



TOWN OF CALEDON  
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Tribal Development Management  
Services Inc. & QuadReal Property Group

# TRANSPORTATION IMPACT STUDY UPDATE PROPOSED INDUSTRIAL/EMPLOYMENT DEVELOPMENT

**12862 & 12668 Dixie Road,  
Town of Caledon**

March 2024  
21211

## Disclaimer

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## 1 INTRODUCTION

LEA Consulting Ltd. (LEA) has been retained by Tribal Development Management Services Inc. and QuadReal Property Group to undertake a Transportation Impact Study (TIS) Update report for the proposed industrial /employment development located at 12862 & 12668 Dixie Road in the Town of Caledon (herein referred to as the “subject site”). By way of background, LEA prepared the initial Transportation Impact Study report dated February 2021 (Feb 2021 TIS) that accompanied the first Official Plan Amendment, Zoning By-law Amendment, and Site Plan Application (OPA/ZBA/SPA) applications.

Since the Feb 2021 TIS, the comments from the Town of Caledon and the Region of Peel have been received and will be addressed in this TIS Update. This updated report has been prepared in support of the Official Plan Amendment (OPA), and Zoning By-law Amendment (ZBA) resubmission applications for the subject site.

The subject site is located at the south-west corner of the Dixie Road and Old School Road intersection as illustrated in **Figure 1-1**.

**Figure 1-1: Subject Site Location**



The purpose of this study is to address transportation comments from both the Town and Region and to assess the proposed development from a transportation perspective, determine the traffic impacts to the adjacent road network over future horizons, and identify any required mitigation measures.

In addition, this report will review the proposed parking supply against existing and emerging by-law requirements and will provide parking justification and a Transportation Demand Management Plan to support a reduced parking supply for the subject site.

Finally, a review of the proposed loading supply and functionality of the subject site will be provided. The study scope is consistent with the Town of Caledon’s Transportation Impact Studies: Terms of Reference and Guidelines, and the Region of Peel’s Traffic Impact Study Guidelines. The Terms of Reference (TOR) prepared for this study and the relevant correspondence is provided in **Appendix A**.

## 1.1 PROPOSED DEVELOPMENT

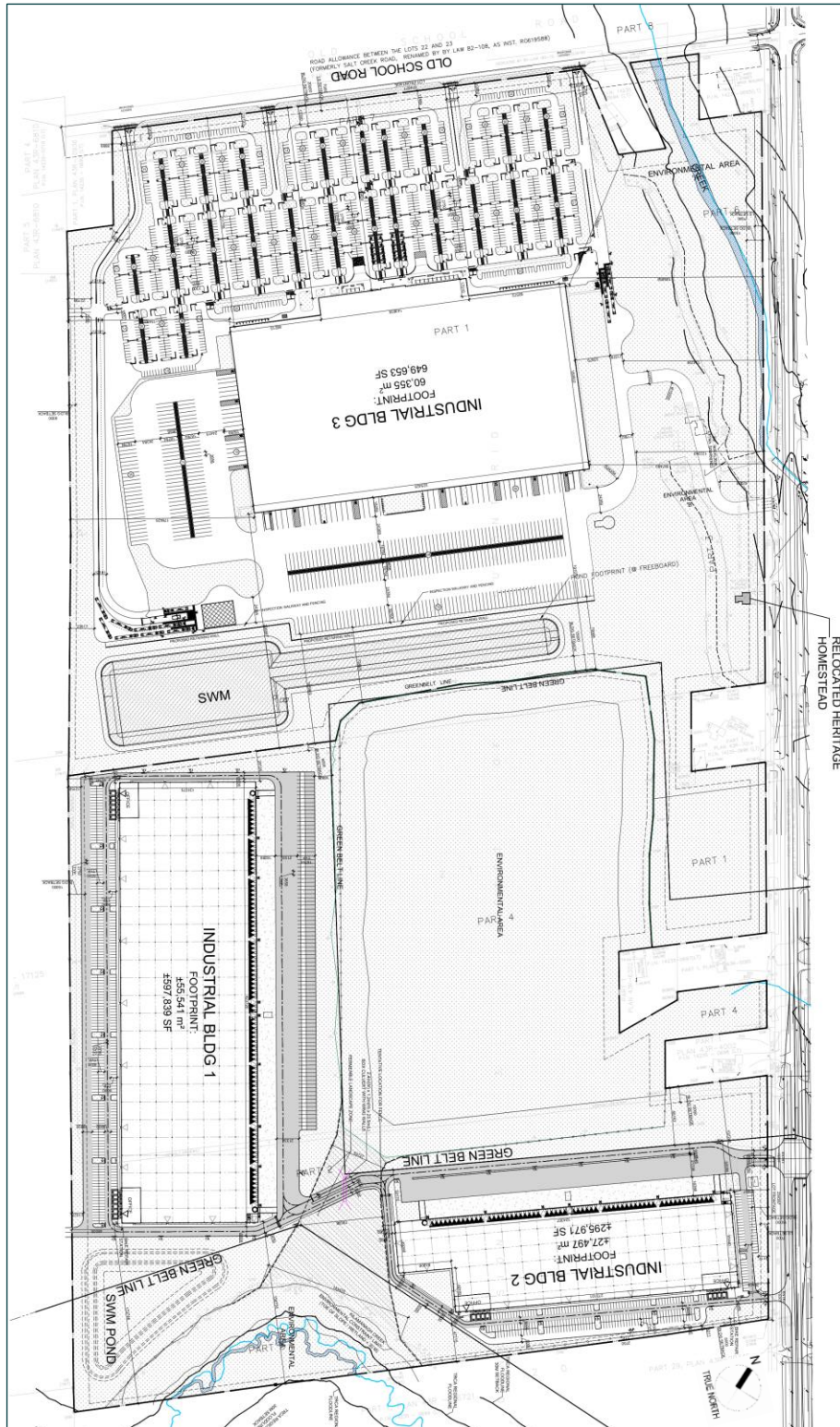
The development proposal will introduce three (3) warehouse/distribution buildings with a combined ground floor area (GFA) of approximately 143,787 m<sup>2</sup>. A total of 2,371 surface parking spaces and 488 trailer parking spaces are being proposed for the subject site. The proposed site statistics are presented in **Table 1-1**, and the proposed site plan is shown in **Figure 1-2**.

Table 1-1: Proposed Site Statistics

Land Use		Total Building Area (m <sup>2</sup> )		Total
		Warehouse	Office	
Industrial building	Building 1	54,685 m <sup>2</sup>	1,250 m <sup>2</sup>	55,935 m <sup>2</sup>
	Building 2	26,456 m <sup>2</sup>	1,041 m <sup>2</sup>	27,497 m <sup>2</sup>
	Building 3	60,355 m <sup>2</sup>	-	60,355 m <sup>2</sup>
<b>Total</b>		<b>141,496 m<sup>2</sup></b>	<b>2,291 m<sup>2</sup></b>	<b>143,787 m<sup>2</sup></b>



Figure 1-2: Proposed Site Plan



Source: Baldassarra Architects Inc. (January 2024)

## 1.2 ACCESS ARRANGEMENT

The proposed development will be accessible via four (4) full-movement accesses along Old School Road, as well as three (3) full-movement accesses along Dixie Road. The minimum spacing between intersections along Dixie Road are subject to the guidelines listed within Region of Peel’s *Road Characterization Study (May 2013)*. In this study, Dixie Road is characterized as a “Suburban Connector”, where the minimum distance required between full intersections is 300m. The distances between the intersections of Dixie Road & Old School Road and Dixie Road & East Access #1, as well as Dixie Road & East Access #2 and Dixie Road & East Access #3 meet the Region’s criterion, at approximately 425m and 305m, respectively. However, the distance between East Access #1 and East Access #2 is short of the requirement by 65m. Even so, given that the roadway is relatively flat with no horizontal or vertical obstructions, this spacing distance between the two (2) accesses is considered acceptable.

**Table 1-2 and Table 1-3** below summarize the design and usage of the proposed accesses along Dixie Road and Old School Road, respectively.

Table 1-2: Dixie Road Access Arrangement Summary

	East Access #1	East Access #2	East Access #3
<b>Configuration</b>	Full-moves (NBLT, SBTR, EBLR)	Four-way movement with 12489 Dixie Road site access (NBLT, SBTR, EBLR, WBTLR)	Right-in/Right-Out (NBT, SBTR, EBR)
<b>Traffic Control</b>	Unsignalized	Signalized	Unsignalized
<b>Vehicle Type Permitted</b>	Vehicles & Trucks	Vehicles & Trucks	Vehicles & Trucks
<b>Building Access</b>	Buildings 3	Buildings 2 and 1	Buildings 2 and 1

Table 1-3: Old School Road Access Arrangement Summary

	North Access #1	North Access #2	North Access #3	North Access #4
<b>Configuration</b>	Full-moves (NBLR, EBTR, WBLT)	Full-moves (NBLR, EBTR, WBLT)	Full-moves (NBLR, EBTR, WBLT)	Full-moves (NBLR, EBTR, WBLT)
<b>Traffic Control</b>	Stop Controlled	Stop Controlled	Stop Controlled	Stop Controlled
<b>Vehicle Type Permitted</b>	Vehicles & Trucks	Vehicles Only	Vehicles Only	Vehicles & Trucks
<b>Building Access</b>	Buildings 3	Buildings 3	Buildings 3	Buildings 3

## 2 EXISTING TRANSPORTATION CONDITIONS

This section will identify and assess the existing transportation conditions present in the study area, including the road, transit, cyclist, and pedestrian networks. The study area was determined based on the size of the development, its anticipated transportation impact, as well as through discussions with Town and Region staff. The study area will include the following intersections:

- ▶ Heart Lake Road & Old School Road (unsignalized);
- ▶ Dixie Road & Old School Road (signalized);
- ▶ Dixie Road & Merchant Road (future signalization as part of 12035 Dixie Road development application); and
- ▶ Dixie Road & Mayfield Road (signalized).

In addition, the following site accesses are proposed:

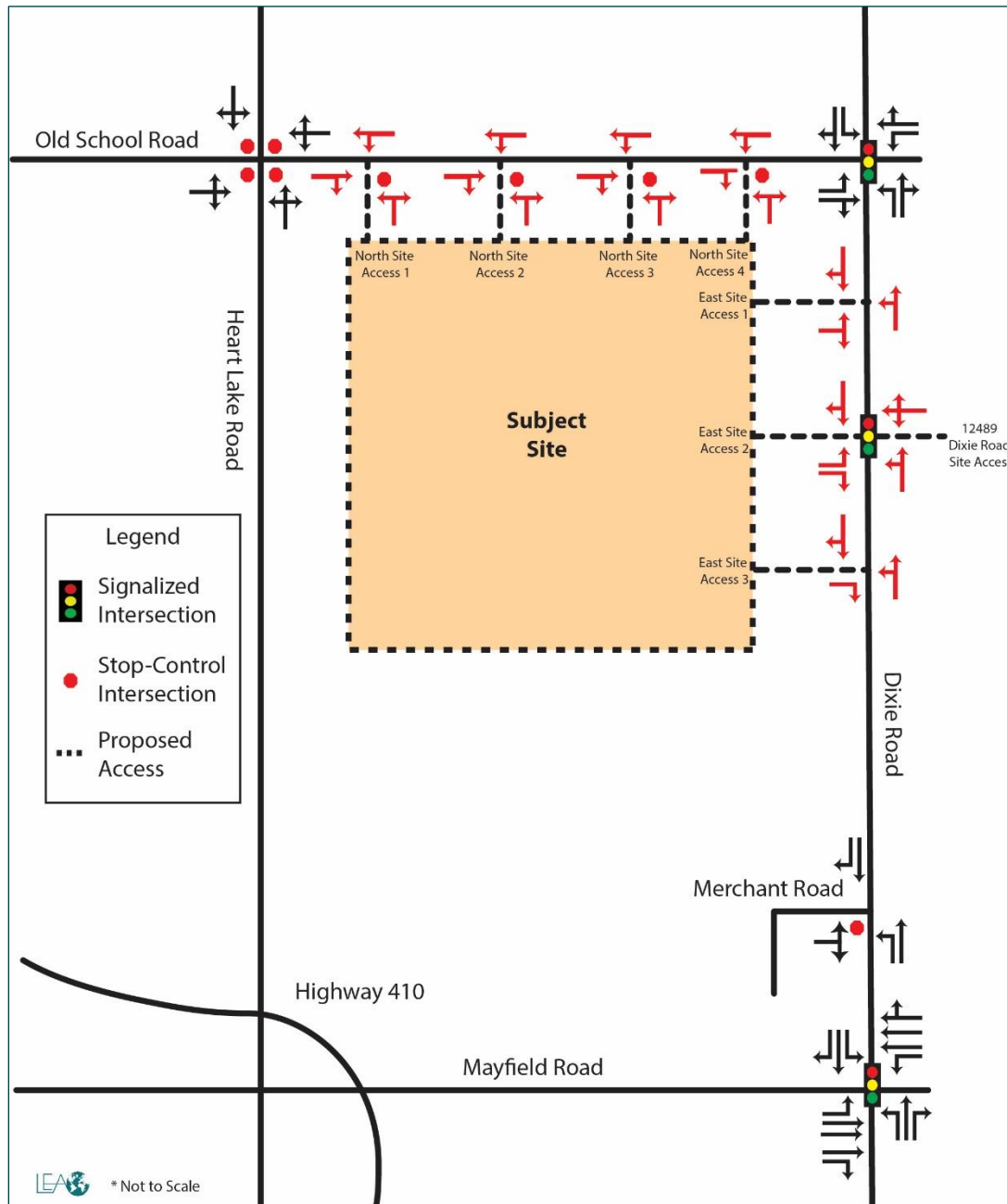
- ▶ North Site Access 1 & Old School Road (unsignalized);
- ▶ North Site Access 2 & Old School Road (unsignalized);
- ▶ North Site Access 3 & Old School Road (unsignalized);
- ▶ North Site Access 4 & Old School Road (unsignalized);
- ▶ Dixie Road & East Site Access 1(unsignalized);
- ▶ Dixie Road & East Site Access 2 (proposed signalization); and
- ▶ Dixie Road & East Site Access 3(unsignalized).

### 2.1 ROAD NETWORK

The following section provides a description and classification of the roadways within the study area, with **Figure 2-1** illustrating the existing lane configuration.



Figure 2-1: Study Area Lane Configuration and Traffic Control



**Old School Road** is an east-west collector road under the jurisdiction of the Town of Caledon. The roadway operates with a two-lane cross-section (one lane per direction) and posted speed limit of 70 km/h within the study area.

**Heart Lake Road** is a north-south collector road under the jurisdiction of the Town of Caledon. The roadway has a posted speed limit of 80 km/h and operates with a two-lane cross-section (one lane per direction) within the study area. The Town of Caledon restricts heavy vehicle traffic on Heart Lake Road (see **Section 2.1.1**).

**Dixie Road** is a north-south arterial road within the study area, under the jurisdiction of the Region of Peel. The roadway has a posted speed limit of 80 km/h and operates with a two-lane cross-section (one lane per direction) within the study area.

**Mayfield Road** is an east-west arterial road within the study area, under the jurisdiction of the Region of Peel. The roadway has a posted speed limit of 80 km/h and operates with a six-lane cross-section (three lanes per direction) west of Dixie Road until approximately 275m west of Heart Lake Road, and a five-lane cross-section (three lanes eastbound, 2 lanes westbound) between Dixie Road and Bramalea Road.

**Merchant Road** is a local road under the jurisdiction of the Town of Caledon. The roadway operates with a two-lane cross-section (one lane per direction) and is assumed to operate with an unposted speed limit of 50 km/h.

### 2.1.1 Heavy Vehicle Restrictions

As the proposed development uses will be warehouse/distribution centres, new heavy vehicle traffic will be introduced to the surrounding road network. Due to the environmental constraints present on the subject site, the design of East Access #1 along Dixie Road are not ideal for truck circulation, limiting truck entrance and exit points for Buildings 1. As a result, trucks accessing Buildings 3 are proposed to utilize North Accesses along Old School Road instead. Due to these proposed arrangements, LEA has reviewed the Town of Caledon Traffic By-law 2015-58 to understand the Town's heavy truck restrictions applicable to the study area's roadways.

Section 20 of the By-law states that heavy trucks are not permitted on Caledon highways, where they are marked with signs prohibiting trucks, whereas Sections 21-23 describe the exceptions to Section 20. The exceptions describe that heavy trucks are allowed to use Caledon highways when the destination location cannot be accessed without their use, but such traffic must use the shortest possible path on Caledon highways.

According to a site visit conducted by LEA on January 6<sup>th</sup>, 2021, "No Truck" signs were not observed along Old School Road. **Figure 2-2** shows the existing intersection at Dixie Road & Old School Road, facing west.

Figure 2-2: Intersection of Dixie Road & Old School Road (Facing West)



Source: LEA Consulting Ltd. (January 6<sup>th</sup>, 2021)

Given the environmental constraints on site which affects the design of accesses and driveways using Dixie Road, it is proposed that trucks accessing Buildings 3 to be directed to the accesses along Old School Road. These accesses assume that trucks will be travelling to/from Highway 410 and utilizing Dixie Road, and only occupying Old School Road for a short distance to enter/exit Buildings 3. West Access #2 on Dixie Road is also proposed to allow for trucks access to Highway 410. This arrangement will not only provide more flexibility, but also improve truck circulation.

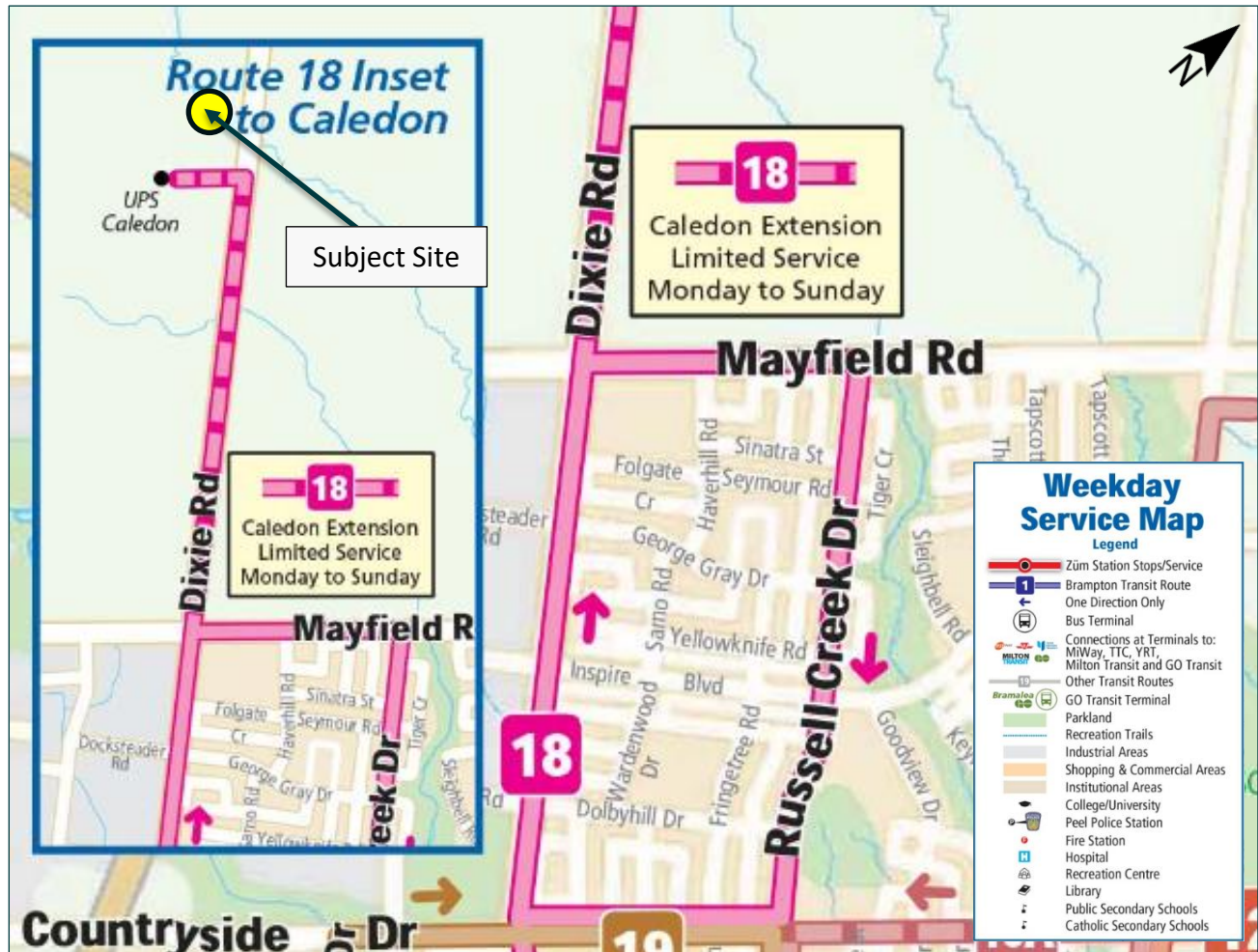
## 2.2 TRANSIT NETWORK

The subject site is in an area of the Town that has limited access to the existing public transit network. The Town of Caledon currently does not operate public transit within the municipality, except for the local transit line in Bolton serviced by Voyago There are a few bus transit routes that are operated by the City of Brampton's Transit network that provide transportation access within the Town. Within a 16-minute walk south of the site there is an existing bus route which provides some access to and from the site for future employees. It is proposed that both municipalities (Town of Caledon and City of Brampton) work together to extend transit to the proposed developments at 12892 and 12035 Dixie Road.

Available transit services in the surrounding area are illustrated in **Figure 2-3** with service details provided below.



Figure 2-3: Existing Transit Network



Source: City of Brampton Transit Map, January 2024

**Brampton Transit Route 18 – Dixie** is a bus route that generally operates in a north-south direction between UPS Caledon on Dixie Road, and the intersection of Meyerside Drive & Dixie Road. The route operates regular all day, everyday service with 30-minutes or better headways during weekday peak periods.

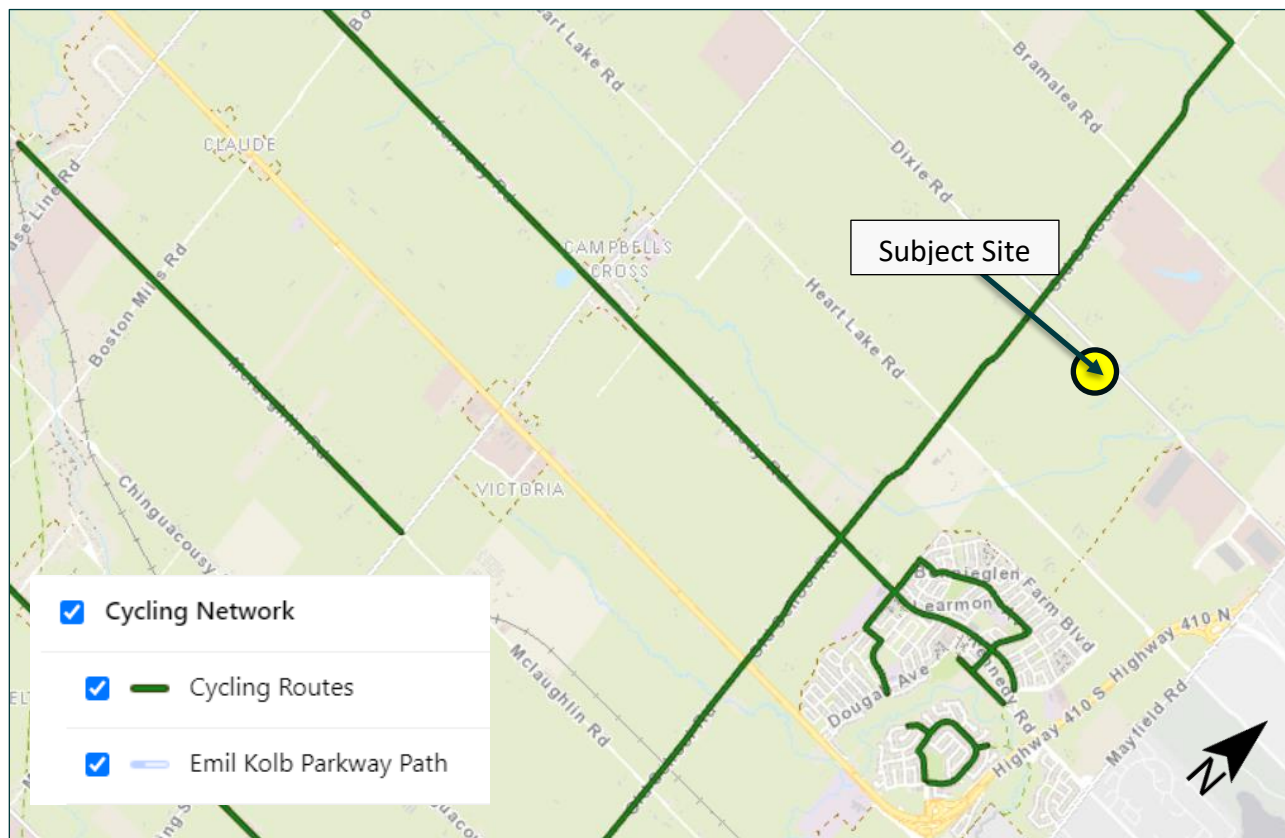
*Access Location:* BTR 18 is accessible at UPS Caledon approximately 1.2km south (a 16-minute walk) from the subject site.

## 2.3 CYCLE NETWORK

The subject site is located in an area within the Town of Caledon that has limited access to the existing cycling network. The nearest cycling facilities are located along Old School Road north of the site which operates in an east-west direction. This cycling route connects to other cycling routes along Kennedy Road which provides access to urban areas near Highway 410 South and Highway 10. The cycling network surrounding the subject site is illustrated in

Figure 2-4.

Figure 2-4: Existing Cycling Network



Source: Trails and Cycling Routes – Town of Caledon Maps (2024)

## 2.4 PEDESTRIAN NETWORK

As the area surrounding the subject site consists of mainly agriculture lands, there is minimal pedestrian infrastructure available. Despite the absence of sidewalks in the immediate surrounding area, there are crosswalks available at the signalized intersection of Dixie Road & Mayfield Road, and Dixie Road & Old School Road. It should be noted that sidewalks are provided along the south side of Mayfield Road to facilitate the residential uses.

## 2.5 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data in the intersection capacity analyses. The traffic counts for the intersections at Dixie Road & Mayfield Road, and Dixie Road & Old School Road were collected in 2019, and obtained from Spectrum Traffic Data Inc (Spectrum).

Traffic counts for the intersections at Dixie Road & Merchant Road, and Heart Lake Road & Old School Road were not available from Spectrum, Town of Caledon, or the Region of Peel. Resultantly, TMC surveys were conducted by LEA for the two (2) intersections during the weekday AM and PM peak periods between 6:30

AM to 9:30 AM and 3:30 PM to 6:30 PM, respectively. **Table 2-1** summarizes the traffic data utilized in this study, with detailed TMCs provided in **Appendix B**.

Table 2-1: Traffic Data Collection Summary

Intersection	Survey Date	Source
Dixie Road & Mayfield Road	Thursday, October 3rd, 2019	Spectrum
Dixie Road & Old School Road		
Dixie Road & Merchant Road	Tuesday, December 15th, 2020	LEA
Heart Lake Road & Old School Road		

Given that the traffic data at the Dixie Road & Merchant Road and Heart Lake Road & Old School Road intersections were collected in the midst of the COVID-19 pandemic, as discussed with Town and Region staff, the TMCs within the study area have been adjusted to remediate the discrepancies in traffic volumes.

The surveyed TMCs at Dixie Road & Merchant Road intersection generally reveals higher traffic volumes along Dixie Road compared to the TMCs at Dixie Road & Mayfield Road intersection which were collected pre-pandemic. Therefore, to derive present day traffic volumes at the Dixie Road & Merchant Road and Dixie Road & Mayfield Road intersections, the traffic volumes on Dixie Road were balanced using the TMCs for the two intersections which increases the traffic volumes along Dixie Road at the respective intersections. To note, Merchant Road is a local road that only serves the Acklands Grainger warehouse located at 21 Merchant Road and terminates as a cul-de-sac. Since warehousing and distribution is considered an “essential business” in the Province of Ontario, it was assumed that business operations did not change for this use, and that traffic along Merchant Road remains the same as pre-pandemic conditions. Therefore, traffic volumes on Merchant Road have not been adjusted.

With respect to the Heart Lake Road & Old School Road intersection, a pandemic factor has been applied to the TMCs to adjust for the impacts of COVID-19. The pandemic factor was determined based on a comparison of traffic volumes along Old School Road between the 2019 and 2020 TMCs at the Dixie Road & Old School and Heart Lake Road & Old School Road intersections. Based on the two sets of data, it was observed that the two-way traffic volumes along Old School Road decreased by 47% during the AM peak hour, and 27% during PM peak hours in 2020. The pandemic factors are summarized in **Table 2-2**.

Table 2-2: Comparison of Old School Road Peak Hour Traffic Volumes

Direction	October 2019		December 2020		2020/2019 Factor	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Peak Hour	7:15 AM	4:00 PM	7:15 AM	4:45 PM	-	-
Eastbound	248	112	128	91	0.52	0.81
Westbound	95	267	54	184	0.57	0.69
Total	343	379	182	275	<b>0.53</b>	<b>0.73</b>

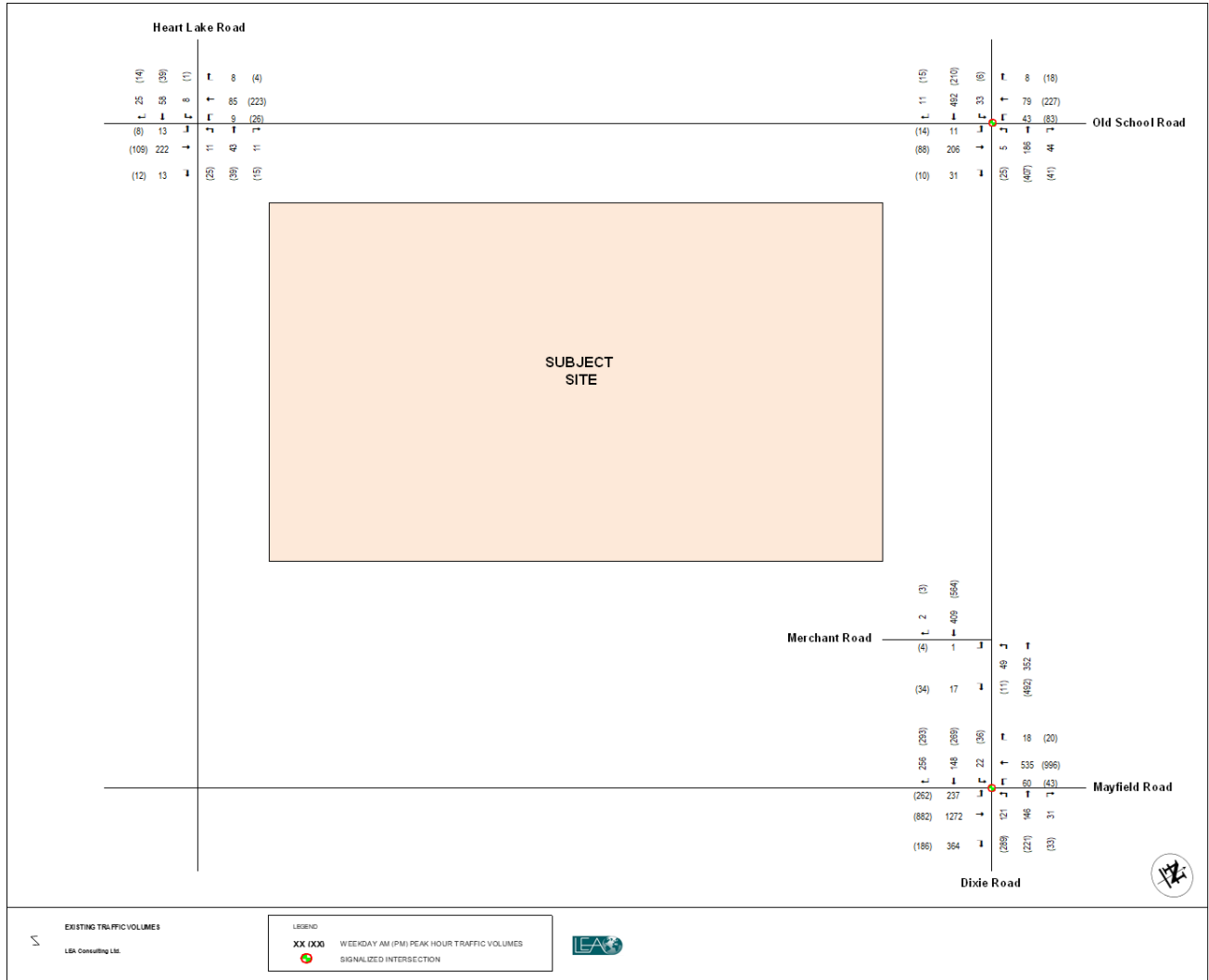
As a result, a pandemic factor of 0.53 and 0.73 has been applied to Old School Road during the AM and PM peak hours, respectively. Since Old School Road and Heart Lake Road are both Town collector roadways, they are expected to share similar traffic characteristics. Therefore, the same factors were utilized to adjust traffic volumes along Heart Lake Road during the AM and PM peak hours as well.

Lastly, no adjustments have been applied to the counts obtained for Old School Road & Dixie Road intersection, as the data is less than two (2) years old and collected during pre-pandemic conditions. It is assumed that the data is representative of present-day traffic volumes.

## 2.6 INTERSECTION CAPACITY ANALYSIS

The capacity analysis for the study area was undertaken using Synchro version 11.0, which is based on the Highway Capacity Manual (2000) methodology. The intersection capacity analysis has been conducted under Region of Peel Synchro Guidelines (December 2010). In accordance to the guidelines, the peak hour factors (PHF) of all Regional intersections were set at 1.00 for all movements. The adjusted existing traffic volumes in the study area during the weekday peak hours are illustrated in **Figure 2-5**.

**Figure 2-5: Existing Peak Hour Traffic Volumes**





### 3 FUTURE BACKGROUND TRAFFIC CONDITIONS

For the analysis of the future background traffic conditions, this study considers a five (5) and ten (10) year horizon from existing year 2029 and 2034. Future background traffic includes the traffic added to the network from other future developments within the surrounding area, corridor growth, as well as all planned infrastructure improvements within the study area.

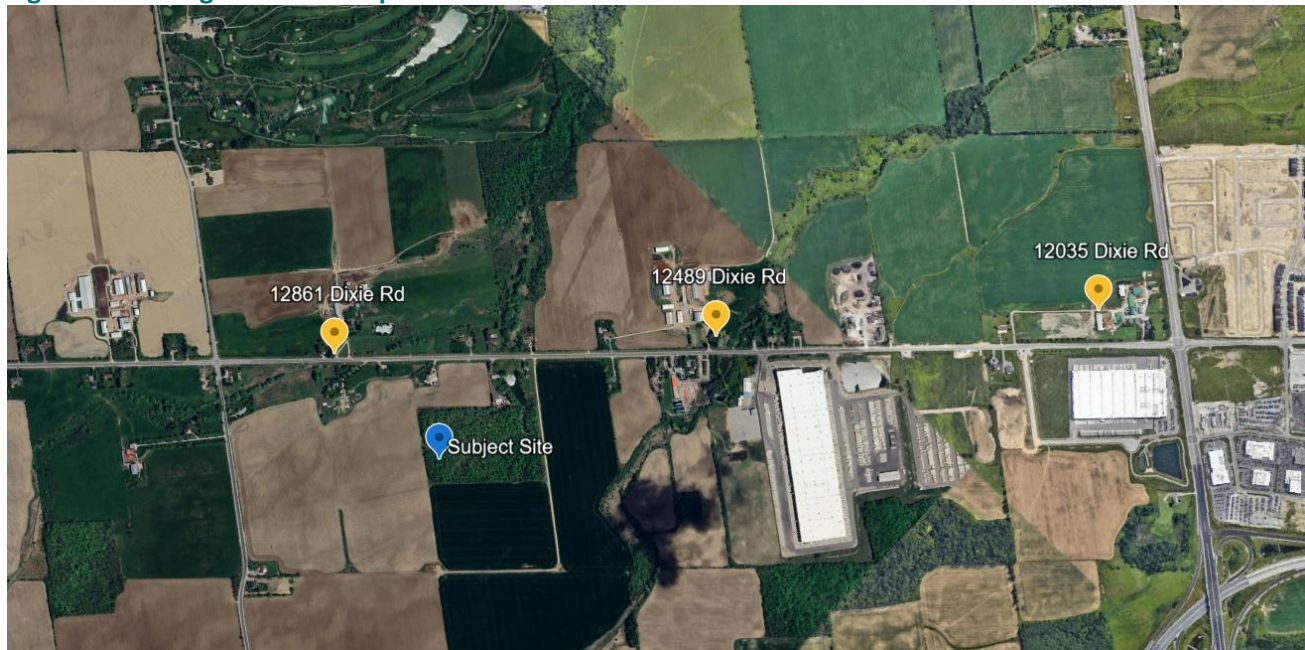
#### 3.1 BACKGROUND DEVELOPMENTS

A summary of the background development is provided in **Table 3-1**. Information regarding each background development can be found in **Appendix C**.

Table 3-1: Background Development

Location	Site Statistics	Source
12035 Dixie Road	4 warehouse buildings, Total Approximate GFA of 197,230 m <sup>2</sup>	LEA (In progress)
12489 Dixie Road	2 industrial buildings, Total Approximate GFA of 134,565 m <sup>2</sup>	BA Group (In progress)
12861 Dixie Road	2 industrial buildings, Total Approximate GFA of 188,718 m <sup>2</sup>	BA Group (In progress)

Figure 3-1: Background Development Location



Source: Google Earth, accessed March 2024

#### 3.2 CORRIDOR GROWTH

As a conservative approach, an annual growth rate of 2% was applied to all roadways within the study area during the AM and PM peak hours which follows the same assumptions as the previous TIS submission.

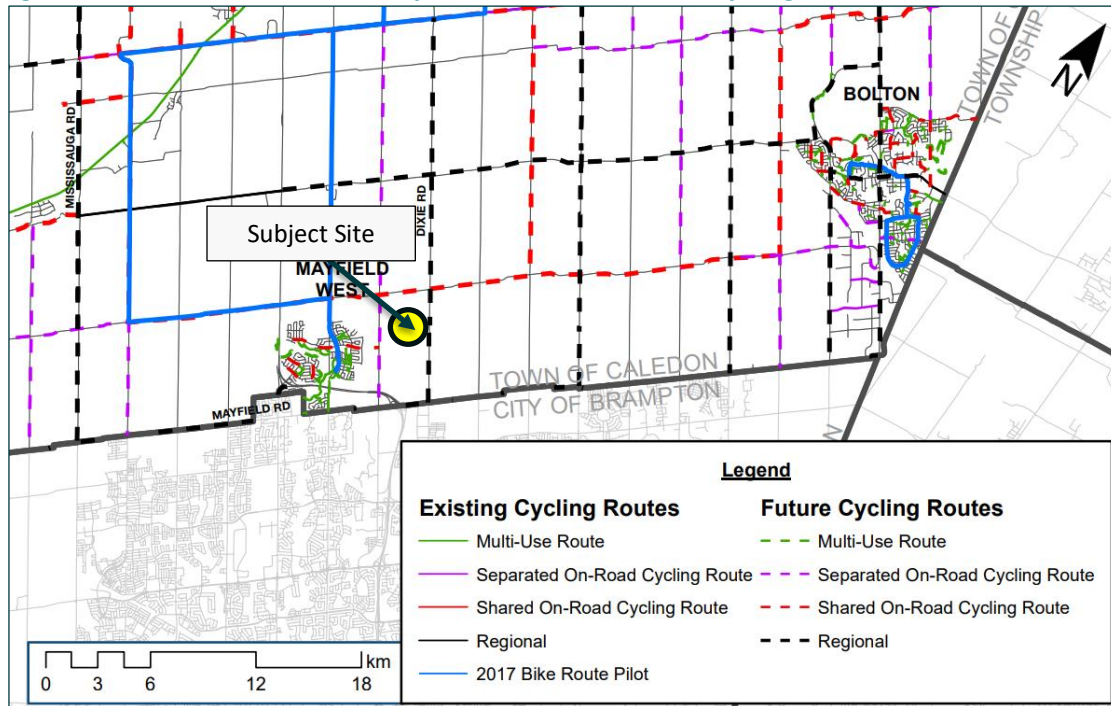


### 3.3 ACTIVE TRANSPORTATION NETWORK

#### 3.3.1 Cycling Network

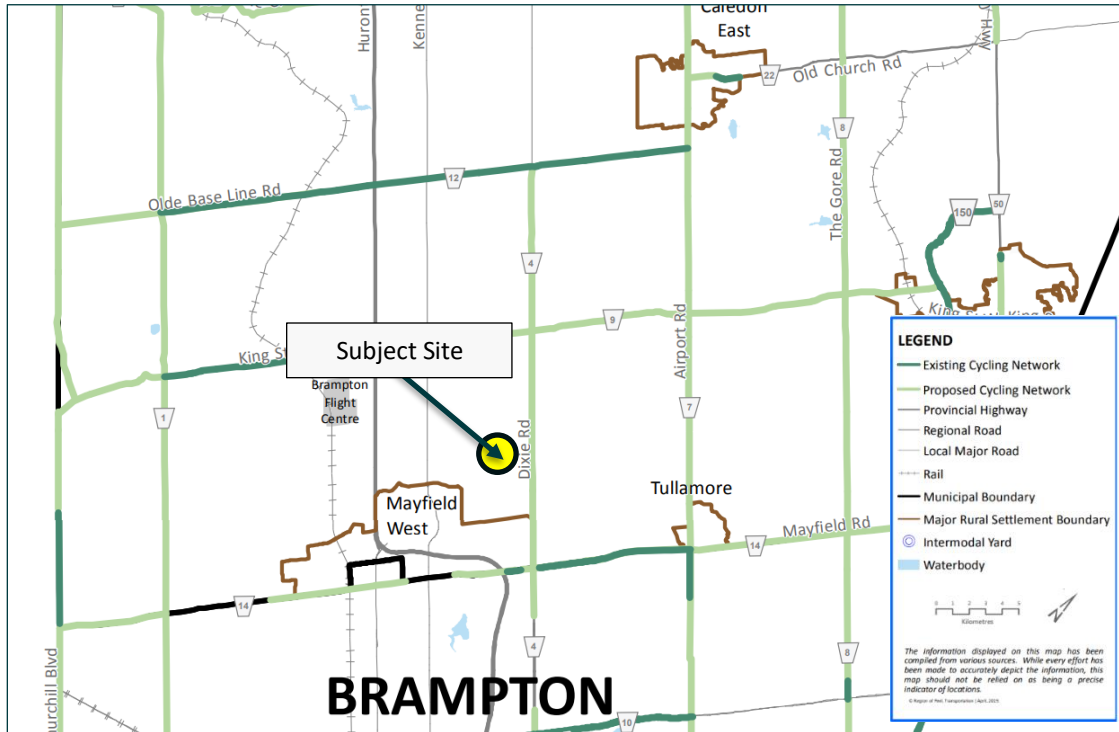
The subject site is located in an area where there are proposed improvements to the cycling network as noted in both the Town of Caledon’s Transportation Master Plan and the Region of Peel’s. As noted in both reports, there are proposed cycling lanes along Dixie Road that extend in a north-south direction between the City of Brampton towards Olde Base Line Road. Refer to **Figure 3-2** and **Figure 3-3**.

**Figure 3-2: Town of Caledon Transportation Master Plan – Cycling Network**



Source: Caledon Transportation Master Plan, October 2017

Figure 3-3: Region of Peel Long Range Transportation Plan – Cycle Network

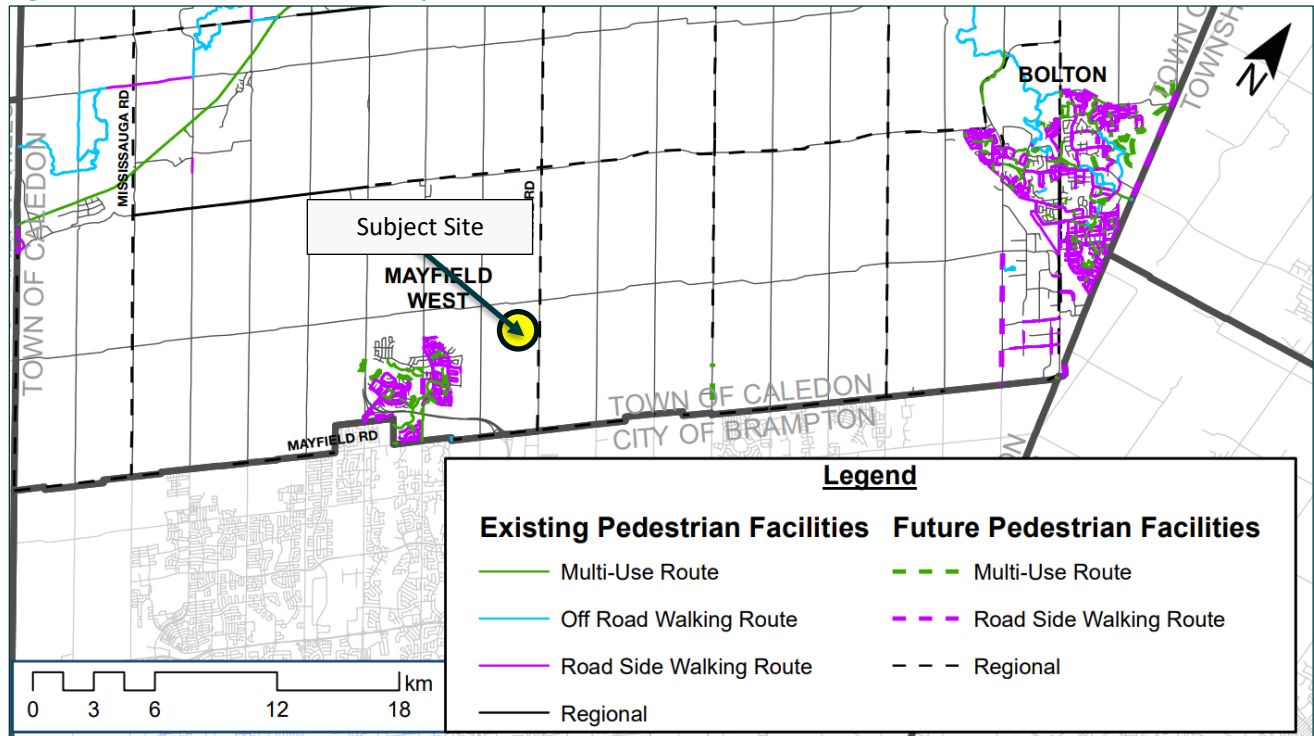


Source: Region of Peel – Long Term Transportation Plan, 2019

### 3.3.2 Pedestrian Network

The subject site is located in an area where there are proposed improvements to the pedestrian network as noted in both the Town of Caledon’s Transportation Master Plan and the Region of Peel’s. As noted in both reports, there are proposed pedestrian facilities along Dixie Road that extend in a north-south direction between the City of Brampton towards Olde Base Line Road. Refer to **Figure 3-4**.

**Figure 3-4: Town of Caledon Transportation Master Plan – Pedestrian Network**



Source: Caledon Transportation Master Plan, October 2017

### 3.4 ROAD NETWORK IMPROVEMENTS

The Peel Region Long Range Transportation Plan (2019) was reviewed to identify any planned roadway improvements within the study area. It was identified that Mayfield Road is proposed to be widened from five (5) to six (6) lanes between Dixie Road and Bramalea Road, as part of the Region’s 2031 planning horizon. It is understood that construction is planned to begin in 2024-2025. Dixie Road is also proposed to be widened to four (4) lanes according to the Transportation Plan which will include the portion of Dixie Road adjacent to the proposed east site access 2, with is part of the Region’s 2031 planning Horizon. As the widening is planned to be completed outside of the study’s five-year horizon of 2026, this road improvement has not been considered in the future scenarios.

As part of the background development at 12035 Dixie Road, Dixie & Merchant is proposed to be signalized with an exclusive southbound left-turn lane. This intersection modification is incorporated under future background conditions.





## 4 SITE-GENERATED TRAFFIC

The proposed development is approximately 143,393 m<sup>2</sup> (1,543,463 ft<sup>2</sup>). Trip generation associated with the proposed development was determined using the standard methodology provided by the ITE Trip Generation Manual 11<sup>th</sup> Edition.

### 4.1 TRIP GENERATION

Trip generation for the proposed land uses was determined using the average rate in the Institute of Transportation Engineers (ITE) Trip Generation Manual 11<sup>th</sup> Edition for Warehousing (Land Use Code 150).

The heavy vehicle trip generation rates are derived from the ITE Trip Generation 10<sup>th</sup> Edition Online Supplement for LUC 150. The heavy vehicle percentages have been calculated by dividing the heavy vehicle trip generation rate by the total vehicle trip generation rate. The vehicle and truck trip rates utilized in the trip generation calculations are shown in **Table 4-1**, and the trip generation breakdown by building is summarized in

**Table 4-2.** The complete analysis of the sites Trip generation is provided in **Appendix D**.

Table 4-1: Vehicle and Truck Warehousing Trip Rates

Trip Generation	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
All Vehicle Directional Distribution	77%	23%	100%	27%	73%	100%
All Vehicles Trip Rate (Per 1,000ft <sup>2</sup> )	0.13	0.04	0.17	0.05	0.14	0.19
Heavy Vehicle Directional Distribution	52%	48%	100%	52%	48%	100%
Heavy Vehicle Trip Rate (Per 1,000ft <sup>2</sup> )	0.01	0.01	0.02	0.02	0.01	0.03
Heavy Vehicle Percentage	8%	26%	12%	39%	7%	16%

Table 4-2: Trip Generation Summary, Proposed Development

Building	Trip Generation	AM Peak Hour (Trips)			PM Peak Hour (Trips)		
		In	Out	Total	In	Out	Total
Building 1 (597,839 ft <sup>2</sup> )	<b>Total Building 1 Traffic</b>	<b>78</b>	<b>24</b>	<b>102</b>	<b>31</b>	<b>83</b>	<b>114</b>
	<i>Employee Traffic</i>	72	18	90	19	77	96
	<i>Truck Traffic</i>	6	6	12	12	6	18
Building 2 (295,971 ft <sup>2</sup> )	<b>Total Building 2 Traffic</b>	<b>39</b>	<b>11</b>	<b>50</b>	<b>15</b>	<b>41</b>	<b>56</b>
	<i>Employee Traffic</i>	36	8	44	9	38	47
	<i>Truck Traffic</i>	3	3	6	6	3	9
Building 3 (649,653 ft <sup>2</sup> )	<b>Total Building 3 Traffic</b>	<b>85</b>	<b>25</b>	<b>110</b>	<b>33</b>	<b>90</b>	<b>123</b>
	<i>Employee Traffic</i>	79	19	98	20	84	104
	<i>Truck Traffic</i>	6	6	12	13	6	19
Total Site	<b>Total Site Traffic</b>	<b>202</b>	<b>60</b>	<b>262</b>	<b>79</b>	<b>214</b>	<b>293</b>
	<i>Employee Traffic</i>	187	45	232	48	199	247
	<i>Truck Traffic</i>	15	15	30	31	15	46

The proposed development is projected to generate a total of 262 new trips (202 inbound, 60 outbound) and 293 new trips (79 inbound, 214 outbound) during the AM and PM peak hour periods, respectively.

In addition, a sensitivity analysis was performed for potential future off-site developments using the same trip generation rates employed for the proposed development. **Table 4-3** summarizes the trip generation breakdown by building.

Table 4-3: Trip Generation Summary, Potential Future Off-Site Developments

Building	Trip Generation	AM Peak Hour (Trips)			PM Peak Hour (Trips)		
		In	Out	Total	In	Out	Total
Building 4 (39,621 ft <sup>2</sup> )	<b>Total Building 4 Traffic</b>	<b>5</b>	<b>2</b>	<b>7</b>	<b>2</b>	<b>6</b>	<b>8</b>
	<i>Employee Traffic</i>	5	1	6	1	6	7
	<i>Truck Traffic</i>	0	1	1	1	0	1
Building 5 (151,168 ft <sup>2</sup> )	<b>Total Building 5 Traffic</b>	<b>20</b>	<b>6</b>	<b>26</b>	<b>8</b>	<b>21</b>	<b>29</b>
	<i>Employee Traffic</i>	18	4	22	5	19	24
	<i>Truck Traffic</i>	2	2	4	3	2	5
Building 6 (278,709 ft <sup>2</sup> )	<b>Total Building 6 Traffic</b>	<b>36</b>	<b>11</b>	<b>47</b>	<b>14</b>	<b>39</b>	<b>53</b>
	<i>Employee Traffic</i>	33	8	41	9	36	45
	<i>Truck Traffic</i>	3	3	6	5	3	8
Total Site (Off-Site Only)	<b>Total Site Traffic</b>	<b>61</b>	<b>19</b>	<b>80</b>	<b>24</b>	<b>66</b>	<b>90</b>
	<i>Employee Traffic</i>	56	13	69	15	61	76
	<i>Truck Traffic</i>	5	6	11	9	5	14
Total Site (Combined)	<b>Total Site Traffic</b>	<b>263</b>	<b>79</b>	<b>342</b>	<b>103</b>	<b>280</b>	<b>383</b>
	<i>Employee Traffic</i>	243	58	301	63	260	323
	<i>Truck Traffic</i>	20	21	41	40	20	60

Combined with potential future off-site developments, the proposed development is projected to generate a total of 342 new trips (263 inbound, 79 outbound) and 383 new trips (103 inbound, 280 outbound) during the AM and PM peak hour periods, respectively.

## 4.2 TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution of employee vehicle traffic was estimated using Transportation Tomorrow Survey (TTS) 2016 data. The TTS data was filtered for auto home-based work trips during the weekday AM peak period. It is assumed that the PM peak period trip distribution is the reverse of the AM peak period since employees entering the subject site in the morning will be utilizing the same routing in the afternoon to exit, and vice versa. **Table 4-4** summarizes the trip distribution for this study. Detailed TTS calculations are available in **Appendix D**.

Table 4-4: Vehicle Trip Distribution

Direction	Roadway	AM		PM	
		Inbound	Outbound	Inbound	Outbound
North	Dixie Road	33%	23%	23%	33%
South	Dixie Road	15%	11%	11%	15%
East	Mayfield Road	9%	6%	6%	9%
	Old School Road	1%	-	-	1%
West	Mayfield Road	38%	60%	60%	38%
	Old School Road	5%	-	-	5%
	<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

The majority of site traffic is expected to use Highway 410 to/from the proposed development which is located west of the subject site.

### 4.3 TRIP GENERATION TRAFFIC VOLUMES

The employee trip assignment was subsequently determined based on the trip origin and destination, site accesses, and the most logical routing. **Figure 4-1** illustrates the trip assignment of employee traffic on the study road network.

As for heavy vehicle site traffic, it is assumed that most trucks will utilize the highway network for longer distance travel. Given the subject site's close proximity to Highway 410, heavy vehicle site traffic was assigned to utilize this highway to travel to/from the site, as shown in **Figure 4-2**.

The total site generated traffic volumes for the weekday AM and PM peak hours are illustrated in **Figure 4-3**. Likewise, total traffic volumes generated by potential future off-site developments were distributed using the same assumptions as the proposed development, and are illustrated in **Figure 4-4** to **Figure 4-6**.



Figure 4-1: Employee Vehicle Site Generated Peak Hour Traffic Volumes

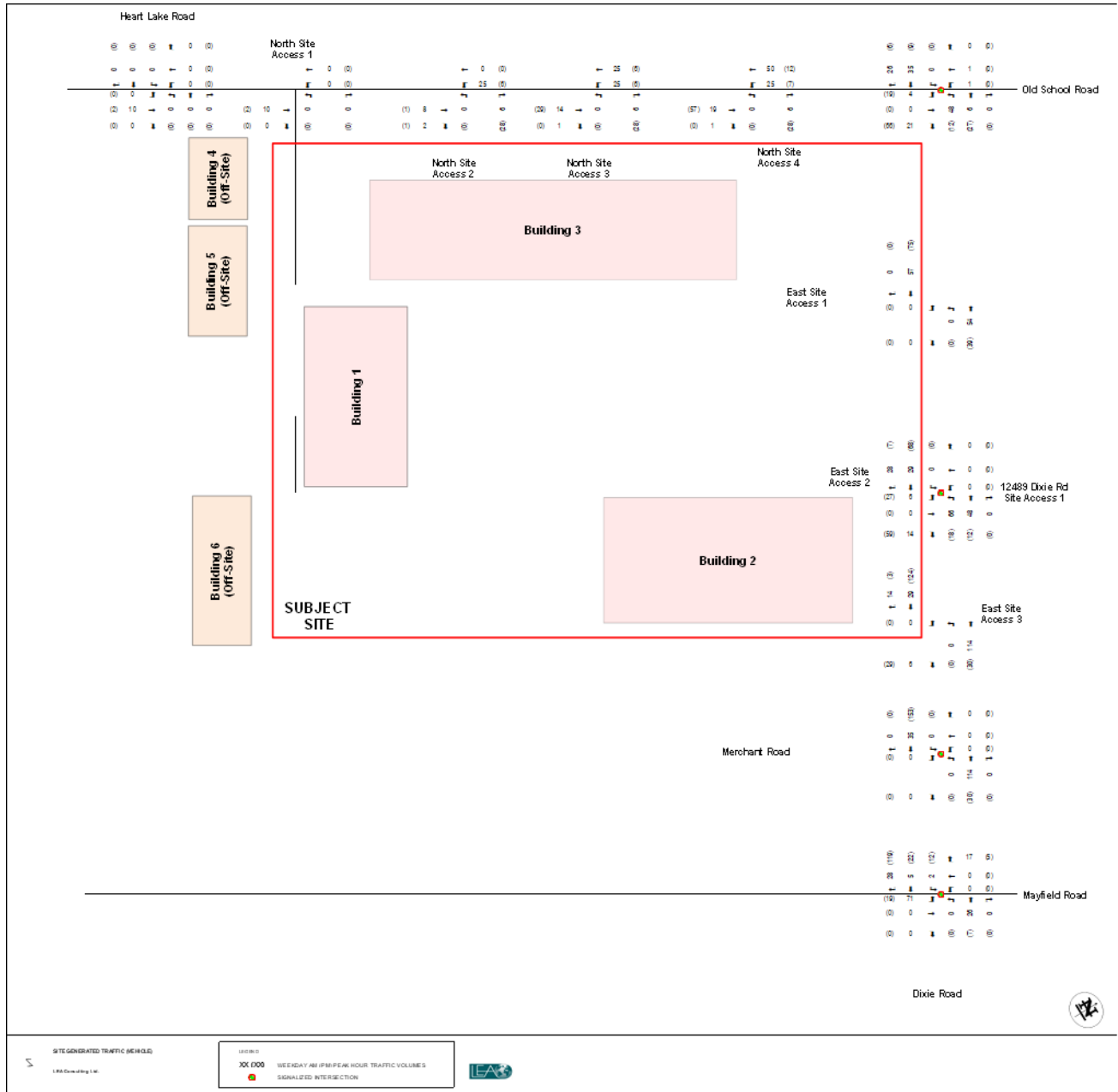


Figure 4-2: Heavy Vehicle Site Generated Peak Hour Traffic Volumes

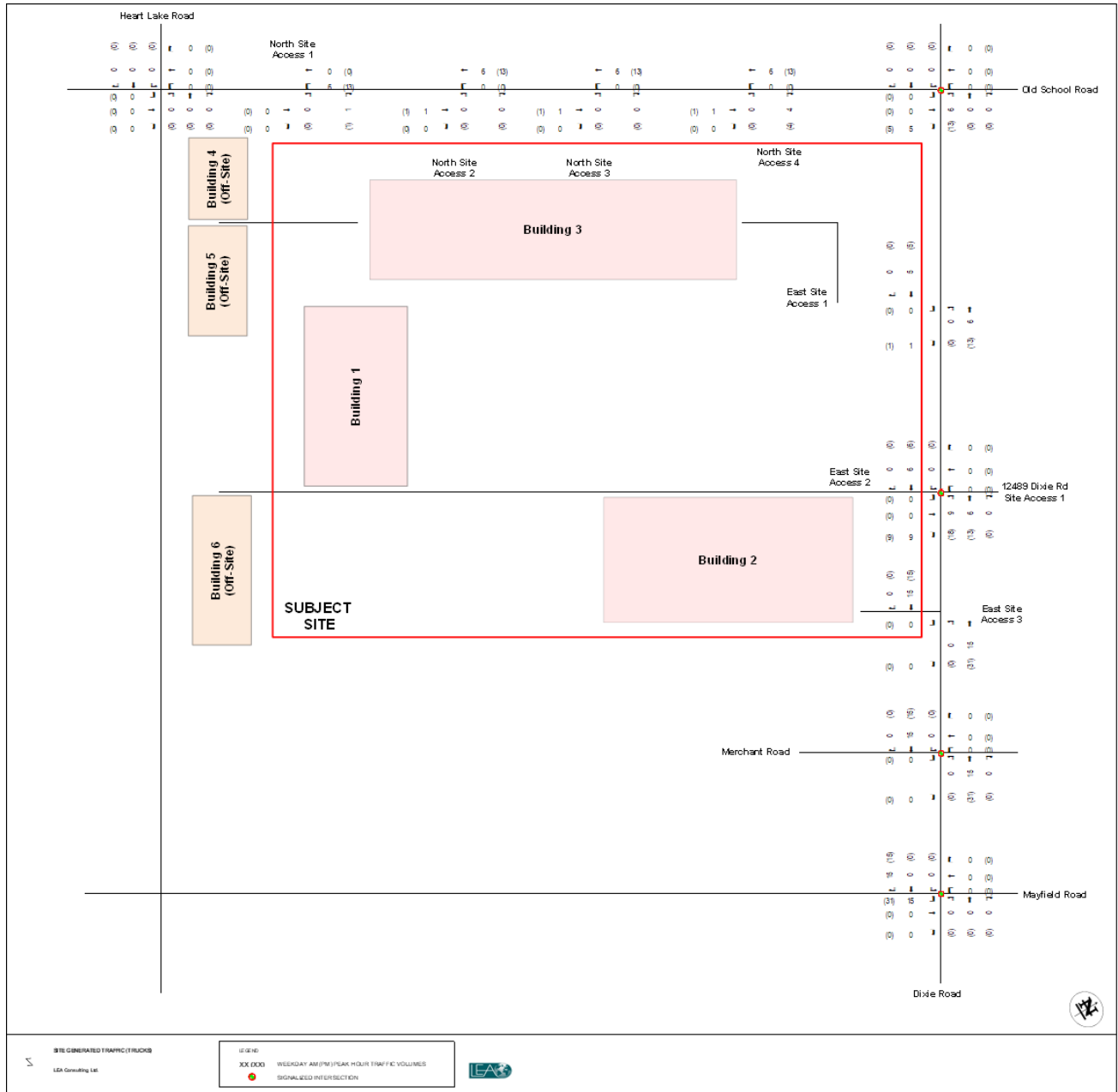




Figure 4-4: Employee Vehicle Site Generated Peak Hour Traffic Volumes (Future Off-Site Developments)

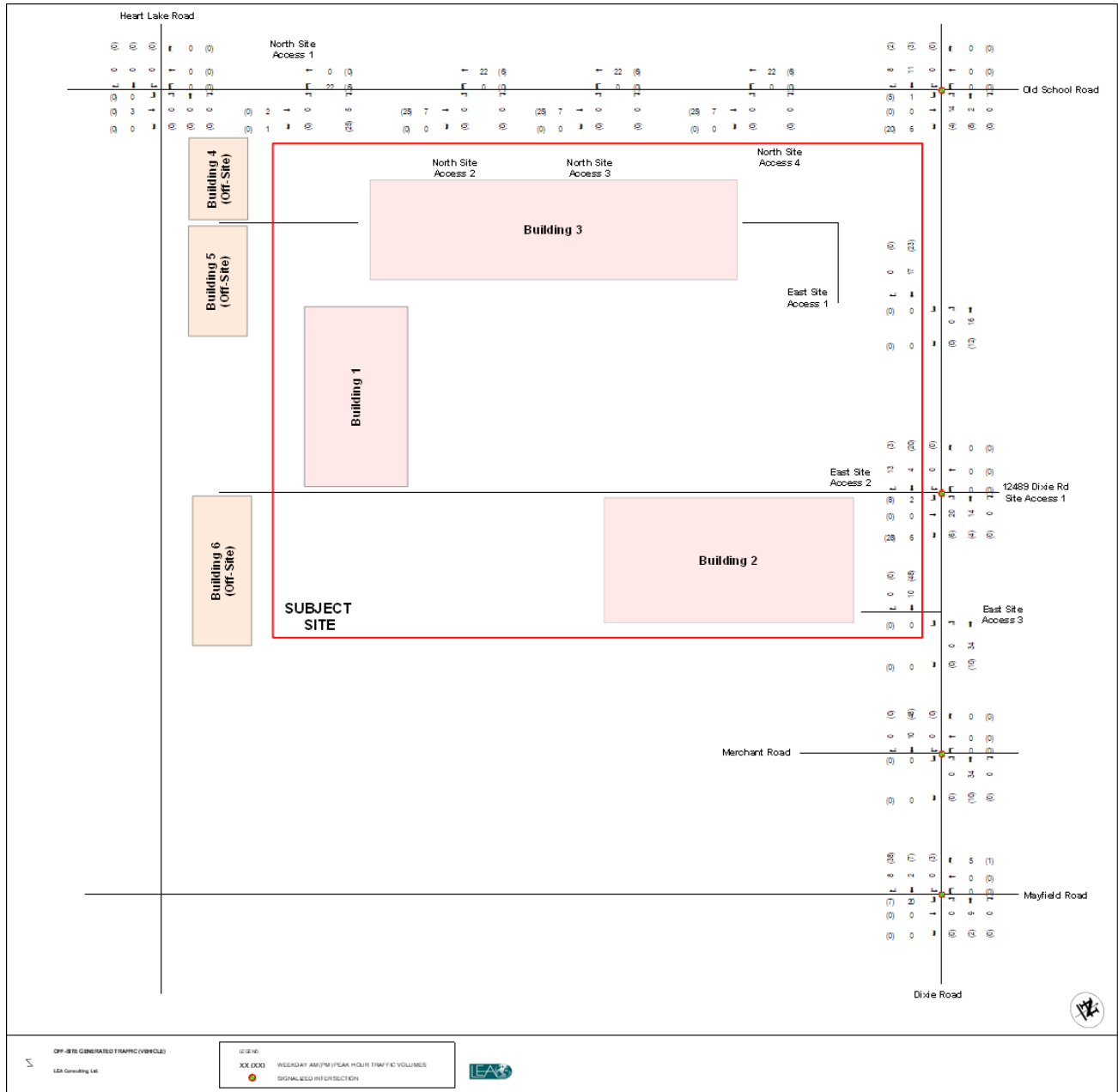


Figure 4-5: Vehicle Site Generated Peak Hour Traffic Volumes (Future Off Site Developments)

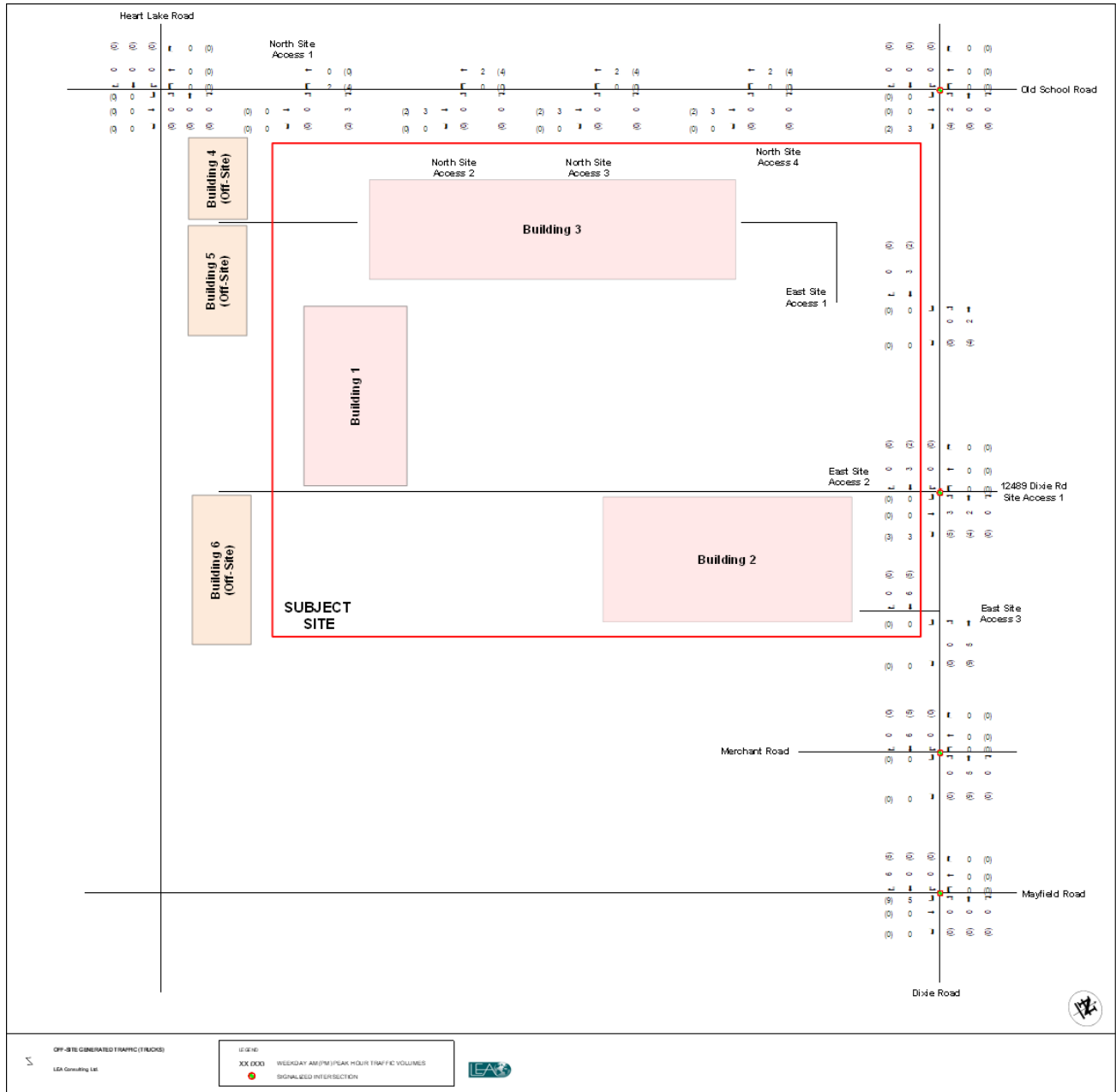
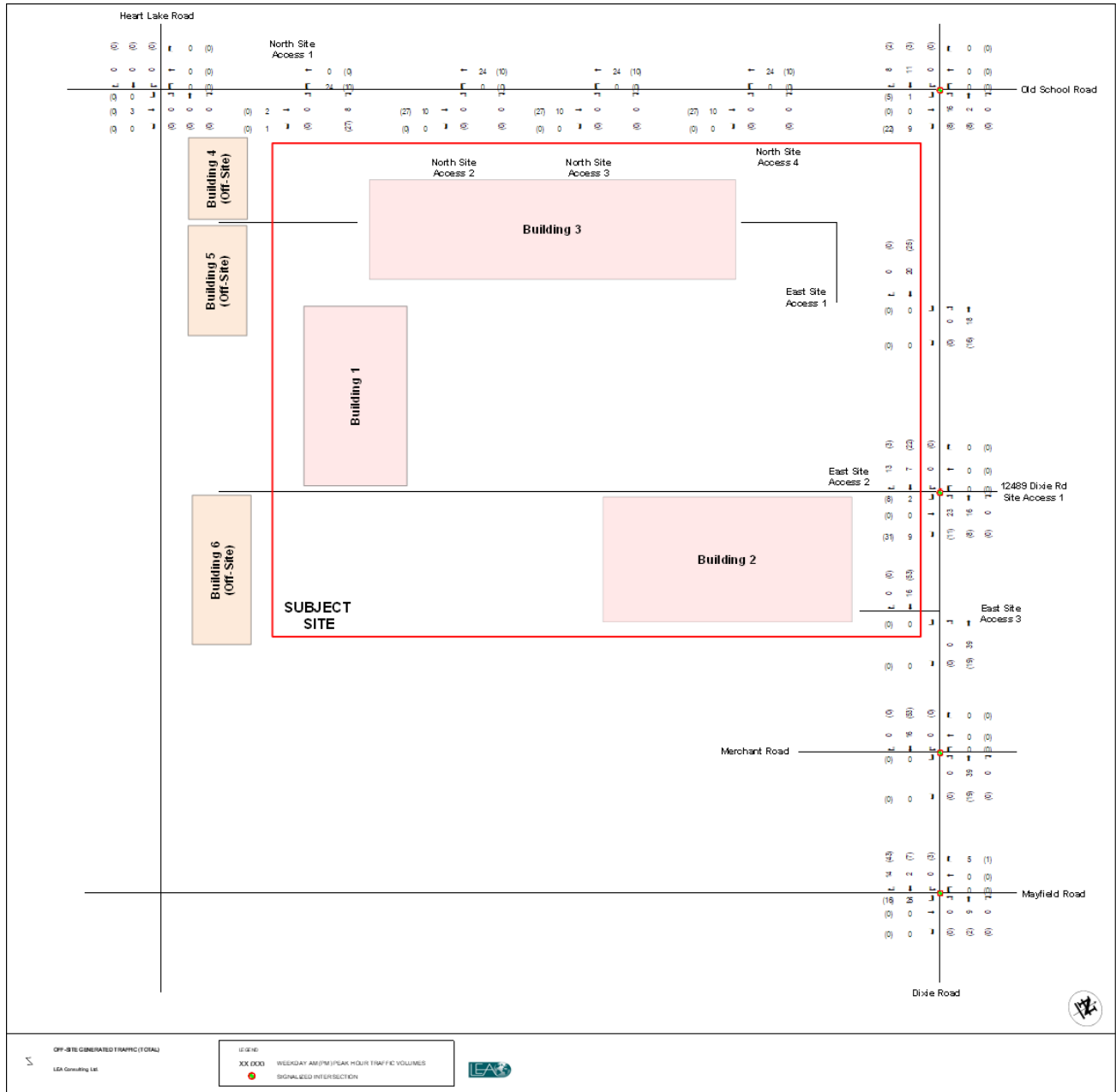


Figure 4-6: Total Site Generated Peak Hour Traffic Volumes (Future Off-Site Developments)



### 4.4 FUTURE TOTAL TRAFFIC CONDITIONS

Future total transportation conditions include future background volumes, in addition to the site trips generated by the proposed development. Future total traffic volumes are illustrated in **Figure 4-7** to **Figure 4-9**.

**Figure 4-7: Future Total Peak Hour Traffic Volumes (2026)**

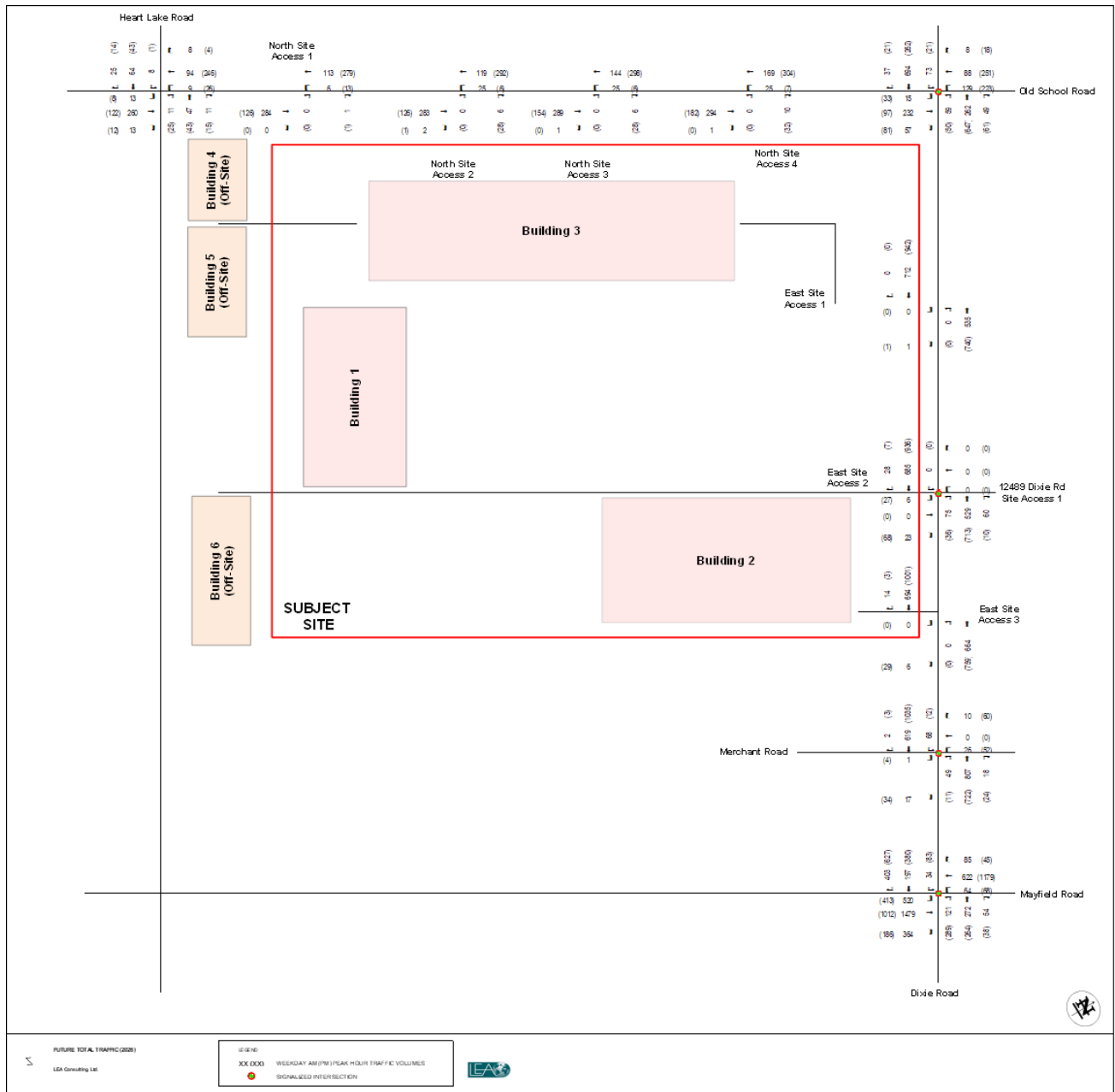


Figure 4-8: Future Total Peak Hour Traffic Volumes (2031)

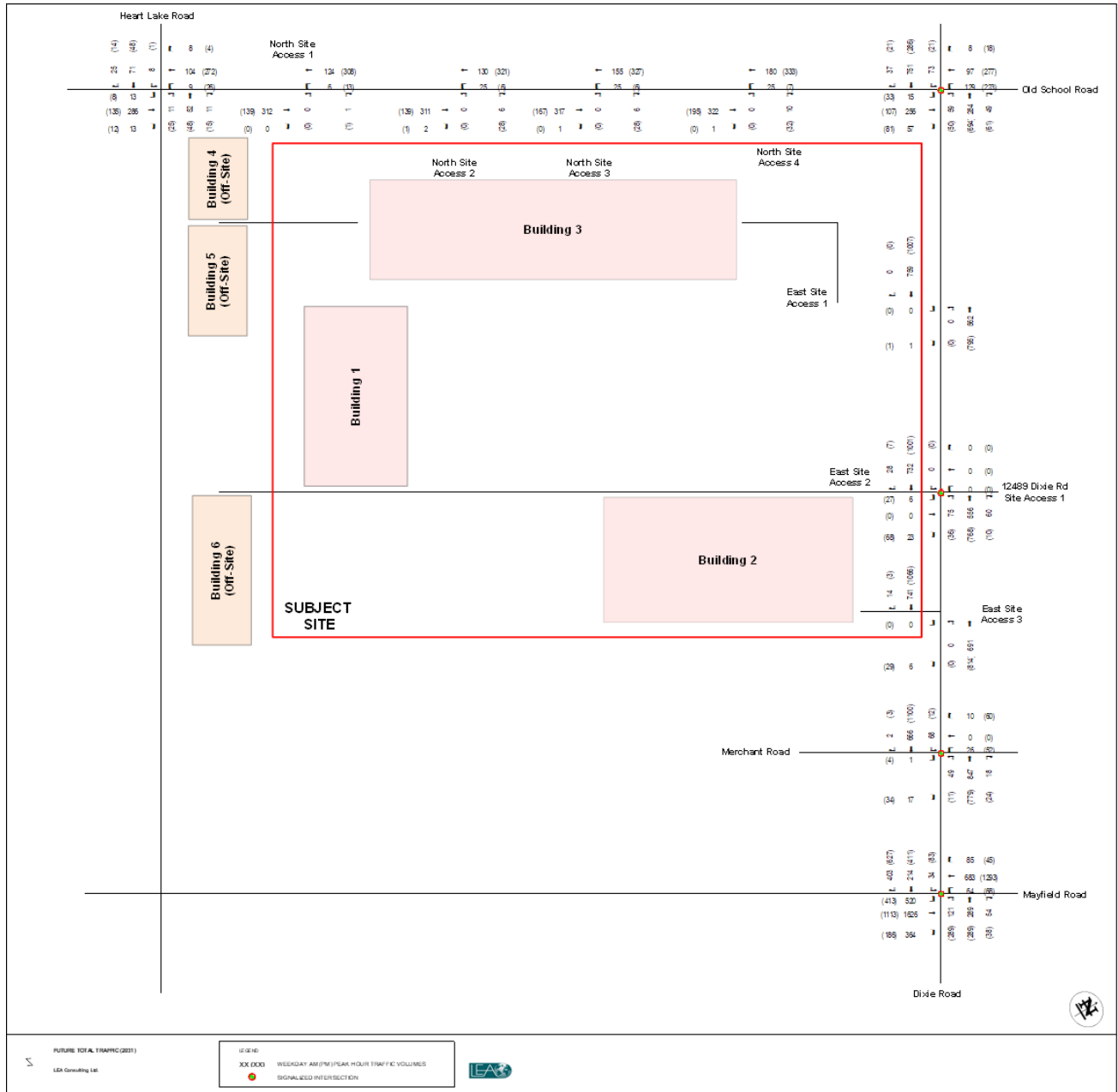
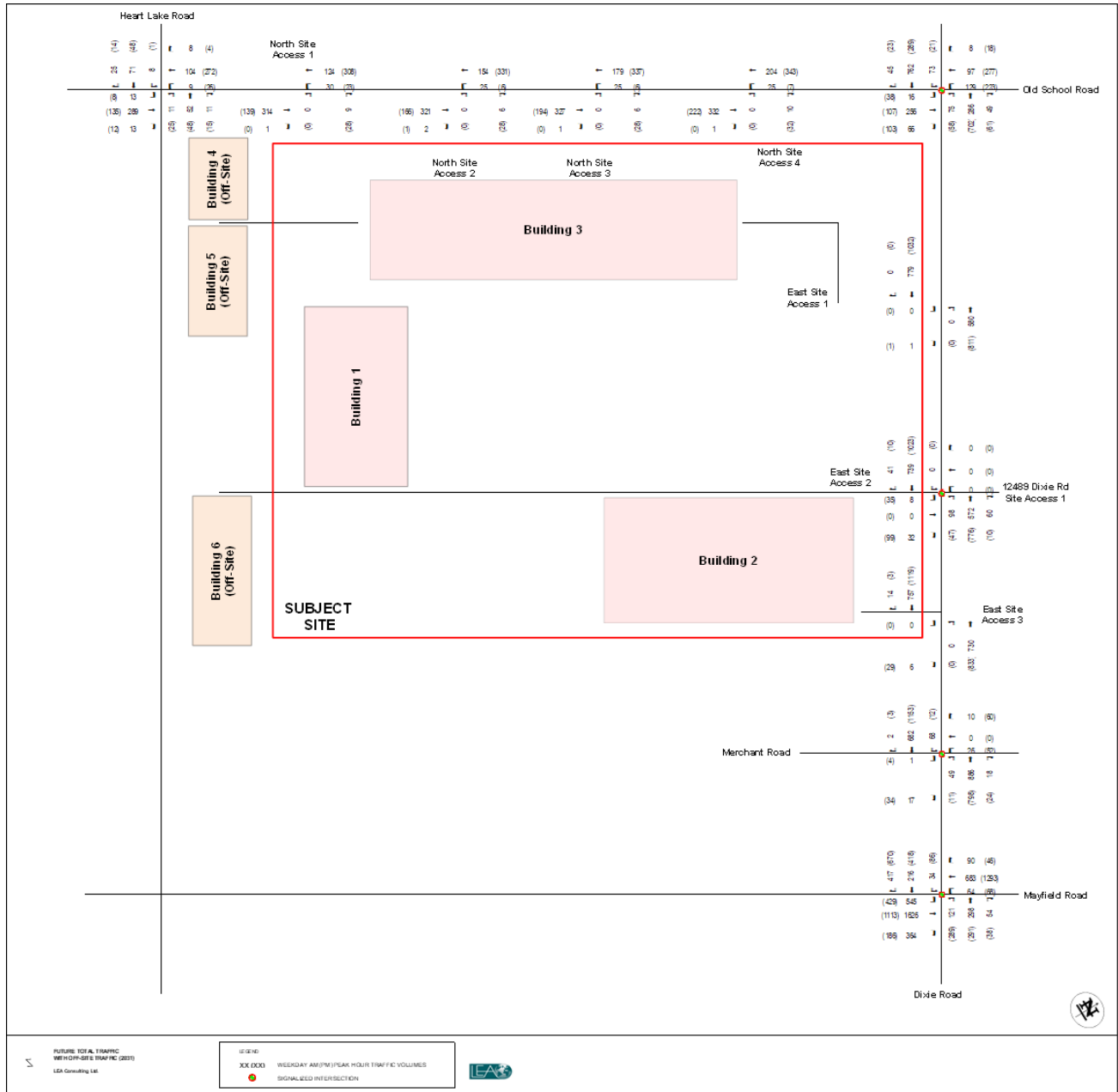




Figure 4-9: Future Total Hour Traffic Volumes (2031 with Off-Site Development Volumes)



## 5 INTERSECTION CAPACITY ANALYSIS RESULTS

The following sections provide an analysis of the intersection operations under existing, future background, and future total scenarios. The intersection capacity analysis for the study area was undertaken using Synchro version 11.0, which is based on the Highway Capacity Manual 2000 methodology. For signalized intersections critical movements of interest are those with a level-of-service (LOS) F or a volume-to-capacity (v/c) ratio of 0.90 or more (when 95<sup>th</sup> queues exceeds storage). For unsignalized intersections critical movements are those with a level-of-service (LOS) of E or worse (when queues exceeds storage).

### 5.1 SIGNALIZED INTERSECTION RESULTS

The results of the intersection capacity analysis for the signalized intersections in their respective horizons are summarized in the following tables below. As well, sensitivity analysis results for potential future off-site developments in the 2031 horizon are summarized below. Only critical movements are shown. Detailed results are provided in **Appendix E** and **Appendix F**.

#### 5.1.1 Dixie Road & Mayfield Road

Intersection capacity results for the Dixie Road & Mayfield intersection for the 2026 and 2031 future conditions have been summarized in **Table 5-1** and **Table 5-2** respectively. For all future conditions in the PM peak hour, signal timing plans for the intersection have been adjusted while maintaining the same cycle length under existing conditions to provide additional time for the eastbound left traffic.

Table 5-1: Dixie Road & Mayfield Road (2026 Horizon)

AM	Existing Conditions (2021)				Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.47	19	B	-	0.76	24	C	-	0.91	28	C
EBL	237	0.40	7	A	434	0.75	16	B	520	0.96	40	D
PM	Existing Conditions (2021)				Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.92	30	C	-	1.10	43	D	-	1.22	52	D
EBL	262	0.87	41	D	363	1.15	131	F	413	1.30	193	F
NBL	289	0.95	77	E	289	0.99	88	F	289	1.06	108	F

Table 5-2: Dixie Road & Mayfield Road (2031 Horizon)

AM	Existing Conditions (2021)				Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.47	19	B	-	0.55	21	C	-	0.60	22	C
EBL	237	0.40	7	A	434	0.43	7	A	520	0.53	9	A
PM	Existing Conditions (2021)				Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.92	30	C	-	0.63	26	C	-	0.76	30	C
EBL	262	0.87	41	D	363	0.58	14	B	413	0.69	22	C
NBL	289	0.95	77	E	289	0.71	47	D	289	0.55	36	D

Under existing conditions, the intersection operates within capacity with v/c ratios below 1.00 in both AM and PM peak hours. In the PM peak hour, the northbound left movement exhibits a LOS E with a v/c ratio of 0.95, which is most likely attributed to the lack of a dedicated northbound left turn phase in the intersection’s signal timing plan.

Under 2026 future conditions, the intersection continues to operate within capacity during the AM peak hours with a LOS C and a v/c ratio of 0.76. However, the PM peak hours shows the intersection operates at LOS D with a v/c ratio of 1.10. Furthermore, the eastbound left and northbound left movements display a LOS F with a v/c ratio of 1.15 and 0.99 respectively and is expected to increase up to 1.30 and 1.06 respectively under 2026 future total conditions.

That said, the intersection capacity issues exhibited under 2026 future conditions are expected to be temporary issues that will be alleviated with the future widening of Dixie Road and Mayfield Road as planned under Peel Region’s *Long Range Transportation Plan*. The intersection capacity results under 2031 future conditions with the updated road network as shown in

**Table 5-2** demonstrates that the intersection will operate with an overall LOS C with v/c ratios below 1.00 for both AM and PM peak hours.

Furthermore, queueing analysis results of critical movements in the intersection under 2026 future conditions presented in **Table 5-3** demonstrates that the existing road network will be able to accommodate for 95<sup>th</sup> queue lengths at all movements. While it is shown that the northbound left turn storage lane is 1m short from fully accommodating its 95<sup>th</sup> queue lengths under 2026 future total conditions in the PM peak hour, the marginal difference is expected to be covered by vehicles making left turns during the green phase.

Table 5-3: Dixie Road & Mayfield Road Queueing Analysis (2026 Horizon)

AM	Existing Conditions (2021)			Future Background (2026)			Future Total (2026)		
Mvmt	Available Storage (m)	50 <sup>th</sup> Queue (m)	95 <sup>th</sup> Queue (m)	Available Storage (m)	50 <sup>th</sup> Queue (m)	95 <sup>th</sup> Queue (m)	Available Storage (m)	50 <sup>th</sup> Queue (m)	95 <sup>th</sup> Queue (m)
EBL	140	8	17	140	22	58	140	30	109
PM	Existing Conditions (2021)			Future Background (2026)			Future Total (2026)		
Mvmt	Available Storage (m)	50 <sup>th</sup> Queue (m)	95 <sup>th</sup> Queue (m)	Available Storage (m)	50 <sup>th</sup> Queue (m)	95 <sup>th</sup> Queue (m)	Available Storage (m)	50 <sup>th</sup> Queue (m)	95 <sup>th</sup> Queue (m)
EBL	140	18	43	140	48	83	140	63	100
NBL	75	38	68	75	40	73	75	44	76

Overall, the intersection is expected to temporarily operate above capacity in the 2026 horizon, but ultimately expected to operate within capacity with the widening of Dixie Road and Mayfield Road by the 2031 horizon.

Table 5-4: Dixie Road & Mayfield Road (2031 Horizon, Future Potential Off-Site Developments Sensitivity Analysis)

AM	Existing Conditions (2021)				Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.47	19	B	-	0.55	21	C	-	0.62	22	C
EBL	237	0.40	7	A	434	0.43	7	A	545	0.56	10	A
PM	Existing Conditions (2021)				Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.92	30	C	-	0.63	26	C	-	0.86	34	C
EBL	262	0.87	41	D	363	0.58	14	B	429	0.79	37	D
NBL	289	0.95	77	E	289	0.71	47	D	289	0.50	31	C
SBR	293	0.34	31	C	493	0.67	46	D	670	0.92	58	E

**Table 5-4** summarizes the intersection capacity results for the 2031 future conditions with additional site traffic volume from future potential off-site developments sharing the subject site's road network. Similar to results identified under 2031 future total conditions as shown in **Table 5-4**, the intersection is expected to be able to accommodate the additional vehicle traffic generated by the off-site developments. The southbound right movement is anticipated to operate at LOS E under PM peak hours with the additional traffic volumes, but v/c ratios remain below 1.00 and is ultimately deemed acceptable.

### 5.1.2 Dixie Road & Old School Road

Table 5-5: Dixie Road & Old School Road (2026 Horizon)

AM	Existing Conditions (2021)				Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.50	14	B	-	0.64	15	B	-	0.69	17	B
PM	Existing Conditions (2021)				Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.48	13	B	-	0.70	17	B	-	0.73	18	B

Table 5-6: Dixie Road & Old School Road (2031 Horizon)

AM	Existing Conditions (2021)				Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.50	14	B	-	0.69	17	B	-	0.75	18	B
PM	Existing Conditions (2021)				Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.48	13	B	-	0.74	18	B	-	0.77	19	B

Under existing conditions, the intersection operates well within capacity with an overall LOS B and v/c ratio at 0.50 or lower under both AM and PM peak hours. All movements have been found to operate with LOS C or better with a v/c ratio below 1.00. The intersection is expected to continue operating well within capacity under both 2026 and 2031 future conditions, with the intersection maintaining a v/c ratio below 1.00 and an overall LOS B for both AM and PM peak hours. Likewise, no critical movements are identified under 2026 and 2031 future conditions, with all movements expected to operate at LOS C or better with a v/c ratio below 1.00.

Table 5-7: Dixie Road & Old School Road (2031 Horizon, Future Potential Off-Site Developments Sensitivity Analysis)

AM	Existing Conditions (2021)				Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.50	14	B	-	0.69	17	B	-	0.77	19	B
PM	Existing Conditions (2021)				Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.48	13	B	-	0.74	18	B	-	0.78	20	C

**Table 5-7** summarizes the intersection capacity results for the 2031 future conditions with additional site traffic volume from future potential off-site developments sharing the subject site's road network. Similar to results identified under 2031 future total conditions as shown in **Table 5-6**, the intersection continues to operate at a v/c ratio below 1.00 with LOS C or better under both AM and PM peak hours. Therefore, the intersection is expected to be able to accommodate the additional vehicle traffic generated by the off-site developments.

### 5.1.3 Dixie Road & Merchant Road

Dixie Road & Merchant Road is an unsignalized intersection under existing conditions and is anticipated to be signalized by the 2026 horizon. As such, intersection capacity results have been split between existing and future conditions to accommodate the difference. **Table 5-8** summarizes the intersection capacity results under existing conditions, and **Table 5-9** and **Table 5-10** presents the results under 2026 and 2031 future conditions respectively.

Table 5-8: Dixie Road & Merchant Road (Existing Conditions, Unsignalized)

AM	Existing Conditions (2021)			
Mvmt	Vol	V/C	Delay (s)	LOS
Overall	-	-	1	-
NBL	49	0.04	8	A
NBT	352	0.00	0	
EBLR	18	0.03	12	B
SBT	409	0.00	0	
SBR	2	0.00	0	
PM	Existing Conditions (2021)			
Mvmt	Vol	V/C	Delay (s)	LOS
Overall	-	-	1	-
NBL	11	0.01	9	A
NBT	492	0.00	0	
EBLR	38	0.08	13	B
SBT	564	0.00	0	
SBR	3	0.00	0	

Under existing conditions, the intersection operates well within capacity with all movements showing a v/c ratio below 0.10 with LOS B or better under both AM and PM peak hours.

Table 5-9: Dixie Road & Merchant Road (2026 Horizon)

AM	Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.64	13	B	-	0.79	16	B
PM	Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.86	34	C	-	0.97	44	D
WBLTR	112	0.93	66	E	112	0.93	66	E
SBT	867	0.83	28	C	1035	0.99	50	D



Table 5-10: Dixie Road & Merchant Road (2031 Horizon)

AM		Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	
Overall	-	0.54	10	A	-	0.62	10	A	
PM		Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	
Overall	-	0.63	25	C	-	0.68	25	C	
WBLTR	112	0.93	66	E	112	0.93	66	E	
SBT	932	0.47	15	B	1100	0.55	17	B	

Under 2026 conditions, the intersection continues to operate within capacity with a v/c ratio below 1.00 and LOS D or better under both AM and PM peak hours under future total conditions. The westbound left/through/right movement and southbound through movement in the PM peak hour are identified as critical movements with a v/c ratio of 0.93 and 0.99 respectively and LOS E and LOS D respectively. Regardless, the intersection is still expected to operate within capacity under the 2026 future total conditions.

That said, it should be noted that issues regarding the southbound through critical movement will be largely alleviated by the 2031 horizon with the widening of Dixie Road from two lanes to four lanes with dedicated turning storage lanes. As shown in **Table 5-10**, the incoming interventions improves the southbound through movement's v/c ratio to 0.55 with LOS B and reduces the intersection's v/c ratio down to 0.68 under PM peak hour. As such, the intersection is expected to operate within capacity under both 2026 and 2031 future conditions.

Table 5-11: Dixie Road & Merchant Road (2031 Horizon, Future Potential Off-Site Developments Sensitivity Analysis)

AM		Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	
Overall	-	0.54	10	A	-	0.64	10	A	
PM		Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS	
Overall	-	0.63	25	C	-	0.71	25	C	
WBLTR	112	0.93	66	E	112	0.93	66	E	
SBT	932	0.47	15	B	1153	0.59	17	B	

**Table 5-11** summarizes the intersection capacity results for the 2031 future conditions with additional site traffic volume from future potential off-site developments sharing the subject site's road network. Similar to results identified under 2031 future total conditions as shown in **Table 5-10**, the intersection continues to operate at a v/c ratio below 1.00 with LOS C or better under both AM and PM peak hours. Therefore, the intersection is expected to be able to accommodate the additional vehicle traffic generated by the off-site developments.

#### 5.1.4 Dixie Road & East Site Access 2 / 12489 Dixie Road Site Access 1

As the Dixie Road & East Site Access 2 / 12489 Dixie Road Site Access 1 intersection did not exist under existing conditions, intersection capacity results are only provided for future background and total conditions. **Table 5-12** and **Table 5-13** summarizes results for the 2026 and 2031 future conditions respectively, and **Table 5-14** summarizes results for the 2031 future conditions with additional site traffic volume from future potential off-site developments sharing the subject site’s road network.

Overall, the intersection operates well within capacity under all aforementioned scenarios, with the intersection showing a v/c ratio under 1.00 and LOS B or better for both AM and PM peak hours. Likewise, all movements operate at LOS C or better with v/c ratio under 1.00 under all conditions. As such, no major constraints are identified.

Table 5-12: Dixie Road & East Site Access 2 / 12489 Dixie Road Site Access 1 (2026 Horizon)

AM	Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.42	0	A	-	0.44	4	A
PM	Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.50	1	A	-	0.56	6	A

Table 5-13: Dixie Road & East Site Access 2 / 12489 Dixie Road Site Access 1 (2031 Horizon)

AM	Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.45	0	A	-	0.47	4	A
PM	Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.54	1	A	-	0.60	6	A

Table 5-14: Dixie Road & East Site Access 2 / 12489 Dixie Road Site Access 1 (2031 Horizon, Future Potential Off-Site Developments Sensitivity Analysis)

AM	Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.45	0	A	-	0.48	5	A
PM	Future Background (2031)				Future Total with Off-Site Developments (2031)			
Mvmt	Vol	V/C	Delay (s)	LOS	Vol	V/C	Delay (s)	LOS
Overall	-	0.54	1	A	-	0.69	11	B

## 5.2 UNSIGNALIZED INTERSECTIONS RESULTS

The results of the intersection capacity analysis for the unsignalized intersections are summarized in the following tables below. Detailed results are provided in **Appendix E** and **Appendix F**.

With the exception of Heart Lake Road & Old School Road, all unsignalized intersections are not present under existing and future background conditions. As such, intersection capacity results will show 2026 and 2031 future total conditions alongside 2031 future total conditions with additional volumes from future potential off-site developments in a consolidated table where applicable.

Under existing conditions, Heart Lake Road & Old School Road operates well within capacity with all movements operating with acceptable v/c ratios with an overall LOS A for both AM and PM peak hours. For all future conditions and scenarios, all intersections have been found to operate within capacity with all movements functioning with a v/c ratio below 1.00 and LOS D or better for both AM and PM peak hours. Given this, all unsignalized intersection movements within the study area are considered acceptable and no major constraints are identified.

### 5.2.1 Heart Lake Road & Old School Road

Table 5-15: Heart Lake Road & Old School Road (2026 Horizon)

AM	Existing Conditions (2021)					Future Background (2026)					Future Total (2026)				
Mvmt	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q
Overall	-	-	9	A	-	-	-	10	A	-	-	-	10	A	-
NBLTR	65	0.11	9	A	0	69	0.12	9	A	0	69	0.12	9	A	0
EBLTR	248	0.36	10	A	2	276	0.41	11	B	2	286	0.42	11	B	2
WBLTR	102	0.16	9	A	1	111	0.17	9	A	1	111	0.17	9	A	1
SBLTR	91	0.14	9	A	1	97	0.16	9	A	1	97	0.16	9	A	1
PM	Existing Conditions (2021)					Future Background (2026)					Future Total (2026)				
Mvmt	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q
Overall	-	-	9	A	-	-	-	9	A	-	-	-	9	A	-
NBLTR	79	0.11	9	A	0	83	0.12	9	A	0	83	0.12	9	A	0
EBLTR	129	0.17	9	A	1	140	0.19	9	A	1	142	0.19	9	A	1
WBLTR	253	0.33	10	A	1	276	0.36	10	A	2	276	0.36	10	A	2
SBLTR	54	0.08	8	A	0	58	0.09	8	A	0	58	0.09	8	A	0

Table 5-16: Heart Lake Road & Old School Road (2031 Horizon)

AM	Existing Conditions (2021)					Future Background (2031)					Future Total (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	9	A	-	-	-	10	B	-	-	-	10	B	-
NBLTR	65	0.11	9	A	0	74	0.13	9	A	0	74	0.13	9	A	0
EBLTR	248	0.36	10	A	2	302	0.45	11	B	2	312	0.47	12	B	3
WBLTR	102	0.16	9	A	1	121	0.19	9	A	1	121	0.19	9	A	1
SBLTR	91	0.14	9	A	1	104	0.17	9	A	1	104	0.17	9	A	1
PM	Existing Conditions (2021)					Future Background (2031)					Future Total (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	9	A	-	-	-	10	A	-	-	-	10	A	-
NBLTR	79	0.11	9	A	0	88	0.13	9	A	0	88	0.13	9	A	0
EBLTR	129	0.17	9	A	1	153	0.21	9	A	1	155	0.21	9	A	1
WBLTR	253	0.33	10	A	1	302	0.40	11	B	2	302	0.40	11	B	2
SBLTR	54	0.08	8	A	0	63	0.09	9	A	0	63	0.09	9	A	0

Table 5-17: Heart Lake Road & Old School Road (2031 Horizon, Future Potential Off-Site Developments Sensitivity Analysis)

AM	Existing Conditions (2021)					Future Background (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	9	A	-	-	-	10	B	-	-	-	10	B	-
NBLTR	65	0.11	9	A	0	74	0.13	9	A	0	74	0.13	9	A	0
EBLTR	248	0.36	10	A	2	302	0.45	11	B	2	315	0.47	12	B	3
WBLTR	102	0.16	9	A	1	121	0.19	9	A	1	121	0.19	9	A	1
SBLTR	91	0.14	9	A	1	104	0.17	9	A	1	104	0.17	9	A	1
PM	Existing Conditions (2021)					Future Background (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	9	A	-	-	-	10	A	-	-	-	10	B	-
NBLTR	79	0.11	9	A	0	88	0.13	9	A	0	88	0.15	9	A	1
EBLTR	129	0.17	9	A	1	153	0.21	9	A	1	155	0.24	9	A	1
WBLTR	253	0.33	10	A	1	302	0.40	11	B	2	302	0.45	11	B	2
SBLTR	54	0.08	8	A	0	63	0.09	9	A	0	63	0.11	9	A	0

### 5.2.2 North Site Access 1 & Old School Road

Table 5-18: North Site Access 1 & Old School Road

AM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	1	0.00	10	A	0	1	0.00	10	B	0	9	0.01	10	B	0
EBT	284	0.00	0		0	312	0.00	0		0	314	0.00	0		0
EBR	0	0.00	0		0	0	0.00	0		0	1	0.00	0		0
WBL	6	0.01	8	A	0	6	0.01	8	A	0	30	0.02	8	A	0
WBT	113	0.00	0	A	0	124	0.00	0	A	0	124	0.00	0	A	0
PM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	1	0.00	9	A	0	1	0.00	9	A	0	28	0.03	9	A	0
EBT	126	0.00	0		0	139	0.00	0		0	139	0.00	0		0
EBR	0	0.00	0		0	0	0.00	0		0	0	0.00	0		0
WBL	13	0.01	8	A	0	13	0.01	8	A	0	23	0.02	8	A	0
WBT	279	0.00	0	A	0	308	0.00	0	A	0	308	0.00	0	A	0

### 5.2.3 North Site Access 2 & Old School Road

Table 5-19: North Site Access 2 & Old School Road

AM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	6	0.01	10	A	0	6	0.01	10	B	0	6	0.01	10	B	0
EBT	283	0.00	0		0	311	0.00	0		0	321	0.00	0		0
EBR	2	0.00	0		0	2	0.00	0		0	2	0.00	0		0
WBL	25	0.02	8	A	0	25	0.02	8	A	0	25	0.02	8	A	0
WBT	119	0.00	0	A	0	130	0.00	0	A	0	154	0.00	0	A	0

PM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)					
	Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
NBL	0	0.00	0	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	28	0.03	9	9	A	0	28	0.03	9	A	0	28	0.03	9	A	0
EBT	126	0.00	0	0		0	139	0.00	0		0	166	0.00	0		0
EBR	1	0.00	0	0		0	1	0.00	0		0	1	0.00	0		0
WBL	6	0.00	8	8	A	0	6	0.00	8	A	0	6	0.00	8	A	0
WBT	292	0.00	0	0	A	0	321	0.00	0	A	0	331	0.00	0	A	0

### 5.2.4 North Site Access 3 & Old School Road

Table 5-20: North Site Access 3 & Old School Road

AM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)					
	Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
NBL	0	0.00	0	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	6	0.01	10	10	A	0	6	0.01	10	B	0	6	0.01	10	B	0
EBT	289	0.00	0	0		0	317	0.00	0		0	327	0.00	0		0
EBR	1	0.00	0	0		0	1	0.00	0		0	1	0.00	0		0
WBL	25	0.02	8	8	A	0	25	0.02	8	A	0	25	0.02	8	A	0
WBT	144	0.00	0	0	A	0	155	0.00	0	A	0	179	0.00	0	A	0
PM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)					
	Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
NBL	0	0.00	0	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	28	0.03	9	9	A	0	28	0.03	9	A	0	28	0.03	9	A	0
EBT	154	0.00	0	0		0	167	0.00	0		0	194	0.00	0		0
EBR	0	0.00	0	0		0	0	0.00	0		0	0	0.00	0		0
WBL	6	0.00	8	8	A	0	6	0.00	8	A	0	6	0.00	8	A	0
WBT	298	0.00	0	0	A	0	327	0.00	0	A	0	337	0.00	0	A	0



### 5.2.5 North Site Access 4 & Old School Road

Table 5-21: North Site Access 4 & Old School Road

AM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	10	0.01	10	A	0	10	0.01	10	B	0	10	0.01	10	B	0
EBT	294	0.00	0		0	322	0.00	0		0	332	0.00	0		0
EBR	1	0.00	0		0	1	0.00	0		0	1	0.00	0		0
WBL	25	0.02	8	A	0	25	0.02	8	A	0	25	0.02	8	A	0
WBT	169	0.00	0	A	0	180	0.00	0	A	0	204	0.00	0	A	0
PM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBR	32	0.04	9	A	0	32	0.04	9	A	0	32	0.04	10	A	0
EBT	182	0.00	0		0	195	0.00	0		0	222	0.00	0		0
EBR	0	0.00	0		0	0	0.00	0		0	0	0.00	0		0
WBL	7	0.01	8	A	0	7	0.01	8	A	0	7	0.01	8	A	0
WBT	304	0.00	0	A	0	333	0.00	0	A	0	343	0.00	0	A	0

### 5.2.6 Dixie Road & East Site Access 1

Table 5-22: Dixie Road & East Site Access 1

AM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	L O S	95 <sup>th</sup> Q
Overall	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBT	535	0.00	0		0	562	0.00	0		0	580	0.00	0		0
EBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
EBR	1	0.00	13	B	0	1	0.00	14	B	0	1	0.00	14	B	0
SBT	712	0.00	0		0	759	0.00	0		0	779	0.00	0		0
SBR	0	0.00	0		0	0	0.00	0		0	0	0.00	0		0

PM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q
Overall	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
NBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
NBT	740	0.00	0		0	795	0.00	0		0	811	0.00	0		0
EBL	0	0.00	0	A	0	0	0.00	0	A	0	0	0.00	0	A	0
EBR	1	0.00	16	C	0	1	0.00	17	C	0	1	0.00	18	C	0
SBT	942	0.00	0		0	1007	0.00	0		0	1032	0.00	0		0
SBR	0	0.00	0		0	0	0.00	0		0	0	0.00	0		0

### 5.2.7 Dixie Road & East Site Access 3

Table 5-23: Dixie Road & East Site Access 3

AM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q
Overall	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
NBT	664	0.00	0		0	691	0.00	0		0	730	0.00	0		0
EBR	6	0.01	13	B	0	6	0.01	14	B	0	6	0.02	14	B	0
SBT	694	0.00	0		0	741	0.00	0		0	757	0.00	0		0
SBR	14	0.00	0		0	14	0.00	0		0	14	0.00	0		0
PM	Future Total (2026)					Future Total (2031)					Future Total with Off-Site Developments (2031)				
Mvmt	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q	Vol	V/C	Delay (s)	LOS	95 <sup>th</sup> Q
Overall	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
NBT	759	0.00	0		0	814	0.00	0		0	833	0.00	0		0
EBR	29	0.10	18	C	0	29	0.11	20	C	0	29	0.11	21	C	0
SBT	1001	0.00	0		0	1066	0.00	0		0	1119	0.00	0		0
SBR	3	0.00	0		0	3	0.00	0		0	3	0.00	0		0

# 6

## 6 PARKING AND LOADING ASSESSMENT

The following section will review the applicable parking and loading standards for the proposed development based on current zoning by-law requirements.

### 6.1 VEHICLE PARKING REQUIREMENTS

The proposed parking supply has been evaluated using the Town of Caledon’s By-law 2006-50 parking rates.

#### 6.1.1 By-law 2006-50 – Vehicle Parking Requirements

The required and proposed parking supply for the development has been evaluated using the Town of Caledon’s By-law 2006-50 parking rates. As noted in By-law 2006-50, if the associate office and retail land uses are 15% or less of the total net floor area (NFA) then those uses are subject to the applicable parking requirements noted Section 5.2.3 of the By-law.

A summary of the required parking supply based on By-law 2006-50 have been provided in **Table 6-1** below.

Table 6-1: Zoning By-law 2006-50 Parking Requirements

Building	Land Use	NFA (m <sup>2</sup> )	Town of Caledon Zoning By-law 2006-50		Proposed Parking
			Parking Standard	Parking Required	
Building 1	Industrial	55,844	If over 10,000m <sup>2</sup> , 139 sp. + 1sp./170 of NFA	409	411
Building 2	Industrial	27,398		242	262
Building 3	Industrial	285,805	If over 20,000m <sup>2</sup> , 168 sp. + 1sp./170 of NFA	1732	1698
<b>TOTAL</b>				<b>2,383</b>	<b>2,371</b>

As detailed in **Table 6-1**, By-law 2006-50 permits a minimum vehicle parking supply of 2,383 vehicle parking spaces. The development is proposing 2,371 vehicle parking spaces. This supply combined with the trailer parking requirements meets the minimum parking rates outlined in By-law 2006-50.

#### 6.1.2 Proposed Trailer Parking

As noted in By-law 2006-50 trailer parking requirements, truck and trailer parking spaces count towards parking minimums. Therefore, the development is proposing 488 trailer parking spaces (94 spaces for Buildings 1 and 394 spaces for Building 3).

#### 6.1.3 Electric Vehicle Parking

In support of the Town’s sustainable transportation efforts the development has proposed 12 EV charging outlets as part of the overall vehicular parking supply.

#### 6.1.4 Accessible Parking

Similar to above, the accessible parking rates for the proposed development have been reviewed based on By-law 2006-50 requirements as shown in **Table 6-2**.

Table 6-2: Zoning By-law 2006-50 Accessible Parking Spaces

No. of Required Parking Spaces		No. of Designated Accessible Spaces	Required Parking	Proposed Supply	
				Type A	Type B
Building 1	409	2 accessible spaces plus 2%	11	10	10
Building 2	242		7		
Building 3	1762	11 accessible spaces plus 1%	29	8	20
TOTAL			47	18	30
				48	

The proposed development will supply a total of 48 (18 Type A, and 30 Type B) accessible parking spaces, which meets the minimum requirements for accessible parking spaces outlined in By-law 2006-50.

## 6.2 LOADING STANDARDS REQUIREMENTS

Loading spaces for the proposed development must adhere to the loading standards set out in the Town of Caledon's By-law 2006-50. The following loading standards are provided in **Table 6-3**.

Table 6-3: By-Law 2006-50 Loading Standard Requirements

NFA land Use		Loading Space Requirements	Required Loading	Proposed Loading
Building 1	55844	3 plus 1 sp. for each additional 9300m <sup>2</sup> in excess of 7441m <sup>2</sup>	9	85
Building 2	27398		6	61
Building 3	285805		33	58
TOTAL			48	204

A total minimum of 48 loading spaces are required for the development. The development proposes a total of 204 loading spaces which satisfies minimum requirements. Detailed swept path diagrams are provided in **Appendix G**.

## 7 PEDESTRIAN AND BICYCLE CIRCULATION PLAN

The proposed development is in an area where there are proposed cycling and pedestrian transportation infrastructure as noted in Town's *Transportation Master Plan* and the Region of Peel's *Long Range Transportation Plan*. As shown in

**Figure 7-1**, cycling and pedestrian lanes are proposed along Dixie Road that will provide a north-south connection within Caledon towards the City of Brampton. These improvements will further connect to future cycling pedestrian lanes along King Street which will provide an east-west connection across Peel Region towards the Town of Bolton.

Additionally, improved active transportation infrastructure lanes along Dixie Road will connect to the existing cycling networks along Mayfield Road and Old School Road. Overall, these network improvements will provide better safer cycling and pedestrian options to and from the subject site. The proposed internal pedestrian facilities further allow visitors and employees to enter and exit the industrial buildings areas safely and will provide safe opportunities to cross the internal road network, minimizing the opportunity for pedestrian and vehicle conflicts within the subject site.

It should be noted that detailed internal circulation plans for each building will be provided in corresponding future submissions, as site plan details finalize.

**Figure 7-1: Internal Pedestrian and Bicycle Circulation**

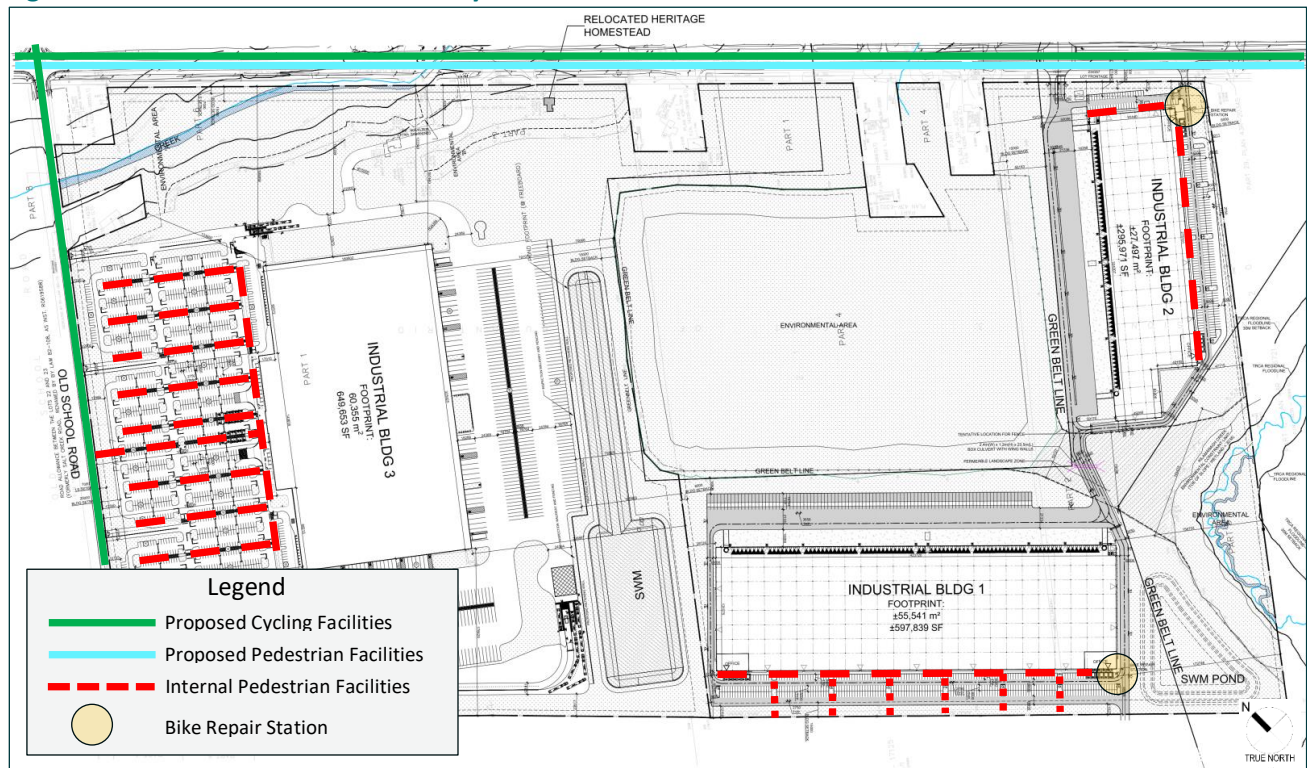
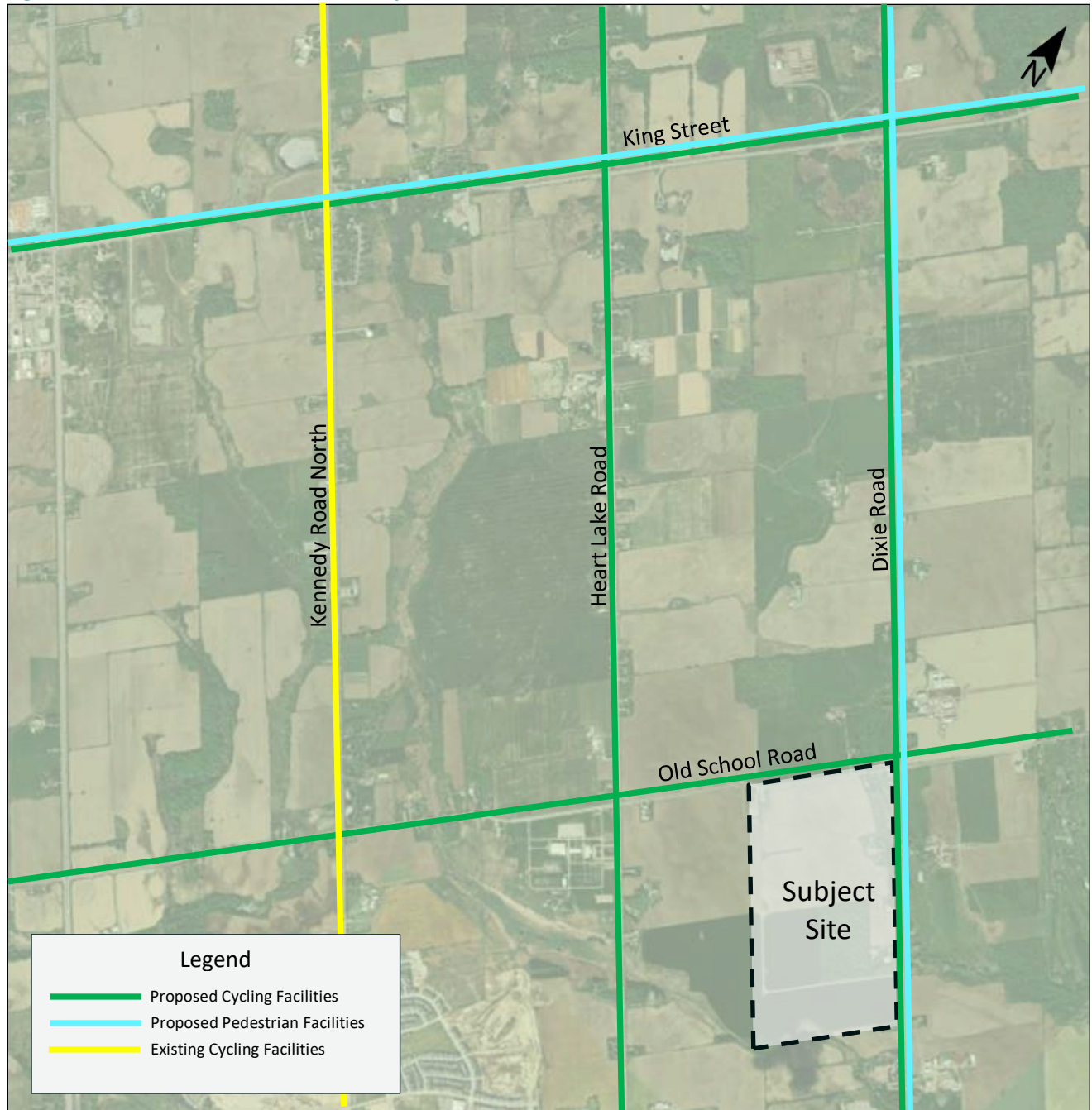




Figure 7-2 illustrates the off-site active transportation circulation linkages including existing and proposed facilities. It should be noted that there are no existing transit stops within the subject area.

Figure 7-2: External Pedestrian and Bicycle Circulation





## 8 TRANSPORTATION DEMAND MANAGEMENT (TDM)

The purpose of Transportation Demand Management (TDM) strategies is to promote the use of sustainable modes of transportation whereby reducing reliance on private vehicles during weekday peak periods. This is done by using policies, programs, services, incentives, and small-scale infrastructure. TDM strategies are an important part of Peel Region's Sustainable Transportation Strategy (STS) which aims at increasing mode share use for transit, walking, cycling, carpooling, and telework by the year 2041 by 50%. Implementing TDM tools and techniques within the proposed development will ensure that individuals accessing the site are aware of the travel options available to them, understand how to use these options, and can help employers/employees maximize the use of new or existing sidewalks, trails, bike lanes, bus transit lines, and or commuter rail systems. The sections below will detail strategies that can be incorporated into the proposed development.

### 8.1 TRANSIT-BASED STRATEGIES

#### 1. Addition of bus stops on-site to provide connection to transit network.

The proposed development will implement bus stops on site to encourage employees to use transit. The bus locations are proposed along the driveways of North Access #3 along Old School Road, as well as East Access #2 along Dixie Road. The exact bus stop locations and design will be determined in consultation with the Town of Caledon and Region of Peel, along with transit routing and schedules.

#### 2. Provision of real-time transit schedule screens.

It is recommended that screens be provided in the employees' lounges and main exits to display real-time data for transit services, including schedules and service alerts. Transit Smart Boards located within developments can be used as a marketing tool to build awareness and promote the benefits of transit. These smartboards can also showcase the transit routes available to the proposed development.

#### 3. Transit Information Packages

It is recommended that information packages be distributed to employees of the proposed development to increase transit awareness and encourage multi-modal transport. Informing residents about the future transit options may encourage regular transit usage to and from the site. The information packages should contain public transit information such as route maps and timetables.

#### 4. Presto Incentives

As PRESTO becomes a dominant form of payment for transit throughout the Greater Toronto and Hamilton Area (GTHA), it is recommended that pre-loaded PRESTO cards be offered to units in their welcome package. This incentive, coupled with the site's proximity to transit, provides an opportunity for residents to experience the benefits of using adjacent transit facilities.

## 8.2 ACTIVE TRANSPORTATION STRATEGIES

### 1. Maintenance

The construction of pedestrian facilities should be done in a way that is accessible and adheres to Access for Ontarians with Disabilities Act (AODA). Developments should be encouraged to provide curb ramps and adequate clear widths on sidewalks where necessary.

### 2. Decrease physical barriers

Decreasing barriers is a way that developments can use to increase walking to/from the proposed development. Internal pedestrian network should be easy to navigate at all hours during the day and safely allow future residents to access the public pedestrian network.

### 3. Safe and accessible walking environments

Safety is an important component for encouraging walking to/from new developments. Developments should be encouraged to provide safe internal walkways and ensure safe access to public sidewalks by doing the following:

- Installing better lighting.
- Providing wayfinding within the internal sidewalk network.
- Reduce internal speed limits to enhance/promote walking activity within the site.
- Provide additional landscaping in the form of wider sidewalks, and having accessibility measures (e.g. curb ramps from sidewalks to roadways).
- Improve snow and ice removal on public sidewalks fronting onto the development and within the internal road network.

### 4. Connect with Public Transit

The pedestrian network should be easily accessible to public transit bus stops and or any available higher order transit routes.

### 8.3 TRAVEL AND PARKING MANAGEMENT STRATEGIES

#### 5. Signed carpool spaces.

It is recommended that the proposed development include designated carpool spaces as a means to reduce single occupancy automobile usage. These carpool spaces should be clearly signed and be located conveniently close to the main entrances to provide a greater incentive for employees carpooling.

#### 6. Smart Commute Membership.

Once tenants are secured, it is recommended that future tenants/owners register with the Smart Commute program. Smart Commute provides the means for businesses to help provide an alternative option for their employees to get to and from work through ride matching. One benefit with Smart Commute is the Emergency Ride Home program that provides carpoolers with a sense of reassurance under urgent circumstances. The Owner could also help tenants in establishing an employer-based carpool program specifically for the employees that would be working on-site.

#### 7. Communications Strategy.

The Owner should provide communications and distribute information to employees via information packages or through email regarding the different travel demand management measures and programs that are offered. Information on Smart Commute, Emergency Ride Home, or other incentives can be obtained from the Region, and be included as part of this material. The Region and/or Town should also be responsible for making Smart Commute information brochures, pedestrian/cycling maps, transit maps, and other general information available for distribution to the building occupant to help commuters become aware of the various travel alternatives.

## 9 CONCLUSIONS

- ▶ The development proposal will introduce four (4) warehouse/distribution buildings with a combined ground floor area (GFA) of approximately 247,243 m<sup>2</sup>. Seven (7) accesses will be provided to the site: four (4) accesses along Old School Road and three (3) accesses along Dixie Road.
- ▶ The subject site is in an area that has limited access to both public transit and active transportation as the surrounding area is predominantly rural. There are plans to extend the existing Brampton Transit Bus Route north along Dixie Road near the site, as well as implement active transportation infrastructure along Dixie Road and Old School Road. This will improve transport mobility near the site.
- ▶ The site is expected to generate a total of 262 new trips (202 inbound, 60 outbound) and 293 new trips (79 inbound, 214 outbound) during the AM and PM peak hour periods, respectively.
- ▶ Under existing traffic conditions, all studied intersections operate within capacity with an overall LOS of 'C' or better during both peak periods. Of note, In the PM peak hour, the northbound left movement exhibits a LOS E with a v/c ratio of 0.95, which is most likely attributed to the lack of a dedicated northbound left turn phase in the intersection's signal timing plan.
- ▶ Under future background and total conditions, the studied intersections continue to operate within capacity during the weekday AM peak hour. Of note, the PM peak hours shows the intersection operates at LOS D with a v/c ratio of 1.10. Furthermore, the eastbound left and northbound left movements display a LOS F with a v/c ratio of 1.15 and 0.99 respectively and is expected to increase up to 1.30 and 1.06 respectively under 2026 future total conditions. That said, the intersection capacity issues exhibited under 2026 future conditions are expected to be temporary issues that will be alleviated with the future widening of Dixie Road and Mayfield Road as planned under Peel Region's Long Range Transportation Plan.
- ▶ Signal timing adjustments while maintaining the existing cycle length are recommended at Dixie & Mayfield during the PM peak period to alleviate the traffic constraints revealed under future background conditions. With the optimized signal timing plan, the intersection operates with acceptable levels of service.
- ▶ The required and proposed parking supply for the development has been evaluated using the Town of Caledon's By-law 2006-50 parking rates. The proposed parking provision of 2,859 (2,371 vehicle and 488 trailer) parking spaces satisfies the Town of Caledon Zoning By-law parking requirements.
- ▶ In support of the Town's sustainable transportation efforts the development has proposed 12 EV charging outlets as part of the overall vehicular parking supply.
- ▶ A total of 48 (18 Type A, and 30 Type B) accessible parking spaces, which meets the minimum requirements for accessible parking spaces outlined in By-law 2006-50.

- ▶ The development is proposing a total of 204 loading spaces which satisfies minimum requirements.
- ▶ A robust set of TDM measures is recommended for the subject site to facilitate a change in travel behaviour sought for the area and reduce single-occupant vehicle trips generated by the proposed development. Recommended measures include bicycle parking facilities, pedestrian connections, connections to active transportation facilities, and the promotion of multi-modal travel alternatives.







# APPENDIX A

## Terms of Reference



December 3, 2020

Reference Number: 21211

Hashim Hamdani  
Supervisor, Traffic Development & Permits  
Region of Peel  
10 Peel Centre Drive, Brampton  
ON L6T 4B9

RE: Terms of Reference – Transportation Impact Study  
Proposed Industrial/Employment Development  
12892 Dixie Road (Lot 1 Caledon Lands), Town of Caledon

Dear Hashim Hamdani,

We wish to confirm the following work plan for a Transportation Impact Study (TIS) for the proposed industrial/employment development located at 12892 Dixie Road (herein referred to as the “subject site”) in the Town of Caledon. The subject site is currently agricultural land and is located at the southwest corner of Dixie Road & Old School Road, as illustrated in Figure 1.

Figure 1: Subject Site Location





Based on the latest site plan received, the subject site will introduce three (3) warehouse/distribution buildings with a combined floor area of approximately 2.3 million ft<sup>2</sup> and surface parking. The subject site will be accessible via a full-movement access point located along Dixie Road, as well as Old School Road. An internal driveway extending from the Old School Road access is proposed to connect two of the buildings to the north, whereas the remaining building will be accessible via the Dixie Road entrance. Both access points are proposed to be signalized.

The TIS for the proposed development will be conducted following the Town of Caledon's Transportation Impact Studies: Terms of Reference and Guidelines (March 2017) as well as the Region of Peel's Traffic Impact Study Guidelines. The following outlines the proposed Terms of Reference for the study.

### STUDY AREA & TRAFFIC DATA

The proposed study area will include the analysis of the following intersections:

- ▶ North Site Access & Old School Road (future signalization);
- ▶ Dixie Road & Old School Road (signalized);
- ▶ Dixie Road & East Site Access (future signalization);
- ▶ Dixie Road & Merchant Road (future signalization as part of 12035 Dixie Road, Lots 2 and 3 Caledon Lands, development application); and
- ▶ Dixie Road & Mayfield Road (signalized).

LEA will obtain the most recent turning movement count (TMC) data available for these intersections. If the data is more than two years old, the traffic counts will be adjusted to account for general corridor growth. If data is unavailable, LEA will conduct turning movement count surveys at the missing intersections. The traffic counts will be adjusted based on a "pandemic factor" by comparing observed traffic volumes to pre-COVID conditions of intersections with available data.

### TRAFFIC ASSESSMENT & STUDY HORIZON YEAR

The study will focus on weekday AM and PM peak hour traffic operations. Synchro version 11 will be used to assess intersection operations based on the HCM 2000 methodology during the peak hours. A five (5) year horizon will be assessed in this Transportation Impact Study for the year 2025.

### BACKGROUND TRAFFIC

General Corridor Growth Rate: An annual growth rate of 2% will be applied to all corridors subject to confirmation by Town/Region Staff.

Road Network Improvements: LEA will note any road network improvements identified within the study area and account for any traffic diversions associated with these improvements within in our analysis.

Background Development Traffic: LEA will consult with Town/Region Staff for any relevant background developments to be considered within the study.



### TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

Trip generation will be estimated using ITE Trip Generation Manual 10th Edition. The general trip distribution will be based on a review of 2016 TTS data and/or existing traffic patterns. Trip assignment will be completed accordingly to reflect the configuration of site accesses, turning restrictions, and logical routings.

### FUTURE TRAFFIC SCENARIOS

Future background and future total analyses for the aforementioned intersections within the study are will be over a five (5) year horizon for the year 2025.

### REMEDIAL MEASURES

Movements at the studied intersections will be examined for reduced performance under future total conditions. In particular, through movements and shared through/turning movements with a V/C ratio of 0.90 or greater will be identified, as well as intersections with an overall V/C ratio of 0.90 or greater. For individual turning movements, a threshold V/C ratio of 1.00 or greater will be noted. Finally, movements with levels of service (LOS) of "E" or worse will be identified for unsignalized intersections.

If remedial actions such as signal optimization are unsuccessful this will also be identified. If remedial measures are to be employed, a scenario will be provided demonstrating the change in intersection operations.

### PARKING & LOADING

The site is currently subject to Town of Caledon Zoning By-Law 2006-50, which will be reviewed for parking and loading requirements. As relief from the Zoning By-law parking requirements is sought, LEA proposes to conduct a proxy parking survey at a similar development to determine the associated parking demand for warehouse/distribution buildings. The parking utilization surveys will be conducted on a typical weekday, from 7:00AM to 8:00PM. The Acklands Grainger distribution centre at 21 Merchant Road, located 1.5 km south of the subject site is selected as a potential proxy site.

If conducting a parking survey at this time is deemed unsuitable in estimating parking demand, LEA will conduct a review of warehouse/distribution centre parking rates from neighbouring municipalities to determine an appropriate parking supply for the proposed use.

### TRANSPORTATION DEMAND MANAGEMENT

A TDM plan will be completed and provide recommendations to promote alternate modes of travel.

Should you have any comments with our assumptions or have any concerns, please contact the undersigned at [schan@lea.ca](mailto:schan@lea.ca).



Yours truly,  
LEA CONSULTING LTD.

A handwritten signature in purple ink that reads 'Sabrina Chan'. The signature is written in a cursive, flowing style.

Sabrina Chan, M.Eng., P.Eng.  
Transportation Engineer





December 3, 2020

Reference Number: 21211

Arash Olia  
Manager, Transportation Engineering  
Town of Caledon  
6311 Old Church Road, Caledon  
ON L7C 1J6

RE: Terms of Reference – Transportation Impact Study  
Proposed Industrial/Employment Development  
12892 Dixie Road (Lot 1 Caledon Lands), Town of Caledon

Dear Arash Olia,

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### REMEDIAL MEASURES

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Should you have any comments with our assumptions or have any concerns, please contact the undersigned at [schan@lea.ca](mailto:schan@lea.ca).



Yours truly,  
LEA CONSULTING LTD.

A handwritten signature in purple ink that reads 'Sabrina Chan'. The signature is written in a cursive, flowing style.

Sabrina Chan, M.Eng., P.Eng.  
Transportation Engineer



# APPENDIX B

**Turning Moving Counts  
& Signal Timing Plans**

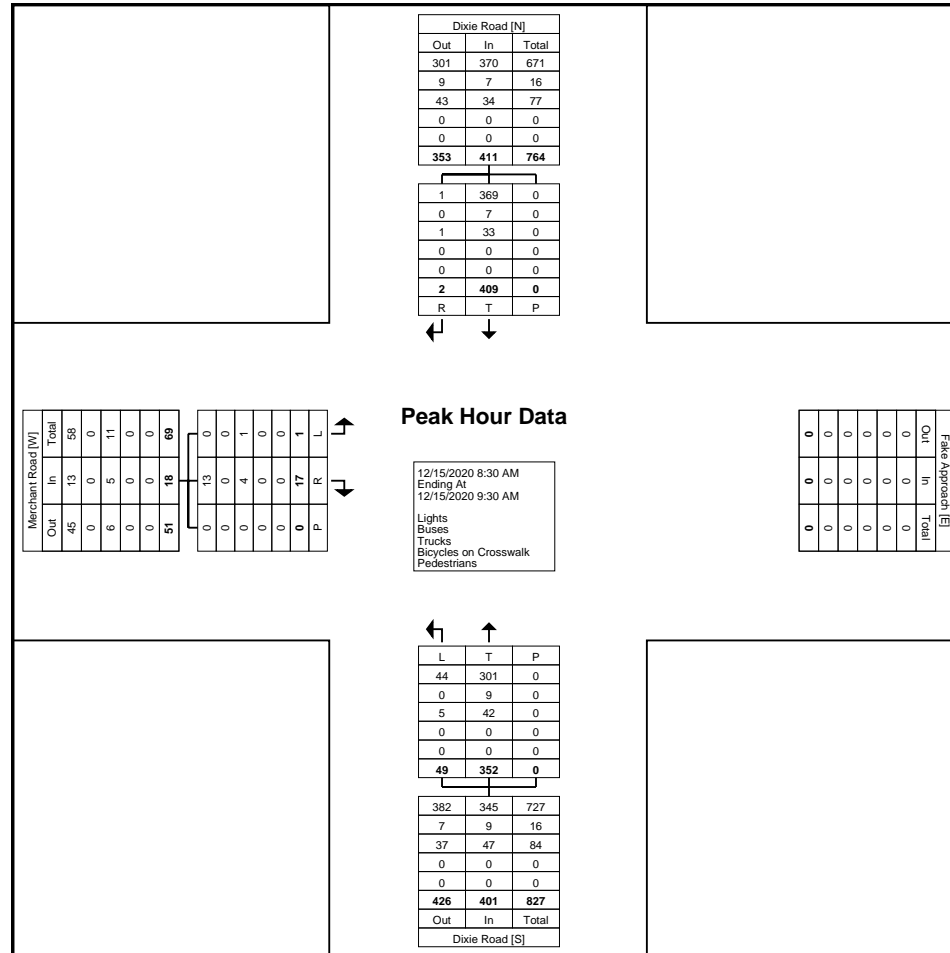




LEA Consulting Ltd.  
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9  
905-470-0015 x240 KIo@LEA.ca

Count Name: 21211\_Dixie Rd & Merchant Rd-AM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 4



Turning Movement Peak Hour Data Plot (8:30 AM)





LEA Consulting Ltd.  
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9  
905-470-0015 x240 KIo@LEA.ca

Count Name: 21211\_Dixie Rd & Merchant Rd-  
PM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 3

### Turning Movement Peak Hour Data (4:30 PM)

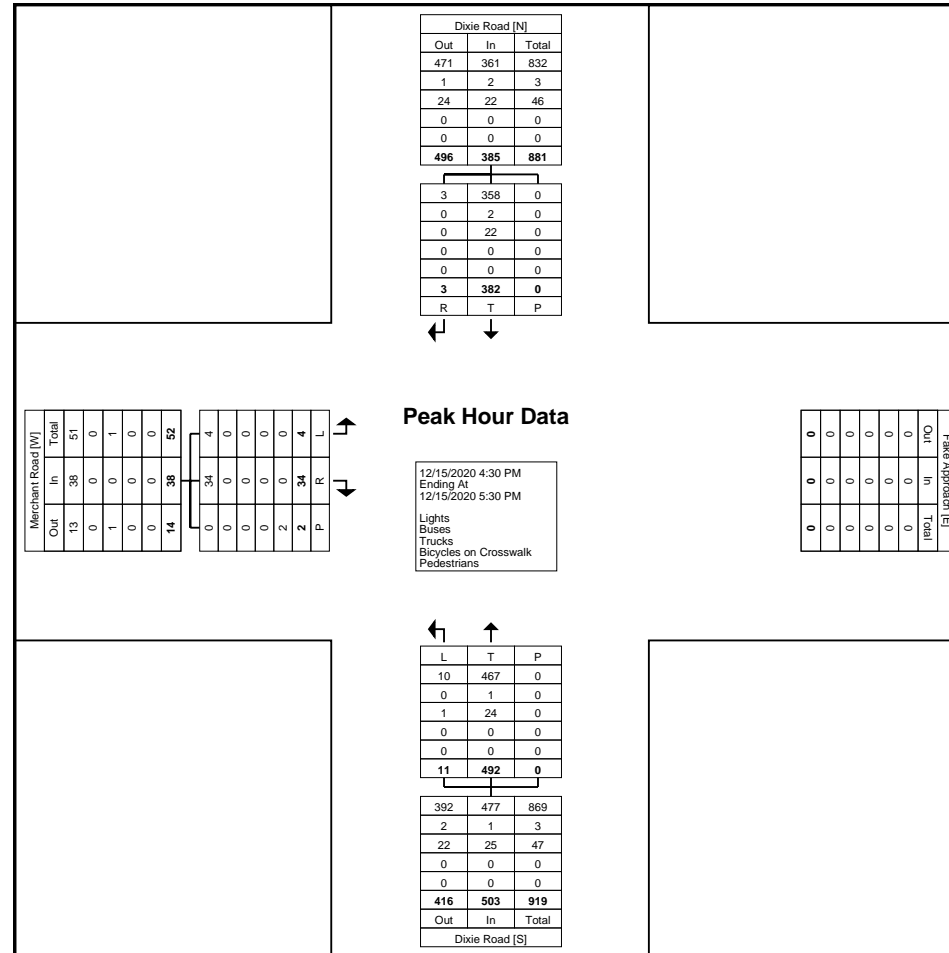
Start Time	Dixie Road Southbound				Dixie Road Northbound				Merchant Road Eastbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
4:30 PM	83	0	0	83	2	136	0	138	0	16	2	16	237
4:45 PM	114	1	0	115	4	137	0	141	3	3	0	6	262
5:00 PM	97	2	0	99	3	100	0	103	0	9	0	9	211
5:15 PM	88	0	0	88	2	119	0	121	1	6	0	7	216
Total	382	3	0	385	11	492	0	503	4	34	2	38	926
Approach %	99.2	0.8	-	-	2.2	97.8	-	-	10.5	89.5	-	-	-
Total %	41.3	0.3	-	41.6	1.2	53.1	-	54.3	0.4	3.7	-	4.1	-
PHF	0.838	0.375	-	0.837	0.688	0.898	-	0.892	0.333	0.531	-	0.594	0.884
Lights	358	3	-	361	10	467	-	477	4	34	-	38	876
% Lights	93.7	100.0	-	93.8	90.9	94.9	-	94.8	100.0	100.0	-	100.0	94.6
Buses	2	0	-	2	0	1	-	1	0	0	-	0	3
% Buses	0.5	0.0	-	0.5	0.0	0.2	-	0.2	0.0	0.0	-	0.0	0.3
Trucks	22	0	-	22	1	24	-	25	0	0	-	0	47
% Trucks	5.8	0.0	-	5.7	9.1	4.9	-	5.0	0.0	0.0	-	0.0	5.1
Bicycles on Crosswalk	-	-	0	-	-	-	0	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	0	-	-	-	0	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-



LEA Consulting Ltd.  
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9  
905-470-0015 x240 KIo@LEA.ca

Count Name: 21211\_Dixie Rd & Merchant Rd-  
PM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 4



Turning Movement Peak Hour Data Plot (4:30 PM)



LEA Consulting Ltd.  
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9  
905-470-0015 x240 Klo@LEA.ca

Count Name: 21211\_Heart Lake Rd & Old  
School Rd-AM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 3

### Turning Movement Peak Hour Data (7:15 AM)

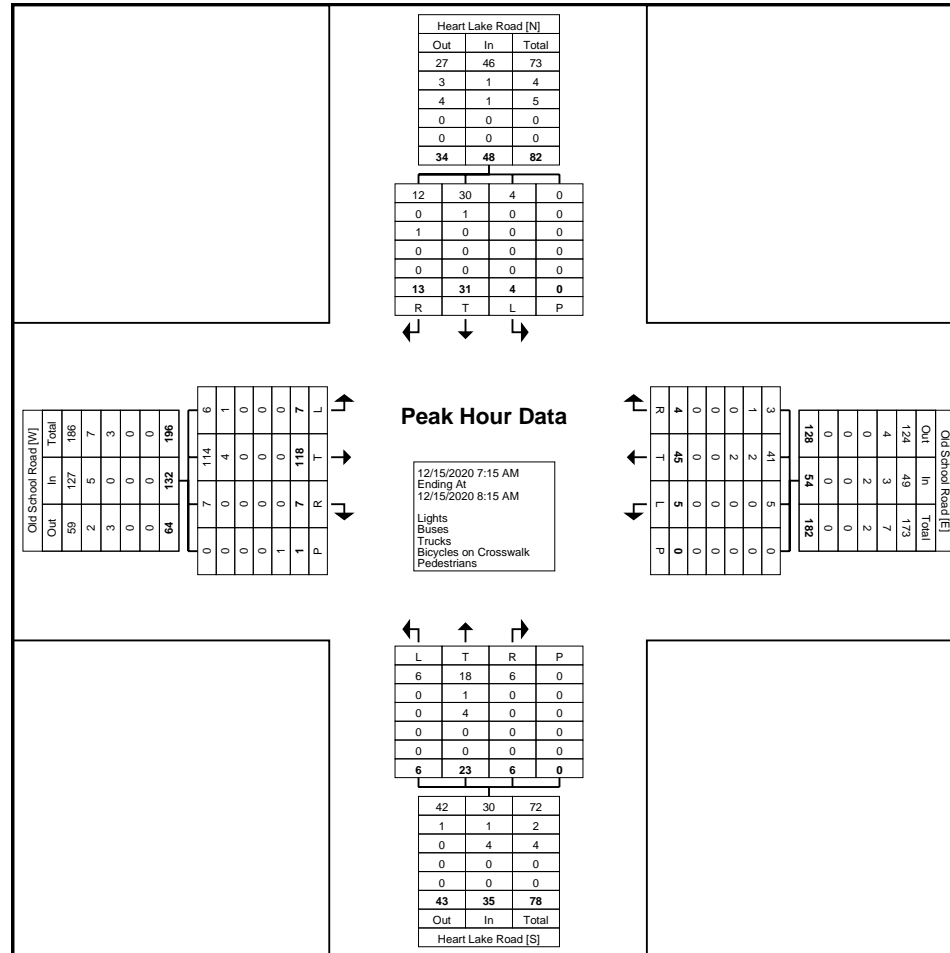
Start Time	Heart Lake Road Southbound					Old School Road Westbound					Heart Lake Road Northbound					Old School Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:15 AM	2	6	4	0	12	1	10	1	0	12	1	8	0	0	9	3	23	1	0	27	60
7:30 AM	1	5	6	0	12	0	11	1	0	12	2	5	2	0	9	4	31	4	1	39	72
7:45 AM	0	11	0	0	11	3	13	1	0	17	1	6	1	0	8	0	41	2	0	43	79
8:00 AM	1	9	3	0	13	1	11	1	0	13	2	4	3	0	9	0	23	0	0	23	58
Total	4	31	13	0	48	5	45	4	0	54	6	23	6	0	35	7	118	7	1	132	269
Approach %	8.3	64.6	27.1	-	-	9.3	83.3	7.4	-	-	17.1	65.7	17.1	-	-	5.3	89.4	5.3	-	-	-
Total %	1.5	11.5	4.8	-	17.8	1.9	16.7	1.5	-	20.1	2.2	8.6	2.2	-	13.0	2.6	43.9	2.6	-	49.1	-
PHF	0.500	0.705	0.542	-	0.923	0.417	0.865	1.000	-	0.794	0.750	0.719	0.500	-	0.972	0.438	0.720	0.438	-	0.767	0.851
Lights	4	30	12	-	46	5	41	3	-	49	6	18	6	-	30	6	114	7	-	127	252
% Lights	100.0	96.8	92.3	-	95.8	100.0	91.1	75.0	-	90.7	100.0	78.3	100.0	-	85.7	85.7	96.6	100.0	-	96.2	93.7
Buses	0	1	0	-	1	0	2	1	-	3	0	1	0	-	1	1	4	0	-	5	10
% Buses	0.0	3.2	0.0	-	2.1	0.0	4.4	25.0	-	5.6	0.0	4.3	0.0	-	2.9	14.3	3.4	0.0	-	3.8	3.7
Trucks	0	0	1	-	1	0	2	0	-	2	0	4	0	-	4	0	0	0	-	0	7
% Trucks	0.0	0.0	7.7	-	2.1	0.0	4.4	0.0	-	3.7	0.0	17.4	0.0	-	11.4	0.0	0.0	0.0	-	0.0	2.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



LEA Consulting Ltd.  
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9  
905-470-0015 x240 KIo@LEA.ca

Count Name: 21211\_Heart Lake Rd & Old  
School Rd-AM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)



LEA Consulting Ltd.  
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9  
905-470-0015 x240 KIo@LEA.ca

Count Name: 21211\_Heart Lake Rd & Old  
School Rd-PM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 3

### Turning Movement Peak Hour Data (4:45 PM)

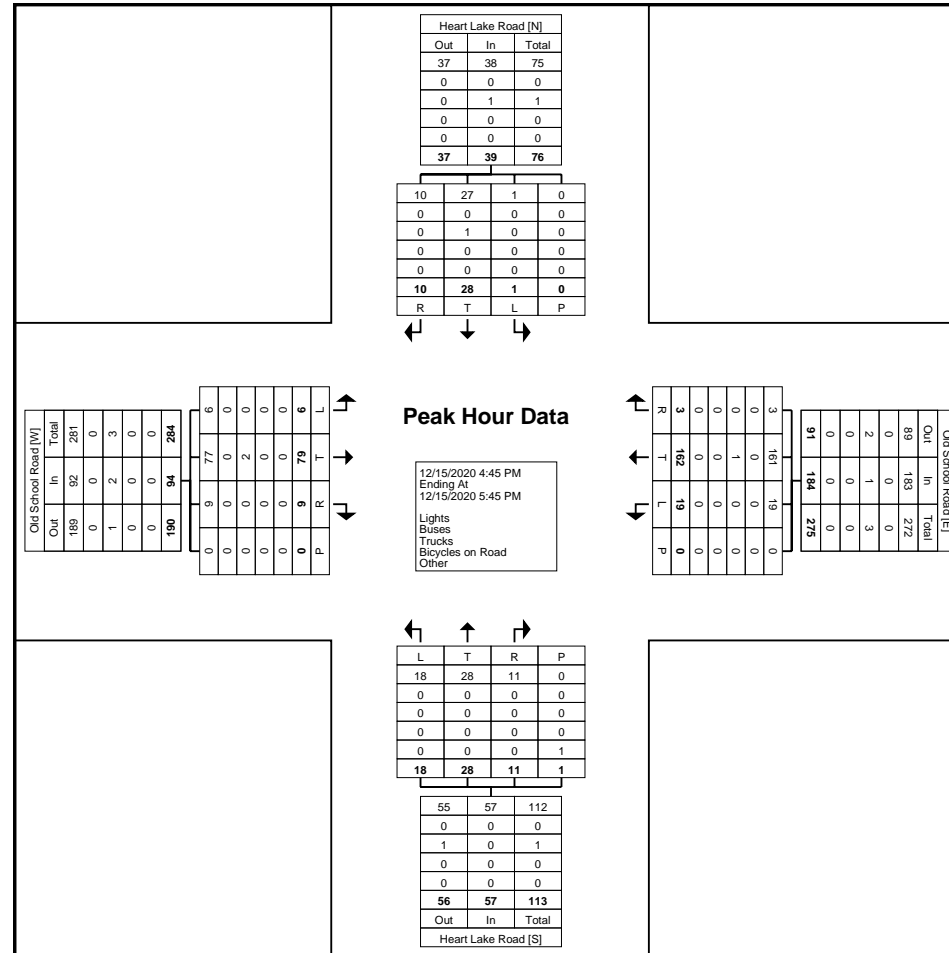
Start Time	Heart Lake Road Southbound					Old School Road Westbound					Heart Lake Road Northbound					Old School Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	11	2	0	13	4	40	0	0	44	4	5	1	1	10	2	21	2	0	25	92
5:00 PM	0	9	5	0	14	3	32	1	0	36	9	7	1	0	17	1	20	2	0	23	90
5:15 PM	1	2	1	0	4	8	38	1	0	47	4	9	6	0	19	2	25	3	0	30	100
5:30 PM	0	6	2	0	8	4	52	1	0	57	1	7	3	0	11	1	13	2	0	16	92
<b>Total</b>	<b>1</b>	<b>28</b>	<b>10</b>	<b>0</b>	<b>39</b>	<b>19</b>	<b>162</b>	<b>3</b>	<b>0</b>	<b>184</b>	<b>18</b>	<b>28</b>	<b>11</b>	<b>1</b>	<b>57</b>	<b>6</b>	<b>79</b>	<b>9</b>	<b>0</b>	<b>94</b>	<b>374</b>
Approach %	2.6	71.8	25.6	-	-	10.3	88.0	1.6	-	-	31.6	49.1	19.3	-	-	6.4	84.0	9.6	-	-	-
Total %	0.3	7.5	2.7	-	10.4	5.1	43.3	0.8	-	49.2	4.8	7.5	2.9	-	15.2	1.6	21.1	2.4	-	25.1	-
PHF	0.250	0.636	0.500	-	0.696	0.594	0.779	0.750	-	0.807	0.500	0.778	0.458	-	0.750	0.750	0.790	0.750	-	0.783	0.935
Lights	1	27	10	-	38	19	161	3	-	183	18	28	11	-	57	6	77	9	-	92	370
% Lights	100.0	96.4	100.0	-	97.4	100.0	99.4	100.0	-	99.5	100.0	100.0	100.0	-	100.0	100.0	97.5	100.0	-	97.9	98.9
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Trucks	0	1	0	-	1	0	1	0	-	1	0	0	0	-	0	0	2	0	-	2	4
% Trucks	0.0	3.6	0.0	-	2.6	0.0	0.6	0.0	-	0.5	0.0	0.0	0.0	-	0.0	0.0	2.5	0.0	-	2.1	1.1
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	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	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



LEA Consulting Ltd.  
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Count Name: 21211\_Heart Lake Rd & Old School Rd-PM  
Site Code: 21211  
Start Date: 12/15/2020  
Page No: 4



Turning Movement Peak Hour Data Plot (4:45 PM)

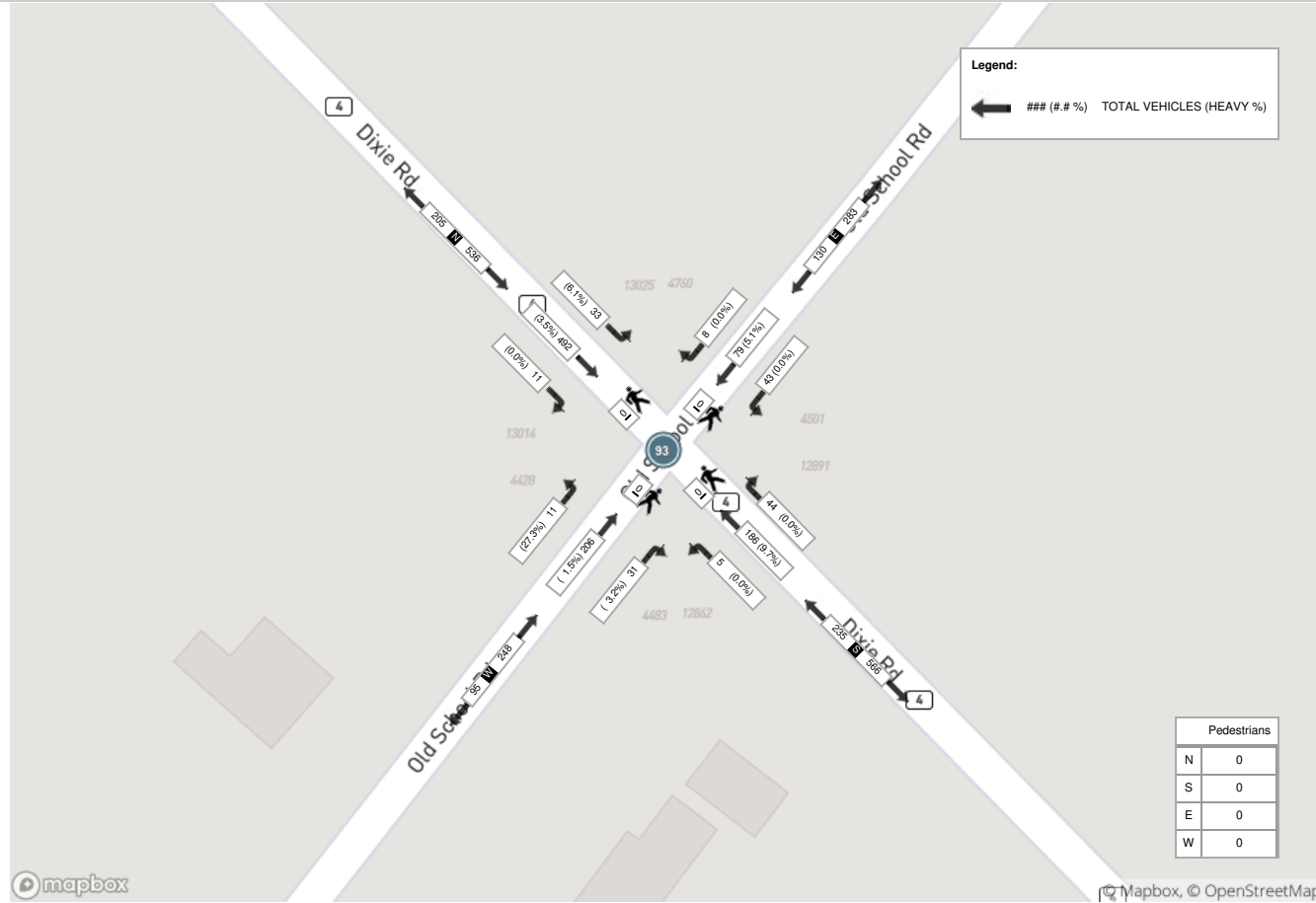




**Peak Hour: 07:15 AM - 08:15 AM Weather: Moderate Rain (9.08 °C)**

Start Time	N Approach DIXIE RD						E Approach OLD SCHOOL RD						S Approach DIXIE RD						W Approach OLD SCHOOL 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	
07:15:00	2	132	2	0	0	136	6	16	0	0	0	22	2	42	10	0	0	54	4	27	3	0	0	34	246
07:30:00	10	144	3	0	0	157	12	18	3	0	0	33	1	40	11	0	0	52	3	70	10	0	0	83	325
07:45:00	16	122	2	0	0	140	17	24	0	0	0	41	0	56	15	0	0	71	3	68	10	0	0	81	333
08:00:00	5	94	4	0	0	103	8	21	5	0	0	34	2	48	8	0	0	58	1	41	8	0	0	50	245
<b>Grand Total</b>	<b>33</b>	<b>492</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>536</b>	<b>43</b>	<b>79</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>130</b>	<b>5</b>	<b>186</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>235</b>	<b>11</b>	<b>206</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>248</b>	<b>1149</b>
<b>Approach%</b>	6.2%	91.8%	2.1%	0%	-	-	33.1%	60.8%	6.2%	0%	-	-	2.1%	79.1%	18.7%	0%	-	-	4.4%	83.1%	12.5%	0%	-	-	-
<b>Totals %</b>	2.9%	42.8%	1%	0%	46.6%	3.7%	6.9%	0.7%	0%	11.3%	0.4%	16.2%	3.8%	0%	20.5%	1%	17.9%	2.7%	0%	21.6%	-	-	-		
<b>PHF</b>	0.52	0.85	0.69	0	0.85	0.63	0.82	0.4	0	0.79	0.63	0.83	0.73	0	0.83	0.69	0.74	0.78	0	0.75	-	-	-		
<b>Heavy</b>	2	17	0	0	19	0	4	0	0	4	0	18	0	0	18	3	3	1	0	7	-	-	-		
<b>Heavy %</b>	6.1%	3.5%	0%	0%	3.5%	0%	5.1%	0%	0%	3.1%	0%	9.7%	0%	0%	7.7%	27.3%	1.5%	3.2%	0%	2.8%	-	-	-		
<b>Lights</b>	31	475	11	0	517	43	75	8	0	126	5	168	44	0	217	8	203	30	0	241	-	-	-		
<b>Lights %</b>	93.9%	96.5%	100%	0%	96.5%	100%	94.9%	100%	0%	96.9%	100%	90.3%	100%	0%	92.3%	72.7%	98.5%	96.8%	0%	97.2%	-	-	-		
<b>Single-Unit Trucks</b>	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	-	-	-		
<b>Single-Unit Trucks %</b>	0%	1.4%	0%	0%	1.3%	0%	0%	0%	0%	0%	0%	3.8%	0%	0%	3%	0%	0%	3.2%	0%	0.4%	-	-	-		
<b>Buses</b>	2	7	0	0	9	0	4	0	0	4	0	7	0	0	7	2	2	0	0	4	-	-	-		
<b>Buses %</b>	6.1%	1.4%	0%	0%	1.7%	0%	5.1%	0%	0%	3.1%	0%	3.8%	0%	0%	3%	18.2%	1%	0%	0%	1.6%	-	-	-		
<b>Articulated Trucks</b>	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	1	1	0	0	2	-	-	-		
<b>Articulated Trucks %</b>	0%	0.6%	0%	0%	0.6%	0%	0%	0%	0%	0%	0%	2.2%	0%	0%	1.7%	9.1%	0.5%	0%	0%	0.8%	-	-	-		
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-		
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-	-		

Peak Hour: 07:15 AM - 08:15 AM Weather: Moderate Rain (9.08 °C)

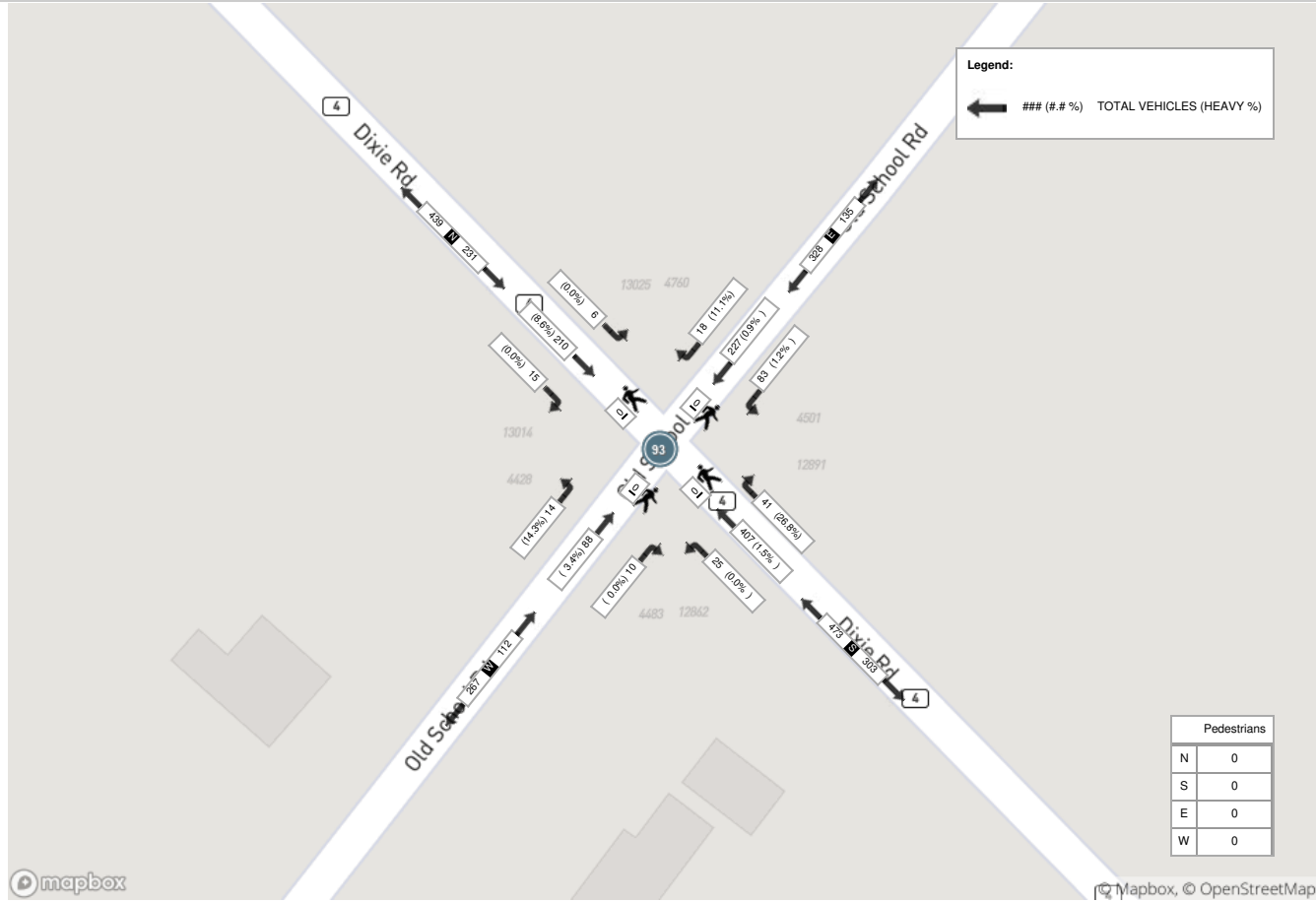




**Peak Hour: 04:00 PM - 05:00 PM Weather: Light Rain (10.54 °C)**

Start Time	N Approach DIXIE RD						E Approach OLD SCHOOL RD						S Approach DIXIE RD						W Approach OLD SCHOOL 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	
16:00:00	1	52	5	0	0	58	19	68	5	0	0	92	5	100	16	0	0	121	4	17	2	0	0	23	294
16:15:00	1	58	7	0	0	66	21	50	3	0	0	74	9	102	9	0	0	120	3	20	3	0	0	26	286
16:30:00	1	49	3	0	0	53	21	60	4	0	0	85	4	106	11	0	0	121	2	23	3	0	0	28	287
16:45:00	3	51	0	0	0	54	22	49	6	0	0	77	7	99	5	0	0	111	5	28	2	0	0	35	277
<b>Grand Total</b>	<b>6</b>	<b>210</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>231</b>	<b>83</b>	<b>227</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>328</b>	<b>25</b>	<b>407</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>473</b>	<b>14</b>	<b>88</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>112</b>	<b>1144</b>
<b>Approach%</b>	2.6%	90.9%	6.5%	0%		-	25.3%	69.2%	5.5%	0%		-	5.3%	86%	8.7%	0%		-	12.5%	78.6%	8.9%	0%		-	-
<b>Totals %</b>	0.5%	18.4%	1.3%	0%		20.2%	7.3%	19.8%	1.6%	0%		28.7%	2.2%	35.6%	3.6%	0%		41.3%	1.2%	7.7%	0.9%	0%		9.8%	-
<b>PHF</b>	0.5	0.91	0.54	0		0.88	0.94	0.83	0.75	0		0.89	0.69	0.96	0.64	0		0.98	0.7	0.79	0.83	0		0.8	-
<b>Heavy</b>	0	18	0	0		18	1	2	2	0		5	0	6	11	0		17	2	3	0	0		5	-
<b>Heavy %</b>	0%	8.6%	0%	0%		7.8%	1.2%	0.9%	11.1%	0%		1.5%	0%	1.5%	26.8%	0%		3.6%	14.3%	3.4%	0%	0%		4.5%	-
<b>Lights</b>	6	192	15	0		213	82	225	16	0		323	25	401	30	0		456	12	85	10	0		107	-
<b>Lights %</b>	100%	91.4%	100%	0%		92.2%	98.8%	99.1%	88.9%	0%		98.5%	100%	98.5%	73.2%	0%		96.4%	85.7%	96.6%	100%	0%		95.5%	-
<b>Single-Unit Trucks</b>	0	10	0	0		10	0	1	0	0		1	0	3	0	0		3	1	0	0	0		1	-
<b>Single-Unit Trucks %</b>	0%	4.8%	0%	0%		4.3%	0%	0.4%	0%	0%		0.3%	0%	0.7%	0%	0%		0.6%	7.1%	0%	0%	0%		0.9%	-
<b>Buses</b>	0	3	0	0		3	1	1	2	0		4	0	1	11	0		12	1	3	0	0		4	-
<b>Buses %</b>	0%	1.4%	0%	0%		1.3%	1.2%	0.4%	11.1%	0%		1.2%	0%	0.2%	26.8%	0%		2.5%	7.1%	3.4%	0%	0%		3.6%	-
<b>Articulated Trucks</b>	0	5	0	0		5	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	-
<b>Articulated Trucks %</b>	0%	2.4%	0%	0%		2.2%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	-
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 04:00 PM - 05:00 PM Weather: Light Rain (10.54 °C)



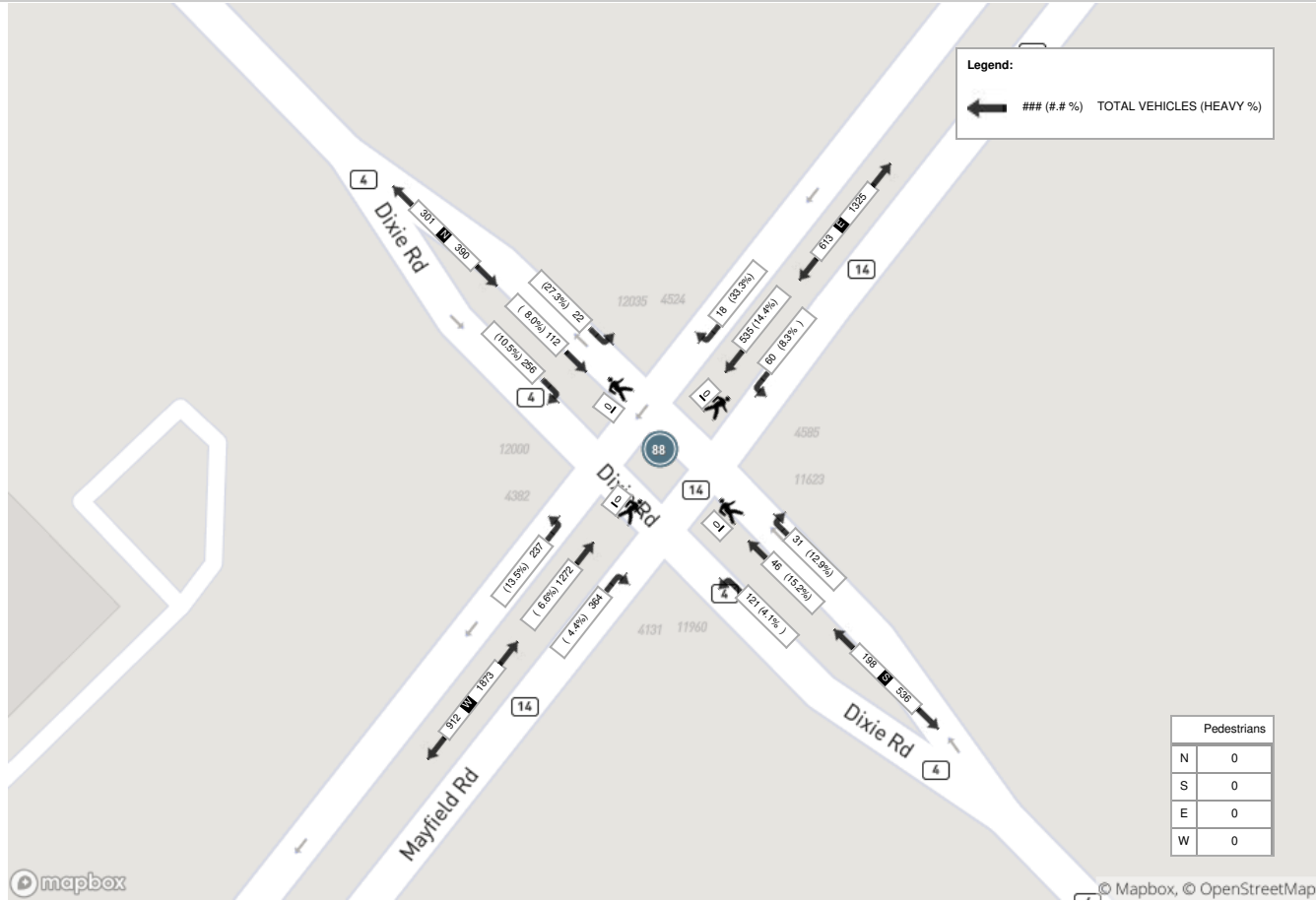


Turning Movement Count  
 Location Name: MAYFIELD RD & DIXIE RD  
 Date: Thu, Oct 03, 2019    Deployment Lead: Patrick Filopoulos

**Peak Hour: 07:15 AM - 08:15 AM    Weather: Moderate Rain (9.08 °C)**

Start Time	N Approach DIXIE ROAD						E Approach MAYFIELD RD						S Approach DIXIE RD						W Approach 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	
07:15:00	6	60	104	0	0	170	10	105	6	0	0	121	23	14	2	0	0	39	58	259	72	0	0	389	719
07:30:00	2	9	57	0	0	68	10	115	7	0	0	132	31	7	7	0	0	45	68	302	90	0	0	460	705
07:45:00	4	22	56	0	0	82	18	163	3	0	0	184	27	12	11	0	0	50	50	412	94	0	0	556	872
08:00:00	10	21	39	0	0	70	22	152	2	0	0	176	40	13	11	0	0	64	61	299	108	0	0	468	778
<b>Grand Total</b>	<b>22</b>	<b>112</b>	<b>256</b>	<b>0</b>	<b>0</b>	<b>390</b>	<b>60</b>	<b>535</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>613</b>	<b>121</b>	<b>46</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>198</b>	<b>237</b>	<b>1272</b>	<b>364</b>	<b>0</b>	<b>0</b>	<b>1873</b>	<b>3074</b>
<b>Approach%</b>	5.6%	28.7%	65.6%	0%		-	9.8%	87.3%	2.9%	0%		-	61.1%	23.2%	15.7%	0%		-	12.7%	67.9%	19.4%	0%		-	-
<b>Totals %</b>	0.7%	3.6%	8.3%	0%		12.7%	2%	17.4%	0.6%	0%		19.9%	3.9%	1.5%	1%	0%		6.4%	7.7%	41.4%	11.8%	0%		60.9%	-
<b>PHF</b>	0.55	0.47	0.62	0		0.57	0.68	0.82	0.64	0		0.83	0.76	0.82	0.7	0		0.77	0.87	0.77	0.84	0		0.84	-
<b>Heavy</b>	6	9	27	0		42	5	77	6	0		88	5	7	4	0		16	32	84	16	0		132	-
<b>Heavy %</b>	27.3%	8%	10.5%	0%		10.8%	8.3%	14.4%	33.3%	0%		14.4%	4.1%	15.2%	12.9%	0%		8.1%	13.5%	6.6%	4.4%	0%		7%	-
<b>Lights</b>	16	103	229	0		348	55	458	12	0		525	116	39	27	0		182	205	1188	348	0		1741	-
<b>Lights %</b>	72.7%	92%	89.5%	0%		89.2%	91.7%	85.6%	66.7%	0%		85.6%	95.9%	84.8%	87.1%	0%		91.9%	86.5%	93.4%	95.6%	0%		93%	-
<b>Single-Unit Trucks</b>	2	6	20	0		28	1	39	2	0		42	4	5	1	0		10	21	22	7	0		50	-
<b>Single-Unit Trucks %</b>	9.1%	5.4%	7.8%	0%		7.2%	1.7%	7.3%	11.1%	0%		6.9%	3.3%	10.9%	3.2%	0%		5.1%	8.9%	1.7%	1.9%	0%		2.7%	-
<b>Buses</b>	2	1	2	0		5	3	18	3	0		24	1	2	2	0		5	3	31	6	0		40	-
<b>Buses %</b>	9.1%	0.9%	0.8%	0%		1.3%	5%	3.4%	16.7%	0%		3.9%	0.8%	4.3%	6.5%	0%		2.5%	1.3%	2.4%	1.6%	0%		2.1%	-
<b>Articulated Trucks</b>	2	2	5	0		9	1	20	1	0		22	0	0	1	0		1	8	31	3	0		42	-
<b>Articulated Trucks %</b>	9.1%	1.8%	2%	0%		2.3%	1.7%	3.7%	5.6%	0%		3.6%	0%	0%	3.2%	0%		0.5%	3.4%	2.4%	0.8%	0%		2.2%	-
<b>Pedestrians</b>	-	-	-	-	0		-	-	-	0		-	-	-	-	0		-	-	-	-	0		-	-
<b>Pedestrians%</b>	-	-	-	-	0%		-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-

Peak Hour: 07:15 AM - 08:15 AM Weather: Moderate Rain (9.08 °C)



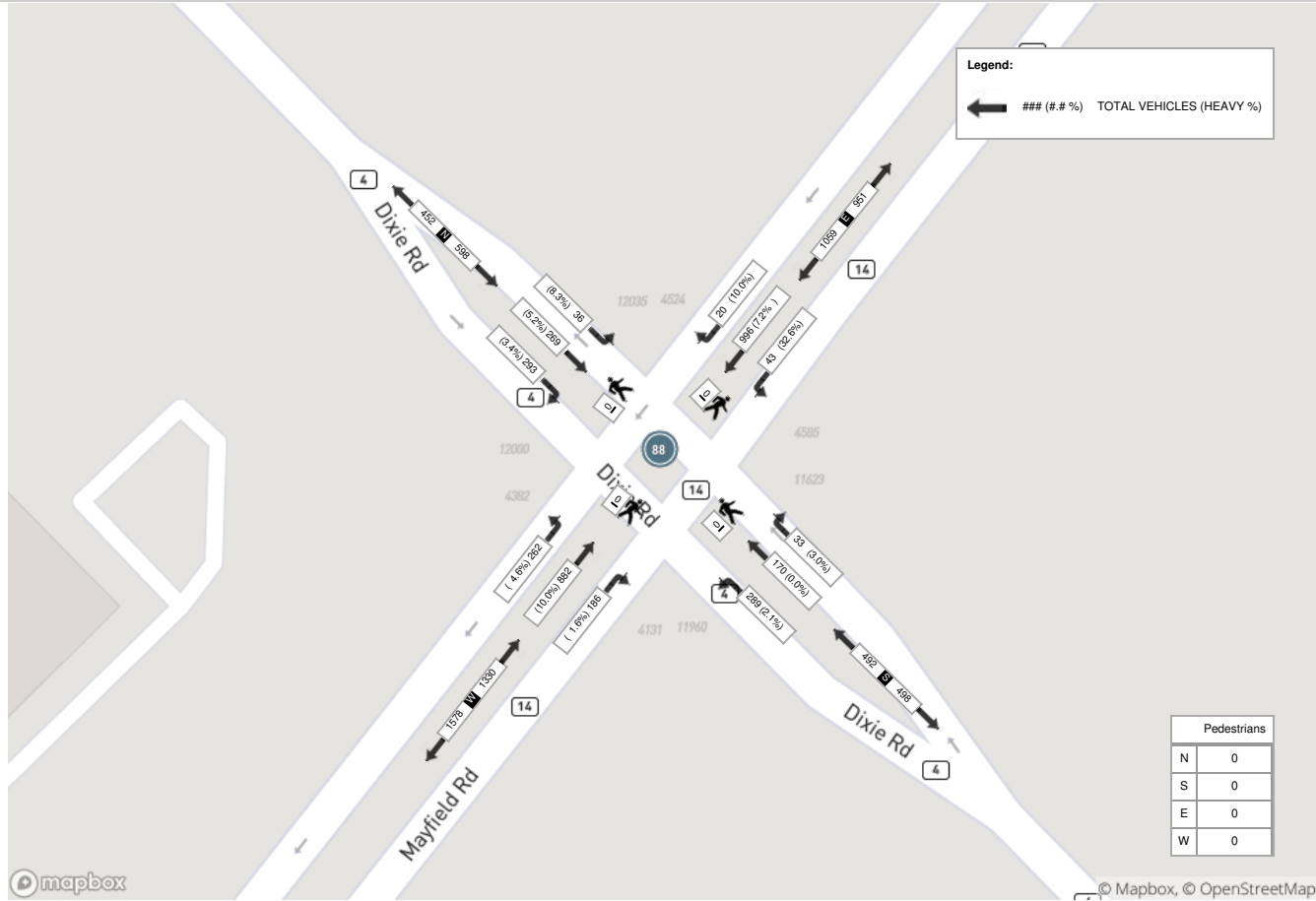


**Peak Hour: 04:15 PM - 05:15 PM Weather: Light Rain (10.54 °C)**

Start Time	N Approach DIXIE ROAD						E Approach MAYFIELD RD						S Approach DIXIE RD						W Approach 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	
16:15:00	6	60	88	0	0	154	10	270	5	0	0	285	69	38	11	0	0	118	58	234	48	0	0	340	897
16:30:00	6	73	78	0	0	157	18	233	4	0	0	255	80	57	8	0	0	145	70	212	49	1	0	332	889
16:45:00	12	76	63	0	0	151	7	267	5	0	0	279	66	30	7	0	0	103	70	228	44	0	0	342	875
17:00:00	12	60	64	0	0	136	8	226	6	0	0	240	74	45	7	0	0	126	64	208	45	0	0	317	819
<b>Grand Total</b>	<b>36</b>	<b>269</b>	<b>293</b>	<b>0</b>	<b>0</b>	<b>598</b>	<b>43</b>	<b>996</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>1059</b>	<b>289</b>	<b>170</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>492</b>	<b>262</b>	<b>882</b>	<b>186</b>	<b>1</b>	<b>0</b>	<b>1331</b>	<b>3480</b>
<b>Approach%</b>	6%	45%	49%	0%		-	4.1%	94.1%	1.9%	0%		-	58.7%	34.6%	6.7%	0%		-	19.7%	66.3%	14%	0.1%		-	-
<b>Totals %</b>	1%	7.7%	8.4%	0%		17.2%	1.2%	28.6%	0.6%	0%		30.4%	8.3%	4.9%	0.9%	0%		14.1%	7.5%	25.3%	5.3%	0%		38.2%	-
<b>PHF</b>	0.75	0.88	0.83	0		0.95	0.6	0.92	0.83	0		0.93	0.9	0.75	0.75	0		0.85	0.94	0.94	0.95	0.25		0.97	-
<b>Heavy</b>	3	14	10	0		27	14	72	2	0		88	6	0	1	0		7	12	88	3	0		103	-
<b>Heavy %</b>	8.3%	5.2%	3.4%	0%		4.5%	32.6%	7.2%	10%	0%		8.3%	2.1%	0%	3%	0%		1.4%	4.6%	10%	1.6%	0%		7.7%	-
<b>Lights</b>	33	255	283	0		571	29	924	18	0		971	283	170	32	0		485	250	794	183	1		1228	-
<b>Lights %</b>	91.7%	94.8%	96.6%	0%		95.5%	67.4%	92.8%	90%	0%		91.7%	97.9%	100%	97%	0%		98.6%	95.4%	90%	98.4%	100%		92.3%	-
<b>Single-Unit Trucks</b>	2	10	10	0		22	12	31	1	0		44	1	0	1	0		2	8	27	0	0		35	-
<b>Single-Unit Trucks %</b>	5.6%	3.7%	3.4%	0%		3.7%	27.9%	3.1%	5%	0%		4.2%	0.3%	0%	3%	0%		0.4%	3.1%	3.1%	0%	0%		2.6%	-
<b>Buses</b>	1	3	0	0		4	0	7	0	0		7	4	0	0	0		4	0	18	3	0		21	-
<b>Buses %</b>	2.8%	1.1%	0%	0%		0.7%	0%	0.7%	0%	0%		0.7%	1.4%	0%	0%	0%		0.8%	0%	2%	1.6%	0%		1.6%	-
<b>Articulated Trucks</b>	0	1	0	0		1	2	34	1	0		37	1	0	0	0		1	4	43	0	0		47	-
<b>Articulated Trucks %</b>	0%	0.4%	0%	0%		0.2%	4.7%	3.4%	5%	0%		3.5%	0.3%	0%	0%	0%		0.2%	1.5%	4.9%	0%	0%		3.5%	-
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 04:15 PM - 05:15 PM Weather: Light Rain (10.54 °C)



Intersection Name Dixie Road at Old School Road			Road Code 00430603	Int. # 9963	Sys # 963	Rev. 1	
Controller Make Econolite		Model ASC/3	Firmware Rev. No.				
Type of Operation <b>4 Phase Semi-Actuated</b>							
Revision							
NO	Date			Description	Field Chg by	Checked by	Approved by
	Y	M	D				
1	17			Installation of Traffic Signals			

\*- Start From Main Menu

**PHASE DESCRIPTION**

Ph1		Ph5	
Ph2	Dixie Road - Southbound	Ph6	Dixie Road - Northbound
Ph3		Ph7	
Ph4	Old School Road - Westbound	Ph8	Old School Road - Eastbound

**CONFIGURATION SUBMENU - OPTIONS**

\*- 1 - 8

Supervisor access code: **0000**  
 Data change access code: **9400**  
 Key Click Enable: **YES**  
 Backlight Enable: **YES**

**CONFIGURATION SUBMENU - PORT 3**

\*- 1 - 6

Port Protocol.....: Terminal  
 Port 2 Enable.....: X  
 Telemetry Address.....: 1-6  
 System Detector address....: 0  
 Telem response delay.....: 8700  
 Duplex - Half or Full.....: Full  
 Modem Data Rate (BPS).....: 1200  
 Data, Parity, Stop.....: 8,0,1

**CONFIGURATION SUBMENU - CONTROLLER SEQUENCE**

\*- 1 - 1

	..1	..2	..3	..4	..5	..6
R1	1	2	3	4	9	10
R2	5	6	7	8	11	12

**CONFIGURATIION SUBMENU - PHASES IN USE**

\*- 1 - 2

Phase:	1	2	3	4	5	6	7	8
Phase in use	0	X	0	X	0	X	0	X
Exclusive Ped	0	0	0	0	0	0	0	0

**CONTROLLER SUBMENU - TIMING DATA**

\*- 2 - 1

Phase:	1	2	3	4	5	6	7	8
Minimum Green.....	0	8	0	8	0	8	0	8
Walk.....	0	8	0	8	0	8	0	8
Pedestrian Clearance.:	0	9	0	11	0	9	0	11
Veh. Ext.:	0	5.0	0	5.0	0	5.0	0	5.0
Veh. Ext. 2								
Max. Ext.								
Maximum No 1.....	0	30	0	30	0	30	0	30
Maximum No 2.....	0	30	0	30	0	30	0	30
Maximum No 3.....	0	0	0	0	0	0	0	0
Yellow .....	0	4.6	0	4.0	0	4.6	0	4.0
Red Clr.....	0	2.0	0	2.4	0	2.0	0	2.4
Seconds/Actuation.	0	0	0	0	0	0	0	0
Maximum Initial.....	0	0	0	0	0	0	0	0
Time B4 Reduction....	0	0	0	0	0	0	0	0
Cars WT.....	0	0	0	0	0	0	0	0
TTREDUC.....	0	0	0	0	0	0	0	0
MIN GAP.....	0	0	0	0	0	0	0	0

**CONTROLLER SUBMENU - RECALL DATA**

\*- 2 - 4

Phase:	1	2	3	4	5	6	7	8
Locking Memory	0	0	0	0	0	0	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Ped Recall	0	X	0	0	0	X	0	0
Recall to Max	0	X	0	0	0	X	0	0
Soft Recall	0	0	0	0	0	0	0	0
Don't Rest Here	0	0	0	0	0	0	0	0
Ped Dark n/call	0	0	0	0	0	0	0	0

Intersection Name Dixie Road at Old School Road		Road Code 00430603	Int. # 9963	Sys # 963	Rev. 1
Controller Make Econolite	Model ASC/3	Firmware Rev. No.			

CONTROLLER SUBMENU - START/FLASH DATA									* - 2 - 6
Phase:	1	2	3	4	5	6	7	8	
Power Start	0	X	0	0	0	X	0	0	
External Start:	0	X	0	0	0	X	0	0	
Power start All Red Time	0	X	0	0	0	X	0	0	
Power Start Flash time	0	15	0	0	0	15	0	0	
Out of Flash Yellow	0	0	0	0	0	0	0	0	
Out of Flash All Red	0	0	0	0	0	0	0	0	

CONTROLLER SUBMENU - OPTION DATA									* - 2 - 9
Phase:	1	2	3	4	5	6	7	8	
Guar Passage	0	0	0	X	0	0	0	X	
Nonactuated 1	0	X	0	0	0	X	0	0	
Nonactuated 2	0	0	0	0	0	0	0	0	
Dual Entry	0	X	0	0	0	X	0	0	
Cond Service	0	0	0	0	0	0	0	0	
Rest in Walk	0	X	0	0	0	X	0	0	
Flashing Walk	0	0	0	0	0	0	0	0	

Enable Programming Options

Dual Entry..... X  
Backup Protect. Group 1..... X

COORDINATOR SUBMENU - OPTIONS		* - 3 - 1
Split units.....	sec	Act Crd Phase..... X
Offset Units.....	sec	Act Walk/Rest..... X
Intercnt Fmt.....	STD	Inhibit Max..... X
Intercnt Src.....	TLM	Max2 Select..... 0
Resync count.....		Multisync..... 0
Transition.....	SMOOTH FLOAT FORCE OFF	
Dwell period.....	0%	Floating Force Off..... X

COORDINATOR SUBMENU - COORD PATTERN 1		* - 3 - 4
Cycle Length	: 70	C/O/S - 701
Offset	: 0	
<u>SPLITS</u>		
Phase	1) 0 2) 40 3) 0 4) 30	
	5) 0 6) 40 7) 0 8) 30	
	9) 0 10) 0 11) 0 12) 0	

Phase:	1	2	3	4	5	6	7	8
Coord Phases	0	X	0	0	0	X	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Veh Max Recall	0	X	0	0	0	X	0	0
Ped Recall	0	X	0	0	0	X	0	0
Phase Omit	0	0	0	0	0	0	0	0
Spare	0	0	0	0	0	0	0	0

COORDINATOR SUBMENU - COORD PATTERN 2		* - 3 - 4
Cycle Length	: 65	C/O/S - 702
Offset	: 0	
<u>SPLITS</u>		
Phase	1) 0 2) 38 3) 0 4) 27	
	5) 0 6) 38 7) 0 8) 27	
	9) 0 10) 0 11) 0 12) 0	

Phase:	1	2	3	4	5	6	7	8
Coord Phases	0	X	0	0	0	X	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Veh Max Recall	0	X	0	0	0	X	0	0
Ped Recall	0	X	0	0	0	X	0	0
Phase Omit	0	0	0	0	0	0	0	0
Spare	0	0	0	0	0	0	0	0

COORDINATOR SUBMENU - COORD PATTERN 3		* - 3 - 4
Cycle Length	: 65	C/O/S - 703
Offset	: 0	
<u>SPLITS</u>		
Phase	1) 0 2) 35 3) 0 4) 30	
	5) 0 6) 35 7) 0 8) 30	
	9) 0 10) 0 11) 0 12) 0	

Phase:	1	2	3	4	5	6	7	8
Coord Phases	0	X	0	0	0	X	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Veh Max Recall	0	X	0	0	0	X	0	0
Ped Recall	0	X	0	0	0	X	0	0
Phase Omit	0	0	0	0	0	0	0	0
Spare	0	0	0	0	0	0	0	0

Intersection Name Dixie Road at Old School Road		Road Code 00430603	Int. # 9963	Sys # 963	Rev. 1
Controller Make Econolite	Model ASC/3	Firmware Rev. No.			

**COORDINATOR SUBMENU - COORD PATTERN 4** \* - 3 - 4

Cycle Length : 255 C/O/S - 704  
 Offset : 0  
 SPLITS  
 Phase 1) 0 2) 0 3) 0 4) 0  
 5) 0 6) 0 7) 0 8) 0  
 9) 0 10) 0 11) 0 12) 0

Phase:	1	2	3	4	5	6	7	8
Coord Phases	0	0	0	0	0	0	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Veh Max Recall	0	0	0	0	0	0	0	0
Ped Recall	0	0	0	0	0	0	0	0
Phase Omit	0	0	X	0	0	0	0	0
Spare	0	0	0	0	0	0	0	0

**COORDINATOR SUBMENU - COORD PATTERN 5** \* - 3 - 4

Cycle Length : 255 C/O/S - 705  
 Offset : 0  
 SPLITS  
 Phase 1) 0 2) 0 3) 0 4) 0  
 5) 0 6) 0 7) 0 8) 0  
 9) 0 10) 0 11) 0 12) 0

Phase:	1	2	3	4	5	6	7	8
Coord Phases	0	X	0	0	0	X	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Veh Max Recall	0	X	0	0	0	X	0	0
Ped Recall	0	X	0	0	0	X	0	0
Phase Omit	0	0	0	0	0	0	0	0
Spare	0	0	0	0	0	0	0	0

**COORDINATOR SUBMENU - COORD PATTERN 6** \* - 3 - 4

Cycle Length : 255 C/O/S - 706  
 Offset : 0  
 SPLITS  
 Phase 1) 0 2) 0 3) 0 4) 0  
 5) 0 6) 0 7) 0 8) 0  
 9) 0 10) 0 11) 0 12) 0

Phase:	1	2	3	4	5	6	7	8
Coord Phases	0	0	0	0	0	0	0	0
Vehicle Recall	0	0	0	0	0	0	0	0
Veh Max Recall	0	0	0	0	0	0	0	0
Ped Recall	0	0	0	0	0	0	0	0
Phase Omit	X	0	X	0	X	0	0	0
Spare	0	0	0	0	0	0	0	0

**NIC/TOD SUBMENU - CLOCK/CALENDAR** \* - 5 - 1

15 JAN 2001 MON WEEK 12 12:12:00 PM

DATE SET: | ENTER DATE/TIME  
 TIME SET: | THEN PRESS ENTER

MANUAL NIC PROGRAM STEP  
 MANUAL TOD PROGRAM STEP

**NIC/TOD SUBMENU - WEEKLY PROGRAMS** \* - 5 - 1

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Sunday	2	1	1	1	1	1	1	1	1	1
Monday	1	1	1	1	1	1	1	1	1	1
Tuesday	1	1	1	1	1	1	1	1	1	1
Wednesday	1	1	1	1	1	1	1	1	1	1
Thursday	1	1	1	1	1	1	1	1	1	1
Friday	1	1	1	1	1	1	1	1	1	1
Saturday	2	1	1	1	1	1	1	1	1	1

**NIC/TOD SUBMENU - YEARLY PROGRAMS** \* - 5 - 3

WEEK - OF - YEAR

WEEKLY PROG.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	
WEEKLY PROG.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
WEEKLY PROG.	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>	<u>36</u>	<u>37</u>
WEEKLY PROG.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
WEEKLY PROG.	<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>	<u>43</u>	<u>44</u>	<u>45</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>	<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>			
WEEKLY PROG.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				

<b>Intersection Name</b> Dixie Road at Old School Road		<b>Road Code</b> 00430603	<b>Int. #</b> 9963	<b>Sys #</b> 963	<b>Rev.</b> 1
<b>Controller Make</b> Econolite	<b>Model</b> ASC/3	<b>Firmware Rev. No.</b>			

**NIC/TOD SUBMENU - NIC PROGRAMS STEPS**

\* - 5 - 3

<u>STEP</u>	<u>PROGRAM</u>	<u>TIME</u>	<u>PATTERN</u>
1	1	0600	701
2	1	0900	702
3	1	1500	703
4	1	1900	704
5	0	1100	705
6	0	1800	706
7	0	0000	0

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## REGIONAL MUNICIPALITY OF PEEL

### Traffic Signal Timing Parameters

Database Date	January 8, 2018		Prepared Date	December 8, 2020
Database Rev	27		Completed By	JP
Timing Card / Field rev			Checked By	SJ

**Location** **Dixie Road at Mayfield 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 MAX	PM SPLITS
			1	Mayfield Road - WB P.P. LT			5	0	0
2	Mayfield Road - EB	8	8	30	46	23	60	16.9	60
3	Not in use	-	-	-	-	-	-	-	-
4	Dixie Road - NB	8	8	33	46	23	50	46.9	50
5	Mayfield Road - EB P.P. LT	5	0	0	30	0	10	13	10
6	Mayfield Road - WB	8	8	30	46	23	60	16.9	60
7	Not in use	-	-	-	-	-	-	-	-
8	Dixie Road - SB	8	8	33	46	23	50	46.9	50

<b>System Control</b>		<b>TIME (M-F)</b>	<b>PEAK</b>	<b>CYCLE LENGTH (s)</b>	<b>OFFSET (s)</b>
No		07:00 - 09:00	AM	120	44
<b>Semi-Actuated Mode</b>		FREE	OFF	0	0
Yes		15:00 - 18:00	PM	120	32

## REGIONAL MUNICIPALITY OF PEEL

### Traffic Signal Timing Parameters

Database Date	June 5, 2015		Prepared Date	December 8, 2020
Database Rev	26		Completed By	JP
Timing Card / Field rev	-		Checked By	SJ

**Location** **Mayfield Road at Bramalea 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	Not in use			-	-	-
2	Mayfield Road - EB	12	8	40	4	3.2	70	59	70
3	Bramalea Road - SB PP LT	5	0	0	3	0	9	0	9
4	Bramalea Road - NB	8	8	39	4	3.1	56	56	56
5	Mayfield Road - EB PP LT	5	0	0	3	0	13	0	12
6	Mayfield Road - WB	12	8	40	4	3.2	57	59	58
7	Not in use	-	-	-	-	-	-	-	-
8	Bramalea Road - SB	8	8	39	4	3.1	65	56	65

<b>System Control</b>		<b>TIME (M-F)</b>	<b>PEAK</b>	<b>CYCLE LENGTH (s)</b>	<b>OFFSET (s)</b>
No		06:00 - 09:00	AM	135	0
<b>Semi-Actuated Mode</b>		09:00 - 14:30	OFF	115	0
Yes		14:30 - 19:00	PM	135	16

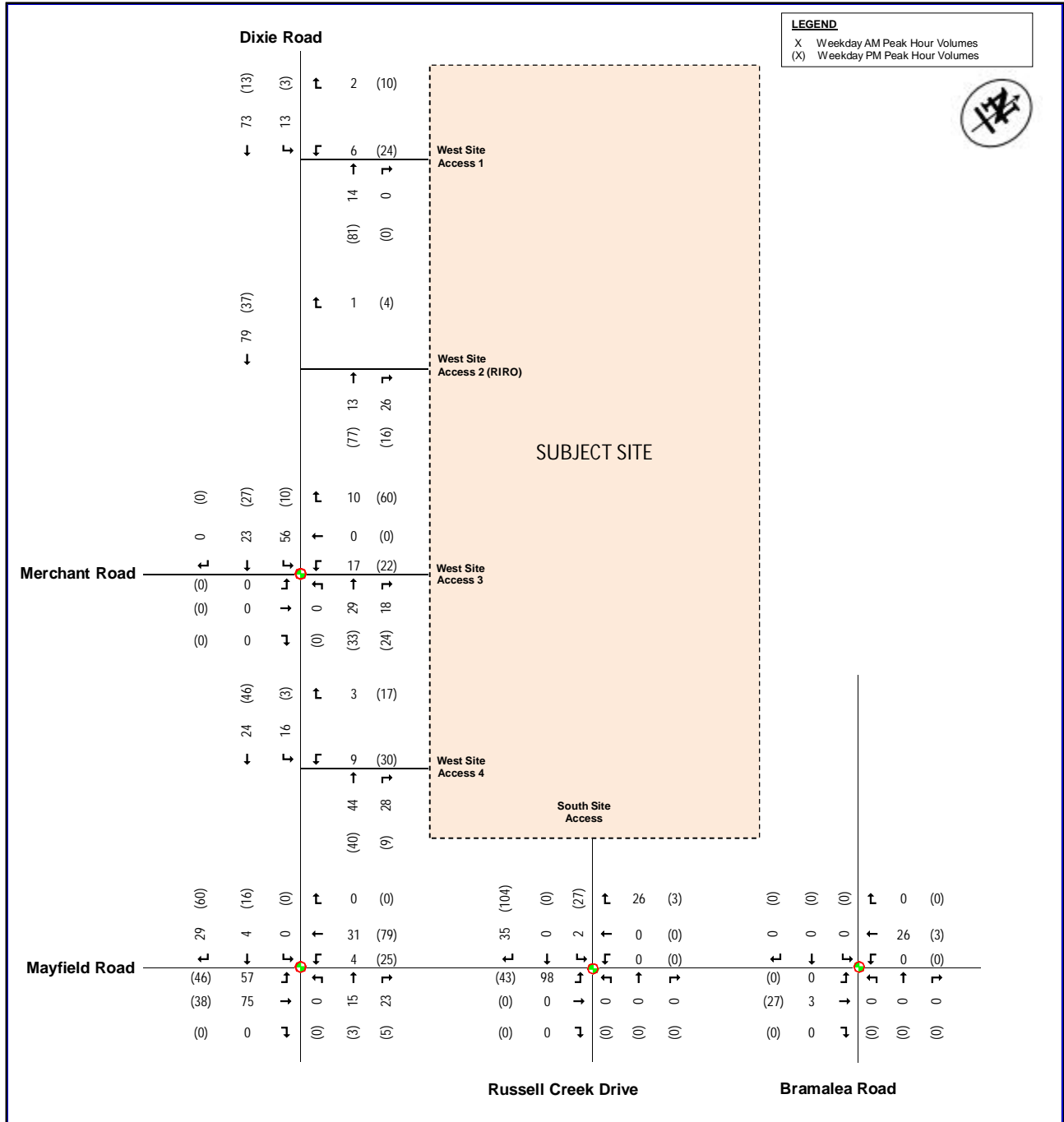


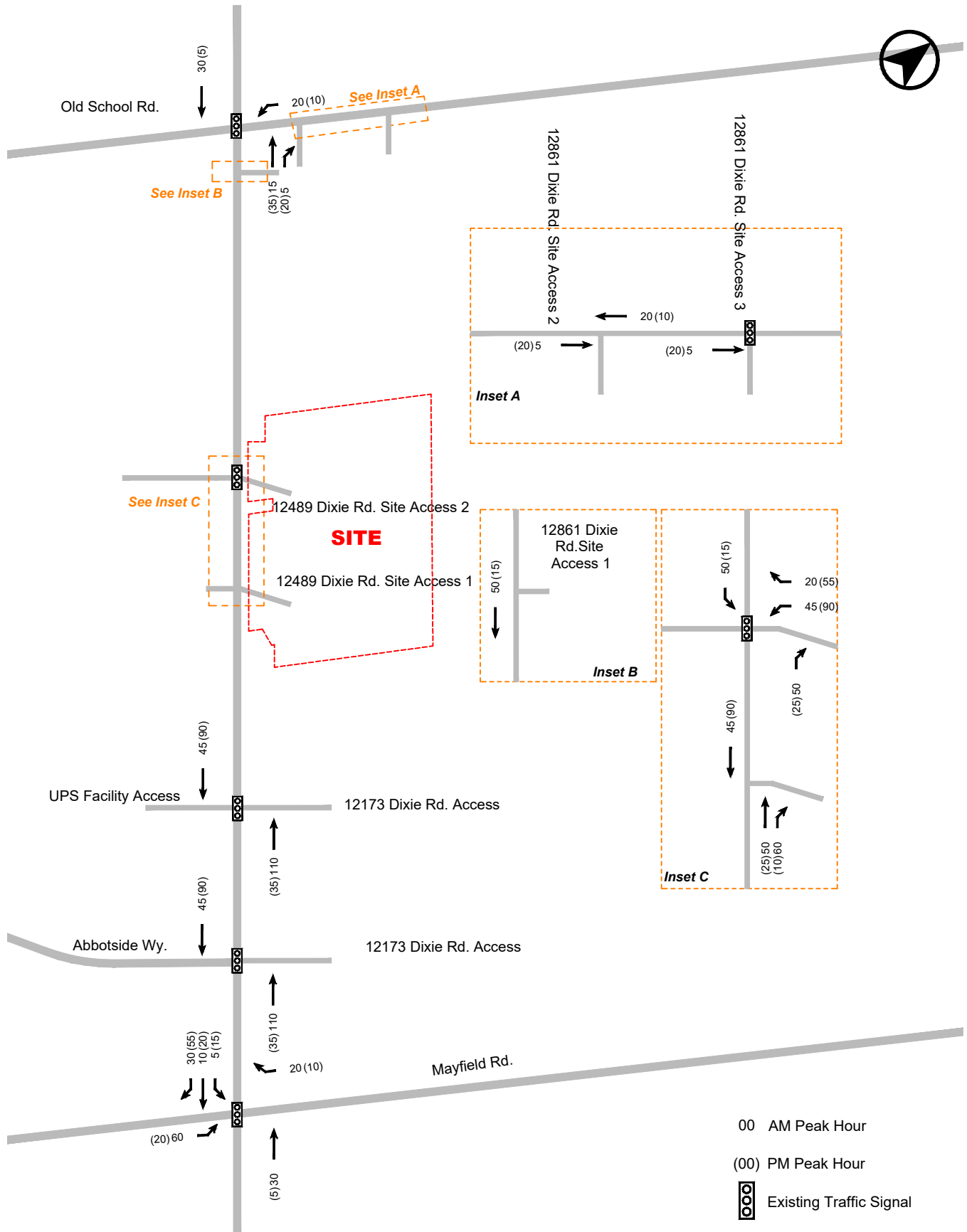


# APPENDIX C

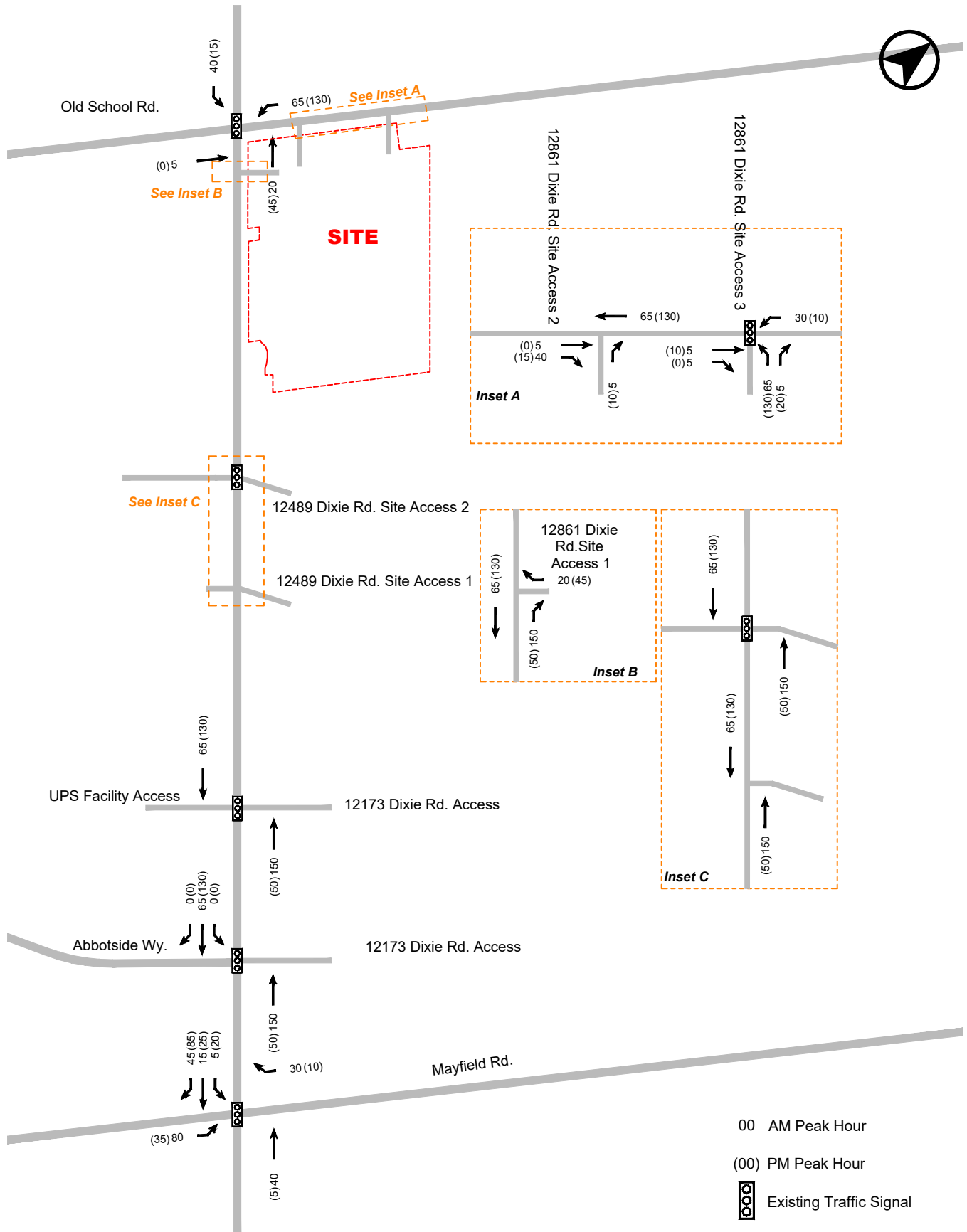
## Background Development

Figure 4-3: Total Site Generated Peak Hour Traffic Volumes





**FIGURE 12 TOTAL SITE TRAFFIC VOLUMES**



**FIGURE 12 TOTAL SITE TRAFFIC VOLUMES**



# APPENDIX D

**Detailed TTS Data**

Incoming AM

Fri Dec 11 2020 16:55:15 GMT-0500 (Eastern Standard Time) - Run Time: 2467ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06\_orig

Column: 2006 GTA zone of destination - gta06\_dest

Filters:

Start time of trip - start\_time In 600-900

and

Trip purpose - trip\_purp In 1

and

Primary travel mode of trip - mode\_prime In d, m

and

2006 GTA zone of destination - gta06\_dest In 3012,3013,3014,3015,3016,3191

Trip 2016

Table:

From	To					Sum	%	PD	21185		21211	Notes	
	3013	3014	3015	3016	3191				Gateway	Gateway2			
72	0	0	0	0	43	43	0.9%	1	Mayfield EB	Mayfield EB		410	
124	0	0	0	0	12	12	0.2%	2	Mayfield EB	Mayfield EB		410	
150	0	19	0	0	0	19	0.4%	3	Mayfield EB	Mayfield EB		410	
160	0	0	0	0	21	21	0.4%	3	Mayfield EB	Mayfield EB		410	
163	0	0	0	0	34	34	0.7%	3	Mayfield EB	Mayfield EB		410	
173	0	0	0	0	24	24	0.5%	3	Mayfield EB	Mayfield EB		410	
178	0	0	0	0	23	23	0.5%	3	Mayfield EB	Mayfield EB		410	
194	0	0	0	0	11	11	0.2%	4	Mayfield EB	Mayfield EB		410	
222	0	0	0	0	12	12	0.2%	4	Mayfield EB	Mayfield EB		410	
223	0	0	0	0	17	17	0.4%	5	Mayfield EB	Mayfield EB		410	
255	0	0	0	0	13	13	0.3%	6	Mayfield EB	Mayfield EB		410	
261	0	0	0	0	15	15	0.3%	6	Mayfield EB	Mayfield EB		410	
294	0	17	0	0	0	17	0.4%	7	Mayfield EB	Mayfield EB		410	
295	0	0	0	0	6	6	0.1%	7	Mayfield EB	Mayfield EB		410	
326	0	0	0	0	13	13	0.3%	8	Mayfield EB	Mayfield EB		410	
365	0	0	0	0	52	52	1.1%	9	Mayfield EB	Mayfield EB		410	
366	0	0	20	0	0	20	0.4%	9	Mayfield EB	Mayfield EB		410	
371	0	0	0	0	17	17	0.4%	9	Mayfield EB	Mayfield EB		410	
376	0	0	0	0	25	25	0.5%	9	Mayfield EB	Mayfield EB		410	
382	0	0	0	0	20	20	0.4%	9	Mayfield EB	Mayfield EB		410	
384	0	0	0	0	10	10	0.2%	10	Mayfield EB	Mayfield EB		410	
385	0	0	0	0	8	8	0.2%	10	Mayfield EB	Mayfield EB		410	
396	0	0	0	0	8	8	0.2%	10	Mayfield EB	Mayfield EB		410	
413	0	0	0	0	18	18	0.4%	10	Mayfield EB	Mayfield EB		410	
443	0	0	0	0	17	17	0.4%	11	Mayfield EB	Mayfield EB		410	
459	0	0	0	0	27	27	0.6%	11	Mayfield EB	Mayfield EB		410	
568	0	0	0	0	16	16	0.3%	15	Mayfield EB	Mayfield EB		410	
1063	0	0	0	7	0	7	0.1%	21	Mayfield EB	Mayfield EB		410	
1180	0	0	0	0	21	21	0.4%	23	Mayfield EB	Mayfield EB		410	
2014	0	0	0	0	11	11	0.2%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2017	0	0	0	0	13	13	0.3%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2020	0	0	0	0	21	21	0.4%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2022	0	0	0	0	31	31	0.6%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2023	0	0	0	0	53	53	1.1%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2024	0	20	0	0	0	20	0.4%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2027	0	0	0	0	13	13	0.3%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2057	0	0	0	0	32	32	0.7%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2132	0	0	0	0	16	16	0.3%	33	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		
2241	0	0	0	0	22	22	0.5%	29	Dixie NB	Dixie NB	from NE on Mayfield/Dixie		

2245	0	0	0	0	33	33	0.7%	29	Dixie NB	Dixie NB	from NE on Mayfield/Dixie	
2258	0	0	0	0	18	18	0.4%	29	Mayfield EB	Mayfield EB		410
2402	55	0	0	0	0	55	1.1%	31	Mayfield EB	Mayfield EB		410
2427	0	0	0	0	16	16	0.3%	31	Mayfield EB	Mayfield EB		410
2434	0	0	0	0	45	45	0.9%	31	Mayfield EB	Mayfield EB		410
2554	0	17	0	0	0	17	0.4%	28	Dixie NB	Dixie NB	from NE on Mayfield/Dixie	
2558	0	0	0	0	14	14	0.3%	28	Dixie NB	Dixie NB	from NE on Mayfield/Dixie	
2652	0	0	0	0	15	15	0.3%	32	Dixie SB	Dixie SB	from NW on Dixie	
2659	0	0	0	0	18	18	0.4%	32	Dixie NB	Dixie NB	from NE on Mayfield/Dixie	
2868	0	0	0	0	27	27	0.6%	25	Mayfield EB	Mayfield EB		410
3002	0	0	0	0	118	118	2.4%	34	Dixie SB	Dixie SB	from NW on Dixie	
3008	0	26	0	0	0	26	0.5%	34	Mayfield EB	Old School EB	very close to sites	
3010	0	37	0	0	16	53	1.1%	34	Mayfield EB	Old School EB	very close to sites	
3011	0	4	0	0	0	4	0.1%	34	Mayfield EB	Mayfield EB	very close to sites	
3100	0	0	0	0	77	77	1.6%	34	Dixie SB	Dixie SB	from NW on Dixie	
3104	0	0	0	0	26	26	0.5%	34	Dixie SB	Dixie SB	from NW on Dixie	
3153	0	0	0	0	148	148	3.1%	34	Dixie SB	Dixie SB	from NW on Dixie	
3189	0	0	0	0	73	73	1.5%	34	Dixie SB	Dixie SB	from NW on Dixie	
3190	0	0	0	0	50	50	1.0%	34	Mayfield WB	Old School WB	from NE on Mayfield	
3192	0	0	0	0	194	194	4.0%	34	Dixie SB	Dixie SB	from NW on Dixie	
3193	0	0	0	0	151	151	3.1%	34	Dixie SB	Dixie SB	from NW on Dixie	
3194	0	10	0	0	96	106	2.2%	34	Dixie SB	Dixie SB	from NW on Dixie	
3197	0	0	0	0	9	9	0.2%	34	Dixie SB	Dixie SB	from NW on Dixie	
3199	0	0	0	0	50	50	1.0%	34	Dixie SB	Dixie SB	from NW on Dixie	
3337	0	0	0	0	60	60	1.2%	35	Dixie NB	Dixie NB	from NE on Mayfield/Dixie	
3338	0	0	0	0	39	39	0.8%	35	Mayfield EB	Mayfield EB		410
3351	0	0	0	0	53	53	1.1%	35	Mayfield EB	Mayfield EB		410
3352	0	0	0	0	50	50	1.0%	35	Mayfield EB	Mayfield EB		410
3360	0	4	0	0	7	11	0.2%	35	Mayfield EB	Mayfield EB		410
3362	0	0	0	0	12	12	0.2%	35	Mayfield EB	Mayfield EB		410
3363	0	0	0	0	77	77	1.6%	35	Dixie NB	Dixie NB	from SE on Dixie	
3364	0	0	0	0	85	85	1.8%	35	Mayfield EB	Mayfield EB		410
3367	0	0	0	0	42	42	0.9%	35	Mayfield EB	Mayfield EB		410
3373	0	0	0	0	13	13	0.3%	35	Dixie NB	Dixie NB	from SE on Dixie	
3375	0	0	0	0	41	41	0.9%	35	Mayfield EB	Mayfield EB	from SW on Mayfield/Old School	
3379	0	0	0	0	63	63	1.3%	35	Dixie NB	Dixie NB	from SE on Dixie	
3380	0	0	57	0	45	102	2.1%	35	Dixie NB	Dixie NB	from SE on Dixie	
3386	0	26	66	0	59	151	3.1%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3417	13	0	0	0	0	13	0.3%	35	Mayfield EB	Mayfield EB		410
3419	0	8	0	0	38	46	1.0%	35	Dixie NB	Dixie NB	from SE on Dixie	
3432	0	0	10	0	0	10	0.2%	35	Mayfield EB	Mayfield EB	from SW on Mayfield/Old School	
3434	14	0	0	29	51	94	1.9%	35	Mayfield EB	Mayfield EB	from SW on Mayfield/Old School	
3442	0	0	0	0	14	14	0.3%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3443	0	0	38	0	0	38	0.8%	35	Mayfield WB	Mayfield WB	from NE on Mayfield	
3448	0	0	0	0	14	14	0.3%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3456	0	0	0	0	14	14	0.3%	35	Mayfield EB	Mayfield EB	from SW on Mayfield/Old School	
3460	24	0	0	0	0	24	0.5%	35	Mayfield EB	Mayfield EB	from SW on Mayfield	
3466	0	0	0	0	18	18	0.4%	35	Mayfield EB	Mayfield EB	from SW on Mayfield	
3468	0	0	0	0	27	27	0.6%	35	Dixie NB	Dixie NB	from NE on Mayfield/Dixie	
3485	0	0	0	0	36	36	0.7%	35	Mayfield EB	Mayfield EB		410
3486	0	0	24	0	0	24	0.5%	35	Mayfield EB	Mayfield EB		410
3515	0	0	0	0	23	23	0.5%	35	Mayfield EB	Mayfield EB		410
3516	0	0	0	0	13	13	0.3%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3517	0	0	17	0	46	63	1.3%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3518	0	0	0	0	129	129	2.7%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3519	0	0	0	0	16	16	0.3%	35	Mayfield WB	Mayfield WB	from NE on Mayfield/Dixie	
3602	0	0	0	0	14	14	0.3%	36	Mayfield EB	Mayfield EB		410
3603	0	0	0	0	18	18	0.4%	36	Mayfield EB	Mayfield EB		410
3606	0	0	0	0	6	6	0.1%	36	Mayfield EB	Mayfield EB		410
3607	0	0	0	0	27	27	0.6%	36	Mayfield EB	Mayfield EB		410
3615	0	0	0	0	18	18	0.4%	36	Mayfield EB	Mayfield EB		410
3617	0	0	0	0	14	14	0.3%	36	Mayfield EB	Mayfield EB		410





Outgoing AM

Fri Dec 11 2020 17:01:04 GMT-0500 (Eastern Standard Time) - Run Time: 2545ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06\_dest

Column: 2006 GTA zone of origin - gta06\_orig

Filters:

Start time of trip - start\_time In 600-900

and

Trip purpose - trip\_purp In 1

and

Primary travel mode of trip - mode\_prime In D, M

and

2006 GTA zone of origin - gta06\_orig In 3012,3013,3014,3015,3016,3191

Trip 2016

Table:

To	From			Sum	%	PD	Gateway	21185 Gateway	21211 Gateway	Notes
	3012	3015	3191							
421	0	30	0	30	11.2%	10	Mayfield WB	Mayfield WB	Mayfield WB	to 410
2070	0	30	0	30	11.2%	33	Dixie SB	Dixie SB	Dixie SB	to NE on Dixie
3005	19	0	0	19	7.1%	34	Mayfield WB	Mayfield WB	Mayfield WB	to SW on Mayfield/Old School
3192	0	14	0	14	5.2%	34	Dixie NB	Dixie NB	Dixie NB	to NW on Dixie
3376	0	26	0	26	9.7%	35	Mayfield WB	Mayfield WB	Mayfield WB	to SW on Mayfield
3448	16	0	0	16	6.0%	35	Mayfield EB	Mayfield EB	Mayfield EB	to NE on Dixie/Mayfield
3816	0	35	0	35	13.1%	36	Mayfield WB	Mayfield WB	Mayfield WB	to 410
8663	0	0	48	48	17.9%	84	Dixie NB	Dixie NB	Dixie NB	to NW on Dixie
8904	0	50	0	50	18.7%	147	Mayfield WB	Mayfield WB	Mayfield WB	to 410



# APPENDIX E

## **Intersection Capacity Analysis Results - Existing Conditions**

HCM 6th TWSC  
 1: Dixie Road & Merchant Road

Existing Conditions  
 Weekday AM Peak

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↑	↑	↘
Traffic Vol, veh/h	1	17	49	352	409	2
Future Vol, veh/h	1	17	49	352	409	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	60	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	100	24	10	12	8	50
Mvmt Flow	1	17	49	352	409	2

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	859	409	411	0	0
Stage 1	409	-	-	-	-
Stage 2	450	-	-	-	-
Critical Hdwy	7.4	6.44	4.2	-	-
Critical Hdwy Stg 1	6.4	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-
Follow-up Hdwy	4.4	3.516	2.29	-	-
Pot Cap-1 Maneuver	226	598	1106	-	-
Stage 1	502	-	-	-	-
Stage 2	478	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	216	598	1106	-	-
Mov Cap-2 Maneuver	216	-	-	-	-
Stage 1	480	-	-	-	-
Stage 2	478	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1106	-	545	-	-
HCM Lane V/C Ratio	0.044	-	0.033	-	-
HCM Control Delay (s)	8.4	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Queues  
2: Dixie Road & Mayfield Road

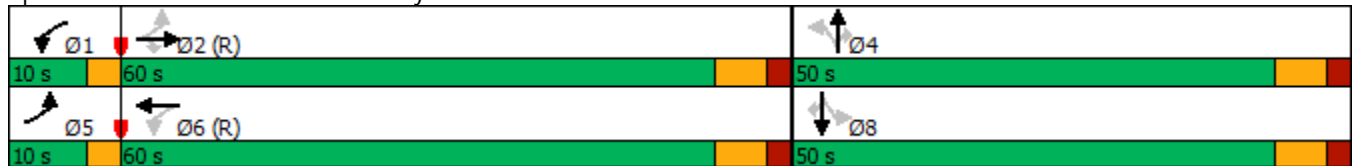
Existing Conditions  
Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	237	1272	364	60	535	121	146	31	22	148	256	
Future Volume (vph)	237	1272	364	60	535	121	146	31	22	148	256	
Lane Group Flow (vph)	237	1272	364	60	553	121	146	31	22	148	256	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	5	2		1	6		4			8		
Permitted Phases	2		2	6		4		4	8		8	
Detector Phase	5	2	2	1	6	4	4	4	8	8	8	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	47.9	47.9	47.9	47.9	47.9	47.9	
Total Split (s)	10.0	60.0	60.0	10.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0	
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%	
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
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	
Total Lost Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	
v/c Ratio	0.39	0.40	0.33	0.18	0.21	0.70	0.54	0.11	0.15	0.51	0.57	
Control Delay	6.9	12.2	2.1	6.5	13.0	66.9	52.2	2.3	42.5	50.8	10.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	6.9	12.2	2.1	6.5	13.0	66.9	52.2	2.3	42.5	50.8	10.1	
Queue Length 50th (m)	8.2	30.4	0.0	1.8	12.2	16.1	18.9	0.0	2.7	19.1	0.0	
Queue Length 95th (m)	17.2	45.5	7.8	5.0	20.9	26.2	28.7	1.1	6.7	28.7	12.4	
Internal Link Dist (m)		1129.7			662.0		456.4			472.6		
Turn Bay Length (m)	140.0		75.0	105.0		75.0		45.0	35.0		135.0	
Base Capacity (vph)	614	3146	1116	335	2675	384	600	547	317	638	680	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.39	0.40	0.33	0.18	0.21	0.32	0.24	0.06	0.07	0.23	0.38	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated





























Splits and Phases: 2: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 2: Dixie Road & Mayfield Road

Existing Conditions  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	237	1272	364	60	535	18	121	146	31	22	148	256
Future Volume (vph)	237	1272	364	60	535	18	121	146	31	22	148	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1566	4902	1536	1653	4553		1716	1671	1413	1405	1779	1439
Satd. Flow (perm)	687	4902	1536	347	4553		1069	1671	1413	884	1779	1439
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	237	1272	364	60	535	18	121	146	31	22	148	256
RTOR Reduction (vph)	0	0	132	0	2	0	0	0	26	0	0	214
Lane Group Flow (vph)	237	1272	232	60	551	0	121	146	5	22	148	42
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		8
Actuated Green, G (s)	86.6	76.4	76.4	77.6	70.4		19.6	19.6	19.6	19.6	19.6	19.6
Effective Green, g (s)	86.6	76.4	76.4	77.6	70.4		19.6	19.6	19.6	19.6	19.6	19.6
Actuated g/C Ratio	0.72	0.64	0.64	0.65	0.59		0.16	0.16	0.16	0.16	0.16	0.16
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	592	3120	977	302	2671		174	272	230	144	290	235
v/s Ratio Prot	c0.04	c0.26		0.01	0.12			0.09			0.08	
v/s Ratio Perm	0.24		0.15	0.12			c0.11		0.00	0.02		0.03
v/c Ratio	0.40	0.41	0.24	0.20	0.21		0.70	0.54	0.02	0.15	0.51	0.18
Uniform Delay, d1	5.5	10.7	9.3	7.8	11.7		47.4	46.0	42.2	43.1	45.8	43.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.4	0.6	0.7	0.2		14.3	3.7	0.1	1.0	3.0	0.8
Delay (s)	6.5	11.1	9.9	8.5	11.8		61.7	49.7	42.2	44.1	48.8	44.0
Level of Service	A	B	A	A	B		E	D	D	D	D	D
Approach Delay (s)		10.3			11.5			53.8			45.7	
Approach LOS		B			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.47	B
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	63.8%	16.8
Analysis Period (min)	15	ICU Level of Service
		B

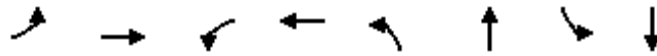
c Critical Lane Group

Queues

3: Dixie Road & Old School Road

Existing Conditions

Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↘	↘	↘	↘	↘	↘	↘
Traffic Volume (vph)	11	206	43	79	5	186	33	492
Future Volume (vph)	11	206	43	79	5	186	33	492
Lane Group Flow (vph)	11	237	43	87	5	230	33	503
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.05	0.55	0.17	0.21	0.01	0.24	0.05	0.49
Control Delay	17.5	24.6	19.6	18.0	7.8	7.9	8.0	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	24.6	19.6	18.0	7.8	7.9	8.0	11.3
Queue Length 50th (m)	0.6	13.0	2.3	4.2	0.1	6.3	0.9	18.5
Queue Length 95th (m)	2.4	23.5	6.2	9.6	1.0	14.9	3.5	37.9
Internal Link Dist (m)		1352.4		445.0		2550.6		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	387	680	401	666	444	977	610	1033
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	0.03	0.35	0.11	0.13	0.01	0.24	0.05	0.49

Intersection Summary

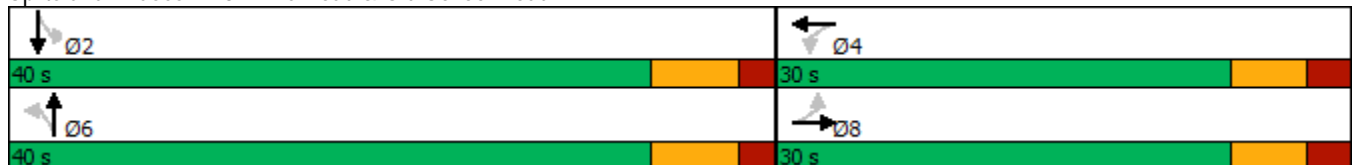
Cycle Length: 70

Actuated Cycle Length: 63.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Dixie Road & Old School Road





# HCM Signalized Intersection Capacity Analysis

## 3: Dixie Road & Old School Road

Existing Conditions  
Weekday AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (vph)	11	206	31	43	79	8	5	186	44	33	492	11
Future Volume (vph)	11	206	31	43	79	8	5	186	44	33	492	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1804		1785	1772		1785	1726		1684	1843	
Flt Permitted	0.70	1.00		0.57	1.00		0.42	1.00		0.62	1.00	
Satd. Flow (perm)	1036	1804		1074	1772		794	1726		1090	1843	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	11	206	31	43	79	8	5	186	44	33	492	11
RTOR Reduction (vph)	0	9	0	0	6	0	0	10	0	0	1	0
Lane Group Flow (vph)	11	228	0	43	81	0	5	220	0	33	502	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	14.8	14.8		14.8	14.8		35.5	35.5		35.5	35.5	
Effective Green, g (s)	14.8	14.8		14.8	14.8		35.5	35.5		35.5	35.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.56	0.56		0.56	0.56	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	242	421		251	414		445	967		611	1033	
v/s Ratio Prot		c0.13			0.05			0.13			c0.27	
v/s Ratio Perm	0.01			0.04			0.01			0.03		
v/c Ratio	0.05	0.54		0.17	0.20		0.01	0.23		0.05	0.49	
Uniform Delay, d1	18.8	21.3		19.4	19.5		6.1	7.0		6.3	8.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	2.5		0.7	0.5		0.0	0.5		0.2	1.6	
Delay (s)	18.9	23.8		20.0	20.0		6.2	7.5		6.5	10.0	
Level of Service	B	C		C	B		A	A		A	B	
Approach Delay (s)		23.5			20.0			7.5			9.8	
Approach LOS		C			B			A			A	

### Intersection Summary

HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	13.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	222	13	9	85	8	11	43	11	8	58	25
Future Vol, veh/h	13	222	13	9	85	8	11	43	11	8	58	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	15	261	15	11	100	9	13	51	13	9	68	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	8.5	8.5	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	5%	9%	9%
Vol Thru, %	66%	90%	83%	64%
Vol Right, %	17%	5%	8%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	248	102	91
LT Vol	11	13	9	8
Through Vol	43	222	85	58
RT Vol	11	13	8	25
Lane Flow Rate	76	292	120	107
Geometry Grp	1	1	1	1
Degree of Util (X)	0.104	0.362	0.155	0.143
Departure Headway (Hd)	4.914	4.464	4.645	4.794
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	726	805	769	745
Service Time	2.965	2.501	2.69	2.841
HCM Lane V/C Ratio	0.105	0.363	0.156	0.144
HCM Control Delay	8.5	10	8.5	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.7	0.5	0.5



Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑	↑	↘
Traffic Vol, veh/h	4	34	11	492	564	3
Future Vol, veh/h	4	34	11	492	564	3
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	60	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	9	5	6	0
Mvmt Flow	4	34	11	492	564	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1080	566	569	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.19	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.281	-	-	-
Pot Cap-1 Maneuver	244	528	969	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	240	527	967	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	967	-	468	-	-
HCM Lane V/C Ratio	0.011	-	0.081	-	-
HCM Control Delay (s)	8.8	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Queues  
2: Dixie Road & Mayfield Road

Existing Conditions  
Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑	↙	↑	↘	↙	↑	↘
Traffic Volume (vph)	262	882	186	43	996	289	221	33	36	269	293
Future Volume (vph)	262	882	186	43	996	289	221	33	36	269	293
Lane Group Flow (vph)	262	882	186	43	1016	289	221	33	36	269	293
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		4			8	
Permitted Phases	2		2	6		4		4	8		8
Detector Phase	5	2	2	1	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	10.0	60.0	60.0	10.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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
Total Lost Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None
v/c Ratio	0.85	0.39	0.22	0.16	0.47	0.95	0.34	0.06	0.11	0.43	0.46
Control Delay	45.2	21.7	3.5	13.4	24.1	78.7	30.7	1.6	27.0	32.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	21.7	3.5	13.4	24.1	78.7	30.7	1.6	27.0	32.8	13.9
Queue Length 50th (m)	18.2	30.1	0.0	2.6	35.6	37.7	22.1	0.0	3.3	28.0	11.4
Queue Length 95th (m)	#43.2	36.8	7.4	5.8	42.8	#68.4	34.0	1.3	7.8	41.8	25.5
Internal Link Dist (m)		1129.7			662.0		456.4			472.6	
Turn Bay Length (m)	140.0		75.0	105.0		75.0		45.0	35.0		135.0
Base Capacity (vph)	307	2278	845	277	2179	324	689	597	347	657	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.39	0.22	0.16	0.47	0.89	0.32	0.06	0.10	0.41	0.44

Intersection Summary




























Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 32 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Dixie Road & Mayfield Road



HCM Signalized Intersection Capacity Analysis  
2: Dixie Road & Mayfield Road

Existing Conditions  
Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	262	882	186	43	996	20	289	221	33	36	269	293
Future Volume (vph)	262	882	186	43	996	20	289	221	33	36	269	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1700	4768	1566	1342	4884		1750	1921	1551	1653	1830	1551
Flt Permitted	0.21	1.00	1.00	0.29	1.00		0.49	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	368	4768	1566	407	4884		904	1921	1551	967	1830	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	262	882	186	43	996	20	289	221	33	36	269	293
RTOR Reduction (vph)	0	0	98	0	2	0	0	0	22	0	0	115
Lane Group Flow (vph)	262	882	88	43	1014	0	289	221	11	36	269	178
Heavy Vehicles (%)	5%	10%	2%	33%	7%	10%	2%	0%	3%	8%	5%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		8
Actuated Green, G (s)	65.6	56.7	56.7	59.4	53.5		40.6	40.6	40.6	40.6	40.6	40.6
Effective Green, g (s)	65.6	56.7	56.7	59.4	53.5		40.6	40.6	40.6	40.6	40.6	40.6
Actuated g/C Ratio	0.55	0.47	0.47	0.49	0.45		0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	302	2252	739	247	2177		305	649	524	327	619	524
v/s Ratio Prot	c0.07	0.18		0.01	0.21			0.12			0.15	
v/s Ratio Perm	c0.41		0.06	0.08			c0.32		0.01	0.04		0.11
v/c Ratio	0.87	0.39	0.12	0.17	0.47		0.95	0.34	0.02	0.11	0.43	0.34
Uniform Delay, d1	17.4	20.5	17.7	15.9	23.3		38.7	29.7	26.5	27.3	30.8	29.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.8	0.5	0.3	0.7	0.7		38.2	0.7	0.0	0.3	1.0	0.8
Delay (s)	41.2	21.0	18.0	16.6	24.0		76.9	30.3	26.5	27.6	31.8	30.5
Level of Service	D	C	B	B	C		E	C	C	C	C	C
Approach Delay (s)		24.6			23.7			54.9			30.9	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.8			
Intersection Capacity Utilization			85.0%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Queues  
3: Dixie Road & Old School Road

Existing Conditions  
Weekday PM Peak

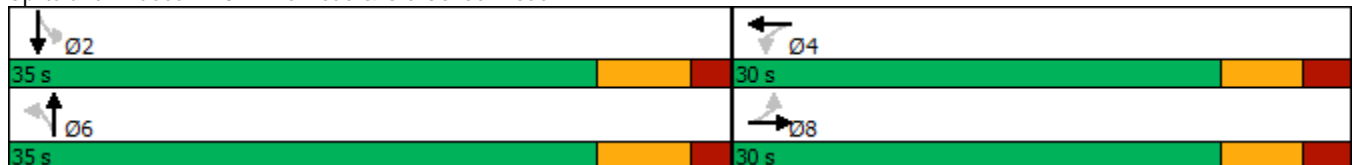


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	14	88	83	227	25	407	6	210
Future Volume (vph)	14	88	83	227	25	407	6	210
Lane Group Flow (vph)	14	98	83	245	25	448	6	225
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	25.6	25.6
Total Split (s)	30.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0
Total Split (%)	46.2%	46.2%	46.2%	46.2%	53.8%	53.8%	53.8%	53.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.06	0.21	0.26	0.53	0.04	0.47	0.01	0.24
Control Delay	15.4	15.6	18.2	21.8	8.6	11.5	8.5	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	15.6	18.2	21.8	8.6	11.5	8.5	9.1
Queue Length 50th (m)	0.6	4.1	3.9	12.1	0.7	15.3	0.2	6.6
Queue Length 95th (m)	2.6	9.4	9.1	22.1	2.9	33.4	1.2	15.7
Internal Link Dist (m)		1352.4		445.0		2550.6		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	396	742	527	750	608	955	454	922
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	0.04	0.13	0.16	0.33	0.04	0.47	0.01	0.24

Intersection Summary

Cycle Length: 65  
 Actuated Cycle Length: 58  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord

Splits and Phases: 3: Dixie Road & Old School Road





# HCM Signalized Intersection Capacity Analysis

## 3: Dixie Road & Old School Road

Existing Conditions  
Weekday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	14	88	10	83	227	18	25	407	41	6	210	15
Future Volume (vph)	14	88	10	83	227	18	25	407	41	6	210	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1566	1802		1767	1826		1785	1817		1785	1755	
Flt Permitted	0.59	1.00		0.69	1.00		0.62	1.00		0.46	1.00	
Satd. Flow (perm)	970	1802		1290	1826		1161	1817		867	1755	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	88	10	83	227	18	25	407	41	6	210	15
RTOR Reduction (vph)	0	7	0	0	5	0	0	5	0	0	3	0
Lane Group Flow (vph)	14	91	0	83	240	0	25	443	0	6	222	0
Heavy Vehicles (%)	14%	3%	0%	1%	1%	11%	0%	2%	27%	0%	9%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	14.6	14.6		14.6	14.6		30.4	30.4		30.4	30.4	
Effective Green, g (s)	14.6	14.6		14.6	14.6		30.4	30.4		30.4	30.4	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.52	0.52		0.52	0.52	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	244	453		324	459		608	952		454	919	
v/s Ratio Prot		0.05			c0.13			c0.24			0.13	
v/s Ratio Perm	0.01			0.06			0.02			0.01		
v/c Ratio	0.06	0.20		0.26	0.52		0.04	0.47		0.01	0.24	
Uniform Delay, d1	16.5	17.1		17.4	18.7		6.7	8.7		6.6	7.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.5		0.9	2.0		0.1	1.6		0.1	0.6	
Delay (s)	16.7	17.6		18.2	20.7		6.8	10.3		6.7	8.1	
Level of Service	B	B		B	C		A	B		A	A	
Approach Delay (s)		17.4			20.1			10.1			8.1	
Approach LOS		B			C			B			A	

### Intersection Summary

HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th AWSC  
4: Heart Lake Road & Old School Road

Existing Conditions  
Weekday PM Peak

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	109	12	26	223	4	25	39	15	1	39	14
Future Vol, veh/h	8	109	12	26	223	4	25	39	15	1	39	14
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
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	4	0
Mvmt Flow	9	116	13	28	237	4	27	41	16	1	41	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	9.6	8.5	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	6%	10%	2%
Vol Thru, %	49%	84%	88%	72%
Vol Right, %	19%	9%	2%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	129	253	54
LT Vol	25	8	26	1
Through Vol	39	109	223	39
RT Vol	15	12	4	14
Lane Flow Rate	84	137	269	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.171	0.329	0.076
Departure Headway (Hd)	4.838	4.495	4.407	4.774
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	740	797	816	749
Service Time	2.874	2.525	2.433	2.813
HCM Lane V/C Ratio	0.114	0.172	0.33	0.076
HCM Control Delay	8.5	8.5	9.6	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	1.4	0.2





# APPENDIX E

## **Intersection Capacity Analysis Results - Future Background Conditions**

Queues  
1: Dixie Road & Merchant Road

Future Background (2026)  
Weekday AM Peak

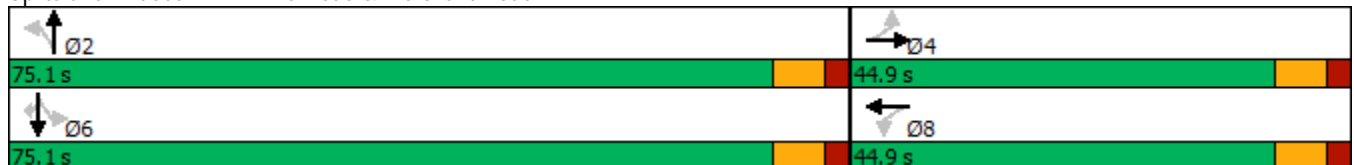


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕		↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	1	0	26	0	49	678	68	569	2
Future Volume (vph)	1	0	26	0	49	678	68	569	2
Lane Group Flow (vph)	0	18	0	144	49	750	272	569	2
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio		0.08		0.60	0.10	0.61	0.66	0.45	0.00
Control Delay		5.5		40.0	6.1	10.8	19.1	8.1	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		5.5		40.0	6.1	10.8	19.1	8.1	0.0
Queue Length 50th (m)		0.0		11.3	1.5	37.4	14.5	23.7	0.0
Queue Length 95th (m)		0.0		2.9	4.5	71.2	4.8	44.3	0.0
Internal Link Dist (m)		280.5		138.1		472.6		1387.1	
Turn Bay Length (m)					60.0		60.0		60.0
Base Capacity (vph)		493		548	499	1222	413	1270	770
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		0.04		0.26	0.10	0.61	0.66	0.45	0.00

Intersection Summary




















Cycle Length: 120  
 Actuated Cycle Length: 101.3  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road



HCM Signalized Intersection Capacity Analysis  
 1: Dixie Road & Merchant Road

Future Background (2026)  
 Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	17	26	0	10	49	678	18	68	569	2
Future Volume (vph)	1	0	17	26	0	10	49	678	18	68	569	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt		0.87			0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1275			1745		1623	1708		1785	1779	1065
Flt Permitted		0.98			0.78		0.41	1.00		0.31	1.00	1.00
Satd. Flow (perm)		1256			1402		701	1708		579	1779	1065
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	1	0	17	104	0	40	49	678	72	272	569	2
RTOR Reduction (vph)	0	15	0	0	30	0	0	2	0	0	0	1
Lane Group Flow (vph)	0	3	0	0	114	0	49	748	0	272	569	1
Heavy Vehicles (%)	100%	0%	24%	0%	0%	0%	10%	12%	0%	0%	8%	50%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		15.1			15.1		72.3	72.3		72.3	72.3	72.3
Effective Green, g (s)		15.1			15.1		72.3	72.3		72.3	72.3	72.3
Actuated g/C Ratio		0.15			0.15		0.71	0.71		0.71	0.71	0.71
Clearance Time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)		187			209		500	1220		413	1270	760
v/s Ratio Prot								0.44			0.32	
v/s Ratio Perm		0.00			c0.08		0.07			c0.47		0.00
v/c Ratio		0.01			0.55		0.10	0.61		0.66	0.45	0.00
Uniform Delay, d1		36.7			39.9		4.4	7.3		7.8	6.1	4.1
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.1			5.1		0.4	2.3		8.0	1.1	0.0
Delay (s)		36.8			44.9		4.8	9.7		15.8	7.2	4.1
Level of Service		D			D		A	A		B	A	A
Approach Delay (s)		36.8			44.9			9.4			10.0	
Approach LOS		D			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.8				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			101.2				Sum of lost time (s)				13.8	
Intersection Capacity Utilization			72.7%				ICU Level of Service				C	
Analysis Period (min)			15									

c Critical Lane Group

Queues

Future Background (2026)

2: Dixie Road & Mayfield Road

Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	434	1479	364	64	622	121	246	54	32	192	360
Future Volume (vph)	434	1479	364	64	622	121	246	54	32	192	360
Lane Group Flow (vph)	434	1479	364	64	690	121	246	54	32	192	360
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		4			8	
Permitted Phases	2		2	6		4		4	8		8
Detector Phase	5	2	2	1	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	10.0	60.0	60.0	10.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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
Total Lost Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None
v/c Ratio	0.73	0.51	0.34	0.25	0.35	0.60	0.70	0.16	0.25	0.51	0.69
Control Delay	18.3	16.8	2.6	10.3	22.0	54.3	53.7	7.5	41.7	45.5	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	16.8	2.6	10.3	22.0	54.3	53.7	7.5	41.7	45.5	17.0
Queue Length 50th (m)	21.6	43.2	0.0	2.4	22.0	15.4	32.2	0.0	3.8	24.0	9.6
Queue Length 95th (m)	#57.6	63.2	8.9	6.3	27.8	24.9	43.8	4.6	8.5	33.9	26.6
Internal Link Dist (m)		1129.7			662.0		456.4			472.6	
Turn Bay Length (m)	140.0		75.0	105.0		75.0		45.0	35.0		135.0
Base Capacity (vph)	595	2896	1056	261	1983	341	600	547	219	638	695
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.51	0.34	0.25	0.35	0.35	0.41	0.10	0.15	0.30	0.52

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

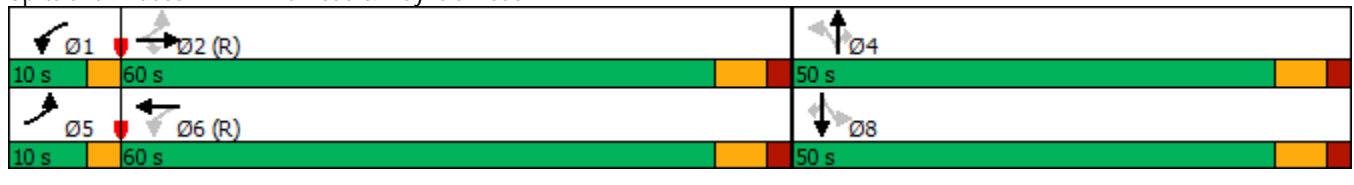
Natural Cycle: 105

Control Type: Actuated-Coordinated

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





























Queue shown is maximum after two cycles.

Splits and Phases: 2: Dixie Road & Mayfield Road



HCM Signalized Intersection Capacity Analysis  
2: Dixie Road & Mayfield Road

Future Background (2026)  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	434	1479	364	64	622	68	121	246	54	32	192	360
Future Volume (vph)	434	1479	364	64	622	68	121	246	54	32	192	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1566	4902	1536	1653	4459		1716	1671	1413	1405	1779	1439
Fl <sub>t</sub> Permitted	0.33	1.00	1.00	0.17	1.00		0.53	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)	545	4902	1536	288	4459		951	1671	1413	612	1779	1439
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	434	1479	364	64	622	68	121	246	54	32	192	360
RTOR Reduction (vph)	0	0	151	0	11	0	0	0	43	0	0	220
Lane Group Flow (vph)	434	1479	213	64	679	0	121	246	11	32	192	140
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		8
Actuated Green, G (s)	80.8	70.3	70.3	60.6	53.1		25.4	25.4	25.4	25.4	25.4	25.4
Effective Green, g (s)	80.8	70.3	70.3	60.6	53.1		25.4	25.4	25.4	25.4	25.4	25.4
Actuated g/C Ratio	0.67	0.59	0.59	0.51	0.44		0.21	0.21	0.21	0.21	0.21	0.21
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	577	2871	899	230	1973		201	353	299	129	376	304
v/s Ratio Prot	c0.15	0.30		0.02	0.15			c0.15			0.11	
v/s Ratio Perm	c0.35		0.14	0.12			0.13		0.01	0.05		0.10
v/c Ratio	0.75	0.52	0.24	0.28	0.34		0.60	0.70	0.04	0.25	0.51	0.46
Uniform Delay, d <sub>1</sub>	9.5	14.7	12.0	15.3	22.0		42.7	43.7	37.6	39.4	41.8	41.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	6.5	0.7	0.6	1.4	0.5		7.3	7.4	0.1	2.1	2.3	2.3
Delay (s)	16.1	15.4	12.6	16.7	22.5		50.0	51.2	37.7	41.5	44.1	43.6
Level of Service	B	B	B	B	C		D	D	D	D	D	D
Approach Delay (s)		15.1			22.0			49.1			43.7	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.8			
Intersection Capacity Utilization			77.8%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group



Queues  
3: Dixie Road & Old School Road

Future Background (2026)  
Weekday AM Peak

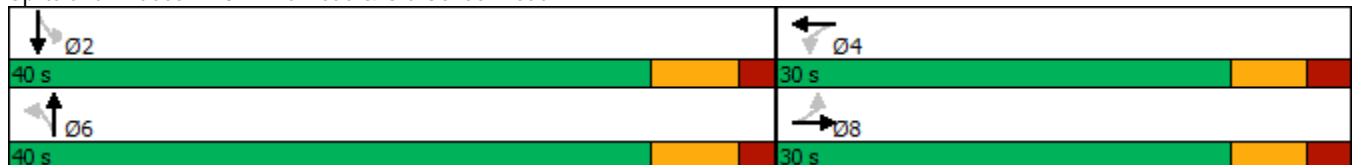


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	11	232	128	87	5	256	73	659
Future Volume (vph)	11	232	128	87	5	256	73	659
Lane Group Flow (vph)	11	263	128	95	5	305	73	670
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.04	0.57	0.51	0.21	0.02	0.32	0.13	0.67
Control Delay	17.0	24.6	27.3	17.9	8.8	9.6	9.3	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	24.6	27.3	17.9	8.8	9.6	9.3	15.8
Queue Length 50th (m)	0.6	14.9	7.4	4.7	0.2	9.7	2.2	29.5
Queue Length 95th (m)	2.4	26.1	15.7	10.3	1.1	22.1	6.9	61.9
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	387	686	378	672	289	945	550	999
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	0.03	0.38	0.34	0.14	0.02	0.32	0.13	0.67

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 62.8  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord

Splits and Phases: 3: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 3: Dixie Road & Old School Road

Future Background (2026)  
Weekday AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	11	232	31	128	87	8	5	256	49	73	659	11
Future Volume (vph)	11	232	31	128	87	8	5	256	49	73	659	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1807		1785	1774		1785	1730		1684	1844	
Flt Permitted	0.70	1.00		0.53	1.00		0.28	1.00		0.57	1.00	
Satd. Flow (perm)	1029	1807		1005	1774		533	1730		1018	1844	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	11	232	31	128	87	8	5	256	49	73	659	11
RTOR Reduction (vph)	0	7	0	0	5	0	0	9	0	0	1	0
Lane Group Flow (vph)	11	256	0	128	90	0	5	296	0	73	669	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	15.8	15.8		15.8	15.8		34.0	34.0		34.0	34.0	
Effective Green, g (s)	15.8	15.8		15.8	15.8		34.0	34.0		34.0	34.0	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.54	0.54		0.54	0.54	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	258	454		252	446		288	936		551	998	
v/s Ratio Prot		c0.14			0.05			0.17			c0.36	
v/s Ratio Perm	0.01			0.13			0.01			0.07		
v/c Ratio	0.04	0.56		0.51	0.20		0.02	0.32		0.13	0.67	
Uniform Delay, d1	17.8	20.5		20.2	18.5		6.7	8.0		7.1	10.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	2.6		3.3	0.5		0.1	0.9		0.5	3.6	
Delay (s)	17.9	23.1		23.5	19.0		6.8	8.9		7.6	13.9	
Level of Service	B	C		C	B		A	A		A	B	
Approach Delay (s)		22.9			21.6			8.8			13.3	
Approach LOS		C			C			A			B	

### Intersection Summary

HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	13.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	9.8											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	250	13	9	94	8	11	47	11	8	64	25
Future Vol, veh/h	13	250	13	9	94	8	11	47	11	8	64	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	15	294	15	11	111	9	13	55	13	9	75	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	8.8	8.8	8.9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	5%	8%	8%
Vol Thru, %	68%	91%	85%	66%
Vol Right, %	16%	5%	7%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	276	111	97
LT Vol	11	13	9	8
Through Vol	47	250	94	64
RT Vol	11	13	8	25
Lane Flow Rate	81	325	131	114
Geometry Grp	1	1	1	1
Degree of Util (X)	0.114	0.408	0.172	0.156
Departure Headway (Hd)	5.039	4.519	4.729	4.919
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	792	755	725
Service Time	3.104	2.564	2.784	2.98
HCM Lane V/C Ratio	0.115	0.41	0.174	0.157
HCM Control Delay	8.8	10.7	8.8	8.9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	2	0.6	0.6

Queues

Future Background (2026)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak

	↑	↗	↓		
Lane Group	NBT	NBR	SBT	Ø4	Ø8
Lane Configurations	↑	↗	↑		
Traffic Volume (vph)	475	60	650		
Future Volume (vph)	475	60	650		
Lane Group Flow (vph)	475	60	650		
Turn Type	NA	Perm	NA		
Protected Phases	2		6	4	8
Permitted Phases		2			
Detector Phase	2	2	6		
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5
Total Split (s)	40.0	40.0	40.0	30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	43%	43%
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5		
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	None	None
v/c Ratio	0.25	0.04	0.34		
Control Delay	0.3	0.1	0.5		
Queue Delay	0.0	0.0	0.0		
Total Delay	0.3	0.1	0.5		
Queue Length 50th (m)	0.0	0.0	0.0		
Queue Length 95th (m)	0.0	0.0	0.0		
Internal Link Dist (m)	105.2		579.9		
Turn Bay Length (m)		60.0			
Base Capacity (vph)	1921	1566	1921		
Starvation Cap Reductn	0	0	0		
Spillback Cap Reductn	0	0	0		
Storage Cap Reductn	0	0	0		
Reduced v/c Ratio	0.25	0.04	0.34		

Intersection Summary

Cycle Length: 70

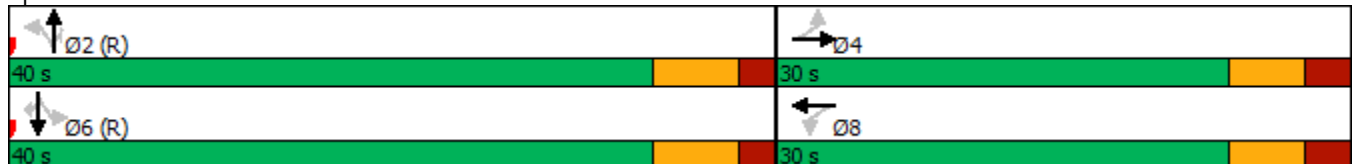
Actuated Cycle Length: 70

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

Natural Cycle: 60























Control Type: Actuated-Coordinated

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1



HCM Signalized Intersection Capacity Analysis  
 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Future Background (2026)  
 Weekday AM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	0	0	0	0	0	0	475	60	0	650	0	
Future Volume (vph)	0	0	0	0	0	0	0	475	60	0	650	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5	
Total Lost time (s)								6.5	6.5		6.5		
Lane Util. Factor								1.00	1.00		1.00		
Flt								1.00	0.85		1.00		
Flt Protected								1.00	1.00		1.00		
Satd. Flow (prot)								1921	1566		1921		
Flt Permitted								1.00	1.00		1.00		
Satd. Flow (perm)								1921	1566		1921		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	0	0	0	0	0	0	0	475	60	0	650	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	0	0	0	475	60	0	650	0	
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%	
Turn Type	Perm			Perm			Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)								70.0	70.0		70.0		
Effective Green, g (s)								70.0	70.0		70.0		
Actuated g/C Ratio								1.00	1.00		1.00		
Clearance Time (s)								6.5	6.5		6.5		
Vehicle Extension (s)								5.0	5.0		5.0		
Lane Grp Cap (vph)								1921	1566		1921		
v/s Ratio Prot								0.25			c0.34		
v/s Ratio Perm									0.04				
v/c Ratio								0.25	0.04		0.34		
Uniform Delay, d1								0.0	0.0		0.0		
Progression Factor								1.00	1.00		1.00		
Incremental Delay, d2								0.3	0.0		0.5		
Delay (s)								0.3	0.0		0.5		
Level of Service								A	A		A		
Approach Delay (s)		0.0			0.0			0.3			0.5		
Approach LOS		A			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			0.4									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.42										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	13.0
Intersection Capacity Utilization			39.6%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													



Queues  
1: Dixie Road & Merchant Road

Future Background (2026)  
Weekday PM Peak

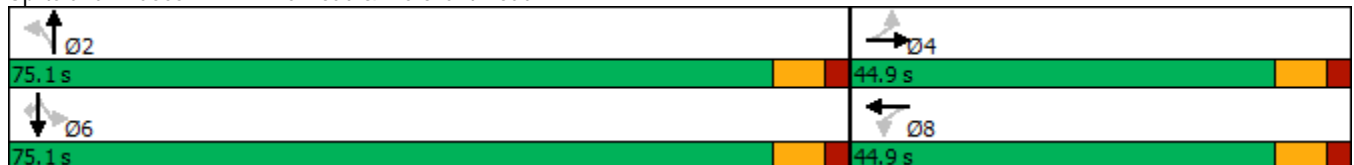


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕		↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	4	0	52	0	11	661	12	867	3
Future Volume (vph)	4	0	52	0	11	661	12	867	3
Lane Group Flow (vph)	0	38	0	448	11	757	48	867	3
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio		0.07		0.93	0.08	0.72	0.21	0.83	0.00
Control Delay		10.6		63.3	13.5	23.4	15.7	29.5	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.6		63.3	13.5	23.4	15.7	29.5	0.0
Queue Length 50th (m)		0.3		54.0	0.7	73.5	3.1	95.3	0.0
Queue Length 95th (m)		0.0		11.2	2.5	102.6	1.7	133.4	0.0
Internal Link Dist (m)		280.5		138.1		472.6		1387.1	
Turn Bay Length (m)					60.0		60.0		60.0
Base Capacity (vph)		530		501	141	1045	232	1044	914
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		0.07		0.89	0.08	0.72	0.21	0.83	0.00

Intersection Summary




















Cycle Length: 120  
 Actuated Cycle Length: 118.3  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road



HCM Signalized Intersection Capacity Analysis  
 1: Dixie Road & Merchant Road

Future Background (2026)  
 Weekday PM Peak

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	4	0	34	52	0	60	11	661	24	12	867	3		
Future Volume (vph)	4	0	34	52	0	60	11	661	24	12	867	3		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5		
Total Lost time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9		
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00		
Frbp, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	0.98		
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	1.00		
Frt		0.88			0.93		1.00	0.98		1.00	1.00	0.85		
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	1.00		
Satd. Flow (prot)		1643			1703		1638	1806		1785	1812	1560		
Flt Permitted		0.96			0.83		0.14	1.00		0.22	1.00	1.00		
Satd. Flow (perm)		1578			1452		247	1806		404	1812	1560		
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00		
Adj. Flow (vph)	4	0	34	208	0	240	11	661	96	48	867	3		
RTOR Reduction (vph)	0	24	0	0	35	0	0	4	0	0	0	1		
Lane Group Flow (vph)	0	14	0	0	413	0	11	753	0	48	867	2		
Confl. Peds. (#/hr)							2					2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	9%	5%	0%	0%	6%	0%		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm		
Protected Phases		4			8			2			6	6		
Permitted Phases	4			8			2			6		6		
Actuated Green, G (s)		36.3			36.3		68.3	68.3		68.3	68.3	68.3		
Effective Green, g (s)		36.3			36.3		68.3	68.3		68.3	68.3	68.3		
Actuated g/C Ratio		0.31			0.31		0.58	0.58		0.58	0.58	0.58		
Clearance Time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9		
Vehicle Extension (s)		5.0			5.0		5.0	5.0		5.0	5.0	5.0		
Lane Grp Cap (vph)		483			445		142	1041		233	1045	899		
v/s Ratio Prot								0.42			c0.48			
v/s Ratio Perm		0.01			c0.28		0.04			0.12		0.00		
v/c Ratio		0.03			0.93		0.08	0.72		0.21	0.83	0.00		
Uniform Delay, d1		28.7			39.8		11.1	18.2		12.0	20.3	10.6		
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2		0.1			26.3		1.1	4.4		2.0	7.6	0.0		
Delay (s)		28.8			66.1		12.2	22.5		14.0	28.0	10.6		
Level of Service		C			E		B	C		B	C	B		
Approach Delay (s)		28.8			66.1		22.4			27.2				
Approach LOS		C			E		C			C				
<b>Intersection Summary</b>														
HCM 2000 Control Delay			33.5									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.86											
Actuated Cycle Length (s)			118.4								13.8			
Intersection Capacity Utilization			70.4%										ICU Level of Service	C
Analysis Period (min)			15											
c	Critical Lane Group													



Queues  
2: Dixie Road & Mayfield Road

Future Background (2026)  
Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	363	1012	186	68	1179	289	257	38	71	358	493
Future Volume (vph)	363	1012	186	68	1179	289	257	38	71	358	493
Lane Group Flow (vph)	363	1012	186	68	1219	289	257	38	71	358	493
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		4			8	
Permitted Phases	2		2	6		4		4	8		8
Detector Phase	5	2	2	1	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	21.0	57.0	57.0	10.0	46.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	17.5%	47.5%	47.5%	8.3%	38.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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
Total Lost Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None
v/c Ratio	1.12	0.49	0.24	0.32	0.77	1.00	0.35	0.06	0.20	0.51	0.63
Control Delay	119.4	25.9	3.8	18.9	40.1	90.0	28.0	0.2	26.6	31.4	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.4	25.9	3.8	18.9	40.1	90.0	28.0	0.2	26.6	31.4	14.5
Queue Length 50th (m)	-48.3	37.6	0.0	4.5	55.5	39.7	25.2	0.0	6.5	37.8	19.6
Queue Length 95th (m)	#83.4	45.3	7.8	8.9	65.9	#73.3	37.8	0.0	13.1	54.5	41.0
Internal Link Dist (m)		1129.7			662.0		456.4			472.6	
Turn Bay Length (m)	140.0		75.0	105.0		75.0		45.0	35.0		135.0
Base Capacity (vph)	323	2069	785	215	1590	290	737	651	354	703	785
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.49	0.24	0.32	0.77	1.00	0.35	0.06	0.20	0.51	0.63

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 32 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 ~ 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: 2: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 2: Dixie Road & Mayfield Road

Future Background (2026)  
Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	363	1012	186	68	1179	40	289	257	38	71	358	493
Future Volume (vph)	363	1012	186	68	1179	40	289	257	38	71	358	493
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1700	4768	1566	1342	4873		1750	1921	1551	1653	1830	1551
Flt Permitted	0.10	1.00	1.00	0.27	1.00		0.41	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	179	4768	1566	383	4873		758	1921	1551	922	1830	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	363	1012	186	68	1179	40	289	257	38	71	358	493
RTOR Reduction (vph)	0	0	106	0	3	0	0	0	23	0	0	190
Lane Group Flow (vph)	363	1012	80	68	1216	0	289	257	15	71	358	303
Heavy Vehicles (%)	5%	10%	2%	33%	7%	10%	2%	0%	3%	8%	5%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		8
Actuated Green, G (s)	60.1	51.5	51.5	44.7	39.1		46.1	46.1	46.1	46.1	46.1	46.1
Effective Green, g (s)	60.1	51.5	51.5	44.7	39.1		46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.50	0.43	0.43	0.37	0.33		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	317	2046	672	187	1587		291	737	595	354	703	595
v/s Ratio Prot	c0.17	0.21		0.02	0.25			0.13			0.20	
v/s Ratio Perm	c0.40		0.05	0.12			c0.38		0.01	0.08		0.20
v/c Ratio	1.15	0.49	0.12	0.36	0.77		0.99	0.35	0.02	0.20	0.51	0.51
Uniform Delay, d1	35.4	24.8	20.6	24.9	36.3		36.8	26.3	23.0	24.7	28.3	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	95.8	0.9	0.4	2.5	3.6		50.8	0.6	0.0	0.6	1.2	1.4
Delay (s)	131.2	25.7	21.0	27.4	39.9		87.6	26.9	23.0	25.2	29.5	29.7
Level of Service	F	C	C	C	D		F	C	C	C	C	C
Approach Delay (s)		49.7			39.3			56.7			29.3	
Approach LOS		D			D			E			C	

Intersection Summary		
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.10	D
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	99.2%	16.8
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group

Queues  
3: Dixie Road & Old School Road

Future Background (2026)  
Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	14	97	223	251	25	620	21	253
Future Volume (vph)	14	97	223	251	25	620	21	253
Lane Group Flow (vph)	14	107	223	269	25	681	21	268
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	25.6	25.6
Total Split (s)	30.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0
Total Split (%)	46.2%	46.2%	46.2%	46.2%	53.8%	53.8%	53.8%	53.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.05	0.20	0.60	0.50	0.05	0.77	0.10	0.31
Control Delay	14.4	14.8	24.7	19.9	10.2	21.6	11.8	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.8	24.7	19.9	10.2	21.6	11.8	11.5
Queue Length 50th (m)	0.6	4.6	12.0	13.6	0.8	33.1	0.7	9.5
Queue Length 95th (m)	2.5	10.1	22.6	23.9	3.2	#76.3	3.1	20.8
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	373	733	516	742	542	888	218	856
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	0.04	0.15	0.43	0.36	0.05	0.77	0.10	0.31

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 58.9

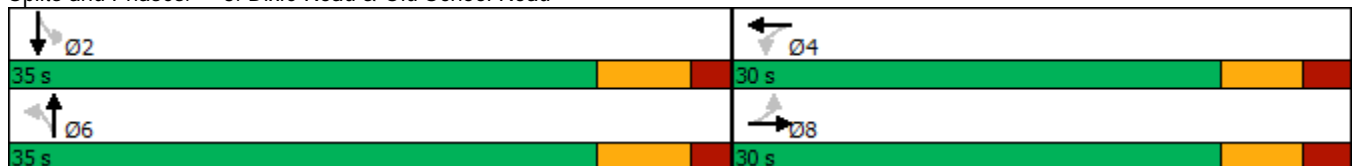
Natural Cycle: 60

Control Type: Semi Act-Uncoord

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






















Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



HCM Signalized Intersection Capacity Analysis  
 3: Dixie Road & Old School Road

Future Background (2026)  
 Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	97	10	223	251	18	25	620	61	21	253	15
Future Volume (vph)	14	97	10	223	251	18	25	620	61	21	253	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1566	1804		1767	1829		1785	1818		1785	1756	
Flt Permitted	0.56	1.00		0.69	1.00		0.59	1.00		0.24	1.00	
Satd. Flow (perm)	927	1804		1280	1829		1116	1818		449	1756	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	97	10	223	251	18	25	620	61	21	253	15
RTOR Reduction (vph)	0	6	0	0	4	0	0	5	0	0	3	0
Lane Group Flow (vph)	14	101	0	223	265	0	25	676	0	21	265	0
Heavy Vehicles (%)	14%	3%	0%	1%	1%	11%	0%	2%	27%	0%	9%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	17.2	17.2		17.2	17.2		28.6	28.6		28.6	28.6	
Effective Green, g (s)	17.2	17.2		17.2	17.2		28.6	28.6		28.6	28.6	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.49	0.49		0.49	0.49	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	271	527		374	535		542	884		218	854	
v/s Ratio Prot		0.06			0.14			c0.37			0.15	
v/s Ratio Perm	0.02			c0.17			0.02			0.05		
v/c Ratio	0.05	0.19		0.60	0.49		0.05	0.76		0.10	0.31	
Uniform Delay, d1	14.9	15.6		17.8	17.2		7.9	12.3		8.1	9.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		3.8	1.5		0.2	6.2		0.9	0.9	
Delay (s)	15.1	16.0		21.7	18.7		8.1	18.6		9.0	10.1	
Level of Service	B	B		C	B		A	B		A	B	
Approach Delay (s)		15.9			20.0			18.2			10.0	
Approach LOS		B			C			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.1									B
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			58.8							13.0		
Intersection Capacity Utilization			66.2%									C
Analysis Period (min)			15									

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	120	12	26	246	4	25	43	15	1	43	14
Future Vol, veh/h	8	120	12	26	246	4	25	43	15	1	43	14
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
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	4	0
Mvmt Flow	9	128	13	28	262	4	27	46	16	1	46	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	10	8.7	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	6%	9%	2%
Vol Thru, %	52%	86%	89%	74%
Vol Right, %	18%	9%	1%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	140	276	58
LT Vol	25	8	26	1
Through Vol	43	120	246	43
RT Vol	15	12	4	14
Lane Flow Rate	88	149	294	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.121	0.188	0.363	0.084
Departure Headway (Hd)	4.935	4.556	4.449	4.881
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	786	807	731
Service Time	2.98	2.593	2.48	2.928
HCM Lane V/C Ratio	0.122	0.19	0.364	0.085
HCM Control Delay	8.7	8.7	10	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.7	1.7	0.3

Queues

Future Background (2026)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak

	↑	↗	↓		
Lane Group	NBT	NBR	SBT	Ø4	Ø8
Lane Configurations	↑	↗	↑		
Traffic Volume (vph)	688	10	862		
Future Volume (vph)	688	10	862		
Lane Group Flow (vph)	688	10	862		
Turn Type	NA	Perm	NA		
Protected Phases	2		6	4	8
Permitted Phases		2			
Detector Phase	2	2	6		
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	74.0	74.0	74.0	26.0	26.0
Total Split (%)	74.0%	74.0%	74.0%	26%	26%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5		
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	None	None
v/c Ratio	0.36	0.01	0.45		
Control Delay	0.5	0.0	0.8		
Queue Delay	0.0	0.0	0.0		
Total Delay	0.5	0.0	0.8		
Queue Length 50th (m)	0.0	0.0	0.0		
Queue Length 95th (m)	0.0	0.0	0.0		
Internal Link Dist (m)	105.2		579.9		
Turn Bay Length (m)		60.0			
Base Capacity (vph)	1921	1566	1921		
Starvation Cap Reductn	0	0	0		
Spillback Cap Reductn	0	0	0		
Storage Cap Reductn	0	0	0		
Reduced v/c Ratio	0.36	0.01	0.45		

Intersection Summary

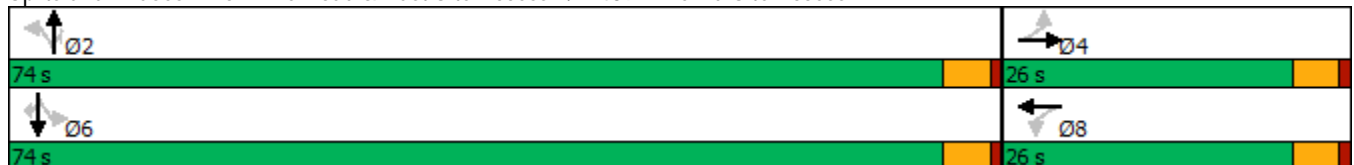
Cycle Length: 100

Actuated Cycle Length: 89

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

























# HCM Signalized Intersection Capacity Analysis

Future Background (2026)

## 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	688	10	0	862	0
Future Volume (vph)	0	0	0	0	0	0	0	688	10	0	862	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)								4.5	4.5		4.5	
Lane Util. Factor								1.00	1.00		1.00	
Flt								1.00	0.85		1.00	
Flt Protected								1.00	1.00		1.00	
Satd. Flow (prot)								1921	1566		1921	
Flt Permitted								1.00	1.00		1.00	
Satd. Flow (perm)								1921	1566		1921	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	688	10	0	862	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	688	10	0	862	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm			Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)								89.0	89.0		89.0	
Effective Green, g (s)								89.0	89.0		89.0	
Actuated g/C Ratio								1.00	1.00		1.00	
Clearance Time (s)								4.5	4.5		4.5	
Vehicle Extension (s)								5.0	5.0		5.0	
Lane Grp Cap (vph)								1921	1566		1921	
v/s Ratio Prot								0.36			0.45	
v/s Ratio Perm									0.01			
v/c Ratio								0.36	0.01		0.45	
Uniform Delay, d1								0.0	0.0		0.0	
Progression Factor								1.00	1.00		1.00	
Incremental Delay, d2								0.5	0.0		0.8	
Delay (s)								0.5	0.0		0.8	
Level of Service								A	A		A	
Approach Delay (s)		0.0			0.0			0.5			0.8	
Approach LOS		A			A			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			0.7									A
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			89.0								9.0	
Intersection Capacity Utilization			49.1%									A
Analysis Period (min)			15									
c Critical Lane Group												





Queues  
1: Dixie Road & Merchant Road

Future Background (2031)  
Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	1	0	26	0	49	718	18	68	616	2
Future Volume (vph)	1	0	26	0	49	718	18	68	616	2
Lane Group Flow (vph)	0	18	0	144	49	718	72	272	616	2
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max
v/c Ratio		0.08		0.60	0.10	0.31	0.06	0.54	0.26	0.00
Control Delay		5.5		40.0	6.1	6.2	1.6	12.8	5.8	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		5.5		40.0	6.1	6.2	1.6	12.8	5.8	0.0
Queue Length 50th (m)		0.0		11.3	1.5	13.6	0.0	12.5	11.2	0.0
Queue Length 95th (m)		0.0		2.9	4.5	23.2	0.0	4.7	19.2	0.0
Internal Link Dist (m)		280.5		138.1		472.6		1387.1		
Turn Bay Length (m)					60.0		60.0	60.0		60.0
Base Capacity (vph)		493		548	511	2327	1160	503	2413	770
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		0.04		0.26	0.10	0.31	0.06	0.54	0.26	0.00

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.3  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road




















# HCM Signalized Intersection Capacity Analysis

Future Background (2031)

## 1: Dixie Road & Merchant Road

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	17	26	0	10	49	718	18	68	616	2
Future Volume (vph)	1	0	17	26	0	10	49	718	18	68	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.87			0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1275			1745		1623	3259	1597	1785	3380	1065
Flt Permitted		0.98			0.78		0.42	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1256			1402		715	3259	1597	704	3380	1065
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	1	0	17	104	0	40	49	718	72	272	616	2
RTOR Reduction (vph)	0	15	0	0	30	0	0	0	21	0	0	1
Lane Group Flow (vph)	0	3	0	0	114	0	49	718	51	272	616	1
Heavy Vehicles (%)	100%	0%	24%	0%	0%	0%	10%	12%	0%	0%	8%	50%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		15.1			15.1		72.3	72.3	72.3	72.3	72.3	72.3
Effective Green, g (s)		15.1			15.1		72.3	72.3	72.3	72.3	72.3	72.3
Actuated g/C Ratio		0.15			0.15		0.71	0.71	0.71	0.71	0.71	0.71
Clearance Time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)		187			209		510	2328	1140	502	2414	760
v/s Ratio Prot								0.22			0.18	
v/s Ratio Perm		0.00			0.08		0.07		0.03	0.39		0.00
v/c Ratio		0.01			0.55		0.10	0.31	0.05	0.54	0.26	0.00
Uniform Delay, d1		36.7			39.9		4.4	5.3	4.3	6.7	5.0	4.1
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1			5.1		0.4	0.3	0.1	4.2	0.3	0.0
Delay (s)		36.8			44.9		4.8	5.6	4.3	10.9	5.3	4.1
Level of Service		D			D		A	A	A	B	A	A
Approach Delay (s)		36.8			44.9			5.5			7.0	
Approach LOS		D			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.5									A
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			101.2							13.8		
Intersection Capacity Utilization			55.8%									B
Analysis Period (min)			15									

c Critical Lane Group

Queues

Future Background (2031)

2: Dixie Road & Mayfield Road

Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	1626	364	64	683	68	121	263	54	32	209	360
Future Volume (vph)	434	1626	364	64	683	68	121	263	54	32	209	360
Lane Group Flow (vph)	434	1626	364	64	683	68	121	263	54	32	209	360
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	10.0	60.0	60.0	10.0	60.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.41	0.53	0.33	0.26	0.26	0.09	0.31	0.46	0.18	0.22	0.35	0.78
Control Delay	7.0	15.6	2.5	8.8	14.6	4.6	42.7	45.4	8.0	41.9	43.0	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	15.6	2.5	8.8	14.6	4.6	42.7	45.4	8.0	41.9	43.0	25.1
Queue Length 50th (m)	7.4	42.8	0.0	1.9	15.4	0.0	7.8	17.9	0.0	4.0	13.9	14.4
Queue Length 95th (m)	17.0	73.1	9.0	6.3	28.0	4.8	11.1	21.7	4.6	8.2	17.5	30.7
Internal Link Dist (m)		1129.7			662.0			456.4			472.6	
Turn Bay Length (m)	155.0		115.0	150.0		65.0	140.0		65.0	100.0		170.0
Base Capacity (vph)	1048	3059	1095	250	2644	719	781	1139	547	293	1213	678
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	0.41	0.53	0.33	0.26	0.26	0.09	0.15	0.23	0.10	0.11	0.17	0.53

Intersection Summary

Cycle Length: 120

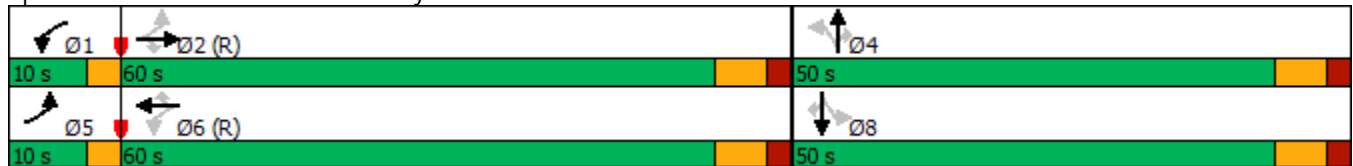
Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated


































Splits and Phases: 2: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 2: Dixie Road & Mayfield Road

Future Background (2031)  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 	 			 	 
Traffic Volume (vph)	434	1626	364	64	683	68	121	263	54	32	209	360
Future Volume (vph)	434	1626	364	64	683	68	121	263	54	32	209	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3038	4902	1536	1653	4601	1201	3330	3174	1413	1405	3380	1439
Flt Permitted	0.36	1.00	1.00	0.12	1.00	1.00	0.62	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	1144	4902	1536	209	4601	1201	2176	3174	1413	818	3380	1439
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	434	1626	364	64	683	68	121	263	54	32	209	360
RTOR Reduction (vph)	0	0	139	0	0	29	0	0	44	0	0	208
Lane Group Flow (vph)	434	1626	225	64	683	39	121	263	10	32	209	152
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	84.8	74.3	74.3	76.5	69.0	69.0	21.4	21.4	21.4	21.4	21.4	21.4
Effective Green, g (s)	84.8	74.3	74.3	76.5	69.0	69.0	21.4	21.4	21.4	21.4	21.4	21.4
Actuated g/C Ratio	0.71	0.62	0.62	0.64	0.58	0.58	0.18	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1010	3035	951	223	2645	690	388	566	251	145	602	256
v/s Ratio Prot	c0.05	c0.33		0.02	0.15			0.08			0.06	
v/s Ratio Perm	0.26		0.15	0.16		0.03	0.06		0.01	0.04		c0.11
v/c Ratio	0.43	0.54	0.24	0.29	0.26	0.06	0.31	0.46	0.04	0.22	0.35	0.59
Uniform Delay, d1	6.1	13.0	10.2	8.8	12.7	11.2	42.9	44.2	40.8	42.2	43.2	45.3
Progression 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
Incremental Delay, d2	0.6	0.7	0.6	1.5	0.2	0.2	1.0	1.3	0.1	1.6	0.7	5.5
Delay (s)	6.8	13.7	10.8	10.3	13.0	11.4	43.9	45.4	40.9	43.8	43.9	50.8
Level of Service	A	B	B	B	B	B	D	D	D	D	D	D
Approach Delay (s)		12.0			12.6			44.4			48.0	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.5	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				16.8				
Intersection Capacity Utilization			70.1%	ICU Level of Service				C				
Analysis Period (min)			15									

c Critical Lane Group

Queues  
3: Dixie Road & Old School Road

Future Background (2031)  
Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	11	256	128	96	5	278	73	716
Future Volume (vph)	11	256	128	96	5	278	73	716
Lane Group Flow (vph)	11	287	128	104	5	327	73	727
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.04	0.60	0.52	0.22	0.02	0.35	0.14	0.74
Control Delay	16.7	25.0	27.9	18.0	9.4	10.4	9.8	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	25.0	27.9	18.0	9.4	10.4	9.8	19.0
Queue Length 50th (m)	0.6	16.6	7.5	5.2	0.1	11.1	2.3	35.1
Queue Length 95th (m)	2.4	28.5	15.9	11.1	1.2	24.8	7.1	#82.8
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	382	684	350	668	232	928	530	981
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	0.03	0.42	0.37	0.16	0.02	0.35	0.14	0.74

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 63.2

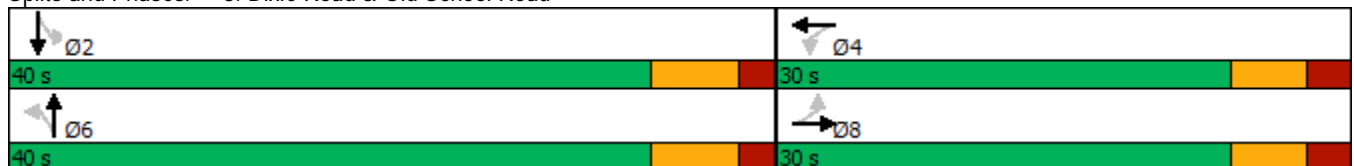
Natural Cycle: 60

Control Type: Semi Act-Uncoord

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 3: Dixie Road & Old School Road

Future Background (2031)  
Weekday AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	11	256	31	128	96	8	5	278	49	73	716	11
Future Volume (vph)	11	256	31	128	96	8	5	278	49	73	716	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1810		1785	1775		1785	1731		1684	1844	
Flt Permitted	0.69	1.00		0.50	1.00		0.23	1.00		0.56	1.00	
Satd. Flow (perm)	1021	1810		936	1775		438	1731		998	1844	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	11	256	31	128	96	8	5	278	49	73	716	11
RTOR Reduction (vph)	0	7	0	0	4	0	0	8	0	0	1	0
Lane Group Flow (vph)	11	280	0	128	100	0	5	319	0	73	726	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	16.6	16.6		16.6	16.6		33.6	33.6		33.6	33.6	
Effective Green, g (s)	16.6	16.6		16.6	16.6		33.6	33.6		33.6	33.6	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.53	0.53		0.53	0.53	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	268	475		245	466		232	920		530	980	
v/s Ratio Prot		c0.15			0.06			0.18			c0.39	
v/s Ratio Perm	0.01			0.14			0.01			0.07		
v/c Ratio	0.04	0.59		0.52	0.21		0.02	0.35		0.14	0.74	
Uniform Delay, d1	17.4	20.3		19.9	18.2		7.0	8.5		7.5	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	3.0		3.8	0.5		0.2	1.0		0.5	5.0	
Delay (s)	17.5	23.3		23.7	18.7		7.2	9.5		8.0	16.5	
Level of Service	B	C		C	B		A	A		A	B	
Approach Delay (s)		23.1			21.5			9.5			15.7	
Approach LOS		C			C			A			B	

### Intersection Summary

HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	10.2											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	276	13	9	104	8	11	52	11	8	71	25
Future Vol, veh/h	13	276	13	9	104	8	11	52	11	8	71	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	15	325	15	11	122	9	13	61	13	9	84	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.4	9	9	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	4%	7%	8%
Vol Thru, %	70%	91%	86%	68%
Vol Right, %	15%	4%	7%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	302	121	104
LT Vol	11	13	9	8
Through Vol	52	276	104	71
RT Vol	11	13	8	25
Lane Flow Rate	87	355	142	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.125	0.453	0.191	0.171
Departure Headway (Hd)	5.168	4.585	4.821	5.046
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	688	782	739	705
Service Time	3.247	2.636	2.885	3.122
HCM Lane V/C Ratio	0.126	0.454	0.192	0.173
HCM Control Delay	9	11.4	9	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	2.4	0.7	0.6

Queues

Future Background (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak

	↑	↗	↓		
Lane Group	NBT	NBR	SBT	Ø4	Ø8
Lane Configurations	↑	↗	↑		
Traffic Volume (vph)	502	60	697		
Future Volume (vph)	502	60	697		
Lane Group Flow (vph)	502	60	697		
Turn Type	NA	Perm	NA		
Protected Phases	2		6	4	8
Permitted Phases		2			
Detector Phase	2	2	6		
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5
Total Split (s)	40.0	40.0	40.0	30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	43%	43%
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5		
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	None	None
v/c Ratio	0.26	0.04	0.36		
Control Delay	0.3	0.1	0.5		
Queue Delay	0.0	0.0	0.0		
Total Delay	0.3	0.1	0.5		
Queue Length 50th (m)	0.0	0.0	0.0		
Queue Length 95th (m)	0.0	0.0	0.0		
Internal Link Dist (m)	105.2		579.9		
Turn Bay Length (m)		60.0			
Base Capacity (vph)	1921	1566	1921		
Starvation Cap Reductn	0	0	0		
Spillback Cap Reductn	0	0	0		
Storage Cap Reductn	0	0	0		
Reduced v/c Ratio	0.26	0.04	0.36		

Intersection Summary

Cycle Length: 70

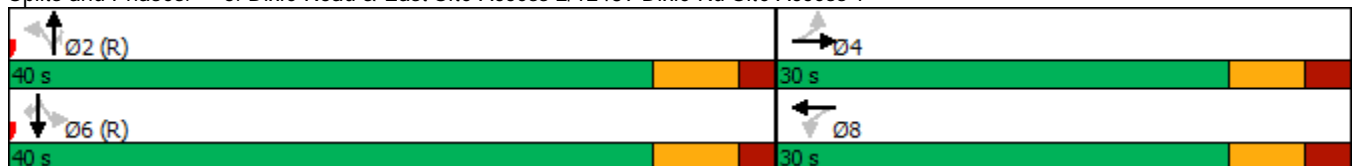
Actuated Cycle Length: 70

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

Natural Cycle: 60

Control Type: Actuated-Coordinated























Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1





HCM Signalized Intersection Capacity Analysis  
 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Future Background (2031)  
 Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	502	60	0	697	0
Future Volume (vph)	0	0	0	0	0	0	0	502	60	0	697	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)								6.5	6.5		6.5	
Lane Util. Factor								1.00	1.00		1.00	
Frt								1.00	0.85		1.00	
Flt Protected								1.00	1.00		1.00	
Satd. Flow (prot)								1921	1566		1921	
Flt Permitted								1.00	1.00		1.00	
Satd. Flow (perm)								1921	1566		1921	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	502	60	0	697	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	502	60	0	697	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm			Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)								70.0	70.0		70.0	
Effective Green, g (s)								70.0	70.0		70.0	
Actuated g/C Ratio								1.00	1.00		1.00	
Clearance Time (s)								6.5	6.5		6.5	
Vehicle Extension (s)								5.0	5.0		5.0	
Lane Grp Cap (vph)								1921	1566		1921	
v/s Ratio Prot								0.26			0.36	
v/s Ratio Perm									0.04			
v/c Ratio								0.26	0.04		0.36	
Uniform Delay, d1								0.0	0.0		0.0	
Progression Factor								1.00	1.00		1.00	
Incremental Delay, d2								0.3	0.0		0.5	
Delay (s)								0.3	0.0		0.5	
Level of Service								A	A		A	
Approach Delay (s)		0.0			0.0			0.3			0.5	
Approach LOS		A			A			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			0.4									A
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			70.0								13.0	
Intersection Capacity Utilization			42.1%									A
Analysis Period (min)			15									
c Critical Lane Group												



Queues  
1: Dixie Road & Merchant Road

Future Background (2031)  
Weekday PM Peak

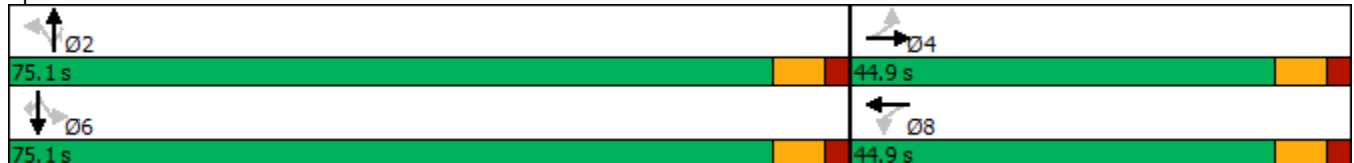


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	4	0	52	0	11	718	24	12	932	3
Future Volume (vph)	4	0	52	0	11	718	24	12	932	3
Lane Group Flow (vph)	0	38	0	448	11	718	96	48	932	3
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max
v/c Ratio		0.07		0.93	0.04	0.36	0.10	0.13	0.47	0.00
Control Delay		10.6		63.3	12.2	14.3	2.5	13.3	15.8	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.6		63.3	12.2	14.3	2.5	13.3	15.8	0.0
Queue Length 50th (m)		0.3		54.0	0.7	27.2	0.0	3.0	38.5	0.0
Queue Length 95th (m)		0.0		11.2	2.3	34.6	0.0	1.7	47.8	0.0
Internal Link Dist (m)		280.5		138.1		472.6			1387.1	
Turn Bay Length (m)					60.0		60.0	60.0		60.0
Base Capacity (vph)		530		501	251	2004	962	371	1986	914
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		0.07		0.89	0.04	0.36	0.10	0.13	0.47	0.00

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.3  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road























# HCM Signalized Intersection Capacity Analysis

Future Background (2031)

## 1: Dixie Road & Merchant Road

Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	34	52	0	60	11	718	24	12	932	3
Future Volume (vph)	4	0	34	52	0	60	11	718	24	12	932	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.88			0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1643			1703		1636	3476	1597	1785	3444	1560
Flt Permitted		0.96			0.83		0.25	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)		1578			1452		436	3476	1597	645	3444	1560
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	4	0	34	208	0	240	11	718	96	48	932	3
RTOR Reduction (vph)	0	24	0	0	35	0	0	0	41	0	0	1
Lane Group Flow (vph)	0	14	0	0	413	0	11	718	55	48	932	2
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	9%	5%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.3			36.3		68.3	68.3	68.3	68.3	68.3	68.3
Effective Green, g (s)		36.3			36.3		68.3	68.3	68.3	68.3	68.3	68.3
Actuated g/C Ratio		0.31			0.31		0.58	0.58	0.58	0.58	0.58	0.58
Clearance Time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)		483			445		251	2005	921	372	1986	899
v/s Ratio Prot								0.21			c0.27	
v/s Ratio Perm		0.01			c0.28		0.03		0.03	0.07		0.00
v/c Ratio		0.03			0.93		0.04	0.36	0.06	0.13	0.47	0.00
Uniform Delay, d1		28.7			39.8		10.9	13.4	11.0	11.5	14.5	10.6
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1			26.3		0.3	0.5	0.1	0.7	0.8	0.0
Delay (s)		28.8			66.1		11.2	13.9	11.1	12.2	15.3	10.6
Level of Service		C			E		B	B	B	B	B	B
Approach Delay (s)		28.8			66.1			13.5			15.2	
Approach LOS		C			E			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.7									C
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			118.4						13.8			
Intersection Capacity Utilization			65.6%									C
Analysis Period (min)			15									
c Critical Lane Group												

Queues  
2: Dixie Road & Mayfield Road

Future Background (2031)  
Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	363	1113	186	68	1293	40	289	282	38	71	389	493
Future Volume (vph)	363	1113	186	68	1293	40	289	282	38	71	389	493
Lane Group Flow (vph)	363	1113	186	68	1293	40	289	282	38	71	389	493
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	21.0	57.0	57.0	10.0	46.0	46.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	17.5%	47.5%	47.5%	8.3%	38.3%	38.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.56	0.43	0.20	0.25	0.54	0.05	0.71	0.30	0.08	0.29	0.44	0.79
Control Delay	12.8	18.9	3.5	12.8	24.8	0.1	49.0	35.1	0.3	35.5	37.5	23.7
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	12.8	18.9	3.5	12.8	24.8	0.1	49.0	35.1	0.3	35.5	37.5	23.7
Queue Length 50th (m)	8.5	32.6	0.0	2.9	42.3	0.0	19.4	17.1	0.0	8.2	24.6	25.9
Queue Length 95th (m)	18.0	50.8	7.8	8.8	70.9	0.0	23.4	19.6	0.0	13.0	26.8	41.6
Internal Link Dist (m)		1129.7			662.0			456.4			472.6	
Turn Bay Length (m)	155.0		115.0	150.0		65.0	140.0		65.0	100.0		170.0
Base Capacity (vph)	750	2612	942	269	2402	757	610	1402	651	373	1335	784
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	0.48	0.43	0.20	0.25	0.54	0.05	0.47	0.20	0.06	0.19	0.29	0.63

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 32 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated

































Splits and Phases: 2: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 2: Dixie Road & Mayfield Road

Future Background (2031)  
Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 	 			 	
Traffic Volume (vph)	363	1113	186	68	1293	40	289	282	38	71	389	493
Future Volume (vph)	363	1113	186	68	1293	40	289	282	38	71	389	493
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3298	4768	1566	1342	4902	1452	3395	3650	1551	1653	3476	1551
Flt Permitted	0.14	1.00	1.00	0.23	1.00	1.00	0.44	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	497	4768	1566	328	4902	1452	1590	3650	1551	970	3476	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	363	1113	186	68	1293	40	289	282	38	71	389	493
RTOR Reduction (vph)	0	0	85	0	0	20	0	0	28	0	0	227
Lane Group Flow (vph)	363	1113	101	68	1293	20	289	282	10	71	389	266
Heavy Vehicles (%)	5%	10%	2%	33%	7%	10%	2%	0%	3%	8%	5%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	75.4	65.1	65.1	66.1	58.8	58.8	30.8	30.8	30.8	30.8	30.8	30.8
Effective Green, g (s)	75.4	65.1	65.1	66.1	58.8	58.8	30.8	30.8	30.8	30.8	30.8	30.8
Actuated g/C Ratio	0.63	0.54	0.54	0.55	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	629	2586	849	242	2401	711	408	936	398	248	892	398
v/s Ratio Prot	c0.07	0.23		0.02	0.26			0.08			0.11	
v/s Ratio Perm	c0.30		0.06	0.14		0.01	c0.18		0.01	0.07		0.17
v/c Ratio	0.58	0.43	0.12	0.28	0.54	0.03	0.71	0.30	0.02	0.29	0.44	0.67
Uniform Delay, d1	12.1	16.4	13.4	12.8	21.2	15.8	40.5	35.9	33.4	35.8	37.3	40.0
Progression 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
Incremental Delay, d2	2.0	0.5	0.3	1.3	0.9	0.1	6.9	0.4	0.1	1.3	0.7	5.5
Delay (s)	14.1	16.9	13.7	14.1	22.1	15.9	47.4	36.3	33.4	37.1	38.0	45.5
Level of Service	B	B	B	B	C	B	D	D	C	D	D	D
Approach Delay (s)		15.9			21.5			41.4			41.8	
Approach LOS		B			C			D			D	

Intersection Summary		
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.63	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 16.8
Intersection Capacity Utilization	81.0%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

Queues  
3: Dixie Road & Old School Road

Future Background (2031)  
Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	14	107	223	277	25	667	21	277
Future Volume (vph)	14	107	223	277	25	667	21	277
Lane Group Flow (vph)	14	117	223	295	25	728	21	292
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	25.6	25.6
Total Split (s)	30.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0
Total Split (%)	46.2%	46.2%	46.2%	46.2%	53.8%	53.8%	53.8%	53.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.06	0.22	0.60	0.54	0.05	0.82	0.12	0.34
Control Delay	14.5	15.1	24.8	20.8	10.3	24.8	12.5	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	15.1	24.8	20.8	10.3	24.8	12.5	11.9
Queue Length 50th (m)	0.6	5.1	12.0	15.2	0.8	37.1	0.7	10.6
Queue Length 95th (m)	2.6	10.9	22.7	26.3	3.2	#84.5	3.2	23.0
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	345	731	510	741	529	887	181	853
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	0.04	0.16	0.44	0.40	0.05	0.82	0.12	0.34

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 59

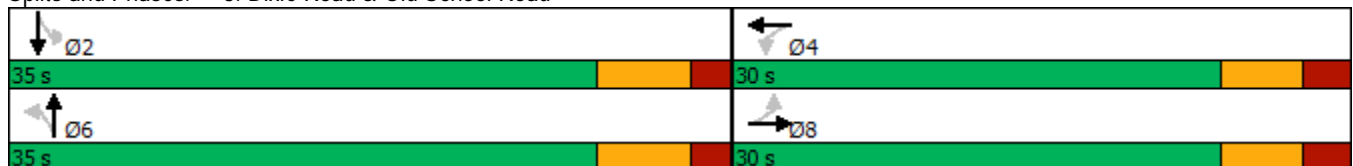
Natural Cycle: 60

Control Type: Semi Act-Uncoord

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






















Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



HCM Signalized Intersection Capacity Analysis  
 3: Dixie Road & Old School Road

Future Background (2031)  
 Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	107	10	223	277	18	25	667	61	21	277	15
Future Volume (vph)	14	107	10	223	277	18	25	667	61	21	277	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1566	1805		1767	1832		1785	1822		1785	1756	
Flt Permitted	0.52	1.00		0.68	1.00		0.58	1.00		0.20	1.00	
Satd. Flow (perm)	859	1805		1268	1832		1092	1822		373	1756	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	107	10	223	277	18	25	667	61	21	277	15
RTOR Reduction (vph)	0	6	0	0	4	0	0	5	0	0	3	0
Lane Group Flow (vph)	14	111	0	223	291	0	25	723	0	21	289	0
Heavy Vehicles (%)	14%	3%	0%	1%	1%	11%	0%	2%	27%	0%	9%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	17.3	17.3		17.3	17.3		28.6	28.6		28.6	28.6	
Effective Green, g (s)	17.3	17.3		17.3	17.3		28.6	28.6		28.6	28.6	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.49	0.49		0.49	0.49	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	252	530		372	538		530	884		181	852	
v/s Ratio Prot		0.06			0.16			c0.40			0.16	
v/s Ratio Perm	0.02			c0.18			0.02			0.06		
v/c Ratio	0.06	0.21		0.60	0.54		0.05	0.82		0.12	0.34	
Uniform Delay, d1	14.9	15.7		17.8	17.5		8.0	12.9		8.3	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		3.9	1.9		0.2	8.3		1.3	1.1	
Delay (s)	15.1	16.1		21.7	19.4		8.1	21.3		9.6	10.4	
Level of Service	B	B		C	B		A	C		A	B	
Approach Delay (s)		16.0			20.4			20.8			10.4	
Approach LOS		B			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			18.4									B
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			58.9								13.0	
Intersection Capacity Utilization			68.7%									C
Analysis Period (min)			15									

c Critical Lane Group



**Intersection**

Intersection Delay, s/veh 9.7  
 Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	133	12	26	272	4	25	48	15	1	48	14
Future Vol, veh/h	8	133	12	26	272	4	25	48	15	1	48	14
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
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	4	0
Mvmt Flow	9	141	13	28	289	4	27	51	16	1	51	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	10.6	8.9	8.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	5%	9%	2%
Vol Thru, %	55%	87%	90%	76%
Vol Right, %	17%	8%	1%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	153	302	63
LT Vol	25	8	26	1
Through Vol	48	133	272	48
RT Vol	15	12	4	14
Lane Flow Rate	94	163	321	67
Geometry Grp	1	1	1	1
Degree of Util (X)	0.131	0.209	0.402	0.093
Departure Headway (Hd)	5.047	4.627	4.499	5.003
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	707	773	797	712
Service Time	3.103	2.672	2.537	3.062
HCM Lane V/C Ratio	0.133	0.211	0.403	0.094
HCM Control Delay	8.9	8.9	10.6	8.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.4	0.8	2	0.3

Queues

Future Background (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

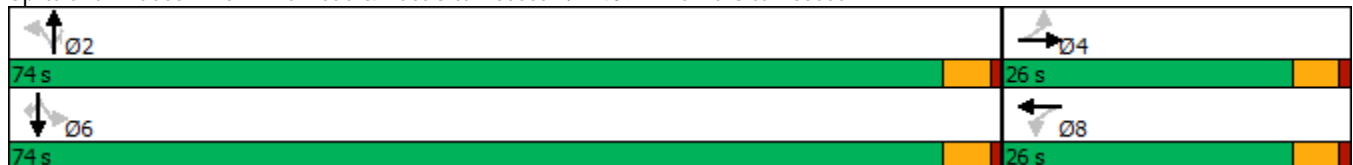
Weekday PM Peak

	↑	↗	↓		
Lane Group	NBT	NBR	SBT	Ø4	Ø8
Lane Configurations	↑	↗	↑		
Traffic Volume (vph)	743	10	927		
Future Volume (vph)	743	10	927		
Lane Group Flow (vph)	743	10	927		
Turn Type	NA	Perm	NA		
Protected Phases	2		6	4	8
Permitted Phases		2			
Detector Phase	2	2	6		
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	74.0	74.0	74.0	26.0	26.0
Total Split (%)	74.0%	74.0%	74.0%	26%	26%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	4.5	4.5	4.5		
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	None	None
v/c Ratio	0.39	0.01	0.48		
Control Delay	0.6	0.0	0.9		
Queue Delay	0.0	0.0	0.0		
Total Delay	0.6	0.0	0.9		
Queue Length 50th (m)	0.0	0.0	0.0		
Queue Length 95th (m)	0.0	0.0	0.0		
Internal Link Dist (m)	105.2		579.9		
Turn Bay Length (m)		60.0			
Base Capacity (vph)	1921	1566	1921		
Starvation Cap Reductn	0	0	0		
Spillback Cap Reductn	0	0	0		
Storage Cap Reductn	0	0	0		
Reduced v/c Ratio	0.39	0.01	0.48		

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 89  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

























HCM Signalized Intersection Capacity Analysis

Future Background (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	0	0	0	0	0	0	743	10	0	927	0	
Future Volume (vph)	0	0	0	0	0	0	0	743	10	0	927	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5	
Total Lost time (s)								4.5	4.5		4.5		
Lane Util. Factor								1.00	1.00		1.00		
Flt								1.00	0.85		1.00		
Flt Protected								1.00	1.00		1.00		
Satd. Flow (prot)								1921	1566		1921		
Flt Permitted								1.00	1.00		1.00		
Satd. Flow (perm)								1921	1566		1921		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	0	0	0	0	0	0	0	743	10	0	927	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	0	0	0	743	10	0	927	0	
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%	
Turn Type	Perm			Perm			Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)								89.0	89.0		89.0		
Effective Green, g (s)								89.0	89.0		89.0		
Actuated g/C Ratio								1.00	1.00		1.00		
Clearance Time (s)								4.5	4.5		4.5		
Vehicle Extension (s)								5.0	5.0		5.0		
Lane Grp Cap (vph)								1921	1566		1921		
v/s Ratio Prot								0.39			c0.48		
v/s Ratio Perm									0.01				
v/c Ratio								0.39	0.01		0.48		
Uniform Delay, d1								0.0	0.0		0.0		
Progression Factor								1.00	1.00		1.00		
Incremental Delay, d2								0.6	0.0		0.9		
Delay (s)								0.6	0.0		0.9		
Level of Service								A	A		A		
Approach Delay (s)		0.0			0.0			0.6			0.9		
Approach LOS		A			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			0.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.54										
Actuated Cycle Length (s)			89.0									Sum of lost time (s)	9.0
Intersection Capacity Utilization			52.5%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													





# APPENDIX E

## **Intersection Capacity Analysis Results - Future Total Conditions**

Queues  
1: Dixie Road & Merchant Road

Future Total (2026)  
Weekday AM Peak

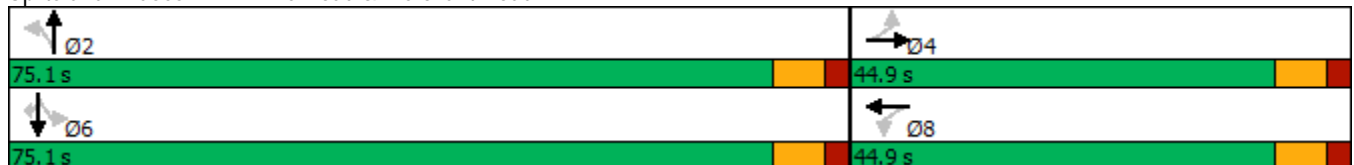


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕		↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	1	0	26	0	49	807	68	619	2
Future Volume (vph)	1	0	26	0	49	807	68	619	2
Lane Group Flow (vph)	0	18	0	144	49	879	272	619	2
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio		0.08		0.60	0.11	0.72	0.84	0.49	0.00
Control Delay		5.5		40.0	6.2	13.8	38.5	8.6	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		5.5		40.0	6.2	13.8	38.5	8.6	0.0
Queue Length 50th (m)		0.0		11.3	1.5	50.7	19.3	26.8	0.0
Queue Length 95th (m)		0.0		2.9	4.6	98.6	5.2	50.1	0.0
Internal Link Dist (m)		280.5		138.1		472.6		1387.1	
Turn Bay Length (m)					60.0		60.0		60.0
Base Capacity (vph)		493		548	464	1222	323	1270	770
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		0.04		0.26	0.11	0.72	0.84	0.49	0.00

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.3  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road



















# HCM Signalized Intersection Capacity Analysis

Future Total (2026)

## 1: Dixie Road & Merchant Road

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	17	26	0	10	49	807	18	68	619	2
Future Volume (vph)	1	0	17	26	0	10	49	807	18	68	619	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt		0.87			0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1275			1745		1623	1709		1785	1779	1065
Flt Permitted		0.98			0.78		0.38	1.00		0.24	1.00	1.00
Satd. Flow (perm)		1256			1402		651	1709		453	1779	1065
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	1	0	17	104	0	40	49	807	72	272	619	2
RTOR Reduction (vph)	0	15	0	0	30	0	0	2	0	0	0	1
Lane Group Flow (vph)	0	3	0	0	114	0	49	877	0	272	619	1
Heavy Vehicles (%)	100%	0%	24%	0%	0%	0%	10%	12%	0%	0%	8%	50%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		15.1			15.1		72.3	72.3		72.3	72.3	72.3
Effective Green, g (s)		15.1			15.1		72.3	72.3		72.3	72.3	72.3
Actuated g/C Ratio		0.15			0.15		0.71	0.71		0.71	0.71	0.71
Clearance Time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)		187			209		465	1220		323	1270	760
v/s Ratio Prot								0.51			0.35	
v/s Ratio Perm		0.00			0.08		0.08			0.60		0.00
v/c Ratio		0.01			0.55		0.11	0.72		0.84	0.49	0.00
Uniform Delay, d1		36.7			39.9		4.5	8.5		10.4	6.3	4.1
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.1			5.1		0.5	3.7		22.6	1.3	0.0
Delay (s)		36.8			44.9		4.9	12.2		32.9	7.7	4.1
Level of Service		D			D		A	B		C	A	A
Approach Delay (s)		36.8			44.9			11.8			15.4	
Approach LOS		D			D			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			16.0				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			101.2				Sum of lost time (s)				13.8	
Intersection Capacity Utilization			76.7%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

Queues

2: Dixie Road & Mayfield Road

Future Total (2026)

Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	520	1479	364	64	622	121	272	54	34	197	403
Future Volume (vph)	520	1479	364	64	622	121	272	54	34	197	403
Lane Group Flow (vph)	520	1479	364	64	707	121	272	54	34	197	403
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		4			8	
Permitted Phases	2		2	6		4		4	8		8
Detector Phase	5	2	2	1	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	10.0	60.0	60.0	10.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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
Total Lost Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None
v/c Ratio	0.93	0.53	0.35	0.24	0.36	0.56	0.71	0.15	0.26	0.49	0.74
Control Delay	39.5	18.4	2.9	10.8	21.9	49.3	52.5	7.0	40.4	43.0	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	18.4	2.9	10.8	21.9	49.3	52.5	7.0	40.4	43.0	21.1
Queue Length 50th (m)	29.9	45.0	0.0	2.6	22.5	15.1	35.5	0.0	3.9	24.2	15.9
Queue Length 95th (m)	#109.1	67.2	9.5	6.8	28.4	23.9	47.0	4.5	8.7	33.3	34.0
Internal Link Dist (m)		1129.7			662.0		456.4			472.6	
Turn Bay Length (m)	140.0		75.0	105.0		75.0		45.0	35.0		135.0
Base Capacity (vph)	561	2809	1035	262	1974	344	600	547	204	638	695
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.53	0.35	0.24	0.36	0.35	0.45	0.10	0.17	0.31	0.58

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Dixie Road & Mayfield Road
































# HCM Signalized Intersection Capacity Analysis

## 2: Dixie Road & Mayfield Road

Future Total (2026)  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	520	1479	364	64	622	85	121	272	54	34	197	403
Future Volume (vph)	520	1479	364	64	622	85	121	272	54	34	197	403
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1566	4902	1536	1653	4429		1716	1671	1413	1405	1779	1439
Fl <sub>t</sub> Permitted	0.32	1.00	1.00	0.16	1.00		0.53	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)	532	4902	1536	287	4429		958	1671	1413	569	1779	1439
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	520	1479	364	64	622	85	121	272	54	34	197	403
RTOR Reduction (vph)	0	0	157	0	14	0	0	0	42	0	0	215
Lane Group Flow (vph)	520	1479	207	64	693	0	121	272	12	34	197	188
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		8
Actuated Green, G (s)	78.8	68.2	68.2	60.7	53.1		27.4	27.4	27.4	27.4	27.4	27.4
Effective Green, g (s)	78.8	68.2	68.2	60.7	53.1		27.4	27.4	27.4	27.4	27.4	27.4
Actuated g/C Ratio	0.66	0.57	0.57	0.51	0.44		0.23	0.23	0.23	0.23	0.23	0.23
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	544	2785	872	231	1959		218	381	322	129	406	328
v/s Ratio Prot	c0.18	0.30		0.02	0.16			c0.16			0.11	
v/s Ratio Perm	c0.45		0.13	0.12			0.13		0.01	0.06		0.13
v/c Ratio	0.96	0.53	0.24	0.28	0.35		0.56	0.71	0.04	0.26	0.49	0.57
Uniform Delay, d <sub>1</sub>	12.1	16.0	12.9	15.2	22.1		40.9	42.7	36.0	38.0	40.2	41.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	28.2	0.7	0.6	1.4	0.5		5.1	7.7	0.1	2.3	1.9	3.8
Delay (s)	40.2	16.7	13.6	16.6	22.6		46.0	50.4	36.1	40.3	42.1	44.9
Level of Service	D	B	B	B	C		D	D	D	D	D	D
Approach Delay (s)		21.4			22.1			47.5			43.8	
Approach LOS		C			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.7			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.8			
Intersection Capacity Utilization			84.3%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Queues  
3: Dixie Road & Old School Road

Future Total (2026)  
Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↘	↙	↘	↙	↘	↙	↘
Traffic Volume (vph)	15	232	129	88	59	262	73	694
Future Volume (vph)	15	232	129	88	59	262	73	694
Lane Group Flow (vph)	15	289	129	96	59	311	73	731
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.06	0.60	0.53	0.21	0.26	0.34	0.14	0.75
Control Delay	17.0	24.4	28.4	17.6	13.4	10.1	9.8	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	24.4	28.4	17.6	13.4	10.1	9.8	19.2
Queue Length 50th (m)	0.8	16.1	7.6	4.7	2.0	10.3	2.3	35.1
Queue Length 95th (m)	2.9	28.1	16.1	10.4	7.5	23.4	7.1	#83.6
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	385	681	348	669	231	928	538	979
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	0.04	0.42	0.37	0.14	0.26	0.34	0.14	0.75

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 63.2

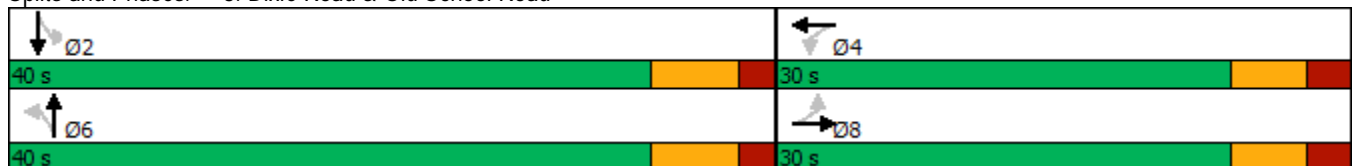
Natural Cycle: 60

Control Type: Semi Act-Uncoord

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






















Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



HCM Signalized Intersection Capacity Analysis  
 3: Dixie Road & Old School Road

Future Total (2026)  
 Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	232	57	129	88	8	59	262	49	73	694	37
Future Volume (vph)	15	232	57	129	88	8	59	262	49	73	694	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1784		1785	1774		1785	1730		1684	1837	
Flt Permitted	0.69	1.00		0.49	1.00		0.23	1.00		0.57	1.00	
Satd. Flow (perm)	1028	1784		928	1774		434	1730		1013	1837	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	232	57	129	88	8	59	262	49	73	694	37
RTOR Reduction (vph)	0	14	0	0	5	0	0	8	0	0	2	0
Lane Group Flow (vph)	15	275	0	129	91	0	59	303	0	73	729	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	16.5	16.5		16.5	16.5		33.6	33.6		33.6	33.6	
Effective Green, g (s)	16.5	16.5		16.5	16.5		33.6	33.6		33.6	33.6	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.53	0.53		0.53	0.53	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	268	466		242	463		231	921		539	978	
v/s Ratio Prot		c0.15			0.05			0.17			c0.40	
v/s Ratio Perm	0.01			0.14			0.14			0.07		
v/c Ratio	0.06	0.59		0.53	0.20		0.26	0.33		0.14	0.75	
Uniform Delay, d1	17.5	20.3		20.0	18.1		8.0	8.4		7.4	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	3.0		4.1	0.4		2.7	1.0		0.5	5.1	
Delay (s)	17.6	23.4		24.1	18.6		10.6	9.3		8.0	16.6	
Level of Service	B	C		C	B		B	A		A	B	
Approach Delay (s)		23.1			21.7			9.5			15.8	
Approach LOS		C			C			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			16.5								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			63.1								Sum of lost time (s)	13.0
Intersection Capacity Utilization			89.9%								ICU Level of Service	E
Analysis Period (min)			15									

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	9.9											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	260	13	9	94	8	11	47	11	8	64	25
Future Vol, veh/h	13	260	13	9	94	8	11	47	11	8	64	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	15	306	15	11	111	9	13	55	13	9	75	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	8.8	8.8	8.9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	5%	8%	8%
Vol Thru, %	68%	91%	85%	66%
Vol Right, %	16%	5%	7%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	286	111	97
LT Vol	11	13	9	8
Through Vol	47	260	94	64
RT Vol	11	13	8	25
Lane Flow Rate	81	336	131	114
Geometry Grp	1	1	1	1
Degree of Util (X)	0.114	0.423	0.172	0.157
Departure Headway (Hd)	5.069	4.525	4.747	4.949
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	702	794	752	720
Service Time	3.134	2.567	2.801	3.009
HCM Lane V/C Ratio	0.115	0.423	0.174	0.158
HCM Control Delay	8.8	10.9	8.8	8.9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	2.1	0.6	0.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	535	712	0
Future Vol, veh/h	0	1	0	535	712	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	0	535	712	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1247	712	712	0	-	0
Stage 1	712	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	193	436	897	-	-	-
Stage 1	490	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	193	436	897	-	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	490	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	897	-	-	436	-	-
HCM Lane V/C Ratio	-	-	-	0.002	-	-
HCM Control Delay (s)	0	-	0	13.3	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Queues

Future Total (2026)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak



Lane Group	EBL	EBT	NBL	NBT	NBR	SBT	SBR	Ø8
Lane Configurations	↶	↷	↶	↷	↶	↷	↷	
Traffic Volume (vph)	6	0	75	529	60	685	28	
Future Volume (vph)	6	0	75	529	60	685	28	
Lane Group Flow (vph)	6	23	75	529	60	685	28	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	
Protected Phases		4		2		6		8
Permitted Phases	4		2		2		6	
Detector Phase	4	4	2	2	2	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	30.0	30.0	40.0	40.0	40.0	40.0	40.0	30.0
Total Split (%)	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%	57.1%	43%
Yellow Time (s)	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.03	0.07	0.12	0.31	0.04	0.41	0.02	
Control Delay	27.7	0.4	3.2	3.1	1.2	3.7	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.7	0.4	3.2	3.1	1.2	3.7	0.5	
Queue Length 50th (m)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	
Queue Length 95th (m)	2.2	0.0	4.1	22.7	1.6	33.2	0.5	
Internal Link Dist (m)		99.2		105.2		579.9		
Turn Bay Length (m)			60.0		60.0		60.0	
Base Capacity (vph)	630	646	623	1685	1381	1685	1408	
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	0.01	0.04	0.12	0.31	0.04	0.41	0.02	

Intersection Summary

Cycle Length: 70

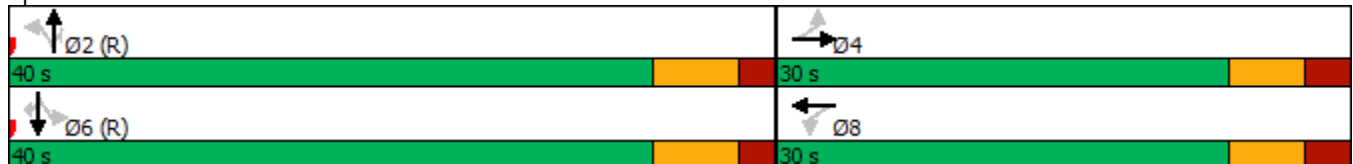
Actuated Cycle Length: 70

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

























# HCM Signalized Intersection Capacity Analysis

Future Total (2026)

## 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	23	0	0	0	75	529	60	0	685	28
Future Volume (vph)	6	0	23	0	0	0	75	529	60	0	685	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85					1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1785	1597					1785	1921	1566		1921	1597
Flt Permitted	1.00	1.00					0.38	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1879	1597					709	1921	1566		1921	1597
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	0	23	0	0	0	75	529	60	0	685	28
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	14	0	0	7
Lane Group Flow (vph)	6	1	0	0	0	0	75	529	46	0	685	21
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	3.4	3.4					53.6	53.6	53.6		53.6	53.6
Effective Green, g (s)	3.4	3.4					53.6	53.6	53.6		53.6	53.6
Actuated g/C Ratio	0.05	0.05					0.77	0.77	0.77		0.77	0.77
Clearance Time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Vehicle Extension (s)	5.0	5.0					5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	91	77					542	1470	1199		1470	1222
v/s Ratio Prot		0.00						0.28			c0.36	
v/s Ratio Perm	c0.00						0.11		0.03			0.01
v/c Ratio	0.07	0.01					0.14	0.36	0.04		0.47	0.02
Uniform Delay, d1	31.8	31.7					2.1	2.7	2.0		3.0	1.9
Progression Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.2					0.5	0.7	0.1		1.1	0.0
Delay (s)	32.4	31.9					2.7	3.3	2.0		4.1	2.0
Level of Service	C	C					A	A	A		A	A
Approach Delay (s)		32.0			0.0			3.1			4.0	
Approach LOS		C			A			A			A	

### Intersection Summary

HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	6	0	664	694	14
Future Vol, veh/h	0	6	0	664	694	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	6	0	664	694	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	694	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	446	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	446	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	446	-	-
HCM Lane V/C Ratio	-	0.013	-	-
HCM Control Delay (s)	-	13.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-



Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	284	0	6	113	0	1
Future Vol, veh/h	284	0	6	113	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	284	0	6	113	0	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	284	0	409
Stage 1	-	-	-	-	284
Stage 2	-	-	-	-	125
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1278	-	599
Stage 1	-	-	-	-	764
Stage 2	-	-	-	-	901
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1278	-	596
Mov Cap-2 Maneuver	-	-	-	-	596
Stage 1	-	-	-	-	764
Stage 2	-	-	-	-	896

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	755	-	-	1278	-
HCM Lane V/C Ratio	-	0.001	-	-	0.005	-
HCM Control Delay (s)	0	9.8	-	-	7.8	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	283	2	25	119	0	6
Future Vol, veh/h	283	2	25	119	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	283	2	25	119	0	6

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	285	0	453 284
Stage 1	-	-	-	-	284 -
Stage 2	-	-	-	-	169 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1289	-	568 760
Stage 1	-	-	-	-	769 -
Stage 2	-	-	-	-	866 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1289	-	556 760
Mov Cap-2 Maneuver	-	-	-	-	556 -
Stage 1	-	-	-	-	769 -
Stage 2	-	-	-	-	848 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	760	-	-	1289	-
HCM Lane V/C Ratio	-	0.008	-	-	0.019	-
HCM Control Delay (s)	0	9.8	-	-	7.8	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	289	1	25	144	0	6
Future Vol, veh/h	289	1	25	144	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	289	1	25	144	0	6

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	290	0	484
Stage 1	-	-	-	-	290
Stage 2	-	-	-	-	194
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1283	-	545
Stage 1	-	-	-	-	764
Stage 2	-	-	-	-	844
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1283	-	534
Mov Cap-2 Maneuver	-	-	-	-	534
Stage 1	-	-	-	-	764
Stage 2	-	-	-	-	826

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	754	-	-	1283	-
HCM Lane V/C Ratio	-	0.008	-	-	0.019	-
HCM Control Delay (s)	0	9.8	-	-	7.9	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	294	1	25	169	0	10
Future Vol, veh/h	294	1	25	169	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	294	1	25	169	0	10

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	295	0	514
Stage 1	-	-	-	-	295
Stage 2	-	-	-	-	219
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1278	-	524
Stage 1	-	-	-	-	760
Stage 2	-	-	-	-	822
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1278	-	512
Mov Cap-2 Maneuver	-	-	-	-	512
Stage 1	-	-	-	-	760
Stage 2	-	-	-	-	804

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	749	-	-	1278	-
HCM Lane V/C Ratio	-	0.013	-	-	0.02	-
HCM Control Delay (s)	0	9.9	-	-	7.9	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Queues

Future Total (2026)

1: Dixie Road & Merchant Road

Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕		↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	4	0	52	0	11	722	12	1035	3
Future Volume (vph)	4	0	52	0	11	722	12	1035	3
Lane Group Flow (vph)	0	38	0	448	11	818	48	1035	3
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio		0.07		0.93	0.19	0.78	0.25	0.99	0.00
Control Delay		10.6		63.3	22.3	26.2	17.6	51.7	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.6		63.3	22.3	26.2	17.6	51.7	0.0
Queue Length 50th (m)		0.3		54.0	0.7	84.5	3.2	~140.0	0.0
Queue Length 95th (m)		0.0		11.2	3.3	118.2	1.8	#196.7	0.0
Internal Link Dist (m)		280.5		138.1		472.6		1387.1	
Turn Bay Length (m)					60.0		60.0		60.0
Base Capacity (vph)		530		501	58	1045	189	1044	914
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		0.07		0.89	0.19	0.78	0.25	0.99	0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118.3

Natural Cycle: 120

Control Type: Semi Act-Uncoord

~ 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: 1: Dixie Road & Merchant Road






















# HCM Signalized Intersection Capacity Analysis

Future Total (2026)

## 1: Dixie Road & Merchant Road

Weekday PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	4	0	34	52	0	60	11	722	24	12	1035	3	
Future Volume (vph)	4	0	34	52	0	60	11	722	24	12	1035	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5	
Total Lost time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	1.00	
Frt		0.88			0.93		1.00	0.98		1.00	1.00	0.85	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)		1643			1703		1638	1808		1785	1812	1560	
Flt Permitted		0.96			0.83		0.06	1.00		0.18	1.00	1.00	
Satd. Flow (perm)		1578			1452		101	1808		329	1812	1560	
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00	
Adj. Flow (vph)	4	0	34	208	0	240	11	722	96	48	1035	3	
RTOR Reduction (vph)	0	24	0	0	35	0	0	4	0	0	0	1	
Lane Group Flow (vph)	0	14	0	0	413	0	11	814	0	48	1035	2	
Confl. Peds. (#/hr)							2					2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	9%	5%	0%	0%	6%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm	
Protected Phases		4			8			2			6	6	
Permitted Phases	4			8			2			6		6	
Actuated Green, G (s)		36.3			36.3		68.3	68.3		68.3	68.3	68.3	
Effective Green, g (s)		36.3			36.3		68.3	68.3		68.3	68.3	68.3	
Actuated g/C Ratio		0.31			0.31		0.58	0.58		0.58	0.58	0.58	
Clearance Time (s)		6.9			6.9		6.9	6.9		6.9	6.9	6.9	
Vehicle Extension (s)		5.0			5.0		5.0	5.0		5.0	5.0	5.0	
Lane Grp Cap (vph)		483			445		58	1042		189	1045	899	
v/s Ratio Prot								0.45				c0.57	
v/s Ratio Perm		0.01			c0.28		0.11			0.15		0.00	
v/c Ratio		0.03			0.93		0.19	0.78		0.25	0.99	0.00	
Uniform Delay, d1		28.7			39.8		11.9	19.3		12.4	24.7	10.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2		0.1			26.3		7.1	5.8		3.2	25.6	0.0	
Delay (s)		28.8			66.1		19.0	25.1		15.6	50.4	10.6	
Level of Service		C			E		B	C		B	D	B	
Approach Delay (s)		28.8			66.1		25.0			48.7			
Approach LOS		C			E		C			D			
<b>Intersection Summary</b>													
HCM 2000 Control Delay			43.5									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.97										
Actuated Cycle Length (s)			118.4									Sum of lost time (s)	13.8
Intersection Capacity Utilization			79.2%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Queues

Future Total (2026)

2: Dixie Road & Mayfield Road

Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↙	↑	↗	↙	↑	↗
Traffic Volume (vph)	413	1012	186	68	1179	289	264	38	83	380	627
Future Volume (vph)	413	1012	186	68	1179	289	264	38	83	380	627
Lane Group Flow (vph)	413	1012	186	68	1224	289	264	38	83	380	627
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		4			8	
Permitted Phases	2		2	6		4		4	8		8
Detector Phase	5	2	2	1	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	21.0	57.0	57.0	10.0	46.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	17.5%	47.5%	47.5%	8.3%	38.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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
Total Lost Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag						
Lead-Lag Optimize?											
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None
v/c Ratio	1.28	0.49	0.24	0.32	0.77	1.06	0.36	0.06	0.24	0.54	0.80
Control Delay	178.9	25.9	3.8	18.9	40.2	107.7	28.2	0.2	27.4	32.2	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	178.9	25.9	3.8	18.9	40.2	107.7	28.2	0.2	27.4	32.2	25.0
Queue Length 50th (m)	-63.3	37.6	0.0	4.5	55.8	-44.2	26.0	0.0	7.8	40.7	41.7
Queue Length 95th (m)	#99.6	45.3	7.8	8.9	66.1	#75.9	38.8	0.0	15.1	58.4	72.9
Internal Link Dist (m)		1129.7			662.0		456.4			472.6	
Turn Bay Length (m)	140.0		75.0	105.0		75.0		45.0	35.0		135.0
Base Capacity (vph)	322	2069	785	215	1589	273	737	651	348	703	785
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.49	0.24	0.32	0.77	1.06	0.36	0.06	0.24	0.54	0.80

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 32 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

~ 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: 2: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 2: Dixie Road & Mayfield Road

Future Total (2026)  
Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	413	1012	186	68	1179	45	289	264	38	83	380	627
Future Volume (vph)	413	1012	186	68	1179	45	289	264	38	83	380	627
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1700	4768	1566	1342	4869		1750	1921	1551	1653	1830	1551
Fl <sub>t</sub> Permitted	0.10	1.00	1.00	0.27	1.00		0.39	1.00	1.00	0.52	1.00	1.00
Satd. Flow (perm)	177	4768	1566	383	4869		712	1921	1551	907	1830	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	413	1012	186	68	1179	45	289	264	38	83	380	627
RTOR Reduction (vph)	0	0	106	0	3	0	0	0	23	0	0	190
Lane Group Flow (vph)	413	1012	80	68	1221	0	289	264	15	83	380	437
Heavy Vehicles (%)	5%	10%	2%	33%	7%	10%	2%	0%	3%	8%	5%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		8
Actuated Green, G (s)	60.1	51.5	51.5	44.7	39.1		46.1	46.1	46.1	46.1	46.1	46.1
Effective Green, g (s)	60.1	51.5	51.5	44.7	39.1		46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.50	0.43	0.43	0.37	0.33		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	317	2046	672	187	1586		273	737	595	348	703	595
v/s Ratio Prot	c0.20	0.21		0.02	0.25			0.14			0.21	
v/s Ratio Perm	c0.46		0.05	0.12			c0.41		0.01	0.09		0.28
v/c Ratio	1.30	0.49	0.12	0.36	0.77		1.06	0.36	0.02	0.24	0.54	0.73
Uniform Delay, d <sub>1</sub>	35.6	24.8	20.6	24.9	36.4		37.0	26.4	23.0	25.1	28.7	31.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	157.4	0.9	0.4	2.5	3.7		70.8	0.6	0.0	0.7	1.5	5.7
Delay (s)	193.1	25.7	21.0	27.4	40.1		107.7	27.0	23.0	25.8	30.2	37.4
Level of Service	F	C	C	C	D		F	C	C	C	C	D
Approach Delay (s)		68.0			39.4			66.2			34.0	
Approach LOS		E			D			E			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			51.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.22									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.8			
Intersection Capacity Utilization			103.3%			ICU Level of Service			G			
Analysis Period (min)			15									

c Critical Lane Group

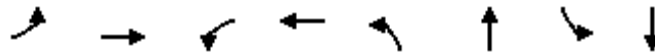


Queues

3: Dixie Road & Old School Road

Future Total (2026)

Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	33	97	223	251	50	647	21	262
Future Volume (vph)	33	97	223	251	50	647	21	262
Lane Group Flow (vph)	33	178	223	269	50	708	21	283
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	25.6	25.6
Total Split (s)	30.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0
Total Split (%)	46.2%	46.2%	46.2%	46.2%	53.8%	53.8%	53.8%	53.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.12	0.32	0.62	0.49	0.09	0.80	0.11	0.33
Control Delay	15.4	10.9	26.0	19.5	10.8	23.9	12.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	10.9	26.0	19.5	10.8	23.9	12.4	11.8
Queue Length 50th (m)	1.5	5.0	12.1	13.6	1.7	36.3	0.7	10.4
Queue Length 95th (m)	4.6	12.0	23.2	23.9	5.3	#81.2	3.2	22.0
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	371	733	480	735	530	881	191	848
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	0.09	0.24	0.46	0.37	0.09	0.80	0.11	0.33

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 59.4

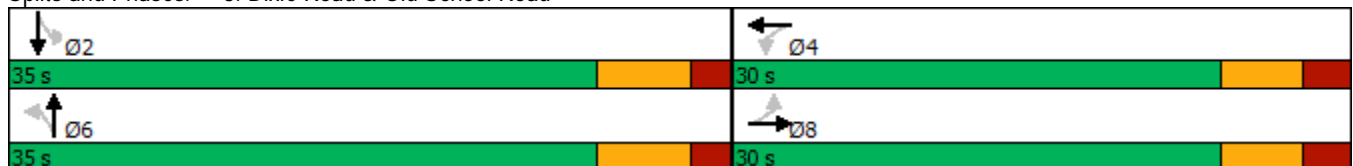
Natural Cycle: 60

Control Type: Semi Act-Uncoord

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






















Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



HCM Signalized Intersection Capacity Analysis  
 3: Dixie Road & Old School Road

Future Total (2026)  
 Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	97	81	223	251	18	50	647	61	21	262	21
Future Volume (vph)	33	97	81	223	251	18	50	647	61	21	262	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	0.93		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1566	1722		1767	1829		1785	1821		1785	1754	
Flt Permitted	0.56	1.00		0.64	1.00		0.59	1.00		0.21	1.00	
Satd. Flow (perm)	928	1722		1200	1829		1101	1821		398	1754	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	97	81	223	251	18	50	647	61	21	262	21
RTOR Reduction (vph)	0	51	0	0	4	0	0	5	0	0	4	0
Lane Group Flow (vph)	33	127	0	223	265	0	50	703	0	21	279	0
Heavy Vehicles (%)	14%	3%	0%	1%	1%	11%	0%	2%	27%	0%	9%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	17.7	17.7		17.7	17.7		28.6	28.6		28.6	28.6	
Effective Green, g (s)	17.7	17.7		17.7	17.7		28.6	28.6		28.6	28.6	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	276	513		358	545		531	878		191	845	
v/s Ratio Prot		0.07			0.14			c0.39			0.16	
v/s Ratio Perm	0.04			c0.19			0.05			0.05		
v/c Ratio	0.12	0.25		0.62	0.49		0.09	0.80		0.11	0.33	
Uniform Delay, d1	15.1	15.8		17.9	17.1		8.3	13.0		8.4	9.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		4.7	1.4		0.4	7.6		1.2	1.0	
Delay (s)	15.5	16.3		22.6	18.5		8.7	20.6		9.6	10.5	
Level of Service	B	B		C	B		A	C		A	B	
Approach Delay (s)		16.2			20.4			19.8			10.4	
Approach LOS		B			C			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.9									B
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			59.3								13.0	
Intersection Capacity Utilization			80.1%									D
Analysis Period (min)			15									

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	122	12	26	246	4	25	43	15	1	43	14
Future Vol, veh/h	8	122	12	26	246	4	25	43	15	1	43	14
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
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	4	0
Mvmt Flow	9	130	13	28	262	4	27	46	16	1	46	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	10	8.7	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	6%	9%	2%
Vol Thru, %	52%	86%	89%	74%
Vol Right, %	18%	8%	1%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	142	276	58
LT Vol	25	8	26	1
Through Vol	43	122	246	43
RT Vol	15	12	4	14
Lane Flow Rate	88	151	294	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.121	0.191	0.363	0.084
Departure Headway (Hd)	4.941	4.556	4.452	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	723	786	807	731
Service Time	2.985	2.593	2.483	2.933
HCM Lane V/C Ratio	0.122	0.192	0.364	0.085
HCM Control Delay	8.7	8.7	10	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.7	1.7	0.3

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	740	942	0
Future Vol, veh/h	0	1	0	740	942	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	0	740	942	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1682	942	942	0	-	0
Stage 1	942	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	105	322	736	-	-	-
Stage 1	382	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	105	322	736	-	-	-
Mov Cap-2 Maneuver	105	-	-	-	-	-
Stage 1	382	-	-	-	-	-
Stage 2	475	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	736	-	-	322	-	-
HCM Lane V/C Ratio	-	-	-	0.003	-	-
HCM Control Delay (s)	0	-	0	16.2	-	-
HCM Lane LOS	A	-	A	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Queues

Future Total (2026)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak



Lane Group	EBL	EBT	NBL	NBT	NBR	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	27	0	36	713	10	936	7	
Future Volume (vph)	27	0	36	713	10	936	7	
Lane Group Flow (vph)	27	68	36	713	10	936	7	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	
Protected Phases		4		2		6		8
Permitted Phases	4		2		2		6	
Detector Phase	4	4	2	2	2	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	26.0	26.0	74.0	74.0	74.0	74.0	74.0	26.0
Total Split (%)	26.0%	26.0%	74.0%	74.0%	74.0%	74.0%	74.0%	26%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	Max	Max	Max	Max	Max	None
v/c Ratio	0.19	0.21	0.09	0.44	0.01	0.58	0.01	
Control Delay	41.4	1.5	2.7	3.7	0.8	5.1	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.4	1.5	2.7	3.7	0.8	5.1	0.6	
Queue Length 50th (m)	2.9	0.0	0.6	17.5	0.0	28.1	0.0	
Queue Length 95th (m)	7.0	0.0	2.0	30.3	0.4	49.8	0.3	
Internal Link Dist (m)		99.2		105.2		579.9		
Turn Bay Length (m)			60.0		60.0		60.0	
Base Capacity (vph)	322	506	420	1620	1323	1620	1349	
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	0.08	0.13	0.09	0.44	0.01	0.58	0.01	

Intersection Summary

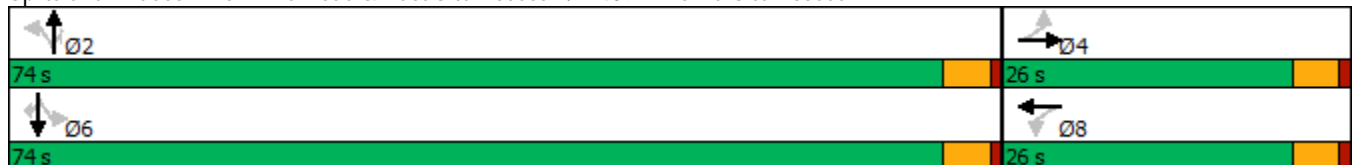
Cycle Length: 100

Actuated Cycle Length: 95.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

























HCM Signalized Intersection Capacity Analysis

Future Total (2026)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	27	0	68	0	0	0	36	713	10	0	936	7	
Future Volume (vph)	27	0	68	0	0	0	36	713	10	0	936	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5	
Total Lost time (s)	4.5	4.5					4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.85					1.00	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00					0.95	1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1785	1597					1785	1921	1566		1921	1597	
Flt Permitted	0.76	1.00					0.26	1.00	1.00		1.00	1.00	
Satd. Flow (perm)	1423	1597					497	1921	1566		1921	1597	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	27	0	68	0	0	0	36	713	10	0	936	7	
RTOR Reduction (vph)	0	62	0	0	0	0	0	0	2	0	0	1	
Lane Group Flow (vph)	27	6	0	0	0	0	36	713	8	0	936	6	
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%	
Turn Type	Perm	NA		Perm			Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	7.8	7.8					79.2	79.2	79.2		79.2	79.2	
Effective Green, g (s)	7.8	7.8					79.2	79.2	79.2		79.2	79.2	
Actuated g/C Ratio	0.08	0.08					0.83	0.83	0.83		0.83	0.83	
Clearance Time (s)	4.5	4.5					4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	5.0	5.0					5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	115	129					410	1584	1291		1584	1317	
v/s Ratio Prot		0.00						0.37			c0.49		
v/s Ratio Perm	c0.02						0.07		0.01			0.00	
v/c Ratio	0.23	0.04					0.09	0.45	0.01		0.59	0.00	
Uniform Delay, d1	41.3	40.7					1.6	2.3	1.5		2.9	1.5	
Progression Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.3					0.4	0.9	0.0		1.6	0.0	
Delay (s)	43.5	40.9					2.0	3.3	1.5		4.5	1.5	
Level of Service	D	D					A	A	A		A	A	
Approach Delay (s)		41.7			0.0			3.2			4.5		
Approach LOS		D			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			5.9									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			96.0									Sum of lost time (s)	9.0
Intersection Capacity Utilization			61.0%									ICU Level of Service	B
Analysis Period (min)			15										

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗	↗	↗
Traffic Vol, veh/h	0	29	0	759	1001	3
Future Vol, veh/h	0	29	0	759	1001	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	29	0	759	1001	3

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1001	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.2	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.3	- -	- -
Pot Cap-1 Maneuver	0 297	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 297	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	18.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 297	- -	- -
HCM Lane V/C Ratio	- 0.098	- -	- -
HCM Control Delay (s)	- 18.4	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 0.3	- -	- -

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	0	13	279	0	1
Future Vol, veh/h	126	0	13	279	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	126	0	13	279	0	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	126	0	431
Stage 1	-	-	-	-	126
Stage 2	-	-	-	-	305
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1460	-	581
Stage 1	-	-	-	-	900
Stage 2	-	-	-	-	748
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1460	-	575
Mov Cap-2 Maneuver	-	-	-	-	575
Stage 1	-	-	-	-	900
Stage 2	-	-	-	-	740

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	924	-	-	1460	-
HCM Lane V/C Ratio	-	0.001	-	-	0.009	-
HCM Control Delay (s)	0	8.9	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-



Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	1	6	292	0	28
Future Vol, veh/h	126	1	6	292	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	126	1	6	292	0	28

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	127	431
Stage 1	-	-	-	127
Stage 2	-	-	-	304
Critical Hdwy	-	-	4.1	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	3.5
Pot Cap-1 Maneuver	-	-	1472	585
Stage 1	-	-	-	904
Stage 2	-	-	-	753
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1472	582
Mov Cap-2 Maneuver	-	-	-	582
Stage 1	-	-	-	904
Stage 2	-	-	-	749

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	929	-	-	1472	-
HCM Lane V/C Ratio	-	0.03	-	-	0.004	-
HCM Control Delay (s)	0	9	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	0	6	298	0	28
Future Vol, veh/h	154	0	6	298	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	154	0	6	298	0	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	154	0	464
Stage 1	-	-	-	-	154
Stage 2	-	-	-	-	310
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1439	-	560
Stage 1	-	-	-	-	879
Stage 2	-	-	-	-	748
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1439	-	557
Mov Cap-2 Maneuver	-	-	-	-	557
Stage 1	-	-	-	-	879
Stage 2	-	-	-	-	744

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	897	-	-	1439	-
HCM Lane V/C Ratio	-	0.031	-	-	0.004	-
HCM Control Delay (s)	0	9.1	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	182	0	7	304	0	32
Future Vol, veh/h	182	0	7	304	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	182	0	7	304	0	32

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	182	0	500
Stage 1	-	-	-	-	182
Stage 2	-	-	-	-	318
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1405	-	534
Stage 1	-	-	-	-	854
Stage 2	-	-	-	-	742
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1405	-	531
Mov Cap-2 Maneuver	-	-	-	-	531
Stage 1	-	-	-	-	854
Stage 2	-	-	-	-	738

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	866	-	-	1405	-
HCM Lane V/C Ratio	-	0.037	-	-	0.005	-
HCM Control Delay (s)	0	9.3	-	-	7.6	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Queues  
1: Dixie Road & Merchant Road

Future Total (2031)  
Weekday AM Peak

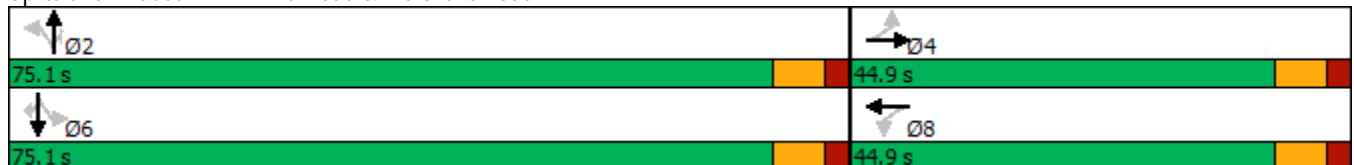


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	1	0	26	0	49	847	18	68	666	2
Future Volume (vph)	1	0	26	0	49	847	18	68	666	2
Lane Group Flow (vph)	0	18	0	144	49	847	72	272	666	2
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max
v/c Ratio		0.08		0.60	0.10	0.36	0.06	0.63	0.28	0.00
Control Delay		5.5		40.0	6.1	6.6	1.6	17.3	6.0	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		5.5		40.0	6.1	6.6	1.6	17.3	6.0	0.0
Queue Length 50th (m)		0.0		11.3	1.5	17.0	0.0	14.0	12.3	0.0
Queue Length 95th (m)		0.0		2.9	4.5	28.3	0.0	4.8	20.9	0.0
Internal Link Dist (m)		280.5		138.1		472.6			1387.1	
Turn Bay Length (m)					60.0		60.0	60.0		60.0
Base Capacity (vph)		493		548	485	2327	1160	430	2413	770
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		0.04		0.26	0.10	0.36	0.06	0.63	0.28	0.00

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.3  
 Natural Cycle: 110  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road























# HCM Signalized Intersection Capacity Analysis

Future Total (2031)

## 1: Dixie Road & Merchant Road

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	17	26	0	10	49	847	18	68	666	2
Future Volume (vph)	1	0	17	26	0	10	49	847	18	68	666	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.87			0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1275			1745		1623	3259	1597	1785	3380	1065
Flt Permitted		0.98			0.78		0.40	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)		1256			1402		680	3259	1597	604	3380	1065
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	1	0	17	104	0	40	49	847	72	272	666	2
RTOR Reduction (vph)	0	15	0	0	30	0	0	0	21	0	0	1
Lane Group Flow (vph)	0	3	0	0	114	0	49	847	51	272	666	1
Heavy Vehicles (%)	100%	0%	24%	0%	0%	0%	10%	12%	0%	0%	8%	50%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		15.1			15.1		72.3	72.3	72.3	72.3	72.3	72.3
Effective Green, g (s)		15.1			15.1		72.3	72.3	72.3	72.3	72.3	72.3
Actuated g/C Ratio		0.15			0.15		0.71	0.71	0.71	0.71	0.71	0.71
Clearance Time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)		187			209		485	2328	1140	431	2414	760
v/s Ratio Prot								0.26			0.20	
v/s Ratio Perm		0.00			0.08		0.07		0.03	0.45		0.00
v/c Ratio		0.01			0.55		0.10	0.36	0.05	0.63	0.28	0.00
Uniform Delay, d1		36.7			39.9		4.4	5.6	4.3	7.5	5.1	4.1
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1			5.1		0.4	0.4	0.1	6.9	0.3	0.0
Delay (s)		36.8			44.9		4.9	6.0	4.3	14.4	5.4	4.1
Level of Service		D			D		A	A	A	B	A	A
Approach Delay (s)		36.8			44.9			5.8			8.0	
Approach LOS		D			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.8									A
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			101.2							13.8		
Intersection Capacity Utilization			59.4%									B
Analysis Period (min)			15									

c Critical Lane Group

Queues

Future Total (2031)

2: Dixie Road & Mayfield Road

Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	520	1626	364	64	683	85	121	289	54	34	214	403
Future Volume (vph)	520	1626	364	64	683	85	121	289	54	34	214	403
Lane Group Flow (vph)	520	1626	364	64	683	85	121	289	54	34	214	403
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	10.0	60.0	60.0	10.0	60.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.51	0.56	0.34	0.27	0.28	0.12	0.27	0.44	0.16	0.21	0.30	0.81
Control Delay	9.7	18.3	2.9	10.7	17.1	4.6	38.6	41.7	6.9	37.8	39.2	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	18.3	2.9	10.7	17.1	4.6	38.6	41.7	6.9	37.8	39.2	28.0
Queue Length 50th (m)	11.3	48.8	0.0	2.3	18.5	0.0	7.4	18.7	0.0	4.0	13.4	20.8
Queue Length 95th (m)	23.1	78.6	9.7	7.1	28.0	5.3	10.5	22.4	4.3	8.1	16.8	37.3
Internal Link Dist (m)		1129.7			662.0			456.4			472.6	
Turn Bay Length (m)	155.0		115.0	150.0		65.0	140.0		65.0	100.0		170.0
Base Capacity (vph)	1010	2910	1059	240	2470	684	777	1139	547	282	1213	678
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.56	0.34	0.27	0.28	0.12	0.16	0.25	0.10	0.12	0.18	0.59

Intersection Summary

Cycle Length: 120

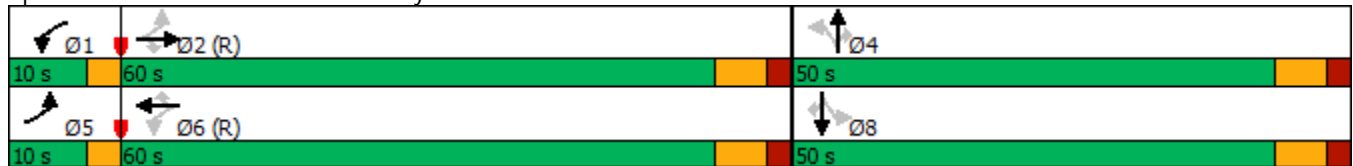
Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

































Control Type: Actuated-Coordinated

Splits and Phases: 2: Dixie Road & Mayfield Road



HCM Signalized Intersection Capacity Analysis  
2: Dixie Road & Mayfield Road

Future Total (2031)  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 	 			 	
Traffic Volume (vph)	520	1626	364	64	683	85	121	289	54	34	214	403
Future Volume (vph)	520	1626	364	64	683	85	121	289	54	34	214	403
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3038	4902	1536	1653	4601	1201	3330	3174	1413	1405	3380	1439
Fl <sub>t</sub> Permitted	0.35	1.00	1.00	0.12	1.00	1.00	0.62	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	1125	4902	1536	203	4601	1201	2165	3174	1413	787	3380	1439
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	520	1626	364	64	683	85	121	289	54	34	214	403
RTOR Reduction (vph)	0	0	150	0	0	39	0	0	43	0	0	200
Lane Group Flow (vph)	520	1626	214	64	683	46	121	289	11	34	214	203
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	81.1	70.6	70.6	71.9	64.4	64.4	25.1	25.1	25.1	25.1	25.1	25.1
Effective Green, g (s)	81.1	70.6	70.6	71.9	64.4	64.4	25.1	25.1	25.1	25.1	25.1	25.1
Actuated g/C Ratio	0.68	0.59	0.59	0.60	0.54	0.54	0.21	0.21	0.21	0.21	0.21	0.21
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	978	2884	903	212	2469	644	452	663	295	164	706	300
v/s Ratio Prot	c0.06	c0.33		0.02	0.15			0.09			0.06	
v/s Ratio Perm	0.30		0.14	0.16		0.04	0.06		0.01	0.04		c0.14
v/c Ratio	0.53	0.56	0.24	0.30	0.28	0.07	0.27	0.44	0.04	0.21	0.30	0.68
Uniform Delay, d <sub>1</sub>	7.8	15.2	11.8	10.8	15.1	13.4	39.8	41.3	37.8	39.2	40.1	43.7
Progression 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
Incremental Delay, d <sub>2</sub>	1.0	0.8	0.6	1.7	0.3	0.2	0.7	1.0	0.1	1.3	0.5	7.7
Delay (s)	8.8	16.0	12.4	12.4	15.4	13.6	40.4	42.3	37.9	40.5	40.6	51.4
Level of Service	A	B	B	B	B	B	D	D	D	D	D	D
Approach Delay (s)		14.0			15.0			41.3			47.3	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.8			
Intersection Capacity Utilization			70.8%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

Queues  
3: Dixie Road & Old School Road

Future Total (2031)  
Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	15	256	129	97	59	284	73	751
Future Volume (vph)	15	256	129	97	59	284	73	751
Lane Group Flow (vph)	15	313	129	105	59	333	73	788
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.05	0.63	0.56	0.22	0.33	0.36	0.14	0.81
Control Delay	16.9	25.3	29.7	17.8	16.9	10.7	10.1	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	25.3	29.7	17.8	16.9	10.7	10.1	22.8
Queue Length 50th (m)	0.8	18.0	7.7	5.3	2.2	11.8	2.4	41.5
Queue Length 95th (m)	2.9	30.9	16.5	11.2	8.5	25.3	7.2	#94.1
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	378	675	319	663	179	918	518	969
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	0.04	0.46	0.40	0.16	0.33	0.36	0.14	0.81

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 63.8

Natural Cycle: 60

Control Type: Semi Act-Uncoord

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road





# HCM Signalized Intersection Capacity Analysis

Future Total (2031)

## 3: Dixie Road & Old School Road

Weekday AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	15	256	57	129	97	8	59	284	49	73	751	37
Future Volume (vph)	15	256	57	129	97	8	59	284	49	73	751	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Fr <sub>t</sub>	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.99	
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1789		1785	1775		1785	1731		1684	1838	
Fl <sub>t</sub> Permitted	0.69	1.00		0.46	1.00		0.18	1.00		0.56	1.00	
Satd. Flow (perm)	1020	1789		860	1775		342	1731		985	1838	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	256	57	129	97	8	59	284	49	73	751	37
RTOR Reduction (vph)	0	12	0	0	4	0	0	8	0	0	2	0
Lane Group Flow (vph)	15	301	0	129	101	0	59	325	0	73	786	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	17.2	17.2		17.2	17.2		33.5	33.5		33.5	33.5	
Effective Green, g (s)	17.2	17.2		17.2	17.2		33.5	33.5		33.5	33.5	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.53	0.53		0.53	0.53	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	275	483		232	479		179	910		518	966	
v/s Ratio Prot		c0.17			0.06			0.19			c0.43	
v/s Ratio Perm	0.01			0.15			0.17			0.07		
v/c Ratio	0.05	0.62		0.56	0.21		0.33	0.36		0.14	0.81	
Uniform Delay, d <sub>1</sub>	17.2	20.4		20.0	18.0		8.7	8.8		7.7	12.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d <sub>2</sub>	0.2	3.5		4.8	0.5		4.9	1.1		0.6	7.5	
Delay (s)	17.4	23.9		24.8	18.5		13.5	9.9		8.3	20.0	
Level of Service	B	C		C	B		B	A		A	B	
Approach Delay (s)		23.6			22.0			10.5			19.0	
Approach LOS		C			C			B			B	

### Intersection Summary

HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	13.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Intersection Delay, s/veh	10.4											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	286	13	9	104	8	11	52	11	8	71	25
Future Vol, veh/h	13	286	13	9	104	8	11	52	11	8	71	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	15	336	15	11	122	9	13	61	13	9	84	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.6	9.1	9	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	4%	7%	8%
Vol Thru, %	70%	92%	86%	68%
Vol Right, %	15%	4%	7%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	312	121	104
LT Vol	11	13	9	8
Through Vol	52	286	104	71
RT Vol	11	13	8	25
Lane Flow Rate	87	367	142	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.467	0.191	0.172
Departure Headway (Hd)	5.195	4.585	4.834	5.073
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	782	736	701
Service Time	3.275	2.64	2.903	3.149
HCM Lane V/C Ratio	0.127	0.469	0.193	0.174
HCM Control Delay	9	11.6	9.1	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	2.5	0.7	0.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	562	759	0
Future Vol, veh/h	0	1	0	562	759	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	0	562	759	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1321	759	759	0	-	0
Stage 1	759	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	174	410	862	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	410	862	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	862	-	-	410	-	-
HCM Lane V/C Ratio	-	-	-	0.002	-	-
HCM Control Delay (s)	0	-	0	13.8	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Queues

Future Total (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak



Lane Group	EBL	EBT	NBL	NBT	NBR	SBT	SBR	Ø8
Lane Configurations	↖	↗	↖	↑	↗	↑	↗	
Traffic Volume (vph)	6	0	75	556	60	732	28	
Future Volume (vph)	6	0	75	556	60	732	28	
Lane Group Flow (vph)	6	23	75	556	60	732	28	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	
Protected Phases		4		2		6		8
Permitted Phases	4		2		2		6	
Detector Phase	4	4	2	2	2	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	30.0	30.0	40.0	40.0	40.0	40.0	40.0	30.0
Total Split (%)	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%	57.1%	43%
Yellow Time (s)	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.03	0.07	0.13	0.33	0.04	0.43	0.02	
Control Delay	27.7	0.5	3.3	3.2	1.2	4.0	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.7	0.5	3.3	3.2	1.2	4.0	0.5	
Queue Length 50th (m)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	
Queue Length 95th (m)	2.2	0.0	4.1	24.4	1.6	37.0	0.5	
Internal Link Dist (m)		99.2		105.2		579.9		
Turn Bay Length (m)			60.0		60.0		60.0	
Base Capacity (vph)	630	633	582	1685	1381	1685	1408	
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	0.01	0.04	0.13	0.33	0.04	0.43	0.02	

Intersection Summary

Cycle Length: 70

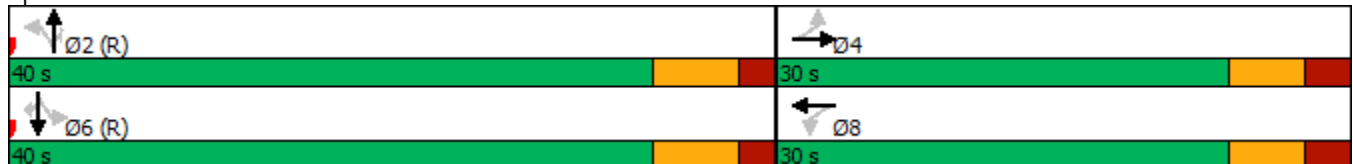
Actuated Cycle Length: 70

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

























# HCM Signalized Intersection Capacity Analysis

Future Total (2031)

## 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	23	0	0	0	75	556	60	0	732	28
Future Volume (vph)	6	0	23	0	0	0	75	556	60	0	732	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85					1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1785	1597					1785	1921	1566		1921	1597
Flt Permitted	1.00	1.00					0.35	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1879	1597					663	1921	1566		1921	1597
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	0	23	0	0	0	75	556	60	0	732	28
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	14	0	0	7
Lane Group Flow (vph)	6	1	0	0	0	0	75	556	46	0	732	21
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	3.4	3.4					53.6	53.6	53.6		53.6	53.6
Effective Green, g (s)	3.4	3.4					53.6	53.6	53.6		53.6	53.6
Actuated g/C Ratio	0.05	0.05					0.77	0.77	0.77		0.77	0.77
Clearance Time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Vehicle Extension (s)	5.0	5.0					5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	91	77					507	1470	1199		1470	1222
v/s Ratio Prot		0.00						0.29			c0.38	
v/s Ratio Perm	c0.00						0.11		0.03			0.01
v/c Ratio	0.07	0.01					0.15	0.38	0.04		0.50	0.02
Uniform Delay, d1	31.8	31.7					2.2	2.7	2.0		3.1	1.9
Progression Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.2					0.6	0.7	0.1		1.2	0.0
Delay (s)	32.4	31.9					2.8	3.4	2.0		4.3	2.0
Level of Service	C	C					A	A	A		A	A
Approach Delay (s)		32.0			0.0			3.3			4.2	
Approach LOS		C			A			A			A	

### Intersection Summary

HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	↗
Traffic Vol, veh/h	0	6	0	691	741	14
Future Vol, veh/h	0	6	0	691	741	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	6	0	691	741	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	741	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	420	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	420	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	420	-
HCM Lane V/C Ratio	-	0.014	-
HCM Control Delay (s)	-	13.7	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	312	0	6	124	0	1
Future Vol, veh/h	312	0	6	124	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	312	0	6	124	0	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	312	0	448
Stage 1	-	-	-	-	312
Stage 2	-	-	-	-	136
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1248	-	568
Stage 1	-	-	-	-	742
Stage 2	-	-	-	-	890
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1248	-	565
Mov Cap-2 Maneuver	-	-	-	-	565
Stage 1	-	-	-	-	742
Stage 2	-	-	-	-	886

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	728	-	-	1248	-
HCM Lane V/C Ratio	-	0.001	-	-	0.005	-
HCM Control Delay (s)	0	10	-	-	7.9	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	311	2	25	130	0	6
Future Vol, veh/h	311	2	25	130	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	311	2	25	130	0	6

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	313	0	492
Stage 1	-	-	-	-	312
Stage 2	-	-	-	-	180
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1259	-	540
Stage 1	-	-	-	-	747
Stage 2	-	-	-	-	856
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1259	-	529
Mov Cap-2 Maneuver	-	-	-	-	529
Stage 1	-	-	-	-	747
Stage 2	-	-	-	-	838

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	733	-	-	1259	-
HCM Lane V/C Ratio	-	0.008	-	-	0.02	-
HCM Control Delay (s)	0	10	-	-	7.9	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-



Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	317	1	25	155	0	6
Future Vol, veh/h	317	1	25	155	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	317	1	25	155	0	6

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	318	0	523 318
Stage 1	-	-	-	-	318 -
Stage 2	-	-	-	-	205 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1253	-	518 727
Stage 1	-	-	-	-	742 -
Stage 2	-	-	-	-	834 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1253	-	507 727
Mov Cap-2 Maneuver	-	-	-	-	507 -
Stage 1	-	-	-	-	742 -
Stage 2	-	-	-	-	816 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	727	-	-	1253	-
HCM Lane V/C Ratio	-	0.008	-	-	0.02	-
HCM Control Delay (s)	0	10	-	-	7.9	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	322	1	25	180	0	10
Future Vol, veh/h	322	1	25	180	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	322	1	25	180	0	10

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	323	0	553
Stage 1	-	-	-	-	323
Stage 2	-	-	-	-	230
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1248	-	498
Stage 1	-	-	-	-	738
Stage 2	-	-	-	-	813
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1248	-	487
Mov Cap-2 Maneuver	-	-	-	-	487
Stage 1	-	-	-	-	738
Stage 2	-	-	-	-	795

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	723	-	-	1248	-
HCM Lane V/C Ratio	-	0.014	-	-	0.02	-
HCM Control Delay (s)	0	10	-	-	7.9	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Queues

Future Total (2031)

1: Dixie Road & Merchant Road

Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↙	↙	↕	↙
Traffic Volume (vph)	4	0	52	0	11	779	24	12	1100	3
Future Volume (vph)	4	0	52	0	11	779	24	12	1100	3
Lane Group Flow (vph)	0	38	0	448	11	779	96	48	1100	3
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max
v/c Ratio		0.07		0.93	0.06	0.39	0.10	0.14	0.55	0.00
Control Delay		10.6		63.3	12.6	14.6	2.5	13.6	17.2	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.6		63.3	12.6	14.6	2.5	13.6	17.2	0.0
Queue Length 50th (m)		0.3		54.0	0.7	30.2	0.0	3.0	48.7	0.0
Queue Length 95th (m)		0.0		11.2	2.4	38.1	0.0	1.7	59.8	0.0
Internal Link Dist (m)		280.5		138.1		472.6			1387.1	
Turn Bay Length (m)					60.0		60.0	60.0		60.0
Base Capacity (vph)		530		501	193	2004	962	342	1986	914
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		0.07		0.89	0.06	0.39	0.10	0.14	0.55	0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118.3

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road























# HCM Signalized Intersection Capacity Analysis

Future Total (2031)

## 1: Dixie Road & Merchant Road

Weekday PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	4	0	34	52	0	60	11	779	24	12	1100	3	
Future Volume (vph)	4	0	34	52	0	60	11	779	24	12	1100	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5	
Total Lost time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9	
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.88			0.93		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1643			1703		1637	3476	1597	1785	3444	1560	
Flt Permitted		0.96			0.83		0.20	1.00	1.00	0.32	1.00	1.00	
Satd. Flow (perm)		1578			1452		337	3476	1597	593	3444	1560	
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00	
Adj. Flow (vph)	4	0	34	208	0	240	11	779	96	48	1100	3	
RTOR Reduction (vph)	0	24	0	0	35	0	0	0	41	0	0	1	
Lane Group Flow (vph)	0	14	0	0	413	0	11	779	55	48	1100	2	
Confl. Peds. (#/hr)							2					2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	9%	5%	0%	0%	6%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2				6	
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)		36.3			36.3		68.3	68.3	68.3	68.3	68.3	68.3	
Effective Green, g (s)		36.3			36.3		68.3	68.3	68.3	68.3	68.3	68.3	
Actuated g/C Ratio		0.31			0.31		0.58	0.58	0.58	0.58	0.58	0.58	
Clearance Time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9	
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		483			445		194	2005	921	342	1986	899	
v/s Ratio Prot								0.22			c0.32		
v/s Ratio Perm		0.01			c0.28		0.03		0.03	0.08		0.00	
v/c Ratio		0.03			0.93		0.06	0.39	0.06	0.14	0.55	0.00	
Uniform Delay, d1		28.7			39.8		11.0	13.7	11.0	11.5	15.6	10.6	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			26.3		0.6	0.6	0.1	0.9	1.1	0.0	
Delay (s)		28.8			66.1		11.5	14.2	11.1	12.4	16.7	10.6	
Level of Service		C			E		B	B	B	B	B	B	
Approach Delay (s)		28.8			66.1			13.9			16.5		
Approach LOS		C			E			B			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			24.6									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.68										
Actuated Cycle Length (s)			118.4									Sum of lost time (s)	13.8
Intersection Capacity Utilization			65.6%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

Queues

Future Total (2031)

2: Dixie Road & Mayfield Road

Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	413	1113	186	68	1293	45	289	289	38	83	411	627
Future Volume (vph)	413	1113	186	68	1293	45	289	289	38	83	411	627
Lane Group Flow (vph)	413	1113	186	68	1293	45	289	289	38	83	411	627
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	21.0	57.0	57.0	10.0	46.0	46.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	17.5%	47.5%	47.5%	8.3%	38.3%	38.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.67	0.48	0.22	0.29	0.64	0.07	0.55	0.25	0.07	0.26	0.37	0.89
Control Delay	21.9	23.5	3.7	16.9	32.4	0.4	36.3	29.1	0.2	29.8	31.0	33.8
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	21.9	23.5	3.7	16.9	32.4	0.4	36.3	29.1	0.2	29.8	31.0	33.8
Queue Length 50th (m)	14.1	42.2	0.0	4.2	56.1	0.0	16.1	14.7	0.0	8.1	21.8	44.4
Queue Length 95th (m)	24.9	50.8	7.8	8.9	70.9	0.5	23.0	19.9	0.0	14.9	28.2	73.3
Internal Link Dist (m)		1129.7			662.0			456.4			472.6	
Turn Bay Length (m)	155.0		115.0	150.0		65.0	140.0		65.0	100.0		170.0
Base Capacity (vph)	678	2320	857	235	2008	647	626	1402	651	378	1335	784
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	0.61	0.48	0.22	0.29	0.64	0.07	0.46	0.21	0.06	0.22	0.31	0.80

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 32 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 2: Dixie Road & Mayfield Road



































# HCM Signalized Intersection Capacity Analysis

Future Total (2031)

## 2: Dixie Road & Mayfield Road

Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 	 			 	
Traffic Volume (vph)	413	1113	186	68	1293	45	289	289	38	83	411	627
Future Volume (vph)	413	1113	186	68	1293	45	289	289	38	83	411	627
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3298	4768	1566	1342	4902	1452	3395	3650	1551	1653	3476	1551
Fl <sub>t</sub> Permitted	0.12	1.00	1.00	0.23	1.00	1.00	0.46	1.00	1.00	0.57	1.00	1.00
Satd. Flow (perm)	413	4768	1566	326	4902	1452	1629	3650	1551	985	3476	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	413	1113	186	68	1293	45	289	289	38	83	411	627
RTOR Reduction (vph)	0	0	96	0	0	27	0	0	26	0	0	207
Lane Group Flow (vph)	413	1113	90	68	1293	18	289	289	12	83	411	420
Heavy Vehicles (%)	5%	10%	2%	33%	7%	10%	2%	0%	3%	8%	5%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	67.4	57.8	57.8	55.7	49.1	49.1	38.8	38.8	38.8	38.8	38.8	38.8
Effective Green, g (s)	67.4	57.8	57.8	55.7	49.1	49.1	38.8	38.8	38.8	38.8	38.8	38.8
Actuated g/C Ratio	0.56	0.48	0.48	0.46	0.41	0.41	0.32	0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	599	2296	754	207	2005	594	526	1180	501	318	1123	501
v/s Ratio Prot	c0.09	0.23		0.02	0.26			0.08			0.12	
v/s Ratio Perm	c0.30		0.06	0.13		0.01	0.18		0.01	0.08		c0.27
v/c Ratio	0.69	0.48	0.12	0.33	0.64	0.03	0.55	0.24	0.02	0.26	0.37	0.84
Uniform Delay, d <sub>1</sub>	17.9	21.0	17.1	18.2	28.5	21.2	33.4	29.8	27.7	30.0	31.2	37.7
Progression 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
Incremental Delay, d <sub>2</sub>	4.2	0.7	0.3	1.9	1.6	0.1	2.1	0.2	0.0	0.9	0.4	12.9
Delay (s)	22.1	21.8	17.4	20.1	30.1	21.3	35.5	30.1	27.7	30.9	31.6	50.6
Level of Service	C	C	B	C	C	C	D	C	C	C	C	D
Approach Delay (s)		21.4			29.3			32.5			42.2	
Approach LOS		C			C			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.9	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				16.8				
Intersection Capacity Utilization			89.3%	ICU Level of Service				E				
Analysis Period (min)			15									

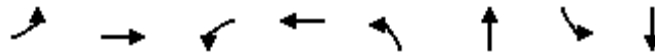
c Critical Lane Group

Queues

3: Dixie Road & Old School Road

Future Total (2031)

Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	33	107	223	277	50	694	21	286
Future Volume (vph)	33	107	223	277	50	694	21	286
Lane Group Flow (vph)	33	188	223	295	50	755	21	307
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	25.6	25.6
Total Split (s)	30.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0
Total Split (%)	46.2%	46.2%	46.2%	46.2%	53.8%	53.8%	53.8%	53.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.13	0.33	0.63	0.53	0.10	0.86	0.14	0.36
Control Delay	15.6	11.9	26.2	20.5	10.8	28.0	13.5	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	11.9	26.2	20.5	10.8	28.0	13.5	12.2
Queue Length 50th (m)	1.5	5.8	12.2	15.2	1.7	40.7	0.7	11.6
Queue Length 95th (m)	4.6	13.2	23.3	26.3	5.3	#89.1	3.4	24.1
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	344	729	474	735	517	882	155	847
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	0.10	0.26	0.47	0.40	0.10	0.86	0.14	0.36

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 59.5

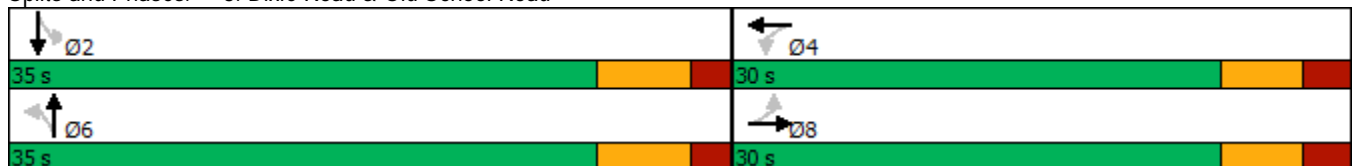
Natural Cycle: 60

Control Type: Semi Act-Uncoord

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

Queue shown is maximum after two cycles.






















Splits and Phases: 3: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 3: Dixie Road & Old School Road

Future Total (2031)  
Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	107	81	223	277	18	50	694	61	21	286	21
Future Volume (vph)	33	107	81	223	277	18	50	694	61	21	286	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Fr <sub>t</sub>	1.00	0.94		1.00	0.99		1.00	0.99		1.00	0.99	
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1566	1728		1767	1832		1785	1824		1785	1754	
Fl <sub>t</sub> Permitted	0.52	1.00		0.64	1.00		0.57	1.00		0.17	1.00	
Satd. Flow (perm)	861	1728		1189	1832		1077	1824		322	1754	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	107	81	223	277	18	50	694	61	21	286	21
RTOR Reduction (vph)	0	46	0	0	4	0	0	5	0	0	4	0
Lane Group Flow (vph)	33	142	0	223	291	0	50	750	0	21	303	0
Heavy Vehicles (%)	14%	3%	0%	1%	1%	11%	0%	2%	27%	0%	9%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	17.8	17.8		17.8	17.8		28.6	28.6		28.6	28.6	
Effective Green, g (s)	17.8	17.8		17.8	17.8		28.6	28.6		28.6	28.6	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	258	517		356	548		518	878		155	844	
v/s Ratio Prot		0.08			0.16			c0.41			0.17	
v/s Ratio Perm	0.04			c0.19			0.05			0.07		
v/c Ratio	0.13	0.27		0.63	0.53		0.10	0.85		0.14	0.36	
Uniform Delay, d <sub>1</sub>	15.1	15.9		17.9	17.3		8.4	13.6		8.5	9.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d <sub>2</sub>	0.5	0.6		4.8	1.8		0.4	10.4		1.8	1.2	
Delay (s)	15.6	16.5		22.7	19.1		8.7	24.0		10.4	10.8	
Level of Service	B	B		C	B		A	C		B	B	
Approach Delay (s)		16.3			20.7			23.0			10.8	
Approach LOS		B			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.4				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			59.4			Sum of lost time (s)				13.0		
Intersection Capacity Utilization			80.7%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group



Intersection												
Intersection Delay, s/veh	9.7											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	135	12	26	272	4	25	48	15	1	48	14
Future Vol, veh/h	8	135	12	26	272	4	25	48	15	1	48	14
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
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	4	0
Mvmt Flow	9	144	13	28	289	4	27	51	16	1	51	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	10.6	8.9	8.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	5%	9%	2%
Vol Thru, %	55%	87%	90%	76%
Vol Right, %	17%	8%	1%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	155	302	63
LT Vol	25	8	26	1
Through Vol	48	135	272	48
RT Vol	15	12	4	14
Lane Flow Rate	94	165	321	67
Geometry Grp	1	1	1	1
Degree of Util (X)	0.131	0.212	0.402	0.093
Departure Headway (Hd)	5.05	4.628	4.501	5.006
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	773	797	711
Service Time	3.109	2.673	2.54	3.068
HCM Lane V/C Ratio	0.133	0.213	0.403	0.094
HCM Control Delay	8.9	8.9	10.6	8.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.4	0.8	2	0.3

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	795	1007	0
Future Vol, veh/h	0	1	0	795	1007	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	0	795	1007	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1802	1007	1007	0	-	0
Stage 1	1007	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	89	295	696	-	-	-
Stage 1	356	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	89	295	696	-	-	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	356	-	-	-	-	-
Stage 2	448	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	696	-	-	295	-	-
HCM Lane V/C Ratio	-	-	-	0.003	-	-
HCM Control Delay (s)	0	-	0	17.2	-	-
HCM Lane LOS	A	-	A	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Queues

Future Total (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak



Lane Group	EBL	EBT	NBL	NBT	NBR	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	27	0	36	768	10	1001	7	
Future Volume (vph)	27	0	36	768	10	1001	7	
Lane Group Flow (vph)	27	68	36	768	10	1001	7	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	
Protected Phases		4		2		6		8
Permitted Phases	4		2		2		6	
Detector Phase	4	4	2	2	2	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	26.0	26.0	74.0	74.0	74.0	74.0	74.0	26.0
Total Split (%)	26.0%	26.0%	74.0%	74.0%	74.0%	74.0%	74.0%	26%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	Max	Max	Max	Max	Max	None
v/c Ratio	0.19	0.22	0.10	0.47	0.01	0.62	0.01	
Control Delay	41.4	1.7	2.9	4.0	0.8	5.7	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.4	1.7	2.9	4.0	0.8	5.7	0.6	
Queue Length 50th (m)	2.9	0.0	0.6	19.7	0.0	32.2	0.0	
Queue Length 95th (m)	7.0	0.0	2.0	34.1	0.4	57.7	0.3	
Internal Link Dist (m)		99.2		105.2		579.9		
Turn Bay Length (m)			60.0		60.0		60.0	
Base Capacity (vph)	322	489	377	1620	1323	1620	1349	
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	0.08	0.14	0.10	0.47	0.01	0.62	0.01	

Intersection Summary

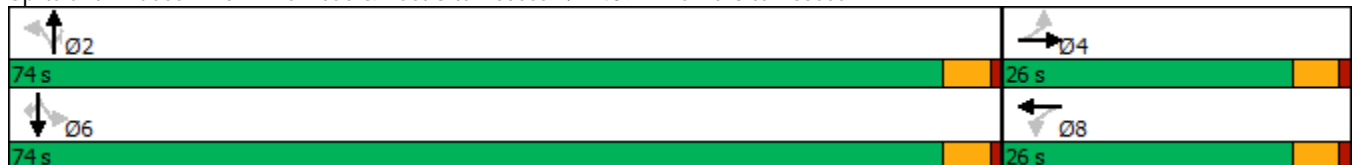
Cycle Length: 100

Actuated Cycle Length: 95.1

Natural Cycle: 65























Control Type: Semi Act-Uncoord

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1



HCM Signalized Intersection Capacity Analysis  
 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Future Total (2031)  
 Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	68	0	0	0	36	768	10	0	1001	7
Future Volume (vph)	27	0	68	0	0	0	36	768	10	0	1001	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	4.5	4.5					4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85					1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1785	1597					1785	1921	1566		1921	1597
Flt Permitted	0.76	1.00					0.24	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1423	1597					447	1921	1566		1921	1597
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	0	68	0	0	0	36	768	10	0	1001	7
RTOR Reduction (vph)	0	62	0	0	0	0	0	0	2	0	0	1
Lane Group Flow (vph)	27	6	0	0	0	0	36	768	8	0	1001	6
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	7.8	7.8					79.2	79.2	79.2		79.2	79.2
Effective Green, g (s)	7.8	7.8					79.2	79.2	79.2		79.2	79.2
Actuated g/C Ratio	0.08	0.08					0.83	0.83	0.83		0.83	0.83
Clearance Time (s)	4.5	4.5					4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	5.0	5.0					5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	115	129					368	1584	1291		1584	1317
v/s Ratio Prot		0.00						0.40			c0.52	
v/s Ratio Perm	c0.02						0.08		0.01			0.00
v/c Ratio	0.23	0.04					0.10	0.48	0.01		0.63	0.00
Uniform Delay, d1	41.3	40.7					1.6	2.4	1.5		3.1	1.5
Progression Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2	0.3					0.5	1.1	0.0		1.9	0.0
Delay (s)	43.5	40.9					2.1	3.5	1.5		5.0	1.5
Level of Service	D	D					A	A	A		A	A
Approach Delay (s)		41.7			0.0			3.4			5.0	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	↗
Traffic Vol, veh/h	0	29	0	814	1066	3
Future Vol, veh/h	0	29	0	814	1066	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	29	0	814	1066	3

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1066	-	0 - 0
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	- 6.2	-	- - -
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	- 3.3	-	- - -
Pot Cap-1 Maneuver	0 273	0	- - -
Stage 1	0 -	0	- - -
Stage 2	0 -	0	- - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	- 273	-	- - -
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	NB	SB
HCM Control Delay, s	19.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 273	-	-
HCM Lane V/C Ratio	- 0.106	-	-
HCM Control Delay (s)	- 19.7	-	-
HCM Lane LOS	- C	-	-
HCM 95th %tile Q(veh)	- 0.4	-	-

HCM 6th TWSC  
 8: North Site Access 1 & Old School Road

Future Total (2031)  
 Weekday PM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔		↔
Traffic Vol, veh/h	139	0	13	308	0	1
Future Vol, veh/h	139	0	13	308	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	139	0	13	308	0	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	139	0
Stage 1	-	-	-	139
Stage 2	-	-	-	334
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1445	-
Stage 1	-	-	-	888
Stage 2	-	-	-	725
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1445	-
Mov Cap-2 Maneuver	-	-	-	544
Stage 1	-	-	-	888
Stage 2	-	-	-	717

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	909	-	-	1445	-
HCM Lane V/C Ratio	-	0.001	-	-	0.009	-
HCM Control Delay (s)	0	9	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	1	6	321	0	28
Future Vol, veh/h	139	1	6	321	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	139	1	6	321	0	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	140	0	473
Stage 1	-	-	-	-	140
Stage 2	-	-	-	-	333
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1456	-	553
Stage 1	-	-	-	-	892
Stage 2	-	-	-	-	731
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1456	-	550
Mov Cap-2 Maneuver	-	-	-	-	550
Stage 1	-	-	-	-	892
Stage 2	-	-	-	-	727

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	913	-	-	1456	-
HCM Lane V/C Ratio	-	0.031	-	-	0.004	-
HCM Control Delay (s)	0	9.1	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	167	0	6	327	0	28
Future Vol, veh/h	167	0	6	327	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	167	0	6	327	0	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	167	0	506
Stage 1	-	-	-	-	167
Stage 2	-	-	-	-	339
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1423	-	530
Stage 1	-	-	-	-	867
Stage 2	-	-	-	-	726
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1423	-	527
Mov Cap-2 Maneuver	-	-	-	-	527
Stage 1	-	-	-	-	867
Stage 2	-	-	-	-	722

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	882	-	-	1423	-
HCM Lane V/C Ratio	-	0.032	-	-	0.004	-
HCM Control Delay (s)	0	9.2	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-



Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	195	0	7	333	0	32
Future Vol, veh/h	195	0	7	333	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	195	0	7	333	0	32

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	195	0	542 195
Stage 1	-	-	-	-	195 -
Stage 2	-	-	-	-	347 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1390	-	505 851
Stage 1	-	-	-	-	843 -
Stage 2	-	-	-	-	720 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1390	-	502 851
Mov Cap-2 Maneuver	-	-	-	-	502 -
Stage 1	-	-	-	-	843 -
Stage 2	-	-	-	-	716 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	851	-	-	1390	-
HCM Lane V/C Ratio	-	0.038	-	-	0.005	-
HCM Control Delay (s)	0	9.4	-	-	7.6	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-



# APPENDIX F

**Intersection Capacity Analysis -  
Future Total Conditions (Optimized)**

Queues

Future Total with Future Buildings (2031)

1: Dixie Road & Merchant Road

Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↙	↙	↕	↙
Traffic Volume (vph)	1	0	26	0	49	886	18	68	682	2
Future Volume (vph)	1	0	26	0	49	886	18	68	682	2
Lane Group Flow (vph)	0	18	0	144	49	886	72	272	682	2
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max
v/c Ratio		0.08		0.60	0.10	0.38	0.06	0.66	0.28	0.00
Control Delay		5.5		40.0	6.2	6.7	1.6	19.3	6.0	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		5.5		40.0	6.2	6.7	1.6	19.3	6.0	0.0
Queue Length 50th (m)		0.0		11.3	1.5	18.1	0.0	14.6	12.7	0.0
Queue Length 95th (m)		0.0		2.9	4.5	30.1	0.0	4.9	21.5	0.0
Internal Link Dist (m)		280.5		138.1		472.6		1387.1		
Turn Bay Length (m)					60.0		60.0	60.0		60.0
Base Capacity (vph)		493		548	476	2327	1160	411	2413	770
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		0.04		0.26	0.10	0.38	0.06	0.66	0.28	0.00

Intersection Summary

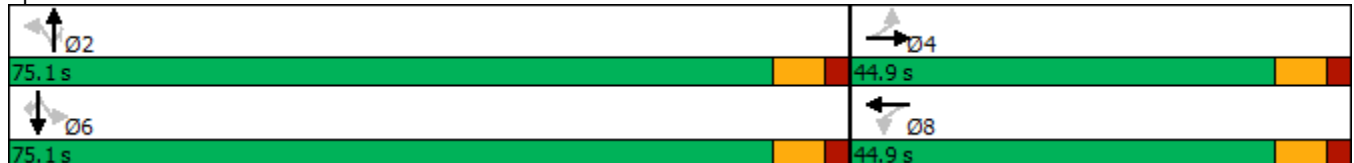
Cycle Length: 120

Actuated Cycle Length: 101.3

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road























# HCM Signalized Intersection Capacity Analysis

# Future Total with Future Buildings (2031)

## 1: Dixie Road & Merchant Road

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	17	26	0	10	49	886	18	68	682	2
Future Volume (vph)	1	0	17	26	0	10	49	886	18	68	682	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.87			0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1275			1745		1623	3259	1597	1785	3380	1065
Flt Permitted		0.98			0.78		0.39	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)		1256			1402		667	3259	1597	576	3380	1065
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	1	0	17	104	0	40	49	886	72	272	682	2
RTOR Reduction (vph)	0	15	0	0	30	0	0	0	21	0	0	1
Lane Group Flow (vph)	0	3	0	0	114	0	49	886	51	272	682	1
Heavy Vehicles (%)	100%	0%	24%	0%	0%	0%	10%	12%	0%	0%	8%	50%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		15.1			15.1		72.3	72.3	72.3	72.3	72.3	72.3
Effective Green, g (s)		15.1			15.1		72.3	72.3	72.3	72.3	72.3	72.3
Actuated g/C Ratio		0.15			0.15		0.71	0.71	0.71	0.71	0.71	0.71
Clearance Time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)		187			209		476	2328	1140	411	2414	760
v/s Ratio Prot								0.27			0.20	
v/s Ratio Perm		0.00			0.08		0.07		0.03	0.47		0.00
v/c Ratio		0.01			0.55		0.10	0.38	0.05	0.66	0.28	0.00
Uniform Delay, d1		36.7			39.9		4.5	5.7	4.3	7.8	5.2	4.1
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1			5.1		0.4	0.5	0.1	8.1	0.3	0.0
Delay (s)		36.8			44.9		4.9	6.1	4.3	16.0	5.5	4.1
Level of Service		D			D		A	A	A	B	A	A
Approach Delay (s)		36.8			44.9			6.0			8.4	
Approach LOS		D			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.0				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			101.2				Sum of lost time (s)				13.8	
Intersection Capacity Utilization			60.5%				ICU Level of Service				B	
Analysis Period (min)			15									

c Critical Lane Group

Queues

Future Total with Future Buildings (2031)

2: Dixie Road & Mayfield Road

Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	545	1626	364	64	683	90	121	298	54	34	216	417
Future Volume (vph)	545	1626	364	64	683	90	121	298	54	34	216	417
Lane Group Flow (vph)	545	1626	364	64	683	90	121	298	54	34	216	417
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	10.0	60.0	60.0	10.0	60.0	60.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%	50.0%	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.55	0.57	0.35	0.27	0.28	0.13	0.26	0.43	0.15	0.20	0.29	0.82
Control Delay	11.1	18.9	2.9	11.3	17.7	4.5	37.5	40.7	6.7	36.6	38.2	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	18.9	2.9	11.3	17.7	4.5	37.5	40.7	6.7	36.6	38.2	29.1
Queue Length 50th (m)	12.5	50.4	0.0	2.5	19.2	0.0	7.3	19.1	0.0	3.9	13.4	22.9
Queue Length 95th (m)	25.1	78.6	9.7	7.3	28.0	5.5	10.3	22.6	4.3	8.0	16.6	39.3
Internal Link Dist (m)		1129.7			662.0			456.4			472.6	
Turn Bay Length (m)	155.0		115.0	150.0		65.0	140.0		65.0	100.0		170.0
Base Capacity (vph)	996	2872	1050	234	2427	676	776	1139	547	279	1213	678
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	0.55	0.57	0.35	0.27	0.28	0.13	0.16	0.26	0.10	0.12	0.18	0.62

Intersection Summary

Cycle Length: 120

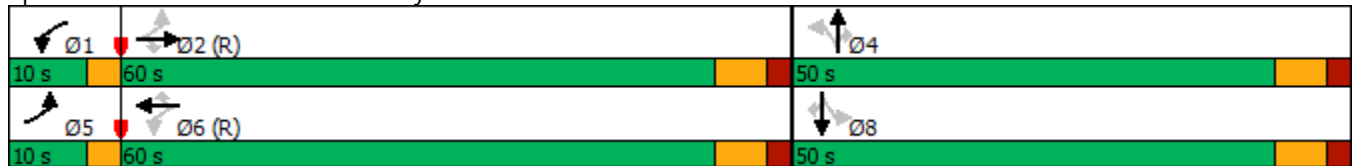
Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105


































Control Type: Actuated-Coordinated

Splits and Phases: 2: Dixie Road & Mayfield Road



HCM Signalized Intersection Capacity Analysis  
2: Dixie Road & Mayfield Road

Future Total with Future Buildings (2031)  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 	 			 	 
Traffic Volume (vph)	545	1626	364	64	683	90	121	298	54	34	216	417
Future Volume (vph)	545	1626	364	64	683	90	121	298	54	34	216	417
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3038	4902	1536	1653	4601	1201	3330	3174	1413	1405	3380	1439
Fl <sub>t</sub> Permitted	0.35	1.00	1.00	0.12	1.00	1.00	0.62	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	1120	4902	1536	202	4601	1201	2161	3174	1413	777	3380	1439
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	545	1626	364	64	683	90	121	298	54	34	216	417
RTOR Reduction (vph)	0	0	153	0	0	43	0	0	42	0	0	198
Lane Group Flow (vph)	545	1626	211	64	683	47	121	298	12	34	216	219
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	80.0	69.7	69.7	70.6	63.3	63.3	26.2	26.2	26.2	26.2	26.2	26.2
Effective Green, g (s)	80.0	69.7	69.7	70.6	63.3	63.3	26.2	26.2	26.2	26.2	26.2	26.2
Actuated g/C Ratio	0.67	0.58	0.58	0.59	0.53	0.53	0.22	0.22	0.22	0.22	0.22	0.22
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	965	2847	892	207	2427	633	471	692	308	169	737	314
v/s Ratio Prot	c0.06	c0.33		0.02	0.15			0.09			0.06	
v/s Ratio Perm	0.31		0.14	0.16		0.04	0.06		0.01	0.04		c0.15
v/c Ratio	0.56	0.57	0.24	0.31	0.28	0.07	0.26	0.43	0.04	0.20	0.29	0.70
Uniform Delay, d <sub>1</sub>	8.3	15.8	12.2	11.3	15.7	13.9	38.8	40.5	37.0	38.3	39.2	43.3
Progression 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
Incremental Delay, d <sub>2</sub>	1.3	0.8	0.6	1.8	0.3	0.2	0.6	0.9	0.1	1.2	0.5	8.3
Delay (s)	9.6	16.6	12.9	13.1	16.0	14.2	39.4	41.4	37.1	39.6	39.6	51.6
Level of Service	A	B	B	B	B	B	D	D	D	D	D	D
Approach Delay (s)		14.6			15.6			40.4			47.1	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				16.8				
Intersection Capacity Utilization			71.1%	ICU Level of Service			C					
Analysis Period (min)			15									

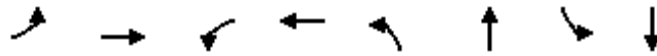
c Critical Lane Group

Queues

Future Total with Future Buildings (2031)

3: Dixie Road & Old School Road

Weekday AM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	16	256	129	97	75	286	73	762
Future Volume (vph)	16	256	129	97	75	286	73	762
Lane Group Flow (vph)	16	322	129	105	75	335	73	807
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.06	0.65	0.57	0.22	0.46	0.37	0.14	0.84
Control Delay	16.9	25.5	30.4	17.6	23.7	10.9	10.2	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	25.5	30.4	17.6	23.7	10.9	10.2	24.5
Queue Length 50th (m)	0.8	18.5	7.7	5.3	3.0	12.0	2.4	43.9
Queue Length 95th (m)	3.1	31.7	16.8	11.2	#14.0	25.5	7.2	#97.6
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	377	671	308	661	163	914	513	964
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	0.04	0.48	0.42	0.16	0.46	0.37	0.14	0.84

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 64

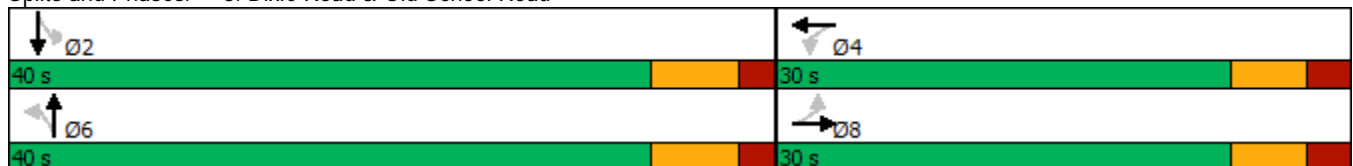
Natural Cycle: 65

Control Type: Semi Act-Uncoord

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






















Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



HCM Signalized Intersection Capacity Analysis  
3: Dixie Road & Old School Road

Future Total with Future Buildings (2031)  
Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	256	66	129	97	8	75	286	49	73	762	45
Future Volume (vph)	16	256	66	129	97	8	75	286	49	73	762	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Fr <sub>t</sub>	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.99	
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1782		1785	1775		1785	1731		1684	1836	
Fl <sub>t</sub> Permitted	0.69	1.00		0.44	1.00		0.17	1.00		0.55	1.00	
Satd. Flow (perm)	1020	1782		835	1775		312	1731		980	1836	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	256	66	129	97	8	75	286	49	73	762	45
RTOR Reduction (vph)	0	15	0	0	4	0	0	8	0	0	3	0
Lane Group Flow (vph)	16	307	0	129	101	0	75	327	0	73	804	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	17.4	17.4		17.4	17.4		33.5	33.5		33.5	33.5	
Effective Green, g (s)	17.4	17.4		17.4	17.4		33.5	33.5		33.5	33.5	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.52	0.52		0.52	0.52	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	277	485		227	483		163	907		513	962	
v/s Ratio Prot		c0.17			0.06			0.19			c0.44	
v/s Ratio Perm	0.02			0.15			0.24			0.07		
v/c Ratio	0.06	0.63		0.57	0.21		0.46	0.36		0.14	0.84	
Uniform Delay, d <sub>1</sub>	17.2	20.4		20.0	17.9		9.5	8.9		7.8	12.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d <sub>2</sub>	0.2	3.7		5.3	0.5		9.1	1.1		0.6	8.5	
Delay (s)	17.4	24.2		25.3	18.4		18.6	10.0		8.4	21.4	
Level of Service	B	C		C	B		B	B		A	C	
Approach Delay (s)		23.9			22.2			11.6			20.3	
Approach LOS		C			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			63.9			Sum of lost time (s)				13.0		
Intersection Capacity Utilization			95.8%			ICU Level of Service				F		
Analysis Period (min)			15									

c Critical Lane Group



HCM 6th AWSC  
4: Heart Lake Road & Old School Road

Future Total with Future Buildings (2031)  
Weekday AM Peak

Intersection												
Intersection Delay, s/veh	10.4											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	289	13	9	104	8	11	52	11	8	71	25
Future Vol, veh/h	13	289	13	9	104	8	11	52	11	8	71	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	15	340	15	11	122	9	13	61	13	9	84	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.7	9.1	9	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	4%	7%	8%
Vol Thru, %	70%	92%	86%	68%
Vol Right, %	15%	4%	7%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	315	121	104
LT Vol	11	13	9	8
Through Vol	52	289	104	71
RT Vol	11	13	8	25
Lane Flow Rate	87	371	142	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.472	0.191	0.173
Departure Headway (Hd)	5.205	4.587	4.841	5.083
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	782	736	700
Service Time	3.286	2.642	2.91	3.159
HCM Lane V/C Ratio	0.127	0.474	0.193	0.174
HCM Control Delay	9	11.7	9.1	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	2.6	0.7	0.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	580	779	0
Future Vol, veh/h	0	1	0	580	779	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	0	580	779	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1359	779	779	0	-	0
Stage 1	779	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	165	399	847	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	165	399	847	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	564	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	847	-	-	399	-	-
HCM Lane V/C Ratio	-	-	-	0.003	-	-
HCM Control Delay (s)	0	-	0	14	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Queues

Future Total with Future Buildings (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak



Lane Group	EBL	EBT	NBL	NBT	NBR	SBT	SBR	Ø8
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	
Traffic Volume (vph)	8	0	98	572	60	739	41	
Future Volume (vph)	8	0	98	572	60	739	41	
Lane Group Flow (vph)	8	32	98	572	60	739	41	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	
Protected Phases		4		2		6		8
Permitted Phases	4		2		2		6	
Detector Phase	4	4	2	2	2	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	30.0	30.0	40.0	40.0	40.0	40.0	40.0	30.0
Total Split (%)	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%	57.1%	43%
Yellow Time (s)	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.05	0.10	0.19	0.36	0.05	0.47	0.03	
Control Delay	27.9	0.7	4.6	4.3	1.2	5.2	0.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.9	0.7	4.6	4.3	1.2	5.2	0.9	
Queue Length 50th (m)	0.6	0.0	2.1	15.1	0.0	22.3	0.0	
Queue Length 95th (m)	2.6	0.0	5.6	25.7	1.6	38.0	1.0	
Internal Link Dist (m)		99.2		105.2		579.9		
Turn Bay Length (m)			60.0		60.0		60.0	
Base Capacity (vph)	504	631	522	1569	1290	1569	1314	
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	0.02	0.05	0.19	0.36	0.05	0.47	0.03	

Intersection Summary

Cycle Length: 70

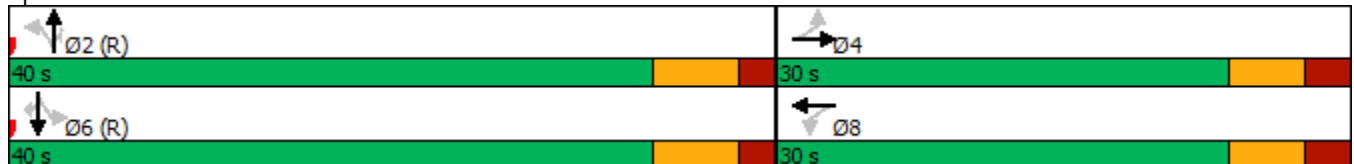
Actuated Cycle Length: 70

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

Natural Cycle: 60

Control Type: Actuated-Coordinated























Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1



HCM Signalized Intersection Capacity Analysis Future Total with Future Buildings (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	32	0	0	0	98	572	60	0	739	41
Future Volume (vph)	8	0	32	0	0	0	98	572	60	0	739	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85					1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1785	1597					1785	1921	1566		1921	1597
Flt Permitted	0.80	1.00					0.34	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1503	1597					639	1921	1566		1921	1597
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	8	0	32	0	0	0	98	572	60	0	739	41
RTOR Reduction (vph)	0	30	0	0	0	0	0	0	15	0	0	11
Lane Group Flow (vph)	8	2	0	0	0	0	98	572	45	0	739	30
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	5.0	5.0					52.0	52.0	52.0		52.0	52.0
Effective Green, g (s)	5.0	5.0					52.0	52.0	52.0		52.0	52.0
Actuated g/C Ratio	0.07	0.07					0.74	0.74	0.74		0.74	0.74
Clearance Time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Vehicle Extension (s)	5.0	5.0					5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	107	114					474	1427	1163		1427	1186
v/s Ratio Prot		0.00						0.30			c0.38	
v/s Ratio Perm	c0.01						0.15		0.03			0.02
v/c Ratio	0.07	0.02					0.21	0.40	0.04		0.52	0.03
Uniform Delay, d1	30.3	30.2					2.7	3.3	2.4		3.8	2.4
Progression Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.1					1.0	0.8	0.1		1.3	0.0
Delay (s)	31.0	30.4					3.7	4.1	2.4		5.1	2.4
Level of Service	C	C					A	A	A		A	A
Approach Delay (s)		30.5			0.0			3.9			5.0	
Approach LOS		C			A			A			A	

Intersection Summary		
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.48	A
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	64.7%	13.0
Analysis Period (min)	15	ICU Level of Service
		C

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕	↗
Traffic Vol, veh/h	0	6	0	730	757	14
Future Vol, veh/h	0	6	0	730	757	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	6	0	730	757	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	757	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	411	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			
Mov Cap-1 Maneuver	-	411	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 411	-	-
HCM Lane V/C Ratio	- 0.015	-	-
HCM Control Delay (s)	- 13.9	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	314	1	30	124	0	9
Future Vol, veh/h	314	1	30	124	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	314	1	30	124	0	9

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	315	0	499
Stage 1	-	-	-	-	315
Stage 2	-	-	-	-	184
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1245	-	531
Stage 1	-	-	-	-	740
Stage 2	-	-	-	-	848
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1245	-	517
Mov Cap-2 Maneuver	-	-	-	-	517
Stage 1	-	-	-	-	740
Stage 2	-	-	-	-	826

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	725	-	-	1245	-
HCM Lane V/C Ratio	-	0.012	-	-	0.024	-
HCM Control Delay (s)	0	10	-	-	8	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	321	2	25	154	0	6
Future Vol, veh/h	321	2	25	154	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	321	2	25	154	0	6

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	323	0	526 322
Stage 1	-	-	-	-	322 -
Stage 2	-	-	-	-	204 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1248	-	516 724
Stage 1	-	-	-	-	739 -
Stage 2	-	-	-	-	835 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1248	-	505 724
Mov Cap-2 Maneuver	-	-	-	-	505 -
Stage 1	-	-	-	-	739 -
Stage 2	-	-	-	-	817 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	724	-	-	1248	-
HCM Lane V/C Ratio	-	0.008	-	-	0.02	-
HCM Control Delay (s)	0	10	-	-	7.9	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	327	1	25	179	0	6
Future Vol, veh/h	327	1	25	179	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	327	1	25	179	0	6

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	328	0	557
Stage 1	-	-	-	-	328
Stage 2	-	-	-	-	229
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1243	-	495
Stage 1	-	-	-	-	734
Stage 2	-	-	-	-	814
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1243	-	484
Mov Cap-2 Maneuver	-	-	-	-	484
Stage 1	-	-	-	-	734
Stage 2	-	-	-	-	796

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	718	-	-	1243	-
HCM Lane V/C Ratio	-	0.008	-	-	0.02	-
HCM Control Delay (s)	0	10.1	-	-	8	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-



Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	332	1	25	204	0	10
Future Vol, veh/h	332	1	25	204	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	332	1	25	204	0	10

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	333	0	587
Stage 1	-	-	-	-	333
Stage 2	-	-	-	-	254
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1238	-	475
Stage 1	-	-	-	-	731
Stage 2	-	-	-	-	793
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1238	-	464
Mov Cap-2 Maneuver	-	-	-	-	464
Stage 1	-	-	-	-	731
Stage 2	-	-	-	-	775

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	713	-	-	1238	-
HCM Lane V/C Ratio	-	0.014	-	-	0.02	-
HCM Control Delay (s)	0	10.1	-	-	8	0
HCM Lane LOS	A	B	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-

Queues

Future Total with Future Buildings (2031)

1: Dixie Road & Merchant Road

Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	4	0	52	0	11	798	24	12	1153	3
Future Volume (vph)	4	0	52	0	11	798	24	12	1153	3
Lane Group Flow (vph)	0	38	0	448	11	798	96	48	1153	3
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
Total Split (s)	44.9	44.9	44.9	44.9	75.1	75.1	75.1	75.1	75.1	75.1
Total Split (%)	37.4%	37.4%	37.4%	37.4%	62.6%	62.6%	62.6%	62.6%	62.6%	62.6%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.9		6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max
v/c Ratio		0.10		0.93	0.06	0.42	0.10	0.14	0.59	0.00
Control Delay		10.9		63.3	12.9	15.2	2.5	13.7	18.0	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.9		63.3	12.9	15.2	2.5	13.7	18.0	0.0
Queue Length 50th (m)		0.3		54.0	0.7	31.8	0.0	3.0	52.7	0.0
Queue Length 95th (m)		0.0		11.2	2.4	40.2	0.0	1.7	64.7	0.0
Internal Link Dist (m)		280.5		138.1		472.6			1387.1	
Turn Bay Length (m)					60.0		60.0	60.0		60.0
Base Capacity (vph)		407		501	176	1879	962	332	1949	629
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		0.09		0.89	0.06	0.42	0.10	0.14	0.59	0.00

Intersection Summary

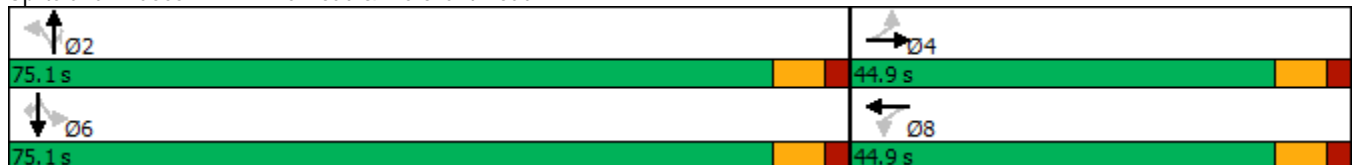
Cycle Length: 120

Actuated Cycle Length: 118.3

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Dixie Road & Merchant Road























HCM Signalized Intersection Capacity Analysis

Future Total with Future Buildings (2031)

1: Dixie Road & Merchant Road

Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	34	52	0	60	11	798	24	12	1153	3
Future Volume (vph)	4	0	34	52	0	60	11	798	24	12	1153	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.88			0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1245			1703		1623	3259	1597	1785	3380	1065
Flt Permitted		0.96			0.83		0.18	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)		1196			1452		306	3259	1597	577	3380	1065
Peak-hour factor, PHF	1.00	0.25	1.00	0.25	0.25	0.25	1.00	1.00	0.25	0.25	1.00	1.00
Adj. Flow (vph)	4	0	34	208	0	240	11	798	96	48	1153	3
RTOR Reduction (vph)	0	24	0	0	35	0	0	0	41	0	0	1
Lane Group Flow (vph)	0	14	0	0	413	0	11	798	55	48	1153	2
Heavy Vehicles (%)	100%	0%	24%	0%	0%	0%	10%	12%	0%	0%	8%	50%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.3			36.3		68.3	68.3	68.3	68.3	68.3	68.3
Effective Green, g (s)		36.3			36.3		68.3	68.3	68.3	68.3	68.3	68.3
Actuated g/C Ratio		0.31			0.31		0.58	0.58	0.58	0.58	0.58	0.58
Clearance Time (s)		6.9			6.9		6.9	6.9	6.9	6.9	6.9	6.9
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)		366			445		176	1879	921	332	1949	614
v/s Ratio Prot								0.24			c0.34	
v/s Ratio Perm		0.01			c0.28		0.04		0.03	0.08		0.00
v/c Ratio		0.04			0.93		0.06	0.42	0.06	0.14	0.59	0.00
Uniform Delay, d1		28.8			39.8		11.0	14.0	11.0	11.6	16.1	10.6
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1			26.3		0.7	0.7	0.1	0.9	1.3	0.0
Delay (s)		28.9			66.1		11.7	14.7	11.1	12.5	17.4	10.6
Level of Service		C			E		B	B	B	B	B	B
Approach Delay (s)		28.9			66.1			14.3			17.2	
Approach LOS		C			E			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.8									C
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			118.4						13.8			
Intersection Capacity Utilization			56.6%									B
Analysis Period (min)			15									

c Critical Lane Group

Queues

Future Total with Future Buildings (2031)

2: Dixie Road & Mayfield Road

Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	429	1113	186	68	1293	46	289	291	38	86	418	670
Future Volume (vph)	429	1113	186	68	1293	46	289	291	38	86	418	670
Lane Group Flow (vph)	429	1113	186	68	1293	46	289	291	38	86	418	670
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	8.0	44.9	44.9	8.0	44.9	44.9	47.9	47.9	47.9	47.9	47.9	47.9
Total Split (s)	21.0	57.0	57.0	10.0	46.0	46.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	17.5%	47.5%	47.5%	8.3%	38.3%	38.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	0.0	2.3	2.3	0.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
v/c Ratio	0.78	0.50	0.23	0.26	0.77	0.09	0.49	0.25	0.07	0.28	0.34	0.94
Control Delay	34.2	25.2	3.8	17.0	39.0	0.8	32.6	27.0	0.2	29.1	28.4	41.7
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	34.2	25.2	3.8	17.0	39.0	0.8	32.6	27.0	0.2	29.1	28.4	41.7
Queue Length 50th (m)	19.7	42.1	0.0	4.4	61.7	0.0	15.4	14.3	0.0	8.1	21.3	53.5
Queue Length 95th (m)	30.2	50.3	7.8	8.7	73.0	0.6	23.0	20.5	0.0	15.9	28.8	#100.4
Internal Link Dist (m)		1129.7			662.0			456.4			472.6	
Turn Bay Length (m)	155.0		115.0	150.0		65.0	140.0		65.0	100.0		170.0
Base Capacity (vph)	587	2235	801	261	1669	493	623	1219	598	323	1298	741
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	0.73	0.50	0.23	0.26	0.77	0.09	0.46	0.24	0.06	0.27	0.32	0.90

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

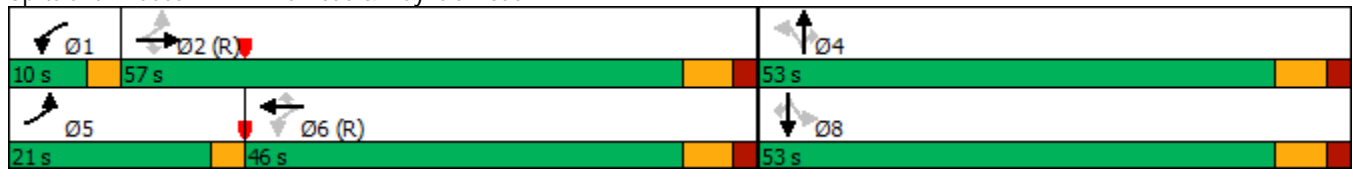
Natural Cycle: 105

Control Type: Actuated-Coordinated

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

































Queue shown is maximum after two cycles.

Splits and Phases: 2: Dixie Road & Mayfield Road



HCM Signalized Intersection Capacity Analysis  
2: Dixie Road & Mayfield Road

Future Total with Future Buildings (2031)  
Weekday PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 	  			  		 	 			 		
Traffic Volume (vph)	429	1113	186	68	1293	46	289	291	38	86	418	670	
Future Volume (vph)	429	1113	186	68	1293	46	289	291	38	86	418	670	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00	
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3038	4902	1536	1653	4601	1201	3330	3174	1413	1405	3380	1439	
Fl <sub>t</sub> Permitted	0.10	1.00	1.00	0.23	1.00	1.00	0.46	1.00	1.00	0.57	1.00	1.00	
Satd. Flow (perm)	322	4902	1536	406	4601	1201	1622	3174	1413	844	3380	1439	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	429	1113	186	68	1293	46	289	291	38	86	418	670	
RTOR Reduction (vph)	0	0	102	0	0	29	0	0	24	0	0	196	
Lane Group Flow (vph)	429	1113	84	68	1293	17	289	291	14	86	418	474	
Heavy Vehicles (%)	14%	7%	4%	8%	14%	33%	4%	15%	13%	27%	8%	11%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2		2	6		6	4		4	8		8	
Actuated Green, G (s)	63.0	54.1	54.1	49.5	43.6	43.6	43.2	43.2	43.2	43.2	43.2	43.2	
Effective Green, g (s)	63.0	54.1	54.1	49.5	43.6	43.6	43.2	43.2	43.2	43.2	43.2	43.2	
Actuated g/C Ratio	0.52	0.45	0.45	0.41	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)	3.0	6.9	6.9	3.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	540	2209	692	228	1671	436	583	1142	508	303	1216	518	
v/s Ratio Prot	c0.11	0.23		0.01	0.28			0.09			0.12		
v/s Ratio Perm	c0.31		0.05	0.11		0.01	0.18		0.01	0.10		c0.33	
v/c Ratio	0.79	0.50	0.12	0.30	0.77	0.04	0.50	0.25	0.03	0.28	0.34	0.92	
Uniform Delay, d <sub>1</sub>	28.0	23.4	19.1	21.6	33.8	24.7	29.9	27.1	24.8	27.4	28.0	36.7	
Progression 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	
Incremental Delay, d <sub>2</sub>	9.0	0.8	0.4	1.5	3.6	0.2	1.4	0.2	0.0	1.1	0.4	21.8	
Delay (s)	37.0	24.2	19.5	23.2	37.4	24.8	31.3	27.3	24.9	28.5	28.4	58.4	
Level of Service	D	C	B	C	D	C	C	C	C	C	C	E	
Approach Delay (s)		26.9			36.3			29.0			45.5		
Approach LOS		C			D			C			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			34.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.8
Intersection Capacity Utilization			92.0%									ICU Level of Service	F
Analysis Period (min)			15										

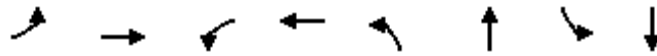
c Critical Lane Group

Queues

Future Total with Future Buildings (2031)

3: Dixie Road & Old School Road

Weekday PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	38	107	223	277	58	702	21	289
Future Volume (vph)	38	107	223	277	58	702	21	289
Lane Group Flow (vph)	38	210	223	295	58	763	21	312
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	25.4	25.4	25.4	25.4	23.6	23.6	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	40.0	40.0
Total Split (%)	42.9%	42.9%	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.6	6.6	6.6	6.6
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
v/c Ratio	0.18	0.39	0.67	0.58	0.11	0.85	0.12	0.33
Control Delay	19.2	13.8	30.9	24.3	10.3	26.8	12.2	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	13.8	30.9	24.3	10.3	26.8	12.2	11.2
Queue Length 50th (m)	2.0	7.4	13.9	17.5	2.1	45.2	0.8	12.3
Queue Length 95th (m)	5.9	16.3	26.1	29.9	5.8	#93.3	3.3	23.6
Internal Link Dist (m)		171.2		445.0		406.4		428.3
Turn Bay Length (m)	35.0		40.0		40.0		35.0	
Base Capacity (vph)	266	665	428	650	552	899	174	947
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	0.14	0.32	0.52	0.45	0.11	0.85	0.12	0.33

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 65.2

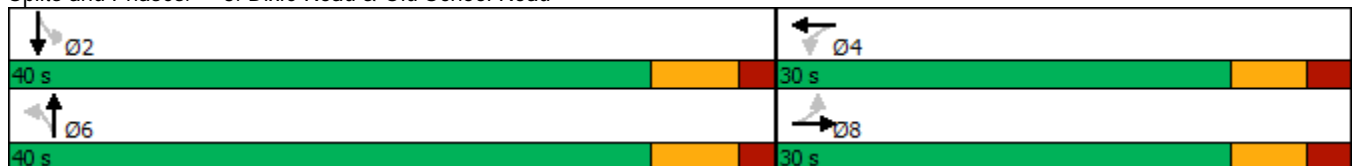
Natural Cycle: 65

Control Type: Semi Act-Uncoord

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






















Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Old School Road



HCM Signalized Intersection Capacity Analysis  
3: Dixie Road & Old School Road

Future Total with Future Buildings (2031)  
Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	107	103	223	277	18	58	702	61	21	289	23
Future Volume (vph)	38	107	103	223	277	18	58	702	61	21	289	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Fr <sub>t</sub>	1.00	0.93		1.00	0.99		1.00	0.99		1.00	0.99	
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1405	1698		1785	1778		1785	1738		1684	1832	
Fl <sub>t</sub> Permitted	0.49	1.00		0.63	1.00		0.57	1.00		0.19	1.00	
Satd. Flow (perm)	731	1698		1177	1778		1072	1738		338	1832	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	107	103	223	277	18	58	702	61	21	289	23
RTOR Reduction (vph)	0	54	0	0	4	0	0	4	0	0	4	0
Lane Group Flow (vph)	38	156	0	223	291	0	58	759	0	21	308	0
Heavy Vehicles (%)	27%	2%	3%	0%	5%	0%	0%	10%	0%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	18.5	18.5		18.5	18.5		33.6	33.6		33.6	33.6	
Effective Green, g (s)	18.5	18.5		18.5	18.5		33.6	33.6		33.6	33.6	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.52	0.52		0.52	0.52	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	207	482		334	505		553	897		174	945	
v/s Ratio Prot		0.09			0.16			c0.44			0.17	
v/s Ratio Perm	0.05			c0.19			0.05			0.06		
v/c Ratio	0.18	0.32		0.67	0.58		0.10	0.85		0.12	0.33	
Uniform Delay, d <sub>1</sub>	17.6	18.4		20.6	20.0		8.1	13.5		8.1	9.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d <sub>2</sub>	0.9	0.8		6.6	2.5		0.4	9.7		1.4	0.9	
Delay (s)	18.5	19.2		27.1	22.5		8.4	23.2		9.5	10.1	
Level of Service	B	B		C	C		A	C		A	B	
Approach Delay (s)		19.1			24.5			22.1			10.0	
Approach LOS		B			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			65.1			Sum of lost time (s)			13.0			
Intersection Capacity Utilization			88.7%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Intersection												
Intersection Delay, s/veh10.3												
Intersection LOS B												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	135	12	26	272	4	25	48	15	1	48	14
Future Vol, veh/h	8	135	12	26	272	4	25	48	15	1	48	14
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	4	0	0	17	0	0	0	8
Mvmt Flow	9	159	14	31	320	5	29	56	18	1	56	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	11.4	9.2	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	5%	9%	2%
Vol Thru, %	55%	87%	90%	76%
Vol Right, %	17%	8%	1%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	155	302	63
LT Vol	25	8	26	1
Through Vol	48	135	272	48
RT Vol	15	12	4	14
Lane Flow Rate	104	182	355	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.149	0.239	0.452	0.106
Departure Headway (Hd)	5.191	4.727	4.579	5.155
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	755	782	689
Service Time	3.265	2.786	2.627	3.232
HCM Lane V/C Ratio	0.152	0.241	0.454	0.107
HCM Control Delay	9.2	9.3	11.4	8.9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.5	0.9	2.4	0.4



Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷		↶	↷	
Traffic Vol, veh/h	0	1	0	811	1032	0
Future Vol, veh/h	0	1	0	811	1032	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	0	811	1032	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1843	1032	1032	0	-	0
Stage 1	1032	-	-	-	-	-
Stage 2	811	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	84	285	681	-	-	-
Stage 1	347	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	84	285	681	-	-	-
Mov Cap-2 Maneuver	84	-	-	-	-	-
Stage 1	347	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	681	-	-	285	-	-
HCM Lane V/C Ratio	-	-	-	0.004	-	-
HCM Control Delay (s)	0	-	0	17.7	-	-
HCM Lane LOS	A	-	A	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Queues

Future Total with Future Buildings (2031)

6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1

Weekday PM Peak



Lane Group	EBL	EBT	NBL	NBT	NBR	SBT	SBR	Ø8
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	
Traffic Volume (vph)	35	0	47	776	10	1023	10	
Future Volume (vph)	35	0	47	776	10	1023	10	
Lane Group Flow (vph)	35	99	47	776	10	1023	10	
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	
Protected Phases		4		2		6		8
Permitted Phases	4		2		2		6	
Detector Phase	4	4	2	2	2	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	30.0	30.0	40.0	40.0	40.0	40.0	40.0	30.0
Total Split (%)	42.9%	42.9%	57.1%	57.1%	57.1%	57.1%	57.1%	43%
Yellow Time (s)	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	None
v/c Ratio	0.18	0.36	0.21	0.55	0.01	0.72	0.01	
Control Delay	27.9	16.1	7.8	8.0	0.0	12.3	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.9	16.1	7.8	8.0	0.0	12.3	0.0	
Queue Length 50th (m)	2.5	2.5	1.1	26.2	0.0	44.1	0.0	
Queue Length 95th (m)	6.5	9.1	4.5	51.6	0.0	#108.1	0.0	
Internal Link Dist (m)		99.2		105.2		579.9		
Turn Bay Length (m)			60.0		60.0		60.0	
Base Capacity (vph)	477	577	229	1412	1166	1412	1189	
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	0.07	0.17	0.21	0.55	0.01	0.72	0.01	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

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

Natural Cycle: 75

Control Type: Actuated-Coordinated























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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1



HCM Signalized Intersection Capacity Analysis Future Total with Future Buildings (2031)  
 6: Dixie Road & East Site Access 2/12489 Dixie Rd Site Access 1 Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	0	99	0	0	0	47	776	10	0	1023	10
Future Volume (vph)	35	0	99	0	0	0	47	776	10	0	1023	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Lane Util. Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85					1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1785	1597					1785	1921	1566		1921	1597
Flt Permitted	0.76	1.00					0.17	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1423	1597					313	1921	1566		1921	1597
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	0	99	0	0	0	47	776	10	0	1023	10
RTOR Reduction (vph)	0	56	0	0	0	0	0	0	3	0	0	3
Lane Group Flow (vph)	35	43	0	0	0	0	47	776	7	0	1023	7
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm			Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	8.1	8.1					48.9	48.9	48.9		48.9	48.9
Effective Green, g (s)	8.1	8.1					48.9	48.9	48.9		48.9	48.9
Actuated g/C Ratio	0.12	0.12					0.70	0.70	0.70		0.70	0.70
Clearance Time (s)	6.5	6.5					6.5	6.5	6.5		6.5	6.5
Vehicle Extension (s)	5.0	5.0					5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	164	184					218	1341	1093		1341	1115
v/s Ratio Prot		c0.03						0.40			c0.53	
v/s Ratio Perm	0.02						0.15		0.00			0.00
v/c Ratio	0.21	0.24					0.22	0.58	0.01		0.76	0.01
Uniform Delay, d1	28.1	28.1					3.7	5.3	3.2		6.8	3.2
Progression Factor	1.00	1.00					1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4	1.4					2.3	1.8	0.0		4.2	0.0
Delay (s)	29.4	29.5					6.0	7.2	3.2		11.0	3.2
Level of Service	C	C					A	A	A		B	A
Approach Delay (s)		29.5			0.0			7.1			10.9	
Approach LOS		C			A			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.5									B
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			70.0							13.0		
Intersection Capacity Utilization			70.8%									C
Analysis Period (min)			15									

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑	↗
Traffic Vol, veh/h	0	29	0	833	1119	3
Future Vol, veh/h	0	29	0	833	1119	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	29	0	833	1119	3

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1119	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.2	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.3	- -	- -
Pot Cap-1 Maneuver	0 254	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 254	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	21	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 254	- -	- -
HCM Lane V/C Ratio	- 0.114	- -	- -
HCM Control Delay (s)	- 21	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 0.4	- -	- -

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	0	23	308	0	28
Future Vol, veh/h	139	0	23	308	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	139	0	23	308	0	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	139	0	493
Stage 1	-	-	-	-	139
Stage 2	-	-	-	-	354
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1445	-	535
Stage 1	-	-	-	-	888
Stage 2	-	-	-	-	710
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1445	-	525
Mov Cap-2 Maneuver	-	-	-	-	525
Stage 1	-	-	-	-	888
Stage 2	-	-	-	-	697

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	909	-	-	1445	-
HCM Lane V/C Ratio	-	0.031	-	-	0.016	-
HCM Control Delay (s)	0	9.1	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	1	6	331	0	28
Future Vol, veh/h	166	1	6	331	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	166	1	6	331	0	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	167	0	510
Stage 1	-	-	-	-	167
Stage 2	-	-	-	-	343
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1423	-	527
Stage 1	-	-	-	-	867
Stage 2	-	-	-	-	723
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1423	-	524
Mov Cap-2 Maneuver	-	-	-	-	524
Stage 1	-	-	-	-	867
Stage 2	-	-	-	-	719

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	882	-	-	1423	-
HCM Lane V/C Ratio	-	0.032	-	-	0.004	-
HCM Control Delay (s)	0	9.2	-	-	7.5	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	194	0	6	337	0	28
Future Vol, veh/h	194	0	6	337	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	194	0	6	337	0	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	194	0	543
Stage 1	-	-	-	-	194
Stage 2	-	-	-	-	349
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1391	-	504
Stage 1	-	-	-	-	844
Stage 2	-	-	-	-	719
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1391	-	501
Mov Cap-2 Maneuver	-	-	-	-	501
Stage 1	-	-	-	-	844
Stage 2	-	-	-	-	715

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	853	-	-	1391	-
HCM Lane V/C Ratio	-	0.033	-	-	0.004	-
HCM Control Delay (s)	0	9.4	-	-	7.6	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	222	0	7	343	0	32
Future Vol, veh/h	222	0	7	343	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	222	0	7	343	0	32

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	222	0	579
Stage 1	-	-	-	-	222
Stage 2	-	-	-	-	357
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1359	-	481
Stage 1	-	-	-	-	820
Stage 2	-	-	-	-	713
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1359	-	478
Mov Cap-2 Maneuver	-	-	-	-	478
Stage 1	-	-	-	-	820
Stage 2	-	-	-	-	709

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	823	-	-	1359	-
HCM Lane V/C Ratio	-	0.039	-	-	0.005	-
HCM Control Delay (s)	0	9.6	-	-	7.7	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-

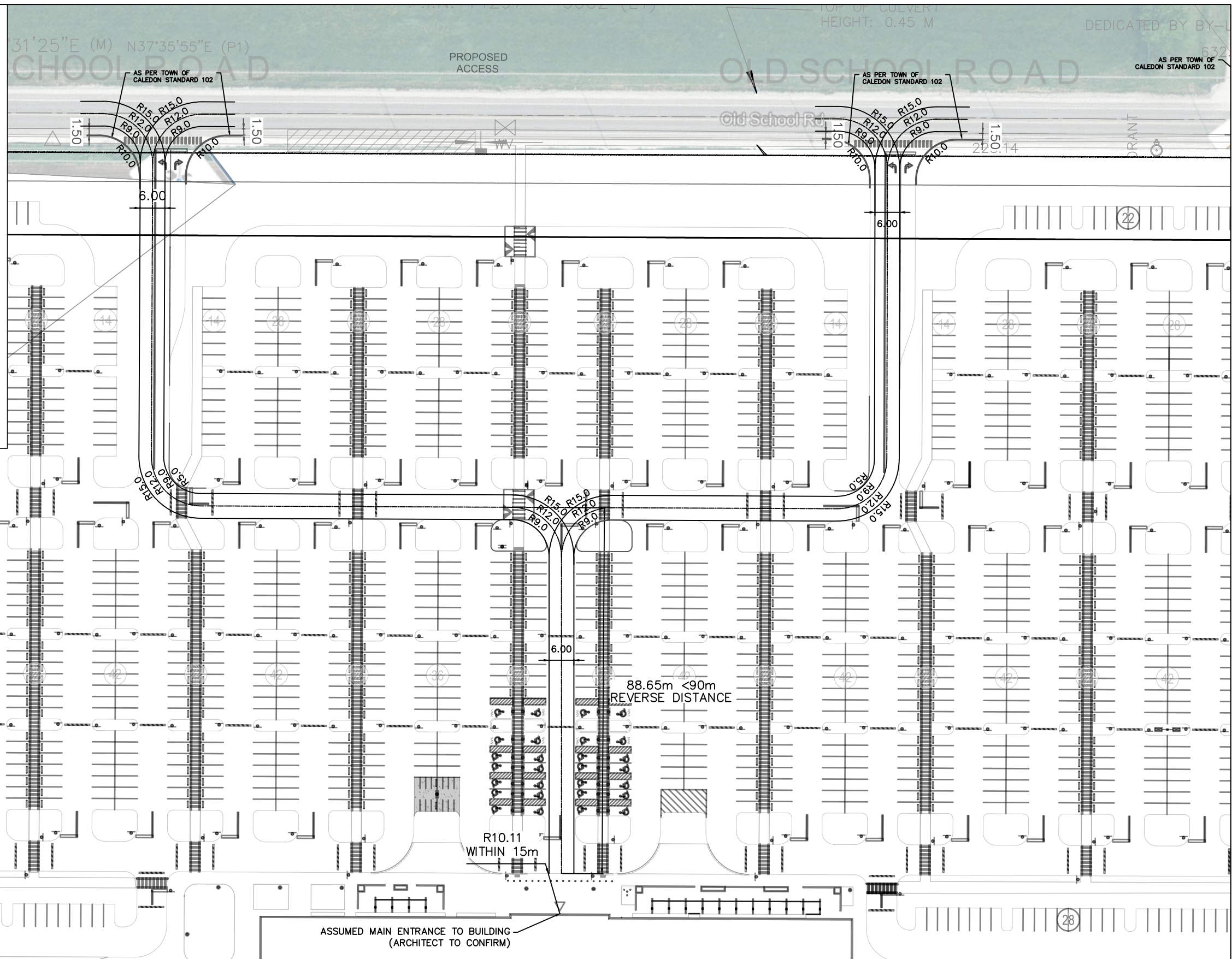




# APPENDIX G

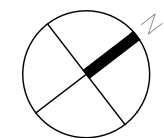
## Functional Review Drawings

ONTARIO BUILDING CODE – FIRE ACCESS ROUTE:  
 PER ONTARIO BUILDING CODE SECTION 3.2.5.5:  
 1. ACCESS ROUTES REQUIRE THAT THE PRINCIPAL ENTRANCES ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE REQUIRED FOR FIRE DEPARTMENT USE, MEASURED HORIZONTALLY FROM THE FACE OF THE BUILDING.  
 2. A PORTION OF A ROADWAY OR YARD PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:  
 a. HAVE A CLEAR WIDTH NOT LESS THAN 6m, UNLESS IT CAN BE SHOWN THAT LESSER WIDTHS ARE SATISFACTORY;  
 b. HAVE A CENTRELINE RADIUS NOT LESS THAN 12m;  
 c. HAVE AN OVERHEAD CLEARANCE NOT LESS THAN 5m;  
 d. HAVE A CHANGE OF GRADIENT NOT MORE THAN 1 IN 12.5 OVER A MINIMUM DISTANCE OF 15m;  
 e. BE DESIGNED TO SUPPORT THE EXPECTED LOADS IMPOSED BY FIREFIGHTING EQUIPMENT AND BE SURFACED WITH CONCRETE, ASPHALT OR OTHER MATERIAL DESIGNED TO PERMIT ACCESSIBILITY UNDER ALL CLIMATIC CONDITIONS;  
 f. HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90m LONG AND;  
 g. BE CONNECTED WITH A PUBLIC THROUGHFARE.



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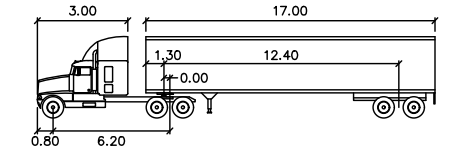
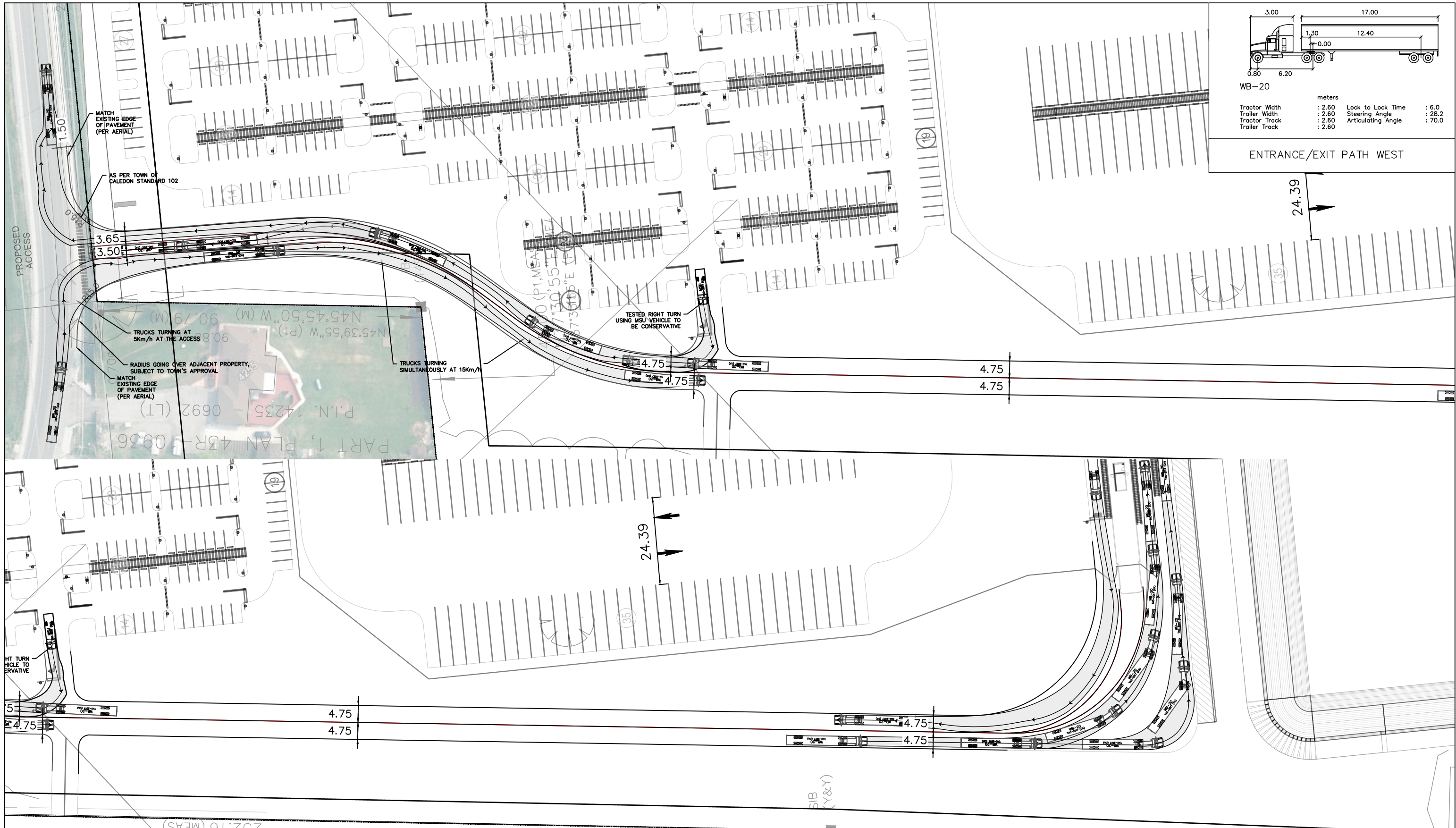


Project No.  
 21211  
 Date  
 MAR 14, 2024

12892 DIXIE ROAD  
 CALEDON ONTARIO  
 10 0 10 20 30m  
 1:1000

FIRE ROUTE REVIEW

Drawing No.  
 001



WB-20

meters	
Tractor Width	: 2.60
Trailer Width	: 2.60
Tractor Track	: 2.60
Trailer Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 28.2
Articulating Angle	: 70.0

ENTRANCE/EXIT PATH WEST



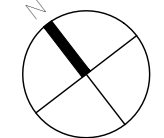
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35

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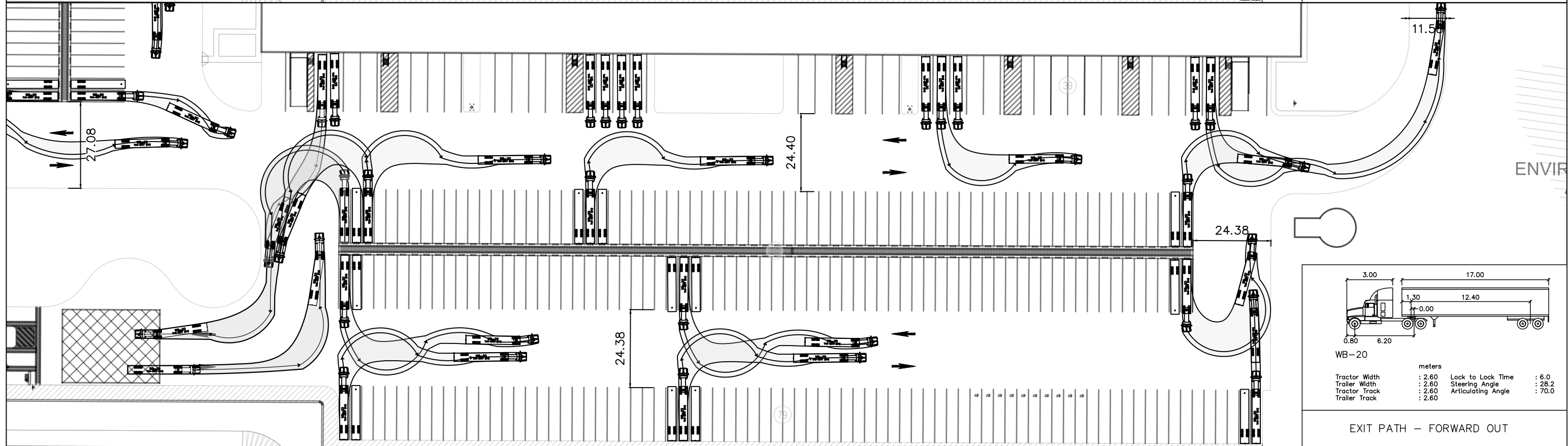
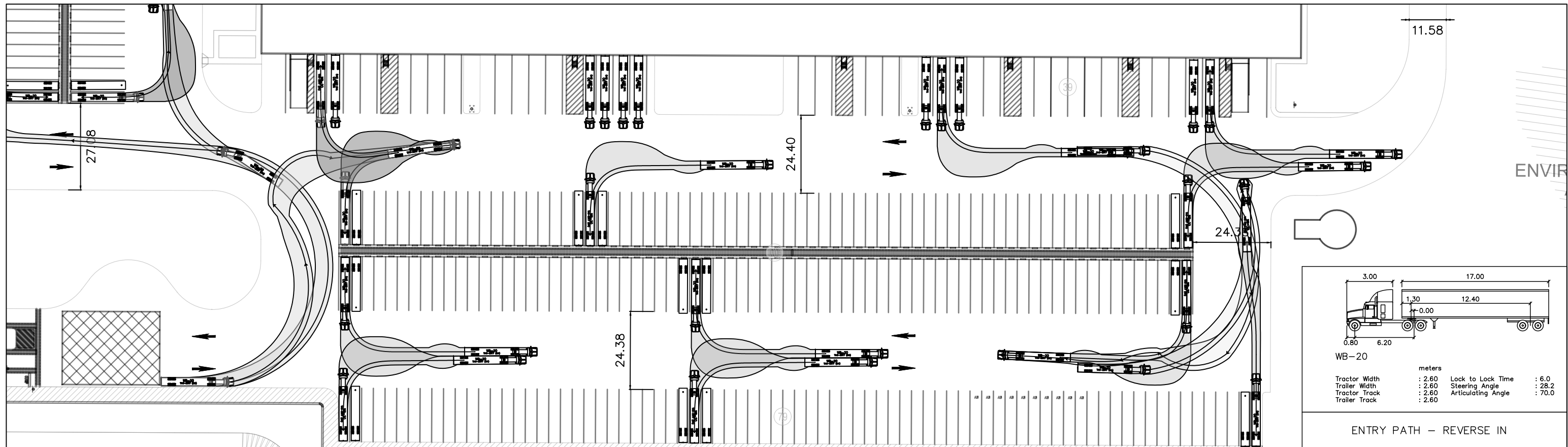
12892 DIXIE ROAD  
CALEDON ONTARIO

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WB-20 ENTRY AND EXIT PATHS

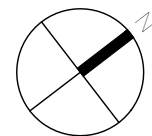
Drawing No.  
002





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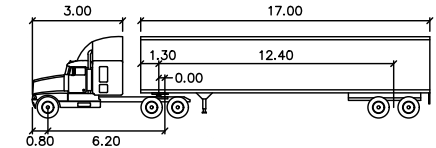
Date  
 MAR 14, 2024

12892 DIXIE ROAD  
 CALEDON ONTARIO

10 0 10 20 30m  
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FUNCTIONAL REVIEW  
 SOUTH OF BUILDING

Drawing No.  
 003

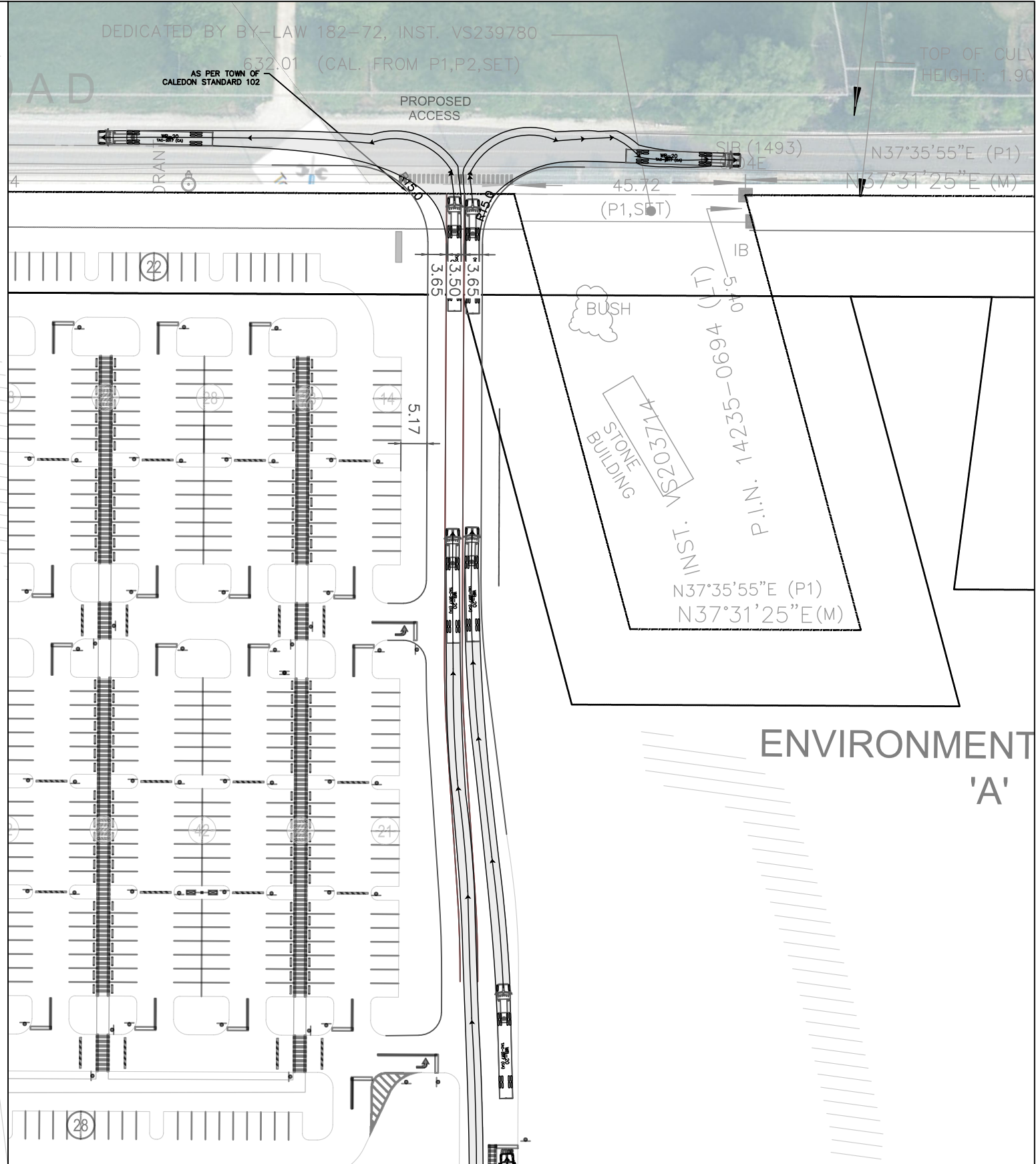
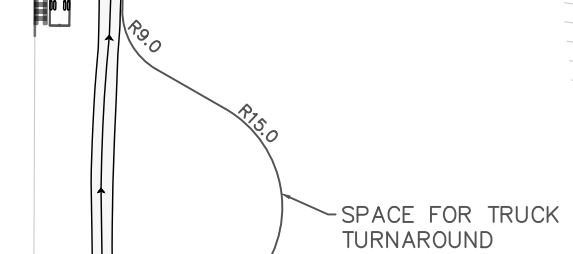


WB-20

meters	
Tractor Width	: 2.60
Trailer Width	: 2.60
Tractor Track	: 2.60
Trailer Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 28.2
Articulating Angle	: 70.0

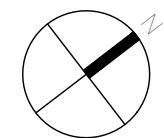
EXIT PATH EAST

ITY



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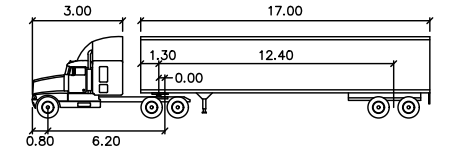


Project No.  
21211  
Date  
MAR 14, 2024

12892 DIXIE ROAD  
CALEDON ONTARIO  
10 0 10 20 30m  
1:1000

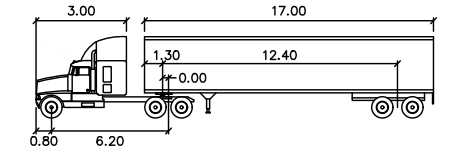
WB-20 ENTRY AND EXIT PATHS

Drawing No.  
004



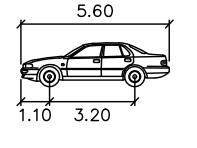
WB-20

meters	
Tractor Width	: 2.60
Tractor Track	: 2.60
Trailer Width	: 2.60
Trailer Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 28.2
Articulating Angle	: 70.0



WB-20

meters	
Tractor Width	: 2.60
Tractor Track	: 2.60
Trailer Width	: 2.60
Trailer Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 28.2
Articulating Angle	: 70.0

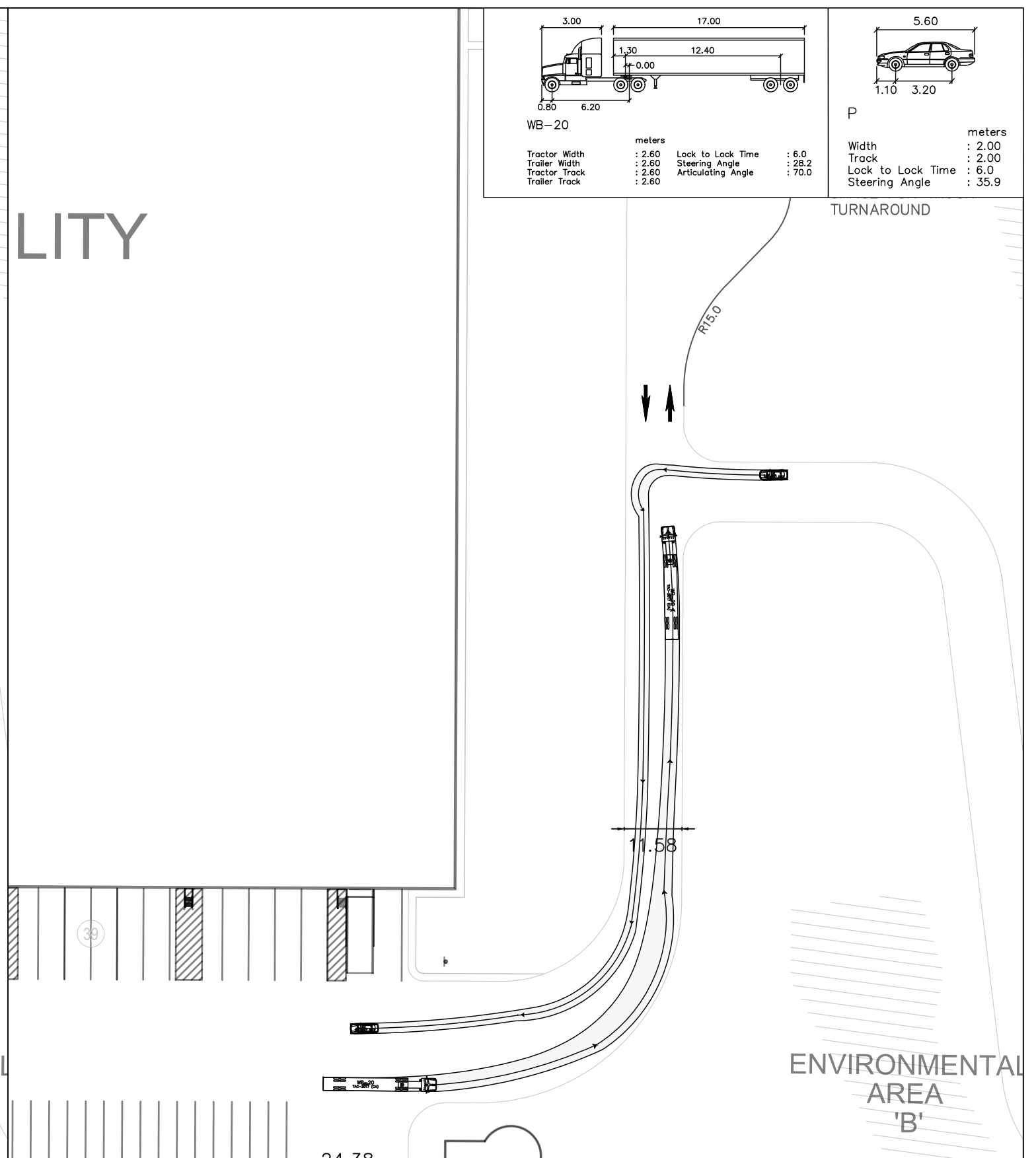
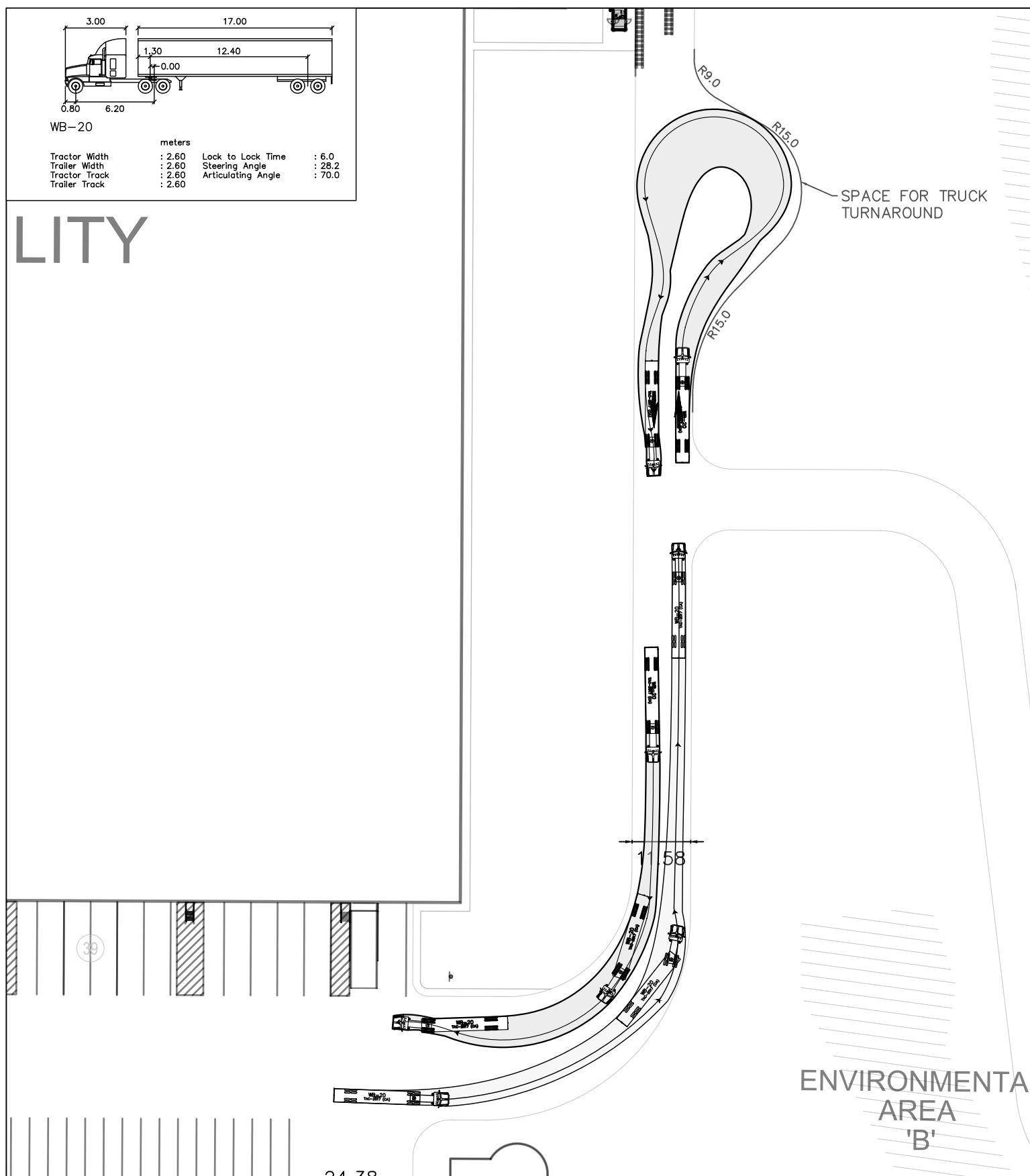


P

meters	
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

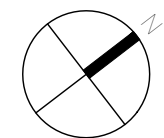
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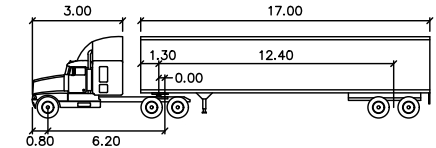


Project No.  
21211  
Date  
MAR 14, 2024

12892 DIXIE ROAD  
CALEDON ONTARIO  
10 0 10 20 30m  
1:1000

SIMULTANEOUS WB-20 AND PTAC  
ENTRY AND EXIT PATHS

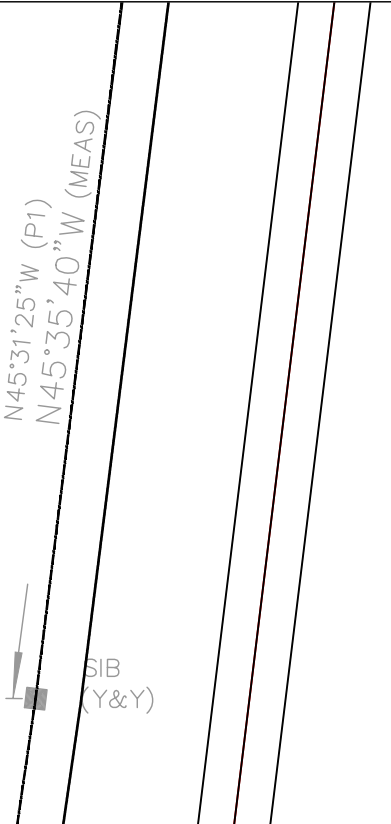
Drawing No.  
005



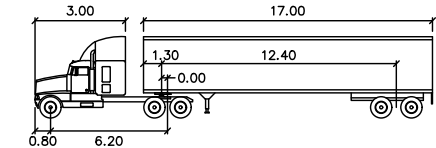
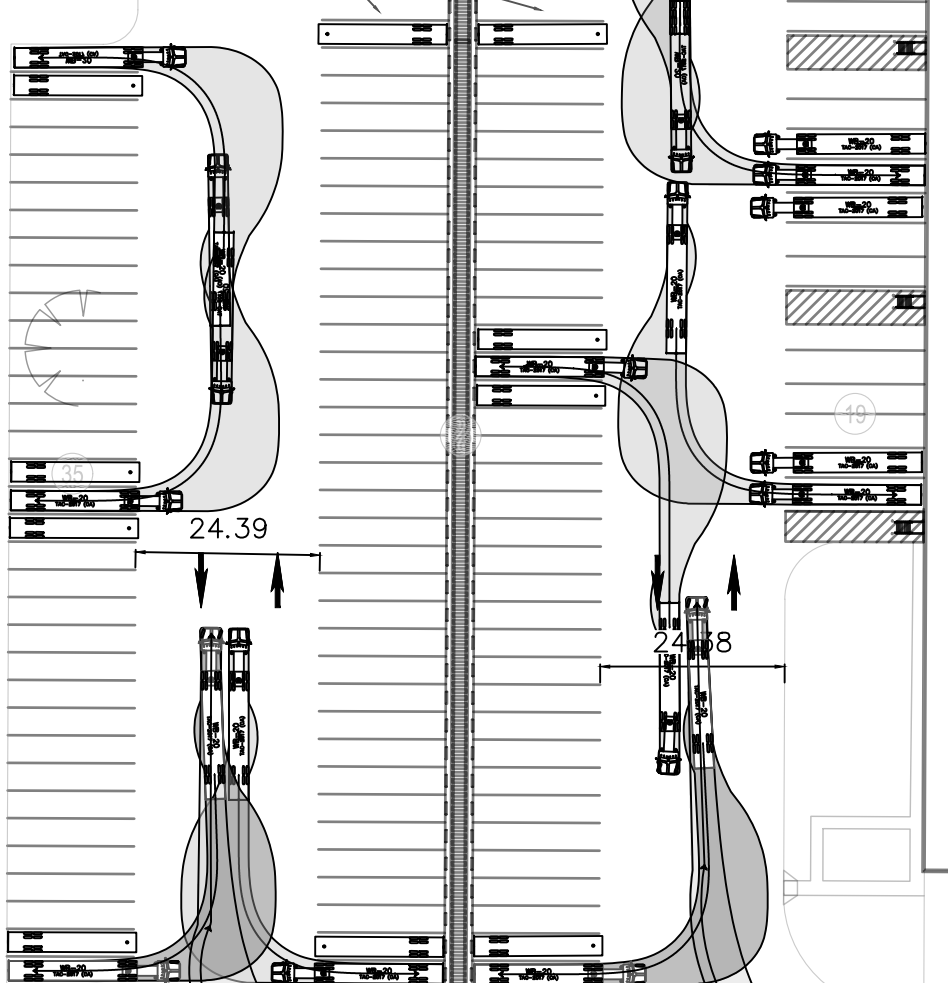
WB-20

meters	
Tractor Width	: 2.60
Trailer Width	: 2.60
Tractor Track	: 2.60
Trailer Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 28.2
Articulating Angle	: 70.0

ENTRY PATH – REVERSE IN



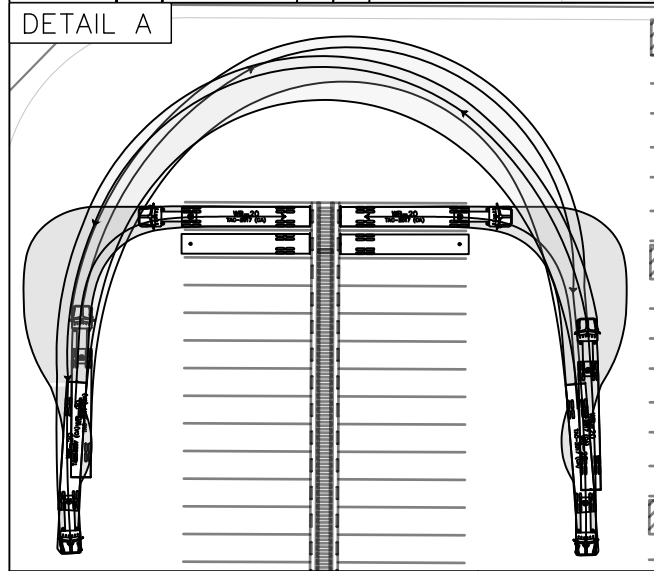
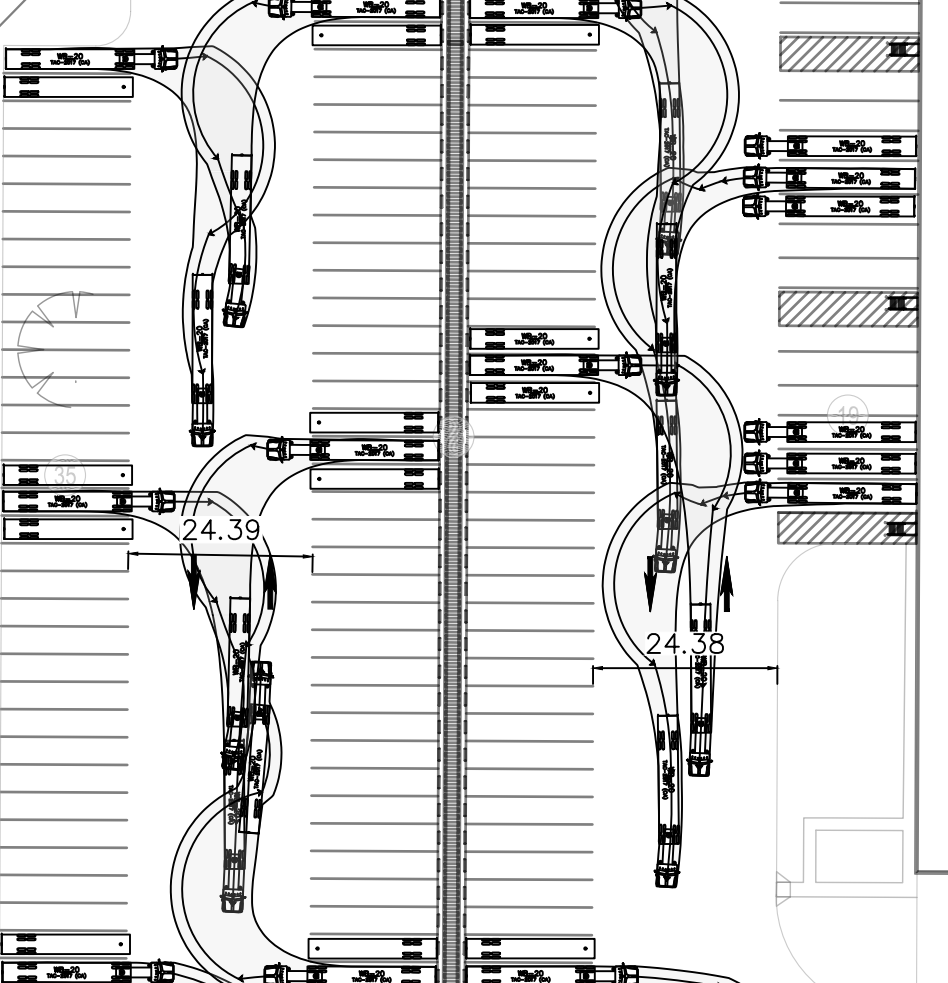
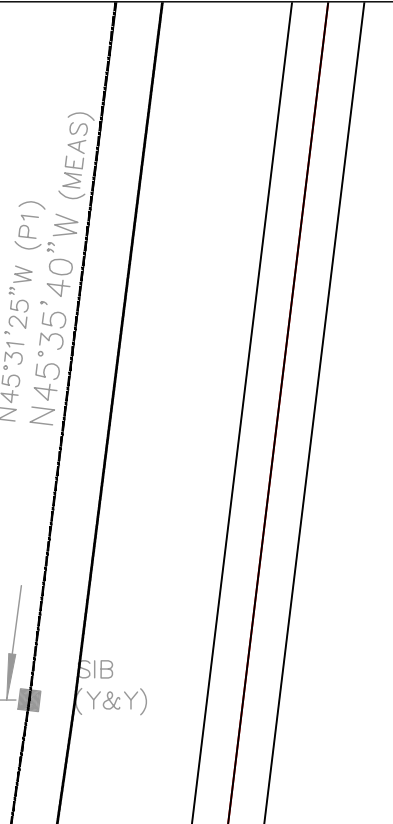
SEE DETAIL A FOR U-TURN PATHS



WB-20

meters	
Tractor Width	: 2.60
Trailer Width	: 2.60
Tractor Track	: 2.60
Trailer Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 28.2
Articulating Angle	: 70.0

EXIT PATH – FORWARD OUT



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21211

Date  
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12892 DIXIE ROAD  
CALEDON ONTARIO

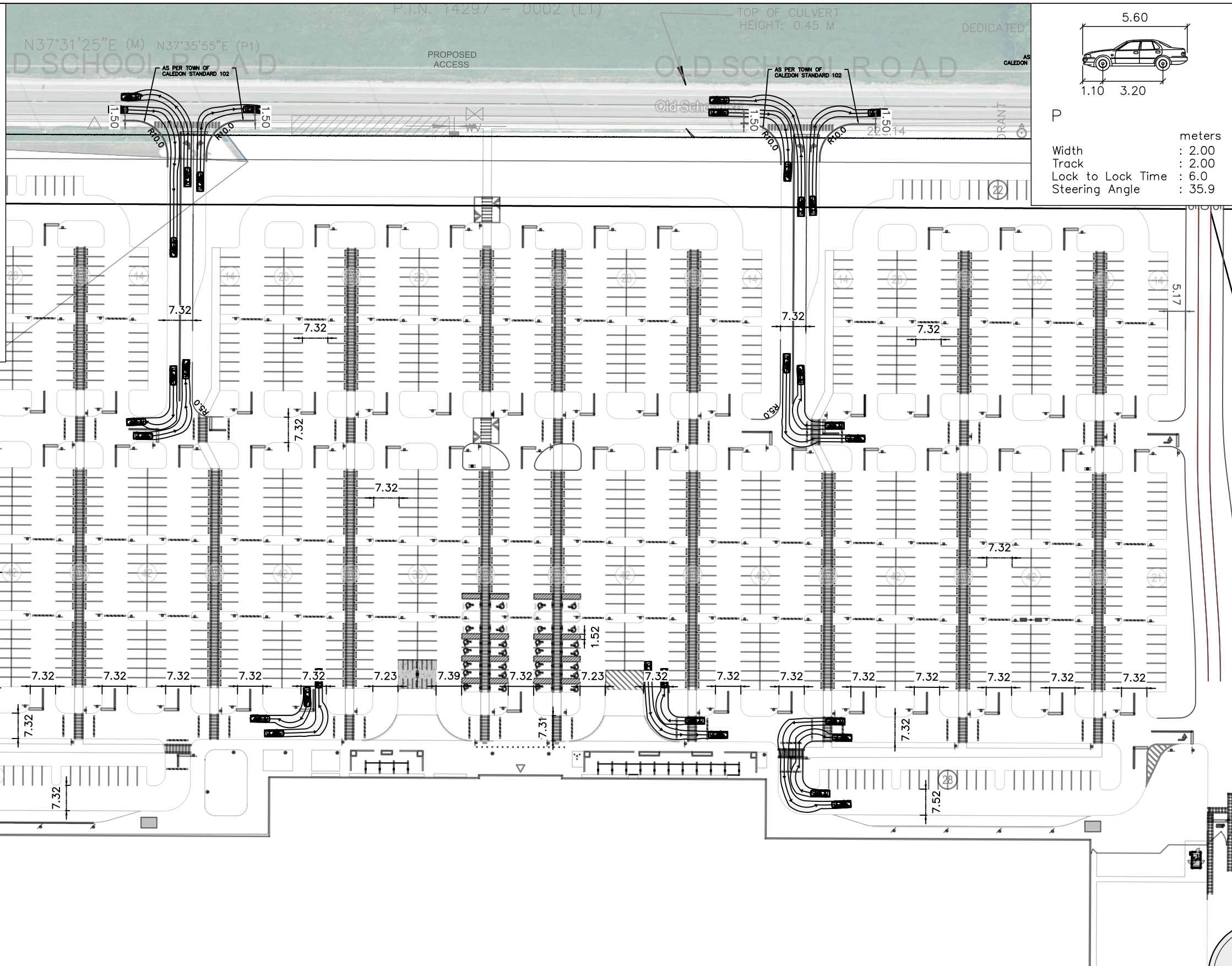
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FUNCTIONAL REVIEW  
WEST OF BUILDING

Drawing No.  
006

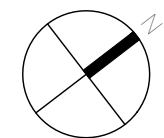


1. AS PER TOWN OF CALEDON ZONING BY-LAW
  - 1.1 WHERE PARKING SPACES ARE PROVIDED IN A SURFACE PARKING AREA, EACH PARKING SPACE SHALL HAVE WIDTH OF NOT LESS THAN 2.75m AND LENGTH OF NOT LESS THAN 6.0m
  - 1.2 THE MINIMUM WIDTH OF AN AISLE PROVIDING ACCESS TO A PARKING SPACE WITHIN A PARKING AREA SHALL BE 6.0m
2. AS PER TOWN OF CALEDON TRAFFIC BY-LAW
  - 2.1 AN ACCESSIBLE PARKING SPACE MUST HAVE THE MINIMUM DIMENSIONS:
    - 2.1.1 TYPE A: MIN. LENGTH OF 6.0m AND A MIN. WIDTH OF 3.4m;
    - 2.1.2 TYPE B: MIN. LENGTH OF 6.0m AND A MIN. WIDTH OF 2.75m;
    - 2.1.3 VERTICAL CLEARANCE OF 3.0m;
    - 2.1.4 ENTIRE LENGTH OF AN ACCESSIBLE PARKING SPACE MUST BE ADJACENT TO A 1.5m WIDE ACCESSIBLE BARRIER FREE AISLE.



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Project No.  
21211

Date  
MAR 14, 2024

12892 DIXIE ROAD  
CALEDON ONTARIO

12 0 12 24 36m  
1:1200

PARKING AND ACCESS REVIEW

Drawing No.  
007



LOADING SPACE #1  
INBOUND

LOADING SPACE #1  
OUTBOUND

LOADING SPACE #2  
INBOUND

LOADING SPACE #2  
OUTBOUND

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SSIB

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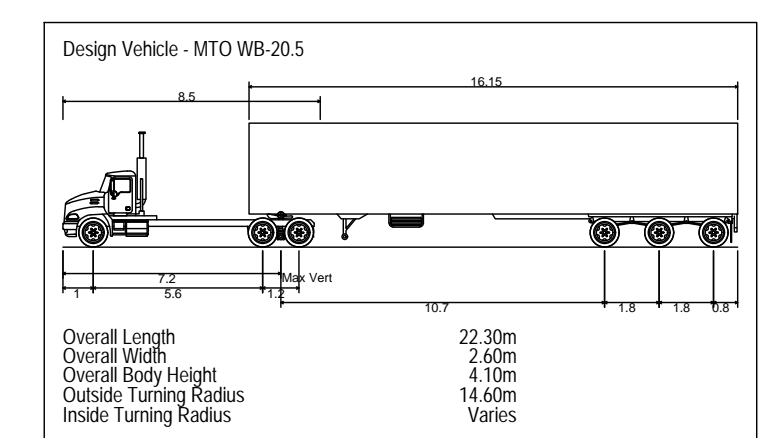
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DIXIE ROAD INDUSTRIAL  
NORTHWEST LANDS

VEHICLE MANOEUVRING DIAGRAM  
MTO WB-20.5 WITH A 53' TRAILER

Date: MARCH 13, 2024

Project No.: 7843-21

Scale: 1:1,250

VMD01

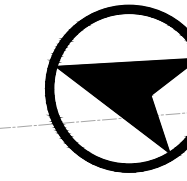
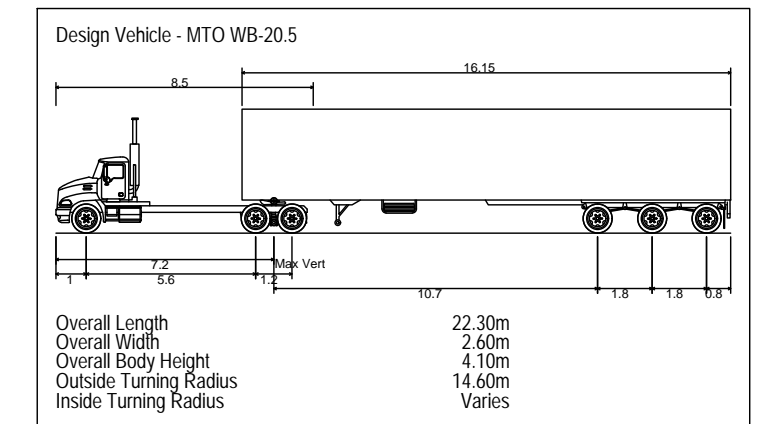


LOADING SPACE #3  
INBOUND

LOADING SPACE #3  
OUTBOUND

LOADING SPACE #4  
INBOUND

LOADING SPACE #4  
OUTBOUND



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VEHICLE MANOEUVRING DIAGRAM  
 MTO WB-20.5 WITH A 53' TRAILER

Date: MARCH 13, 2024

Project No.: 7843-21

Scale: 1:1,250

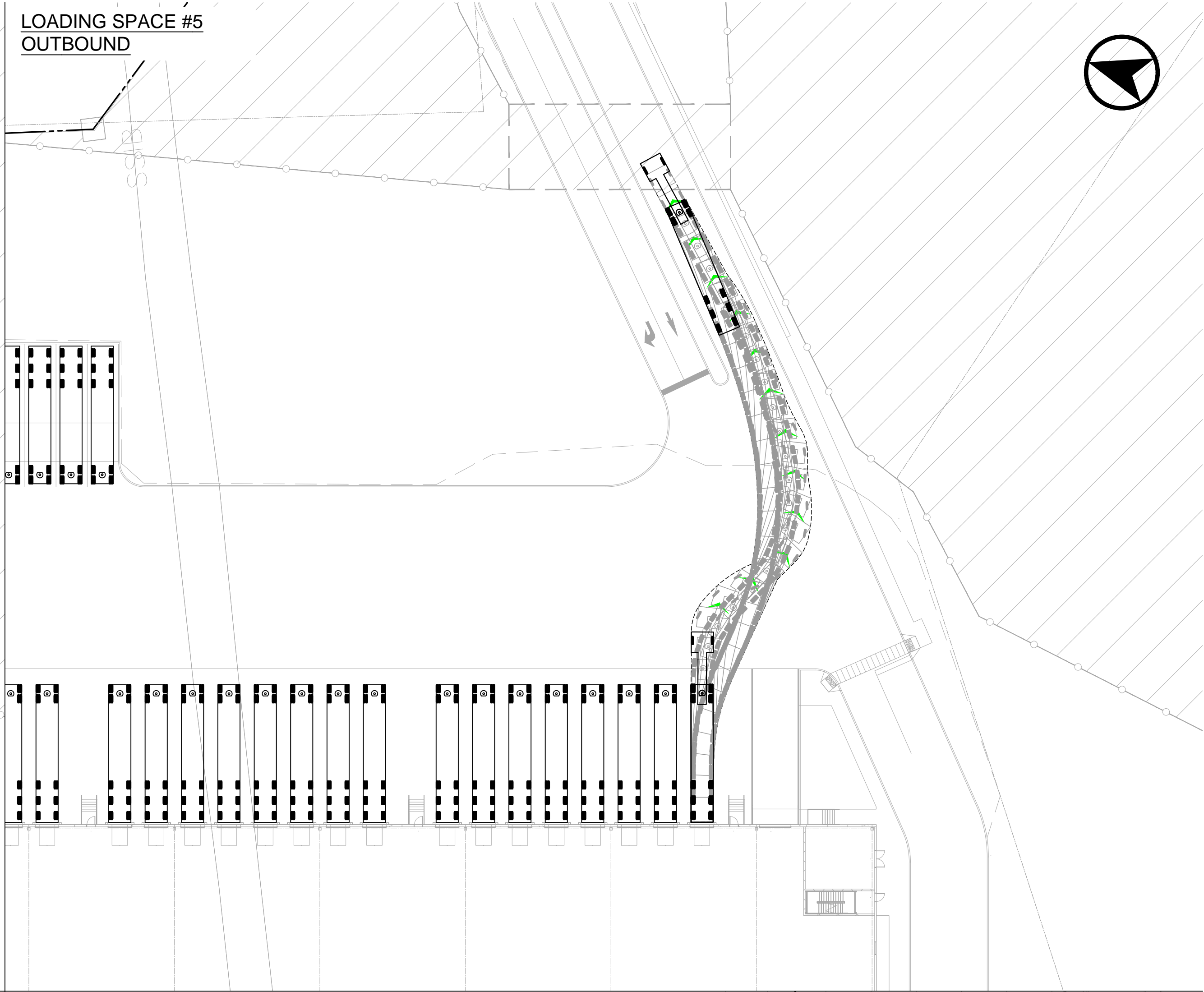
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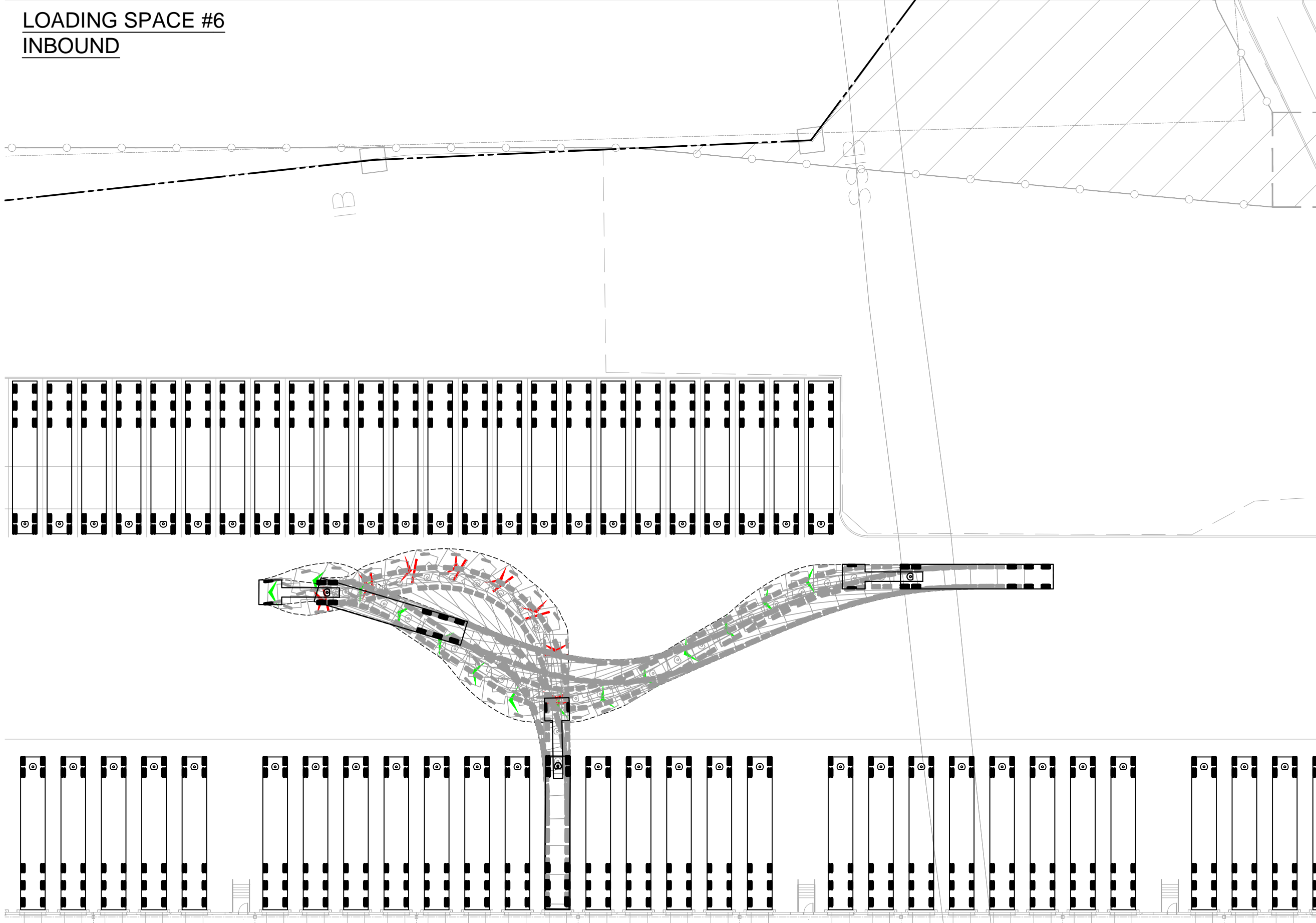
LOADING SPACE #5  
INBOUND



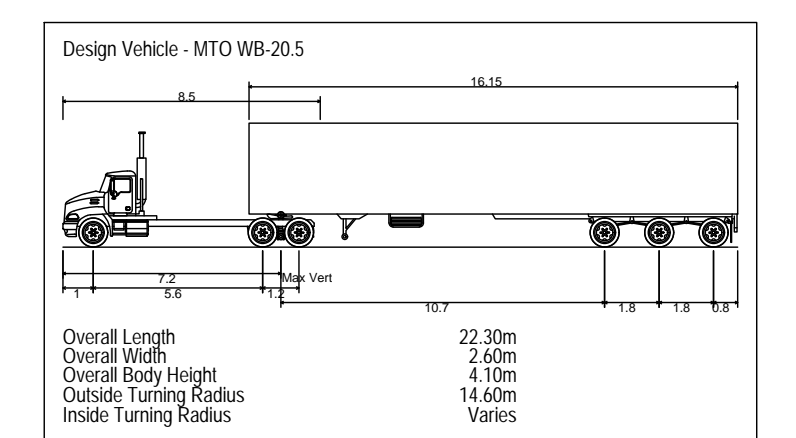
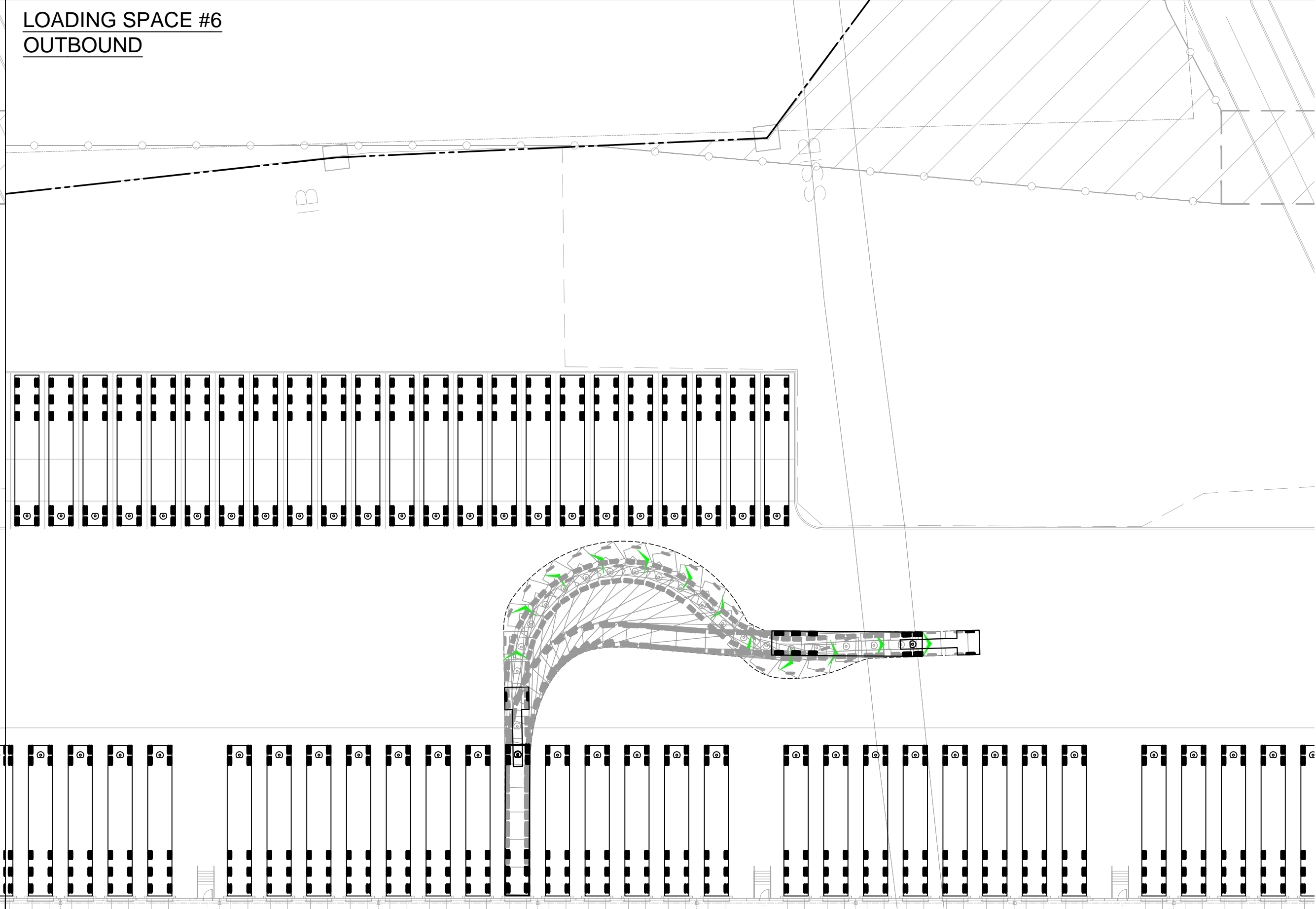
LOADING SPACE #5  
OUTBOUND



LOADING SPACE #6  
INBOUND



LOADING SPACE #6  
OUTBOUND



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 MTO WB-20.5 WITH A 53' TRAILER

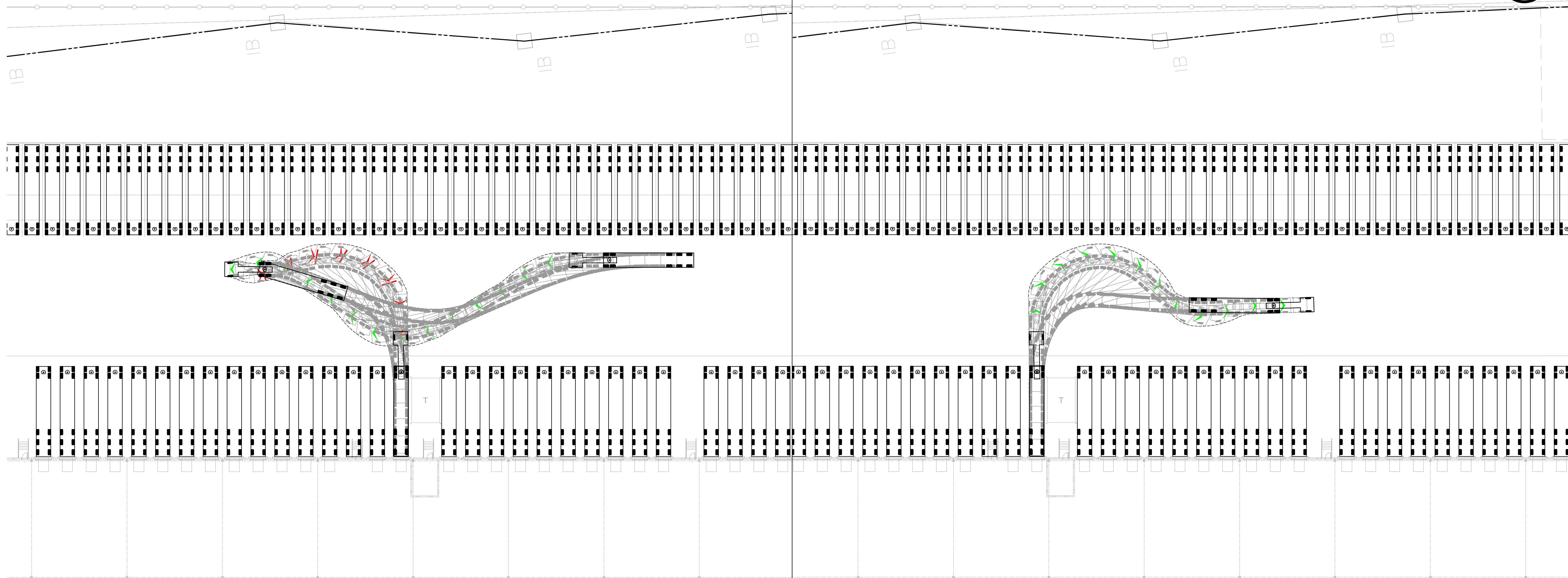
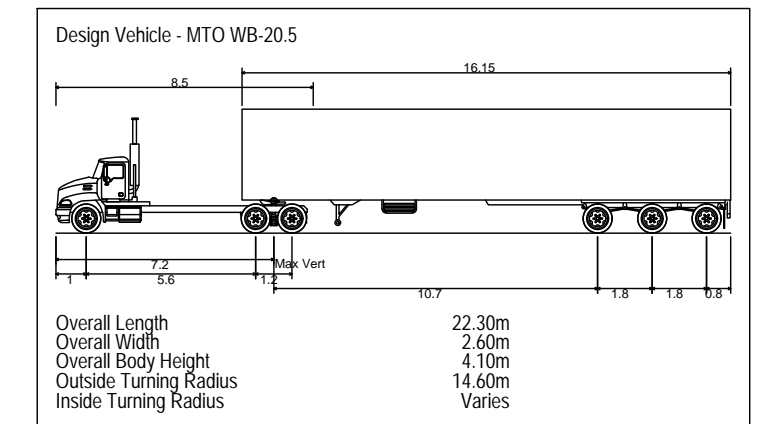
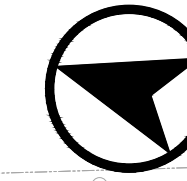
Date: MARCH 13, 2024  
 Project No.: 7843-21  
 Scale: 1:1,250

VMD03



LOADING SPACE #7  
INBOUND

LOADING SPACE #7  
OUTBOUND



LOADING SPACE #8  
INBOUND

LOADING SPACE #8  
OUTBOUND



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VEHICLE MANOEUVRING DIAGRAM  
MTO WB-20.5 WITH A 53' TRAILER

Date: MARCH 13, 2024

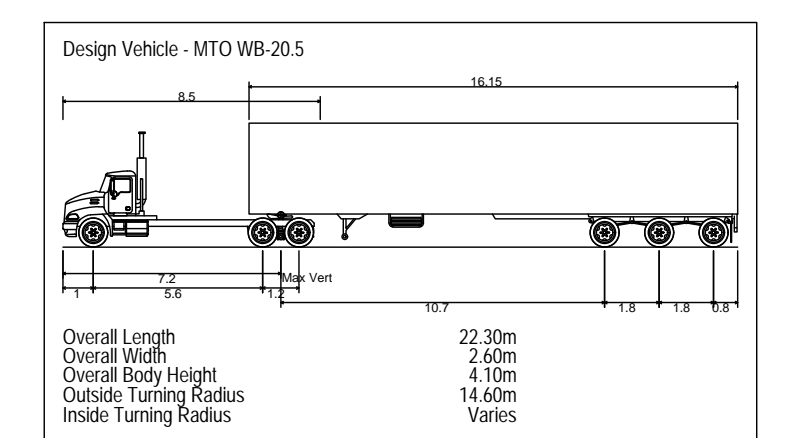
Project No.: 7843-21

Scale: 1:1,250

VMD04

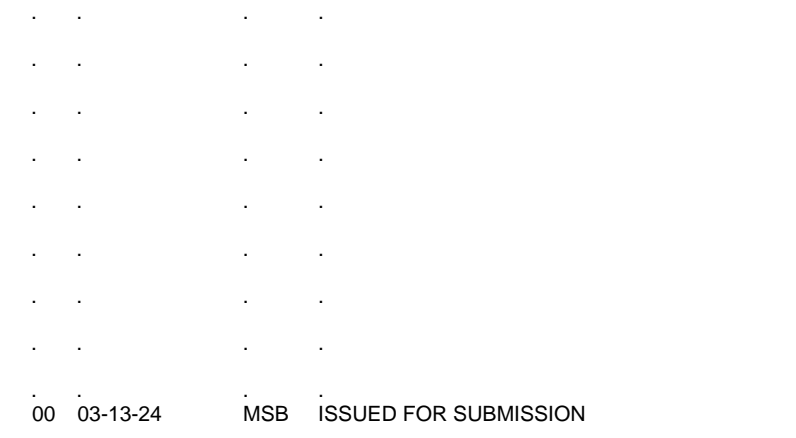
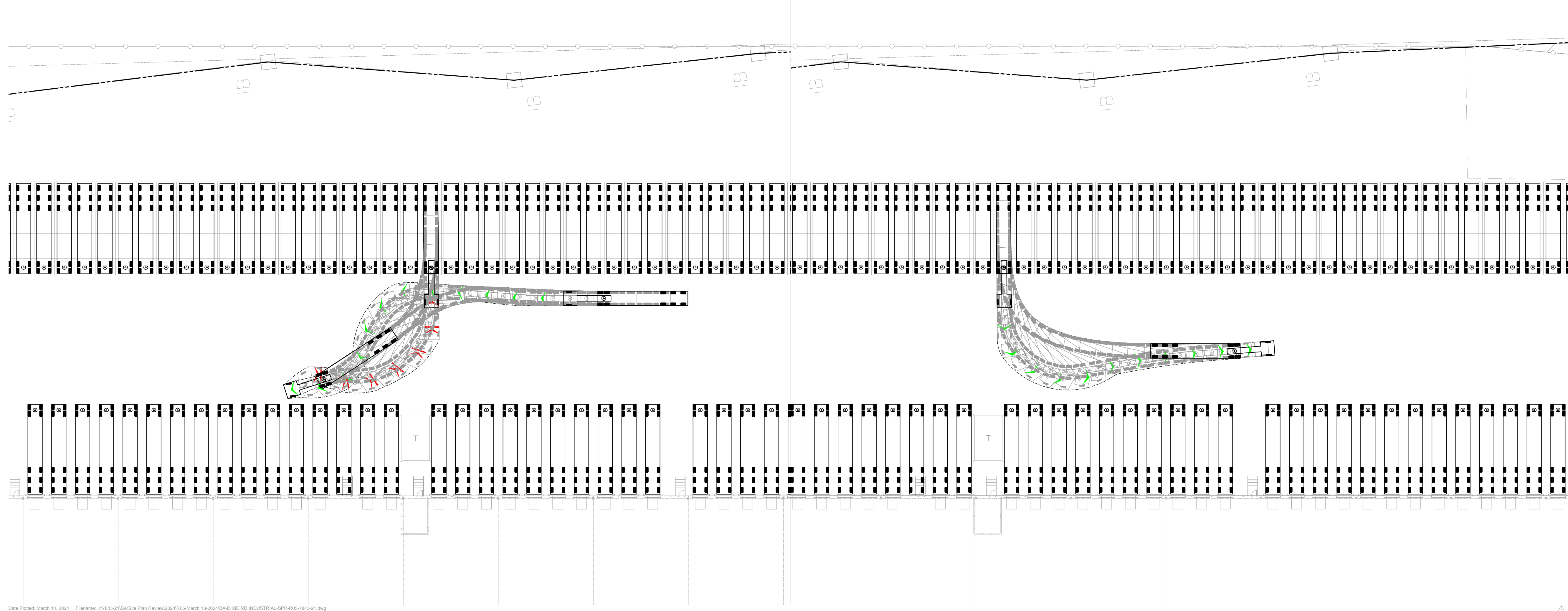
LOADING SPACE #9  
INBOUND

LOADING SPACE #9  
OUTBOUND



LOADING SPACE #10  
INBOUND

LOADING SPACE #10  
OUTBOUND



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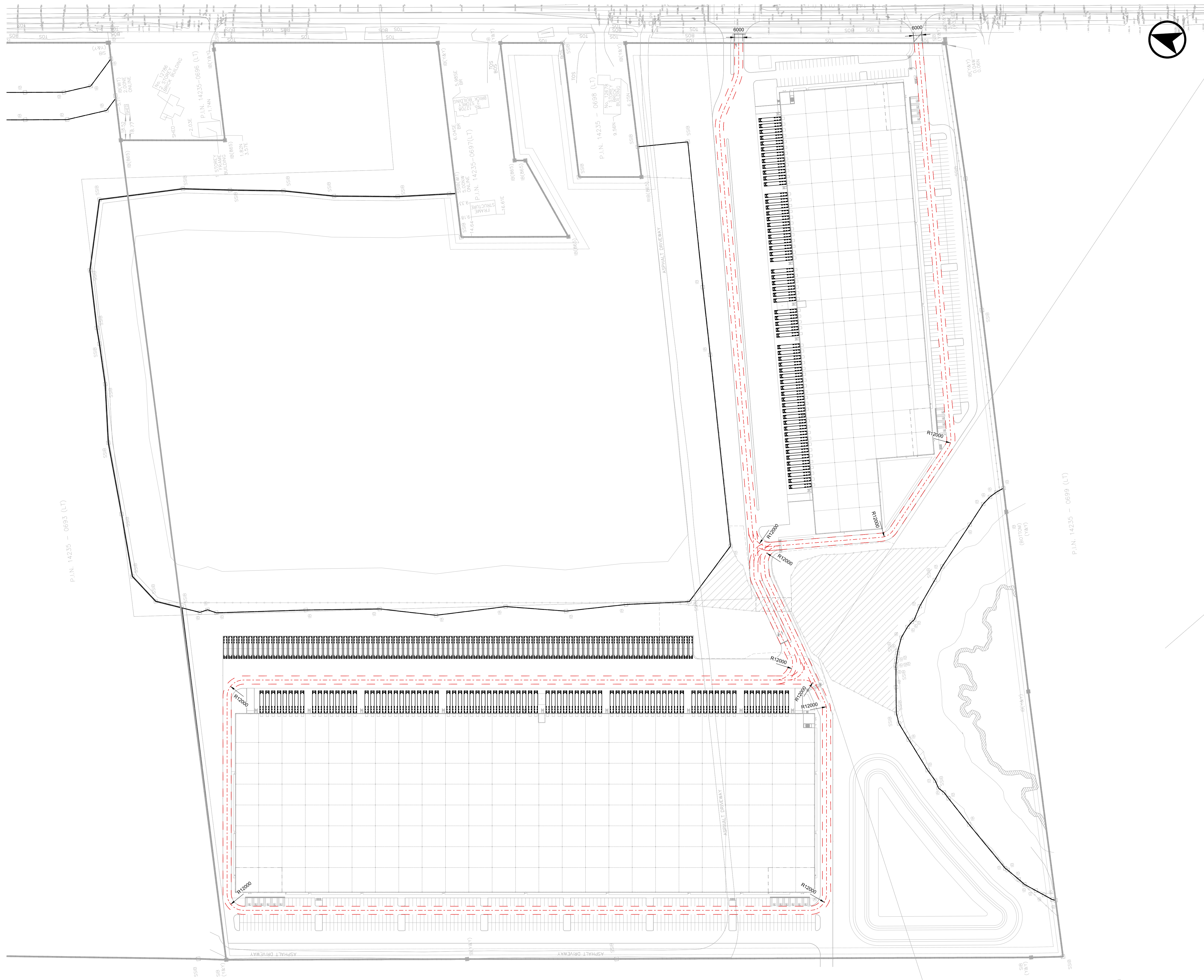
DIXIE ROAD INDUSTRIAL  
 NORTHWEST LANDS

VEHICLE MANOEUVRING DIAGRAM  
 MTO WB-20.5 WITH A 53' TRAILER

Date: MARCH 13, 2024  
 Project No.: 7843-21  
 Scale: 1:1,250

VMD05





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**DIXIE ROAD INDUSTRIAL  
 NORTHWEST LANDS**

**FIRE ROUTE REVIEW**

Date: MARCH 13, 2024  
 Project No.: 7843-21  
 Scale: 1:1,250

**FR01**

