

Traffic Impact Study

**Residential Development – Part of Lot
27, Concession 10, Township of
Otonabee-South Monaghan, County
of Peterborough**

D.M. Wills Project Number 19-10874

D.M. Wills Associates Limited

Partners in Engineering, Planning and
Environmental Services
Peterborough

November 2021



Summary of Revisions

Revision No.	Revision Title	Date of Release	Summary of Revisions
1	Final Report	November 22, 2021	Final Report Submitted

This report has been formatted considering the requirements of the Accessibility for Ontarians with Disabilities Act.

Executive Summary

D.M. Wills Associates Limited (Wills) has been retained by Life at the Woodland Inc. to prepare a Traffic Impact Study to support a residential development, which is proposed on a part of Lot 27, Concession 10, Township of Otonabee-South Monaghan, County of Peterborough. The land is currently vacant and located just to the east of the City of Peterborough. The land is on the north side of Ontario Highway 7 and to the east of Burnham Line.

As proposed in the draft plan of subdivision, the development will consist of 27 single detached dwelling units. The Subject Subdivision will have direct access to Burnham Line only and will not have any access to Lancaster Road. Based on the characteristics of the development and the surrounding area, the study area included the intersection between Highway 7 and Burnham Line.

This study reviews the development details and the existing traffic conditions of the study area including the investigation of the available traffic volumes. Based on this review and the development details, a traffic operation analysis has been conducted using Synchro 9.0 to investigate the impact of the traffic generated from the proposed development on the study area. This analysis is split into two main parts, namely, the background traffic conditions and the traffic condition with the consideration of the development impact. The analysis has covered the AM and PM peaks, as well as the current (i.e. 2021) and horizon years (i.e. 2026 and 2031) scenarios. The study also assesses the sight distance availability and visibility requirements in the field at the entrance of the Subdivision on Burnham Line.

The Subject Subdivision and the existing dwelling unit are anticipated to generate about 5 and 16 entering and exiting trips during the AM peak, respectively, and 18 and 10 entering and exiting trips during the PM peak, respectively. Based on the analysis, there is a minimal impact of the Subject Subdivision on the intersection of Highway 7 and Burnham Line. Also, there is no need for any auxiliary lanes at the entrance of the Subdivision since the traffic volumes at the entrance are significantly low. Moreover, the storage length of the left and right turn lanes on Highway 7 can accommodate the slight increase in the left and right turning vehicles into Burnham Line due to the development.

Finally, the visibility requirements at Woodview Drive are not fulfilled when looking to the north assuming a speed limit of 80 km/hr. Since Woodview Drive already exists, the County should install a "Hidden intersection" sign to the north of Woodview Drive and for the southbound traffic and a stop sign on Woodview Drive. Also, it is recommended that the County carry out a speed study for this section of Burnham Line to review the speed limit.

Table of Contents

1.0	Introduction and Background.....	5
2.0	Background Traffic Analysis	5
2.1	Roadway Existing Conditions.....	5
2.2	Existing and Future Background Traffic Conditions	5
2.3	Existing and Future Background Traffic Operation.....	7
3.0	Traffic Operation Conditions with the Development Consideration	8
3.1	Trip Generation.....	8
3.2	Trip Distribution	9
3.3	Existing and Future Traffic Operation with the Subdivision Consideration	10
4.0	Auxiliary Lanes with Proposed Development	10
5.0	Visibility Requirement Assessment.....	12
6.0	Conclusions and Recommendations	13

List of Tables

Table 1 - Traffic Volumes at Highway 7 & Burnham Line Intersection	6
Table 2 - Existing and Anticipated Background Traffic Volumes at Highway 7 & Burnham Line Intersection	7
Table 3 - Traffic Operation Measures at Highway 7 & Burnham Line Intersection based on the Total Background Traffic	8
Table 4 - Trip Generation Rates during AM and PM Peak Hours.....	8
Table 5 - The Estimated Entering and Exiting Trips during AM and PM Peak Hours.....	8
Table 6 - Trip Distribution Ratios at the Intersection of Highway 7 & Burnham Line.....	9
Table 7 - The Turning Movement Volumes Added to the Intersection due to the Development.....	9
Table 8 - The Turning Movements at the Intersection with the Subdivision Traffic Consideration	9
Table 9 – Traffic Operation Measures at Highway 7 & Burnham Line Intersection based on the Future Traffic Condition with the Consideration of the Subdivision	10
Table 10 – Left Turning Volume Calculations	11

List of Figures

Figure 1 A Plot for AADT over time from 1988 to 2016	6
Figure 2 – Left Turn Lane Storage Length Check based on Exhibit 9A-30	12
Figure 3 - Pictures taken in the field at Woodview Drive on Burnham Line – looking south on Burnham Line [on the left] and looking north on Burnham Line [on the right]	13

Appendices

Appendix A	– Location Plan
Appendix B	– Draft Plan of Subdivision
Appendix C	– Traffic Data at Highway 7 and Burnham Line Intersection
Appendix D	– Traffic Data on Highway 7 from MTO
Appendix E	– Level of Service Criteria for Unsignalized Intersections
Appendix F	– Synchro Reports for the Background Traffic Conditions
Appendix G	– Synchro Reports for the Traffic Conditions with the Subdivision

1.0 Introduction and Background

D.M. Wills Associates Limited (Wills) was retained by Life at the Woodland Inc. to undertake a Traffic Impact Study (TIS) to assess the impact of a residential development proposed on part of a part of Lot 27, Concession 10, Township of Otonabee-South Monaghan, County of Peterborough on the traffic operation in the area.

The purpose of this TIS Report is to assess the impact of the proposed subdivision on traffic operations of the adjacent roads for both current and future conditions, as well as to examine the need for auxiliary lanes at the entrance of the Subject Subdivision on Burnham Line. This study will assess the Level of Service (LOS) at the intersection of Highway 7 and Burnham Line for both current and future conditions. Therefore, the study area is defined here as the entrance of Subdivision on Burnham Line and the intersection of Highway 7 and Burnham Line. Also, the study assesses the visibility requirements at the entrance of the Subdivision on Burnham Line.

The Subject Subdivision is currently vacant and located to the north of Highway 7 and just to the east of the City of Peterborough. The lands surrounding the Subject Subdivision are a mix of farmlands with rural-style residential homes and undeveloped lands. An aerial photo sketching an approximate location plan of the Subject Subdivision is included in **Appendix A**.

The Subject Subdivision is proposed to be developed with 27 single detached dwelling units. These units will directly access Burnham Line through a local road within the Subdivision as shown in the draft plan of subdivision, which is included in **Appendix B**.

2.0 Background Traffic Analysis

2.1 Roadway Existing Conditions

Within the study area, Highway 7 has a four-lane cross-section (two lanes in each direction) with a two-way left-turn lane. Both sides of Highway 7 have solid white markings, unpaved shoulders, and ditches. At the intersection of Highway 7 and Burnham Line, the side roads (i.e. Burnham Line) in the north-south direction are controlled with stop signs. The speed limit on Highway 7 within the study area is 80 km/hr. Also, the westbound and eastbound directions of Highway 7 at its intersection with Burnham Line have right turn lanes.

2.2 Existing and Future Background Traffic Conditions

This study uses the traffic counts that were collected on June 9, 2021, at the intersection of Highway 7 and Burnham Line and were considered to represent current site conditions on a typical weekday. The traffic counts conducted at this intersection are included in **Appendix C**. Based on the traffic counts, the AM peak hour is identified between 7:15 am and 8:15 am, while the PM peak hour occurs between 4:15 pm and

5:15 pm. Table 1 presents a summary of the traffic volumes at the intersection of Highway 7 and Burnham Line.

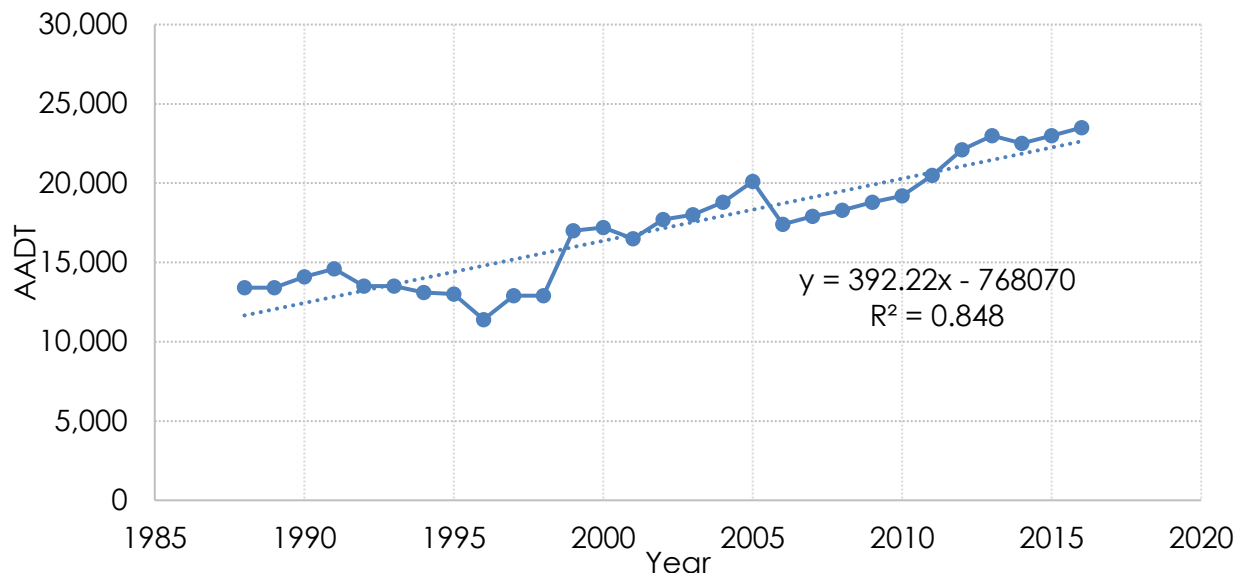
Table 1 - Traffic Volumes at Highway 7 & Burnham Line Intersection

Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM	5	623	11	5	848	5	14	0	3	2	0	7
PM	18	991	23	5	715	3	15	0	1	2	0	6

It is worth noting that no pedestrian movements were observed crossing Highway 7, while a total of 12 pedestrians (only 5 pedestrians during the AM peak and no pedestrians during the PM peak) over 11 hours were observed crossing Burnham Line on the north side. Due to the nature of the development and the study area, this study assumes that pedestrians do not have any adverse effect on traffic operations in the study area.

To avoid the fluctuating nature of the AADTs over time, the available AADTs on this section of Highway 7 (about 150 m to the east of Burnham Line and the west of Burnham Line until Keene Road) shown in **Appendix D** are used to develop a simple linear regression model to help with the estimation of the traffic growth and to account for any variation that the counts conducted on June 9, 2021, may have. Figure 1 shows a plot of AADT over time and the developed regression model. As shown, the R-squared value is about 0.85 which is a high value and this reflects that the developed model fits the available AADT.

Figure 1 A Plot for AADT over time from 1988 to 2016



Based on the developed model, the AADT on this section is estimated to be 24,607 veh/day in 2021. Based on the available hourly counts conducted in 2013 which can be found in **Appendix D**, the peak hour traffic accounts for about 8.3% of the daily traffic. Hence, it is assumed that the estimated peak hour traffic in 2021 is 2,045 veh/hr (24,607

veh/day *.083). As reported in Table 1, the PM peak hourly volume for both directions on Highway 7 is 1,755 veh/hour. Accordingly, the traffic count collected for this study in June 2021 is magnified by the ratio between the estimated peak-hour traffic (i.e. 2,045 veh/hour) and the collected peak-hour traffic (i.e. 1,755 veh/hr), which is equal to 1.165.

Also, based on the developed linear regression model, the estimated average annual traffic growth for the last 10 years is 1.92% (approximated to 2.0%). This percentage will be used to estimate the traffic during the peak hours in the horizon years 2026 and 2031 after the factorization of the collected traffic counts as mentioned above. Accordingly, the current and projected future traffic volumes for the AM and PM peak hours for the intersection are presented in **Table 2**.

**Table 2 - Existing and Anticipated Background Traffic Volumes at
Highway 7 & Burnham Line Intersection**

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
2021 (adjusted)	6	726	13	6	988	6	16	0	3	2	0	8
2026	6	802	14	6	1091	6	18	0	4	3	0	9
2031	7	885	16	7	1205	7	20	0	4	3	0	10
PM												
2021 (adjusted)	21	1155	27	6	833	3	17	0	1	2	0	7
2026	23	1275	30	6	920	4	19	0	1	3	0	8
2031	26	1408	33	7	1016	4	21	0	1	3	0	9

2.3 Existing and Future Background Traffic Operation

Synchro 9 software was used to review the existing and future capacity of the Highway 7 and Burnham Line intersection without the development. Traffic operations were investigated for the existing conditions of 2021, and the horizon years 2026 and 2031. The Level of Service (LOS) and volume to capacity (v/c) ratio results of the existing and future scenarios without the subdivision impact (i.e. background traffic volumes) are shown in **Table 3**. More details about the LOS definition and Synchro models results for these scenarios are presented in **Appendix E** and **Appendix F**, respectively.

As shown in **Table 3**, the LOS of the eastbound left and the southbound approach of Highway 7 & Burnham Line intersection maintains the same LOS over the horizon years for both the AM and PM peak hours. For the westbound left, the LOS drops slightly from "A" to "B" during the AM peak in 2026 and from "B" to "C" during the PM peak in 2031. Despite these changes in the LOSs for the westbound left, the volume-to-capacity (v/c) ratios remain significantly low (less than 0.03), which indicates that this movement will maintain a smooth traffic movement in the future. For the northbound approach, the LOS is maintained as "F" for the PM peak and is decreased slightly from "C" to "D" in 2026 and remains at "D" in 2031. Although the v/c ratio for this approach is significantly high for the PM peak hour, when compared to other approaches, this is expected for side roads that intersect major highways like Highway 7.

**Table 3 - Traffic Operation Measures at Highway 7 & Burnham Line Intersection
based on the Total Background Traffic**

	EBL	WBL	NB	SB
AM Peak Hour				
2020 (Adjusted)	B (0.011)	A (0.009)	C (0.178)	C (0.038)
2025	B (0.012)	B (0.009)	D (0.231)	C (0.055)
2030	B (0.016)	B (0.012)	D (0.295)	C (0.066)
PM Peak Hour				
2020 (Adjusted)	B (0.035)	B (0.014)	F (0.421)	C (0.036)
2025	B (0.042)	B (0.016)	F (0.581)	C (0.054)
2030	B (0.052)	C (0.022)	F (0.833)	C (0.064)

* LOS (v/c ratio)

3.0 Traffic Operation Conditions with the Development Consideration

3.1 Trip Generation

Estimation of trips generated by the proposed development was derived from the *Trip Generation Manual, 8th Edition*¹, published by the Institute of Transportation Engineers (ITE). The ITE codes of the land use, which describe single-detached housing, and the corresponding trip generation rates are shown in **Table 4**. Also, the table shows the average trip generation rates for this housing type for both the AM and the PM peaks and the percentages of entering and exiting.

Table 4 - Trip Generation Rates during AM and PM Peak Hours

Land Use	ITE Code	AM Peak			PM Peak		
		Avg. Rate	Entering	Exiting	Avg. Rate	Entering	Exiting
Single detached dwelling unit	210	0.75	25%	75%	1.01	63%	37%

The average trip generation rates provided by the ITE Manual for the peak hours of the adjacent street were used. The results summary of the new trips generated (rounded) is presented in **Table 5**. The trips were estimated based on the proposed number of dwelling units that are shown on the site plan in **Appendix B** and considered the existing house which is located just to the west of the Subdivision.

Table 5 - The Estimated Entering and Exiting Trips during AM and PM Peak Hours

Land Use	Number of Units	AM Peak			PM Peak		
		Avg. Rate	Entering	Exiting	Avg. Rate	Entering	Exiting
Single detached dwelling unit	27	21	5	16	27	17	10
Total		21	5	16	27	17	10

¹ Trip Generation Manual, Vol. 1, 2, and 3, 8th ed. ITE, Washington, D.C., 2008.

3.2 Trip Distribution

Based on the existing turning movements ratios, the trips generated from the development are distributed as shown in **Table 6**.

Table 6 - Trip Distribution Ratios at the Intersection of Highway 7 & Burnham Line

Burnham Line	AM		PM	
	Volume	Ratio	Volume	Ratio
Southbound Left Traffic	2	0.222	2	0.250
Southbound Right Traffic	7	0.778	6	0.750
Highway 7	AM		PM	
	Volume	Ratio	Volume	Ratio
Westbound Right Traffic	5	0.500	3	0.143
Eastbound Left Traffic	5	0.500	18	0.857

Based on the ratios in **Table 6** and the number of trips generated by the subdivision shown in **Table 5**, the trip distribution on the intersection's turning movements due to the subdivision is presented in **Table 7**.

Table 7 - The Turning Movement Volumes Added to the Intersection due to the Development

Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM	3	0	0	0	0	3	0	0	0	4	0	12
PM	15	0	0	0	0	3	0	0	0	3	0	8

These volumes are then added to the total background traffic, shown in **Table 2**, to further investigate the impact of the development on the traffic operation. The updated traffic volumes at the Highway 7 and Burnham Line intersection with the consideration of the development are summarized in **Table 8**.

It is worth mentioning that it is assumed that the trip generated from the subdivision will not increase over the horizon years since there is no expansion anticipated within the subdivision.

Table 8 - The Turning Movements at the Intersection with the Subdivision Traffic Consideration

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
2021	8	726	13	6	988	8	16	0	3	6	0	20
2026	9	802	14	6	1091	9	18	0	4	6	0	21
2031	10	885	16	7	1205	10	20	0	4	6	0	22
PM												
2021	36	1155	27	6	833	6	17	0	1	5	0	15
2026	38	1275	30	6	920	6	19	0	1	5	0	16
2031	41	1408	33	7	1016	7	21	0	1	5	0	16

3.3 Existing and Future Traffic Operation with the Subdivision Consideration

Again, Synchro 9 software was used to model the traffic at the adjacent intersection. The model aims at assessing the traffic operation performance at this location. Different scenarios with the consideration of the traffic generated from the development were assessed including the current year (2021) and the horizon years (2026 and 2031) for both AM and PM peak hours. The traffic volumes used in this assessment are summarized in **Table 8**. The results summary is presented in **Table 9**. The details of the simulation models and full results can be found in **Appendix G**.

Based on the comparison between the traffic operation performance for the background traffic and the traffic with the Subject Subdivision consideration, the LOSs for almost all the approaches of the adjacent intersection remain the same for the PM peak hour and for the eastbound left and westbound left for the AM peak for the current and the horizon years. However, the LOSs are decreased from "C" and "D" to "F" during the AM peak hour for the northbound and from "C" to "D" and "E" in the horizon years (i.e. 2026 and 2031). Despite these changes in the LOSs, these movements remain to operate within capacity. For the southbound approach, which is directly affected by the development, the v/c ratios remain substantially low (less than 0.25).

Table 9 – Traffic Operation Measures at Highway 7 & Burnham Line Intersection based on the Future Traffic Condition with the Consideration of the Subdivision

	EBL	WBL	NB	SB
AM Peak Hour				
2020 (Adjusted)	B (0.014)	A (0.009)	F (0.391)	C (0.156)
2025	B (0.018)	B (0.009)	F (0.575)	D (0.195)
2030	B (0.022)	B (0.012)	F (0.86)	E (0.25)
PM Peak Hour				
2020 (Adjusted)	B (0.061)	B (0.014)	F (0.455)	C (0.087)
2025	B (0.069)	B (0.016)	F (0.633)	C (0.1)
2030	B (0.082)	C (0.022)	F (0.902)	C (0.114)

* LOS (v/c ratio)

In summary, the traffic impact of the Subject Subdivision on the intersection of Highway 7 and Burnham Line is minimal and most of this minimal impact will be noticed on Burnham Line, which is the side road.

4.0 Auxiliary Lanes with Proposed Development

The warrants for auxiliary lanes were examined on Highway 7 at the intersection of Highway 7 & Burnham Line in accordance with Appendix 9A of MTO's *Design Supplement for the 2017 Transportation Association of Canada (TAC) Geometric Design*

*Guide for Canadian Roads*² to double-check the sufficiency of the left turn lanes on Highway 7.

Due to the developments and the anticipated trip generation, there will be an insignificant increase in the traffic volumes turning (either right or left turning) into the Subject Subdivision. The need for a left-turn lane at an unsignalized intersection (i.e. at the entrance of the subdivision on Highway 7) as established by the Design Supplement, Chapter 9A is based on the advancing traffic volume (V_A), the opposing traffic volume (V_O), the left-turning traffic volume (V_L), and the percentage of left-turning traffic in the advancing volume (LT%). As shown in **Table 10**, the left-turning volumes are less than 45 vph in all the peak hours for the current and the horizon years. Based on these volumes, the existing storage for the eastbound left-turn lane (~25 m) will remain sufficient in the future (2031) as shown in Figure 3.

Table 10 – Left Turning Volume Calculations

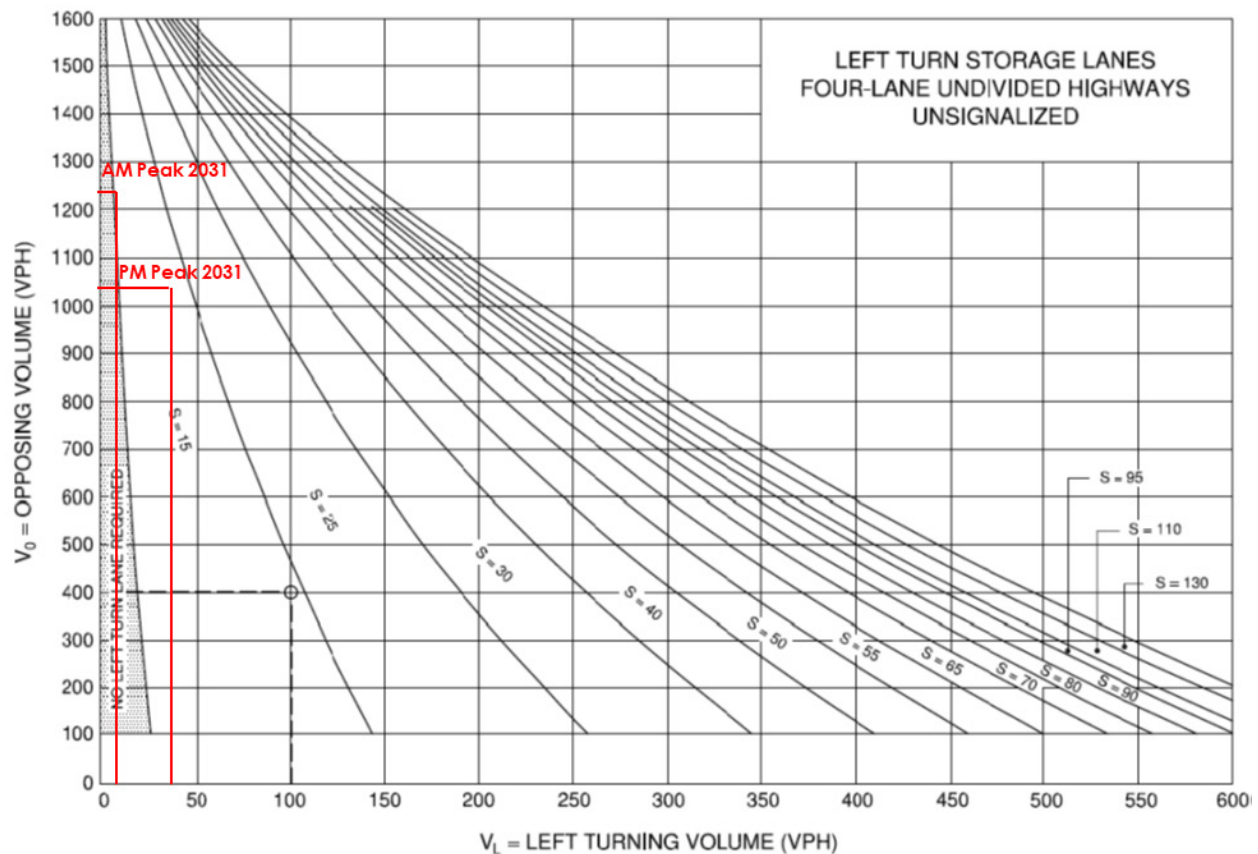
	V_L	V_O
AM Peak		
2020 (Current)	8	1003
2025	9	1107
2030	10	1221
PM Peak		
2020 (Current)	36	845
2025	38	933
2030	41	1030

The TAC Manual specifies that right-turn lanes should be considered “when the volume of decelerating or accelerating vehicles compared with through traffic volumes causes undue hazard.” Since the westbound right turning volumes are anticipated to be substantially low (less than or equal to 10 vph) as shown in **Table 8** and since there is a relatively long right turn lane on the westbound approach, the right turn lane length for this approach is sufficient based on the assumptions mentioned in this report.

For Burnham Line intersection with Woodview Drive, it is anticipated that no left or right turn lanes will be needed since the traffic on Burnham Line is anticipated to be less than 50 veh/hour as shown in **Table 8**, which is a significantly low volume that will not trigger the warrant for any auxiliary lane.

² Transportation Association of Canada (TAC). Geometric Design Guide for Canadian Roads: Design Controls, Classification and Consistency. Transportation Association of Canada, 2017.

Figure 2 – Left Turn Lane Storage Length Check based on Exhibit 9A-30



5.0 Visibility Requirement Assessment

A site visit was conducted on Thursday, June 17, 2021, to check the sight lines at the proposed entrance of the subdivision (Woodview Drive). The centreline of Woodview Drive is located approximately 400 m to the north of the Highway 7 and Burnham Line intersection. Based on the sight line review, the available sight distance exceeds 180 m at the entrance of the proposed Subdivision/Woodview Drive and looking to the south on Burnham Line. However, the available sight distance on the north side of Burnham Line from the entrance of the proposed Subdivision/Woodview Drive is 105 m. The measurement of the sight lines assumed an observer's eye at 1.1 meters above the shoulder of Burnham Line and an object height of 1.3 meters above the centreline of the on-coming lane. **Figure 3** below shows pictures taken in both directions at the entrance of the subdivision.

**Figure 3 - Pictures taken in the field at Woodview Drive on Burnham Line –
looking south on Burnham Line [on the left] and
looking north on Burnham Line [on the right]**



Based on these measurements, the entrance of the subdivision satisfies the visibility requirements of the County of Peterborough for the south side of the entrance only. When looking to the north on Burnham Line, there is 75 m less than the required visibility distance assuming the speed limit is 80 km/hr as this road section does not have a posted speed limit. However, the visibility requirements will be fulfilled for both directions if the posted speed limit on this section is 50 km/hr.

Since the proposed entrance of the subdivision will be using Woodview Drive, which already exists, it is recommended that the County should consider installing a "Hidden Intersection" (Wa-113A assuming an 80 km/hr speed limit) sign for the southbound traffic heading south to Highway 7 with the installation of a stop sign on Woodview Drive. According to the Ontario Traffic Manual (OTM) – Book 5, a stop sign should be considered at the intersection of a minor street (i.e. Woodview Drive) with a through street (i.e. Burnham Line).

Also, it is up to the County to consider conducting a speed study on this section to assess the installation of a speed limit sign and to be lower than 80 km/hr (e.g. 50 km/hr) since there are multiple driveways on Burnham Line in addition to Woodview Drive intersection.

6.0 Conclusions and Recommendations

This Traffic Impact Study investigates and evaluates the impact of the proposed residential subdivision on Highway 7 and Burnham Line intersection in Township of

Otonabee-South Monaghan, Peterborough County. The background traffic operation and the traffic operation with the consideration of the traffic generated from the subdivision at this intersection were assessed.

Based on the analysis completed in this study, the new trips generated by the development will have minimal to no impact on the existing adjacent intersection. Based on the analysis, although the southbound direction of the side road (Burnham Line) will have a decreased LOS in the future, it is associated with a relatively low v/c ratio, which means the side road will remain to operate under capacity, especially the southbound direction where all the trips of the proposed development will use. On the other hand, the LOSs for the left turn lanes on Highway 7 will maintain the same LOSs with and without the consideration of the development. Additionally, this study examines the sufficiency of left-turn lane storage length. Based on the assumptions mentioned in this report, the storage lengths will remain sufficient over the study period for the anticipated traffic.

Also, this study assessed the visibility requirements at Woodview Drive, which is the proposed entrance to the subdivision, according to the Peterborough County guidelines. The results of the field visit showed that the visibility requirement to the north of Woodview Drive is not fulfilled based on an assumed speed limit of 80 km/hr. However, since Woodview Drive already exists, the County should consider the installation of a "Hidden Intersection" sign (Wa-113A) and a stop sign on Woodview Drive to overcome the visibility issue. Also, it is recommended that the County conduct a speed study on this road to assess the adequacy of the speed limit on Burnham Line since there are multiple driveways on this section of the road.

Finally, this study assumes that no new development will occur on the north side of Highway 7 in this area.

Sincerely,



Mostafa H Tawfeek, Ph.D.
Traffic/Transportation EIT
D.M. Wills Associates Limited



Wes Kingdon, P.Eng.
Project Engineer
D.M. Wills Associates Limited

Appendix A

Location Plan



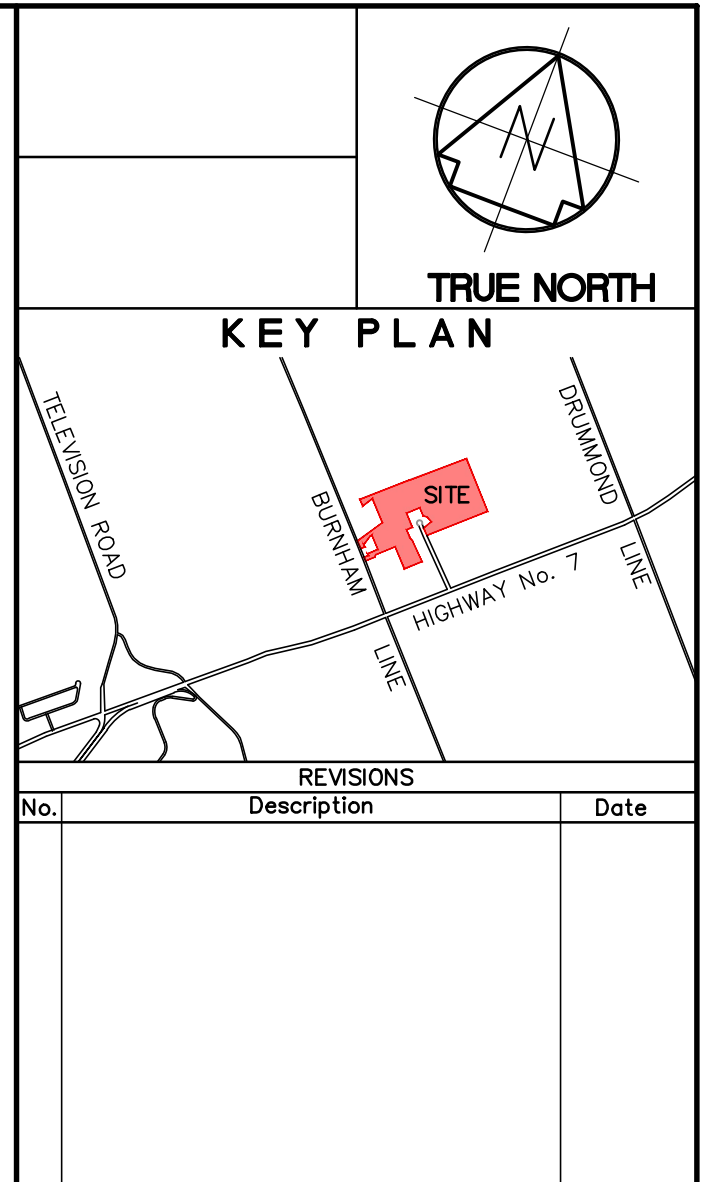
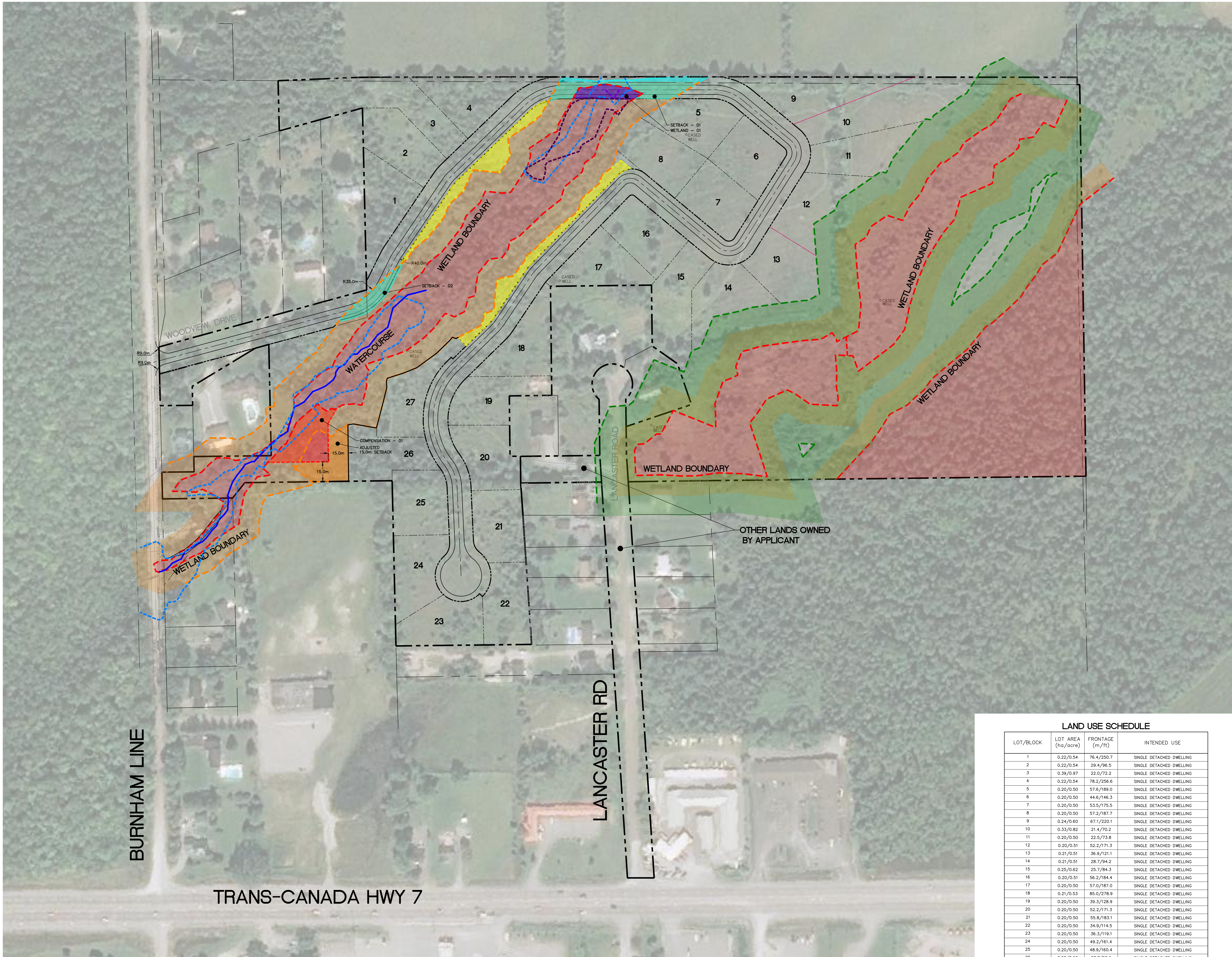


*Not to scale. Approximate location for illustration only.

Appendix B

Draft Plan of Subdivision





REVISIONS		
No.	Description	Date

METRIC Dimensions are in METRES and/or MILLIMETRES unless otherwise shown TO BE READ IN CONJUNCTION WITH ODD SIZES

LEGEND

EDGE OF ROADWAY
SUBJECT LANDS
PROPERTY/LOT LINE
MUNICIPAL SERVICE BLOCK
WETLAND BOUNDARY
15m WETLAND OFFSET
30m WETLAND OFFSET
EXISTING FLOOD LIMIT
PROPOSED FLOOD LIMIT
PR. WETLAND IMPACT AREA
PR. SETBACK IMPACT AREA
PR. WETLAND COMPENSATION AREA
PR. ADJUSTED 15.0m SETBACK AREA
PR. ADJUSTED 30.0m SETBACK AREA
PR. UNDEVELOPED AREA

LAND USE SCHEDULE			
LOT/BLOCK	LOT AREA (ha/acre)	FRONTAGE (m/ft)	INTENDED USE
1	0.22/0.54	76.4/250.7	SINGLE DETACHED DWELLING
2	0.22/0.54	29.4/96.5	SINGLE DETACHED DWELLING
3	0.39/0.97	22.0/72.2	SINGLE DETACHED DWELLING
4	0.22/0.54	78.2/256.6	SINGLE DETACHED DWELLING
5	0.20/0.50	57.6/189.0	SINGLE DETACHED DWELLING
6	0.20/0.50	44.6/146.3	SINGLE DETACHED DWELLING
7	0.20/0.50	53.5/175.5	SINGLE DETACHED DWELLING
8	0.20/0.50	57.2/187.7	SINGLE DETACHED DWELLING
9	0.24/0.60	67.1/220.1	SINGLE DETACHED DWELLING
10	0.33/0.82	21.4/70.2	SINGLE DETACHED DWELLING
11	0.20/0.50	22.5/73.8	SINGLE DETACHED DWELLING
12	0.20/0.51	52.2/171.3	SINGLE DETACHED DWELLING
13	0.21/0.51	36.9/121.1	SINGLE DETACHED DWELLING
14	0.21/0.51	28.7/94.2	SINGLE DETACHED DWELLING
15	0.25/0.62	25.7/84.3	SINGLE DETACHED DWELLING
16	0.20/0.51	56.2/184.4	SINGLE DETACHED DWELLING
17	0.20/0.50	57.0/187.0	SINGLE DETACHED DWELLING
18	0.21/0.53	85.0/278.9	SINGLE DETACHED DWELLING
19	0.20/0.50	39.3/128.9	SINGLE DETACHED DWELLING
20	0.20/0.50	52.2/171.3	SINGLE DETACHED DWELLING
21	0.20/0.50	55.8/183.1	SINGLE DETACHED DWELLING
22	0.20/0.50	34.9/114.5	SINGLE DETACHED DWELLING
23	0.20/0.50	36.3/119.1	SINGLE DETACHED DWELLING
24	0.20/0.50	49.2/161.4	SINGLE DETACHED DWELLING
25	0.20/0.50	48.9/160.4	SINGLE DETACHED DWELLING
26	0.20/0.50	27.7/90.9	SINGLE DETACHED DWELLING
27	0.20/0.50	81.4/267.1	SINGLE DETACHED DWELLING
COMMON ELEMENT =			
TOTAL SITE AREA =			
17.34 ha / 42.85 acre			

OPTION 1

WILLS

D.M. Wills Associates Limited
150 Jameson Drive
Peterborough, Ontario
Canada K9J 0B9
P: 705.742.2297
F: 705.741.3568
E: wills@dmwills.com

Project Name/Location

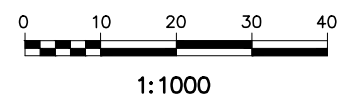
LIFE AT THE WOODLAND

OTONABEE-SOUTH MONAGHAN

Drafting Title

DRAFT PLAN
/w WETLAND BOUNDARIES

Drawn By: --- SCALE: Horiz: 1:1000 Vert: ---
Designed By: --- Plot Date: October 21, 2021
Checked By: --- Project No.: 10874
Engineer: --- Day File No.: 10874 - SP - CPTX COMP



Appendix C

Traffic Data at Highway 7 and Burnham Line Intersection



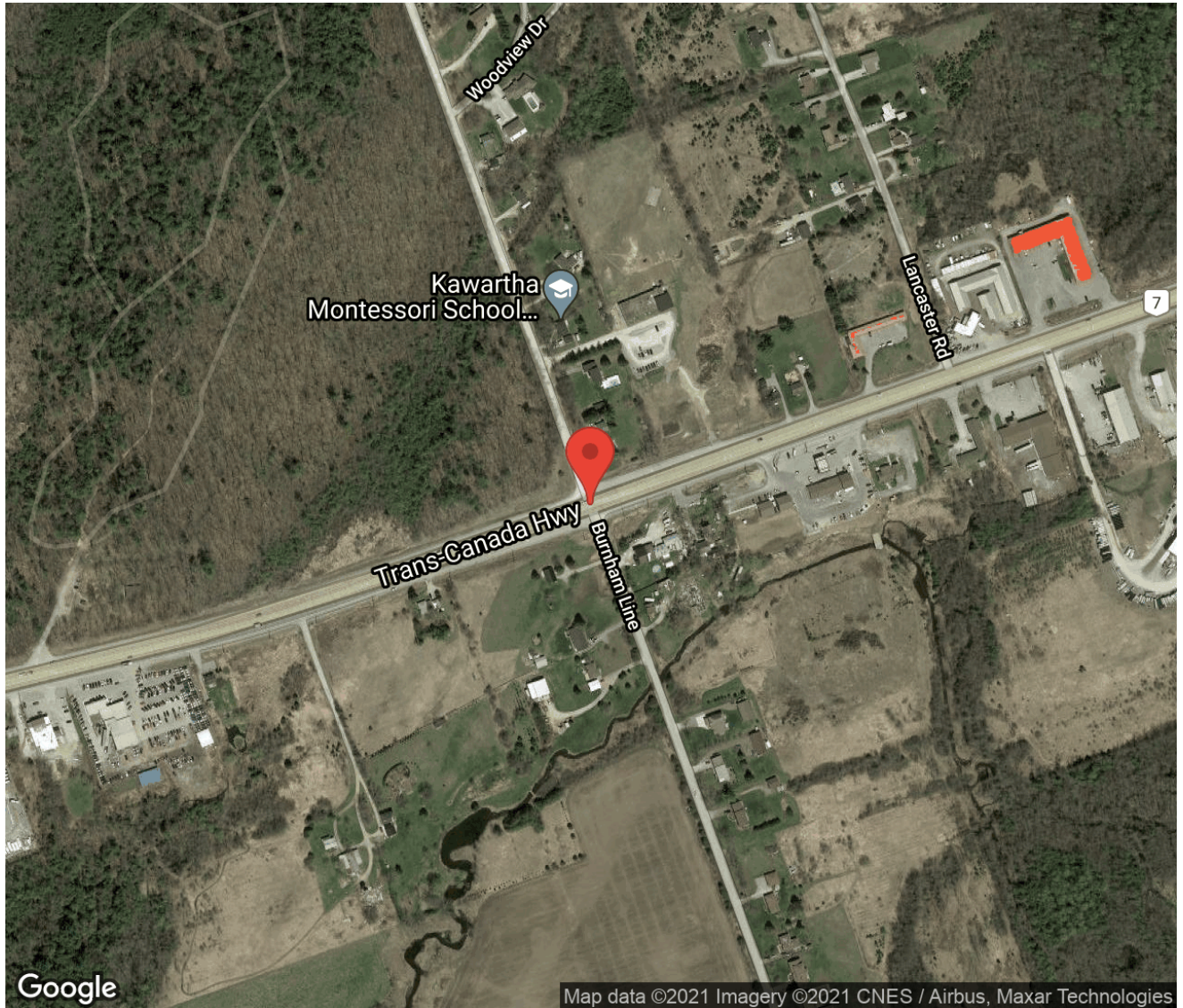
Project #21-082 - D.M. Wills Associates

Intersection Count Report

Intersection:	Hwy 7 & Burnham Line
Municipality:	Peterborough
Count Date:	Jun 09, 2021
Site Code:	2108200001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-18:00
Weather:	Clear

Traffic Count Map

Intersection:	Hwy 7 & Burnham Line
Site Code:	2108200001
Municipality:	Peterborough
Count Date:	Jun 09, 2021



Traffic Count Summary

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Municipality: Peterborough
Count Date: Jun 09, 2021

Burnham Line - Traffic Summary













Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	5	0	7	0	12	1	14	0	3	0	17	1	29
08:00 - 09:00	4	0	17	0	21	11	13	1	4	0	18	0	39
09:00 - 10:00	5	0	5	0	10	0	11	0	4	0	15	0	25
10:00 - 11:00	3	2	6	0	11	0	14	1	8	0	23	0	34
11:00 - 12:00	4	0	6	0	10	0	13	2	0	0	15	0	25
12:00 - 13:00	1	0	5	0	6	0	5	0	3	0	8	0	14
13:00 - 14:00	1	0	4	0	5	0	14	0	3	0	17	0	22
14:00 - 15:00	1	0	5	0	6	0	12	0	8	0	20	0	26
15:00 - 16:00	5	0	10	0	15	0	7	0	5	0	12	0	27
16:00 - 17:00	2	0	5	0	7	0	15	0	4	0	19	0	26
17:00 - 18:00	3	0	13	0	16	0	16	1	2	0	19	0	35
GRAND TOTAL	34	2	83	0	119	12	134	5	44	0	183	1	302

Traffic Count Summary

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Municipality: Peterborough
Count Date: Jun 09, 2021

Hwy 7 - Traffic Summary

East Approach Totals							West Approach Totals						
Hour	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	3	794	3	0	800	0	5	606	10	0	621	0	1421
08:00 - 09:00	4	726	11	0	741	0	13	586	13	0	612	0	1353
09:00 - 10:00	5	702	2	0	709	0	7	590	9	0	606	0	1315
10:00 - 11:00	3	637	3	0	643	0	1	557	22	0	580	0	1223
11:00 - 12:00	5	528	3	0	536	0	7	562	8	0	577	0	1113
12:00 - 13:00	4	599	3	0	606	0	7	642	8	0	657	0	1263
13:00 - 14:00	5	647	3	0	655	0	1	739	16	0	756	0	1411
14:00 - 15:00	2	649	1	0	652	0	3	759	13	0	775	0	1427
15:00 - 16:00	3	673	6	0	682	0	9	827	8	0	844	0	1526
16:00 - 17:00	4	730	3	0	737	0	16	956	23	0	995	0	1732
17:00 - 18:00	4	553	4	0	561	0	10	847	14	0	871	0	1432
GRAND TOTAL	42	7238	42	0	7322	0	79	7671	144	0	7894	0	15216













Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
12:00	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0
12:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
13:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
14:00	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
15:15	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
15:30	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
15:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
16:00	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
16:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
17:00	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
17:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
17:45	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	32	2	80	0	114	2	0	3	0	5	0	0	0	0	0	12
GRAND TOTAL	32	2	80	0	114	2	0	3	0	5	0	0	0	0	0	12

Traffic Count Data

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Municipality: Peterborough
Count Date: Jun 09, 2021

South Approach - Burnham Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:15	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
07:30	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0
07:45	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	1
08:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	3	0	2	0	5	2	0	0	0	2	0	0	0	0	0	0
08:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:45	5	1	2	0	8	1	0	0	0	1	0	0	0	0	0	0
09:00	2	0	2	0	4	4	0	0	0	4	0	0	0	0	0	0
09:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
09:30	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0
09:45	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0
10:00	2	0	3	0	5	1	0	0	0	1	0	0	0	0	0	0
10:15	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0
10:30	5	1	1	0	7	2	0	1	0	3	0	0	0	0	0	0
10:45	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
11:00	2	1	0	0	3	2	0	0	0	2	0	0	0	0	0	0
11:15	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
11:30	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
11:45	4	1	0	0	5	1	0	0	0	1	0	0	0	0	0	0













Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
12:00	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0
12:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
13:00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
13:15	3	0	1	0	4	2	0	1	0	3	0	0	0	0	0	0
13:30	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
13:45	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0
14:00	2	0	1	0	3	0	0	1	0	1	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0
14:45	6	0	4	0	10	1	0	1	0	2	0	0	0	0	0	0
15:00	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0
15:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
15:30	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0
15:45	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0
16:00	5	0	3	0	8	0	0	1	0	1	0	0	0	0	0	0
16:15	3	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0
16:30	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
16:45	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
17:00	5	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0
17:15	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0
17:45	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	108	5	38	0	151	26	0	6	0	32	0	0	0	0	0	1
GRAND TOTAL	108	5	38	0	151	26	0	6	0	32	0	0	0	0	0	1

Traffic Count Data

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Municipality: Peterborough
Count Date: Jun 09, 2021

East Approach - Hwy 7

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	134	1	0	135	0	20	0	0	20	0	0	0	0	0	0
07:15	0	169	0	0	169	0	27	0	0	27	0	0	0	0	0	0
07:30	0	219	1	0	220	0	13	0	0	13	0	0	0	0	0	0
07:45	2	196	1	0	199	1	16	0	0	17	0	0	0	0	0	0
08:00	1	182	3	0	186	1	26	0	0	27	0	0	0	0	0	0
08:15	1	173	3	0	177	0	17	0	0	17	0	0	0	0	0	0
08:30	1	127	4	0	132	0	17	0	0	17	0	0	0	0	0	0
08:45	0	155	1	0	156	0	27	0	0	27	0	2	0	0	2	0
09:00	1	156	1	0	158	0	23	0	0	23	0	0	0	0	0	0
09:15	1	148	0	0	149	0	23	0	0	23	0	0	0	0	0	0
09:30	1	143	1	0	145	0	22	0	0	22	0	0	0	0	0	0
09:45	2	166	0	0	168	0	21	0	0	21	0	0	0	0	0	0
10:00	1	152	1	0	154	0	24	0	0	24	0	0	0	0	0	0
10:15	2	155	1	0	158	0	25	0	0	25	0	0	0	0	0	0
10:30	0	138	0	0	138	0	20	0	0	20	0	0	0	0	0	0
10:45	0	112	1	0	113	0	11	0	0	11	0	0	0	0	0	0
11:00	1	104	0	0	105	0	20	0	0	20	0	0	0	0	0	0
11:15	0	117	1	0	118	0	21	0	0	21	0	0	0	0	0	0
11:30	1	118	2	0	121	2	24	0	0	26	0	0	0	0	0	0
11:45	1	112	0	0	113	0	12	0	0	12	0	0	0	0	0	0













Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
12:00	0	129	1	0	130	0	18	0	0	18	0	0	0	0	0	0
12:15	1	133	1	0	135	0	22	0	0	22	0	0	0	0	0	0
12:30	1	125	1	0	127	0	21	0	0	21	0	0	0	0	0	0
12:45	2	132	0	0	134	0	19	0	0	19	0	0	0	0	0	0
13:00	0	130	1	0	131	2	18	0	0	20	0	0	0	0	0	0
13:15	1	142	1	0	144	0	19	0	0	19	0	0	0	0	0	0
13:30	1	133	1	0	135	0	27	0	0	27	0	0	0	0	0	0
13:45	1	149	0	0	150	0	29	0	0	29	0	0	0	0	0	0
14:00	0	148	0	0	148	0	21	0	0	21	0	0	0	0	0	0
14:15	2	129	0	0	131	0	14	0	0	14	0	0	0	0	0	0
14:30	0	139	1	0	140	0	22	0	0	22	0	1	0	0	1	0
14:45	0	153	0	0	153	0	22	0	0	22	0	0	0	0	0	0
15:00	1	139	3	0	143	0	27	0	0	27	0	2	0	0	2	0
15:15	1	144	0	0	145	0	24	0	0	24	0	0	0	0	0	0
15:30	0	154	1	0	155	0	22	0	0	22	0	0	0	0	0	0
15:45	1	143	2	0	146	0	18	0	0	18	0	0	0	0	0	0
16:00	0	147	1	0	148	0	21	0	0	21	0	0	0	0	0	0
16:15	1	142	2	0	145	0	16	0	0	16	0	1	0	0	1	0
16:30	1	212	0	0	213	0	13	0	0	13	0	0	0	0	0	0
16:45	2	167	0	0	169	0	11	0	0	11	0	0	0	0	0	0
17:00	1	140	1	0	142	0	13	0	0	13	0	0	0	0	0	0
17:15	1	135	2	0	138	0	14	0	0	14	0	1	0	0	1	0
17:30	0	129	1	0	130	0	10	0	0	10	0	0	0	0	0	0
17:45	2	98	0	0	100	0	13	0	0	13	0	0	0	0	0	0
SUBTOTAL	36	6368	42	0	6446	6	863	0	0	869	0	7	0	0	7	0
GRAND TOTAL	36	6368	42	0	6446	6	863	0	0	869	0	7	0	0	7	0

Traffic Count Data

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Municipality: Peterborough
Count Date: Jun 09, 2021

West Approach - Hwy 7

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	95	1	0	96	0	26	0	0	26	0	1	0	0	1	0
07:15	3	133	0	0	136	0	28	0	0	28	0	0	0	0	0	0
07:30	1	143	5	0	149	0	20	0	0	20	0	1	0	0	1	0
07:45	1	140	3	0	144	0	19	1	0	20	0	0	0	0	0	0
08:00	0	119	2	0	121	0	18	0	0	18	0	2	0	0	2	0
08:15	2	117	2	0	121	0	25	0	0	25	0	2	0	0	2	0
08:30	6	126	5	0	137	0	25	0	0	25	0	1	0	0	1	0
08:45	5	129	3	0	137	0	22	1	0	23	0	0	0	0	0	0
09:00	1	126	2	0	129	0	16	1	0	17	0	0	0	0	0	0
09:15	1	132	1	0	134	0	19	0	0	19	0	0	0	0	0	0
09:30	2	122	1	0	125	0	18	1	0	19	0	0	0	0	0	0
09:45	3	136	2	0	141	0	21	1	0	22	0	0	0	0	0	0
10:00	0	135	5	0	140	0	15	1	0	16	0	0	0	0	0	0
10:15	0	133	2	0	135	0	22	1	0	23	0	0	0	0	0	0
10:30	0	111	5	0	116	0	22	1	0	23	0	0	0	0	0	0
10:45	1	104	7	0	112	0	15	0	0	15	0	0	0	0	0	0
11:00	3	100	1	0	104	0	18	0	0	18	0	0	0	0	0	0
11:15	2	140	0	0	142	0	26	0	0	26	0	0	0	0	0	0
11:30	2	125	2	0	129	0	20	2	0	22	0	0	0	0	0	0
11:45	0	120	3	0	123	0	13	0	0	13	0	0	0	0	0	0

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
12:00	3	125	2	0	130	1	17	0	0	18	0	0	0	0	0	0
12:15	2	132	1	0	135	0	19	1	0	20	0	0	0	0	0	0
12:30	0	143	1	0	144	0	21	0	0	21	0	0	0	0	0	0
12:45	1	166	2	0	169	0	19	1	0	20	0	0	0	0	0	0
13:00	0	176	6	0	182	0	18	0	0	18	0	0	0	0	0	0
13:15	0	140	1	0	141	0	15	0	0	15	0	0	0	0	0	0
13:30	1	180	2	0	183	0	26	2	0	28	0	0	0	0	0	0
13:45	0	163	5	0	168	0	21	0	0	21	0	0	0	0	0	0
14:00	0	160	0	0	160	0	17	1	0	18	0	0	0	0	0	0
14:15	0	161	1	0	162	0	17	0	0	17	0	0	0	0	0	0
14:30	0	186	1	0	187	0	15	3	0	18	0	0	0	0	0	0
14:45	3	186	7	0	196	0	17	0	0	17	0	0	0	0	0	0
15:00	6	204	2	0	212	0	23	1	0	24	0	0	0	0	0	0
15:15	0	176	1	0	177	0	22	2	0	24	0	0	0	0	0	0
15:30	1	188	0	0	189	0	17	1	0	18	0	0	0	0	0	0
15:45	2	176	1	0	179	0	21	0	0	21	0	0	0	0	0	0
16:00	2	189	4	0	195	0	17	1	0	18	0	0	0	0	0	0
16:15	5	238	3	0	246	1	11	0	0	12	0	0	0	0	0	0
16:30	5	243	7	0	255	0	9	1	0	10	0	0	0	0	0	0
16:45	3	241	6	0	250	0	8	1	0	9	0	0	0	0	0	0
17:00	4	235	5	0	244	0	6	0	0	6	0	0	0	0	0	0
17:15	1	208	2	0	211	0	7	2	0	9	0	0	0	0	0	0
17:30	3	191	4	0	198	0	4	0	0	4	0	0	0	0	0	0
17:45	2	193	1	0	196	0	3	0	0	3	0	0	0	0	0	0
SUBTOTAL	77	6886	117	0	7080	2	778	27	0	807	0	7	0	0	7	0
GRAND TOTAL	77	6886	117	0	7080	2	778	27	0	807	0	7	0	0	7	0

Peak Hour Diagram

Specified Period

From: 07:00:00

To: 10:00:00

One Hour Peak

From: 07:15:00

To: 08:15:00

Intersection: Hwy 7 & Burnham Line

Site Code: 2108200001




Count Date: Jun 09, 2021

Weather conditions: Clear




**** Unsignalized Intersection ****





Major Road: Hwy 7 runs E/W

North Approach




	Out	In	Total
	8	10	18
	1	0	1
	0	0	0
Totals	9	10	19

Burnham Line








	0	0	0	0
	0	0	1	0
	7	0	1	0
Totals	7	0	2	0

East Approach

	Out	In	Total
	774	539	1313
	84	86	170
	0	3	3
Totals	858	628	1486

Hwy 7

				Totals
	0	0	0	0
	0	0	5	5
	3	85	535	623
	0	1	10	11

Peds: 0








Peds: 5






Peds: 1








Peds: 0

Hwy 7

Totals			
	0	0	0
	5	5	0
	848	766	82
	5	3	2




West Approach

	Out	In	Total
	550	787	1337
	86	82	168
	3	0	3
Totals	639	869	1508


Totals				
	14	0	3	0
	0	0	0	0
	0	0	0	0

Burnham Line

South Approach

	Out	In	Total
	17	13	30
	0	3	3
	0	0	0
Totals	17	16	33

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Count Date: Jun 09, 2021
Period: 07:00 - 10:00

Peak Hour Data (07:15 - 08:15)

Start Time	North Approach Burnham Line						South Approach Burnham Line						East Approach Hwy 7						West Approach Hwy 7						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:15	0	0	0	0	0	0	5	0	0	0	0	5	0	196	0	0	0	196	3	161	0	0	0	164	365
07:30	0	0	3	0	0	3	4	0	1	0	0	5	0	232	1	0	0	233	1	164	5	0	0	170	411
07:45	2	0	3	0	1	5	4	0	2	0	1	6	3	212	1	0	0	216	1	159	4	0	0	164	391
08:00	0	0	1	0	4	1	1	0	0	0	0	1	2	208	3	0	0	213	0	139	2	0	0	141	356
Grand Total	2	0	7	0	5	9	14	0	3	0	1	17	5	848	5	0	0	858	5	623	11	0	0	639	1523
Approach %	22.2	0	77.8	0	-	-	82.4	0	17.6	0	-	-	0.6	98.8	0.6	0	-	-	0.8	97.5	1.7	0	-	-	-
Totals %	0.1	0	0.5	0	-	0.6	0.9	0	0.2	0	-	1.1	0.3	55.7	0.3	0	-	56.3	0.3	40.9	0.7	0	-	42	-
PHF	0.25	0	0.58	0	-	0.45	0.7	0	0.38	0	-	0.71	0.42	0.91	0.42	0	-	0.92	0.42	0.95	0.55	0	-	0.94	0.93
Cars	1	0	7	0	-	8	14	0	3	0	-	17	3	766	5	0	-	774	5	535	10	0	-	550	1349
% Cars	50	0	100	0	-	88.9	100	0	100	0	-	100	60	90.3	100	0	-	90.2	100	85.9	90.9	0	-	86.1	88.6
Trucks	1	0	0	0	-	1	0	0	0	0	-	0	2	82	0	0	-	84	0	85	1	0	-	86	171
% Trucks	50	0	0	0	-	11.1	0	0	0	0	-	0	40	9.7	0	0	-	9.8	0	13.6	9.1	0	-	13.5	11.2
Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	3	0	0	-	3	3
% Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0.5	0	0	-	0.5	0.2
Peds	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	6
% Peds	-	-	-	-	83.3	-	-	-	-	-	16.7	-	-	-	-	-	0	-	-	-	-	-	0	-	-

Peak Hour Diagram

Specified Period

From: 10:00:00

To: 14:00:00

One Hour Peak

From: 13:00:00

To: 14:00:00

Intersection: Hwy 7 & Burnham Line

Site Code: 2108200001




Count Date: Jun 09, 2021

Weather conditions: Clear




** Unsignalized Intersection **

Major Road: Hwy 7 runs E/W




North Approach

	Out	In	Total
	5	4	9
	0	0	0
	0	0	0
Totals	5	4	9




Burnham Line

	0	0	0	0
	0	0	0	0
	4	0	1	0
Totals	4	0	1	0

East Approach

	Out	In	Total
	560	662	1222
	95	81	176
	0	0	0
Totals	655	743	1398

Hwy 7

				Totals
	0	0	0	0
	0	0	1	1
	0	80	659	739
	0	2	14	16

Peds: 0




Peds: 0






Peds: 0








Peds: 0

Hwy 7

Totals			
0	0	0	0
3	3	0	0
647	554	93	0
5	3	2	0




West Approach

	Out	In	Total
	674	569	1243
	82	96	178
	0	0	0
Totals	756	665	1421


Totals				
14	0	3	0	0
	11	0	2	0
	3	0	1	0
	0	0	0	0

Burnham Line

South Approach

	Out	In	Total
	13	17	30
	4	4	8
	0	0	0
Totals	17	21	38

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Count Date: Jun 09, 2021
Period: 10:00 - 14:00

Peak Hour Data (13:00 - 14:00)

Start Time	North Approach Burnham Line						South Approach Burnham Line						East Approach Hwy 7						West Approach Hwy 7						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
13:00	0	0	2	0	0	2	2	0	0	0	0	2	2	148	1	0	0	151	0	194	6	0	0	200	355
13:15	0	0	0	0	0	0	5	0	2	0	0	7	1	161	1	0	0	163	0	155	1	0	0	156	326
13:30	0	0	1	0	0	1	4	0	0	0	0	4	1	160	1	0	0	162	1	206	4	0	0	211	378
13:45	1	0	1	0	0	2	3	0	1	0	0	4	1	178	0	0	0	179	0	184	5	0	0	189	374
Grand Total	1	0	4	0	0	5	14	0	3	0	0	17	5	647	3	0	0	655	1	739	16	0	0	756	1433
Approach %	20	0	80	0	-	-	82.4	0	17.6	0	-	-	0.8	98.8	0.5	0	-	-	0.1	97.8	2.1	0	-	-	-
Totals %	0.1	0	0.3	0	-	0.3	1	0	0.2	0	-	1.2	0.3	45.2	0.2	0	-	45.7	0.1	51.6	1.1	0	-	52.8	-
PHF	0.25	0	0.5	0	-	0.63	0.7	0	0.38	0	-	0.61	0.63	0.91	0.75	0	-	0.91	0.25	0.9	0.67	0	-	0.9	0.95
Cars	1	0	4	0	-	5	11	0	2	0	-	13	3	554	3	0	-	560	1	659	14	0	-	674	1252
% Cars	100	0	100	0	-	100	78.6	0	66.7	0	-	76.5	60	85.6	100	0	-	85.5	100	89.2	87.5	0	-	89.2	87.4
Trucks	0	0	0	0	-	0	3	0	1	0	-	4	2	93	0	0	-	95	0	80	2	0	-	82	181
% Trucks	0	0	0	0	-	0	21.4	0	33.3	0	-	23.5	40	14.4	0	0	-	14.5	0	10.8	12.5	0	-	10.8	12.6
Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Peds	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0
% Peds	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

Peak Hour Diagram

Specified Period

From: 14:00:00

To: 18:00:00

One Hour Peak

From: 16:15:00

To: 17:15:00

Intersection: Hwy 7 & Burnham Line

Site Code: 2108200001




Count Date: Jun 09, 2021

Weather conditions: Clear




**** Unsignalized Intersection ****





Major Road: Hwy 7 runs E/W

North Approach




	Out	In	Total
	8	20	28
	0	1	1
	0	0	0
Totals	8	21	29

Burnham Line








	0	0	0	0
	0	0	0	0
	6	0	2	0
Totals	6	0	2	0

East Approach

	Out	In	Total
	669	960	1629
	53	34	87
	1	0	1
Totals	723	994	1717








Hwy 7

				Totals
	0	0	0	0
	0	1	17	18
	0	34	957	991
	0	2	21	23




Peds: 0










Hwy 7

Totals			
	0	0	0
	3	3	0
	715	661	53
	5	5	0




West Approach

	Out	In	Total
	995	681	1676
	37	54	91
	0	1	1
Totals	1032	736	1768


Totals				
	15	0	1	0
	1	0	0	0
	0	0	0	0

Burnham Line

South Approach

	Out	In	Total
	15	26	41
	1	2	3
	0	0	0
Totals	16	28	44

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 7 & Burnham Line
Site Code: 2108200001
Count Date: Jun 09, 2021
Period: 14:00 - 18:00

Peak Hour Data (16:15 - 17:15)

Start Time	North Approach Burnham Line						South Approach Burnham Line						East Approach Hwy 7						West Approach Hwy 7						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:15	0	0	0	0	0	0	4	0	0	0	0	4	1	159	2	0	0	162	6	249	3	0	0	258	424
16:30	0	0	1	0	0	1	4	0	0	0	0	4	1	225	0	0	0	226	5	252	8	0	0	265	496
16:45	1	0	1	0	0	2	2	0	0	0	0	2	2	178	0	0	0	180	3	249	7	0	0	259	443
17:00	1	0	4	0	0	5	5	0	1	0	0	6	1	153	1	0	0	155	4	241	5	0	0	250	416
Grand Total	2	0	6	0	0	8	15	0	1	0	0	16	5	715	3	0	0	723	18	991	23	0	0	1032	1779
Approach %	25	0	75	0	-	-	93.8	0	6.3	0	-	-	0.7	98.9	0.4	0	-	-	1.7	96	2.2	0	-	-	-
Totals %	0.1	0	0.3	0	-	0.4	0.8	0	0.1	0	-	0.9	0.3	40.2	0.2	0	-	40.6	1	55.7	1.3	0	-	58	-
PHF	0.5	0	0.38	0	-	0.4	0.75	0	0.25	0	-	0.67	0.63	0.79	0.38	0	-	0.8	0.75	0.98	0.72	0	-	0.97	0.9
Cars	2	0	6	0	-	8	14	0	1	0	-	15	5	661	3	0	-	669	17	957	21	0	-	995	1687
% Cars	100	0	100	0	-	100	93.3	0	100	0	-	93.8	100	92.4	100	0	-	92.5	94.4	96.6	91.3	0	-	96.4	94.8
Trucks	0	0	0	0	-	0	1	0	0	0	-	1	0	53	0	0	-	53	1	34	2	0	-	37	91
% Trucks	0	0	0	0	-	0	6.7	0	0	0	-	6.3	0	7.4	0	0	-	7.3	5.6	3.4	8.7	0	-	3.6	5.1
Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0.1	0	0	-	0.1	0	0	0	0	-	0	0.1
Peds	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0
% Peds	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-

Appendix D

Traffic Data on Highway 7 from MTO



LHRS	O/S	Year	Hwy#	Hwy Let	Hwy Type	Location Description	Sta #	Region	Sec Len	Conn.Link Len	Secondary Description	PDCS #	PDCS Pat Desc.	DHV %	Dir Split %	Dir Split Higher Volume Direction	AADT	Yearly % Change in AADT	10 Year % Change in AADT	SADT	SAWDT	WADT	% Trucks	Truck AADT
14225	5.5	1988	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			37	CR	10.7	58		13400	0.00		17300	16000	11000	10.0	1350
14225	5.5	1989	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			37	CR	10.7	58		13400	0.00		17100	15900	11200	10.0	1350
14225	5.5	1990	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.7	58		14100	5.00		17800	15500	11500	10.0	1400
14225	5.5	1991	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.6	58		14600	4.00		18300	16100	12000	8.0	1150
14225	5.5	1992	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.2	58		13500	-7.00		16600	14800	11400	8.0	1100
14225	5.5	1993	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.2	58		13500	0.00		17000	14900	10900	8.0	1100
14225	5.5	1994	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.2	58		13100	-3.00		16400	14400	10600	8.0	1050
14225	5.5	1995	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	58		13000	-1.00		16400	14600	10500	8.0	1050
14225	5.5	1996	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	53		11400	-12.00		14800	13000	9200	8.0	910
14225	5.5	1997	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	53		12900	13.00		16800	14700	10400	8.0	1050
14225	5.5	1998	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	53		12900	0.00		16600	14700	10400	8.0	1050
14225	5.5	1999	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	53		17000	32.00		21900	19300	13700	8.0	1350
14225	5.5	2000	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	53		17200	1.00		22000	19500	13900	9.0	1550
14225	5.5	2001	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	53		16500	-4.00		21300	18600	13400	11.0	1800
14225	5.5	2002	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	62		17700	7.00		22700	20100	14400	9.0	1600
14225	5.5	2003	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	62		18000	2.00		23200	20500	14600	11.0	2000
14225	5.5	2004	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			91	IR	12.4	62		18800	4.00		23600	21000	15200	11.0	2050
14225	5.5	2005	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	12.7	65		20100	7.00		24000	21300	17600	11.0	2200
14225	5.5	2006	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	12.7	65		17400	-13.00		21000	19000	14800	11.0	1900
14225	5.5	2007	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	12.7	65		17900	3.00		21700	21600	15200	11.0	1950
14225	5.5	2008	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	12.7	65		18300	2.00		22200	21800	15600	11.0	2000
14225	5.5	2009	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	12.7	65		18800	3.00		22200	19800	16500	11.0	2050
14225	5.5	2010	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	12.7	65		19200	2.00	16.00	22500	20100	16800	11.0	2100
14225	5.5	2011	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			4	IR	10.7	65		20500	7.00	16.00	24400	24000	17400	11.0	2250
14225	5.5	2012	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			30	IC	10.2	59	E	22100	8.00	23.00	24500	23600	19700	25.7	5700
14225	5.5	2013	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			2	CTR	9.8	57	E	23000	4.00	22.00	28100	29000	19600	22.8	5250
14225	5.5	2014	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			2	CTR	9.8	57	E	22500	-2.00	12.00	27400	27600	19100	22.8	5150
14225	5.5	2015	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			2	CTR	9.8	57	E	23000	2.00	32.00	28100	28300	19600	22.8	5250
14225	5.5	2016	7		KING	OTONABEE TOWNSHIP ROAD C 10-11 - BURNHAM LINE	130	ER	1.789			2	CTR	9.8	57	E	23500	2.00	31.00	28600	28900	19900	22.8	5350

Weekly Volume Summary

Mon, Aug 11, 2014

Location: Hwy 7 - East of Keene rd.

LHRS/Offset: 14225 / 6.1

Region: Eastern

Pattern Type: n/a

PCS#: n/a

Hwy. TVIS#: 7129

Count Direction: EB/WB

Report Dates: Jul 8, 2013 to Jul 14, 2013

Hour Interval	Mon 13/07/08	Tue 9	Wed 10	Thu 11	Fri 12	Sat 13	Sun 14	Mon 15
0:00- 1:00	116	129	104	137	149	221	182	
1:00- 2:00	72	70	68	73	94	126	117	
2:00- 3:00	55	51	60	57	70	92	92	
3:00- 4:00	89	82	77	81	71	66	62	
4:00- 5:00	215	144	134	139	134	85	56	
5:00- 6:00	381	306	287	330	268	171	86	
6:00- 7:00	842	787	735	831	815	357	203	
7:00- 8:00	1,231	1,267	1,211	1,240	1,123	697	362	
8:00- 9:00	1,323	1,347	1,361	1,224	1,296	1,077	590	
9:00-10:00	1,334	1,182	1,159	1,222	1,335	1,586	1,002	
10:00-11:00	1,381	1,221	1,340	1,384	1,541	1,969	1,317	
11:00-12:00	1,578	1,311	1,421	1,468	1,788	2,101	1,792	
AM Total	8,617	7,897	7,957	8,186	8,684	8,548	5,861	0
12:00-13:00	1,596	1,543	1,501	1,563	2,124	2,102	1,912	
13:00-14:00	1,555	1,427	1,578	1,562	2,120	1,958	1,980	
14:00-15:00	1,596	1,480	1,536	1,604	2,171	1,803	2,084	
15:00-16:00	1,665	1,583	1,518	1,635	2,216	1,480	2,146	
16:00-17:00	1,827	1,770	1,805	1,912	2,365	1,406	2,064	
17:00-18:00	1,682	1,652	1,741	1,771	2,132	1,164	1,957	
18:00-19:00	1,030	1,060	1,101	1,216	1,859	1,044	1,686	
19:00-20:00	821	804	806	1,123	1,727	894	1,614	
20:00-21:00	682	688	732	902	1,537	764	1,504	
21:00-22:00	464	582	580	771	1,282	746	1,089	
22:00-23:00	284	379	382	503	729	601	621	
23:00-24:00	225	195	224	256	474	345	287	
PM Total	13,427	13,163	13,504	14,818	20,736	14,307	18,944	0
24 Hr. Total	22,044	21,060	21,461	23,004	29,420	22,855	24,805	0
Noon - Noon	21,324	21,120	21,690	23,502	29,284	20,168	18,944	
	ADT 23,521	AWD 21,892	AADT	AAWD	SADT	SAWDT	WADT	DHV

Appendix E

Level of Service Criteria for Unsignalized Intersections



According to the HCM 2010, T-intersections with a stop sign on the stem of the T are considered Two-way Stop-Controlled intersections and have the same Level of Service (LOS) definitions and criteria as any Two-way Stop-Controlled intersection. For this type of intersections, the LOS is determined based on the control delay and is determined for each minor road lane group and the left-turn movement of the major road. The control delay, in this case, includes the delay due to deceleration to stop from the free-flow speed at the back of a queue (formed because of the stop sign), the move-up time within the queue, stopped delay at the front of the queue, and delay due to acceleration back to free-flow speed. The calculation of the control delay of a specific movement is a function of the flow rate and the capacity of this specific movement.

The description and criteria of the LOS at Two-way Stop-Controlled intersections are summarized in the table below.









LOS for Two-Way Stop-Controlled Intersections

Description of Conditions	Control Delay (sec/veh)	LOS by v/c Ratio	
		v/c ≤ 1.0	v/c > 1.0
No delay for stop-controlled approaches	0 - 10	A	F
Operations with minor delay	> 10 - 15	B	F
Operations with moderate delay	> 15 - 25	C	F
Operations with some delay	> 25 - 35	D	F
Operations with high delay	> 35 - 50	E	F
Operation with extreme congestion with very high delay	> 50	F	F

Appendix F

Synchro Reports for the
Background Traffic Conditions



Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	726	13	6	988	6	16	0	3	2	0	8
Future Vol, veh/h	6	726	13	6	988	6	16	0	3	2	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	45	45	45	71	71	71
Heavy Vehicles, %	10	10	10	14	14	14	11	11	11	0	0	0
Mvmt Flow	7	789	14	6	1062	6	36	0	7	3	0	11









Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1068	0	0	803	0	0	1346	1883	395	1483	1891	531
Stage 1	-	-	-	-	-	-	803	803	-	1074	1074	-
Stage 2	-	-	-	-	-	-	543	1080	-	409	817	-
Critical Hdwy	4.3	-	-	4.38	-	-	7.72	6.72	7.12	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Follow-up Hdwy	2.3	-	-	2.34	-	-	3.61	4.11	3.41	3.5	4	3.3
Pot Cap-1 Maneuver	603	-	-	743	-	-	101	63	579	88	71	498
Stage 1	-	-	-	-	-	-	324	374	-	238	299	-
Stage 2	-	-	-	-	-	-	469	274	-	596	393	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	603	-	-	743	-	-	97	62	579	86	70	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	168	-	183	184	-
Stage 1	-	-	-	-	-	-	320	370	-	235	297	-
Stage 2	-	-	-	-	-	-	455	272	-	582	388	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			23.5			15.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	603	-	-	743	-	-	370
HCM Lane V/C Ratio	0.178	0.011	-	-	0.009	-	-	0.038
HCM Control Delay (s)	23.5	11	-	-	9.9	-	-	15.1
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1155	27	6	833	3	17	0	1	2	0	7
Future Vol, veh/h	21	1155	27	6	833	3	17	0	1	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	97	97	97	40	40	40	67	67	67
Heavy Vehicles, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	26	1444	34	6	859	3	43	0	3	3	0	10









Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	862	0	0	1478	0	0	1938	2370	722	1645	2401	430
Stage 1	-	-	-	-	-	-	1496	1496	-	871	871	-
Stage 2	-	-	-	-	-	-	442	874	-	774	1530	-
Critical Hdwy	4.24	-	-	4.18	-	-	7.5	6.5	6.9	7.62	6.62	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Follow-up Hdwy	2.27	-	-	2.24	-	-	3.5	4	3.3	3.56	4.06	3.36
Pot Cap-1 Maneuver	745	-	-	442	-	-	~40	35	374	63	31	562
Stage 1	-	-	-	-	-	-	131	188	-	304	357	-
Stage 2	-	-	-	-	-	-	570	370	-	349	171	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	745	-	-	442	-	-	~38	33	374	60	29	562
Mov Cap-2 Maneuver	-	-	-	-	-	-	103	121	-	169	111	-
Stage 1	-	-	-	-	-	-	126	181	-	293	352	-
Stage 2	-	-	-	-	-	-	552	365	-	335	165	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	61.1	15.1
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	107	745	-	-	442	-	-	371
HCM Lane V/C Ratio	0.421	0.035	-	-	0.014	-	-	0.036
HCM Control Delay (s)	61.1	10	-	-	13.3	-	-	15.1
HCM Lane LOS	F	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	1.8	0.1	-	-	0	-	-	0.1

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	802	14	6	1091	6	18	0	4	3	0	9
Future Vol, veh/h	6	802	14	6	1091	6	18	0	4	3	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	45	45	45	71	71	71
Heavy Vehicles, %	10	10	10	14	14	14	11	11	11	0	0	0
Mvmt Flow	7	872	15	6	1173	6	40	0	9	4	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1179	0	0	887	0	0	1485	2077	436	1635	2086	587
Stage 1	-	-	-	-	-	-	886	886	-	1185	1185	-
Stage 2	-	-	-	-	-	-	599	1191	-	450	901	-
Critical Hdwy	4.3	-	-	4.38	-	-	7.72	6.72	7.12	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Follow-up Hdwy	2.3	-	-	2.34	-	-	3.61	4.11	3.41	3.5	4	3.3
Pot Cap-1 Maneuver	545	-	-	688	-	-	79	47	544	68	54	458
Stage 1	-	-	-	-	-	-	288	341	-	204	265	-
Stage 2	-	-	-	-	-	-	434	242	-	564	360	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	545	-	-	688	-	-	76	46	544	66	53	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	146	-	156	161	-
Stage 1	-	-	-	-	-	-	284	337	-	201	263	-
Stage 2	-	-	-	-	-	-	418	240	-	548	355	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			27			17.3		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	212	545	-	-	688	-	-	309
HCM Lane V/C Ratio	0.231	0.012	-	-	0.009	-	-	0.055
HCM Control Delay (s)	27	11.7	-	-	10.3	-	-	17.3
HCM Lane LOS	D	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.9	0	-	-	0	-	-	0.2









HCM 2010 TWSC

3: Burnham Line & Highway 7

2026 - PM Peak - Background Condition

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1275	30	6	920	4	19	0	1	3	0	8
Future Vol, veh/h	23	1275	30	6	920	4	19	0	1	3	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	97	97	97	40	40	40	67	67	67
Heavy Vehicles, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	29	1594	38	6	948	4	48	0	3	4	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	952	0	0	1632	0	0	2138	2616	797	1815	2650	474
Stage 1	-	-	-	-	-	-	1652	1652	-	960	960	-
Stage 2	-	-	-	-	-	-	486	964	-	855	1690	-
Critical Hdwy	4.24	-	-	4.18	-	-	7.5	6.5	6.9	7.62	6.62	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Follow-up Hdwy	2.27	-	-	2.24	-	-	3.5	4	3.3	3.56	4.06	3.36
Pot Cap-1 Maneuver	687	-	-	385	-	-	~ 28	25	334	47	21	526
Stage 1	-	-	-	-	-	-	105	158	-	268	324	-
Stage 2	-	-	-	-	-	-	537	336	-	311	142	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	687	-	-	385	-	-	~ 26	24	334	45	20	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	83	101	-	145	92	-
Stage 1	-	-	-	-	-	-	101	151	-	257	319	-
Stage 2	-	-	-	-	-	-	517	331	-	296	136	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	93.5	17.4
HCM LOS			F	C









Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	86	687	-	-	385	-	-	306
HCM Lane V/C Ratio	0.581	0.042	-	-	0.016	-	-	0.054
HCM Control Delay (s)	93.5	10.5	-	-	14.5	-	-	17.4
HCM Lane LOS	F	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	2.6	0.1	-	-	0	-	-	0.2

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	885	16	7	1205	7	20	0	4	3	0	10
Future Vol, veh/h	7	885	16	7	1205	7	20	0	4	3	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	45	45	45	71	71	71
Heavy Vehicles, %	10	10	10	14	14	14	11	11	11	0	0	0
Mvmt Flow	8	962	17	8	1296	8	44	0	9	4	0	14









Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1304	0	0	979	0	0	1642	2298	481	1809	2307	648
Stage 1	-	-	-	-	-	-	978	978	-	1312	1312	-
Stage 2	-	-	-	-	-	-	664	1320	-	497	995	-
Critical Hdwy	4.3	-	-	4.38	-	-	7.72	6.72	7.12	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Follow-up Hdwy	2.3	-	-	2.34	-	-	3.61	4.11	3.41	3.5	4	3.3
Pot Cap-1 Maneuver	486	-	-	632	-	-	60	34	508	50	39	418
Stage 1	-	-	-	-	-	-	252	307	-	170	230	-
Stage 2	-	-	-	-	-	-	395	208	-	529	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	486	-	-	632	-	-	57	33	508	48	38	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	123	-	130	137	-
Stage 1	-	-	-	-	-	-	248	302	-	167	227	-
Stage 2	-	-	-	-	-	-	377	205	-	511	320	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	33	18.9
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	486	-	-	632	-	-	277
HCM Lane V/C Ratio	0.295	0.016	-	-	0.012	-	-	0.066
HCM Control Delay (s)	33	12.5	-	-	10.8	-	-	18.9
HCM Lane LOS	D	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	1.2	0	-	-	0	-	-	0.2

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	1408	33	7	1016	4	21	0	1	3	0	9
Future Vol, veh/h	26	1408	33	7	1016	4	21	0	1	3	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	97	97	97	40	40	40	67	67	67
Heavy Vehicles, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	33	1760	41	7	1047	4	53	0	3	4	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1051	0	0	1801	0	0	2364	2891	880	2007	2928	524
Stage 1	-	-	-	-	-	-	1826	1826	-	1061	1061	-
Stage 2	-	-	-	-	-	-	538	1065	-	946	1867	-
Critical Hdwy	4.24	-	-	4.18	-	-	7.5	6.5	6.9	7.62	6.62	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Follow-up Hdwy	2.27	-	-	2.24	-	-	3.5	4	3.3	3.56	4.06	3.36
Pot Cap-1 Maneuver	629	-	-	330	-	-	~ 19	16	294	33	14	488
Stage 1	-	-	-	-	-	-	81	129	-	232	290	-
Stage 2	-	-	-	-	-	-	500	302	-	273	115	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	629	-	-	330	-	-	~ 17	15	294	31	13	488
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	82	-	121	73	-
Stage 1	-	-	-	-	-	-	77	122	-	220	284	-
Stage 2	-	-	-	-	-	-	476	296	-	256	109	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	169.9	18.8
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	66	629	-	-	330	-	-	278
HCM Lane V/C Ratio	0.833	0.052	-	-	0.022	-	-	0.064
HCM Control Delay (s)	169.9	11	-	-	16.2	-	-	18.8
HCM Lane LOS	F	B	-	-	C	-	-	C
HCM 95th %tile Q(veh)	3.9	0.2	-	-	0.1	-	-	0.2









Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Appendix G

**Synchro Reports for the Traffic Conditions
with the Subdivision**



Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	726	13	6	988	8	16	0	3	6	0	20
Future Vol, veh/h	8	726	13	6	988	8	16	0	3	6	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	45	45	45	71	71	71
Heavy Vehicles, %	10	10	10	14	14	14	11	11	11	0	0	0
Mvmt Flow	9	789	14	6	1062	9	36	0	7	8	0	28









Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1071	0	0	803	0	0	1350	1890	395	1487	1895	531
Stage 1	-	-	-	-	-	-	807	807	-	1074	1074	-
Stage 2	-	-	-	-	-	-	543	1083	-	413	821	-
Critical Hdwy	4.3	-	-	4.38	-	-	7.72	6.72	7.12	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Follow-up Hdwy	2.3	-	-	2.34	-	-	3.61	4.11	3.41	3.5	4	3.3
Pot Cap-1 Maneuver	601	-	-	743	-	-	101	63	579	88	70	498
Stage 1	-	-	-	-	-	-	322	372	-	238	299	-
Stage 2	-	-	-	-	-	-	469	273	-	592	391	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	601	-	-	743	-	-	94	62	579	85	68	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	62	-	85	68	-
Stage 1	-	-	-	-	-	-	317	366	-	234	297	-
Stage 2	-	-	-	-	-	-	439	271	-	576	385	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			58.3			23.1		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	108	601	-	-	743	-	-	235
HCM Lane V/C Ratio	0.391	0.014	-	-	0.009	-	-	0.156
HCM Control Delay (s)	58.3	11.1	-	-	9.9	-	-	23.1
HCM Lane LOS	F	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.6	0	-	-	0	-	-	0.5

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	1155	27	6	833	6	17	0	1	5	0	15
Future Vol, veh/h	36	1155	27	6	833	6	17	0	1	5	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	97	97	97	40	40	40	67	67	67
Heavy Vehicles, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	45	1444	34	6	859	6	43	0	3	7	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	865	0	0	1478	0	0	1976	2411	722	1683	2439	430
Stage 1	-	-	-	-	-	-	1534	1534	-	871	871	-
Stage 2	-	-	-	-	-	-	442	877	-	812	1568	-
Critical Hdwy	4.24	-	-	4.18	-	-	7.5	6.5	6.9	7.62	6.62	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Follow-up Hdwy	2.27	-	-	2.24	-	-	3.5	4	3.3	3.56	4.06	3.36
Pot Cap-1 Maneuver	743	-	-	442	-	-	~38	33	374	59	29	562
Stage 1	-	-	-	-	-	-	124	180	-	304	357	-
Stage 2	-	-	-	-	-	-	570	369	-	330	163	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	743	-	-	442	-	-	~34	31	374	55	27	562
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	113	-	159	105	-
Stage 1	-	-	-	-	-	-	116	169	-	285	352	-
Stage 2	-	-	-	-	-	-	540	364	-	308	153	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	68.6	16.5
HCM LOS			F	C









Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	99	743	-	-	442	-	-	344
HCM Lane V/C Ratio	0.455	0.061	-	-	0.014	-	-	0.087
HCM Control Delay (s)	68.6	10.2	-	-	13.3	-	-	16.5
HCM Lane LOS	F	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	1.9	0.2	-	-	0	-	-	0.3

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	802	14	6	1091	9	18	0	4	6	0	21
Future Vol, veh/h	9	802	14	6	1091	9	18	0	4	6	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	45	45	45	71	71	71
Heavy Vehicles, %	10	10	10	14	14	14	11	11	11	0	0	0
Mvmt Flow	10	872	15	6	1173	10	40	0	9	8	0	30









Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1183	0	0	887	0	0	1491	2087	436	1641	2092	587
Stage 1	-	-	-	-	-	-	892	892	-	1185	1185	-
Stage 2	-	-	-	-	-	-	599	1195	-	456	907	-
Critical Hdwy	4.3	-	-	4.38	-	-	7.72	6.72	7.12	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Follow-up Hdwy	2.3	-	-	2.34	-	-	3.61	4.11	3.41	3.5	4	3.3
Pot Cap-1 Maneuver	543	-	-	688	-	-	79	47	544	67	53	458
Stage 1	-	-	-	-	-	-	285	338	-	204	265	-
Stage 2	-	-	-	-	-	-	434	240	-	559	357	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	543	-	-	688	-	-	72	46	544	65	52	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	72	46	-	65	52	-
Stage 1	-	-	-	-	-	-	280	332	-	200	263	-
Stage 2	-	-	-	-	-	-	402	238	-	540	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	93.5	27.9
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	85	543	-	-	688	-	-	195
HCM Lane V/C Ratio	0.575	0.018	-	-	0.009	-	-	0.195
HCM Control Delay (s)	93.5	11.8	-	-	10.3	-	-	27.9
HCM Lane LOS	F	B	-	-	B	-	-	D
HCM 95th %tile Q(veh)	2.6	0.1	-	-	0	-	-	0.7

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	1275	30	6	920	6	19	0	1	5	0	16
Future Vol, veh/h	38	1275	30	6	920	6	19	0	1	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	97	97	97	40	40	40	67	67	67
Heavy Vehicles, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	48	1594	38	6	948	6	48	0	3	7	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	954	0	0	1632	0	0	2176	2656	797	1853	2688	474
Stage 1	-	-	-	-	-	-	1690	1690	-	960	960	-
Stage 2	-	-	-	-	-	-	486	966	-	893	1728	-
Critical Hdwy	4.24	-	-	4.18	-	-	7.5	6.5	6.9	7.62	6.62	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Follow-up Hdwy	2.27	-	-	2.24	-	-	3.5	4	3.3	3.56	4.06	3.36
Pot Cap-1 Maneuver	686	-	-	385	-	-	~ 27	23	334	44	20	526
Stage 1	-	-	-	-	-	-	99	151	-	268	324	-
Stage 2	-	-	-	-	-	-	537	336	-	295	136	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	686	-	-	385	-	-	~ 24	21	334	41	18	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	76	94	-	136	86	-
Stage 1	-	-	-	-	-	-	92	140	-	249	319	-
Stage 2	-	-	-	-	-	-	505	331	-	272	126	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	108.7	17.8
HCM LOS			F	C









Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	79	686	-	-	385	-	-	313
HCM Lane V/C Ratio	0.633	0.069	-	-	0.016	-	-	0.1
HCM Control Delay (s)	108.7	10.6	-	-	14.5	-	-	17.8
HCM Lane LOS	F	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	2.9	0.2	-	-	0	-	-	0.3

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	885	16	7	1205	10	20	0	4	6	0	22
Future Vol, veh/h	10	885	16	7	1205	10	20	0	4	6	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	45	45	45	71	71	71
Heavy Vehicles, %	10	10	10	14	14	14	11	11	11	0	0	0
Mvmt Flow	11	962	17	8	1296	11	44	0	9	8	0	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1307	0	0	979	0	0	1648	2307	481	1815	2313	648
Stage 1	-	-	-	-	-	-	984	984	-	1312	1312	-
Stage 2	-	-	-	-	-	-	664	1323	-	503	1001	-
Critical Hdwy	4.3	-	-	4.38	-	-	7.72	6.72	7.12	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.5	5.5	-
Follow-up Hdwy	2.3	-	-	2.34	-	-	3.61	4.11	3.41	3.5	4	3.3
Pot Cap-1 Maneuver	485	-	-	632	-	-	59	34	508	50	38	418
Stage 1	-	-	-	-	-	-	250	305	-	170	230	-
Stage 2	-	-	-	-	-	-	395	207	-	524	323	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	485	-	-	632	-	-	53	33	508	48	37	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	33	-	48	37	-
Stage 1	-	-	-	-	-	-	244	298	-	166	227	-
Stage 2	-	-	-	-	-	-	361	204	-	503	316	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	184.8	35.2
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	62	485	-	-	632	-	-	158
HCM Lane V/C Ratio	0.86	0.022	-	-	0.012	-	-	0.25
HCM Control Delay (s)	184.8	12.6	-	-	10.8	-	-	35.2
HCM Lane LOS	F	B	-	-	B	-	-	E
HCM 95th %tile Q(veh)	4	0.1	-	-	0	-	-	0.9

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰		↰↰			↰↰	
Traffic Vol, veh/h	41	1408	33	7	1016	7	21	0	1	5	0	16
Future Vol, veh/h	41	1408	33	7	1016	7	21	0	1	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	950	0	-	1100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	97	97	97	40	40	40	67	67	67
Heavy Vehicles, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	51	1760	41	7	1047	7	53	0	3	7	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1054	0	0	1801	0	0	2400	2930	880	2043	2964	524
Stage 1	-	-	-	-	-	-	1862	1862	-	1061	1061	-
Stage 2	-	-	-	-	-	-	538	1068	-	982	1903	-
Critical Hdwy	4.24	-	-	4.18	-	-	7.5	6.5	6.9	7.62	6.62	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.62	5.62	-
Follow-up Hdwy	2.27	-	-	2.24	-	-	3.5	4	3.3	3.56	4.06	3.36
Pot Cap-1 Maneuver	627	-	-	330	-	-	~ 18	15	294	31	13	488
Stage 1	-	-	-	-	-	-	77	124	-	232	290	-
Stage 2	-	-	-	-	-	-	500	301	-	260	110	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	627	-	-	330	-	-	~ 16	14	294	28	12	488
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	76	-	114	68	-
Stage 1	-	-	-	-	-	-	71	114	-	213	284	-
Stage 2	-	-	-	-	-	-	465	295	-	237	101	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	198.2	19.8
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	61	627	-	-	330	-	-	274
HCM Lane V/C Ratio	0.902	0.082	-	-	0.022	-	-	0.114
HCM Control Delay (s)	198.2	11.3	-	-	16.2	-	-	19.8
HCM Lane LOS	F	B	-	-	C	-	-	C
HCM 95th %tile Q(veh)	4.2	0.3	-	-	0.1	-	-	0.4

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon