.8	0.0				
Lane LOS	C	B	D	A	A		A					
Approach Delay (s)	10.5		25.2		2.7		0.2					
Approach LOS	B		D									
Intersection Summary												
Average Delay				4.6								
Intersection Capacity Utilization				40.3%	ICU Level of Service				A			
Analysis Period (min)				15								

Appendix I

Traffic Signal Warrant Analysis

Signal Warrant Calculation (OTM Book 12 - Justification 7)

Major Street: Kennedy Road

Minor Street: Snellview Blvd/Access #1

Comment: Future Total (2023) Traffic Condition

Number of Approaches: 1 ☐ 2 ☒

Tee Intersection Configuration: Yes ☐ No ☒

Flow Condition: Free Fv (Rural) ☐ Restricted Flow (Urban) ☒

VOLUME	AM	PM	FACTOR *	
1A - All	1,790	1,815	n/a	901
1B - Minor	164	105	25%	67
2A - Major	1,626	1,710	25%	834
2B - Cross	108	91	25%	50

* This factor relates average of the "peak eight hours" to the average of the "am and pm peak hours"

OVERALL WARRANT	150% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for new intersection with forecast traffic
	120% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with forecast traffic
	100% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic *
	COMBO 80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic
	80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

* Consider full underground provisions if 100% for forecast traffic

WARRANT 1 - MINIMUM VEHICULAR VOLUME

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
ALL APPROACHES	480	720	600	900	901
	% FULFILLED				100%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MINOR STREET APPROACHES	120	170	120	170	67
	% FULFILLED				39%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

WARRANT 2 - DELAY TO CROSS TRAFFIC

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MAJOR STREET APPROACHES	480	720	600	900	834
	% FULFILLED				93%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	50
	% FULFILLED				29%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day

1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets

2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day

2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street; comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

Signal Warrant Calculation (OTM Book 12 - Justification 7)

Major Street: Mayfield Road

Minor Street: Stonegate Drive/Access #3

Comment: Existing Traffic Conditions (2023)

Number of Approaches: 1 ☐ 2 ☒

Tee Intersection Configuration: Yes ☒ No ☐

Flow Condition: Free Fv (Rural) ☐ Restricted Flow (Urban) ☒

VOLUME	AM	PM	FACTOR *	
1A - All	2,631	2,906	n/a	1,384
1B - Minor	77	59	25%	34
2A - Major	2,554	2,847	25%	1,350
2B - Cross	12	32	25%	11

* This factor relates average of the "peak eight hours" to the average of the "am and pm peak hours"

OVERALL WARRANT	150% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for new intersection with forecast traffic
	120% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with forecast traffic
	100% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic *
	COMBO 80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic
	80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

* Consider full underground provisions if 100% for forecast traffic

WARRANT 1 - MINIMUM VEHICULAR VOLUME

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
ALL APPROACHES	480	720	600	900	1384
	% FULFILLED				154%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
MINOR STREET APPROACHES	180	255	180	255	34
	% FULFILLED				13%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

WARRANT 2 - DELAY TO CROSS TRAFFIC

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
MAJOR STREET APPROACHES	480	720	600	900	1350
	% FULFILLED				150%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	11
	% FULFILLED				15%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day

1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets

2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day

2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street; comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

Signal Warrant Calculation (OTM Book 12 - Justification 7)

Major Street: Kennedy Road

Minor Street: Snellview Blvd/Access #1

Comment: Future Total (2028) Traffic Condition

Number of Approaches: 1 ☐ 2 ☒

Tee Intersection Configuration: Yes ☐ No ☒

Flow Condition: Free Fv (Rural) ☐ Restricted Flow (Urban) ☒

VOLUME	AM	PM	FACTOR *	
1A - All	2,319	2,528	n/a	1,212
1B - Minor	190	130	25%	80
2A - Major	2,129	2,398	25%	1,132
2B - Cross	141	120	25%	65

* This factor relates average of the "peak eight hours" to the average of the "am and pm peak hours"

OVERALL WARRANT

150% Satisfied: Yes ☐ No ☒ Warrant for new intersection with forecast traffic

120% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with forecast traffic

100% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with existing traffic *

COMBO 80% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with existing traffic

80% Satisfied: Yes ☒ No ☐

* Consider full underground provisions if 100% for forecast traffic

WARRANT 1 - MINIMUM VEHICULAR VOLUME

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
ALL APPROACHES	480	720	600	900	1212
	% FULFILLED				135%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MINOR STREET APPROACHES	120	170	120	170	80
	% FULFILLED				47%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

WARRANT 2 - DELAY TO CROSS TRAFFIC

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MAJOR STREET APPROACHES	480	720	600	900	1132
	% FULFILLED				126%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	65
	% FULFILLED				87%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☒ No ☐

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day

1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets

2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day

2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street; comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

Signal Warrant Calculation (OTM Book 12 - Justification 7)

Major Street: Mayfield Road

Minor Street: Stonegate Drive/Access #3

Comment: Future Total (2028) Traffic Condition

Number of Approaches: 1 ☐ 2 ☒

Tee Intersection Configuration: Yes ☐ No ☒

Flow Condition: Free Fv (Rural) ☐ Restricted Flow (Urban) ☒

VOLUME	AM	PM	FACTOR *	
1A - All	3,813	4,244	n/a	2,015
1B - Minor	217	186	25%	101
2A - Major	3,596	4,058	25%	1,914
2B - Cross	91	101	25%	48

* This factor relates average of the "peak eight hours" to the average of the "am and pm peak hours"

OVERALL WARRANT

150% Satisfied: Yes ☐ No ☒ Warrant for new intersection with forecast traffic

120% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with forecast traffic

100% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with existing traffic *

COMBO 80% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with existing traffic

80% Satisfied: Yes ☐ No ☒

* Consider full underground provisions if 100% for forecast traffic

WARRANT 1 - MINIMUM VEHICULAR VOLUME

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
ALL APPROACHES	480	720	600	900	2015
	% FULFILLED				224%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MINOR STREET APPROACHES	120	170	120	170	101
	% FULFILLED				59%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

WARRANT 2 - DELAY TO CROSS TRAFFIC

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MAJOR STREET APPROACHES	480	720	600	900	1914
	% FULFILLED				213%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	48
	% FULFILLED				64%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day

1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets

2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day

2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street; comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

Signal Warrant Calculation (OTM Book 12 - Justification 7)

Major Street: Kennedy Road

Minor Street: Snellview Blvd/Access #1

Comment: Future Total (2033) Traffic Condition

Number of Approaches: 1 ☐ 2 ☒

Tee Intersection Configuration: Yes ☐ No ☒

Flow Condition: Free Fv (Rural) ☐ Restricted Flow (Urban) ☒

VOLUME	AM	PM	FACTOR *	
1A - All	2,539	2,765	n/a	1,326
1B - Minor	190	130	25%	80
2A - Major	2,349	2,635	25%	1,246
2B - Cross	141	120	25%	65

* This factor relates average of the "peak eight hours" to the average of the "am and pm peak hours"

OVERALL WARRANT

150% Satisfied: Yes ☐ No ☒ Warrant for new intersection with forecast traffic

120% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with forecast traffic

100% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with existing traffic *

COMBO 80% Satisfied: Yes ☐ No ☒ Warrant for existing intersection with existing traffic

80% Satisfied: Yes ☒ No ☐

* Consider full underground provisions if 100% for forecast traffic

WARRANT 1 - MINIMUM VEHICULAR VOLUME

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
ALL APPROACHES	480	720	600	900	1326
	% FULFILLED				147%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MINOR STREET APPROACHES	120	170	120	170	80
	% FULFILLED				47%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

WARRANT 2 - DELAY TO CROSS TRAFFIC

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MAJOR STREET APPROACHES	480	720	600	900	1246
	% FULFILLED				138%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	65
	% FULFILLED				87%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☒ No ☐

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day

1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets

2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day

2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street; comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

Signal Warrant Calculation (OTM Book 12 - Justification 7)

Major Street: Mayfield Road

Minor Street: Stonegate Drive/Access #3

Comment: Future Total (2033) Traffic Condition

Number of Approaches: 1 ☐ 2 ☒

Tee Intersection Configuration: Yes ☐ No ☒

Flow Condition: Free Fv (Rural) ☐ Restricted Flow (Urban) ☒

VOLUME	AM	PM	FACTOR *	
1A - All	4,747	5,269	n/a	2,504
1B - Minor	217	186	25%	101
2A - Major	4,530	5,083	25%	2,403
2B - Cross	91	101	25%	48

* This factor relates average of the "peak eight hours" to the average of the "am and pm peak hours"

OVERALL WARRANT	150% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for new intersection with forecast traffic
	120% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with forecast traffic
	100% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic *
	COMBO 80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic
	80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

* Consider full underground provisions if 100% for forecast traffic

WARRANT 1 - MINIMUM VEHICULAR VOLUME

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
ALL APPROACHES	480	720	600	900	2504
	% FULFILLED				278%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MINOR STREET APPROACHES	120	170	120	170	101
	% FULFILLED				59%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

WARRANT 2 - DELAY TO CROSS TRAFFIC

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
MAJOR STREET APPROACHES	480	720	600	900	2403
	% FULFILLED				267%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
				X	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	48
	% FULFILLED				64%

150% Satisfied: Yes ☐ No ☒

120% Satisfied: Yes ☐ No ☒

100% Satisfied: Yes ☐ No ☒

80% Satisfied: Yes ☐ No ☒

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day

1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets

2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day

2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street; comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

Appendix J

SimTraffic Queuing Analysis

Queuing and Blocking Report
2021 Existing Traffic Conditions

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (m)	52.4	256.0	252.5	56.4	111.6	131.2	47.5	43.9	59.0	80.4	157.4	263.8
Average Queue (m)	41.8	143.2	142.6	16.0	53.1	63.9	37.0	14.7	23.1	34.1	128.1	140.4
95th Queue (m)	63.2	250.7	250.2	38.8	90.4	110.5	59.6	31.5	43.7	63.5	180.6	271.7
Link Distance (m)		392.7	392.7		520.1	520.1			514.4	514.4		256.9
Upstream Blk Time (%)												2
Queuing Penalty (veh)												12
Storage Bay Dist (m)	45.0			85.0			40.0	45.0			150.0	
Storage Blk Time (%)	10	48			1	20	2	0	0		14	0
Queuing Penalty (veh)	46	77			1	59	4	0	0		65	3

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB
Directions Served	R
Maximum Queue (m)	140.3
Average Queue (m)	28.6
95th Queue (m)	82.3
Link Distance (m)	256.9
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report
2021 Existing Traffic Conditions

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B2	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	T	T	T	R
Maximum Queue (m)	24.5	54.3	59.4	57.6	68.1	2.0	1.0	35.4	42.0	47.6	52.5	9.4
Average Queue (m)	7.6	24.8	28.8	31.4	32.7	0.1	0.0	14.3	14.9	18.6	17.8	0.7
95th Queue (m)	18.9	45.6	51.7	54.5	58.4	1.4	0.7	29.7	34.1	38.3	41.1	4.5
Link Distance (m)		240.3	240.3	240.3		288.4	278.8		313.9	313.9	313.9	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0			160.0				160.0
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R
Maximum Queue (m)	132.5	335.7	20.3	22.1	38.5	22.9
Average Queue (m)	113.9	156.3	4.6	7.8	17.3	9.6
95th Queue (m)	162.8	399.8	14.2	19.3	33.0	19.6
Link Distance (m)		453.5			808.3	
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (m)	125.0		60.0	85.0		55.0
Storage Blk Time (%)	55				0	
Queuing Penalty (veh)	19				0	

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	LTR
Maximum Queue (m)	31.0	83.7	59.4	14.9	27.6	29.0	5.5	17.3	10.7	48.9
Average Queue (m)	7.5	28.1	20.0	2.2	7.0	9.4	0.2	4.9	3.2	18.0
95th Queue (m)	20.5	63.8	48.6	9.3	20.9	23.6	2.5	14.7	10.2	37.8
Link Distance (m)		104.1	104.1		392.7	392.7			130.4	98.1
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	45.0			45.0			45.0	45.0		
Storage Blk Time (%)		2								
Queuing Penalty (veh)		1								

Queuing and Blocking Report
2021 Existing Traffic Conditions

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	46.4	47.6	52.0	41.0	48.1	40.1	44.3	40.3	28.4
Average Queue (m)	15.4	19.9	21.5	18.3	19.7	12.1	26.7	23.8	3.8
95th Queue (m)	32.4	39.1	42.0	33.9	39.0	31.2	39.5	37.1	14.4
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)								110.0	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	71.7	73.3	74.6	108.4	80.9	43.5	75.4	102.1	94.2
Average Queue (m)	37.3	39.9	42.2	59.9	43.6	11.6	37.6	59.9	49.0
95th Queue (m)	62.6	66.2	70.9	90.6	75.6	33.4	61.3	86.3	81.8
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)								90.0	
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							1	0	

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (m)	6.7	30.7	16.7	71.2	77.2
Average Queue (m)	0.5	10.2	4.9	9.5	5.2
95th Queue (m)	3.6	21.7	13.5	45.5	37.8
Link Distance (m)		87.8		473.6	473.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	15.0		30.0		
Storage Blk Time (%)		7			
Queuing Penalty (veh)		0			

Queuing and Blocking Report

2021 Existing Traffic Conditions

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	L	LR
Maximum Queue (m)	1.4	4.6	14.2	22.1
Average Queue (m)	0.0	0.2	3.6	10.2
95th Queue (m)	1.0	2.5	11.0	18.5
Link Distance (m)	520.1	520.1		205.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			190.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 288

Queuing and Blocking Report
2021 Existing Traffic Conditions

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (m)	52.4	158.2	154.1	92.5	480.2	490.8	47.5	52.4	89.8	91.8	157.5	255.7
Average Queue (m)	49.8	102.6	95.3	67.0	338.2	371.0	47.2	30.5	48.0	49.9	154.7	184.1
95th Queue (m)	61.2	167.6	154.9	116.8	527.9	537.4	51.1	55.8	80.6	83.0	168.0	272.9
Link Distance (m)		392.7	392.7		520.1	520.1			514.4	514.4		256.9
Upstream Blk Time (%)					3	4						1
Queuing Penalty (veh)					23	29						2
Storage Bay Dist (m)	45.0			85.0			40.0	45.0			150.0	
Storage Blk Time (%)	45	19		0	44	41	60	3	18		48	7
Queuing Penalty (veh)	160	46		0	80	277	266	4	16		100	31

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB
Directions Served	R
Maximum Queue (m)	149.0
Average Queue (m)	31.7
95th Queue (m)	108.4
Link Distance (m)	256.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report
2021 Existing Traffic Conditions

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	T	L	T	T	T	R	L
Maximum Queue (m)	31.0	54.8	56.1	58.3	32.2	2.2	16.8	77.0	81.9	83.4	13.8	132.5
Average Queue (m)	10.8	26.3	29.2	31.6	13.0	0.1	6.5	38.8	44.0	44.8	2.9	130.8
95th Queue (m)	24.9	47.6	50.9	54.7	25.1	1.6	15.7	72.8	74.3	75.9	10.5	143.1
Link Distance (m)		240.3	240.3	240.3		288.4		313.9	313.9	313.9		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0		160.0				160.0	125.0
Storage Blk Time (%)												82
Queuing Penalty (veh)												48

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	449.3	16.8	31.8	25.9	42.7
Average Queue (m)	337.3	4.1	10.3	9.1	18.4
95th Queue (m)	564.0	12.9	25.0	21.0	35.2
Link Distance (m)	453.5			808.3	
Upstream Blk Time (%)	34				
Queuing Penalty (veh)	0				
Storage Bay Dist (m)		60.0	85.0		55.0
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	LTR
Maximum Queue (m)	29.8	67.2	52.7	8.1	26.2	29.9	6.8	13.8	10.5	30.3
Average Queue (m)	9.5	18.6	11.1	1.9	3.5	6.2	0.4	4.0	2.9	9.2
95th Queue (m)	20.7	52.2	36.0	7.4	15.0	20.7	3.1	12.3	9.5	20.5
Link Distance (m)		104.1	104.1		392.7	392.7			130.4	98.1
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	45.0			45.0			45.0	45.0		
Storage Blk Time (%)		1								
Queuing Penalty (veh)		1								

Queuing and Blocking Report
2021 Existing Traffic Conditions

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	32.1	43.7	42.3	40.7	43.2	43.9	34.2	25.5	7.9
Average Queue (m)	7.9	13.3	15.5	18.9	22.9	21.3	15.5	9.8	0.7
95th Queue (m)	23.4	31.7	34.4	34.5	39.1	41.1	27.8	20.7	4.9
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)								110.0	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	62.7	68.6	77.2	154.8	133.7	85.9	94.0	134.6	96.7
Average Queue (m)	30.0	31.7	33.2	96.4	85.2	52.8	56.5	74.8	66.1
95th Queue (m)	53.8	59.7	64.8	131.0	120.5	83.7	83.9	108.2	99.6
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)								90.0	
Storage Blk Time (%)							1	0	
Queuing Penalty (veh)							6	2	

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	NB	SB
Directions Served	L	R	L	T
Maximum Queue (m)	5.1	16.0	15.7	10.5
Average Queue (m)	0.3	7.4	6.1	0.5
95th Queue (m)	2.8	14.8	14.0	5.6
Link Distance (m)		87.8		473.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	15.0		30.0	
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Queuing and Blocking Report

2021 Existing Traffic Conditions

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	WB	WB	WB	B2	B2	NB
Directions Served	TR	L	T	T	T	T	LR
Maximum Queue (m)	2.6	55.6	68.9	68.7	8.1	9.8	20.4
Average Queue (m)	0.1	17.7	25.2	26.5	0.3	0.7	9.2
95th Queue (m)	1.3	84.4	150.3	154.4	6.0	8.7	17.4
Link Distance (m)	520.1		278.8	278.8	288.4	288.4	205.6
Upstream Blk Time (%)			1	1			
Queuing Penalty (veh)			9	12			
Storage Bay Dist (m)		190.0					
Storage Blk Time (%)		0	4				
Queuing Penalty (veh)		1	3				

Network Summary

Network wide Queuing Penalty: 1113

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	347.1	344.2	326.4	36.6	85.8	94.5	119.9	47.5	42.8	50.7	78.7
Average Queue (m)	47.3	227.7	221.7	207.1	18.6	49.9	55.1	64.0	38.9	16.3	24.9	38.8
95th Queue (m)	64.2	382.8	371.5	351.6	32.9	74.9	84.2	105.6	59.2	33.3	44.0	69.0
Link Distance (m)		392.3	392.3	392.3		519.9	519.9	519.9			510.8	510.8
Upstream Blk Time (%)		1	0									
Queuing Penalty (veh)		3	0									
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	34	58				0		17	3	0	1	
Queuing Penalty (veh)	140	104				0		57	8	0	1	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.4	258.5	241.4
Average Queue (m)	143.2	165.4	54.4
95th Queue (m)	180.6	302.6	172.2
Link Distance (m)		253.3	253.3
Upstream Blk Time (%)		5	0
Queuing Penalty (veh)		36	3
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	21	1	
Queuing Penalty (veh)	104	4	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B3	B2	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	T	T	T
Maximum Queue (m)	27.1	78.5	94.0	98.3	132.5	6.0	13.1	2.4	76.4	50.8	54.5	54.7
Average Queue (m)	9.7	46.3	57.9	62.9	60.4	0.2	0.8	0.1	33.8	17.8	22.2	22.0
95th Queue (m)	20.7	75.5	88.9	91.5	105.3	4.3	7.9	1.7	62.3	41.1	48.3	48.3
Link Distance (m)		240.5	240.5	240.5		288.2	288.2	278.8		313.9	313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0				160.0			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	NB	NB	NB	SB	SB	SB
Directions Served	R	L	T	R	L	T	R
Maximum Queue (m)	8.3	132.5	470.0	25.4	23.4	46.1	22.1
Average Queue (m)	1.0	132.3	398.3	5.2	7.5	19.5	9.3
95th Queue (m)	5.3	132.7	547.8	16.0	19.2	37.3	18.7
Link Distance (m)			453.5			808.3	
Upstream Blk Time (%)			54				
Queuing Penalty (veh)			0				
Storage Bay Dist (m)	160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)		98				0	
Queuing Penalty (veh)		44				0	

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	36.9	80.3	66.3	41.6	16.0	14.5	30.5	31.9	6.1	32.0	12.4	47.4
Average Queue (m)	8.7	30.7	19.3	11.8	3.1	2.9	8.0	11.5	0.3	10.0	4.1	15.3
95th Queue (m)	22.1	67.9	49.8	32.5	10.2	11.2	22.1	27.1	2.9	24.6	11.4	36.1
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)		3										
Queuing Penalty (veh)		1										

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	60.6	64.8	71.3	56.6	57.2	59.4	47.2	42.8	15.8
Average Queue (m)	23.9	30.5	34.7	26.1	26.4	21.6	28.8	26.3	3.4
95th Queue (m)	50.7	58.8	64.8	47.3	49.8	47.9	41.9	39.2	12.6
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	98.0	106.5	105.2	116.1	107.5	70.5	98.1	133.2	97.5
Average Queue (m)	55.7	58.1	60.1	78.7	65.5	32.2	52.8	77.0	67.7
95th Queue (m)	91.8	96.8	100.8	108.3	97.2	66.1	84.6	108.5	99.3
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									90.0
Storage Blk Time (%)							2	1	
Queuing Penalty (veh)							9	3	

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (m)	12.2	63.0	18.9	144.3	132.5
Average Queue (m)	0.5	18.1	6.5	35.8	25.3
95th Queue (m)	5.2	45.7	15.9	135.2	116.4
Link Distance (m)		87.8		473.6	473.6
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (m)	15.0		30.0		
Storage Blk Time (%)		31	0		
Queuing Penalty (veh)		1	1		

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	EB	WB	WB	WB	B2	B2	NB
Directions Served	T	TR	L	T	T	T	T	LR
Maximum Queue (m)	115.1	112.6	16.8	2.0	2.4	3.6	1.9	36.9
Average Queue (m)	3.8	3.8	4.5	0.1	0.1	0.1	0.1	14.6
95th Queue (m)	75.1	74.7	13.5	1.4	1.7	2.0	1.3	27.6
Link Distance (m)	519.9	519.9		278.8	278.8	288.2	288.2	206.2
Upstream Blk Time (%)	0	0						
Queuing Penalty (veh)	0	0						
Storage Bay Dist (m)			190.0					
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 520

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	400.4	405.3	396.0	92.4	520.2	533.1	530.0	47.5	52.4	188.9	182.6
Average Queue (m)	52.3	346.9	263.3	139.3	72.0	282.1	409.6	462.7	47.5	44.7	117.7	116.5
95th Queue (m)	52.4	479.7	484.3	344.1	113.7	579.2	640.5	602.7	47.5	66.8	213.9	208.6
Link Distance (m)		392.3	392.3	392.3		519.9	519.9	519.9			510.8	510.8
Upstream Blk Time (%)		43	4	0		0	5	26				
Queuing Penalty (veh)		189	19	1		3	33	184				
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	94	8			19	10		14	73	8	66	
Queuing Penalty (veh)	298	20			74	21		106	292	13	70	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.5	263.3	263.5
Average Queue (m)	155.4	238.5	150.7
95th Queue (m)	169.8	327.0	327.8
Link Distance (m)		253.3	253.3
Upstream Blk Time (%)		41	8
Queuing Penalty (veh)		197	40
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	70	0	
Queuing Penalty (veh)	163	2	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B2	B2	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	T	T	T
Maximum Queue (m)	31.5	69.5	72.3	79.2	33.3	3.2	1.3	2.8	22.1	94.0	102.1	100.5
Average Queue (m)	9.2	33.8	37.5	43.4	12.6	0.1	0.0	0.1	8.5	42.8	48.4	49.9
95th Queue (m)	22.8	60.3	63.8	70.3	25.1	2.3	0.9	2.0	17.6	81.7	88.6	88.0
Link Distance (m)		240.5	240.5	240.5		288.2	278.8	278.8		313.9	313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0				160.0			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	NB	NB	NB	SB	SB	SB
Directions Served	R	L	T	R	L	T	R
Maximum Queue (m)	17.2	132.5	451.4	28.2	33.8	25.6	41.7
Average Queue (m)	1.9	132.1	379.6	9.6	13.0	7.7	18.4
95th Queue (m)	9.2	135.2	545.1	23.5	26.0	19.3	33.6
Link Distance (m)			453.5			808.3	
Upstream Blk Time (%)			49				
Queuing Penalty (veh)			0				
Storage Bay Dist (m)	160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)		86					
Queuing Penalty (veh)		81					

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	116.7	116.5	108.7	18.9	15.8	17.1	21.7	6.3	19.5	16.1	24.6
Average Queue (m)	26.9	76.1	63.6	41.0	5.4	2.9	3.8	5.0	0.2	5.6	4.3	8.0
95th Queue (m)	64.1	142.3	134.5	104.1	13.8	10.9	13.5	17.0	2.3	15.1	12.1	18.5
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		44	7	1								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	54										
Queuing Penalty (veh)	0	37										

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	47.6	51.0	55.5	43.3	56.0	61.4	34.4	29.0	12.0
Average Queue (m)	12.9	18.9	24.2	25.2	30.7	34.8	16.9	11.5	1.0
95th Queue (m)	34.6	40.5	46.2	40.1	47.3	53.4	29.1	23.2	6.8
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)								110.0	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	83.9	97.0	97.2	201.4	183.4	138.6	115.6	239.5	97.5
Average Queue (m)	42.3	46.9	49.1	147.4	128.2	90.7	69.7	98.8	79.8
95th Queue (m)	75.4	85.7	89.9	200.2	175.8	135.8	102.3	169.1	108.4
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				2	0			0	
Queuing Penalty (veh)				0	0			0	
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								5	1
Queuing Penalty (veh)								25	10

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	B19	B24	NB	SB	SB
Directions Served	L	R	T	T	L	T	TR
Maximum Queue (m)	10.6	108.1	84.0	5.7	24.7	372.2	354.9
Average Queue (m)	0.6	59.1	25.4	0.5	8.0	178.5	152.1
95th Queue (m)	5.9	131.3	120.4	6.2	18.8	383.6	368.7
Link Distance (m)		87.8	225.1	150.5		473.6	473.6
Upstream Blk Time (%)		40	3			4	4
Queuing Penalty (veh)		35	2			0	0
Storage Bay Dist (m)	15.0				30.0		
Storage Blk Time (%)		70			0		
Queuing Penalty (veh)		1			5		

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	EB	WB	WB	WB	WB	B2	B2	B3	NB
Directions Served	T	TR	L	T	T	T	T	T	T	LR
Maximum Queue (m)	1.2	3.9	29.6	150.1	246.1	269.4	12.6	29.5	2.3	23.1
Average Queue (m)	0.0	0.1	9.5	31.3	76.7	87.4	0.8	1.8	0.1	9.2
95th Queue (m)	0.9	1.6	21.6	116.3	225.7	250.2	10.0	17.3	1.6	18.5
Link Distance (m)	519.9	519.9		278.8	278.8	278.8	288.2	288.2	240.5	206.2
Upstream Blk Time (%)					0	3				
Queuing Penalty (veh)					1	21				
Storage Bay Dist (m)			190.0							
Storage Blk Time (%)				0						
Queuing Penalty (veh)				0						

Network Summary

Network wide Queuing Penalty: 1945

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	406.6	408.1	406.6	80.9	117.4	129.8	152.7	47.5	44.0	64.4	90.5
Average Queue (m)	44.6	395.4	395.3	393.9	22.7	70.3	78.4	93.5	43.5	17.3	26.3	42.8
95th Queue (m)	66.0	413.5	415.3	420.5	51.1	105.0	118.5	143.4	58.3	35.1	48.0	75.5
Link Distance (m)		392.3	392.3	392.3		519.9	519.9	519.9			510.8	510.8
Upstream Blk Time (%)		39	40	41								
Queuing Penalty (veh)		227	237	241								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	18	70				3		34	8	0	1	
Queuing Penalty (veh)	94	139				3		127	23	0	1	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.5	264.1	258.8
Average Queue (m)	155.8	242.8	124.6
95th Queue (m)	166.9	306.6	289.2
Link Distance (m)		253.3	253.3
Upstream Blk Time (%)		15	2
Queuing Penalty (veh)		125	16
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	38	1	
Queuing Penalty (veh)	210	6	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B3	B2	B2	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	T	L	T	T
Maximum Queue (m)	24.3	94.8	101.2	108.4	106.1	7.2	3.6	6.4	13.8	87.3	75.1	77.7
Average Queue (m)	9.9	59.1	68.2	74.0	54.6	0.2	0.1	0.2	0.5	38.5	24.7	30.7
95th Queue (m)	21.4	90.1	96.1	101.0	91.0	3.6	1.8	4.5	7.2	69.7	58.3	63.8
Link Distance (m)		240.5	240.5	240.5		288.2	288.2	278.8	278.8		313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0					160.0		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R
Maximum Queue (m)	74.7	8.3	132.5	471.4	25.3	28.9	45.7	37.6
Average Queue (m)	31.5	1.3	132.3	417.2	5.7	8.2	23.2	11.5
95th Queue (m)	66.8	6.0	133.3	562.6	17.3	20.3	42.3	25.3
Link Distance (m)	313.9			453.5			808.3	
Upstream Blk Time (%)				71				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)		160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)			99				0	0
Queuing Penalty (veh)			48				0	0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	120.2	122.4	120.1	17.4	24.0	31.2	33.4	3.3	27.1	20.0	38.2
Average Queue (m)	26.9	107.8	105.4	101.6	2.9	4.4	11.5	13.7	0.1	9.4	5.4	13.5
95th Queue (m)	67.5	138.2	140.5	148.7	10.9	14.3	26.7	30.1	1.7	22.3	15.1	29.1
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		77	73	70								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	77										
Queuing Penalty (veh)	0	41										

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	73.0	82.3	86.8	74.8	82.6	79.9	54.0	50.0	27.7
Average Queue (m)	31.4	40.0	42.4	37.8	37.3	34.7	32.0	28.8	4.5
95th Queue (m)	62.1	72.6	74.7	64.0	67.1	63.3	47.3	44.5	17.0
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	115.1	125.2	120.5	166.3	151.1	90.2	134.7	182.9	97.5
Average Queue (m)	63.5	67.2	66.6	107.2	92.9	51.9	57.0	95.3	79.3
95th Queue (m)	103.5	110.2	109.9	146.6	136.7	84.5	100.3	147.4	108.4
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								7	2
Queuing Penalty (veh)								34	14

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	B19	B24	NB	SB	SB
Directions Served	L	R	T	T	L	T	TR
Maximum Queue (m)	12.2	101.1	50.7	2.0	19.3	398.2	392.4
Average Queue (m)	0.5	50.9	23.8	0.1	5.8	199.6	173.8
95th Queue (m)	5.0	114.2	116.1	1.4	15.9	446.7	438.5
Link Distance (m)		87.8	225.1	150.5		473.6	473.6
Upstream Blk Time (%)		24	1			9	7
Queuing Penalty (veh)		16	1			0	0
Storage Bay Dist (m)	15.0				30.0		
Storage Blk Time (%)		69			0		
Queuing Penalty (veh)		1			3		

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	TR	L	LR
Maximum Queue (m)	1.3	3.3	6.3	15.4	75.4
Average Queue (m)	0.0	0.1	0.2	3.8	28.4
95th Queue (m)	0.9	2.3	3.6	11.6	95.1
Link Distance (m)	519.9	519.9	519.9		206.2
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (m)				190.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1606

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	323.6	319.9	301.5	49.8	89.0	94.8	122.4	47.5	45.7	58.5	77.8
Average Queue (m)	50.4	217.2	211.5	199.9	20.7	53.3	58.1	63.7	38.8	19.5	23.8	39.3
95th Queue (m)	60.0	380.6	374.8	356.8	38.9	81.1	87.9	104.2	59.0	36.4	45.9	64.5
Link Distance (m)		390.7	390.7	390.7		518.2	518.2	518.2			510.7	510.7
Upstream Blk Time (%)		2	2	1								
Queuing Penalty (veh)		14	12	9								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	60	30				0		15	4	1	1	
Queuing Penalty (veh)	319	60				0		55	12	1	1	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (m)	153.7	157.4	255.1	220.0
Average Queue (m)	132.9	139.9	184.4	82.3
95th Queue (m)	178.4	183.9	306.6	220.9
Link Distance (m)			252.9	252.9
Upstream Blk Time (%)			8	1
Queuing Penalty (veh)			66	6
Storage Bay Dist (m)	150.0	150.0		
Storage Blk Time (%)	4	14	6	
Queuing Penalty (veh)	21	77	47	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B3	B2	B2	B2	WB	WB
Directions Served	L	T	T	T	R	T	T	T	T	T	L	T
Maximum Queue (m)	25.9	144.2	159.4	151.8	137.1	8.4	8.1	1.5	6.3	7.2	78.5	69.4
Average Queue (m)	11.5	88.2	97.6	102.6	68.6	0.3	0.4	0.1	0.2	0.2	41.3	24.0
95th Queue (m)	22.6	131.2	141.9	141.2	116.0	4.2	5.0	1.1	3.3	4.2	67.3	53.2
Link Distance (m)		240.5	240.5	240.5		288.2	288.2	278.8	278.8	278.8		313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0						160.0	
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	R	L	T	R
Maximum Queue (m)	75.7	85.3	8.4	132.5	470.8	22.9	29.2	51.6	23.1
Average Queue (m)	30.4	33.0	1.0	130.1	406.3	5.3	9.3	22.8	9.7
95th Queue (m)	61.6	70.6	5.4	149.9	586.7	16.1	22.8	41.9	19.1
Link Distance (m)	313.9	313.9			453.5			808.3	
Upstream Blk Time (%)					67				
Queuing Penalty (veh)					0				
Storage Bay Dist (m)			160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)				92				0	
Queuing Penalty (veh)				45				0	

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	45.8	107.5	87.4	72.0	19.6	30.4	35.8	42.7	7.8	24.6	18.3	46.9
Average Queue (m)	9.5	45.9	32.0	20.0	2.6	7.0	13.7	18.1	0.4	9.0	4.4	15.9
95th Queue (m)	30.5	100.4	83.2	62.2	11.4	21.3	30.9	35.9	3.7	21.0	13.1	34.0
Link Distance (m)		103.8	103.8	103.8		390.7	390.7	390.7			127.0	94.6
Upstream Blk Time (%)		4	2	2								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)		9				0		0				
Queuing Penalty (veh)		5				0		0				

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	83.8	97.0	91.6	79.0	82.7	77.6	57.8	54.6	42.0
Average Queue (m)	38.8	48.0	52.0	35.2	35.6	33.5	31.8	30.6	6.8
95th Queue (m)	72.9	82.1	85.3	61.4	63.5	62.8	46.7	46.3	23.7
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	125.0	136.8	137.5	149.9	142.2	93.6	159.0	232.9	97.5
Average Queue (m)	80.0	84.0	85.6	105.3	88.3	52.9	64.1	110.0	82.3
95th Queue (m)	121.0	129.5	132.4	141.2	125.0	86.8	115.7	187.6	110.3
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								11	4
Queuing Penalty (veh)								51	26

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	B19	NB	SB	SB
Directions Served	L	R	T	L	T	TR
Maximum Queue (m)	6.0	78.7	33.3	16.0	412.0	401.5
Average Queue (m)	0.6	32.4	10.0	5.5	131.1	123.0
95th Queue (m)	4.6	91.3	56.1	14.5	406.3	391.4
Link Distance (m)		86.0	225.1		473.8	473.8
Upstream Blk Time (%)		16			3	3
Queuing Penalty (veh)		11			0	0
Storage Bay Dist (m)	15.0			30.0		
Storage Blk Time (%)		45				
Queuing Penalty (veh)		1				

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	EB	EB	WB	WB	B2	B3	B3	NB
Directions Served	T	T	TR	L	T	T	T	T	LR
Maximum Queue (m)	1.2	13.6	12.5	15.5	1.2	2.1	1.8	4.4	62.4
Average Queue (m)	0.0	0.6	0.7	4.6	0.0	0.1	0.1	0.1	25.6
95th Queue (m)	0.9	6.6	7.3	13.2	0.9	1.5	1.3	3.1	64.7
Link Distance (m)	518.2	518.2	518.2		278.8	288.2	240.5	240.5	206.2
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				190.0					
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 838

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	399.1	406.6	404.7	92.5	525.6	534.1	530.8	47.5	52.5	345.6	341.7
Average Queue (m)	52.3	358.6	277.0	204.4	76.8	383.4	462.8	493.3	47.5	47.6	217.1	214.3
95th Queue (m)	52.5	478.1	479.7	406.3	117.9	621.2	616.3	600.5	47.5	69.2	371.9	365.8
Link Distance (m)		392.3	392.3	392.3		519.9	519.9	519.9			510.8	510.8
Upstream Blk Time (%)		50	5	0		2	7	35			1	0
Queuing Penalty (veh)		276	28	3		15	62	311			0	0
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	95	15			25	34		35	71	11	86	
Queuing Penalty (veh)	380	45			130	77		291	363	18	100	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.5	261.3	260.5
Average Queue (m)	156.6	250.3	157.1
95th Queue (m)	166.3	303.5	323.4
Link Distance (m)		253.3	253.3
Upstream Blk Time (%)		46	6
Queuing Penalty (veh)		244	31
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	76	1	
Queuing Penalty (veh)	194	3	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B3	B2	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	T	T	T
Maximum Queue (m)	26.0	83.0	88.2	101.8	32.8	3.3	2.9	2.3	52.2	141.4	151.5	153.8
Average Queue (m)	9.3	43.5	48.3	54.9	13.1	0.1	0.1	0.1	9.4	68.4	74.1	79.1
95th Queue (m)	21.3	74.5	79.8	86.9	25.2	2.4	2.1	1.7	33.1	127.1	135.3	140.7
Link Distance (m)		240.5	240.5	240.5		288.2	288.2	278.8		313.9	313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0				160.0			
Storage Blk Time (%)										1		1
Queuing Penalty (veh)										1		1

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	NB	NB	NB	SB	SB	SB
Directions Served	R	L	T	R	L	T	R
Maximum Queue (m)	43.8	132.5	467.0	29.8	41.2	26.2	47.6
Average Queue (m)	3.9	132.3	426.1	9.7	15.6	11.0	20.4
95th Queue (m)	27.2	132.6	552.1	23.3	31.5	23.1	37.7
Link Distance (m)			453.5			808.3	
Upstream Blk Time (%)			71				
Queuing Penalty (veh)			0				
Storage Bay Dist (m)	160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)		84					0
Queuing Penalty (veh)		84					0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	119.6	117.4	117.0	15.3	15.9	21.7	25.6	3.0	20.8	13.4	40.6
Average Queue (m)	29.4	85.7	76.2	60.3	4.0	2.4	3.6	5.0	0.1	6.0	4.4	10.7
95th Queue (m)	67.2	150.2	146.8	132.9	11.8	9.9	13.6	17.6	1.5	16.2	11.7	27.4
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		59	18	5								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	65										
Queuing Penalty (veh)	0	45										

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	47.7	57.1	59.6	134.2	141.0	74.7	36.6	31.0	11.5
Average Queue (m)	16.5	24.8	28.2	31.4	36.5	36.9	17.7	12.6	1.3
95th Queue (m)	38.4	48.9	52.9	88.4	93.4	58.5	30.2	25.2	6.6
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)				0					
Queuing Penalty (veh)				0					
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	101.0	110.7	116.9	210.8	211.5	209.9	344.9	385.8	97.5
Average Queue (m)	49.5	54.7	55.3	200.9	200.6	200.4	154.9	194.8	94.7
95th Queue (m)	92.0	102.2	107.3	207.8	207.5	206.6	364.8	391.4	105.6
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				58	60	58	4	1	
Queuing Penalty (veh)				0	0	0	0	0	
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								18	9
Queuing Penalty (veh)								98	72

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	B19	B24	NB	SB	SB
Directions Served	L	R	T	T	L	T	TR
Maximum Queue (m)	19.6	99.7	109.7	23.0	25.6	483.0	472.8
Average Queue (m)	1.1	64.4	45.2	4.4	8.4	333.9	320.7
95th Queue (m)	7.5	133.3	169.1	33.9	19.2	587.5	589.6
Link Distance (m)		87.8	225.1	150.5		473.6	473.6
Upstream Blk Time (%)		43	7			33	30
Queuing Penalty (veh)		38	6			0	0
Storage Bay Dist (m)	15.0				30.0		
Storage Blk Time (%)		80			0		
Queuing Penalty (veh)		2			2		

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	WB	WB	WB	WB	B2	B2	B2	B3	B3	B3	NB
Directions Served	TR	L	T	T	T	T	T	T	T	T	T	LR
Maximum Queue (m)	2.4	172.4	298.4	303.4	307.3	156.1	173.2	185.9	49.6	52.6	49.7	22.9
Average Queue (m)	0.1	42.7	122.5	150.6	159.3	32.5	37.1	40.0	13.5	14.0	13.9	10.4
95th Queue (m)	1.7	160.9	318.9	348.9	359.1	174.4	182.6	187.8	103.1	104.1	104.6	18.6
Link Distance (m)	519.9		278.8	278.8	278.8	288.2	288.2	288.2	240.5	240.5	240.5	206.2
Upstream Blk Time (%)			8	13	22	4	6	6	0	0	1	
Queuing Penalty (veh)			81	120	207	37	55	61	2	3	7	
Storage Bay Dist (m)		190.0										
Storage Blk Time (%)		0	11									
Queuing Penalty (veh)		0	7									

Network Summary

Network wide Queuing Penalty: 3498

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	397.9	406.2	402.6	92.4	487.1	524.4	523.1	47.5	52.5	384.8	380.9
Average Queue (m)	52.3	352.8	269.0	170.9	56.3	176.6	315.6	385.9	47.5	49.2	243.6	239.5
95th Queue (m)	52.4	479.1	493.1	401.4	102.8	394.5	559.8	586.5	47.6	65.7	407.5	399.4
Link Distance (m)		390.7	390.7	390.7		518.2	518.2	518.2			510.7	510.7
Upstream Blk Time (%)		43	4	1		0	1	9			1	0
Queuing Penalty (veh)		238	24	3		0	9	77			0	0
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	94	6			1	13		12	65	3	88	
Queuing Penalty (veh)	378	17			7	30		100	333	5	103	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (m)	136.0	137.8	165.3	97.1
Average Queue (m)	101.5	105.7	79.1	35.5
95th Queue (m)	163.5	166.5	201.8	115.9
Link Distance (m)			252.9	252.9
Upstream Blk Time (%)			3	0
Queuing Penalty (veh)			15	2
Storage Bay Dist (m)	150.0	150.0		
Storage Blk Time (%)	1	8	1	
Queuing Penalty (veh)	4	21	7	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B2	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	T	T	T	R
Maximum Queue (m)	31.0	78.1	91.3	94.2	31.1	1.8	2.8	23.3	115.0	125.8	129.6	16.8
Average Queue (m)	10.4	38.0	46.0	51.4	11.4	0.1	0.1	9.4	66.3	73.7	78.7	3.0
95th Queue (m)	22.1	70.7	80.1	84.0	23.5	1.3	2.0	20.4	110.7	118.9	125.5	11.2
Link Distance (m)		240.5	240.5	240.5		288.2	278.8		313.9	313.9	313.9	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0			160.0				160.0
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R
Maximum Queue (m)	132.5	466.4	33.7	38.0	37.9	50.9
Average Queue (m)	131.8	392.4	10.1	15.5	10.6	22.7
95th Queue (m)	137.4	584.7	25.5	31.7	26.2	42.0
Link Distance (m)		453.5			808.3	
Upstream Blk Time (%)		57				
Queuing Penalty (veh)		0				
Storage Bay Dist (m)	125.0		60.0	85.0		55.0
Storage Blk Time (%)	79					0
Queuing Penalty (veh)	79					0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	118.0	117.1	109.6	18.8	20.0	25.2	25.2	3.6	22.3	17.4	33.4
Average Queue (m)	28.7	82.8	73.0	51.3	5.2	2.8	4.9	7.5	0.2	6.4	5.0	8.3
95th Queue (m)	65.9	145.5	143.2	119.2	14.2	12.5	16.9	20.5	2.1	16.8	13.1	21.0
Link Distance (m)		103.8	103.8	103.8		390.7	390.7	390.7			127.0	94.6
Upstream Blk Time (%)		51	13	2								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	1	59										
Queuing Penalty (veh)	4	41										

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	56.1	56.9	65.3	135.4	133.8	140.3	36.1	41.4	14.8
Average Queue (m)	16.6	24.5	28.5	31.7	37.8	42.3	19.4	13.2	1.4
95th Queue (m)	39.6	47.5	51.6	90.6	94.8	97.9	32.3	29.5	7.5
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)				0	0	0			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	106.5	116.1	118.4	209.0	208.7	210.9	239.5	266.0	97.5
Average Queue (m)	53.4	59.3	59.3	200.5	201.2	200.5	102.2	140.9	92.6
95th Queue (m)	95.6	106.8	109.6	206.8	207.4	207.5	192.2	234.5	110.1
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				58	59	58			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								15	6
Queuing Penalty (veh)								83	54

Intersection: 18: Kennedy Road & Snellview Boulevard

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (m)	4.8	24.9	17.8	49.0	49.0
Average Queue (m)	0.4	7.7	8.0	6.7	3.1
95th Queue (m)	2.9	20.0	16.3	42.7	26.5
Link Distance (m)		86.0		473.8	473.8
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	15.0		30.0		
Storage Blk Time (%)		3			
Queuing Penalty (veh)		0			

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive & Mayfield Road

Movement	EB	WB	WB	WB	WB	B2	B2	B3	NB
Directions Served	TR	L	T	T	T	T	T	T	LR
Maximum Queue (m)	7.9	25.0	78.4	129.8	148.1	2.2	2.2	3.2	24.5
Average Queue (m)	0.4	9.2	10.4	21.6	26.3	0.1	0.1	0.1	11.4
95th Queue (m)	3.5	20.2	73.7	108.8	120.4	1.3	1.5	2.3	20.4
Link Distance (m)	518.2		278.8	278.8	278.8	288.2	288.2	240.5	206.2
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)		190.0							
Storage Blk Time (%)			0						
Queuing Penalty (veh)			0						

Network Summary

Network wide Queuing Penalty: 1636

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	400.6	394.2	381.6	79.6	94.7	98.9	111.8	47.5	41.9	57.3	89.3
Average Queue (m)	46.4	332.3	325.5	309.2	40.4	48.3	49.0	52.5	35.3	15.5	26.3	47.7
95th Queue (m)	65.5	451.2	445.7	433.7	78.5	87.6	80.7	91.0	58.0	32.2	47.3	79.6
Link Distance (m)		392.3	392.3	392.3		516.3	516.3	516.3			510.8	510.8
Upstream Blk Time (%)		11	8	6								
Queuing Penalty (veh)		54	41	30								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	23	67			6	0		14	1	1	1	
Queuing Penalty (veh)	98	135			13	0		48	3	1	1	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.4	257.2	174.8
Average Queue (m)	125.5	135.0	41.0
95th Queue (m)	179.2	256.9	121.2
Link Distance (m)		252.9	252.9
Upstream Blk Time (%)		2	0
Queuing Penalty (veh)		14	2
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	11	1	
Queuing Penalty (veh)	65	5	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B3	B3	B2	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	T	L	T	T
Maximum Queue (m)	32.6	88.0	94.7	99.5	119.6	7.5	5.5	9.6	1.5	86.4	61.0	66.5
Average Queue (m)	13.2	58.8	68.1	72.1	64.9	0.2	0.2	0.3	0.1	38.6	25.6	29.5
95th Queue (m)	25.6	84.8	92.9	95.4	108.3	5.3	3.9	4.4	1.1	73.5	51.5	56.7
Link Distance (m)		240.5	240.5	240.5		288.2	288.2	288.2	275.5		313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0					160.0		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R
Maximum Queue (m)	65.8	13.3	132.4	437.6	23.3	69.4	57.6	46.8
Average Queue (m)	30.3	3.7	127.0	271.8	6.0	39.9	28.2	15.3
95th Queue (m)	58.1	11.3	156.9	488.2	16.6	63.1	49.2	34.0
Link Distance (m)	313.9			453.5			196.9	
Upstream Blk Time (%)				7				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)		160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)			85			0	1	0
Queuing Penalty (veh)			48			0	2	0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	42.2	108.2	93.0	84.8	23.1	21.4	32.7	35.7	9.2	27.4	15.9	39.4
Average Queue (m)	15.1	52.9	37.5	25.9	4.3	4.7	12.9	15.3	0.5	9.5	5.1	15.0
95th Queue (m)	44.9	113.8	94.8	72.2	15.1	14.4	28.8	31.0	3.8	21.5	12.8	32.8
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		7	1	1								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)		21						0				
Queuing Penalty (veh)		11						0				

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	62.1	73.8	77.5	58.8	61.9	59.4	46.9	47.5	28.4
Average Queue (m)	21.3	29.3	32.9	29.2	28.5	25.6	29.4	26.1	4.7
95th Queue (m)	47.9	56.4	61.2	50.3	51.5	50.7	42.4	40.6	16.7
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	92.5	106.2	102.2	128.5	113.2	75.0	120.5	160.6	97.5
Average Queue (m)	54.9	59.5	60.3	84.6	67.7	36.4	60.8	84.4	72.5
95th Queue (m)	84.6	93.9	94.6	117.8	102.0	70.1	95.0	127.8	103.8
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								4	1
Queuing Penalty (veh)								16	6

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	L	T	TR
Maximum Queue (m)	5.0	38.3	22.5	185.0	15.2	4.6	112.0	94.0
Average Queue (m)	0.2	14.1	21.2	172.2	5.6	0.2	14.7	8.3
95th Queue (m)	2.3	30.4	24.8	217.6	14.1	1.9	73.9	58.0
Link Distance (m)		87.8		180.4			471.4	471.4
Upstream Blk Time (%)				70				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)	15.0		15.0		30.0	15.0		
Storage Blk Time (%)		23	100	0			4	
Queuing Penalty (veh)		0	7	0			0	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive/Site Access 3 & Mayfield Road

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	L	TR
Maximum Queue (m)	19.2	110.4	103.5	14.2	2.5	88.1	22.4	58.2
Average Queue (m)	6.8	3.7	3.5	4.4	0.1	35.2	19.4	51.5
95th Queue (m)	15.6	74.8	72.1	13.0	1.3	116.5	24.9	74.9
Link Distance (m)		516.3	516.3		275.5	206.4		53.6
Upstream Blk Time (%)		0	0			2		81
Queuing Penalty (veh)		0	0			0		0
Storage Bay Dist (m)	30.0			190.0			15.0	
Storage Blk Time (%)	0						91	7
Queuing Penalty (veh)	0						70	4

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	WB	WB	NB
Directions Served	LTR	L	TR	L
Maximum Queue (m)	20.0	16.8	8.6	10.2
Average Queue (m)	11.8	8.8	1.8	0.9
95th Queue (m)	17.7	14.5	7.5	5.5
Link Distance (m)	87.7		97.4	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		15.0		30.0
Storage Blk Time (%)	2	1		
Queuing Penalty (veh)	0	0		

Network Summary

Network wide Queuing Penalty: 676

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	399.1	400.2	391.4	74.3	73.4	78.0	93.4	47.5	43.9	66.4	92.5
Average Queue (m)	47.9	339.9	333.4	318.1	35.3	38.4	41.7	44.2	33.9	17.9	28.7	45.4
95th Queue (m)	64.8	461.8	456.2	439.1	63.9	63.2	67.6	76.7	56.4	34.9	53.0	80.3
Link Distance (m)		392.3	392.3	392.3		516.3	516.3	516.3			510.8	510.8
Upstream Blk Time (%)		12	10	9								
Queuing Penalty (veh)		56	49	44								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	32	63			1			15	2	0	1	
Queuing Penalty (veh)	135	127			2			52	6	0	1	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.4	259.5	256.4
Average Queue (m)	142.8	180.5	84.1
95th Queue (m)	184.3	303.4	226.5
Link Distance (m)		252.9	252.9
Upstream Blk Time (%)		5	1
Queuing Penalty (veh)		36	7
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	20	1	
Queuing Penalty (veh)	115	8	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B2	B2	B2	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	T	L	T	T
Maximum Queue (m)	36.1	83.6	94.6	96.9	102.0	8.6	1.8	3.4	3.0	81.3	50.2	58.5
Average Queue (m)	13.6	56.3	62.3	67.6	54.6	0.4	0.1	0.1	0.1	37.9	21.4	26.2
95th Queue (m)	28.5	81.9	88.7	95.3	87.5	3.6	1.3	2.4	1.6	68.6	42.1	50.1
Link Distance (m)		240.5	240.5	240.5		288.2	275.5	275.5	275.5		313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0					160.0		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R
Maximum Queue (m)	66.5	14.2	132.5	402.1	32.1	77.8	50.7	38.1
Average Queue (m)	27.6	3.7	123.6	233.5	7.2	41.6	26.4	14.3
95th Queue (m)	53.0	11.4	157.1	473.9	22.4	69.4	45.3	27.8
Link Distance (m)	313.9			453.5			196.9	
Upstream Blk Time (%)				4				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)		160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)			75		0	0	0	0
Queuing Penalty (veh)			43		1	0	0	0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	47.4	106.3	97.0	80.3	17.0	25.3	34.4	38.9	6.7	30.5	13.3	51.0
Average Queue (m)	16.5	59.0	44.1	31.5	3.9	5.9	12.9	15.4	0.6	10.1	4.9	16.6
95th Queue (m)	45.7	120.1	106.9	86.7	12.4	16.8	29.4	32.3	4.3	24.6	12.5	36.7
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		11	6	5								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	24						0		0		
Queuing Penalty (veh)	0	13						0		0		

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	57.1	66.3	68.2	66.7	67.4	60.6	52.1	48.6	28.4
Average Queue (m)	22.2	30.0	33.7	28.1	26.4	23.3	29.1	26.8	4.3
95th Queue (m)	46.2	54.1	58.3	51.3	50.1	48.9	43.3	41.8	16.2
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	98.3	115.0	108.0	120.8	106.6	77.0	116.8	155.8	97.5
Average Queue (m)	52.0	57.1	58.2	77.2	62.1	31.6	59.2	83.7	70.8
95th Queue (m)	83.6	93.8	94.1	110.8	96.8	65.0	92.9	125.6	104.9
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									90.0
Storage Blk Time (%)							3	1	
Queuing Penalty (veh)							14	6	

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	9.3	23.3	22.3	54.3	21.0	36.0	41.7	3.2	325.6	317.8
Average Queue (m)	0.3	10.4	17.5	12.1	6.4	13.7	19.9	0.1	164.1	141.5
95th Queue (m)	3.9	20.2	24.3	38.5	15.9	29.9	37.1	1.6	373.5	367.9
Link Distance (m)		87.8		180.4		252.9	252.9		471.4	471.4
Upstream Blk Time (%)									7	6
Queuing Penalty (veh)									0	0
Storage Bay Dist (m)	15.0		15.0		30.0			15.0		
Storage Blk Time (%)		6	35	0		1			39	
Queuing Penalty (veh)		0	2	0		0			1	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 20: Stonegate Drive/Site Access 3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B2	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	T	LTR	L	TR
Maximum Queue (m)	26.7	43.8	60.2	68.9	16.8	64.0	65.3	75.4	2.2	27.8	22.4	51.4
Average Queue (m)	8.5	19.0	27.0	33.4	4.9	24.4	29.5	36.2	0.1	12.6	14.1	16.9
95th Queue (m)	18.9	38.1	48.4	57.2	13.3	50.4	58.3	66.2	1.6	23.5	24.0	37.8
Link Distance (m)		516.3	516.3	516.3		275.5	275.5	275.5	288.2	206.4		53.6
Upstream Blk Time (%)												1
Queuing Penalty (veh)												0
Storage Bay Dist (m)	30.0				190.0						15.0	
Storage Blk Time (%)	0	1									30	6
Queuing Penalty (veh)	0	1									23	4

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	L	L
Maximum Queue (m)	18.7	16.9	8.5	11.4	1.7
Average Queue (m)	9.9	8.6	1.6	1.3	0.1
95th Queue (m)	16.0	13.8	6.9	6.7	1.2
Link Distance (m)	87.7		97.4		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		15.0		30.0	30.0
Storage Blk Time (%)	1	1			
Queuing Penalty (veh)	0	0			

Network Summary

Network wide Queuing Penalty: 748

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	400.6	405.2	395.7	92.4	278.7	309.6	351.6	47.5	52.4	125.8	132.7
Average Queue (m)	52.3	343.6	295.8	159.6	83.1	145.5	182.0	222.1	47.5	32.2	68.4	74.0
95th Queue (m)	52.9	490.8	491.1	373.8	111.1	260.7	356.2	400.8	47.8	62.1	115.9	120.4
Link Distance (m)		392.3	392.3	392.3		516.3	516.3	516.3			510.8	510.8
Upstream Blk Time (%)		37	3	0				0				
Queuing Penalty (veh)		180	16	2				2				
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	88	6			49	6		18	63	3	28	
Queuing Penalty (veh)	296	21			197	15		141	253	6	30	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.5	261.6	255.2
Average Queue (m)	155.6	225.6	120.2
95th Queue (m)	166.1	335.7	294.1
Link Distance (m)		252.9	252.9
Upstream Blk Time (%)		30	4
Queuing Penalty (veh)		155	21
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	66	1	
Queuing Penalty (veh)	178	3	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B2	B2	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	T	T	T	R
Maximum Queue (m)	44.3	92.5	103.7	107.2	34.0	1.1	3.3	23.1	122.7	131.7	125.6	41.1
Average Queue (m)	17.2	48.3	57.8	63.7	16.0	0.0	0.1	8.7	74.2	79.6	82.6	14.2
95th Queue (m)	32.8	81.0	93.3	97.9	28.8	0.8	2.3	18.5	115.7	122.1	126.0	30.6
Link Distance (m)		240.5	240.5	240.5		275.5	275.5		313.9	313.9	313.9	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0			160.0				160.0
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R
Maximum Queue (m)	132.5	459.7	27.7	67.0	39.0	51.2
Average Queue (m)	131.3	370.2	8.9	33.8	15.0	23.3
95th Queue (m)	140.8	560.9	22.2	59.3	29.7	42.0
Link Distance (m)		453.5			197.2	
Upstream Blk Time (%)		40				
Queuing Penalty (veh)		0				
Storage Bay Dist (m)	125.0		60.0	85.0		55.0
Storage Blk Time (%)	80				0	0
Queuing Penalty (veh)	106				0	0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	117.7	113.3	105.0	22.7	16.8	23.4	29.3	4.6	19.6	17.1	52.4
Average Queue (m)	27.3	77.0	64.1	43.2	5.8	3.0	4.9	6.6	0.2	5.7	4.0	13.2
95th Queue (m)	64.4	146.3	135.7	110.9	15.9	11.2	16.4	20.6	2.4	15.3	13.1	37.1
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		44	9	1								0
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	55										
Queuing Penalty (veh)	1	38										

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	46.4	53.2	54.7	51.6	130.9	63.2	34.7	34.6	14.0
Average Queue (m)	13.3	19.9	25.0	25.8	34.1	36.9	18.0	12.3	1.9
95th Queue (m)	34.3	41.5	46.7	42.0	86.8	58.6	29.8	25.4	8.1
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	80.2	90.4	94.7	199.4	175.4	152.9	253.1	283.1	97.5
Average Queue (m)	42.9	47.1	47.7	142.2	126.9	96.0	107.4	138.1	90.6
95th Queue (m)	75.1	84.5	88.0	189.1	165.8	135.5	216.6	258.2	110.5
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				1	0				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								14	5
Queuing Penalty (veh)								67	45

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	B19	B24	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	T	T	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	7.8	70.4	71.8	7.0	182.2	147.7	26.3	4.3	0.9	31.5	219.5	209.7
Average Queue (m)	0.5	32.3	20.8	0.4	131.2	63.6	8.5	0.1	0.0	4.9	89.0	66.4
95th Queue (m)	4.3	95.0	109.3	5.9	228.1	203.5	19.1	2.3	0.7	23.2	232.0	207.5
Link Distance (m)		87.8	225.1	150.5	180.3	180.3		252.9	252.9		471.3	471.3
Upstream Blk Time (%)		18	2		26	34						
Queuing Penalty (veh)		16	2		0	0						
Storage Bay Dist (m)	15.0						30.0			30.0		
Storage Blk Time (%)		41					0			0	40	
Queuing Penalty (veh)		1					1			0	3	

Queuing and Blocking Report with road improvements

10-31-2024

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	B2	B2	B3	B3	B3	NB
Directions Served	L	T	T	TR	L	TR	T	T	T	T	T	LTR
Maximum Queue (m)	32.1	9.1	3.1	4.0	21.0	17.6	2.2	1.4	49.1	102.8	44.6	20.8
Average Queue (m)	15.9	0.3	0.1	0.2	8.5	1.7	0.1	0.0	1.6	5.1	1.5	11.2
95th Queue (m)	30.5	6.4	2.2	1.9	17.6	9.8	1.5	1.0	34.6	62.4	30.3	19.3
Link Distance (m)		516.3	516.3	516.3		275.5	288.2	288.2	240.5	240.5	240.5	206.4
Upstream Blk Time (%)									0	0		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (m)	30.0				190.0							
Storage Blk Time (%)	5											
Queuing Penalty (veh)	27											

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	22.4	66.9
Average Queue (m)	18.8	63.5
95th Queue (m)	22.1	66.9
Link Distance (m)		62.3
Upstream Blk Time (%)		100
Queuing Penalty (veh)		0
Storage Bay Dist (m)	15.0	
Storage Blk Time (%)	100	1
Queuing Penalty (veh)	69	1

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	L	L
Maximum Queue (m)	9.0	19.7	16.4	9.2	18.6	8.5
Average Queue (m)	1.2	9.6	9.1	1.3	6.4	0.4
95th Queue (m)	6.2	15.8	15.2	6.4	16.0	3.7
Link Distance (m)		84.6		86.2		
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	15.0		15.0		30.0	30.0
Storage Blk Time (%)	0	1	1	0	0	
Queuing Penalty (veh)	0	0	0	0	0	

Network Summary

Network wide Queuing Penalty: 1894

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	399.4	404.5	398.9	92.5	461.2	497.4	504.9	47.5	52.4	118.6	118.1
Average Queue (m)	52.3	338.4	285.3	160.2	88.0	262.5	318.4	363.8	47.5	32.8	60.3	67.1
95th Queue (m)	52.5	490.6	490.8	381.9	109.8	503.9	553.4	580.5	47.6	61.2	96.6	102.3
Link Distance (m)		392.3	392.3	392.3		516.3	516.3	516.3			510.8	510.8
Upstream Blk Time (%)		33	3	0		0	1	5				
Queuing Penalty (veh)		161	16	2		2	9	36				
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	88	9			75	8		29	64	5	21	
Queuing Penalty (veh)	297	29			305	22		220	261	9	23	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.4	262.1	260.0
Average Queue (m)	156.9	248.0	151.5
95th Queue (m)	163.3	303.4	320.5
Link Distance (m)		252.9	252.9
Upstream Blk Time (%)		37	8
Queuing Penalty (veh)		193	42
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	75	0	
Queuing Penalty (veh)	203	2	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	42.7	100.1	101.8	105.5	36.3	27.6	114.9	130.6	127.8	40.2	132.5	427.8
Average Queue (m)	18.3	49.8	56.3	61.9	15.1	9.3	71.3	79.1	82.2	13.0	132.2	390.4
95th Queue (m)	34.0	84.7	92.8	94.4	27.1	21.4	109.1	118.2	120.9	29.9	133.7	574.1
Link Distance (m)		240.5	240.5	240.5			313.9	313.9	313.9			453.5
Upstream Blk Time (%)												53
Queuing Penalty (veh)												0
Storage Bay Dist (m)	125.0				200.0	160.0				160.0	125.0	
Storage Blk Time (%)												82
Queuing Penalty (veh)												108

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	SB	SB	SB
Directions Served	R	L	T	R
Maximum Queue (m)	24.6	64.8	53.9	56.6
Average Queue (m)	8.5	33.5	14.7	24.3
95th Queue (m)	20.2	58.8	33.7	42.9
Link Distance (m)			197.2	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	60.0	85.0		55.0
Storage Blk Time (%)		0		1
Queuing Penalty (veh)		0		2

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	115.8	115.4	106.3	17.8	17.5	22.8	25.4	4.4	19.9	14.3	39.4
Average Queue (m)	28.2	74.1	61.7	43.3	5.5	2.1	4.3	6.8	0.2	5.2	4.4	11.0
95th Queue (m)	63.8	142.3	135.5	109.2	14.1	9.5	16.0	20.6	2.1	14.3	12.2	31.4
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		38	6	1								0
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	50										
Queuing Penalty (veh)	1	34										

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	45.4	49.1	53.5	47.5	59.0	67.5	34.9	31.5	15.0
Average Queue (m)	11.7	19.7	23.5	24.7	30.2	35.9	16.8	11.5	1.9
95th Queue (m)	29.7	39.6	45.6	40.9	48.7	58.0	29.9	25.3	8.5
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	84.9	92.2	91.5	200.2	188.8	160.1	212.6	240.6	97.5
Average Queue (m)	41.9	48.0	49.0	144.8	128.7	94.0	100.4	131.2	92.8
95th Queue (m)	73.6	84.2	86.9	197.3	174.6	138.7	168.8	210.9	106.8
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				2	0				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								15	5
Queuing Penalty (veh)								74	44

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	4.2	28.6	47.5	9.0	37.2	73.0	82.1	31.4	457.1	453.9
Average Queue (m)	0.2	9.7	18.7	0.9	11.9	35.5	41.5	3.0	220.6	199.2
95th Queue (m)	2.7	22.0	35.8	5.2	27.3	66.5	73.2	17.6	482.6	473.4
Link Distance (m)		87.8	180.3	180.3		252.9	252.9		471.3	471.3
Upstream Blk Time (%)									7	4
Queuing Penalty (veh)									0	0
Storage Bay Dist (m)	15.0				30.0			30.0		
Storage Blk Time (%)	0	10			1	8			64	
Queuing Penalty (veh)	0	0			5	6			4	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B2	B2	B2	B3
Directions Served	L	T	T	TR	L	T	T	TR	T	T	T	T
Maximum Queue (m)	32.0	33.8	35.4	41.2	57.8	156.5	171.2	179.0	10.4	18.3	18.0	44.1
Average Queue (m)	13.7	12.8	16.5	19.2	14.4	66.4	84.0	103.3	0.6	1.2	1.6	1.5
95th Queue (m)	25.9	27.1	31.5	37.5	45.4	150.4	175.9	190.0	9.2	15.2	17.1	31.1
Link Distance (m)		516.3	516.3	516.3		275.5	275.5	275.5	288.2	288.2	288.2	240.5
Upstream Blk Time (%)						0	1	2				
Queuing Penalty (veh)						2	6	17				
Storage Bay Dist (m)	30.0				190.0							
Storage Blk Time (%)	1	0				1						
Queuing Penalty (veh)	3	0				0						

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	B3	B3	NB	SB	SB
Directions Served	T	T	LTR	L	TR
Maximum Queue (m)	43.9	4.5	30.4	22.2	42.4
Average Queue (m)	1.5	0.2	11.1	13.9	16.5
95th Queue (m)	30.0	2.4	22.1	24.3	33.1
Link Distance (m)	240.5	240.5	206.4		62.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)				15.0	
Storage Blk Time (%)				27	14
Queuing Penalty (veh)				18	8

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	L	L
Maximum Queue (m)	9.0	17.4	16.2	9.2	17.4	5.4
Average Queue (m)	1.5	9.6	8.9	1.0	5.6	0.3
95th Queue (m)	7.0	14.9	14.6	5.7	14.5	2.9
Link Distance (m)		84.6		86.2		
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	15.0		15.0		30.0	30.0
Storage Blk Time (%)	0	1	1	0		
Queuing Penalty (veh)	0	0	0	0		

Network Summary

Network wide Queuing Penalty: 2166

Queuing and Blocking Report with traffic signals

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Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	405.0	405.8	407.7	92.3	140.3	160.0	204.7	47.5	50.6	60.8	94.1
Average Queue (m)	45.4	396.6	397.3	396.0	45.6	72.8	80.5	96.9	43.6	17.4	29.0	45.7
95th Queue (m)	66.4	406.0	407.1	417.7	86.9	131.0	147.4	181.7	57.5	35.6	50.8	78.4
Link Distance (m)		392.3	392.3	392.3		516.3	516.3	516.3			510.8	510.8
Upstream Blk Time (%)		43	44	46								
Queuing Penalty (veh)		263	268	278								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	24	72			1	10		43	12	0	2	
Queuing Penalty (veh)	131	159			4	16		164	36	0	2	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.4	259.7	245.4
Average Queue (m)	146.8	185.8	77.9
95th Queue (m)	180.6	306.8	203.8
Link Distance (m)		252.9	252.9
Upstream Blk Time (%)		3	0
Queuing Penalty (veh)		25	3
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	20	2	
Queuing Penalty (veh)	124	18	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B2	B2	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	T	T	T
Maximum Queue (m)	28.4	92.3	100.4	105.6	109.0	13.1	4.4	6.6	95.8	70.8	85.9	85.1
Average Queue (m)	13.0	57.5	66.3	71.3	47.9	0.5	0.2	0.3	42.9	30.7	35.9	37.2
95th Queue (m)	24.9	86.2	98.2	100.4	87.3	5.9	3.2	3.7	79.8	62.0	70.8	71.3
Link Distance (m)		240.5	240.5	240.5		288.2	275.5	275.5		313.9	313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0				160.0			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	NB	NB	NB	SB	SB	SB
Directions Served	R	L	T	R	L	T	R
Maximum Queue (m)	15.5	132.5	470.0	26.4	84.8	80.5	61.6
Average Queue (m)	3.7	128.7	330.3	6.7	44.0	28.7	16.4
95th Queue (m)	11.5	153.2	594.9	19.6	73.7	53.4	36.2
Link Distance (m)			453.5			196.9	
Upstream Blk Time (%)			40				
Queuing Penalty (veh)			0				
Storage Bay Dist (m)	160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)		84			0	1	0
Queuing Penalty (veh)		51			1	3	0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	123.0	119.7	119.5	13.5	25.1	35.8	41.4	5.2	27.6	21.0	44.5
Average Queue (m)	27.5	111.8	109.3	107.9	2.3	6.0	14.4	17.6	0.4	10.1	5.6	15.7
95th Queue (m)	68.5	125.7	128.0	137.2	8.8	18.4	31.2	36.2	3.3	23.2	15.2	34.4
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		86	78	76								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	84						0				
Queuing Penalty (veh)	0	45						0				

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	66.0	74.2	78.7	73.6	80.8	79.8	47.8	47.6	35.8
Average Queue (m)	28.0	35.9	38.6	37.6	38.7	33.9	31.6	29.5	5.7
95th Queue (m)	55.8	62.6	67.7	64.4	67.5	62.1	45.1	44.5	19.6
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	102.6	110.8	109.6	159.9	148.4	94.9	151.3	184.2	97.5
Average Queue (m)	57.6	62.2	62.6	103.0	86.3	46.7	69.0	100.1	81.0
95th Queue (m)	92.7	104.2	101.5	148.7	129.7	85.6	115.5	157.6	110.3
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				0					
Queuing Penalty (veh)				0					
Storage Bay Dist (m)									90.0
Storage Blk Time (%)							8	3	
Queuing Penalty (veh)							37	17	

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	4.9	23.6	22.4	45.9	21.6	33.8	40.1	4.7	436.4	433.5
Average Queue (m)	0.3	7.4	17.4	13.5	5.8	13.9	20.3	0.2	293.9	277.8
95th Queue (m)	2.6	18.2	24.6	38.2	15.3	30.0	37.7	2.0	512.6	514.2
Link Distance (m)		87.8		180.4		252.9	252.9		471.4	471.4
Upstream Blk Time (%)									19	16
Queuing Penalty (veh)									0	0
Storage Bay Dist (m)	15.0		15.0		30.0			15.0		
Storage Blk Time (%)		4	32	0	0	1			42	
Queuing Penalty (veh)		0	2	0	0	0			1	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 20: Stonegate Drive/Site Access 3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B3	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	T	LTR	L	TR
Maximum Queue (m)	18.8	47.1	52.6	63.4	14.2	72.4	73.4	91.1	52.8	30.5	22.3	49.7
Average Queue (m)	6.5	22.2	29.7	35.0	4.9	30.4	33.0	43.0	1.8	13.0	15.0	19.1
95th Queue (m)	15.0	40.0	48.9	58.6	12.7	58.7	64.2	79.1	37.2	25.0	24.4	40.9
Link Distance (m)		516.3	516.3	516.3		275.5	275.5	275.5	240.5	206.4		53.6
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (m)	30.0				190.0						15.0	
Storage Blk Time (%)	0	2									32	8
Queuing Penalty (veh)	0	1									24	5

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	WB	WB	NB
Directions Served	LTR	L	TR	L
Maximum Queue (m)	23.4	17.6	8.5	11.2
Average Queue (m)	11.4	8.7	1.7	1.8
95th Queue (m)	18.6	15.0	7.1	7.9
Link Distance (m)	87.7		97.4	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		15.0	30.0	
Storage Blk Time (%)	2	1		
Queuing Penalty (veh)	0	0		

Network Summary

Network wide Queuing Penalty: 1678

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	401.8	407.8	403.1	87.8	157.9	149.2	104.9	47.5	48.6	69.0	97.9
Average Queue (m)	52.2	363.0	354.6	346.8	65.9	82.5	68.2	43.1	29.9	21.0	29.9	53.6
95th Queue (m)	54.3	466.3	475.4	476.2	110.1	213.1	182.9	82.6	54.0	42.5	54.7	88.0
Link Distance (m)		390.7	390.7	390.7		514.5	514.5	514.5			510.7	510.7
Upstream Blk Time (%)		29	19	17								
Queuing Penalty (veh)		177	118	104								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	87	28			37	1		11	3	3	1	
Queuing Penalty (veh)	467	63			114	1		42	9	2	1	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (m)	152.6	157.4	259.0	218.2
Average Queue (m)	121.4	140.1	171.8	81.9
95th Queue (m)	167.1	179.6	276.0	187.0
Link Distance (m)			252.5	252.5
Upstream Blk Time (%)			3	0
Queuing Penalty (veh)			28	1
Storage Bay Dist (m)	150.0	150.0		
Storage Blk Time (%)	2	5	9	
Queuing Penalty (veh)	12	33	65	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B3	B2	B2	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	T	L	T	T
Maximum Queue (m)	34.5	126.2	132.4	137.4	89.9	12.1	17.0	3.4	2.0	88.8	78.0	84.0
Average Queue (m)	15.1	76.1	84.3	89.5	50.6	0.4	0.6	0.2	0.1	44.2	35.5	41.6
95th Queue (m)	30.0	112.0	118.2	124.5	83.1	5.6	6.5	2.0	1.4	77.1	66.3	76.0
Link Distance (m)		240.5	240.5	240.5		288.2	288.2	275.5	275.5		313.9	313.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0					160.0		
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R
Maximum Queue (m)	87.0	15.9	132.5	469.7	27.3	81.0	73.3	59.3
Average Queue (m)	44.2	4.2	132.0	383.0	6.7	42.9	29.0	18.0
95th Queue (m)	80.0	12.4	136.6	567.1	18.7	70.4	54.3	39.1
Link Distance (m)	313.9			453.5			196.9	
Upstream Blk Time (%)				46				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)		160.0	125.0		60.0	85.0		55.0
Storage Blk Time (%)			96			0	1	0
Queuing Penalty (veh)			58			1	3	0

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	121.0	119.4	117.8	20.8	44.3	48.9	50.7	8.9	28.2	17.6	45.0
Average Queue (m)	23.4	92.0	84.4	75.0	3.5	12.9	20.6	23.9	0.7	10.4	4.6	17.4
95th Queue (m)	59.7	146.7	146.6	146.3	12.8	33.5	42.8	45.0	4.4	22.7	13.0	36.6
Link Distance (m)		103.8	103.8	103.8		390.7	390.7	390.7			127.0	94.6
Upstream Blk Time (%)		52	38	31								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	56				0		1				
Queuing Penalty (veh)	0	30				0		0				

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	86.0	89.8	97.9	77.1	75.5	80.1	56.1	56.3	30.5
Average Queue (m)	36.8	44.6	50.7	36.8	38.9	38.3	32.1	29.9	6.3
95th Queue (m)	70.8	77.6	84.4	63.3	66.1	70.2	47.7	47.3	20.2
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	127.0	128.8	129.1	157.0	141.2	100.0	215.1	280.5	97.5
Average Queue (m)	70.7	76.6	76.9	104.1	86.6	52.7	79.9	128.6	87.6
95th Queue (m)	115.1	125.0	127.1	145.0	126.6	89.7	168.3	230.7	111.4
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								15	6
Queuing Penalty (veh)								68	41

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	8.2	29.4	22.2	48.0	18.7	40.2	44.0	1.5	440.1	437.2
Average Queue (m)	0.3	10.5	16.8	11.2	7.7	14.8	20.5	0.1	311.9	297.1
95th Queue (m)	2.9	23.3	24.4	35.2	17.4	32.4	38.6	1.1	549.5	543.7
Link Distance (m)		86.0		178.8		252.5	252.5		471.4	471.4
Upstream Blk Time (%)									23	18
Queuing Penalty (veh)									0	0
Storage Bay Dist (m)	15.0		15.0		30.0			15.0		
Storage Blk Time (%)		7	34	0	0	1			39	
Queuing Penalty (veh)		0	2	0	0	0			1	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 20: Stonegate Drive/Site Access 3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B2	B2	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	T	T	LTR	L
Maximum Queue (m)	12.9	72.9	79.8	101.3	16.8	78.1	77.6	91.9	2.7	2.3	34.7	22.4
Average Queue (m)	4.3	34.0	42.4	55.1	4.9	31.8	34.8	44.0	0.1	0.1	14.2	15.7
95th Queue (m)	12.1	63.3	73.9	90.0	13.6	62.6	68.4	81.8	1.9	1.6	27.0	25.6
Link Distance (m)		514.5	514.5	514.5		275.5	275.5	275.5	288.2	288.2	206.4	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				190.0							15.0
Storage Blk Time (%)		5										32
Queuing Penalty (veh)		1										25

Intersection: 20: Stonegate Drive/Site Access 3 & Mayfield Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	53.6
Average Queue (m)	19.6
95th Queue (m)	41.7
Link Distance (m)	53.6
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	9
Queuing Penalty (veh)	6

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	L	L
Maximum Queue (m)	20.7	18.5	8.6	12.7	3.4
Average Queue (m)	11.9	8.6	2.0	2.0	0.1
95th Queue (m)	18.5	14.4	7.9	8.6	1.7
Link Distance (m)	87.7		97.4		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		15.0		30.0	30.0
Storage Blk Time (%)	2	1			
Queuing Penalty (veh)	0	0			

Network Summary

Network wide Queuing Penalty: 1475

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	401.2	410.8	398.4	92.4	279.2	318.0	363.8	47.5	52.4	149.9	151.3
Average Queue (m)	52.3	362.0	297.2	202.9	68.6	136.7	175.2	228.7	47.3	40.4	89.1	93.9
95th Queue (m)	52.5	486.1	504.1	414.3	112.0	233.0	297.1	358.6	49.3	66.1	152.6	155.2
Link Distance (m)		392.3	392.3	392.3		516.3	516.3	516.3			510.8	510.8
Upstream Blk Time (%)		44	5	0								
Queuing Penalty (veh)		267	31	2								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	86	11			8	21		27	57	5	41	
Queuing Penalty (veh)	367	40			39	57		229	291	10	48	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	157.5	259.9	260.4
Average Queue (m)	157.4	255.6	154.6
95th Queue (m)	157.4	258.6	318.4
Link Distance (m)		252.9	252.9
Upstream Blk Time (%)		49	8
Queuing Penalty (veh)		280	44
Storage Bay Dist (m)	150.0		
Storage Blk Time (%)	83	1	
Queuing Penalty (veh)	245	3	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	T	L	T	T	T	R	L
Maximum Queue (m)	37.5	90.4	101.4	104.3	43.4	5.0	20.7	136.0	142.0	146.5	58.3	132.5
Average Queue (m)	16.2	45.6	56.2	60.9	19.7	0.2	9.3	79.0	85.1	89.7	13.9	132.3
95th Queue (m)	30.5	80.0	92.9	97.0	36.8	2.8	18.5	123.0	130.8	135.2	38.1	132.3
Link Distance (m)		240.5	240.5	240.5		288.2		313.9	313.9	313.9		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0		160.0				160.0	125.0
Storage Blk Time (%)										0	0	89
Queuing Penalty (veh)										0	0	123

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	464.1	23.8	67.7	55.0	54.2
Average Queue (m)	442.6	7.0	33.4	16.4	24.9
95th Queue (m)	516.1	18.5	57.2	36.7	45.4
Link Distance (m)	453.5			197.2	
Upstream Blk Time (%)	83				
Queuing Penalty (veh)	0				
Storage Bay Dist (m)		60.0	85.0		55.0
Storage Blk Time (%)				0	1
Queuing Penalty (veh)				0	1

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	118.5	116.7	110.8	17.8	76.6	79.3	82.8	26.1	19.5	13.1	32.0
Average Queue (m)	31.7	92.1	79.7	60.1	5.8	15.8	20.0	21.6	1.3	6.5	4.0	9.1
95th Queue (m)	69.1	143.6	142.5	124.7	14.4	52.3	60.5	63.5	11.9	16.1	11.6	21.7
Link Distance (m)		103.8	103.8	103.8		392.3	392.3	392.3			127.0	94.6
Upstream Blk Time (%)		59	14	2								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	66				1		2				
Queuing Penalty (veh)	2	45				0		0				

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	40.9	96.6	53.8	69.2	154.7	78.0	40.1	36.2	16.4
Average Queue (m)	14.1	23.1	24.3	28.6	38.3	42.2	19.3	14.1	1.9
95th Queue (m)	32.7	66.1	46.2	49.6	94.5	65.5	33.6	29.3	8.7
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (m)									110.0
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	96.0	103.2	107.3	209.5	210.4	211.5	477.2	479.5	97.5
Average Queue (m)	52.2	55.6	57.1	200.6	201.5	200.5	352.3	375.4	97.2
95th Queue (m)	87.0	94.5	99.0	206.7	208.4	207.1	591.1	569.3	98.5
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				58	62	59	37	12	
Queuing Penalty (veh)				0	0	0	0	0	
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								32	16
Queuing Penalty (veh)								171	147

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	6.1	25.7	42.8	8.2	37.2	69.1	69.3	37.2	484.2	485.2
Average Queue (m)	0.3	9.4	18.8	0.9	11.5	38.5	42.8	4.7	445.2	441.6
95th Queue (m)	3.2	21.7	34.6	5.2	26.7	69.5	72.8	23.5	569.3	575.6
Link Distance (m)		87.8	180.3	180.3		252.9	252.9		471.3	471.3
Upstream Blk Time (%)									78	71
Queuing Penalty (veh)									0	0
Storage Bay Dist (m)	15.0				30.0			30.0		
Storage Blk Time (%)	0	12			0	10		0	81	
Queuing Penalty (veh)	0	0			2	7		0	6	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B2	B2	B2	B3
Directions Served	L	T	T	TR	L	T	T	TR	T	T	T	T
Maximum Queue (m)	37.1	82.3	87.2	95.6	27.2	100.1	121.9	140.5	1.4	8.0	4.6	13.6
Average Queue (m)	16.0	23.8	29.3	35.0	10.6	55.3	66.2	88.0	0.0	0.4	0.2	0.5
95th Queue (m)	30.8	61.3	67.0	79.7	22.9	93.9	109.7	131.1	1.0	3.9	2.6	8.8
Link Distance (m)		516.3	516.3	516.3		275.5	275.5	275.5	288.2	288.2	288.2	240.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				190.0							
Storage Blk Time (%)	2	3										
Queuing Penalty (veh)	14	2										

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	B3	NB	SB	SB
Directions Served	T	LTR	L	TR
Maximum Queue (m)	15.4	32.0	22.3	46.7
Average Queue (m)	0.5	11.9	13.3	16.3
95th Queue (m)	9.1	23.7	24.1	35.7
Link Distance (m)	240.5	206.4		62.3
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (m)			15.0	
Storage Blk Time (%)			23	13
Queuing Penalty (veh)			16	7

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	L	TR	L
Maximum Queue (m)	9.0	16.4	15.6	9.3	14.6	1.2	3.6
Average Queue (m)	0.9	9.0	9.0	1.1	5.4	0.0	0.1
95th Queue (m)	5.3	15.5	13.9	5.9	13.5	0.8	1.8
Link Distance (m)		84.6		86.2		197.2	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	15.0		15.0		30.0		30.0
Storage Blk Time (%)		1	0	0			
Queuing Penalty (veh)		0	0	0			

Network Summary

Network wide Queuing Penalty: 2497

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 5: Kennedy Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	T	R	L	T	TR
Maximum Queue (m)	52.4	398.4	405.2	391.8	92.4	189.2	315.9	354.6	47.5	52.4	159.0	161.9
Average Queue (m)	52.3	329.1	306.2	165.6	69.4	108.2	149.0	205.7	47.3	40.0	103.2	107.6
95th Queue (m)	52.5	449.1	449.7	347.0	110.6	176.2	273.7	349.5	49.9	65.8	166.9	169.3
Link Distance (m)		390.7	390.7	390.7		514.6	514.6	514.6			510.7	510.7
Upstream Blk Time (%)		18	3	0								
Queuing Penalty (veh)		108	17	1								
Storage Bay Dist (m)	45.0				85.0				40.0	45.0		
Storage Blk Time (%)	84	7			9	14		21	52	13	51	
Queuing Penalty (veh)	356	27			44	38		177	266	27	60	

Intersection: 5: Kennedy Road & Mayfield Road

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (m)	153.7	157.4	262.7	258.4
Average Queue (m)	147.6	153.9	229.7	134.1
95th Queue (m)	173.2	173.1	337.9	295.4
Link Distance (m)			252.5	252.5
Upstream Blk Time (%)			33	4
Queuing Penalty (veh)			189	25
Storage Bay Dist (m)	150.0	150.0		
Storage Blk Time (%)	11	54	5	
Queuing Penalty (veh)	32	160	27	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	B3	B2	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	T	T	T	R
Maximum Queue (m)	49.6	110.7	120.0	121.0	49.3	4.0	2.9	26.0	124.6	131.2	135.2	33.8
Average Queue (m)	20.3	58.4	69.4	75.1	21.3	0.1	0.1	9.7	74.8	81.3	86.1	11.4
95th Queue (m)	38.5	96.9	106.2	111.4	39.1	2.0	2.0	21.4	111.4	119.4	126.5	25.3
Link Distance (m)		240.5	240.5	240.5		288.2	275.5		313.9	313.9	313.9	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	125.0				200.0			160.0				160.0
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 8: Heart Lake Road & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R
Maximum Queue (m)	132.5	465.3	20.2	68.6	51.2	54.0
Average Queue (m)	132.4	449.4	7.1	33.1	15.7	25.8
95th Queue (m)	132.7	503.1	16.3	57.3	34.7	46.6
Link Distance (m)		453.5			197.2	
Upstream Blk Time (%)		84				
Queuing Penalty (veh)		0				
Storage Bay Dist (m)	125.0		60.0	85.0		55.0
Storage Blk Time (%)	87			0	0	1
Queuing Penalty (veh)	120			0	0	1

Intersection: 11: Inder Heights Drive/Snellview Boulevard & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	L	TR	LTR
Maximum Queue (m)	52.4	117.3	107.6	95.2	40.7	82.4	87.1	91.6	35.0	19.6	13.4	36.6
Average Queue (m)	24.7	65.7	51.8	32.1	7.0	14.8	18.6	21.5	2.2	6.2	3.6	10.3
95th Queue (m)	58.1	134.4	121.0	90.1	22.0	51.3	60.2	66.5	16.4	15.7	10.8	25.0
Link Distance (m)		103.8	103.8	103.8		390.7	390.7	390.7			127.0	94.6
Upstream Blk Time (%)		21	4	1								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	45.0				45.0				45.0	45.0		
Storage Blk Time (%)	0	32				1		3	0			
Queuing Penalty (veh)	1	22				0		0	0			

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 14: Mayfield Road & Hwy 410 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	47.3	62.8	63.5	132.3	268.6	142.6	42.5	36.1	14.3
Average Queue (m)	17.1	24.3	28.4	31.3	42.4	42.3	18.8	14.1	2.1
95th Queue (m)	38.4	48.1	52.4	86.8	129.7	97.9	33.5	28.5	9.1
Link Distance (m)	313.9	313.9	313.9	425.0	425.0	425.0	173.9	173.9	
Upstream Blk Time (%)					0				
Queuing Penalty (veh)					0				
Storage Bay Dist (m)								110.0	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 16: Hwy 410 NB Off-Ramp & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	T	L	LR	R
Maximum Queue (m)	93.2	105.0	105.1	210.8	210.8	211.5	482.3	481.7	97.5
Average Queue (m)	52.4	56.1	56.9	200.9	201.2	200.8	429.4	437.6	97.2
95th Queue (m)	88.6	95.6	97.9	207.5	208.5	207.5	592.6	570.3	98.6
Link Distance (m)	425.0	425.0	425.0	193.0	193.0	193.0	463.8	463.8	
Upstream Blk Time (%)				57	61	59	61	22	
Queuing Penalty (veh)				0	0	0	0	0	
Storage Bay Dist (m)									90.0
Storage Blk Time (%)								32	18
Queuing Penalty (veh)								172	168

Intersection: 18: Kennedy Road & Snellview Boulevard/Site Access #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	7.7	34.6	40.4	7.3	36.4	77.8	91.6	30.3	462.7	462.2
Average Queue (m)	0.4	10.3	18.1	0.9	12.8	34.7	41.5	2.5	256.3	241.6
95th Queue (m)	4.2	25.9	36.1	5.3	29.3	66.5	75.6	14.1	541.5	539.2
Link Distance (m)		86.0	178.6	178.6		252.5	252.5		471.3	471.3
Upstream Blk Time (%)									23	19
Queuing Penalty (veh)									0	0
Storage Bay Dist (m)	15.0				30.0			30.0		
Storage Blk Time (%)		11			2	9		0	60	
Queuing Penalty (veh)		0			14	6		0	4	

Queuing and Blocking Report with traffic signals

10-31-2024

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B2	B2	B2	B3
Directions Served	L	T	T	TR	L	T	T	TR	T	T	T	T
Maximum Queue (m)	37.3	77.8	93.8	104.1	26.0	125.5	138.7	161.3	2.6	17.9	3.1	48.1
Average Queue (m)	17.5	24.5	28.6	35.0	10.5	57.0	70.8	86.9	0.1	0.6	0.1	1.6
95th Queue (m)	33.1	59.0	67.5	76.6	22.4	104.3	121.2	139.7	1.9	11.3	2.2	33.9
Link Distance (m)		514.6	514.6	514.6		275.5	275.5	275.5	288.2	288.2	288.2	240.5
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (m)	30.0				190.0							
Storage Blk Time (%)	2	3										
Queuing Penalty (veh)	15	2										

Intersection: 20: Stonegate Drive/Site Access #3 & Mayfield Road

Movement	B3	NB	SB	SB
Directions Served	T	LTR	L	TR
Maximum Queue (m)	3.3	29.4	22.4	52.4
Average Queue (m)	0.2	11.4	13.5	18.7
95th Queue (m)	3.0	23.2	24.8	41.5
Link Distance (m)	240.5	206.4		62.3
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (m)			15.0	
Storage Blk Time (%)			23	14
Queuing Penalty (veh)			16	8

Intersection: 27: Heart Lake Road & Site Access #2

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	L	L
Maximum Queue (m)	9.0	16.2	16.3	9.1	16.0	7.2
Average Queue (m)	0.8	9.0	8.7	0.8	5.9	0.3
95th Queue (m)	4.9	14.9	15.1	5.1	14.6	3.0
Link Distance (m)		84.6		86.2		
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	15.0		15.0		30.0	30.0
Storage Blk Time (%)	0	1	1	0		
Queuing Penalty (veh)	0	0	0	0		

Network Summary

Network wide Queuing Penalty: 2106

Appendix K

ITE Trip Generation Excerpts

Land Use: 220

Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is $\frac{1}{2}$ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

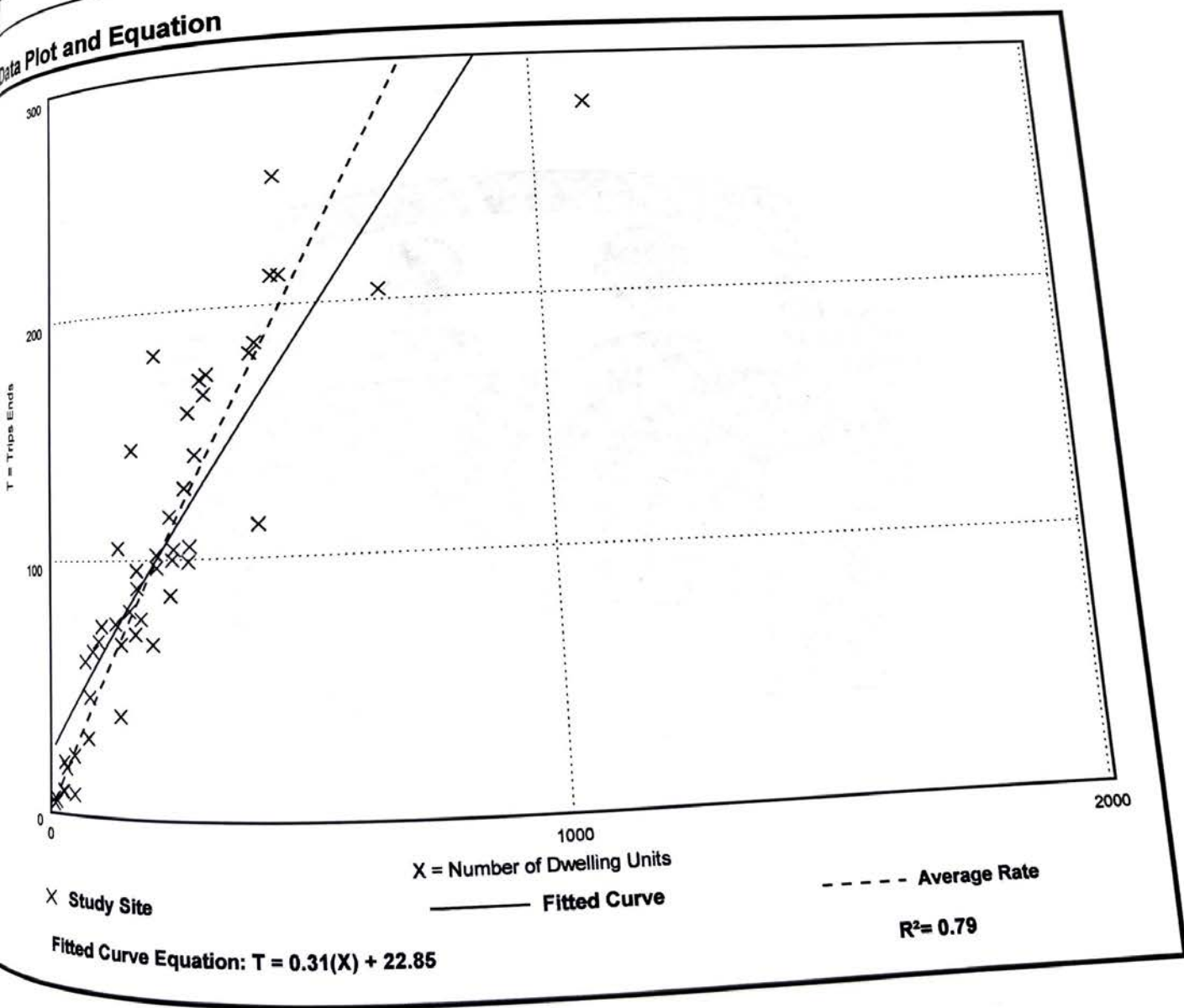
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

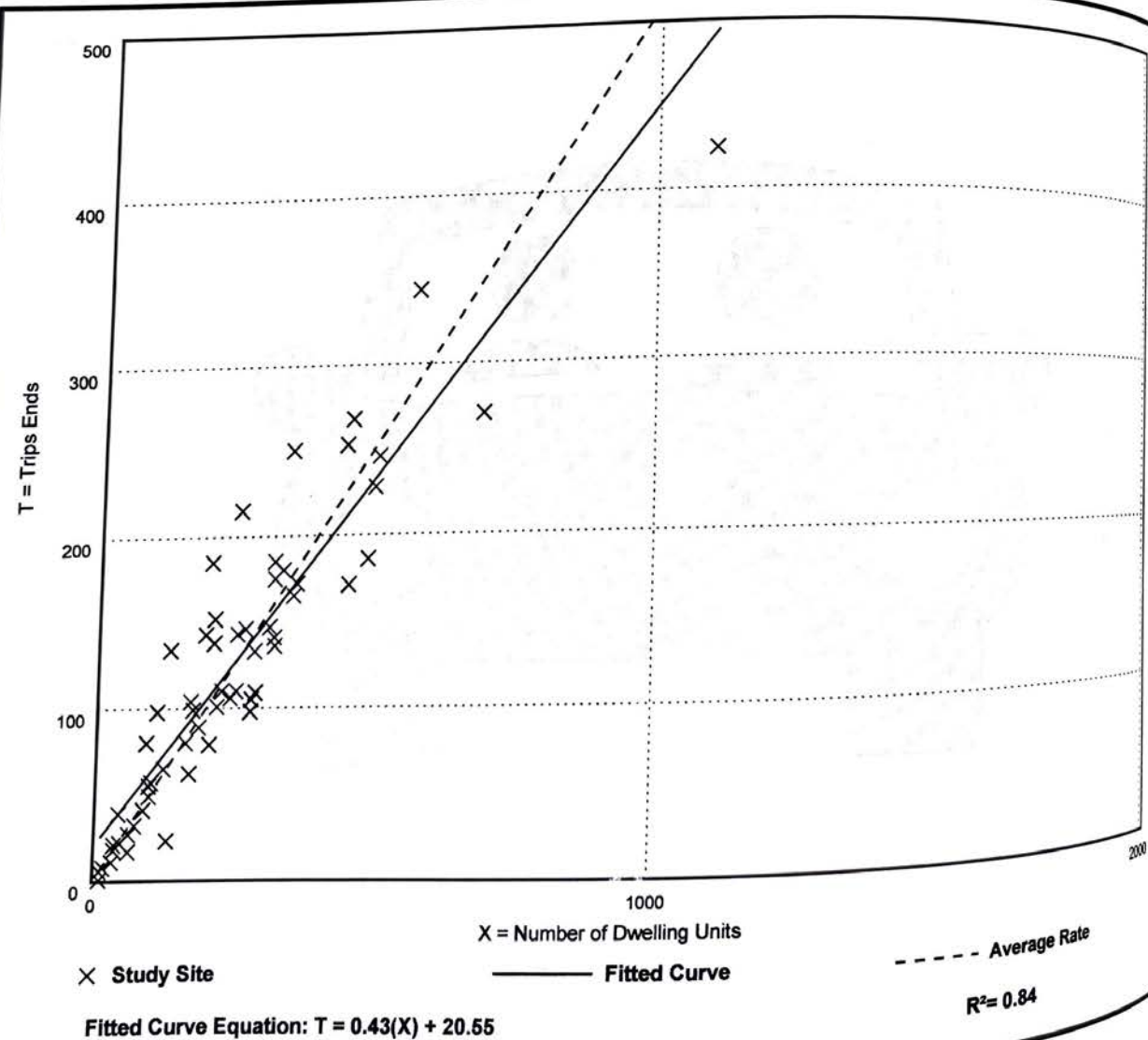
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Land Use: 221 Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (mid-rise) (Land Use 226), and mid-rise residential with ground-floor commercial (Land Use 231) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is $\frac{1}{2}$ mile or less.

Additional Data

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.5 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip and parking generation page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, Ontario (CAN), Oregon, Utah, and Virginia.

Source Numbers

168, 188, 204, 305, 306, 321, 818, 857, 862, 866, 901, 904, 910, 949, 951, 959, 963, 964, 966, 967, 969, 970, 1004, 1014, 1022, 1023, 1025, 1031, 1032, 1035, 1047, 1056, 1057, 1058, 1071, 1076

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

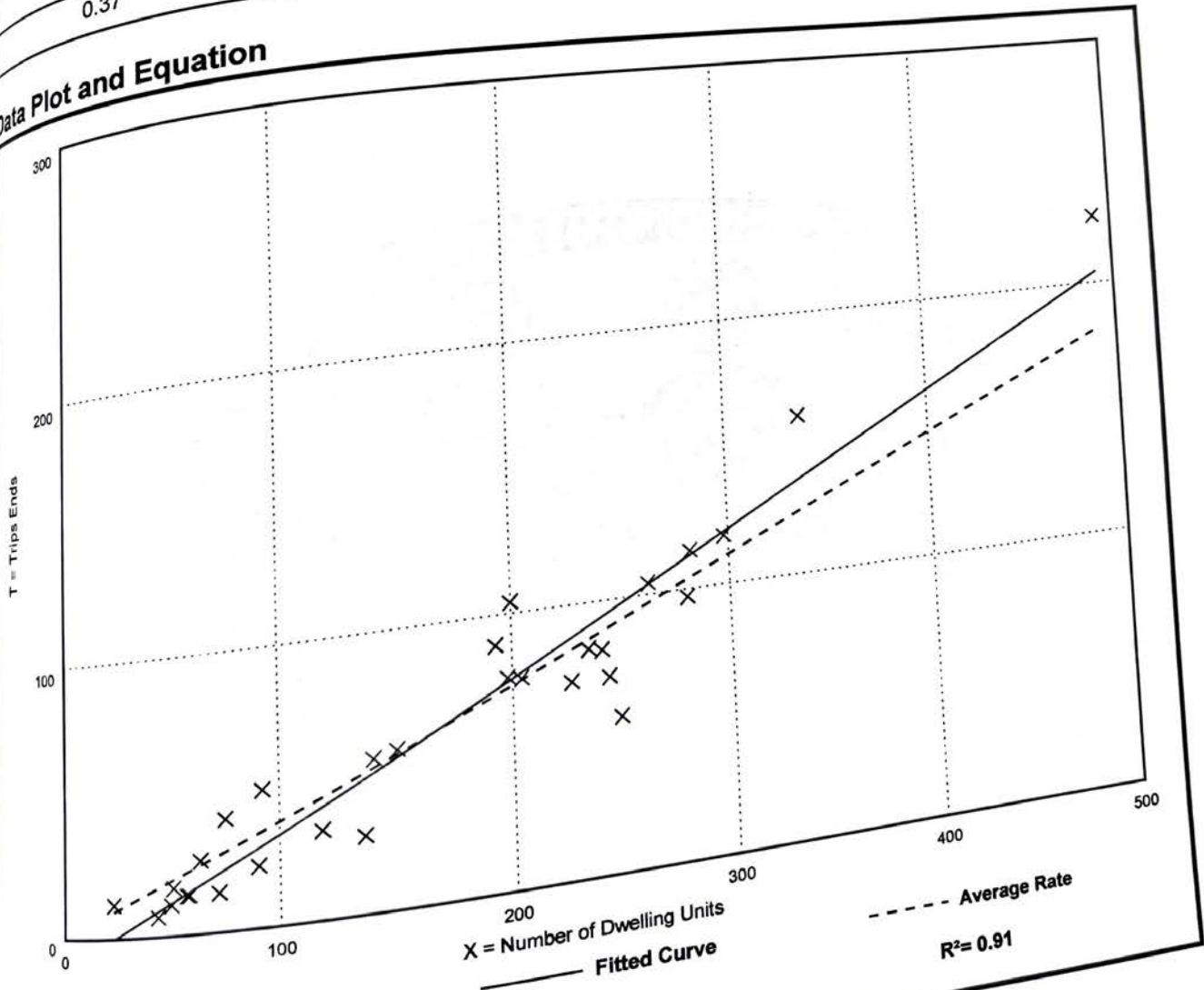
Number of Studies: 30

Avg. Num. of Dwelling Units: 173

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit		
Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Fitted Curve Equation: $T = 0.44(X) - 11.61$

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 31

Avg. Num. of Dwelling Units: 169

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate

0.39

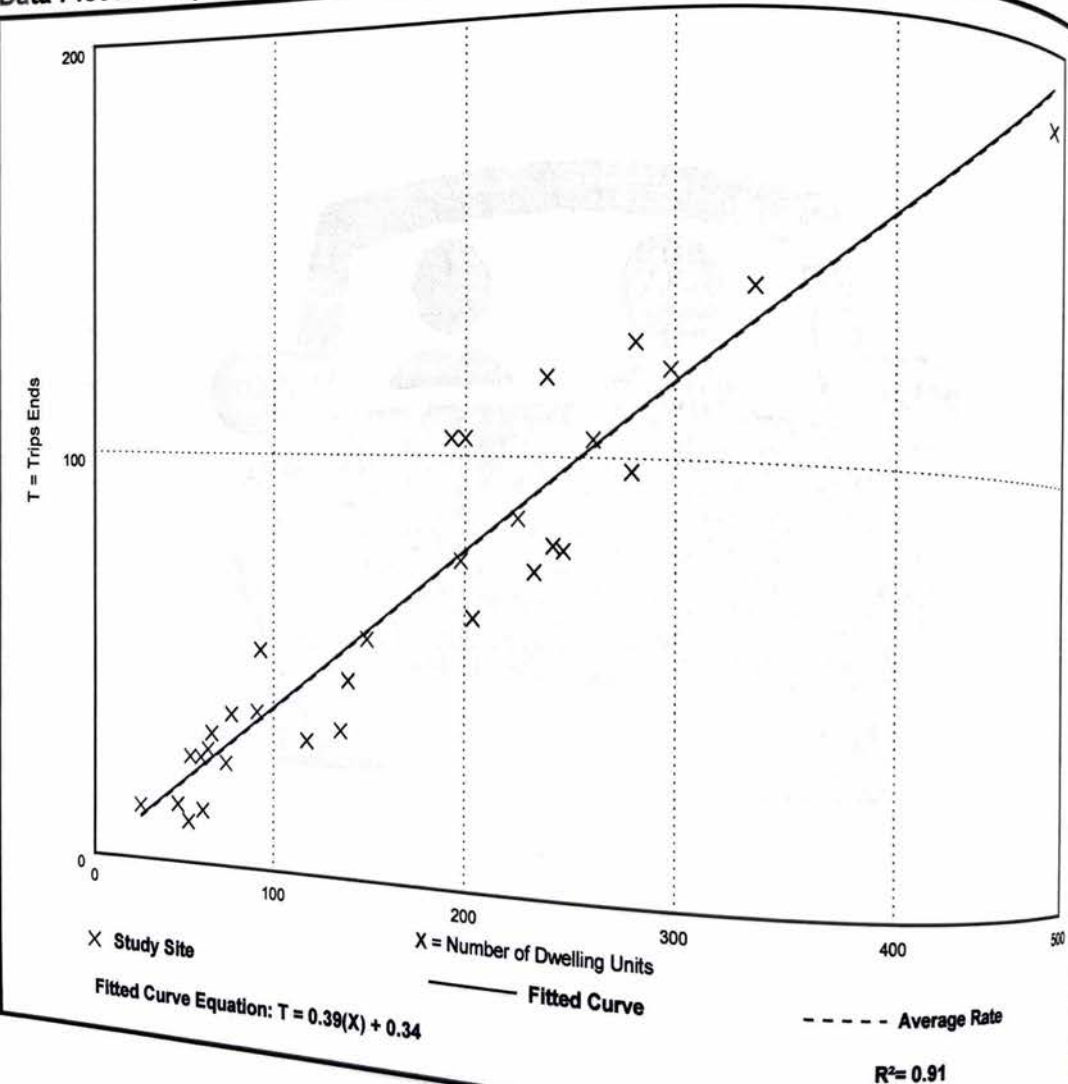
Range of Rates

0.19 - 0.57

Standard Deviation

0.08

Data Plot and Equation



Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing – single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

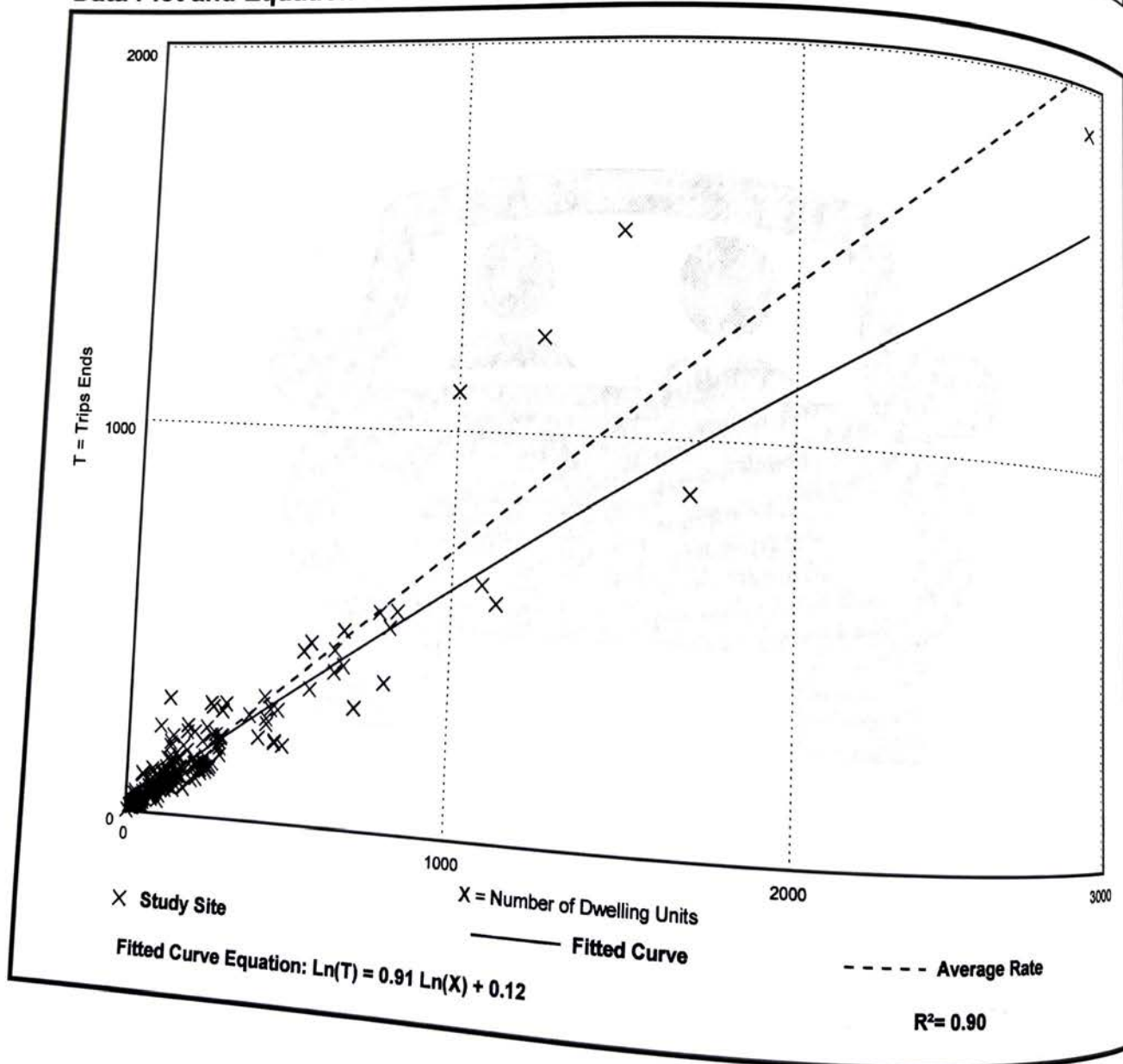
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate

0.94

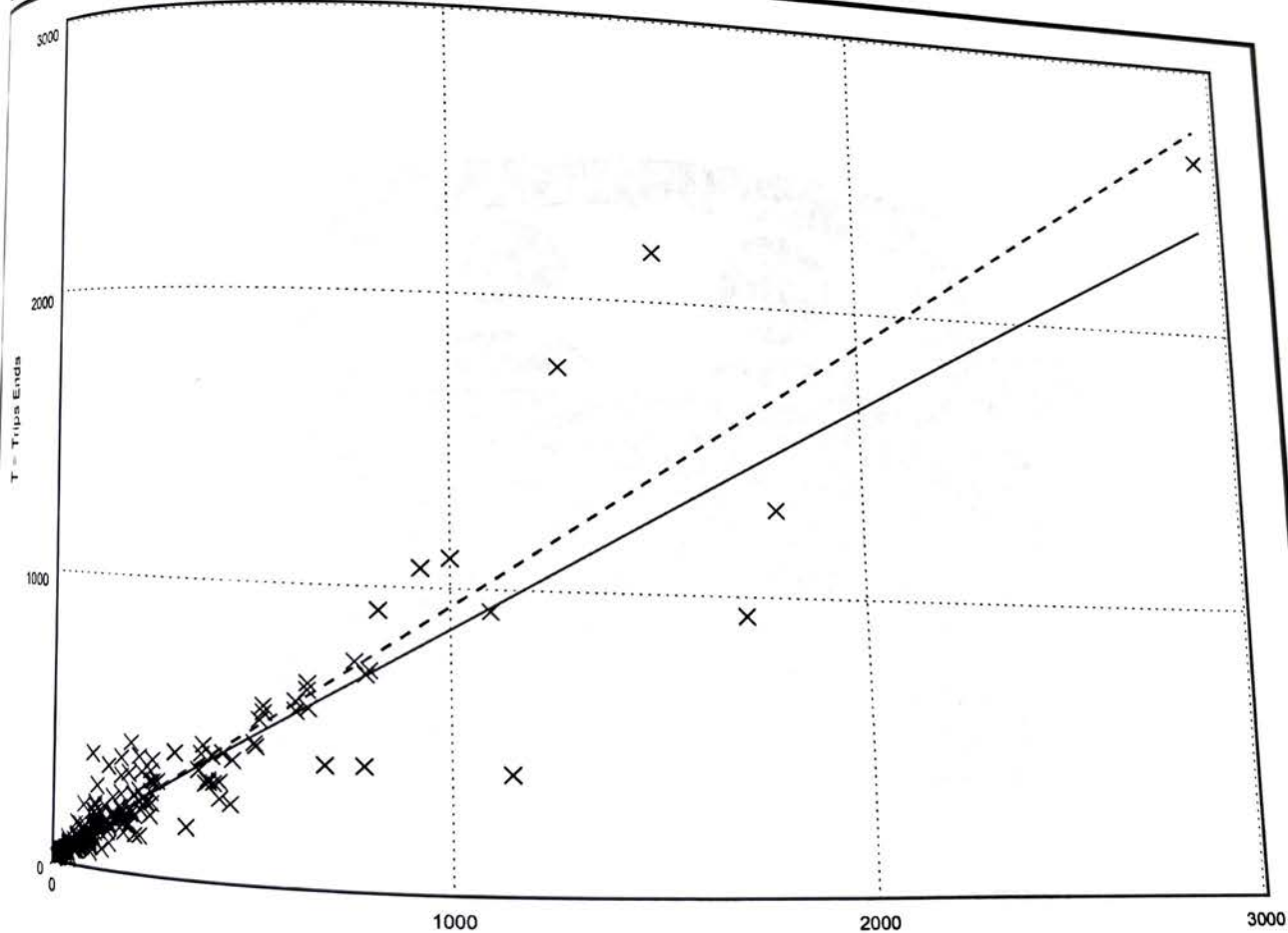
Range of Rates

0.35 - 2.98

Standard Deviation

0.31

Data Plot and Equation



X Study Site

X = Number of Dwelling Units

— Fitted Curve

- - - Average Rate

Fitted Curve Equation: $\ln(T) = 0.94 \ln(X) + 0.27$

$R^2 = 0.92$

Mid-Rise Residential with Ground-Floor Commercial GFA (25-65k) (231)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: Dense Multi-Use Urban

Number of Studies: 5

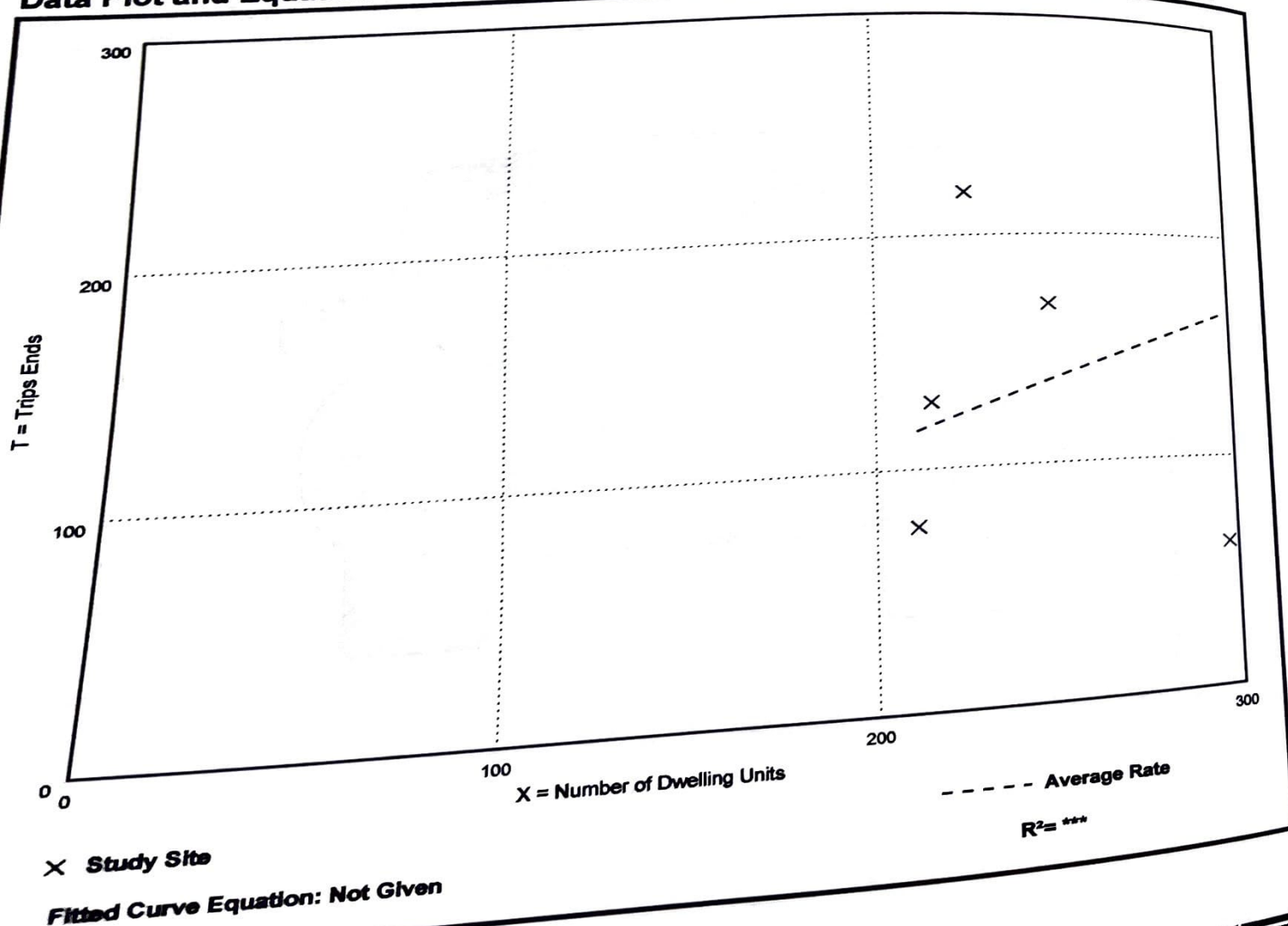
Avg. Num. of Dwelling Units: 239

Directional Distribution: 41% entering, 59% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.55	0.21 - 0.97	0.30

Data Plot and Equation



Mixed Residential with Ground-Floor Commercial GFA (25-65k) (231)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: Dense Multi-Use Urban

Number of Studies: 3

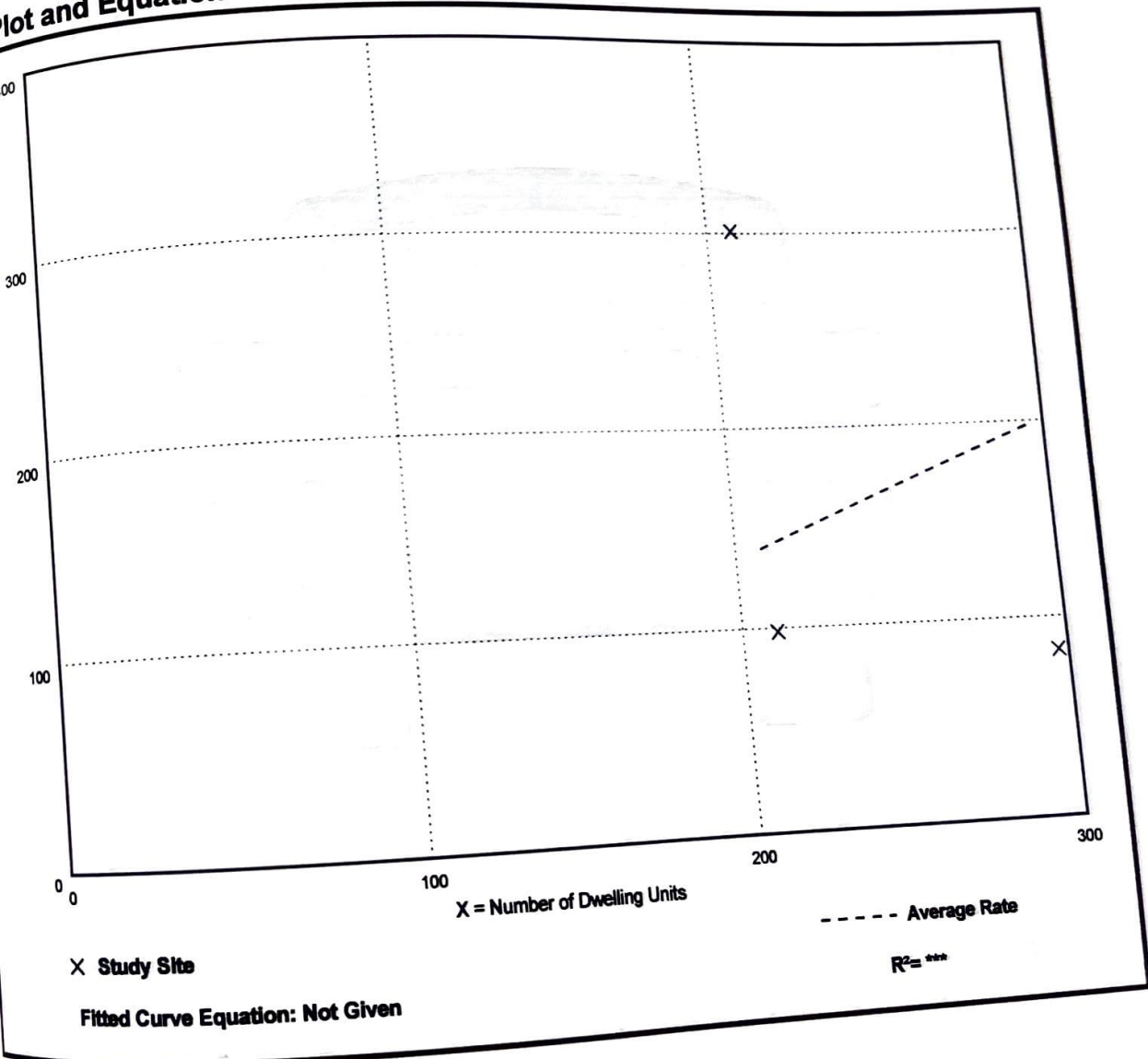
Avg. Num. of Dwelling Units: 239

Directional Distribution: 57% entering, 43% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.67	0.28 - 1.45	0.61

Plot and Equation



Appendix L

Urban Design + Architectural Guidelines

Urban Design + Architectural Guidelines

REV 02

JULY
2024



SNELL'S HOLLOW (EAST) SECONDARY PLAN,
TOWN OF CALEDON

Urban Design + **Architectural** Guidelines

SNELL'S HOLLOW (EAST) SECONDARY PLAN
Town of Caledon

Internal File #: 16239B

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01

INTRODUCTION

intent

These Urban Design & Architectural Guidelines ("UDAG") have been prepared by MacNaughton Hermesen Britton Clarkson Planning Limited ("MHBC") on behalf of Snell's Hollow Developers Group (the "Owner") for their respective subdivision in the Town of Caledon.

The intent of this document is to establish and communicate design expectations for the **Snell's Hollow Community**, legally described as Lot 18, Concession 2 and 3, EHS (Chinguacousy) (the "Subject Lands") and set the framework for design principles related to the arrangement and composition of built-form through architectural guidance and the treatment of streets, parks, open spaces and the public realm through urban design.

These guidelines further aim to demonstrate how the proposal will complement and enhance the character of the Mayfield West Community through the integration of high level design and architecture.

These guidelines are to be read in conjunction with the **Town of Caledon Comprehensive Town-Wide Urban Design Guidelines** ("TWDG"), which recognize the rural and urban living community character and provide the fundamental building blocks and synergy between the Town's diverse places, ensuring that future development and growth contributes to the individuality and sense of place within the Town of Caledon.

vision

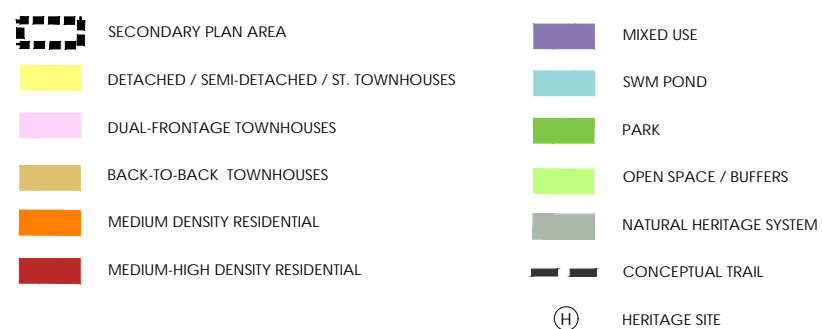
The proposed development envisioned for the Snell's Hollow Community accommodates a wide range of housing forms including detached, semi-detached, various townhouse forms, and apartment units. The proposal also provides a mixed-use block that will provide daily conveniences and employment opportunities. The proposed residential units will be connected by a series of public roads and interconnected with walkways, trails, and vast areas of natural and planned open spaces which respects the topography of the land. The proposal has the opportunity to create a uniquely planned neighbourhood while still respecting the character of the existing surrounding communities.

The main vehicular entrances to the community are located off of Kennedy Road, Heart Lake Road and with respect to mixed-use blocks, Mayfield Road, which will connect to the public road network throughout the site. Emergency access and easement where applicable will also be accommodated into the proposed road network to ensure that the operation of emergency and maintenance vehicles are integrated into the community.

The Subject Lands have an area of approximately 60 hectares (150 acres) with a net developable area of approximately 34 hectares (84 acres). The natural and planned open space areas will be linked through a trail network to provide continuous

linkage throughout the natural heritage system area and the proposed community. This open space network will also serve as a major outdoor amenity and aesthetic component of the Snell's Hollow Community by providing a range of passive and recreational amenities that are in support of the residents and nearby communities.

The open space areas will also serve as a transitional buffer area along the major roads and highway abutting the proposed development. The proposed stormwater management ponds located at the southwestern and eastern portion of the property along Kennedy Road and Heart Lake Road will also complement the proposed community and natural heritage system area.



guiding principles

The vision for the Snell's Hollow Community will be realized by adhering to the following principles:

- Providing a high quality urban design and architectural built form that is context sensitive and compatible to the existing and emerging built and natural environment.
- Ensuring a gradual transition from neighbouring low density residential to a leisurely and vibrant community setting that promotes a strong sense of place and unified community setting.
- Preserving open space areas and connections to support an active living lifestyle and healthy community.
- Establishing strong pedestrian linkages through the use of trails and sidewalks to create an interconnected open space network.
- Defining gateway and entrance features through landscaping, decorative surface treatment, and other ornamental features.
- Incorporating and optimizing existing natural heritage features into the overall design of the community.
- Ensuring that landscaping, streetscapes, signage, lighting and street furniture are designed with a coordinated theme and community vision.
- Providing a variety of architectural styles, massing, elevations and materials on all buildings to ensure visual interest along the public and private streetscapes.
- Using high quality architectural design and detailing to enhance the building façades and avoid repetition.
- Encouraging energy efficiency and conservation practices where feasible.
- Creating a high quality community built form and streetscape fabric that provides a diverse, safe, and pedestrian friendly experience.



design control

All building plans submitted to the Town of Caledon for Building Permit Application, which have not been subject to a Site Plan Approval Application, must bear the approval stamp and signature of the Control Architect/Designer.

The Urban Design and Architectural Guidelines and their interpretation by the Control Architect/Designer are intended to provide for sufficient flexibility to foster design creativity and innovation.

It is not the intention of these Guidelines or the Control Architect/Designer to stifle design creativity but instead to ensure compatibility with the vision and guiding principles of this community.

The Guidelines contained herein are intended for use by the initial Builder of the dwelling and will not bind the homeowner or subsequent homeowners from making any alterations to the dwelling, provided they comply with all other governing regulations.

A privately-administered design review process will be conducted for every new residential development by the Control Architect/Designer. The design review process by the Control Architect/Designer will be conducted expeditiously and fairly.

terminology & interpretation

Within this document, common terms are used in reference to prescriptiveness of the stated guideline. These terms are intended to have the following meaning with respect to compliance:

- 'Shall' / 'Will' : Guidelines using the words 'shall' or 'will' are mandatory and must be included in the project's design.
- 'Should' : Guidelines which employ the word 'should' are intended to be applied as stated. However, an alternative measure may be considered if it meets or exceeds the intent of the guideline.
- 'Encouraged' / 'Discouraged' / 'May' : Guidelines using the words 'encouraged', 'discouraged' or 'may' are desirable but not mandatory.

02

UNDERSTANDING

THE CONTEXT

site location & existing condition

The Subject Lands are located on the northeast corner of Kennedy Road and Mayfield Road in the Town of Caledon, and are bordered by Highway 410 to the north and the City of Brampton municipal boundary to the south. Heart Lake Road bisects the Subject Lands on the east side of the Subject Lands, with Kennedy Road bounding the Site to the west. The Subject Lands have a total area of approximately 60 hectares (150 acres).

The Subject Lands contain the following existing uses: small agricultural land with a small pond, a two-storey residential house with three metal-framed sheds, remaining concrete foundations from a previously demolished building, a gravel road, and various asphalt/concrete pads. The Subject Lands are surrounded by existing low density neighbourhoods to the west, to the south in the City of Brampton, and to the north on the opposite side of Highway 410. Stonegate residential community and the associated conservation area is located south of the Subject Lands in the City of Brampton.

There are two existing points of access to the Subject Lands; one towards the property off of Kennedy Road and another from Mayfield Road to the property addressed as 3742 Mayfield Road. A Natural Heritage System feature runs east-west along the central portion of the Subject Lands.

Regarding the active transportation conditions, currently there is a sidewalk available on the east

side of Kennedy Road, north and south of Mayfield Road. Sidewalks are currently provided on both sides of Snellview Boulevard and Stonegate Drive; however, no sidewalks are currently provided along Mayfield Road and Heart Lake Road in the area. As part of the capital road improvements for Mayfield Road, a 3.0 m multi-use path will be provided along both sides of Mayfield Road to the west of Kennedy Road, but only on the south side of Mayfield Road to the east of Kennedy Road. A 3.0 m multi-use path is proposed along the north side of Mayfield Road from Kennedy Road to Heart Lake Road, and will be included in the detailed design and construction of Mayfield Road.

There are currently no dedicated cycling lanes along Mayfield Road, Kennedy Road and Heart Lake Road. However, there are existing multi-use trails along Mayfield Road from east of Kennedy Road to the east of Stonegate Drive that connects with Heart Lake off-road multi-use trail. There is a multi-use trail on the west side of Kennedy Road from north of Mayfield Road to Abbotside Way.



surrounding built form and uses

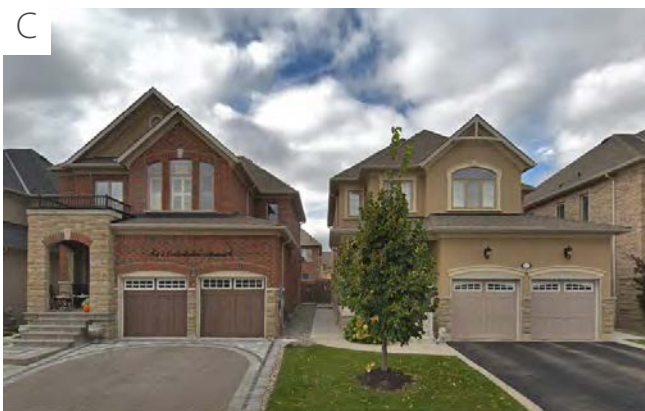
A range of lot types and housing styles are found on nearby streets which contain varying setbacks and lot widths. Nearby housing typically incorporates a mixture of small and large window openings, mature trees and a variety of building materials such as brick, vinyl, stucco, and stone. There are also newer neighbourhoods, particularly to the west and north of the Subject Lands (See pages 13-14 for examples of the range of lots and housing types in the surrounding neighbourhood).

The existing condition of the site coupled with the surrounding built form and uses have influenced the overall subdivision design and are further discussed in the following sections.

The proposal intends to redevelop the Subject Lands into a mixed-use community consisting of low-, medium-, and high density housing forms comprising an total estimate of approximately 1,600 residential units. The proposed subdivision also includes mixed-use blocks abutting Mayfield Road, parks and open spaces, two stormwater management ponds, and a protected Natural Heritage System feature. Altogether, the proposal intends to provide future residents with an active living lifestyle and a complete community, while ensuring necessary buffers to preserve the existing natural features.

2.2

surrounding built form and uses



Example of the range of lots and housing types in the surrounding neighbourhood.
Refer to Location Plan on p.11 for location of the above built forms.

G



H



I



J



K



L



existing topography

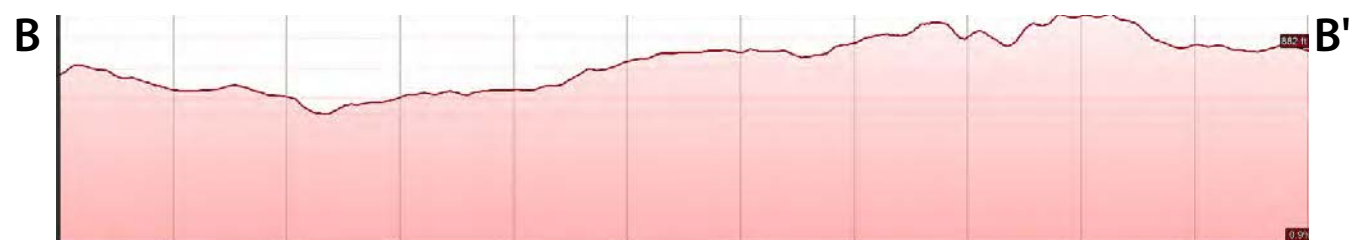
The existing topography of the Subject Lands is relatively flat along the northern and eastern portion. In the centre portion of the lands, the topography slopes downwards as a result of an existing valley and wetland system that traverses through the site. The topographic sections below illustrate the approximate terrain conditions, with more gentle grades on the portion where the majority of the proposed development is

concentrated. The Baseline Conditions Report ("BCR") by R.J. Burnside & Associates prepared on January 2020 and revised on May and August 2020 further confirms the topographical condition.

The design of the proposed development takes into consideration the existing condition to optimize and provide for an efficient use of the land.



Approximate topographical condition shown on a north-south cross section from Google Earth.



Approximate topographical condition shown on a east-west cross section from Google Earth.

views and vistas

The Subject Lands are largely characterized by the existing Heart Lake Provincially Significant Wetlands (“PSW”) Complex and its associated Unnamed Tributary of Spring Creek that traverses through the site. The tributary continues south from the Subject Lands and drains beneath Mayfield Road towards the Heart Lake Conservation Area. This existing PSW is contained within the Toronto and Region Conservation Authority (“TRCA”) regulated area and the Natural Heritage System (“NHS”). Accordingly, this natural area is proposed to be preserved and protected by a buffer.

Opportunities for views towards the natural area will be available from the low density lots (i.e. the detached, semi-detached, and street townhouse lots) located on the north perimeter, as well as from the mixed use, high and medium-high density residential portions of the community.

Section 7.11 of the Caledon Official Plan also identifies that a transition is to be provided between the more urban condition of the Brampton community to the south and the Snell’s Hollow Secondary Plan area to the north, where the Subject Lands are located. Accordingly, the urban design and architectural features within the proposed development are intended to achieve this goal by implementing an architectural style consistent with the character of Mayfield West neighbourhood and the broader Town of Caledon context. Vista opportunities will be located on the south side of the Subject Lands along Mayfield Road and act as a transition from the Brampton community.

existing vegetation

The Subject Lands are mainly comprised of agricultural row crops, naturalized meadows, woodlands inclusions, a large swamp thicket and marsh wetland associated with the Unnamed Tributary of Spring Creek that meanders through the centre of the Subject Lands and towards the south.

The BCR completed and submitted by R.J. Burnside & Associates in support of the proposed development application reported that 122 existing plants were observed on the Subject Lands, with 109 being identified at the species or subspecies level. Of

those species, approximately 66% were native to Ontario. The existing vegetative conditions for the area surrounding the Subject Lands includes but is not limited to a dry-moist old field meadow on the perimeter of the Subject Lands, rural properties with manicured lawns, various marsh types, annual row crops, and two hedgerows.

The proposed subdivision design preserves a significant portion of the existing vegetative features on the Subject Lands and ensures the protection of the PSW feature.

2.6

cultural heritage

A dwelling identified as the “Snell Farmhouse” exists on the Subject Lands and is a non-designated property under section 27 (1.2) of the Heritage Act. The key heritage feature on the Snell Farmhouse property is the original house, which was constructed around the 1840s. The farmhouse contributes to the Classical Revival style of the house dating to the mid 19th century, and features a one-and-a-half storey massing of field stone and red brick construction with gabled roof.

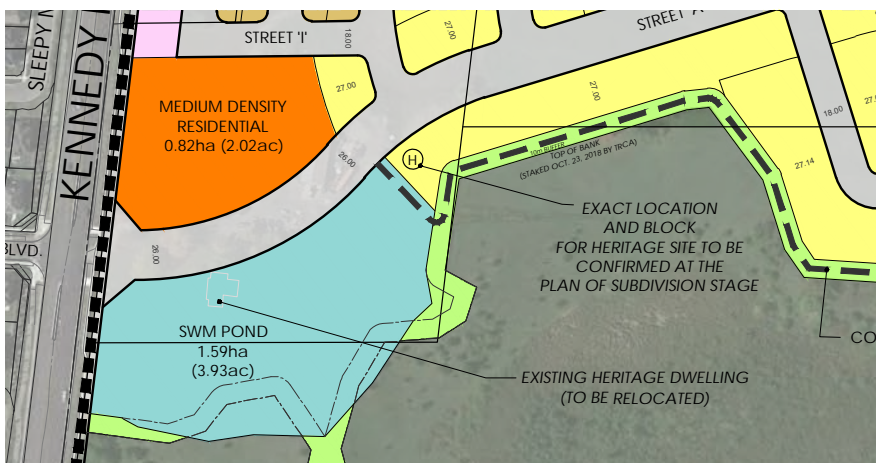
The proposed community has been designed to relocate the dwelling, oriented towards Street A, fully integrated into the single-detached blocks

employing the same orientation and setbacks as the proposed residential units, thus ensuring a congruent street character. The exact location and block for relocation of the dwelling will be confirmed at the Plan of Subdivision stage. Other features exist on the property but are not considered to have heritage value, including agricultural buildings and landscape elements such as black locust, sugar maple, and walnut trees.

The proposed subdivision will retain the farmhouse building on site in its original use and integrate it into the Snell's Hollow community.



Existing Snell Farmhouse property featuring a Classical Revival architectural style dating to the mid 19th century.



Partial Concept Plan showing the proposed relocation site for the Farmhouse dwelling

03

POLICY

GUIDELINES

3.1

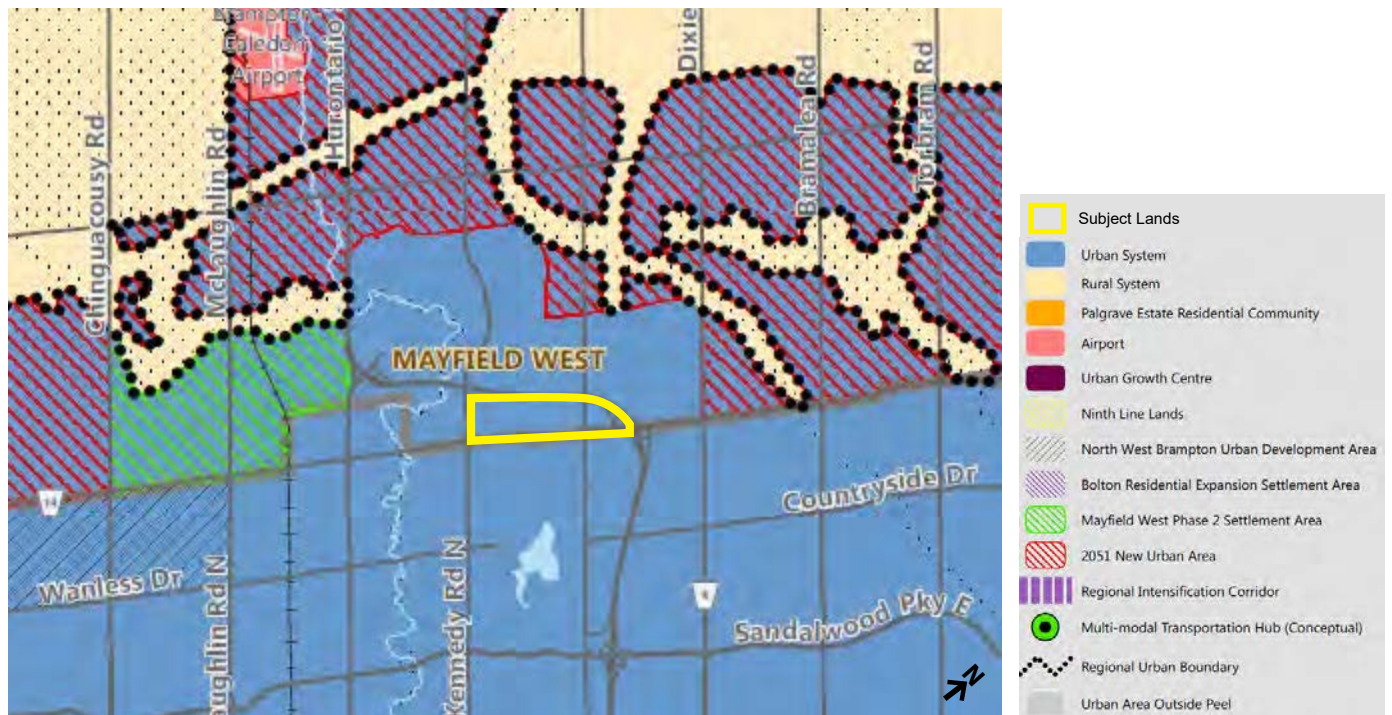
Peel Region Official Plan

The Subject Lands are designated as “Urban System” within Schedule E 1 – Regional Structure of the April 2022 update of the Official Plan, and are further identified to be within the Mayfield West Study Area boundary. The Urban System is composed of a variety of communities that contain diverse living, working and cultural opportunities.

The Provincially Significant Wetland partially located within the Subject Lands is designated as Core Areas of the Greenlands System per Schedule C-2. Development and site alteration is prohibited within Core Areas of the Greenlands System.

The Subject Lands are a Designated Greenfield Area per Schedule E3 – The Growth Plan Policy Areas in Peel. Accordingly, the Subject Lands are planned to become a “completed community” which supports sustainable transportation options and provides for public open space.

The proposed development represents an appropriate use for Urban Systems while working to achieve minimum provincial density goals for Designated Greenfield Areas. The development has been designed to preserve the wetland features existing within the Subject Lands.



Peel Region Official Plan Schedule E 1 - Regional Structure

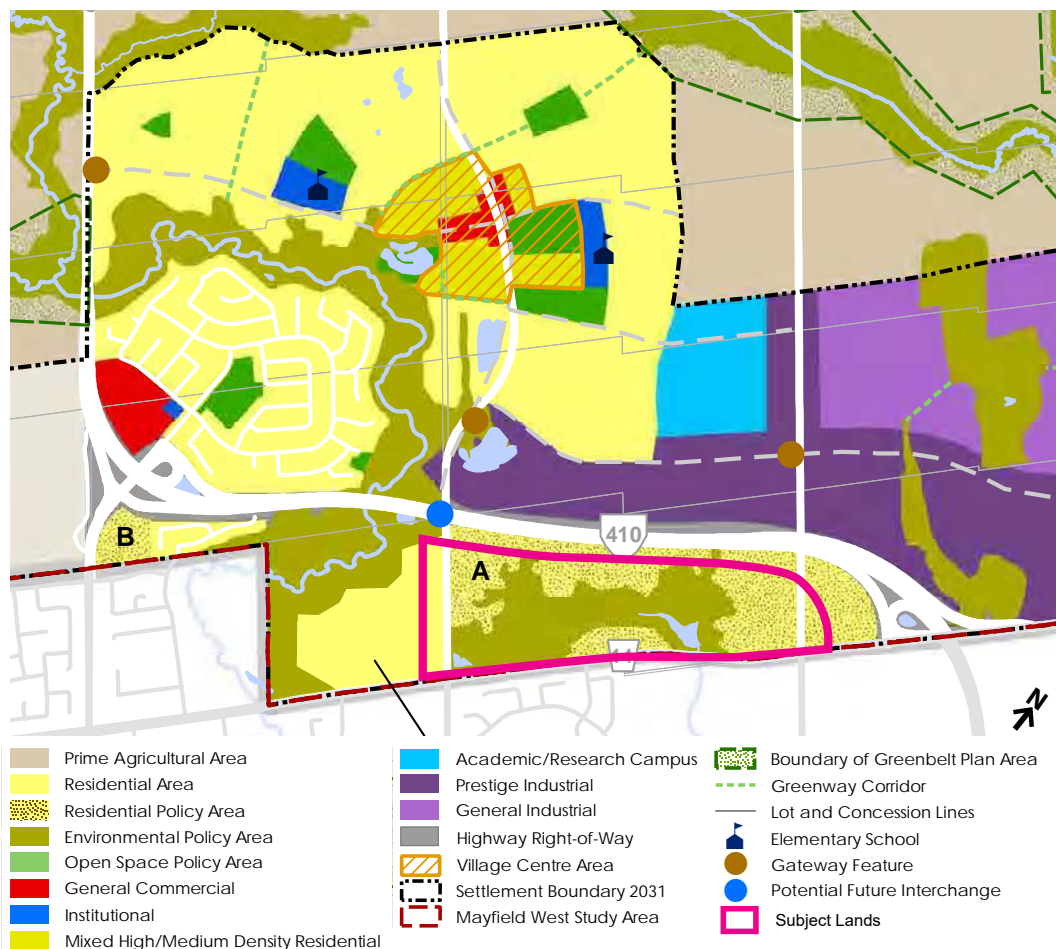
Town of Caledon Official Plan

The Subject Lands are designated as Residential Policy Area, with a portion coincident with the PSW designated as Environmental Policy Area on Schedule B – Mayfield West Land Use Plan. Residential Policy Areas are used to manage the release of land for development in accordance with the Principles, Strategic Directions Goals and Objectives, Population and Employment Forecasts, and Population Allocations of the Caledon Official Plan. Per Section 5.7.3.1.1 of the Caledon Official Plan, new development is prohibited within Environmental Policy Areas with the exception of the permitted uses as specified in policy 5.7.3.1.2 allowing portions of new lots subject to the

approval requirements recommended by the Town and other relevant agencies..

Schedule S – The Greenbelt in Caledon shows the Subject Lands as a Settlement Area with a watercourse. Areas within Settlement Areas are not subject to the policies of the Greenbelt Plan. Modest growth that is compatible with the long-term function of these areas are encouraged.

Overall, the proposed development represents a use of the lands consistent with the goals and objectives of the growth planned to occur in the Mayfield West neighbourhood area.



Town of Caledon Official Plan Schedule B - Mayfield West Land Use Plan

Town of Caledon Comprehensive Town-Wide Design Guidelines

Town Council adopted the Town of Caledon Comprehensive Town-Wide Design Guidelines (TWDG) in November 2017. This document intends to be a single, consolidated source of guidance for both urban and rural settings in the Town. It provides guidance to ensure that future development and growth contributes harmoniously to the Town of Caledon's existing and evolving character.

The TWDG sets forth five key design principles to achieve the Town's development vision, which include:

1. Sustainable Design & Compact Development (including environmental, social and economic sustainability measures) (refer to Section 3.1 ;
2. Accessibility and Universal Design (refer to Section 3.2);
3. Community Safety & Security (refer to Section 3.3);
4. Complete Streets & Active Transportation (refer to Section 3.4); and
5. Cultural Heritage Conservation (refer to Section 3.5);

The TWDG's intended users include Town Council, Town Staff and Control Architect, the development community, external agencies, and public members. The TWDG will assist members of the development industry and their consultant teams by providing a clear, comprehensive and concise source of development guidance. Accordingly, the Urban Design and Architectural Guidelines in this document will demonstrate conformity with the Town's design guidelines.

When there is uncertainty or conflict in the design process, the Builder will refer back to the TWDG's design principles and objectives to guide the decision-making process. While the TWDG provide design and architectural control guidance, these guidelines are not intended to be prescriptive to stifle design creativity. However, where design variation deviates significantly from the TWGD or the guidelines forthcoming, a design rationale should be provided.

Relevant sections of the TWDG to consider, but not limited to, are:

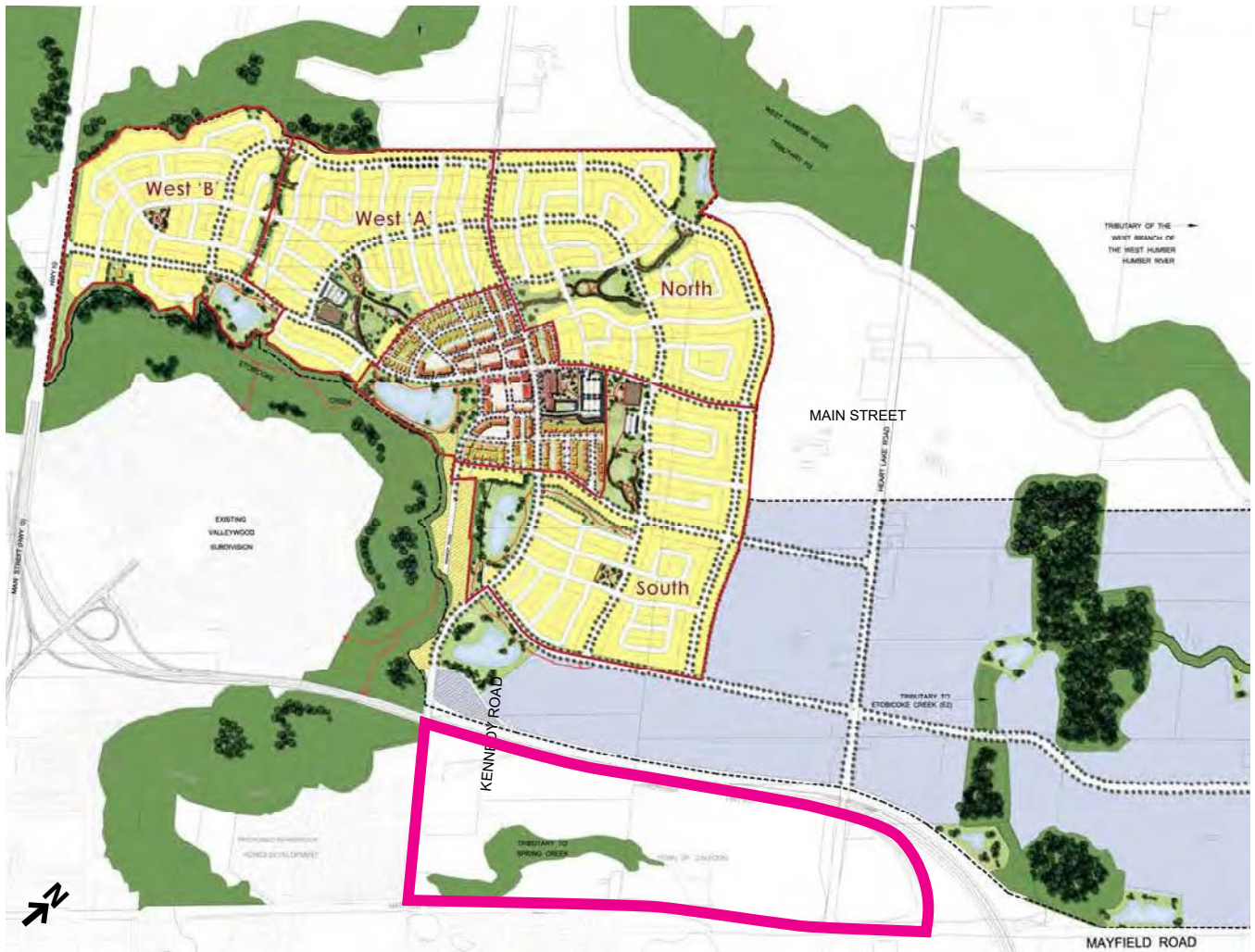
1. Section 6.4 Neighbourhood Blocks;
2. Section 6.5 Priority Lots;
3. Section 7.1 Sustainable Building Practices;
4. Section 8.1 Built Form;
5. Section 8.3 Utilities

Mayfield West Community Design Plan















The Mayfield West Community Design Plan envisions a community that blends traditional community planning with modern environmental conservation. It envisions a rural village for 9,000 people, drawing inspiration from Ontario towns like St. Jacobs and Kleinburg, featuring a central village core and complementary land use. The design leverages the natural surroundings, creating a unique village with an urbanized center, valleys, residential areas, an employment zone, and highway improvements.

While the Subject Lands are situated outside of the Mayfield West Community area to the south, the design principles and the envisioned character of the community are considered suitable and relevant for this area as well.

Notably, Section 3.2 Community Design Guidelines for Community Neighbourhoods, and Section 4.0 covering Site Planning, Architecture, and Landscape Architecture, provide comprehensive directives and optimal approaches for planning, designing, and architecturally enhancing a harmonious, dynamic community with engaging public and private spaces. Additionally, Section 8 of the Design Plan offers valuable guidance on adopting best practices for Environmental Sustainability and climate resilience in both community developments and buildings.



LEGEND

	ENVIRONMENTAL POLICY AREA		NEIGHBOURHOOD/ COMMUNITY PARK
	ELEMENTARY SCHOOL		SWM POND
	VILLAGE CENTRE COMMERCIAL		EXISTING RESIDENTIAL
	VILLAGE CENTRE RESIDENTIAL MIXED USE		ROPA17 BOUNDARY
	VILLAGE CENTRE RESIDENTIAL		NEIGHBOURHOOD BOUNDARY
	RESIDENTIAL COMMUNITY		Subject Lands
	EMPLOYMENT DISTRICTS		
	GREENWAY CORRIDOR		

04

COMMUNITY

DESIGN

4.1

community structure

The Snell's Hollow Community Concept Plan has approximately 13 hectares (32 acres) of residential land area, approximately 2.3 hectares (5.7 acres) of mixed-use land area and nearly approximately 2.8 hectares (7 acres) of parkland area proposed at the west and east end of the community. The concept plan will be implemented by way of Plan of Subdivision with a public road network. The community is intended to accommodate single detached homes, semi-detached homes, street townhouses, dual-frontage townhouses, back-to-back townhouses, medium-high density apartment units, parks and open space uses, stormwater management ponds, and mixed use blocks that will provide daily conveniences and employment opportunities to the community.

Furthermore, 3.0-metre walkway connections have been provided, where required, to ensure residential blocks are no greater than 180 metres

in length.

The general land area composition of the proposed development are as follows:

- 9.04 Ha of Detached Homes / Semi-Detached Homes / Street Townhouses
- 1.79 Ha of Dual-Frontage Townhouses
- 2.18 Ha of Back-to-Back Townhouses
- 0.82 Ha of Medium Density Residential Units
- 1.58 Ha of Medium-High Density Residential Units
- 2.30 Ha of Mixed Use
- 2.88 Ha of Parks

The Snell's Hollow Community also includes approximately 21 Ha of natural heritage area, with Highway 410, Heart Lake Road, Mayfield Road, and Kennedy Road bounding the perimeter of the Subject Lands.



Snell's Hollow Preliminary Development Concept Plan
(prepared by Glen Schnarr & Associates Inc.)

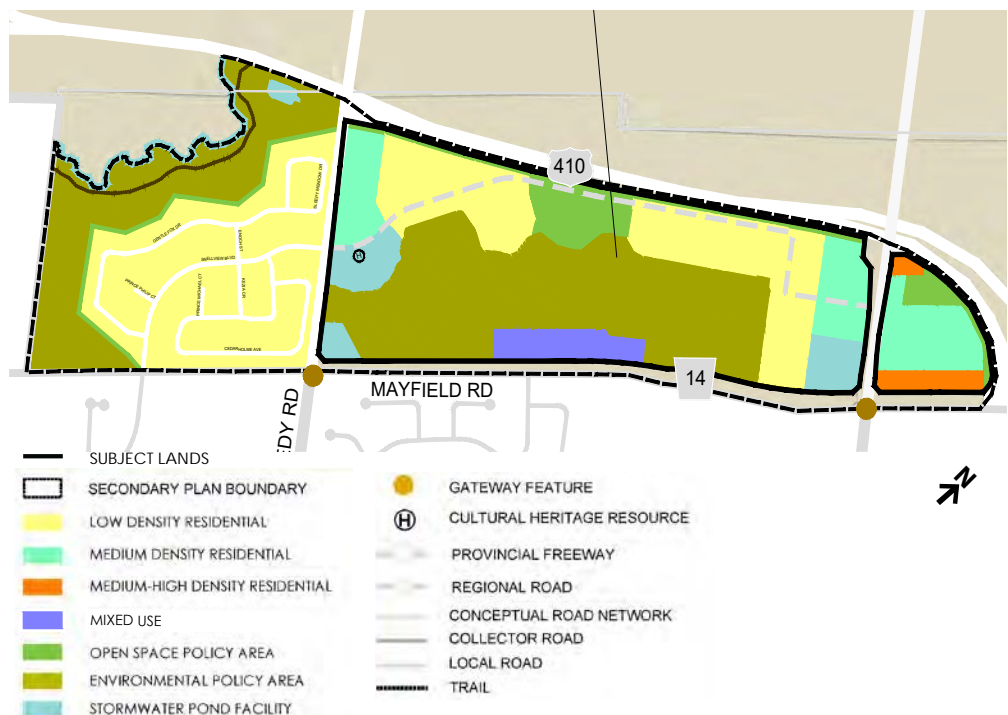
community structure

Snell's Hollow Community represents an integrated residential development with a range of residential types, mixed uses, and a network of parks, trails, and open space use to promote an active and healthy community.

i) LAND USE

Low density residential represents the majority of the residential portion of the community which is located primarily in the northwestern half of the Subject Lands. The community is flanked on the southwest by Kennedy Road and an existing stormwater management pond, with the proposed medium-high density residential uses at the southeast and eastern portion of the site along Mayfield Road. Medium density residential are proposed at the east, north and west of the Subject Lands, with mixed uses situated along Mayfield Road between Kennedy Road and Heart Lake Road. Parks are proposed at the west and east corner of the community that would abut to the Ministry of Transportation (MTO) setback area and together form the community's open space network. The proposed stormwater management ponds will also serve as a functional and visual enhancement to the community.

Snell's Hollow Community provides a gradual transition of community activity, from the existing low density residential homes to a more comprehensive residential neighbourhood that is supported by active and passive outdoor recreation opportunities. Trailhead connections are encouraged to link between the natural heritage area and open space to promote greater activity and pedestrian movement within and between the community and adjacent neighbourhoods. The community has been spaced and located to ensure walkable distances are encouraged through comfortable and aesthetically pleasing streetscape experience for the overall community.



Snell's Hollow Secondary Plan Area - Land Use Plan (Draft OPA Schedule B-1 - Sept 2023)



community structure

ii) BUILT FORM HIERARCHY

The Snell's Hollow Community will provide a compatible built form and density transition with the existing neighbourhoods through a mixture of dwelling types to establish a community with a range of densities. The proposed built form will be compatible with the general scale, height, and massing to the surrounding built form context through an overall stepped height transition from southwest to northeast. The proposal will provide a

variety of residential unit types to encourage a non-repetitive and diverse community fabric.

Low-rise residential uses, including single detached, semi-detached, and townhomes will be primarily situated along the western and northwestern portion of the community to provide transition with the existing low-rise neighbourhoods. Mixed uses will be located along Mayfield Road to assist in framing the arterial road and better defining the street edge and public realm.



Example of variety of residential unit types to encourage a non-repetitive and diverse community fabric.

iii) INTERFACE WITH EXISTING AREAS

Where new development is directly abutting developed areas within the existing community, care should be taken to ensure new buildings do not overshadow existing residential properties where possible. Further, efforts should be made to ensure existing parks, open space, and pedestrian and cycling connections are interconnected with the new development where feasible.



Example of interconnected parks, open spaces, and pedestrian and cycling connections.

community structure

iv) COMMUNITY SAFETY

The Snell's Hollow Community will apply design principles outlined in the Crime Prevention Through Environmental Design (CPTED) guidelines to ensure a safe and legible community. The purpose of CPTED is to improve the overall quality of life and mitigating the potential of crime through key design strategies, including:

Natural Surveillance

Natural Surveillance, or "eyes on the street" can be achieved through visual and audio observation by the community residents. Design measures include providing sufficient street lighting and avoiding creating hidden/dark areas to maintain visibility during the day and night times. Tree selection, including species with high branching form should be used at all publicly accessible areas to maintain high level of visibility. Further, orienting driveways and paths towards building entrances and windows, increasing visual permeability of vulnerable areas such as building entrances and stairwells through the strategic placement of windows, fencing and landscaping, and developing uses for the environment that are capable of strategically generating activity will provide natural surveillance opportunities.

Natural Access Control

Natural access control is achieved through establishing barriers that is natural for the environment including topographical features, fences, low walls, landscaping, and gates. Successful natural access control measures include establishing clear border definition of controlled space, limiting uncontrolled and/or unobserved access within the community, and using landscape barriers to discourage unwanted entry and creating natural barriers to conflicting activities.

Territorial Reinforcement

Community safety is fostered when a sense of ownership is established, as the community residents will have a collective responsibility of "neighbourhood watch" even for the public realm areas within the community. This can be achieved through creating clearly marked transitional zones between public, semi-public, and private spaces through the use of pavement materials, providing amenities that encourage activity and regular maintenance, establishing symbolic demarcation markers, and through the use of signs and other visual cues to enhance awareness and sense of place of the community.

v) STREET AND BUILDING RELATIONSHIP

To achieve a strong streetscape and architectural relationship, a variety of residential building types, sizes, and setbacks should be provided on any given street to encourage a diverse, non-repetitive community fabric, with building entrances fronting onto the streets wherever possible.

When a feature road such as an open cul-de-sac, open crescent, or service road is used, the flanking lots should be subject to architectural controls to encourage positive treatment facing these public areas.

Front porches, covered entrances and wrap-around verandas are encouraged as a transitional area between the principle building and the front or flankage yard to provide both visual interest to the building and opportunity for informal social activity contributing to casual surveillance and safety of the street.

Residential buildings on corner and flank lots, at gateways or at the terminus of streets should integrate building elements and designs that emphasize their visibility and potential role as landmark or orienting structures along the community streetscape. Where residential units provide more than one storey and include a projecting garage, a second storey above the garage is encouraged. Visible building elements including porches, entrances, windows and building materials should differ from adjacent buildings to provide variety to the image of the streetscape.

The design of townhouse, multiplex and apartment buildings should consider the overall form, massing and proportions, and the rhythm of major repetitive building elements and roof designs to create a street facade that is composed of a consistent and attractive variety of building elements. End units in a townhouse or multiplex block should place windows and entrances where appropriate to encourage these areas to be attractive, active and safe.

The proportion of rooflines, wall planes and openings should be consistent with other buildings on the street.



Example of a street and building relationship, where building and landscape elements together create a consistent and attractive streetscape setting that is pedestrian scaled.

street network and mobility

Snell's Hollow Community will utilize a public road network designed to increase access and connectivity to features throughout the community. A cohesive streetscape character will be established to provide an integrated pedestrian and vehicular experience.

i) PEDESTRIAN MOVEMENT

The Snell's Hollow Community will include public right-of-ways that will be designed to promote a healthy active lifestyle through a series of pedestrian sidewalks and connecting trailheads where feasible that link to the greater open space network and natural heritage system. The goal is to create vibrant and attractive streetscapes that encourage walkability and complement the character of the community.

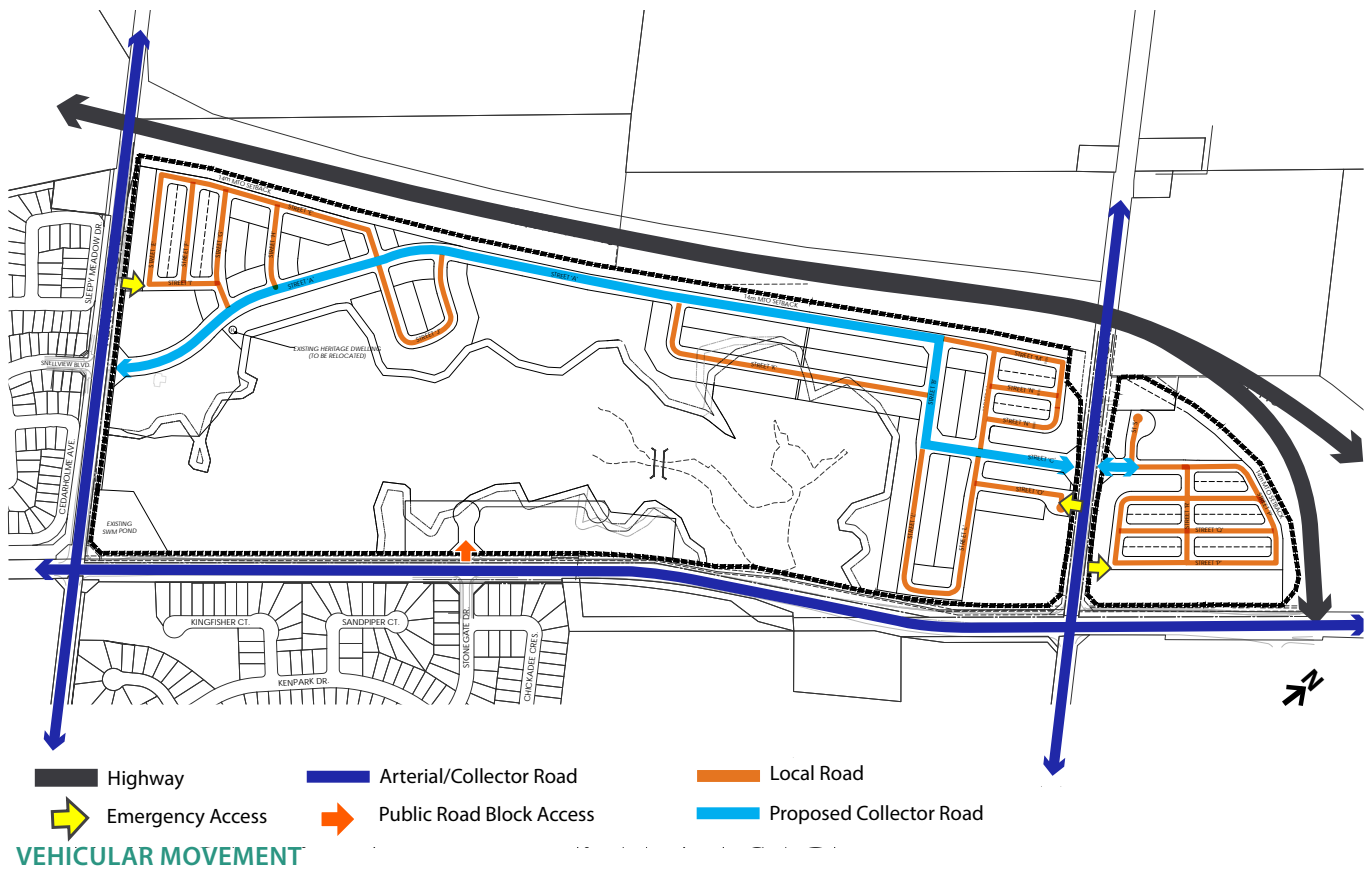
The Snell's Hollow Community residents will be able to access a range of open spaces and outdoor amenity areas within an 800 meter walking radius (15 minute walk), including the proposed parks and existing natural heritage area that together form the community's open space network.

ii) VEHICULAR MOVEMENT

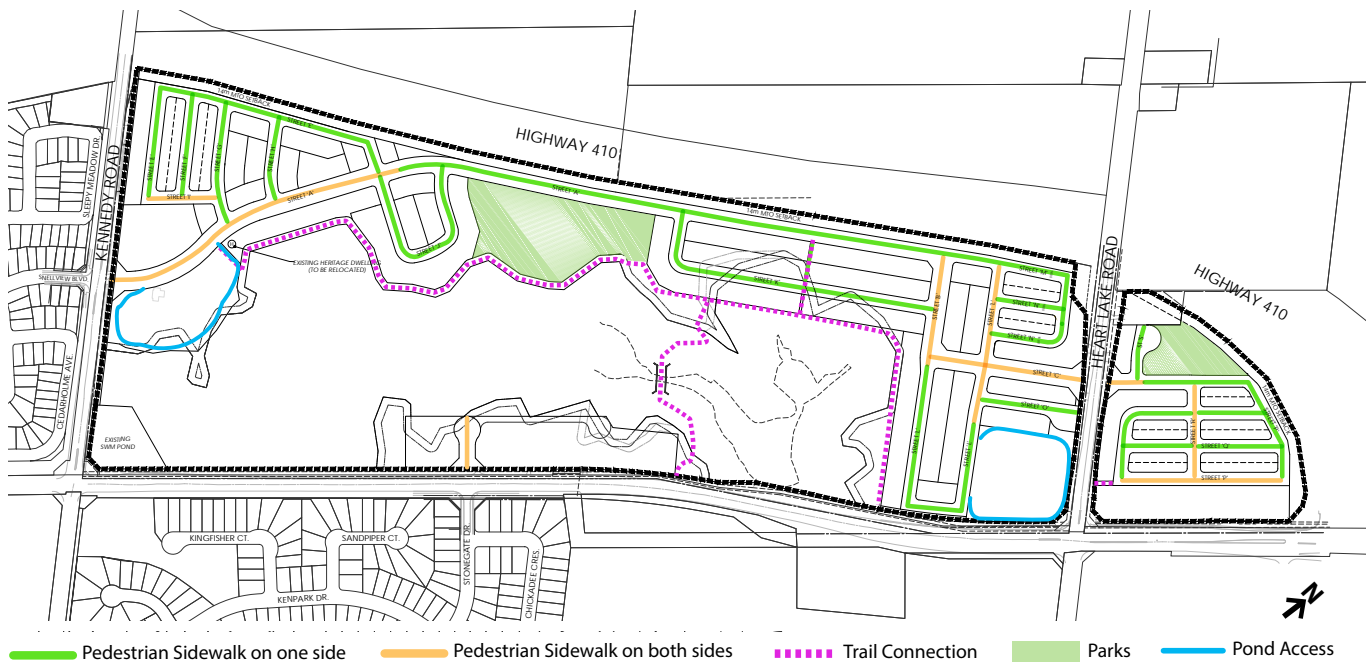
The Snell's Hollow Community is bounded by Highway 410 to the northwest, Mayfield Road to the south (a High Capacity Arterial Road with a proposed right-of-way width of 50.0m), Kennedy Road to the southwest (a Collector Road with a proposed right-of-way width of 36.0m), and Heart Lake Road to the east (a Collector Road with a proposed right-of-way width of 36.0m). Access to the proposed community would be provided through public road connections along Kennedy Road and Heart Lake Road with 26.0m right-of-way widths. Public Road access will also be provided for the mixed-use block off of Mayfield Road. The proposed ingress/egress layout will limit the number of actively used intersections onto Kennedy Road, Heart Lake Road, and Mayfield Road.

Within the community, the proposed public road network will comprise a range of right-of way widths ranging from 16.0 metres for single-loaded roads (i.e., "window roads") to 26 metres for collector roads, which will provide sufficient turning radii as per the Town's standards to ensure the movement of emergency vehicles will have sufficient space to manoeuvre within the community.

Streets within the community will have sidewalks on one or both sides of the street depending on the abutting land uses. Sidewalks will also range from 1.5 metres to 2.0 metres in width.



VEHICULAR MOVEMENT



PEDESTRIAN MOVEMENT

street network and mobility

iii) CYCLING MOVEMENT

The Snell's Hollow Community will provide opportunities for the enhancement of the road network to allow other modes of mobility, including cycling within the development where feasible through the following:

Multi-Use Trail

A multi-use trail is designed to accommodate walking, cycling and other non-vehicular travel modes, with a typical minimum width of 3.0m. The proposed development is encouraged to provide a multi-use trail network within the natural heritage area to create an integrated open space network with the proposed parks.

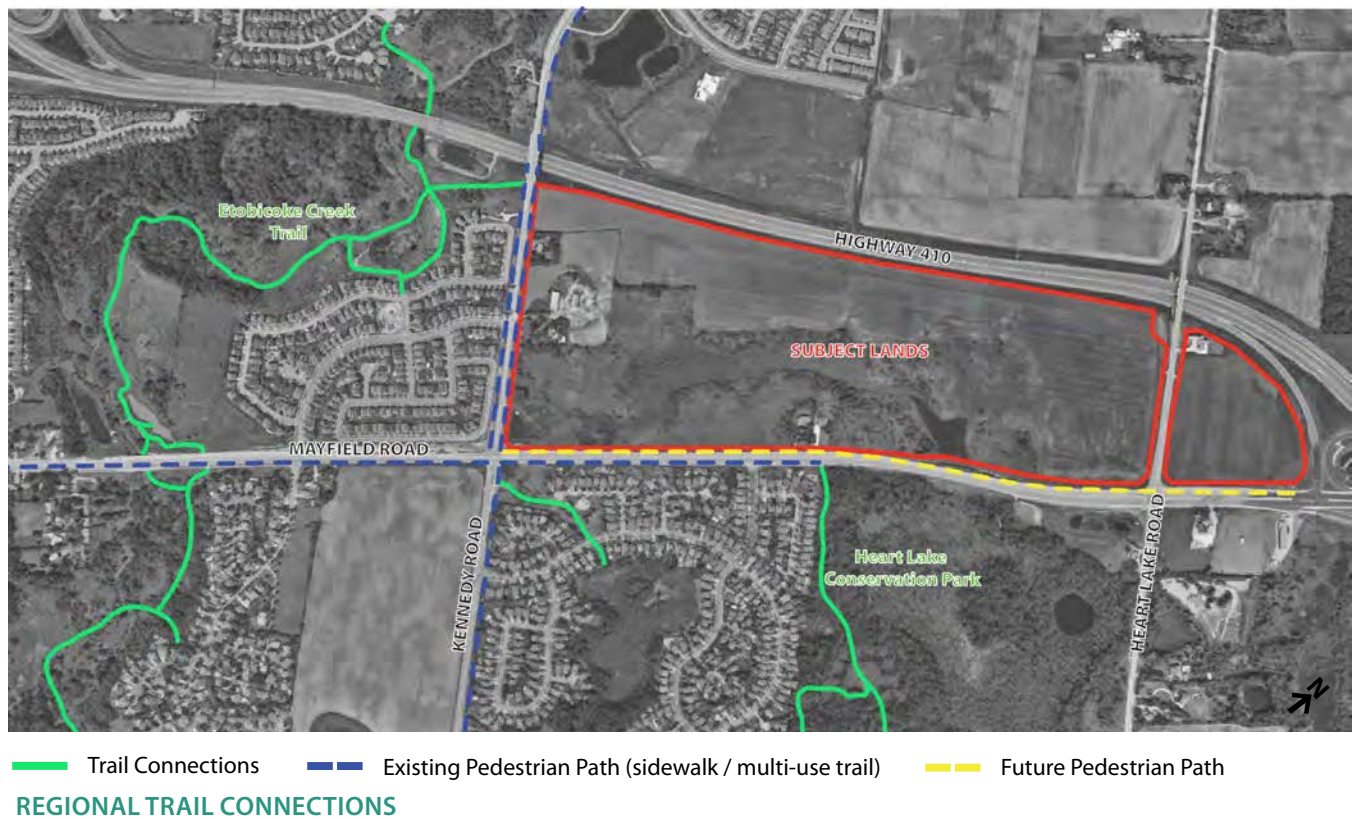
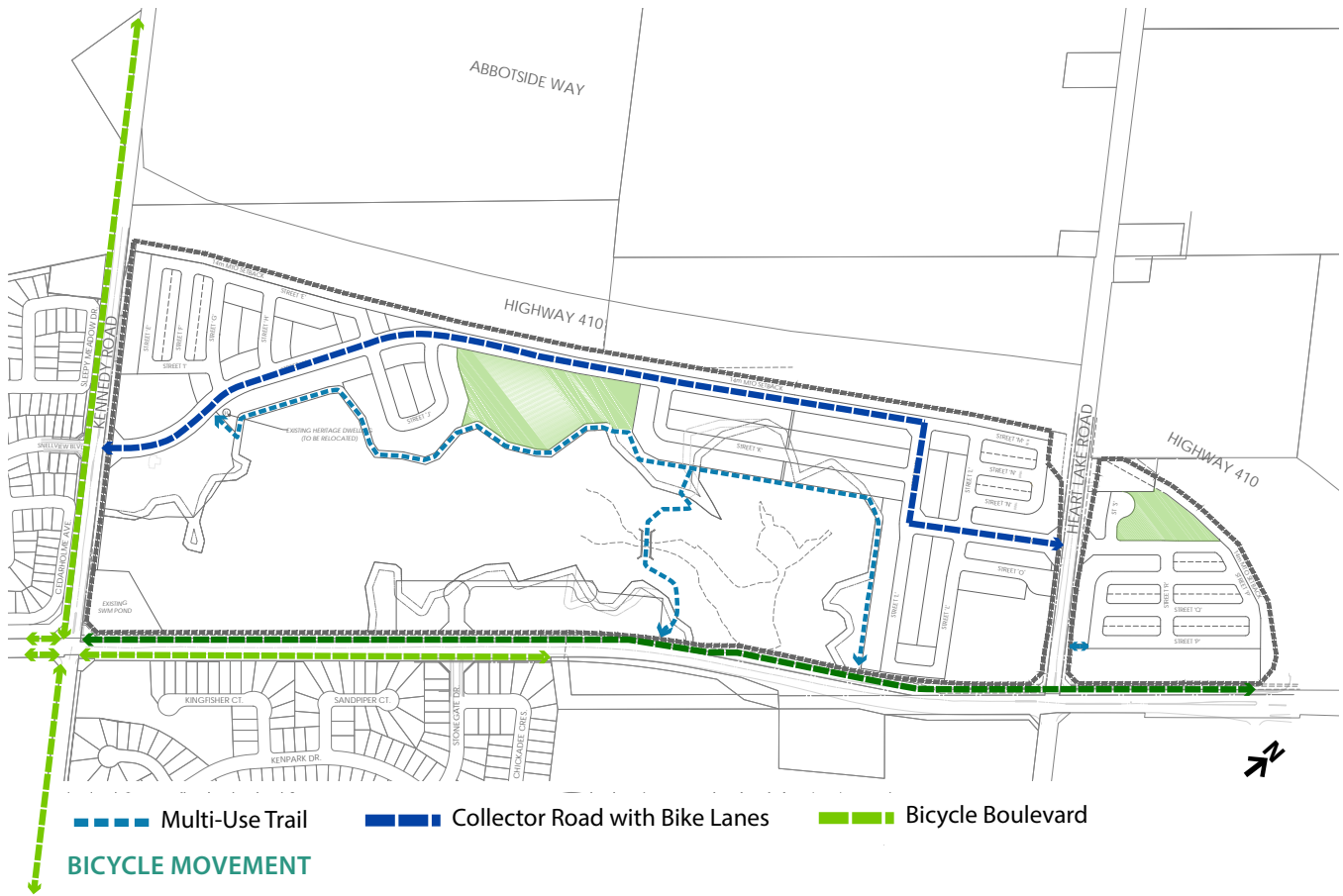
Bike Lanes

Bike lanes are incorporated into collector roads, serving as secure routes for active transportation throughout the community. These lanes will be situated either on the roadway with proper markings or integrated into the raised curb area, distinctly separated from the sidewalk. To ensure cyclist manoeuvrability, the bike lanes should have a minimum width of 1.5 meters.

The proposed multi-use trail and roads with bike lanes will improve cycling connections to the existing and planned cycling network in the surrounding area, including the existing multi-use path along Kennedy Road and along the south side of Mayfield Road, as well as the future/proposed multi-use path along the north side of Mayfield Road. Additionally, these multi-use paths provide connection to Caledon's regional trail network, including Etobicoke Creek Trail to the southwest and Heartland Conservation Park's trail to the southeast of the Subject Lands.



Example of a multi-use trail.

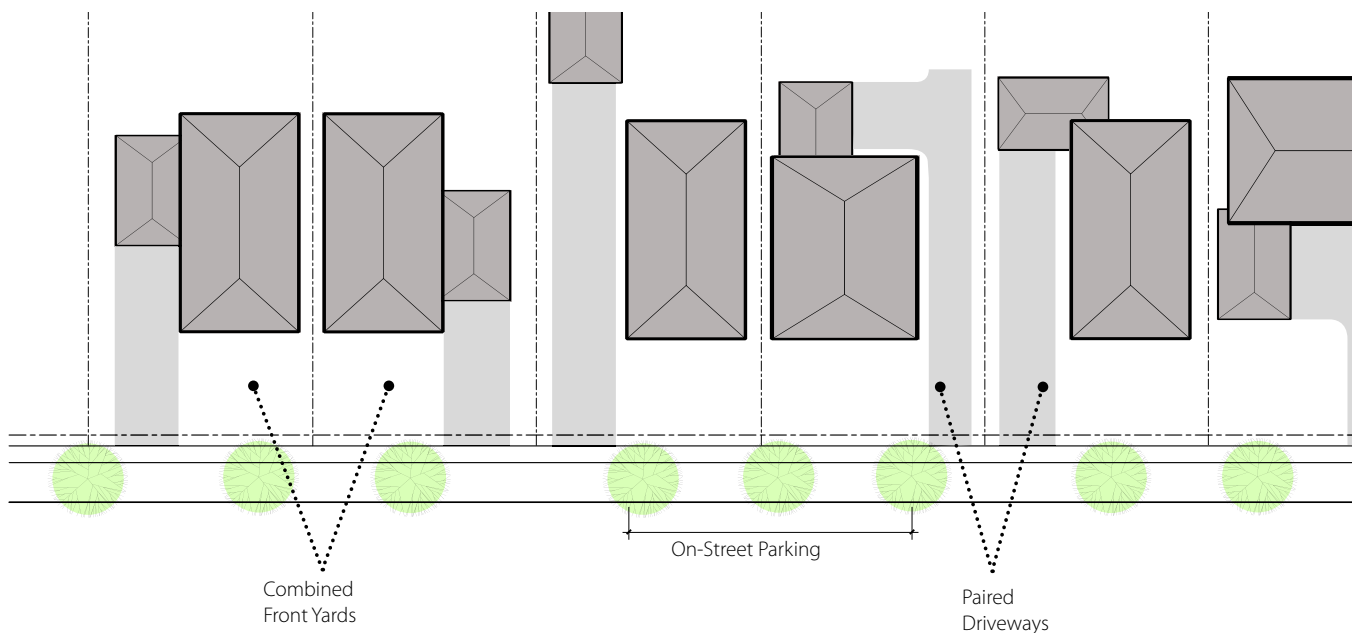


street network and mobility

iv) DRIVEWAYS PLACEMENT

Driveway placements play an important role in establishing the overall sense of place and legibility of the community streetscape. The following should be considered in terms of driveway placement:

1. Driveway widths shall not exceed the width of the garage.
2. Driveways for dwellings adjacent to intersections, public walkways, open space and other non-residential land uses should be located as far from the adjacent use as possible.
3. Driveway slopes between garage and street should be kept as shallow as possible.
4. Adjacent driveways at cul-de-sac and street elbow locations should be designed to eliminate overlap between the property line and the street.
5. Paired driveway locations are encouraged where feasible for detached dwellings to maximize on-street parking and to create larger continuous front yards.
6. For dwellings with a side or rear facing garage, the driveway should be no wider than 6.5m at the street line.



Driveways, placement and parking illustration

4.3

open space network

The park and open space blocks will be allocated for both passive and active recreational opportunities. Tree lined streets with public sidewalks and trails within the proposed parks will provide linkage to the overall open space network of the Snell's Hollow Community.

Existing natural heritage features at the south and southwest of the community shall be incorporated into the overall design of the development, taking advantage of the existing natural features to establish key view corridors and maintaining the ecological function of these areas.

The natural heritage area shall be protected as per the conservation authority's regulation and guidelines. No development shall be permitted that would encroach within the natural heritage system area.

The storm water management (SWM) pond shall also be adequately buffered from the proposed development. Where feasible, a natural path or recreational trail will be permitted and promoted within the buffer area of the SWM pond.

A marking system will be used to delineate the open space boundary.



Example of an open space area with a blend of active and passive activity zones to accommodate different outdoor uses.

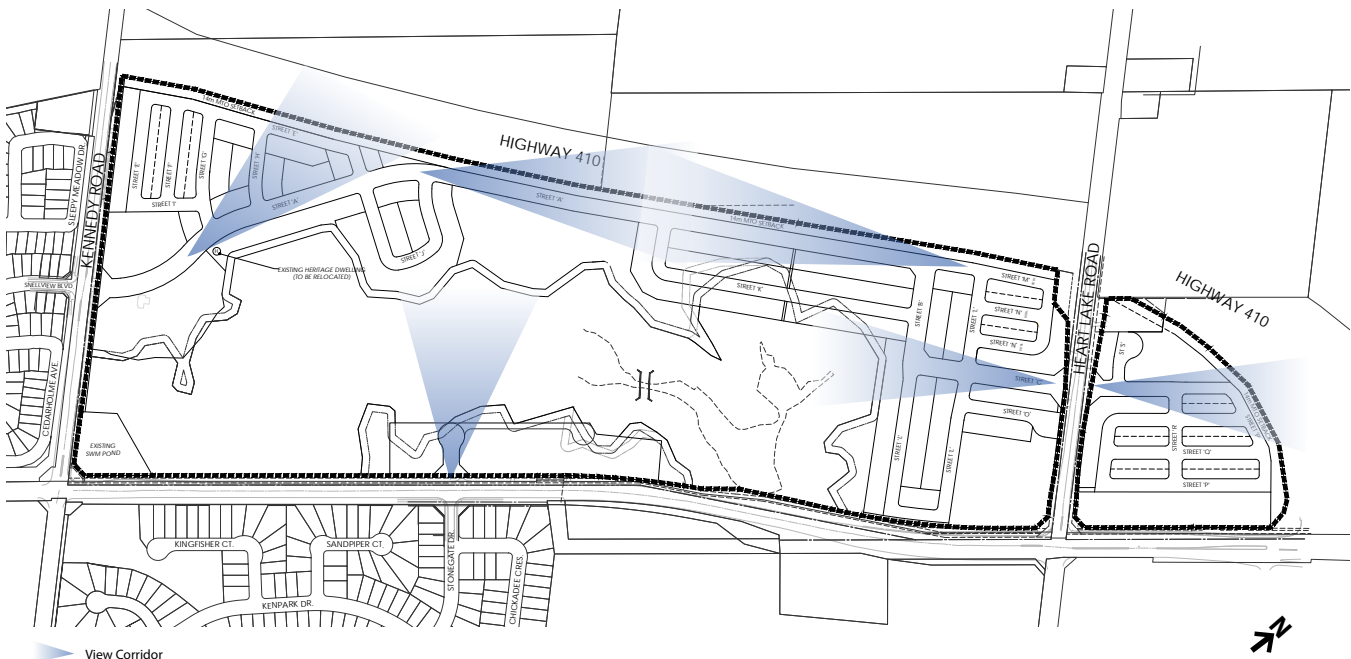
open space network

Creating a green and attractive neighbourhood is key to the vision of the Snell's Hollow Community. Strong pedestrian linkages will be established through the use of trails and walkways, creating a green network of parks, open space, stormwater management ponds, and integration of natural heritage features.

i) PARKS & OPEN SPACES

Parks and open spaces provide important outdoor amenity spaces for active and passive uses for a range of users and age groups within the community. The following should be considered in terms of parks and open space design:

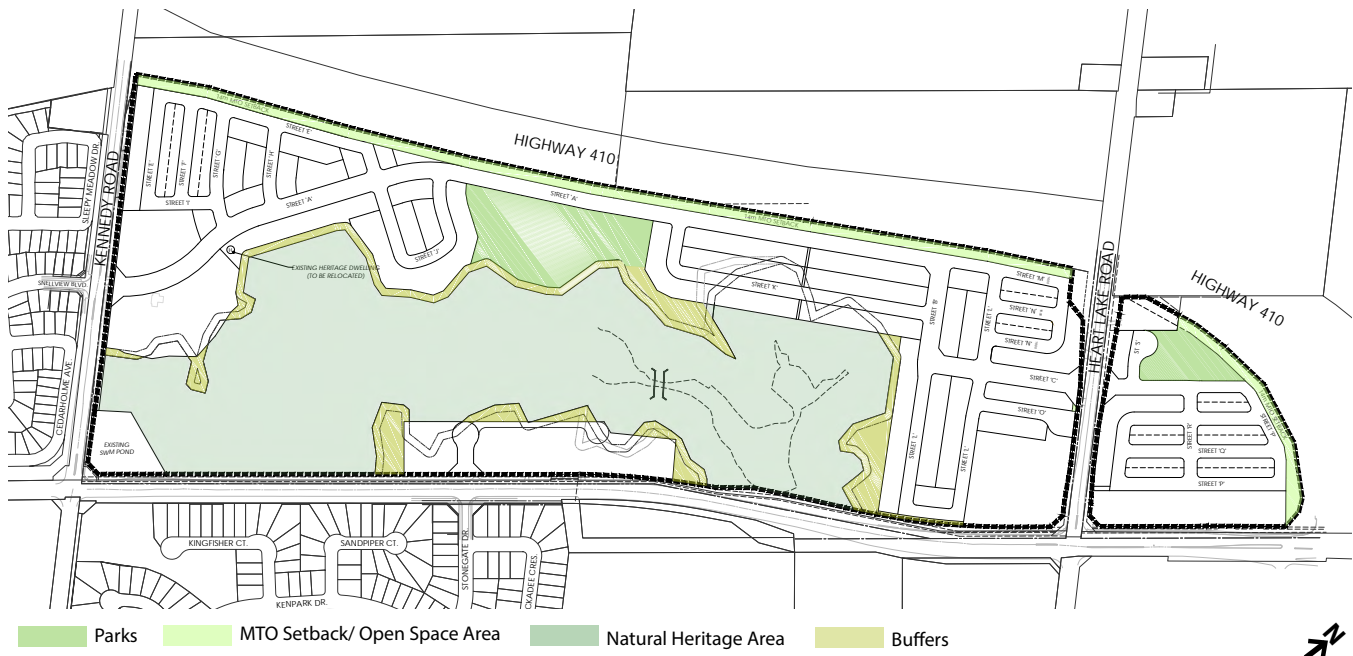
1. Enhanced landscape treatment adjacent to the entrance of a park frontage is encouraged to mark the sense of arrival and departure within the neighbourhood.
2. Entrances should be designed as fully wheel chair accessible and connected to the streetscape network.
3. Entrances to parks should be enhanced through the use of pedestrian paths, seating, signage and ornamental structures or vertical landscaping.
4. The Park's identity may be enhanced through Park programming, planting themes, and/or distinct architectural elements in coordination with existing abutting parks (refer to priority lots, section 5.7 vi for abutting buildings).



KEY VIEW CORRIDORS

5. The 14m MTO setback would require low maintenance, native and drought-resistant planting. Planting choices would preferably be perennial ground covers, low grasses, and shrubs. A maintenance plan to monitor plant health, irrigation and soil erosion would be put into place to help enhance the local environment and community wellbeing.
6. Key View Corridors have been identified with respect to the open spaces and natural

features of the site. Ensure that buildings along view corridors implement stepbacks or implement tiered designs to maintain open views. Use landscaping such as trees and shrubs to accentuate, rather than block views. Buildings along view corridors should vary the pattern and variety of material use, built form articulation, rooflines and fenestration elements to achieve landmark quality along the corridor while complementing the surrounding natural environment.



OPEN SPACES



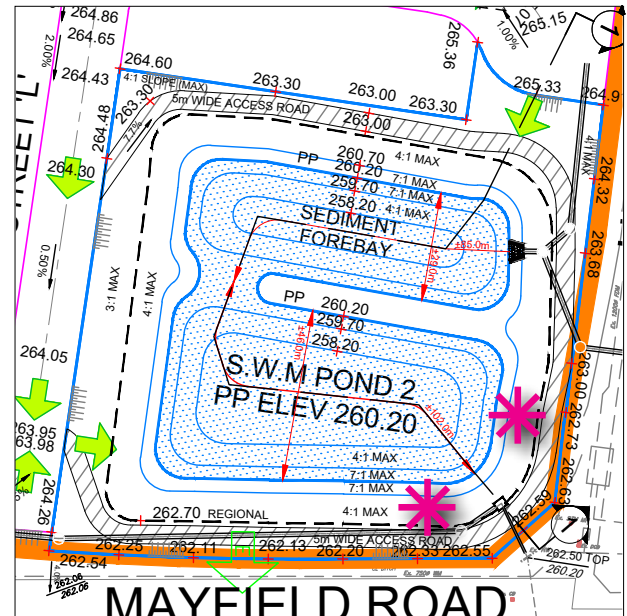
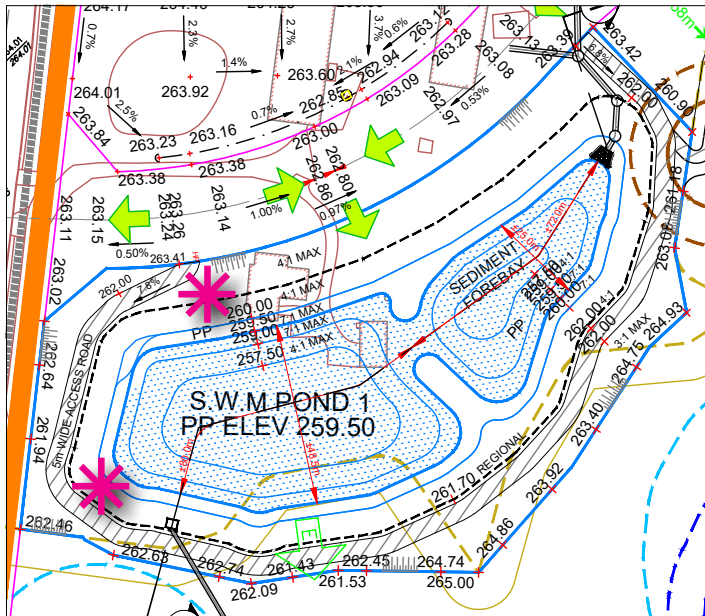
Example of a community park with natural play facilities.

open space network

ii) STORMWATER MANAGEMENT PONDS

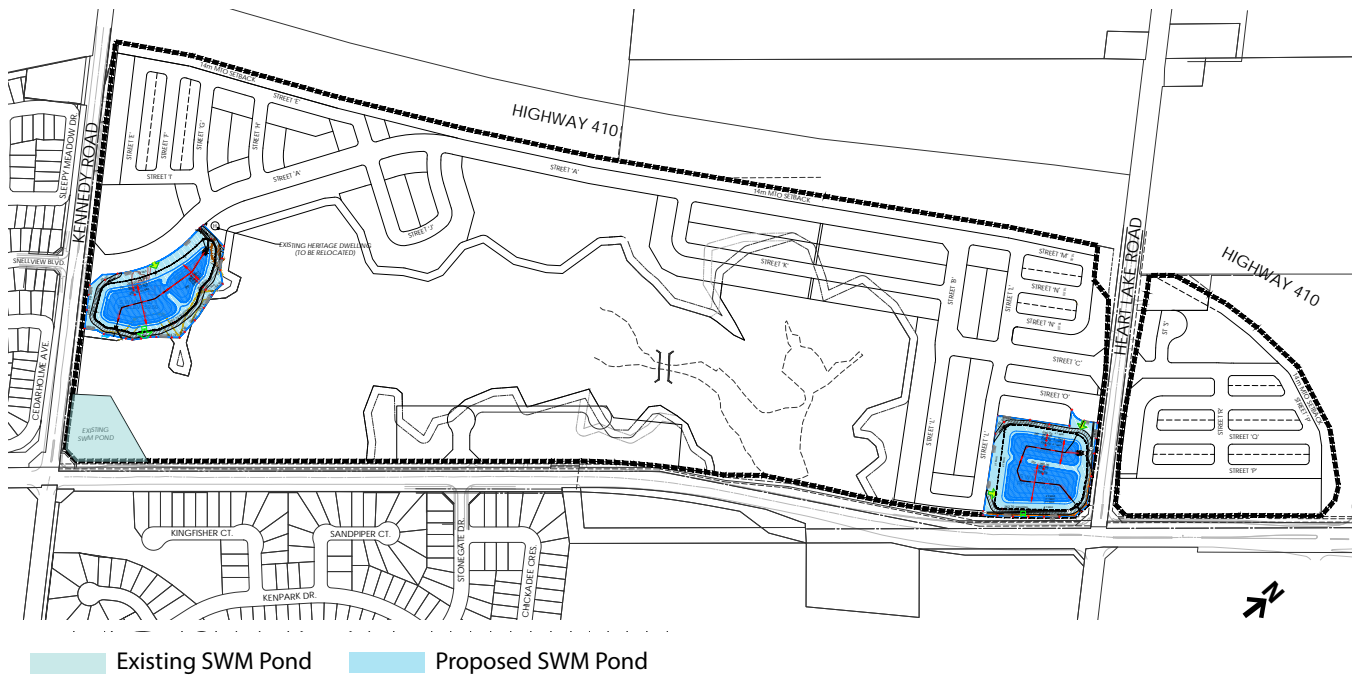
The proposed Stormwater Management ("SWM") ponds will serve as a functional and visual enhancement to the community. The following should be considered in terms of SWM design:

1. SWM ponds are to be located within the vicinity of existing watercourses in response to natural drainage patterns of the site.
2. A naturalized approach to design and planting of the SWM pond should be adopted using native non-invasive species.
3. Landscaping should be planted in a more natural manner to provide an appropriate transition from the pond to the residential lot.
4. Entrances to the SWM facility should be enhanced through the use of pedestrian paths, signage and ornamental structures, vertical landscaping and features that promote interaction.
5. If utility structures are to be placed in the SWM facility, they should be screened from view through planting and fencing where necessary.
6. Maintenance paths for the SWM facility may also double as pedestrian trails that are barrier-free accessible.
7. Pedestrian trails should be designed to travel through the SWM facility.
8. Views into the SWM facility should be promoted through the arrangement of plantings.



* Potential Gateway Feature Locations

Storm Water Management Facility Fit Plans, drawn by DESL



STORM WATER MANAGEMENT PONDS



Examples of stormwater management pond gateway features; and with interactive landscape and trail connection.

open space network

iii) COMMUNITY TRAILS

The proposed subdivision will include appropriately sized recreational trails that will provide pedestrian and cycling connections to residential lots and various destinations within the community and the surrounding area.

The community trails are generally intended to be

passive pedestrian areas and connection routes within the neighbourhood, with the exception of multi-use trails that can accommodate different active transportation modes including cycling.

The proposed community trails will be integrated with the parks, open space, and SWM pond, and other amenities where feasible to establish a green network which circulates through the community.



Example of a multi-use trail that can accommodate different active transportation use (left) and a more passive recreational trail (right).

landscape & streetscape design

The following guidelines apply to landscape and streetscape design:

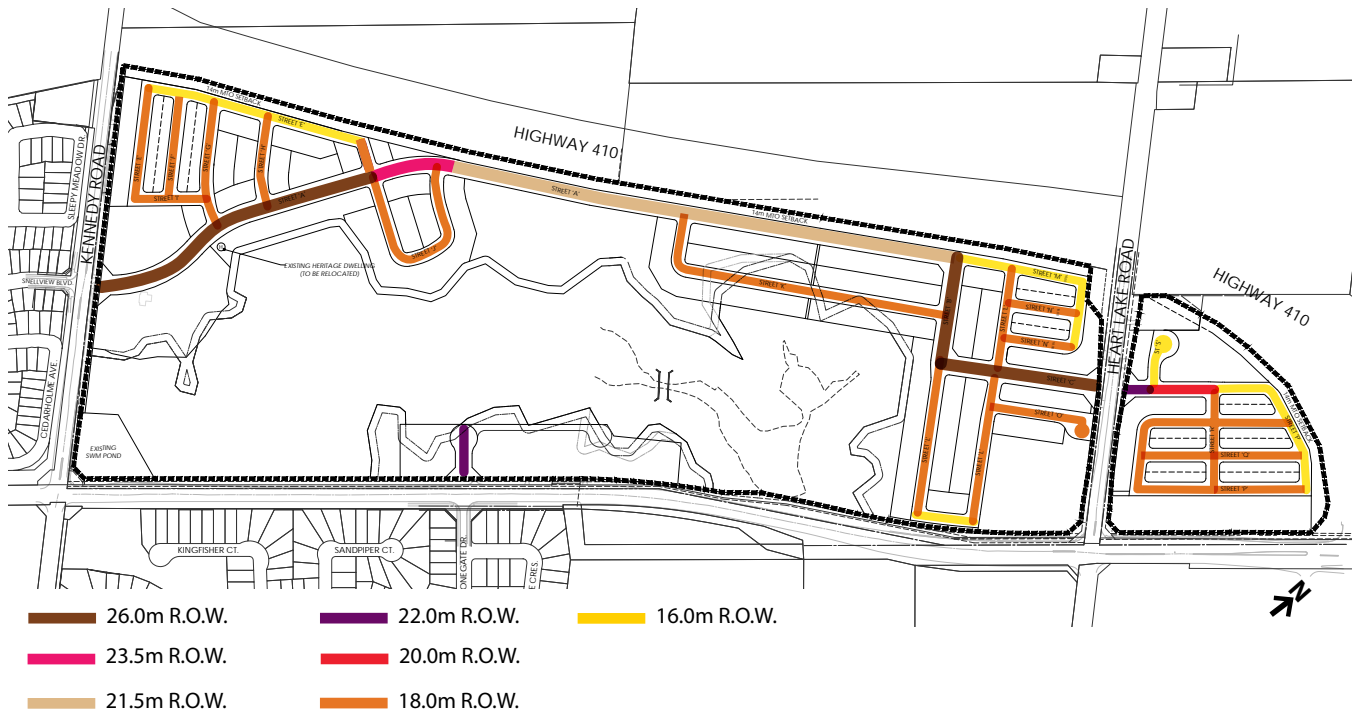
1. The streetscape shall be landscaped with native and non-invasive species, and shall be coordinated with landscaping provided for green features such as parks, SWM facilities, open space, and watercourse areas.
2. Collector Roads shall have an urban cross section with a double-loaded pedestrian sidewalk along the right-of-way (see cross section on p. 43-44). Local Roads shall have an urban cross-section with a sidewalk on one side with the option for a 2nd sidewalk on the other side.
3. The placement and maintenance of all above and below-grade utilities shall be located in the community's public right of way that is easily accessible.
4. A single line of deciduous canopy trees shall be planted along both sides of the street, spaced 12 m apart where feasible.
5. Sight lines should be considered in the location of trees planted at intersections.
6. Feature paving at crosswalks should be considered at gateways and intersections for pedestrian movement.
7. Curb ramps should provide barrier-free transition where pedestrian crosswalks meet the roadway at street intersections in accordance with Town's engineering standards.
8. Special landscaping will be used to soften the appearance of mailboxes and above-ground utility boxes in accordance with the respective agencies.
9. For guidelines regarding community mailboxes and utility boxes, see Section 4.4 (vii) on page 54.



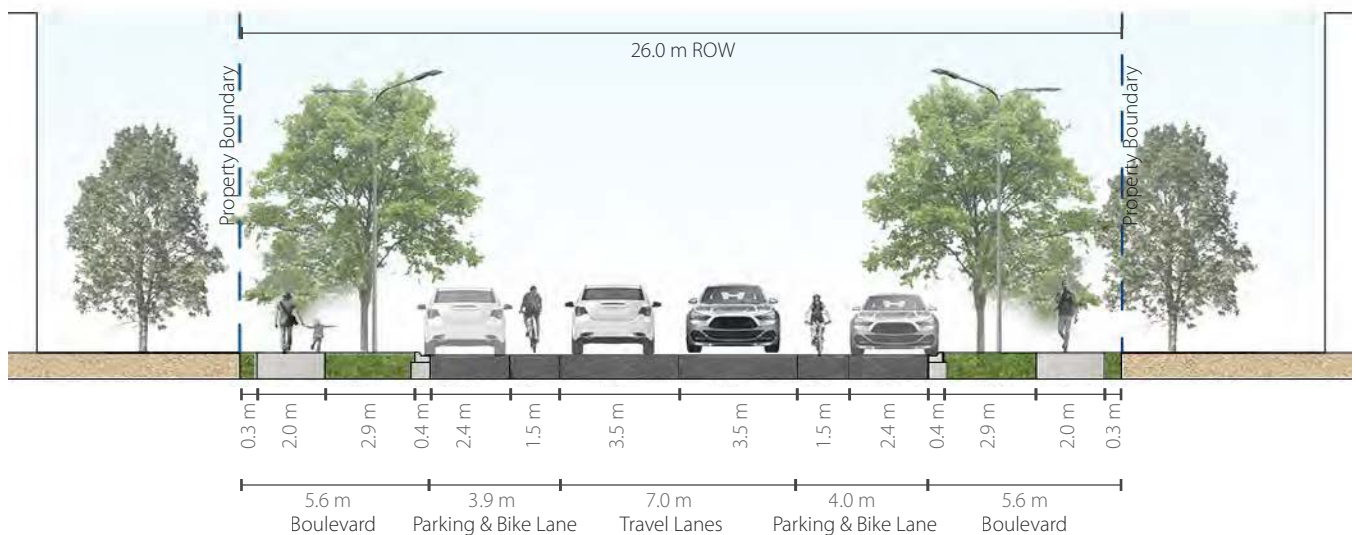
Example of a tree lined community boulevard.



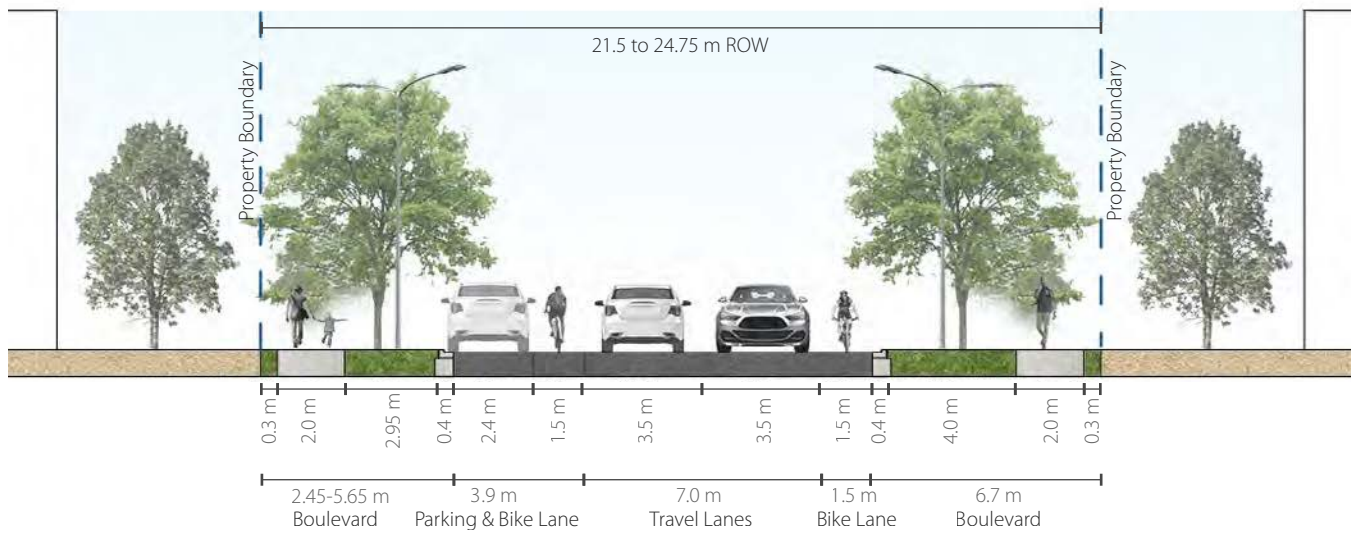
Example of a neighbourhood streetscape with generous sidewalk widths.



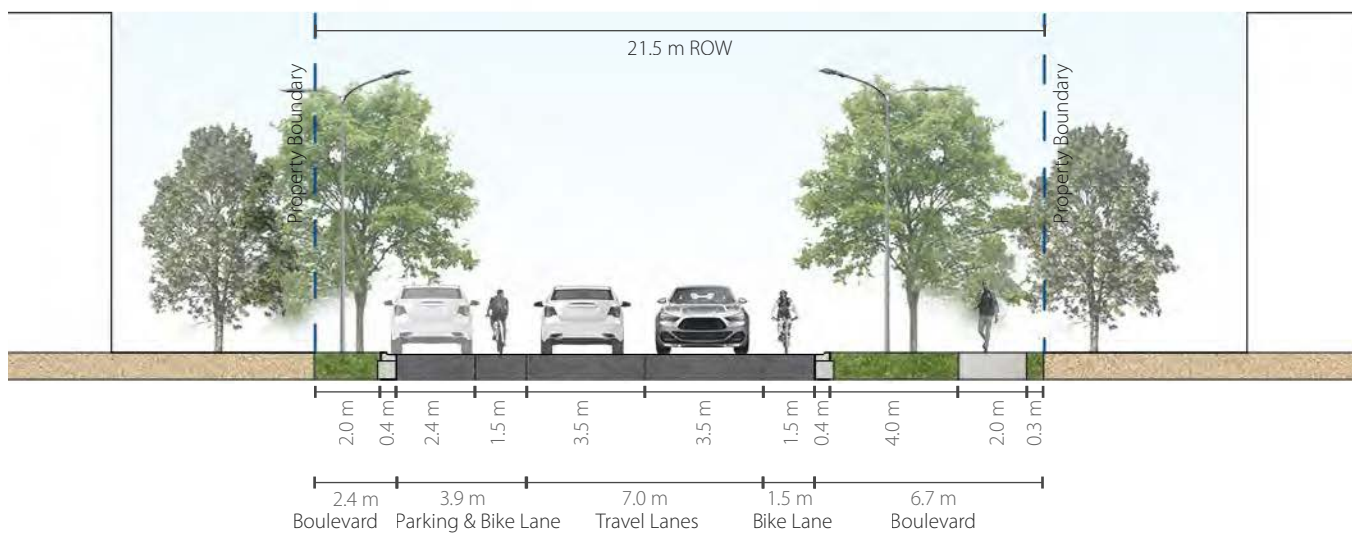
Key Map of Proposed Street Right-Of-Way (R.O.W.) Width



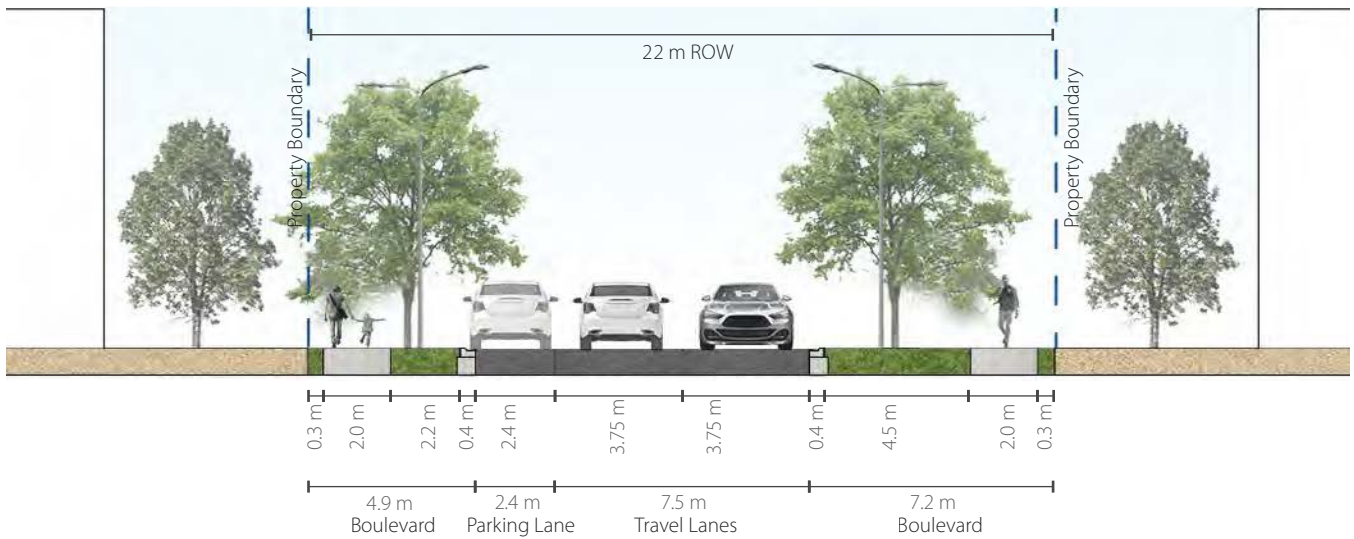
26.0m Collector Road (Typical Cross Section)



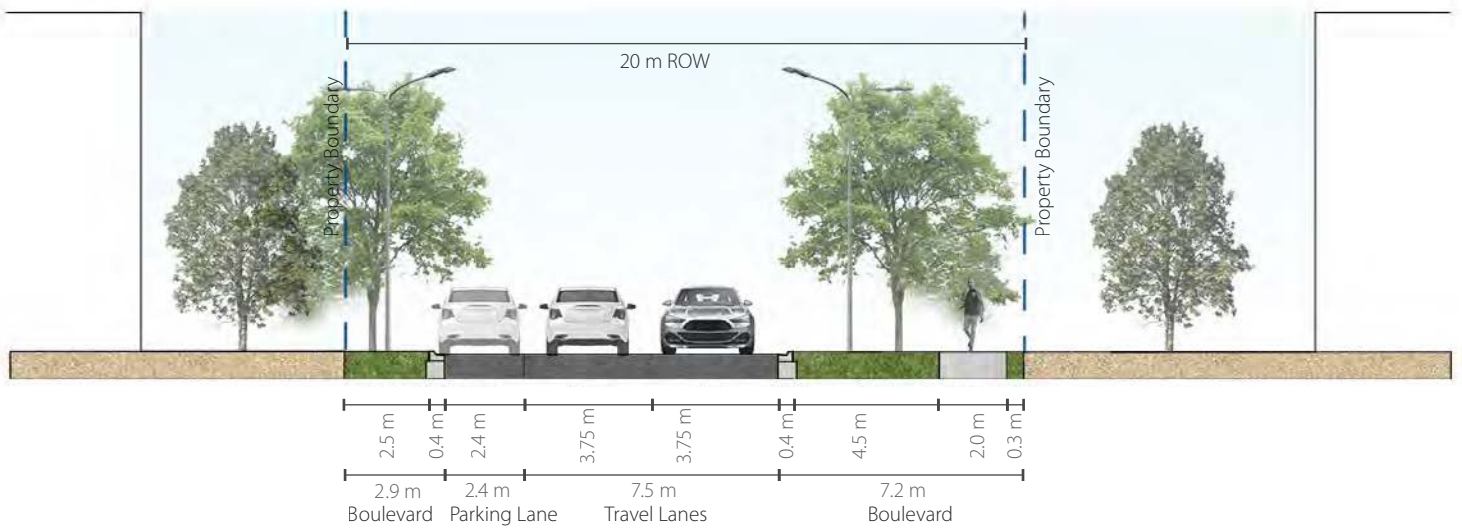
21.5-24.75m Transition Section



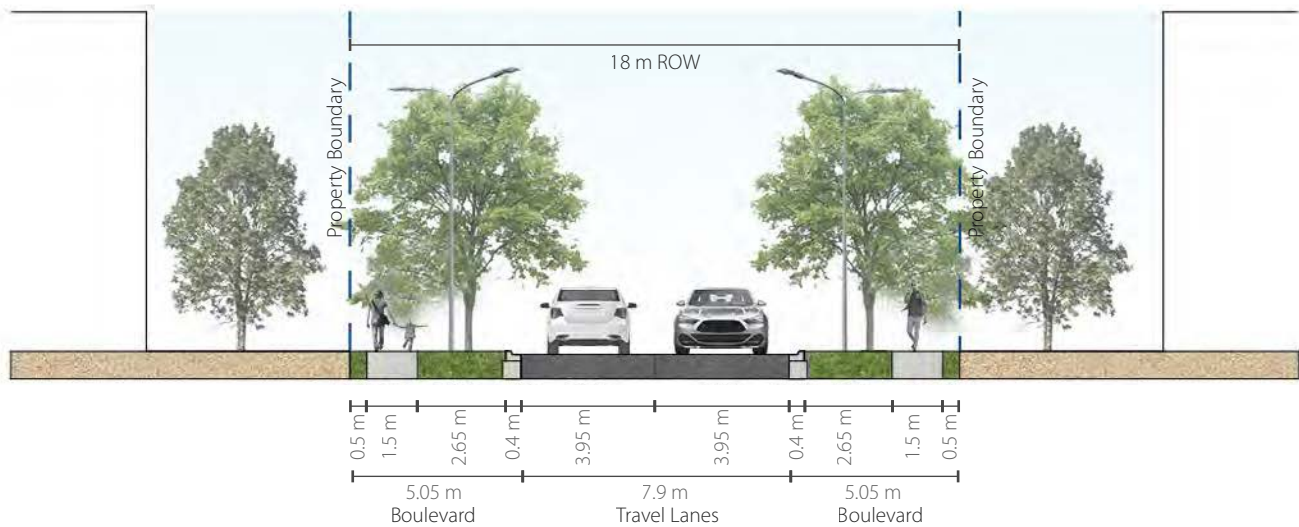
21.5m Collector Road (Typical Cross Section)



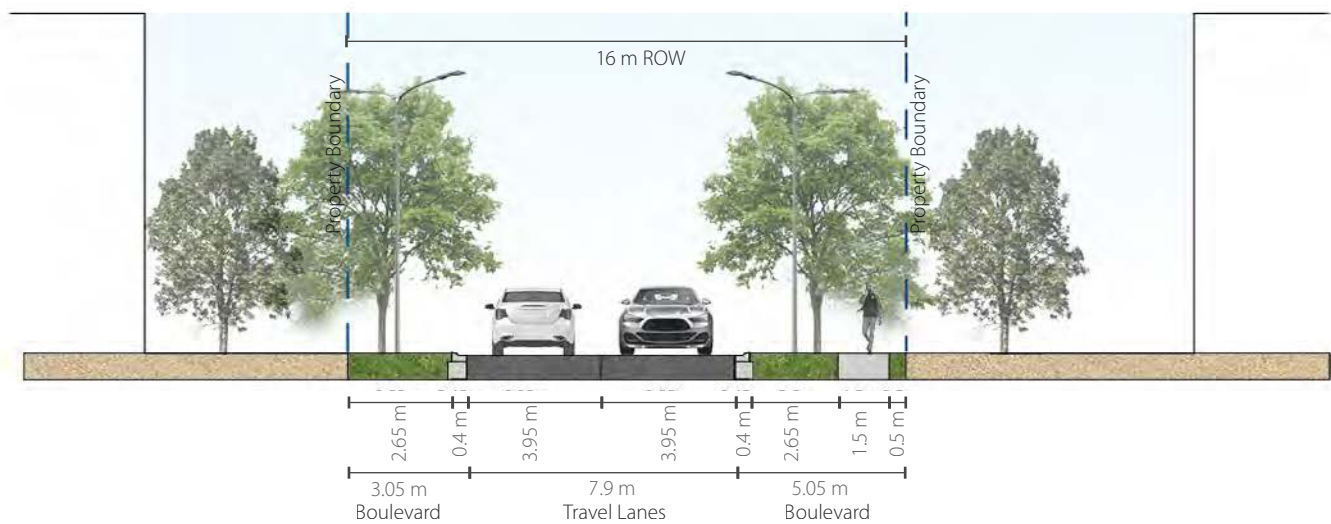
22.0 m Collector Road (Typical Cross Section)



20.0m Collector Road (Typical Cross Section)



18m Local Road (Typical Cross Section)



16m Local Road (Typical Cross Section)

landscape & streetscape design

i) MAIN ENTRANCES & GATEWAY FEATURES

Gateway features shall be used to define the entrances into the Snell's Hollow Community, providing a sense of arrival to the community.

Gateways can be a combination of ornamental landscaping, pavement marking, signage and public art or architectural structures.

The Snell's Hollow Secondary Plan Schedule B-1 (Section 4.1, pg. 27 of this document) shows Town gateway features proposed at the intersections where Mayfield Road meets Kennedy Road and Heart Lake Road.

Town gateway features would contemplate distinctive design elements such as signage, landscaping, architectural and public art elements, lighting design, seasonal decorations, information kiosks or boards and features that involve the community, in order to create a landmark to aid with wayfinding and placemaking.



Example of a prominent gateway entrance.

ii) PUBLIC REALM STREETSCAPE TREATMENT

The public realm streetscape should be of durable hardscape materials supported with softscape design to create a legible and safe environment with clear sightlines between pedestrians and motorists. Universal accessibility shall be provided at all public realm areas, sidewalks, and crossing zones to ensure a highly accessible community is achieved to accommodate a range of user groups.



Example of a legible and universally accessible public realm.

iii) LIGHTING & STREET FURNITURE

Enhanced LED street lighting, pedestrian pathway LED lighting, and street furniture shall be of a compatible design theme throughout the community (including the pedestrian network, parks, and open space areas).

All lighting should be “dark sky friendly” to ensure that this development does not add to light pollution.

Contemplated lighting fixtures and street furniture design should align with the existing Snell's Hollow community to the west of Kennedy Road design.



Example of street furniture and LED light fixtures.

iv) PLANTING DESIGN

Street Plantings shall be coordinated throughout the entire community. Species used for street planting shall be of a native non-invasive species.

Planting will follow streetscape hierarchy as provided in these guidelines, and will ensure a smooth transition between the different hierarchies.



Example of a layered planting design with a blend of trees, shrubs, and ground covers.

landscape & streetscape design

v) FENCING

Privacy Fencing & Garden Walls

The following should be considered when designing for privacy fencing:

1. Front and side yard hedges and garden walls are encouraged. Where they are provided, they shall be limited to a maximum of 1.0 metres in height and be permeable to allow informal views between public and private realms. Additionally, low decorative fencing (metal or wood rail) accented by masonry pillars should be considered in the front / flankage yards of dual frontage townhouse units.
2. Rear and side yard fences, where required adjacent to publicly accessible spaces, shall be consistent in design, colour, and materials.
3. The design of fencing should be compatible throughout the community. Fences provided by a developer/builder shall be subject to review by the Town or the Town's approved Control Architect/Designer.
4. Lots which back onto green spaces such as parks, SWM ponds and servicing areas shall be fenced with a minimum 1.5 metres (4.9 feet) high black chain link fence for safety and are encouraged to plant species native to the ecosystem alongside. Furthermore, no gates shall be installed that provide direct access to the parks, SWM ponds, woodland, valleyland, greenway corridor, environmental buffers and natural hazard lands from the residential lots, commercial and industrial properties.
5. Lots which back onto parks and open spaces are encouraged to provide a combination of landscape features, trees and fencing to provide softer rural barriers between public and private realms.
6. Proposed side and rear yard fencing shall be a minimum height of 1.8 metres.
7. High quality decorative wood privacy fencing (e.g. board on board, pressure treated) should be provided for the through lots along Street A to ensure privacy is provided while maintaining a consistent streetscape setting within the community.



Wood Fence Example.



Black Chain Link Fence Example.

v) FENCING

Noise Attenuation Fencing / Walls

The following should be considered when designing for a noise attenuation fencing or wall along Highway 410 where applicable:

1. Acoustic fence or wall shall be provided where noise attenuation is identified in the Noise Report. A maximum height of 2.4 m sound barrier wall of solid wood construction having a minimum face density of 20 kg/m² with no gaps or cracks is to be provided. The height of the acoustic fence should be taken relative to grade. Should a greater height be required,, the difference in height may be achieved with the use of a berm.
2. If masonry piers are used on acoustic walls they shall be the same material and colour with all other common entry conditions in a development.
3. A Construction Certification from the Civil Engineering Consultant will be required to certify that the noise attenuation barrier has been constructed to the approved design drawings and specifications by the Town.



Noise Attenuation Fencing Example.

landscape & streetscape design

vi) STREET SIGNS & WAYFINDING

Street signs and wayfinding features, including bollards and clear wayfinding signage will be implemented to safely guide pedestrian movement. The final wayfinding and signage will be designed with a coordinated theme, subject to the Town of Caledon requirements and approval.

High quality, attractive street name signs are encouraged to give the community a distinctive feel and sense of local identity.

Signage poles with decorative base, post, hanger arms, and cap finishing should be used to complement street signage and proposed lighting fixtures.

Through lots may utilize coordinated hanger signs to identify addresses along the public street.



Decorative community signage examples that complement the community's appeal and sense of place.

vii) COMMUNITY MAILBOXES

Community mailboxes will be an important node within the Snell's Hollow Community. They will be places where residents will congregate and interact. The mailbox locations will be determined in consultation with Canada Post and the Town of Caledon. The placement and design for the community mailboxes should consider the following:

1. Mailboxes will be set on a concrete pad that is accessible along the community sidewalk and street network.
2. Landscaping should be considered where feasible to create a community destination setting for the mailboxes.
3. Mailboxes shall not be located directly in front of the windows of the front yards of residential buildings.
4. Utility boxes shall not obstruct pedestrian movement and shall be screened from public view using landscaping or physical screens.



Mailboxes set on a concrete pad



Example of a community mailbox shelter



Example of utility box screening

sustainable development

The developer is encouraged to consider implementing green initiatives on each lot or block to assist in reducing the community's impact on the environment and energy dependency. At a minimum, the following green initiatives should be considered throughout the development:

1. Water conservation features such as low-flow toilets, and water-efficient Energy Star appliances.
2. Use of high quality installation and windows to reduce thermal loss.
3. Use of recycled materials, local materials and certified wood products where feasible.
4. Use of low Volatile organic compounds (VOCs) emitting materials.
5. Use of energy efficient lighting such as LED.
6. Use of smart thermostats for energy efficient heating and cooling.
7. Use of energy efficient water heaters.
8. EV rough-ins and charging stations to accommodate electric vehicle options for residents and visitors.
9. Secure, weather protected bicycle parking for multi-unit apartment buildings and mixed use buildings.
10. Green Roof or white albedo roofs for any proposed flat roof designs.



Water conservation through low-flow toilets.



Secure, weather protected bicycle parking



Use of high quality installation and windows.



Use of energy efficient lighting such as LED.



Use of smart thermostats efficient heating and cooling.



Use of energy efficient water heaters.



05

ARCHITECTURAL

DESIGN

PART A - GENERAL GUIDELINES

PART B - GUIDELINES FOR MIXED USE AREAS

PART C - GUIDELINES FOR MEDIUM/HIGH DENSITY RESIDENTIAL

PART D - GUIDELINES FOR LOW DENSITY RESIDENTIAL

PART A - GENERAL GUIDELINES

5.1 diversity in architectural styles

A building's architectural style is a set of characteristics and features that make a community and the buildings within it identifiable, helping to create a strong sense of place.

The Snell's Hollow community will consist of a mix of distinctive, well-designed buildings that manifest different architectural styles to provide visual interest to the streetscape. Building design will balance modern influences with the complementary expression of the existing Mayfield West Community architecture, which is driven by nine guiding principles and seven supporting principles for the community. The principles are geared towards creating local identity, encouraging self-sufficiency, including a range of housing, encouraging a healthy community through active transportation, enjoyable recreational spaces and climate resiliency.

Furthermore, the development will take architectural style precedence from nearby developments to create a cohesive regional character, including the single-detached subdivision located west of Kennedy Street, which draws on Victorian, Tudor and Georgian architectural styles.

The Subject Lands also contain a Georgian inspired heritage building that will provide a prominent landmark feature at the site's west edge. Residential dwelling designs are encouraged to consider Georgian architectural influences at this landmark location to create a cohesive visual character.

Buildings' specific architectural style will be at the discretion of the Builder and their Design Architect. The Control Architect/Designer shall only request changes to the dwelling's architectural style if the proposed style is conflicting with the objectives of the community design vision.



Streetscape image of the development west of Kennedy Street illustrating a mix of architectural styles.

1. A blend of architectural styles shall be used across the site and complement Ontario's small-town character. Architectural styles will include but are not limited to Victorian, Tudor and Georgian styles; and contemporary/ transitional architectural styles are encouraged to address future market conditions.
2. Buildings shall prescribe to a single architectural style and avoid mixing discordant styles within a single building design. Each dwelling type should have façade detailing consistent with the building's intended style.
3. Use a variety of high-quality materials and colours to enhance visual interest. Material choices and colours should be complementary to the building's assigned architectural style.
4. The housing design along each street block should blend complementary architectural styles and offer a variety of styles to balance visual interest and cohesiveness; reinforced by complementary, but not identical, exterior materials, colours and architectural elements.
5. For townhouse blocks, the selected architectural style and building details shall be consistent across the entire townhouse block.
6. Architectural features are encouraged to complement the historic building elements on-site or within the settlement area.
7. Building articulation should be high-quality and use building materials complementary to the building's predominant architectural style, incorporating materials such as stone, brick, hardie-board and stucco to complement the site's rural character and the relationship between the buildings and their surroundings.
8. Characteristics of classical architectural homes may include asymmetrical exteriors; a mix of brick, stone/stone veneer, and/or precast block; brick highlights around windows and doors; varying roof pitches and heights to complement the specific architectural style; arch-eyebrow / swept head windows; tall thin, grouped clerestory windows; windows with slat-board shutters; and bay windows/window boxes.



Sample imagery of various architectural styles, with common elements. The overall effect is of a cohesive, yet varied neighbourhood.

PART A - GENERAL GUIDELINES

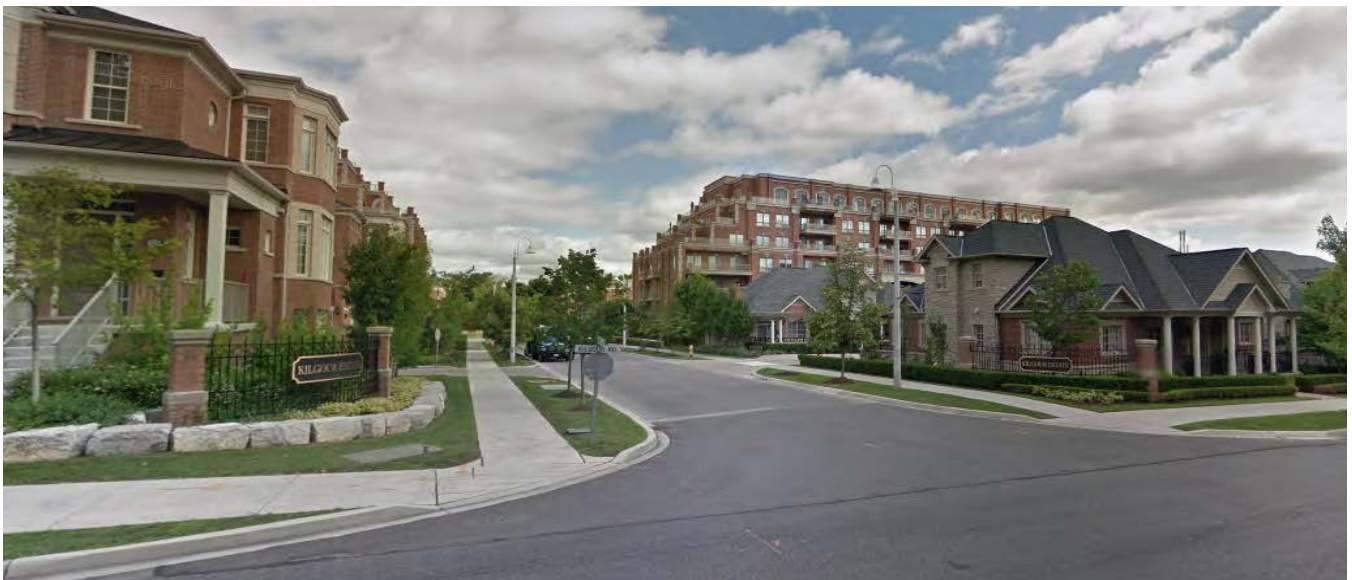
5.2 built form compatibility

The following built form compatibility guidelines will help create a cohesive community and streetscape appearance:

1. Development design should consider architectural cues from its surroundings, including height, massing, setbacks, scale, proportion, materials and colours, to appropriately integrate new development within the existing community.
2. For improved compatibility, the development's built form design standards will have regard for the zoning standards outlined in the implementing zoning by-law.
3. Single-detached, semi-detached and townhouse units will generally be no taller than three storeys in height.
4. Built form will be compatible in character and materiality of existing Town character, utilizing materials including but not limited to: masonry, stucco, clapboard, board and batten, etc.
5. Townhouse dwellings will transition downwards in height away from medium-high density uses towards lower-scaled detached and semi-detached dwellings.
6. Mid-rise buildings should have well-articulated facades that break up the building base, middle and top, to reduce the building's perceived massing from the street and improving its interface with pedestrians at grade and between adjacent low-rise housing.
7. Mid-rise building shall use setbacks and step-backs to minimize the impact of larger buildings on adjacent low-rise dwellings to promote seamless transitions between different building heights and densities on site.
8. Apply angular planes, minimum horizontal separation distances, and other building envelope controls (such as stepping height limits, building setbacks and stepbacks) to transition from taller buildings down to lower-scale buildings and to maintain access to sunlight and sky view for surrounding streets, parks, open space and neighbouring properties.



Transition to low-rise dwellings should be accommodated through building design, including the use of setbacks and stepbacks to maintain access to sunlight and skyview for surrounding streets.



A diversity of housing types improves height transitions across the community.

PART B - GUIDELINES FOR MIXED USE AREAS

5.3 mixed-use areas

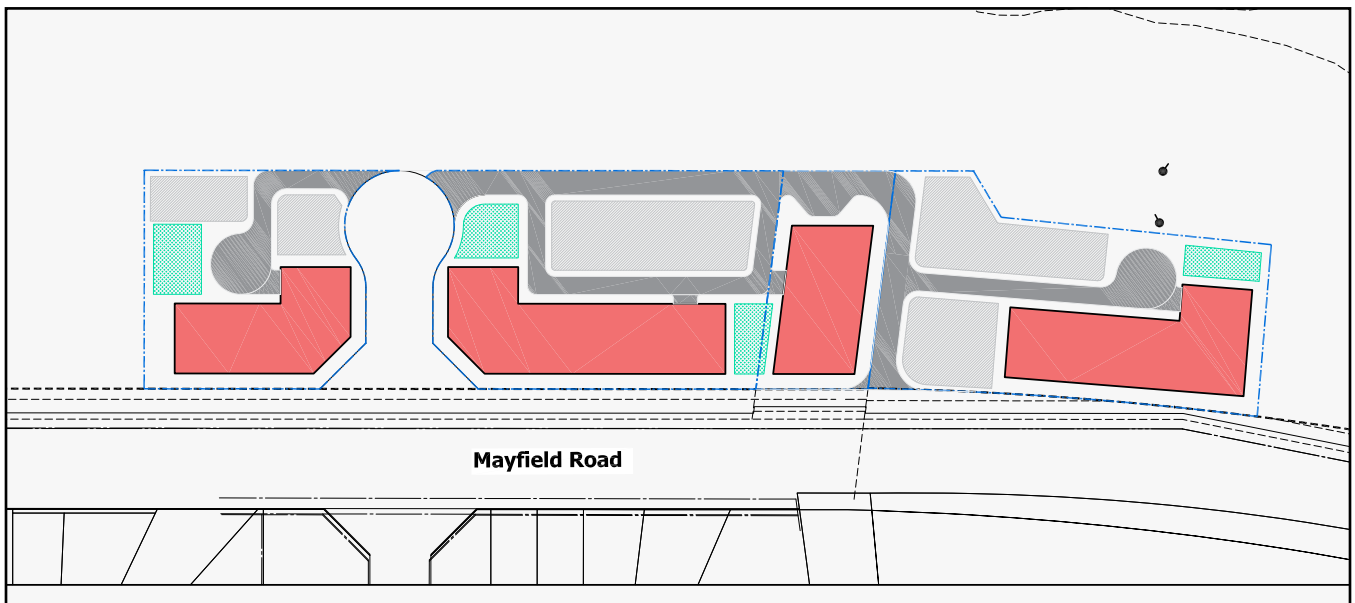
Locate mixed-use buildings close to the street edge directed towards the public realm to provide an active street frontage, creating an engaging street-wall for pedestrians and passers-by. At least 50% of mixed-use street frontages should be occupied by building frontages to frame the street; the remaining areas may be used for parking. Where larger mixed use buildings require larger setbacks, smaller, more pedestrian-scaled mixed-

use buildings should be located along the street edge, while still maintaining visibility to the larger facilities beyond.

For further guidance and criteria on the built-form design of mixed-use buildings, refer to Section 10.0 of the Town Wide Design Guidelines document



Example of smaller mixed-use buildings directed towards the street edge with large facilities located behind.



- Parcel
- Internal Roads
- Building Footprint
- Base Building
- Surface Parking
- Amenity

Conceptual demonstration plans for the Mixed-Use parcels

5.4 medium/ high density residential

Medium-high and medium-density residential lots and blocks within the development area are strategically placed at key intersections, aiming to establish a unique architectural style and serve as inviting landmarks in the community. Buildings placed within these lots and blocks will have a good scale and relationship to the street, will define or make walls to the street while providing usable space, and will be articulated to let the sun in and open the view to the sky from the street.

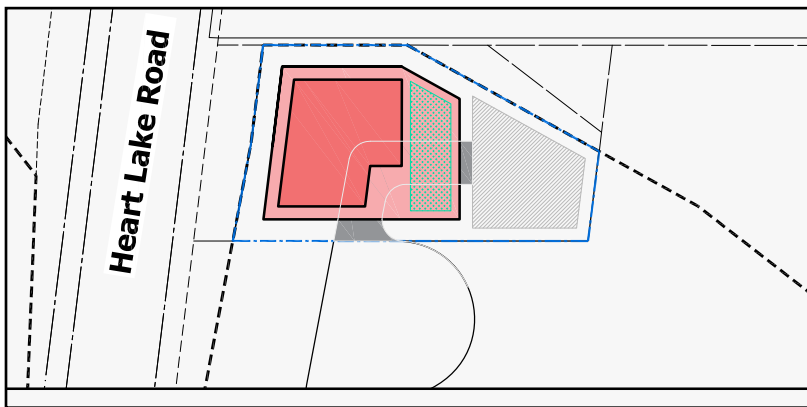
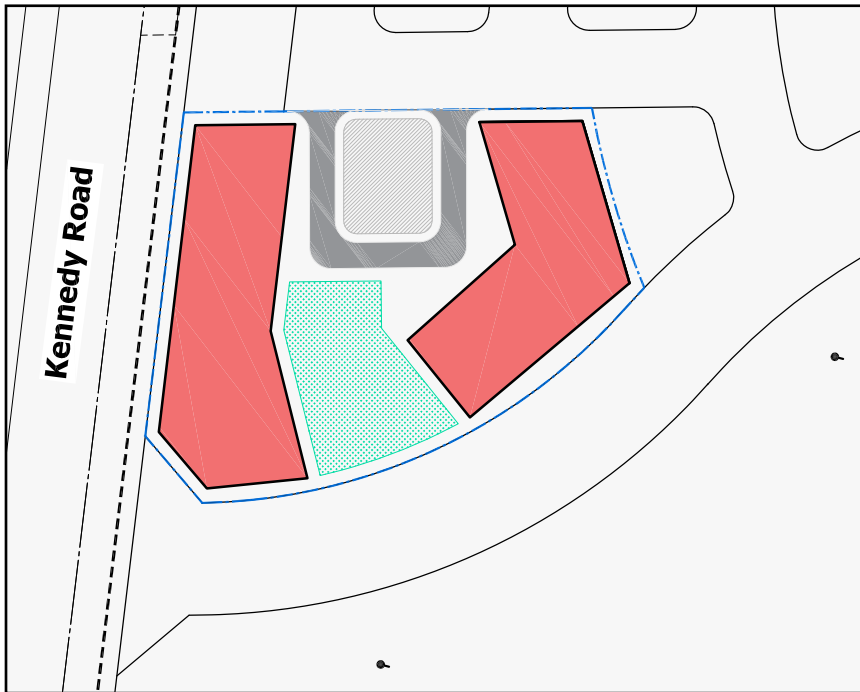
Buildings are encouraged to be designed with step-backs or terraces at upper levels to make them appear lower in height from the street, and to allow sunlight and sky views at the sidewalk.

For further guidance and criteria on the built-form design of medium and medium-high density buildings, refer to Section 8.1.7 of the Town Wise Design Guidelines document

MID-RISE BUILDING SITING:

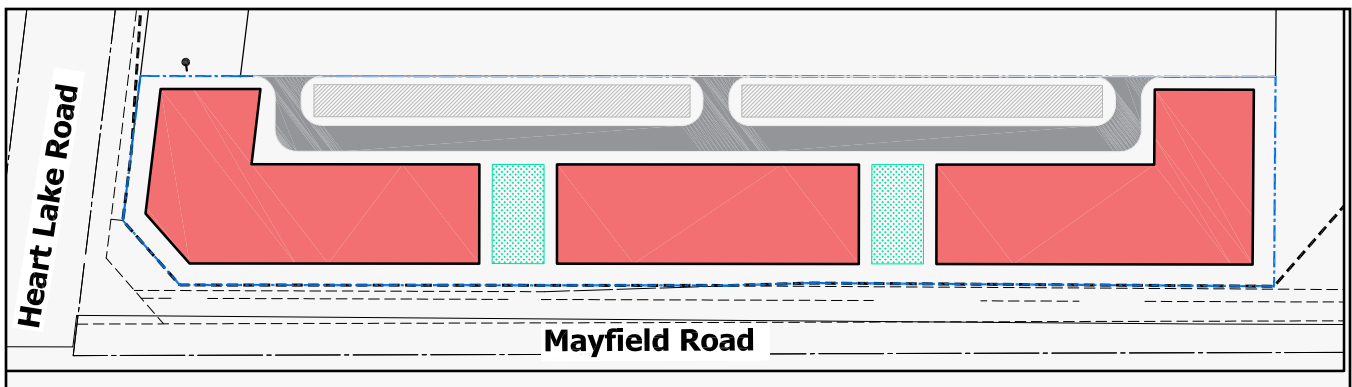
1. Site mid-rise buildings along public streets, with the front facades and main entrances addressing the public street or significant corners to create a strong street edge.

2. For mid-rise and commercial buildings, a greater building setback should be provided along arterial roads to accommodate landscaping and pedestrian sidewalk.
3. Use strategic building placement to screen waste and loading services as well as surface parking. Locate waste facilities internal to the building and away from the public realm and streets where feasible.
4. Where surface parking occurs, it should be located at the rear of the building, away from main building entrances and screened from public view.
5. Underground parking access should be provided off side streets and facilitated by ground-related signage for wayfinding.



-  Parcel
-  Internal Roads
-  Building Footprint
-  Base Building
-  Surface Parking
-  Amenity

Conceptual demonstration plan for the medium-density residential parcels

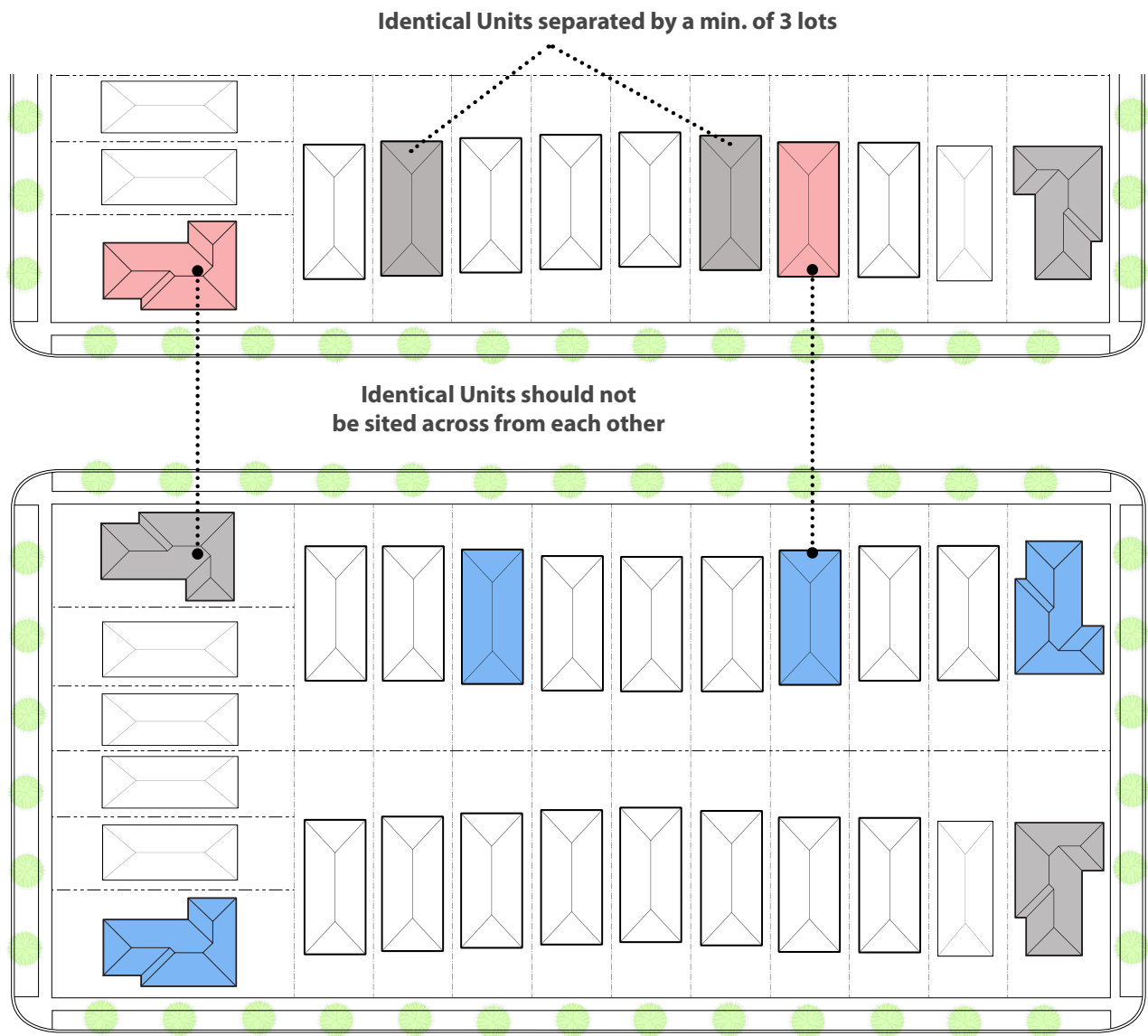


Conceptual demonstration plans for the medium-high-density residential parcel

5.5 residential siting

The siting of residential buildings contributes to the visual variety of the streetscape and provides a community with a unique and well-balanced character. All lots are encouraged to provide outdoor living areas in the form of stoops, porches, patios, balconies, vestibules or amenity areas that provide "eyes on the street" and encourage community safety. The following guidelines will ensure the siting of the buildings will foster an attractive community and streetscape environment that is pedestrian scaled:

1. A community with various residential building types, sizes and setbacks should be used and encourage a diverse, non-repetitive community fabric. Where appropriate, cluster similar building types to create a distinct sub-neighbourhood enclave.
2. Higher-density housing should be placed along arterial, collector or major roads, and around open spaces and the end of street blocks.
3. For detached and semi-detached dwellings, identical elevations and/or identical colour packages require a minimum of 2 lot separation (see page 68).
4. Identical elevations should not occur more than three times within a row of 10 single detached dwellings.
5. Residential lots should be setback from the sidewalk to ensure sufficient room for on-lot, private landscaping and outdoor amenity space.
6. Residential corner units facing the street should locate the main entrance on the flankage lot, to provide a consistent appearance and casual surveillance on this street.



EXAMPLE RESIDENTIAL SITING DIAGRAM

i) SINGLE & SEMI-DETACHED DWELLINGS

Single and semi-detached dwellings
For additional design criteria for single and semi-detached dwellings, refer to Section 8.12 of the Town Wide Design Guidelines document.

7. Single- and semi-detached dwellings with identical elevations should not be located next to or across the street from each other.

ii) TOWNHOUSE DWELLINGS

8. Townhouse blocks may have a repetition of unit facades where it is desirable to create a harmonious architectural expression across the entire block. However, in such instances, sufficient façade articulation should clearly define the rhythmic repetition of units and avoid large unbroken roof and wall planes.
9. Locate dual-frontage townhouses in prominent community locations, including community gateways, and areas fronting onto a park or open green space.
10. Refer to Section 8.1.3 of the TWDG that offers design guidance for various typologies.

iii) DWELLINGS WITH DUAL-LOADED FRONTAGES

11. Harmonize facade design between both frontages, and ensure the facades blend with the streetscape on both sides.
12. Maintain appropriate setbacks from both frontages to ensure privacy for residents and maintain a comfortable distance from public spaces.
13. Consider landscaping or fencing options to enhance privacy without isolating the dwelling from the community.
14. Integrated parking solutions, such as rear-facing garages, to maintain a pedestrian-friendly streetscape, are recommended
15. Layouts that optimize natural light and ventilation for energy efficiency are encouraged.
16. The main entrance to the dwelling shall be oriented to face the primary road.

elevations and façade variety

The development will provide a mix of built form types and varied lot widths to enhance the diversity of the streetscapes' façade variety. Façade variety is essential in creating a unique and non-conforming development appearance. The following should be considered:

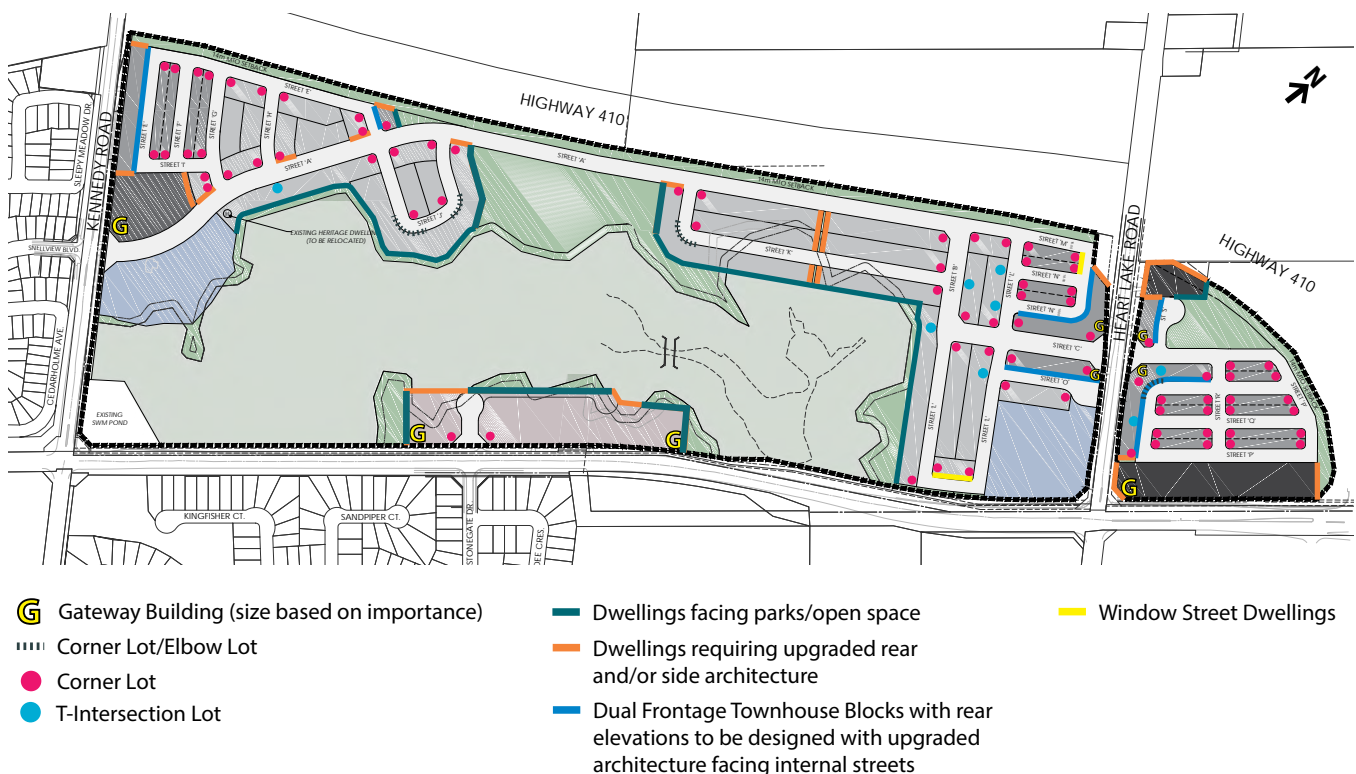
1. Alternating the use of stone/stone veneer and brick on garages/house facades of adjacent lots is encouraged.
2. Building articulation shall be enhanced on elevations exposed to public view and shall have upgraded façade treatments.
3. The development may use various elevation treatments within low-rise residential unit types (i.e., alternative elevations) to enhance façade variety.
4. Building components such as window openings, entrances and architectural details should be proportionate to each other.
5. All parts of the building should be designed proportionate to each other. Window openings should complement the building's architectural style and complement the wall massing accordingly.
6. Townhouse blocks shall have no more than eight units. The community should provide townhouses with a variety of units per block.
7. The design of townhouse elevations should consider the composition of the entire townhouse block. Harmonious architectural detailing and building articulation should add visual interest to townhouse facades to avoid monotonous faces.
8. The treatment of townhouse elevations shall achieve a level of quality equal to adjacent detached dwellings.
9. Mixed use facades should address the street and have a high degree of visual appeal on all exposed frontages.
10. Enhance priority lot façades with well-articulated architectural elements to improve the development's façade variety.
11. Mixed use building elevations shall provide visual interest through building articulation and fenestration. Large, black and unarticulated wall surfaces are not permitted.
12. Mixed use building elevations should be pedestrian-friendly, providing appropriate setbacks and human-scaled building articulation, detailing and fenestration.
13. Mixed use building facades along public streets should provide increased fenestration.
14. Mixed use building elevations should contain changes in wall planes, fenestration and materiality to break up long, continuous façade stretches.

priority lots

Priority lots are those located in visually prominent locations, at the end of a view corridor or visible from the right-of-way, classified as 1) gateway dwellings; 2) corner lots; 3) t-intersection lots; 4) elbow and curved streets; 5) Window Street Dwellings, and 6) Dwellings abutting parks and open spaces. Recognizing their visual prominence, priority lots will be given greater design articulation and will reinforce the community's character. The following section will discuss the design treatments for each priority lot type and details appropriate to their exposure level. Special design attention will be considered but is not limited to:

- Building shape or massing
- Main entry design
- Garage treatment and location
- Architectural detailing, and
- Exterior building materials and/or colour.

Architectural Guidelines at the detailed design stage are encouraged to identify the approved development's priority lot locations and establish specific architectural enhancements.



Note: Where homes backing onto the open space/valley lands or noise barriers are not publicly visible due to mature vegetation or solid fencing/berms, the upgrading of rear elevations may be reduced

Identification of Priority Lots on Concept Plan.

i) GATEWAY BUILDINGS

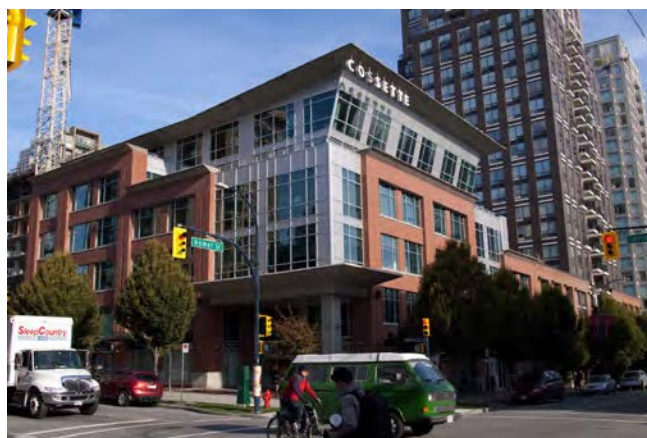
Gateway buildings (both commercial and residential) are located at a community entrance point, or special nodes that illustrate a change in community character or use, offering a sense of entry and arrival. Gateway buildings will have increased architectural detailing on the primary facades, and enhanced landscape features along primary frontages; however, the scale and detail of this treatment will vary based on the building's location and its functional importance.

The following guidelines should be considered:

1. An increase in building massing will be encouraged at gateway locations.
2. The use of premier building materials and enhanced architectural detailing is encouraged at gateway locations.
3. Residential dwellings at gateway locations will have strong and distinctive architectural elements, including but not limited to special chimneys, towers, turrets, gable ends, dormers, projecting bays and wrap-around porches.
4. Residential gateway dwelling's main cladding and architectural treatment should be consistent across the front, flankage and rear elevations.
5. Mid-rise and mixed-use buildings should consider unique architectural treatment of gateway buildings, including buildings in prominent view as people travel east and west along Mayfield Road. Unique architectural treatments include window and facade articulation, use of durable accent building materials (e.g. brick, stone), and use of wood siding and trims where applicable.
6. Mixed-use buildings at gateway locations should orient outdoor seating or patios towards the public realm to animate the street and offer a sense of arrival where feasible.
7. Mixed-use buildings at gateway locations should incorporate landscape and wayfinding elements such as vegetative plantings, decorative fencing, ground signs or building signage oriented towards the public realm where applicable to foster a sense of place and offer a gesture of arrival.



Examples of gateway buildings



ii) CORNER LOTS

Corner lots are defined by their exposure to two street frontages, which permits different main entry and garage access configurations. The following guidelines provide design direction for the development's corner lots:

1. Corner buildings should have active frontages on both sides of the street by incorporating secondary building entrances and increased fenestration to improve 'eyes on the street' (CPTED).
2. Where feasible, break up building rooflines on corner lots or incorporate changing wall planes or projecting bays with gable features for enhanced visual interest.
3. For detached, semi-detached and townhouse building typologies, rear yard amenity space should be screened from public view by privacy fencing where necessary.
4. For detached, semi-detached and townhouse building typologies, the main building entrance for corner lots should be located on the flankage side to increase front yard habitable space. Where this is not feasible, orient the main entrance towards the front lot line, and use architectural compensating features along the flankage wall (such as, bay windows, secondary entrances, ample fenestration, building projections, distinctive gables, and wrap-around porches etc.).
5. For detached, semi-detached and townhouse typologies garage access should be located on the front façade, away from the main building entrance and street intersection.
6. The primary building frontage for mid-rise buildings should face the higher-order street; however, the flankage wall shall be well articulated, with special attention to the massing height, articulation, fenestration, material finish and detailing.
7. For mid-rise buildings, locate garage access away from the higher-order street(s), the primary building entrance, and street intersections.

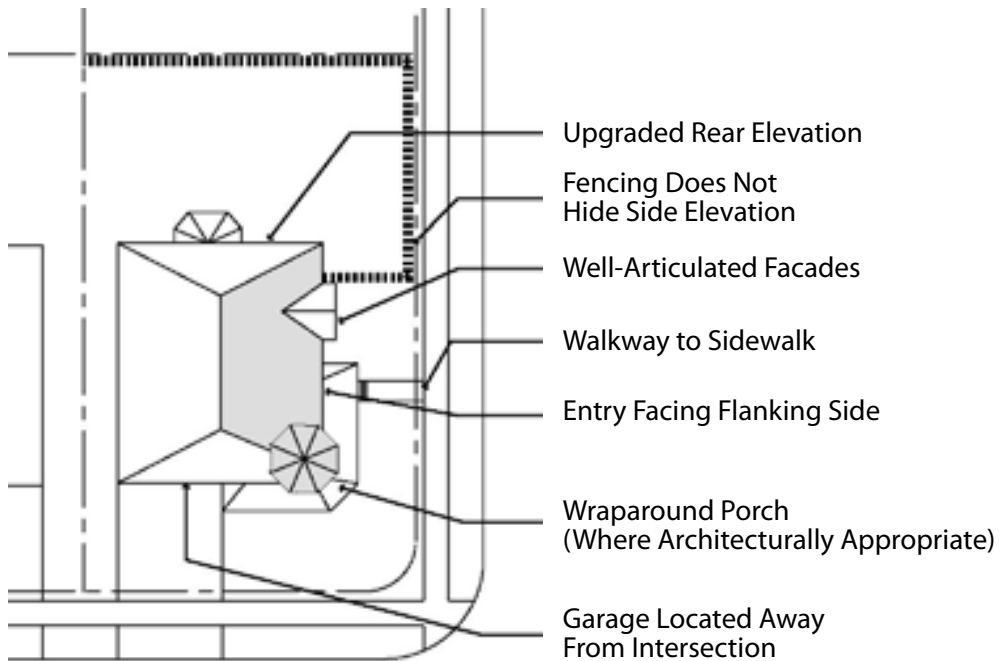


Illustration of a corner lot



Example of corner lot with enhanced architectural details both the front and flankage facades.

iii) T-INTERSECTION LOTS

T-intersection lots are located at the end of a view corridor created by perpendicular street junctions. Therefore, these dwellings are given visual prominence as people travel through the community and require special design attention. The following guidelines should be considered:

1. Where feasible, t-intersection lots should contain building models that de-emphasize the car's presence, for example, dual frontage facades without garages or driveways. Alternatively, t-intersection lots should be oriented to de-emphasize the garage and driveway presence, locating them to the periphery of the axial view.
2. Where buildings provide garages on t-intersection lots, they may be recessed behind the building's main wall or located to the terminus view's periphery.
3. Vista terminating lots should incorporate architectural detailing that provides visual interest within the streetscape by upgrading facade designs, including increased fenestration, a mix of masonry types and colours, window and entry features and accentuated roof lines where possible.
4. Where feasible boulevard plantings adjacent to t-intersection lots will shield oncoming headlights.
5. T-intersection lots shall avoid reverse frontages.

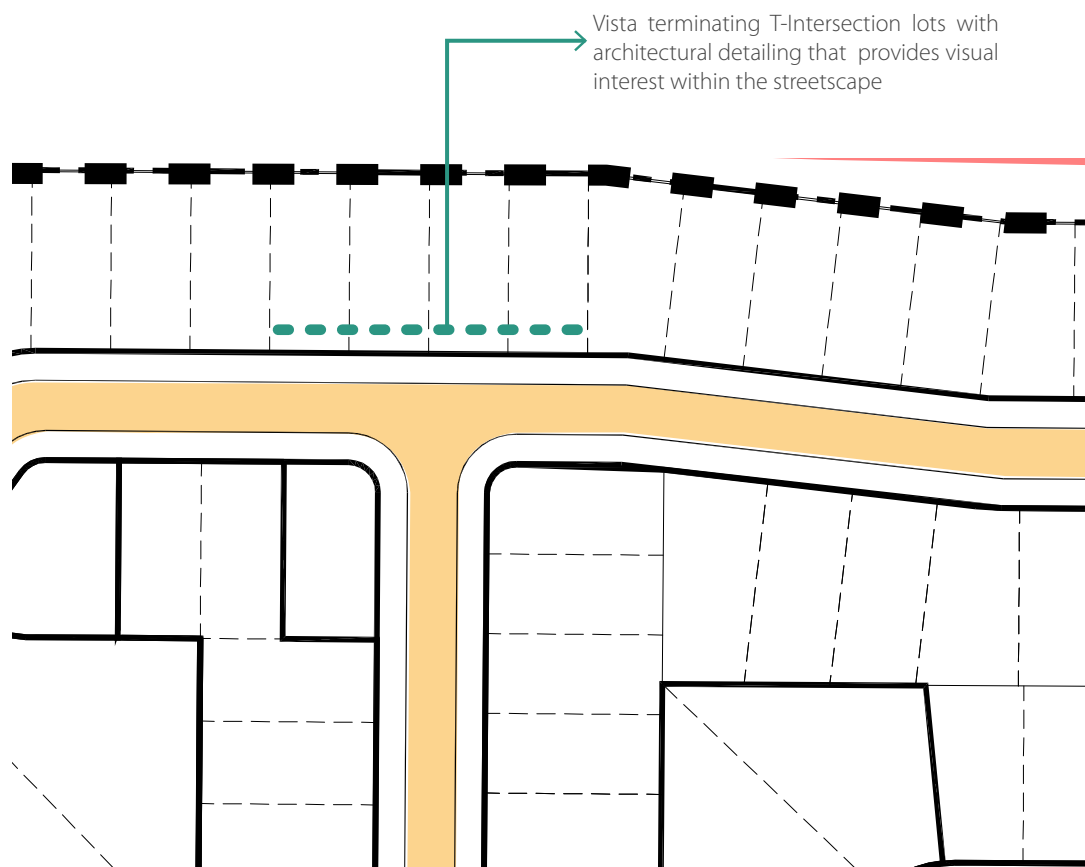


Illustration of T-intersection lots



Example of T-intersection lots with enhanced building facades and recessed garages.

iv) ELBOW AND CURVED STREET LOTS

Special design attention should be made to dwellings on curved or elbowed streets, as the street's bend partially exposes the interior side elevation. The following guidelines should be considered:

1. On curved street lots, extend front façade details, such as frieze board, wrapping material transitions, and additional fenestration will be provided on flankage facades that are visible from the public realm. Material transitions of the front-wrapping facade will occur at a natural or logical breakpoint (e.g., plane change or jog) or a minimum distance of 1.2 metres from the dwelling's corner.
2. Where applicable, the sides of garages and solid walls exposed to the public will provide additional fenestration. These areas should use materials consistent with those on the building's front elevation.
3. Driveway locations of adjoining lots should not merge at the street line.
4. Screening elements shall conceal foundation walls on exposed flankage facades.
5. Where lot depths permit, elbow street lots should have a greater front yard setback to create visual interest and provide greater front yard landscaping opportunities.

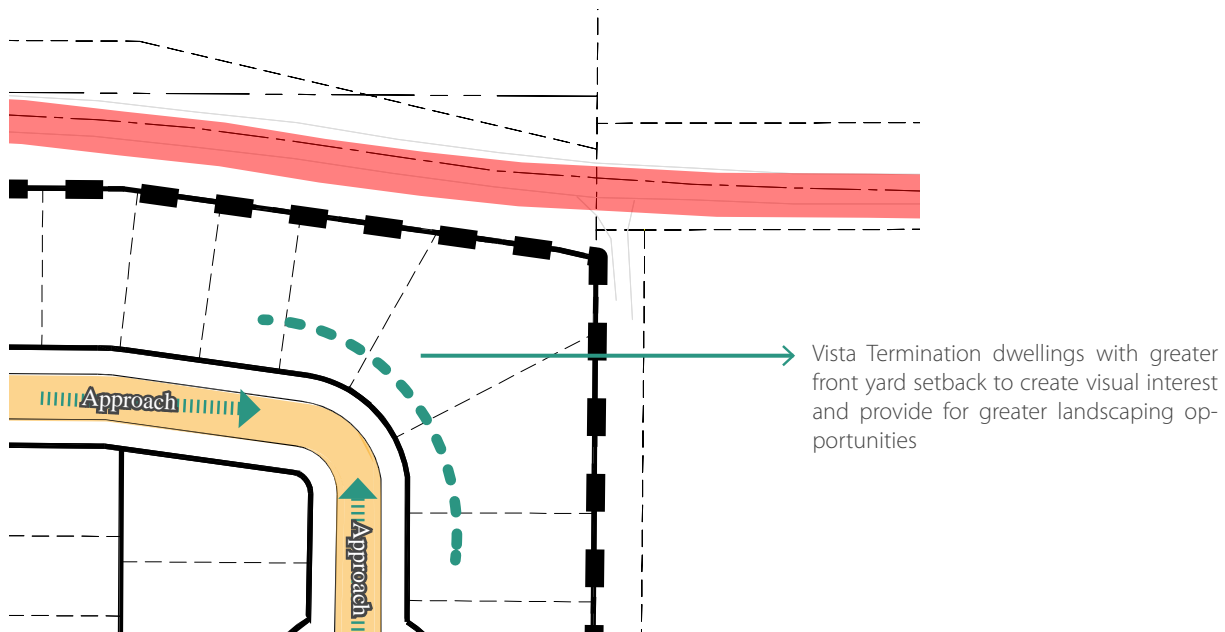


Illustration of elbow and curved street lots



Example of elbow street lot with recessed garage and fenestration on the side of the building facing the public realm.

v) WINDOW STREET DWELLINGS

Window streets occur when a public or private residential street runs parallel to an arterial road, creating a community view. In such instances, special architectural treatment should encourage a positive first impression and convey the community's character to the passerby. The following guidelines should be considered:

1. Provide enhanced architectural design and landscape treatment to define the community character and establish a sense of place along Kennedy Road.
2. Building projections such as porches, bay windows, covered porches or porticos along the arterial road are encouraged to provide visual interest and to create an appealing community impression from the public street.
3. Window street dwellings will provide various exterior colours and material patterns to provide streetscape variety and visual interest along the community's edge.
4. The boulevard between the arterial and private streets will provide tree plantings, favourably coniferous plantings, to contribute to noise mitigation and year-round visual screening. This boulevard will also incorporate decorative fencing to demarcate public versus private space and define the community's edge.
5. The provision of a pedestrian walkway that connects the development's internal sidewalk to the public sidewalk along the arterial road will be encouraged and located in proximity to transit stops.



Example of well screened window street with highly articulated building facades beyond.

vi) LOTS ADJACENT TO PARKS / GREEN SPACE

Lots abutting open spaces reflect a high level of exposure and therefore warrant high design quality and architectural detailing. These lots contain exposed side and rear elevations that shall be highly articulated with similar materials as the main façade to provide visual interest from publicly accessible spaces. The following guidelines should be considered:

1. Lots that back onto the SWM pond should enhance their rear facades by providing similar architectural detailing as the front facade. Lots with side elevations exposed to a SWM pond or park, visible from the public realm, should have a similarly enhanced façade treatment.
2. Lots which back onto parks and open space shall have a minimum 1.5 m (4.9 ft) fence. Buildings located adjacent to parks and open space will be balanced in appearance; providing a diverse streetscape consistent in its level of architectural detailing, fenestration and architectural massing on all publicly exposed elevations. Some examples of architectural details may include:
 - introduction of gables, dormers and/or bay windows;
 - enhanced window styles;
 - shutters;
 - frieze board / cornice;
 - brick detailing / quoining / pilasters;
 - decorative panels/louvres; and,
 - precast accents.
3. Lot siting will balance the establishment of: 1) a sense of enclosure and open space framing; and 2) framed views and visual connections to open space.
4. Locate building models with upper floor balconies, French windows, and/or deck terraces, in lots adjacent to parks and open space to promote informal surveillance.
5. Lots adjacent to opens space should all locate their driveways as far as possible from the public space.
6. Variety in rear wall articulation for lots adjacent to open space is encouraged, to avoid monotony.
7. Greater side yard setbacks related to the principal dwelling may increase buffering and separation from the abutting open space/park.



Examples of residences adjacent to open spaces showing side facades with material detail enhancements



Example of residential lots adjacent to a publicly accessible trail.

materials & colour

Material selections should favour materials that complement the Town of Caledon's historic character, including the use of brick, stone/stone veneer.

A variety of high quality materials and detailing is encouraged in order to contribute to a harmonious streetscape and architectural diversity of the community. The following guidelines should be considered:

1. Cladding material should be high-quality and low maintenance (e.g., clay, brick, stone, hardie-board or precast concrete), with additional materials used in accent areas.
2. Colour and material schemes shall be harmonious with the buildings' primary architectural style.
3. The buildings should provide a cohesive community colour palette across the entire development site.
4. Residential dwellings near the existing heritage building should consider using a heritage-inspired colour palette, where appropriate to the architectural style.
5. The colour and materials of adjacent buildings should not be identical and sufficiently different, so the buildings are unique/distinguishable. A minimum of two dwellings should separate identical colour schemes.
6. Natural or cultured stone or brick is encouraged as the exterior cladding material, particularly for focal lots at community gateways and other high profile locations.
7. Window frame colours across the community are encouraged to be different and should be coloured to complement the aesthetic of the building's exterior façade.
8. Metal flashing should be pre-finished or painted to match the wall cladding and roof aluminium colour.
9. Garage door colours should be neutral in colour and less dominant than the front door to visually diminish the car's appearance and accentuate the primary building frontage.
10. Soffits, eavestroughs, frieze boards and fascias should be a single colour for each building.

11. Mixed use buildings should limit the use of spandrel glass in limited locations, only used if it has design merit.
12. Roof and shingle colour should complement the colour of the primary wall cladding.
13. Material changes which help articulate the transition and distinction of the building's base middle and top. Where changes in materials occur, they should happen at logical locations such as a change in plane, storey, wall opening or downspout.
14. The use of trim colours the same or directly similar to the dominate wall cladding colour is discouraged.



Existing Snell Farmhouse property featuring stone and red brick materials.

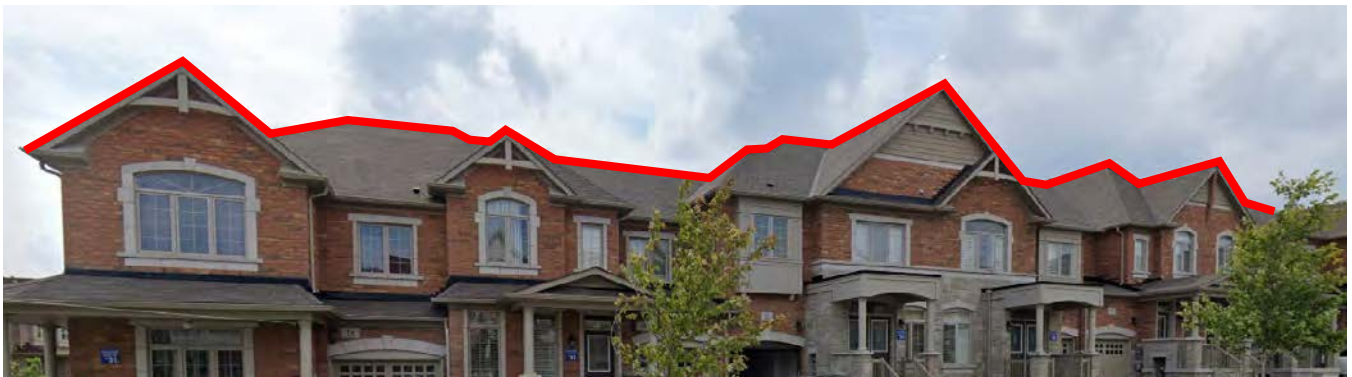
roof lines & chimneys

The design of building rooflines and chimneys contribute to the building's perceived massing and fit within the overall community appearance. A consistent approach to roof design will unify built form types within the Snell's Hollow Community.

1. The use of upgraded textured asphalt shingles with a maximum warranty of 30 years shall be encouraged as the minimum standard for roofing material. Other upgraded roofing materials such as cedar, standing seam metal, copper or synthetic slate roof tile are also appropriate.
2. Simple roof forms should be used and paired with configurations that accent gables, dormers and variation of roof ridges parallel and perpendicular to the street. Roof design should avoid overly complicated roof forms with excessive peaks, valleys, hips and dormers.
3. Roofline transitions should be harmonious and cohesive by limiting height transitions between similar building typologies to a single storey.
4. Roof forms should be compatible between traditional inspired and contemporary or transitional style dwellings in terms of materiality, angles and colour.
5. Encourage the use of roof materials with high solar reflectance to mitigate the urban heat island effect.
6. A variety of roofline slopes and profiles are encouraged to provide visual interest and variety.
7. Corner buildings should incorporate wall plane changes or projecting bays along with gable features to break up the roofline.
8. Chimneys located on exterior walls should be constructed of brick and must have precast caps where the design proposes a chimney breast. Where the design proposes a full-length chimney with flue, appropriate masonry detailing should be applied.
9. Skylights should be located away from the street-facing elevations and should have a flat profile with a frame that blends with the roof colour.
10. For priority lots, at gateway locations or t-intersection lots, distinctive roof forms with accent gables or dormers should provide visual interest.
11. For detached, semi-detached and townhouse dwellings, roof pitches will be a minimum of 8:12. For two and three-storey dwellings, a minimum pitch for front and rear-facing slopes should be 6:12, or 8:12 for side slopes in profile to the street. Steeper pitches than the minimum stated

may be allowed where deemed appropriate to the dwelling's architectural style and when supported by the zoning by-law.

12. The garage roofline should be visually harmonious with the dwelling's prevailing roofline.
13. Where possible, roofscapes within individual townhouse blocks should vary in height and incorporate dormer designs to break up the roof/wall planes to create a visually engaging streetscape and maintain compatibility with surrounding buildings.
14. For mixed use buildings, long continuous roofscapes should be divided and varied to provide visual interest and variety.
15. On mixed use lots that propose more than one building, the collective architectural composition should consider the relationship between building rooflines and their visual impact on adjacent streets.
16. On mixed use and mid-rise buildings, design rooflines and parapets to facilitate the integration and screening of all rooftop mechanical equipment.



Example of residential roof lines with a variety of slopes and profiles.

windows & doors

Windows provide visual interest and rhythm to a house and help animate the streetscape environment.

1. All windows should be maintenance-free, thermally sealed, double glazed and either casement, single-hung or double-hung.
2. Window and door styles should complement the building's architectural style.
3. Vertical window profiles are preferred, but other window shapes are encouraged as an accent and should be used with discretion to ensure consistency with the building's architectural styling.
4. The building design shall coordinate window and entry placement to foster casual surveillance. Large ground floor windows are encouraged where possible to provide "eyes on the street".
5. When shutters are incorporated into the building design, they should be half the width of the window opening. Avoid narrow shutters that do not match the window opening.
6. Basement windows located on the front and flankage elevations facing the street should match the main floor window design.
7. All windows on the same building shall have a consistent window treatment when facing the public realm, including the same window type, colour, quality, and details.
8. False windows and windows with black glass or mirrored glazing shall be discouraged; if used, it should be architecturally justified and high-quality.
9. For mid-rise buildings, window placements should generally align with neighbouring buildings and be consistent in shape and style.



Example of a building mixing windows with disjunct architectural styles. This shall be avoided.



Example of an appropriate application of shutters, limited to half the window width.

porches, porticos, & balconies

Porches, portico and balconies are essential considerations in building and community design. These areas provide outdoor amenity space for homeowners, activate upper building stories and promote socially interactive streets that foster a pedestrian-friendly community by providing eyes on the street. The following guidelines should be considered:

1. Porches or stoops should be grade-related and limit the number of stairs at the porch or stoop; ranging between 3 to 6 steps, or a maximum of 1.2m above the walkway's grade leading to the front entrance. Additional steps required to gain access to the unit should be internalized. Porch steps should be detailed in the same material as the porch itself.
2. Covered entry features (porch, portico, canopy or wall recess) should be incorporated into most of the model designs offered by the Builder to add diversity of design treatments in the streetscape. However, covered porches should not be enclosed with walls.
3. An exposed beam/frieze is required at the top of the support columns on the soffit's underside.
4. Porch, column, and railing details should be consistent with the dwelling's overall character and its overarching architectural style. Traditional wood, pre-finished aluminum/wrought iron railings, glass railings, or high-quality composite railings are acceptable.
5. Projecting elements, such as porches, porticos, balconies and bay windows are encouraged to provide façade detail and building articulation. Flat and unarticulated building planes should be avoided.
6. Where feasible porch sizes will allow for seating and promote interactive outdoor uses, depths of a between 1.5m - 2m is recommended.
7. The construction of upper floor balconies, such as French windows, and deck terraces in houses fronting open spaces and parks are encouraged to promote casual surveillance.
8. Mid-rise buildings should incorporate balconies into the overall design and massing of the building to provide private amenity space and achieve visual interest on the building facade.



Example of covered porches and balconies.

main entrances

A main entrance is the focal point of any building facade and acts as the link between the private and public realm. The main entrance to the dwelling should convey its importance as both a focal point of the dwelling façade and the interface between the neighbourhood street. The following guidelines should be considered:

1. The main entrance to residential dwellings shall be directly visible from the street, designed as a focal point, and designed to reflect the building's prevailing architectural style. The Builder may consider unique floor plans with a strong entry presence, but without a visible main entrance from the street.
2. Main entryways should incorporate entrance features such as stoops, porches, shared landings, and canopies, where feasible. The main entry design should be well-articulated through framing treatments, such as arches, articulated front steps, pilasters, a variety of door styles and transom lights above the door.
3. Main entry steps shall be poured in place concrete with the expose sides clad in a material that matches the building's overall material palette.
4. For residential buildings, single entry doors are encouraged to incorporate sidelights and/or transoms. When this is not possible due to the building's floor plan arrangement, a vision panel (glazing) may be provided in the entry door.
5. Wherever possible, cover main entrances and porches to protect users from adverse weather elements and visually articulate the building's primary entrance.
6. Mid-rise buildings shall clearly define building entryways through building overhangs, wall recesses and connecting walkways to the public sidewalk. Entryways shall be oriented to address the public street or significant corner locations.
7. All major commercial entrances shall be located at grade and comply with AODA's accessibility standards.
8. All public entries to commercial buildings should be well-articulated through the use of building signage, enhanced architectural features (e.g., canopies, change in building material, building recesses), and hard and soft landscape elements. Public entry locations should provide weather protection.
9. Mixed use building entrances should be clearly defined through visually and physically accessible pedestrian walkway connections to the street and designated vehicular drop-off areas.
10. Where feasible, mixed use buildings are encouraged to open their main building entrance onto an exterior area suitable for gathering and waiting.



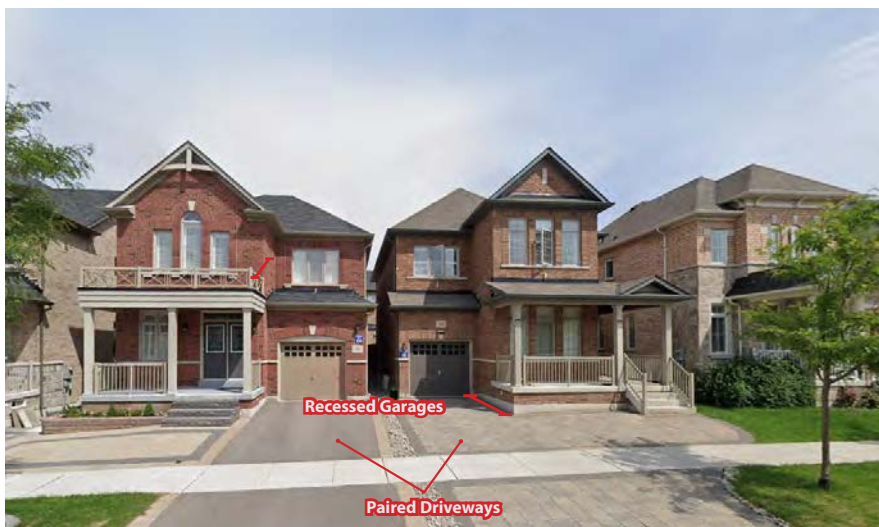
Example of exterior door treatments.

garages and driveways

The appearance of residential garages shall be minimized and the design and material of garages shall compliment, not dominate the main dwelling to create a cohesive streetscape. The following guidelines should be considered:

1. All residential homes will have an attached garage oriented towards the house's front or flankage lot line. All garages should be easily accessed from the street.
2. Dual frontage townhouses with rear-accessed garages will be oriented towards and easily accessed from the rear laneway or local road.
3. Garages shall be complimentary in terms of character and quality to the principle dwelling. A variety of garage door styles, consistent with the design of the dwelling, is required throughout the neighbourhood to avoid repetition and dominance by a single garage door style.
4. Garage positioning should be based on the proposed housing type, the lot's size and grading condition.
5. Minimize the garage's visual presence through design elements such as setbacks, landscaping, and muted garage door colours. Garage appearance will be visually consistent with the principle building's architectural style, roofline, massing and materials.
6. Where feasible, garage facades and driveways shall be paired, especially for semi-detached and townhouse lots.
7. Garages shall have a minimum setback of 5.5 meters to accommodate driveway parking. Driveway widths should not exceed the width of the garage.
8. The garage face will should not project beyond the main building, and at a minimum should ensure that it is flush with the main wall of the structure, per the Section 8.1.4 of the TWDG. Garage projections will only be considered provided they do not exceed 2.0 metres beyond the house entry or porch face; or provided the main ground floor living area or front porch extends beyond the garage, or is set back no more than 1.0m from the front of the garage; or a covered porch substantially extends across the main living area and entry on the ground floor and a second storey build-over is constructed.

9. Garages will be well-lit for increased visibility.
10. Driveway slopes between the garage and the street shall be as shallow as possible, and reverse sloped driveways are not permitted.
11. Typically, double-car garages are permitted on lot sizes 11.0m or greater. Lots less than 11.0m in width are restricted to a single-car garage.
12. Where feasible, locate driveways and garages away from adjacent intersections, transit stops and public walkways, open space and non-residential uses.
13. Two-car garages for semi-detached and townhouse dwellings shall be discouraged to minimize a garages' dominance or 'garagescape' along the streetscape.
14. For mid-rise buildings, underground parking garage access should be provided from side streets and away from intersections to avoid adverse traffic impacts.
15. Underground parking garages are preferred for mid-rise buildings in place of surface parking, with limited surface parking to the side and rear yards.



Example image of recessed, single-car garages that minimize the garage appearance of the building front facade.



High-quality garage door design that contributes to the architectural styling of the house.

architectural detailing

Architectural detailing articulates the building's architectural style, and through the repetition, evolution and juxtaposition of these details, a cohesive and dynamic streetscape is realized. The following guidelines should be considered:

1. The development shall use a high standard of materials and architectural detailing consistent with the building's architectural style and the community's character as a whole. Architectural details may include, but are not limited to:
 - Cornice / frieze board treatments;
 - Soldier course, horizontal banding, and/or quoined corners;
 - Window sills, lintels and keystones and louvers;
 - Upscale coach lamps for entrances and garages;
2. Where feasible, accentuate all masonry detailing by projecting it approximately 12mm (1/2 inch) from the wall face.
3. All publicly exposed elevations require a frieze board (or brick soldier course cornice), returning a minimum of 1200mm (4 feet) along elevations facing interior side yards or at an appropriate jog in the façade.

- Decorative address plaques;
- Large diameter porch columns;
- Use of precast stone / stone veneer elements;
- Moulded detailing (i.e. Canamould, Fypon, etc.);
- Decorative metal railings;
- Good quality garage doors;
- Overall use of high quality materials and crafting.



Example of dwelling with details from a mix of architectural styles, creating a busy and incoherent appearance.

Fish Scale Shingles



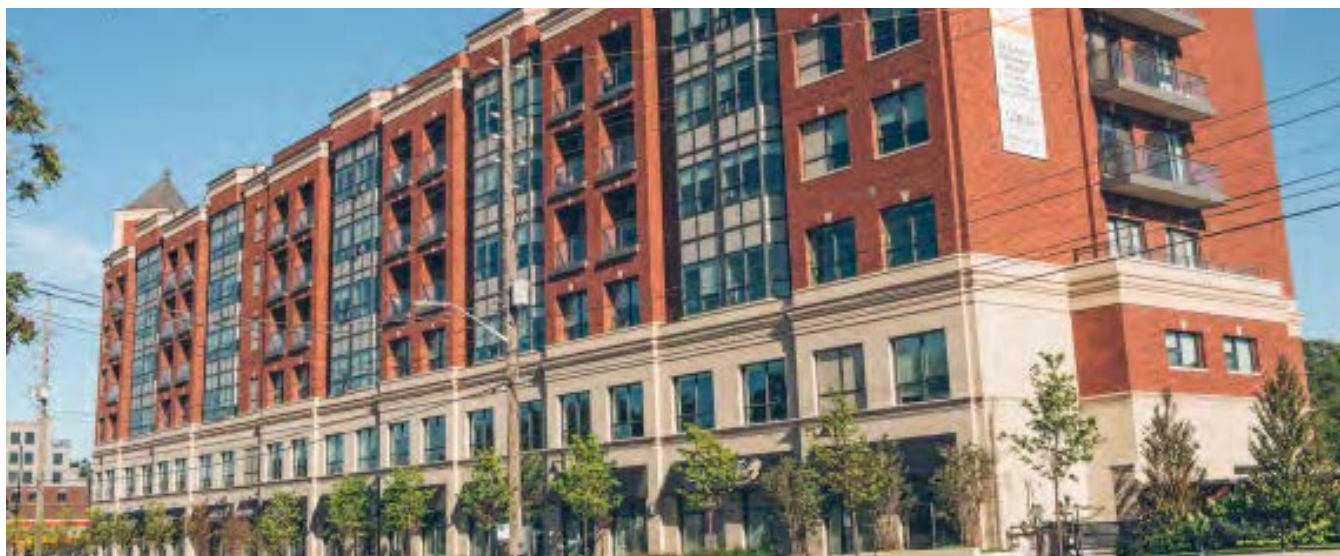
Finial

Gable Roof

Brick Walls

Example of Victorian architectural details.

4. Precast stone accents are encouraged where architecturally appropriate, including keystones, sills, lintels, door surrounds, imposts, etc.
 5. Building elements such as vents and exhausts shall be incorporated within the overall building façade to reduce its visual prominence.
 6. Buildings will provide enhanced architectural detailing on all publicly exposed facades
- to provide visual definition through the expression of cornices and other architectural elements and details (e.g., material and colour changes) that define the building's base, middle, and top.
7. When a building facade has limited visibility from the public realm, a simplified level of detailing may be accepted subject to the Town's approval.

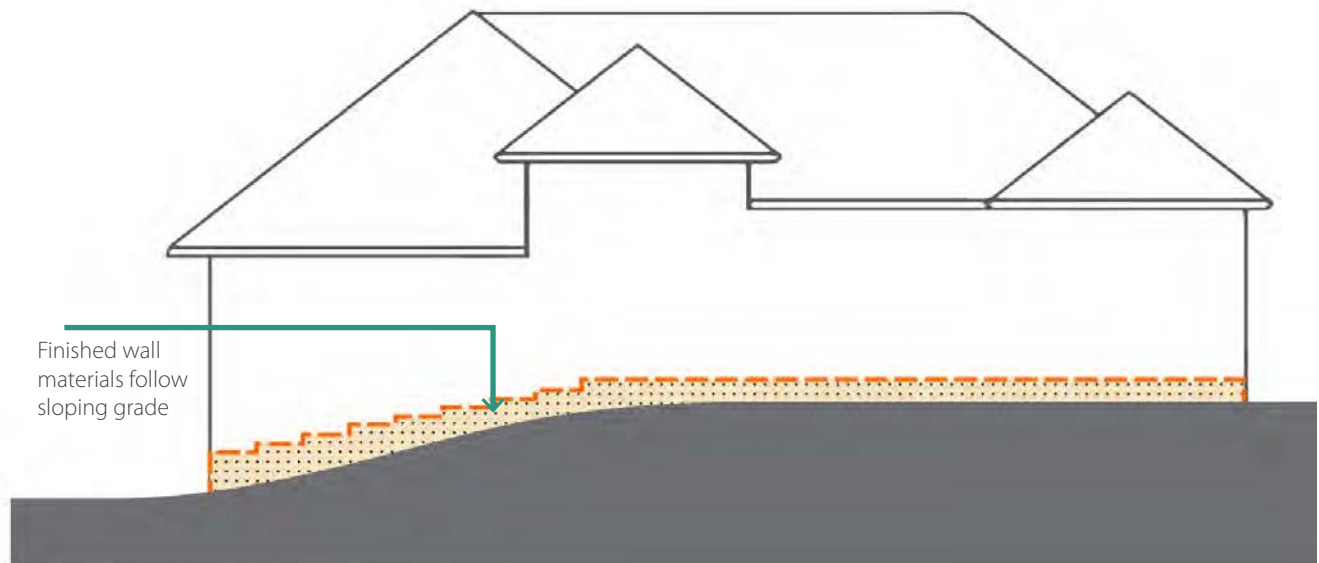


Example of mid-rise building with architectural details that define the building's base, middle and top.

foundation walls

Exposed concrete foundation walls have a negative visual impact on the streetscape and should be avoided. The following guidelines should be considered:

1. Coordinate grading with the dwelling's foundation design and construction to ensure that foundation walls or exposed poured or parged concrete does not extend more than 12 inches above the finished grade on elevations viewable from the public realm.
2. Where sloping finished grades occur, finished wall materials and foundations should be appropriately check-stepped to minimize the appearance of exposed foundation walls.
3. Use a variety of shrub species to soften the visual appearance of the buildings' foundations.



5.16

municipal addressing

The Builder shall provide a coordinated approach to municipal address numbers. The design of the address plaque should be complementary to the building's character and architectural style and reflect the community's overall image. The following guidelines should be considered:

1. The municipal address shall be located prominently on the building's front façade.
2. The Builder shall provide a coordinated approach to municipal addressing. The design of the address plaque should be visible from the street and must meet municipal standards.
3. Acceptable designs include: 1) Etched masonry plaques set into wall cladding; 2) Pre-finished ceramic plaques set in a wrought-iron bezel or on a hanger arm; and 3) Aluminum offset numbers & letters directly on the wall cladding or plate.



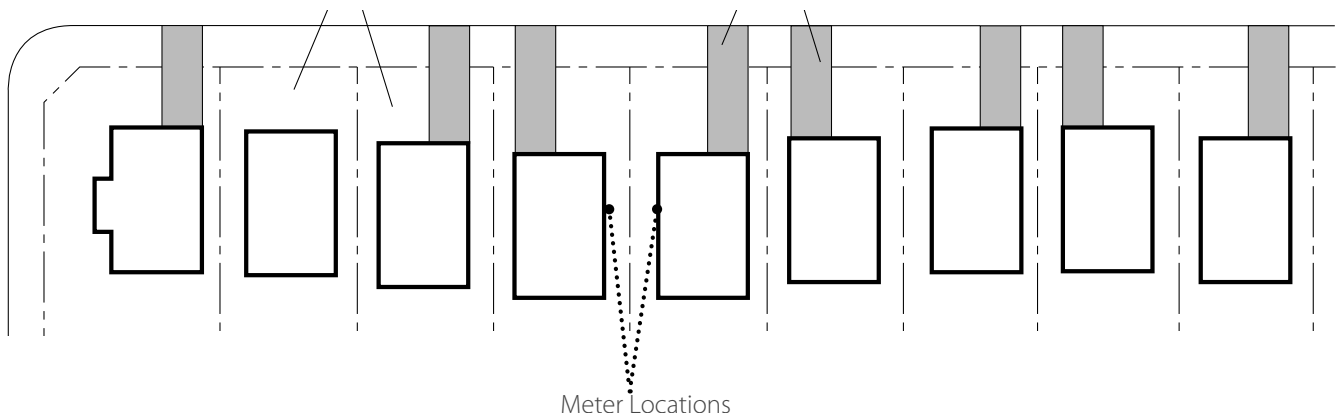
Example of municipal addressing styles that provide clear and legible wayfinding.

utilities & mechanical equipment

Careful utility coordination is essential to ensure that streetscapes are functional and visually appealing, eliminating adverse impacts on the growth of street trees, street furniture location, and the overall appeal and quality of the development. Utility and service equipment should be minimized or shielded from public view where feasible. The following design standards are considered:

GUIDELINES

- Utility fixtures, such as gas and hydro metres, air conditioners, connection boxes for telephone and cable, should not be viewable from the public realm, where feasible they should be located: 1) in underground locations; 2) internally, or at the rear or flankage elevation. Where this is not possible, utility meters may be discreetly located on the interior side elevations, at least 1.2 metres away from the building frontage.
- Corner lot dwellings should have hydro and gas meters located on the interior sidewall face. Where this is not feasible,
- Where utilities are placed below-grade, they should be coordinated with the placement of street trees to protect for the viability of mature tree growth and tree roots. The placement of above grade utility boxes should be coordinated with streetscape elements such as street trees, sidewalks, street furniture and mailboxes where relevant.
- Where air conditioning units and above-grade utility boxes are located in the front or flankage yard, they should be adequately screened from public view with complimentary screening materials such as fencing or coniferous landscaping.
- For mid-rise buildings, coordinate the location of utilities with parking, servicing and loading areas to minimize unsightly views and physical interruptions in the public realm.



6. For mid-rise and commercial buildings rooftop, mechanical equipment shall be set back from the building edge and screened from view by architectural elements, such as parapet walls or equipment screens. Utility screens and covers should be made from durable materials that complement those used on principle building façade and anti-graffiti installations may be considered.
7. The location and method of screening utility meters shall be in compliance with the requirements of the local utility company.



Example of utility and service elements located discreetly or screened by architectural and/or landscape components.

06

IMPLEMENTATION

preliminary review process

Preliminary site and building designs which are in conformity with these Guidelines shall be submitted to the Control Architect/Designer for review and preliminary approval prior to the submission of Building Permit Applications. Specifically, an approval stamp is required on individual lot sitings at the building permit stage for singles, semi-detached, and townhouse buildings to show conformity with these Guidelines.

Mixed-use blocks will be subject to a separate Site Plan Approval, in which a separate Design Brief will be submitted as part of the submission and approval process with regards to the Town of Caledon's Comprehensive Town-Wide Design Guidelines.

Architectural drawings should include all floor plans and elevations. Floor plans are reviewed and approved in order to assess and support approval of the exterior design.

Drawings should be a minimum scale of 1:250 and must clearly depict internal layout, building elevations, exterior materials and colours, and

architectural details.

Exterior building materials and colours will be submitted at the time of preliminary design review.

Prior to Building Permit application, the Building/Designer will submit preliminary design documents to the Town's Control architect for review. The material submitted for review will include:

1. Site Plans and Floor Plans – clearly illustrating entry conditions, driveway locations, and fenestration;
2. Exterior Elevations and Elevation Details;
3. Illustrations of priority lot's special design treatments;
4. Typical Streetscape Elevations (where applicable);
5. Illustrations of corner lot fencing (where applicable);
6. Exterior building materials and colours; and
7. A shadow study for any structure five storeys or higher

The shadow study shall consist of two components, a digital model used to demonstrate shadow impacts, and a shadow impact study that describes the extent of shadows cast on adjacent uses. The document must be prepared by a qualified

professional and may be peer-reviewed. The digital models must assess shadow impacts at various times of the day, across the four seasons. Specifically, the shadow study must model shadow impacts on:

DATE:

March 21
June 21
September 21
December 21

TIME

9:00, 11:00, 13:00, 15:00, 17:00, & 19:00
9:00, 11:00, 13:00, 15:00, 17:00, & 19:00
9:00, 11:00, 13:00, 15:00, 17:00, & 19:00
11:00; 13:00, & 15:00

The shadow impact statement must demonstrate:

- There are five consecutive hours of full sunlight between the test hours in March, June and September;
- Shadows are not cast on more than 50% of the outdoor amenity spaces, including parks, children play areas and amenities associated with mixed-use areas (throughout the spring, summer

and fall season). Where shadows are cast on more than 50% of the outdoor amenity space, the amount over 50% should last no longer than 2 hours; and,

- Shadows are not cast on more than 50% of the opposite sidewalks during the spring and fall.

final review & approval

1. WORKING DRAWINGS

- The set of final working drawings shall accurately depict what the builder intends to construct, including steps and grading conditions.
- The final Working Drawings shall be submitted to the Control Architect for final review and approval before submitting a Building Permit application.
- The drawings must clearly show all exterior details and materials.

2. SITE PLAN AND STREETScape DRAWINGS

- Engineer certified site plans are to be submitted to the Control Architect at a minimum scale of 1:250.
- Satisfactory Site Plan and Streetscape Drawing submissions will be stamped for Final Approval by the Control Architect.
- Streetscape drawings shall accurately depict the relationship of the proposed buildings and the proposed finished grade.

3. EXTERIOR COLOUR PACKAGES

- Before submitting site plans, the Builder shall submit a typed colour schedule along with material sample boards for review and approval. Material boards shall include the colour, type and manufacturer of all exterior materials.
- The Control Architect may comment or make suggestions for revision if the colour and material selections are non-compliant with these guidelines.

4. SITE REVIEW

- The Control Architect will conduct discretionary and periodic site reviews to monitor general compliance with the approved drawings.
- The Control Architect will report, in writing, any visual deficiencies or deviations in construction from the approved plans/guidelines to the builder and town.
- The developer and/or Town may take action to secure compliance.

5. TOWN APPROVAL

- All site plans, working drawings, streetscapes and colour packages must be submitted for review and approved by the Control Architect/ Designer and the Project Engineer, as required, before submission to the Town of Caledon for building permit approval.
- Building permits will not be issued unless all plans include the required Final Approval stamp of the Control Architect/Designer and Project Engineer as required. Approval by the Control Architect/Designer does not release the Builder from complying with the requirements of the Project Engineer, the Town of Caledon, or any other approval agency.

6. DATA RECORDING

- The Control Architect will maintain a project binder that contains all pertinent information related to approvals, all correspondence, site reports, guidelines and any addenda, priority lot plan, and siting approval plan, to be submitted to the Town at their request physically or electronically.

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CONCLUSION

The development vision of Snell's Hollow is to foster an active, healthy, and integrated community. The proposed built form is compatible with the surrounding communities and preserves the existing natural and cultural heritage. The policies and guidelines applicable to the site have been implemented accordingly throughout the development proposal.

The proposed blocks and street layout will provide visual interest through maximizing views and vistas to the proposed parks, stormwater management ponds, and open space areas. Further, the proposal introduces a legible neighbourhood street network that emphasizes pedestrian movement and key views towards the natural heritage area. The proposed development layout also promotes a walkable community by emphasizing on pedestrian movement and linkage with the surrounding area. The proposal will define the proposed public streets that are pedestrian scaled, safe, and accessible.

The proposal respects the adjacent natural heritage system by maintaining appropriate setbacks for naturalized landscape while providing opportunities for active and passive recreation. The proposal will utilize quality architectural and landscape design to create a visually appealing and appropriately scaled community that is welcoming to residents and visitors. The new landscaping elements, including trees, shrubs, fencing, and street furniture will together contribute to the creation of an attractive community.

The architectural design, site orientation, and siting of the proposed built forms have been carefully

directed to complement the existing area. The proposal also considers connector walkways and multi-use trails that have the potential to further expand the existing trail network (subject to environmental constraints). Bicycle parking will also be incorporated where feasible to promote active transportation and support the Town's planned bicycle infrastructure network.

The architectural built form will consider the surrounding massing, density, and style. Special attention will be given to the existing heritage building on site, where it will be retained and integrated as part of the community development. A range of lot sizes and unit types, with appropriate built form and environmental protection, forms the basis of the design, adhering to the goals set out within the relevant policies and providing new housing opportunities for a range of user groups. Sustainable practices will be implemented for water control, and encouraged for energy reduction and conservation.

The Snell's Hollow Community will provide appropriate built form and visual transition with the broader community. These comprehensive Urban Design and Architectural Design Guidelines highlight an appropriate approach for the proposed development that has considered the existing surrounding neighbourhoods and natural assets, and will bring forth guiding design principles for the proposed development to ensure compatibility and placemaking through appropriate transition and community integration.



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