

Prairie Towne Center Outlot Development Traffic Impact Study

CITY OF MADISON
DANE COUNTY, WISCONSIN



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City of Madison, Dane County, Wisconsin
Traffic Impact Study**

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Exhibits

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- Exhibit 2 – Existing Roadway Network
- Exhibit 3 – Existing Traffic Volumes
- Exhibit 4 – Existing 95th Percentile Queues
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Appendices

- Appendix A – Traffic Counts
- Appendix B – Traffic Modelling Analysis Output
- Appendix C – Site Access Overview Map

1.0 Introduction

A developer is proposing to construct a coffee shop in the southwest corner of the Target parking lot located on Junction Road, in Madison, Wisconsin. This is referred to as the Prairie Towne Center Outlot development in this report.

KL Engineering was contacted by Iconica, Inc. to perform a traffic impact study for the proposed development. This report was written to satisfy the City of Madison Traffic Engineering Department's Light TIA requirement.

1.1 Study Purpose and Objective

This study includes evaluating traffic operations, access, and parking under existing conditions and full build out of the proposed development. Both weekday morning (AM) and evening (PM) peak hour traffic volumes were analyzed. Parking demand and capacity is evaluated in this report for both weekday and Saturday peak parking periods. The weekend peak parking period is the focus of the parking analysis in this report because of higher existing occupancy rates.

1.2 Project Location and Study Area

Project Location

The proposed development is located in the existing Target Parking lot on the east side of Junction Road in Madison, WI. See **Exhibit 1** for a project location map.

The proposed development site currently consists of parking stalls in a parking lot that is part of the Prairie Towne Center development. The parking lot is for the nearby Target store and is connected to the rest of the development that includes many other retail stores

Study Area Roadways

The study area includes the following nearby roadways:

Junction Road

Junction Road is classified by the City of Madison as a standard arterial and is a four lane divided roadway with an urban cross section, bicycle lanes, and no on-street parking within the study area. Junction Road runs north-south within the project area and borders the west edge of the Prairie Towne Center development. Note that there is a continuous right turn lane running northbound along Junction Road between Mineral Point Road and Isaac Drive. The speed limit along Junction Road is 30 miles per hour (MPH). Junction Road has an average weekday traffic (AWT) volume of 17,550 vehicles per day (vpd). No bus stops are located along Junction Road within the project area, however bus stops for routes 15, 63, 68, and 73 are located nearby both to the north and south. Transit operations are not expected to impact traffic operations at either of the study intersections.

Isaac Drive

Isaac Drive is a local road with an urban cross section, on-street parking, and a 25 mph speed limit. Isaac Drive forms the opposing leg of the intersection of Junction Road with Driveway 1. Isaac Drive extends approximately 600' west from the Isaac Drive intersection with Junction Road and provides access to a cemetery, a multi-family housing development, and secondary access to a retail development.

Driveway 1

Driveway 1 is a full access driveway that forms the leg opposite of Isaac Drive at the intersection of Junction Road with Isaac Drive/Driveway 1. Driveway 1 provides access to the Target store as well as other businesses in the Prairie Town Center development.

Driveway 2

Driveway 2 is a right-in/right-out driveway that provides access to the Target store as well as other businesses in the Prairie Towne Center development.

Study Area Intersections

The study area roadways form the following study intersections:

Junction Road and Isaac Drive/Driveway 1

The intersection of Junction Road with Isaac Drive/Driveway 1 is located on the west side of the Prairie Towne Center development and to the north and west of the proposed development. The intersection is two-way stop controlled with both approaches of Junction Road free flow and the approaches of Isaac Drive and Driveway 1 stop controlled. Left turn lanes are provided on both approaches of Junction Road and right turn lanes are provided on the northbound approach of Junction Road as well as Driveway 1.

Junction Road and Driveway 2

The intersection of Junction Road with Driveway 2 is also located on the west side of the Prairie Towne Center development and to the west of the proposed development. The private driveway located across the street from Driveway 2 is related to a separate development and is outside the scope of this study. This intersection is stop controlled with both approaches of Junction Road free flow and a stop sign on the Driveway 2 approach. Access control in the form of a raised median restricts movements to and from Driveway 2 to right-in/right-out only. A median opening does allow northbound left turns into the opposing private driveway.

See **Exhibit 2** for an overview of the existing roadway network.

2.0 Background Conditions

2.1 Existing Traffic Volumes

KL Engineering collected traffic volume counts at the study intersections during the week of January 8th, 2017. Traffic counts were taken for three hour periods at both intersections during the morning and evening peak traffic periods. Through vehicular volume along Junction Road was counted only at Isaac Drive/Driveway 1 because no access points are in place between Driveway 2/Private Driveway and Isaac Drive/Driveway 1. Volume balancing was used to determine through volume along Junction Road at the Junction Road intersection with Driveway 2/Private Driveway. Traffic count information can be found in **Appendix A**.

The peak traffic volume hours at the study intersections were found to be 7:45 – 8:45 am and 4:30 pm – 5:30 pm. Existing traffic volumes were summarized and are shown in **Exhibit 3**.

2.2 Existing Access Points

Access to the Prairie Towne Center retail development is provided by several access points located along Mineral Point Road and Junction Road. The Target parking lot has two direct access points located on Junction Road. The parking lot also connects to an internal roadway that has an intersection with Junction Road, to an internal roadway leading to a right-in/right-out access point on Mineral Point Road, and to another parking lot to the north that has a full access point on Junction Road. These access points are shared not only via the internal roadway network, but also via a shared access agreement between the properties that make up the Prairie Towne Center development.

An overview of the existing Prairie Towne Center access is provided in **Appendix C**.

2.3 Existing Parking

Parking Occupancy Counts were taken during the week of January 8th, 2017, and during the week of January 15th, 2017, at the existing Target parking lot. Counts were taken on a Saturday from 12:00 pm to 2:00 pm and on a weekday from 5:00 pm to 6:00 pm to capture the most heavily parked periods. The counts were limited to the 7 southern most rows of parking. Parking impacts due to the proposed development are expected to be limited to the area counted. Results of these counts are shown in Table 1.

Table 1. Existing Parking Occupancy

Count Day	Occupied Stalls (max)	Remaining Stalls	Capacity
Saturday	122	174	296
Weekday	69	227	

Parking rates are currently highest on Saturday with 122 occupied stall observed at the peak. This count only represents a portion of the existing parking lot. Note that the capacity does decrease from the maximum of 296 during certain winter months when parts of the lot are used for snow storage.

Due to the expedited nature of this study, parking counts were taken during January. Parking occupancy is expected to be higher during the summer months as well as the peak shopping season in November and December.

2.4 Existing Traffic Operations

Existing traffic operations were analyzed using the software programs Synchro and SimTraffic version 9. Existing traffic volumes and the existing roadway network were used for the analysis as well as existing traffic control at the study intersections.

The analysis was used to quantify operations at each of the study intersections. For all delay analysis results provided in this report, Synchro software was used to implement the Highway Capacity Manual 2010 (HCM 2010) traffic analysis methodologies and estimate delays for each vehicular movement; SimTraffic software was used to simulate traffic operations and estimate 95th percentile queues for all vehicular movements.

Estimated delays were used to assign a level of service (LOS) at each movement of each study intersection. Level of service is determined by taking delay levels from the mathematical models and assigning a letter grade meant to represent the operating conditions as perceived by the driver as specified in the HCM 2010. Existing levels of service are summarized in Table 2.

Table 2. Existing Level of Service by Movement

Intersection	Peak	Movement											
		Northbound			Southbound			Eastbound			Westbound		
		L	T	R	L	T	R	L	T	R	L	T	R
Junction Rd & Driveway 2/ Private Driveway	AM	A	A	A	-	A	A	-	-	A	-	-	B
	PM	B	A	A	-	A	A	-	-	B	-	-	B
Junction Rd & Isaac Dr/ Driveway 1	AM	A	A	A	A	A	A	B	B	B	D	D	B
	PM	B	A	A	A	A	A	C	C	C	F	F	B

Failing movements with LOS E or F are in bold. Existing queues are shown in **Exhibit 4**. Analysis outputs are provided in **Appendix B**.

All movements analyzed were found to operate at LOS D or better with the exception of the Driveway 1 approach to Junction Road during the PM peak hour. The westbound left and through movements at this intersection were found to operate at LOS F with an estimated delay of 55 seconds per vehicle during the PM peak hour. Existing 95th percentile queues were found to be 120' using the simulation software.

3.0 Proposed Development

3.1 Proposed Prairie Towne Center Outlot Development

The proposed Prairie Towne Center Outlot development consists of single 1,800 SF coffee shop. The development is expected to impact approximately 13,000 SF of the Target parking lot and eliminate 38 existing parking stalls while adding six parking stalls, resulting in a net loss of 32 parking stalls. The development is planned to be constructed in a single phase during the year 2017. See **Exhibit 5** for a proposed site plan.

3.2 Proposed Access

No changes to the overall access for the Prairie Towne Center development are proposed. Traffic accessing the proposed coffee shop is expected to primarily utilize Driveway 1 and 2. Some of the proposed development traffic will likely use the Mineral Point Road access point to the Prairie Towne Center development as well as either of the other access points north of Driveways 1 and 2. All development traffic analyzed in this study was assigned to Driveways 1 and 2 in order to take a conservative approach to trip assignment. Any development traffic that does not utilize Driveway 1 and 2 upon completion of the development will contribute to more efficient traffic operations than those presented in this report.

3.3 Trip Generation

Based on the land use and size of the proposed development provided by the client, trips were generated using the ITE Trip Generation Manual, 9th Edition, published by the Institute of Transportation Engineers. A summary of trip generation for the Prairie Towne Center Outlot development is shown in Table 3.

Table 3. Trip Generation

Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Trips			PM Trips		
				In (rate)	Out (rate)	Total (rate)	In (rate)	Out (rate)	Total (rate)
Coffee/Donut Shop with Drive-Through Window	937	1,800 SF	1,475 (818.58)	90 (51%)	90 (49%)	180 (100.58)	40 (50%)	35 (50%)	75 (42.80)
Subtotal:			1,475	90	90	180	40	35	75
Linked Trip Reduction (20%)			(295)	(15)	(20)	(35)	(10)	(5)	(15)
Driveway Trips:			1,180	75	70	145	30	30	60
Pass-by Trip Reduction (40%)			(470)	(30)	(30)	(60)	(10)	(10)	(20)
Total Pass-by Trips:			470	30	30	60	10	10	20
Total New Trips:			710	45	40	85	20	20	40

Each trip represents either an entering or exiting vehicle to or from the development. Total trips generated were reduced using linked trip and pass-by trip reductions in order to determine the total number of new trips expected to be generated by the proposed development.

3.4 Trip Reductions

Linked trips are trips that would normally occur in two different places, but are combined in the case of land use combinations that satisfy the purpose of both trips. The existing Prairie Towne Center development includes a large number of retail establishments that could potentially share linked trips with a proposed coffee shop. A 20% linked trip reduction was applied to the proposed trip generation to account for these linked trips.

Pass-by trips are trips that were already present on the surrounding roadway network that are now expected to stop at the proposed land use and then continue on their way. The proposed development is expected to have a large proportion of pass-by trips due to the convenient location of the development in relation to Junction Road,

traffic volumes on Junction Road, and the inclusion of a drive-through with the proposed development. A pass-by trip reduction rate of 40% was applied to the proposed trip generation.

After the reductions, the development is expected to generate 85 new trips in the AM peak hour and 40 new trips in the PM peak hour. Those trips are expected to be distributed directionally 51%/49% (in%/out%) in the AM peak and 50%/50% during the PM peak. These volume numbers are consistent with a volume count taken by KL Engineering during the week of January 8th, 2017, at a comparable coffee shop located in the Greater Madison area.

3.5 Trip Distribution and Assignment

Trip distribution was determined using existing traffic volume patterns along Junction Road using counts made available on the City of Madison website. The trip distribution is expected to be 45% to or from the north and 55% to or from the south.

New trips generated by the development were assigned to roadway network within the study area according to the trip distribution pattern. The trip distribution pattern as well as proposed new trips are shown in **Exhibit 6**.

Pass-by trips were assigned based on AM and PM directional splits along Junction Road observed in the turning movement counts. The peak hour directional volume splits along Junction Road were found to be roughly 70% northbound and 70% southbound during the AM and PM peaks, respectively. Pass-by trips were assigned according to this distribution pattern and are show in **Exhibit 7**.

Driveway trips, or the total of new trips (Exhibit 6) as well as pass-by trips (Exhibit 7) are summarized in **Exhibit 8**.

3.6 Total Traffic

Total traffic is determined by adding driveway trips (Exhibit 8) to the existing traffic (Exhibit 3). Total traffic is traffic volume expected upon completion of the development. Total traffic is shown in **Exhibit 10**. No traffic forecast was completed for future year background traffic volumes because the development is proposed to be constructed during the same year that counts were taken.

4.0 Proposed Conditions

4.1 Proposed Traffic No Build Conditions

Traffic operations were analyzed using the existing roadway network and conditions and proposed total traffic volumes. The analysis was used to determine expected delays and queues at each of the study intersections upon completion of the proposed Prairie Towne Center Outlot development. Levels of service under the proposed conditions are summarized in Table 4. Failing movements with levels of service E and F are shown in bold.

Table 4. Proposed Level of Service by Movement

Intersection	Peak	Movement												
		Northbound			Southbound			Eastbound			Westbound			
		L	T	R	L	T	R	L	T	R	L	T	R	
Junction Rd & Driveway 2/ Private Driveway	AM	A	A	A	A	A	A	A	A	A	A	B	B	B
	PM	B	A	A	A	A	A	B	B	B	B	B	B	B
Junction Rd & Isaac Dr/ Driveway 1	AM	A	A	A	B	A	A	C	C	C	E	E	B	B
	PM	B	A	A	A	A	A	C	C	C	F	F	B	B

Proposed queues are shown in **Exhibit 11**. Analysis outputs are provided in **Appendix B**.

The Driveway 1 approach to Junction Road is expected to operate at LOS E and LOS F during the AM and PM peak hours, respectively. These failing movements are the result of the lack of gaps in traffic on Junction Road. The increase in delay is related to the additional traffic expected to make a westbound left turn and the increase in traffic expected to make a southbound left turn. Delay for the westbound left and through movements is expected to be 42 seconds and 82 seconds during the AM and PM peak hours, respectively. Proposed 95th percentile queues for the westbound left and through lane are expected to be 195'. This results in an expected delay increase of 15 seconds and 26 seconds during the AM and PM peaks, respectively, and an increase in the maximum 95th percentile queue of 75'.

The increased westbound queues on the Driveway 1 and Driveway 2 approaches to Junction Road is likely to result in queuing through the internal roadway intersections with Driveway 1 and Driveway 2 during peak traffic volume periods. While this is not desirable, the intersections of Driveway 1 and Driveway 2 with the Internal Roadway are configured as three way stops. This is expected to mitigate negative operational impacts by ensuring vehicles entering the development are not blocked by queued vehicles exiting.

No significant operational impacts are expected outside of the westbound legs of the intersections of Junction Road with Isaac Drive/Driveway 1 and with Driveway 2. Internal site circulation is expected to be maintained as a result of the intersection control in place at the intersections of Junction Road with Driveway 1 and with Driveway 2.

4.2 Proposed Parking

The proposed Prairie Towne Center Outlot development is expected to result in a net loss of 32 parking stalls in the Target parking lot. As part of this study, parking generation was performed for the proposed development using ITE Parking Generation 4th Edition. The 85th percentile peak parking demand for this land use and size on a weekday was found to be 34 spaces. No weekend generation data was available. Using the parking occupancy data previously introduced, the number of parking spaces to be lost as a result of the proposed development, and the parking generation, the proposed parking occupancy for the seven southernmost rows of parking was determined and is summarized in Table 5.

Table 5. Proposed Parking Occupancy

Count Day	Occupied Stalls (max)	Remaining Stalls	Capacity
Saturday	156	108	264
Weekday	103	161	

The highest expected occupancy rate occurs on Saturday. The proposed development is not expected to cause a shortage of parking within the Target parking lot during most of the year. As previously noted, parking occupancy rates are expected to be higher during months with higher shopping activity. While only 108 stalls remain during the Saturday parking occupancy peak, this reflects only the portion of the parking lot that was counted. The remaining portion of the parking lot is expected to remain at existing occupancy levels and offer space for any displaced parking demand.

4.3 Additional Considerations

Analysis indicates that the Driveway 1 approach to the Junction Road intersection currently operates at LOS F during the PM peak hour and LOS D during the AM peak hour. With development traffic, it is expected to continue to operate at LOS F during the PM peak hour and drop to LOS E during the AM peak hour.

Adjacent Traffic Signal

A signalized intersection is located approximately 775' (center to center) from the intersection of Junction Road with Isaac Drive/Intersection 1. The HCM 2010 allows for the user to account for the platooned, or bunched nature of vehicles exiting a signalized intersection. The platooned nature of exiting traffic results in larger gaps in conflicting traffic before or after their passing of the intersection being analyzed. This is generally expected to

result on lower side street delays at the analysis intersection because it is easier to utilize fewer, larger gaps in traffic than smaller, randomly spaced gaps. The effects of the upstream signal were not accounted for due to the limited scope of this study. Observations taken during the traffic counts did confirm that platooning of vehicles does occur within the northbound traffic lanes of Junction Road at the two driveway intersections.

There is potential for the installation of a future traffic signal at the intersection of Junction Road with the development driveway north of Driveway 1. This traffic signal would have a similar effect as that at the intersection of Junction Road with Mineral Point Road, creating gaps in southbound traffic at the intersection of Junction Road with Driveway 1.

Trip Re-Assignment

During peak traffic volume periods when higher delays are anticipated, vehicles would be expected to redirect themselves and utilize other access points located throughout the existing Prairie Towne Center development. Any amount of re-assignment would result in improved operations at Driveways 1 and 2, compared to results indicated in this report.

5.0 Conclusions

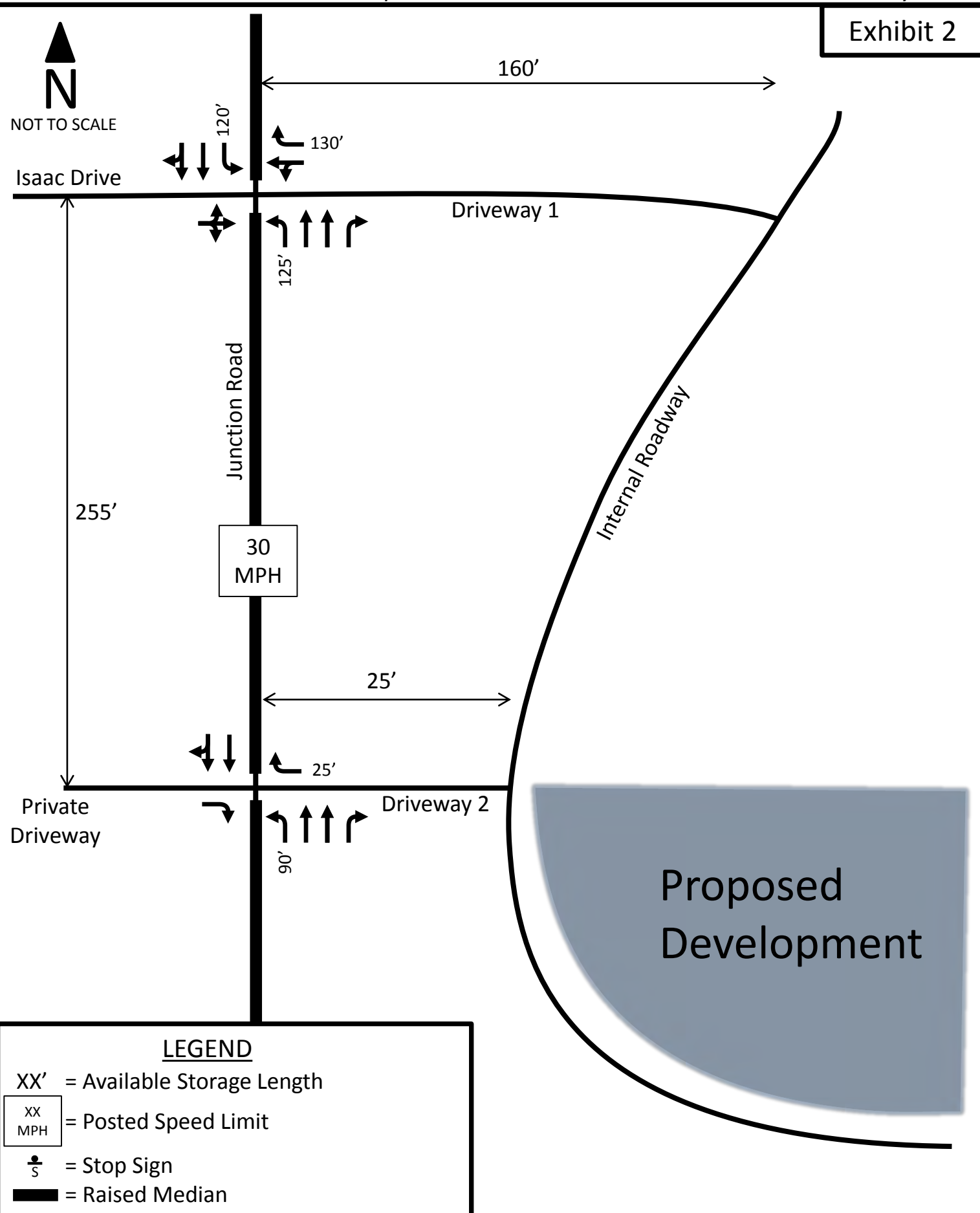
Information and analysis in this report document existing conditions near the site location, expected traffic operations before and after completion of the proposed development, as well as expected parking occupancy before and after completion of the proposed development. In summary, the findings of this study are as follows:

- Operations at the Driveway 1 approach is currently LOS F during the PM peak hour and LOS D during the AM peak hour. Driveway 2 currently has an acceptable LOS during both peak hours.
- The proposed development is expected to result in LOS E during the AM peak hour and continued LOS F during the PM peak hour at the Driveway 1 approach to Junction Road. Westbound queues at Driveway 1 and Driveway 2 are expected to impact the internal intersections to the east of Junction Road.
- Driveway 2 is expected to continue to have an acceptable LOS for all approaches during both peak hours.
- The Target Parking lot currently has sufficient parking capacity, and is expected to remain adequate for the proposed land uses during the majority of the year.
- The development is not expected to create undue negative impacts to the overall roadway network. No improvements to the existing public roadway network are required as a result of the development.



LEGEND

 = Proposed Development



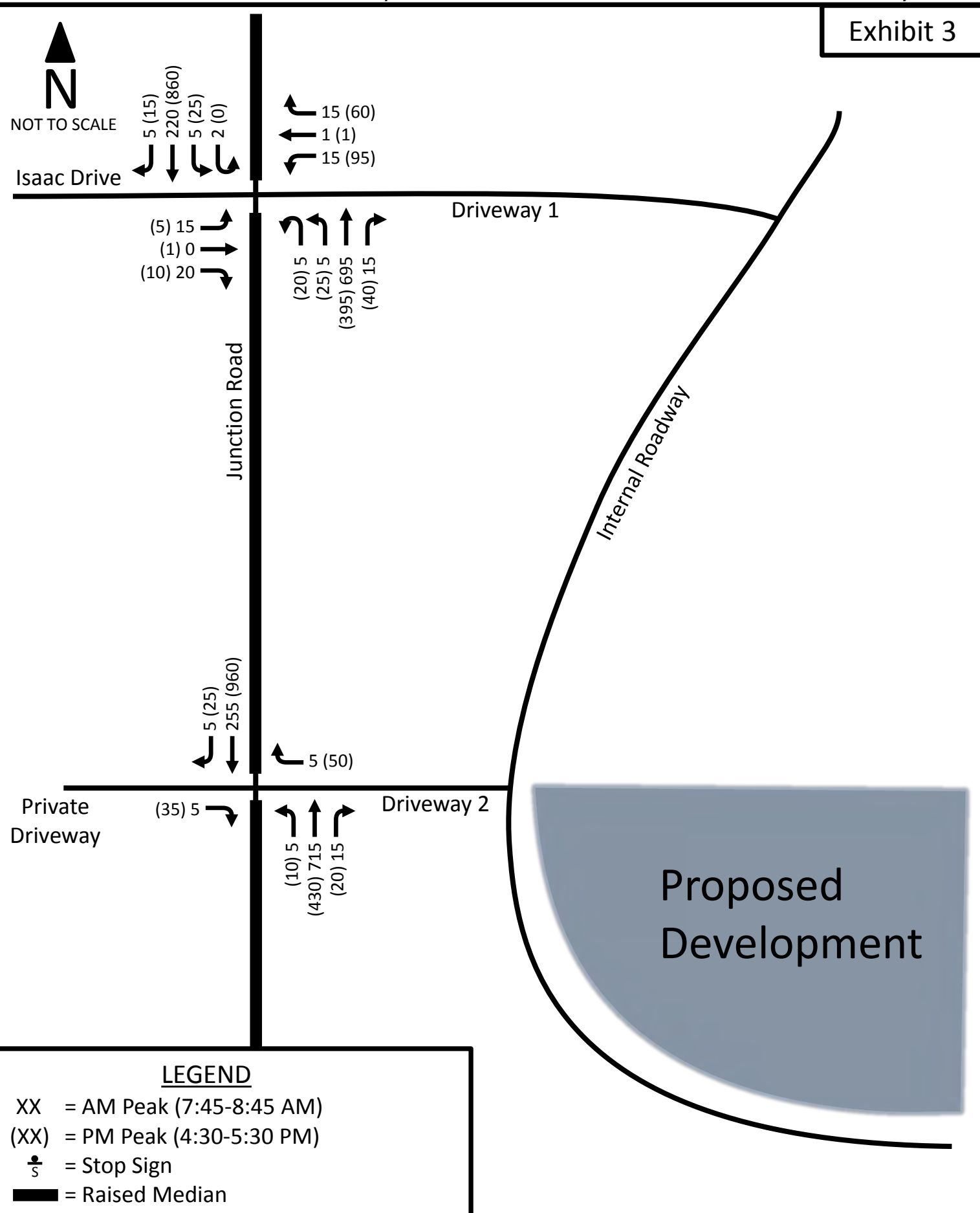
LEGEND

XX' = Available Storage Length

XX MPH = Posted Speed Limit

⊕ = Stop Sign

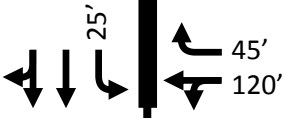
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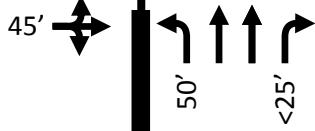


NOT TO SCALE

Isaac Drive



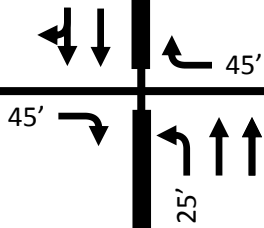
Driveway 1



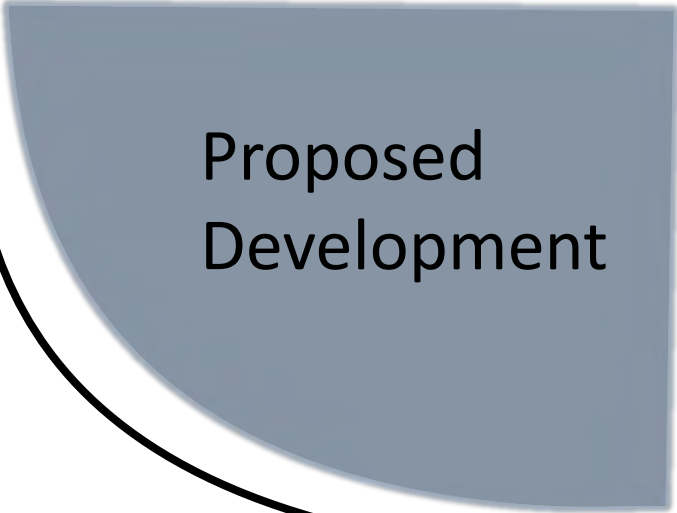
Junction Road

Internal Roadway

Private Driveway



Driveway 2



Proposed Development

LEGEND

XX' = 95th Percentile Queue

⊕ = Stop Sign

█ = Raised Median



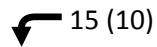
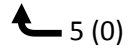
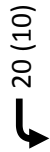
Existing 95th Percentile Queues





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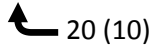
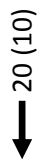
Isaac Drive



Driveway 1

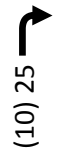


Junction Road



Private Driveway

Driveway 2



Internal Roadway

Proposed Development

LEGEND

XX = AM Peak (7:45-8:45 AM)

(XX) = PM Peak (4:30-5:30 PM)

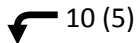
⊕ = Stop Sign

█ = Raised Median



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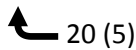
Isaac Drive



Junction Road

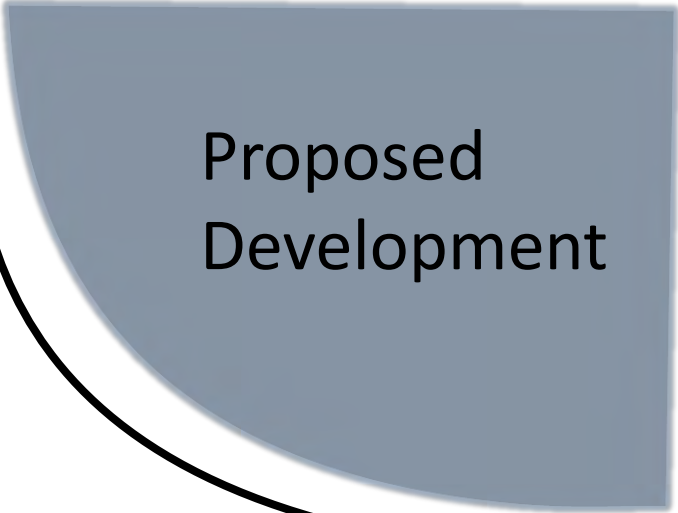
Driveway 1

Internal Roadway



Private Driveway

Driveway 2



Proposed Development

LEGEND

XX = AM Peak (7:45-8:45 AM)

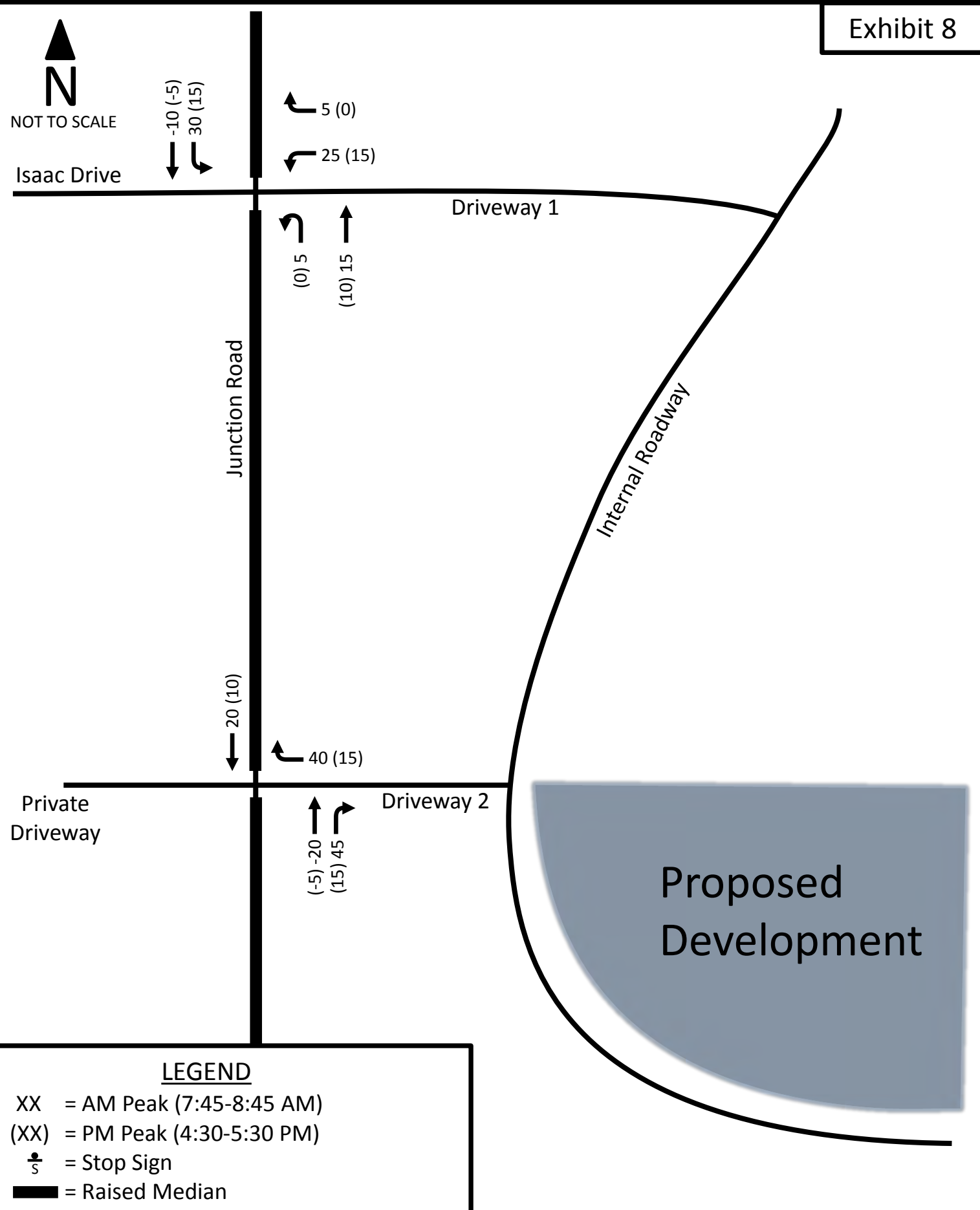
(XX) = PM Peak (4:30-5:30 PM)

⊕ = Stop Sign

█ = Raised Median



Proposed Pass-by Trips



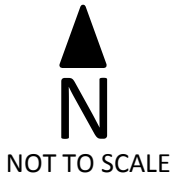
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XX = AM Peak (7:45-8:45 AM)

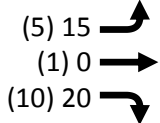
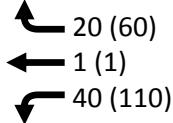
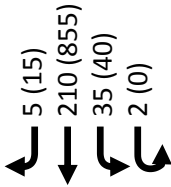
(XX) = PM Peak (4:30-5:30 PM)

⊕ = Stop Sign

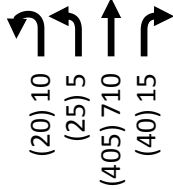
█ = Raised Median



Isaac Drive

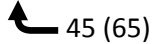
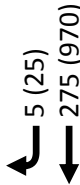


Junction Road

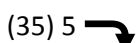


Driveway 1

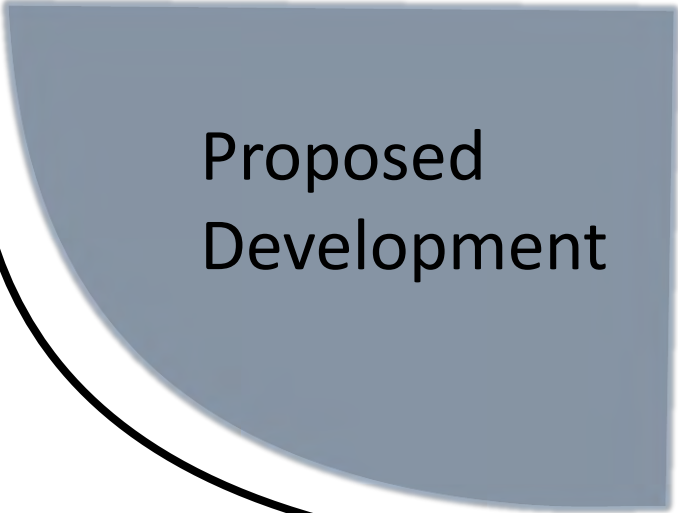
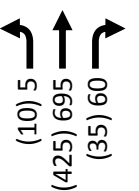
Internal Roadway



Private Driveway



Driveway 2



Proposed Development

LEGEND

XX = AM Peak (7:45-8:45 AM)

(XX) = PM Peak (4:30-5:30 PM)

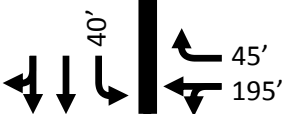
⊕ = Stop Sign

█ = Raised Median

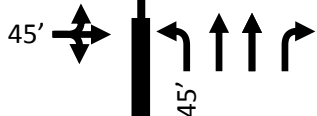


NOT TO SCALE

Isaac Drive



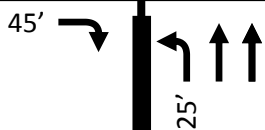
Driveway 1



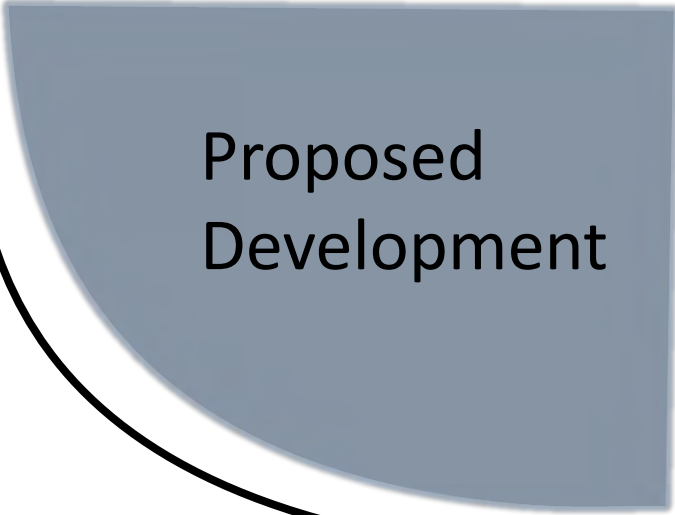
Junction Road

Internal Roadway

Private Driveway



Driveway 2



Proposed Development

LEGEND

XX' = 95th Percentile Queue

⊕ = Stop Sign

█ = Raised Median

APPENDIX A

Traffic Counts

Traffic Count Summary

Location: Junction Road & Isaac Drive
Madison, Dane, WI

Traffic Control: Two Way Stop Controlled

Date: Tuesday, January 10, 2017

Hours Counted: 6 AM - 9 AM & 3 PM - 6 PM

Counted By: Carter Lanser

All Vehicles

AM Peak

Roadway	Junction Rd				Isaac Dr				Junction Rd				Isaac Dr				Intersection									
Approach	Southbound				Westbound				Northbound				Eastbound				Sum	PHF								
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:45 AM	0	67	2	0	0	0	1	0	1	0	0	0	3	226	1	1	0	0	7	0	5	0	0	0	314	0.81
8:00 AM	1	50	0	1	0	0	4	0	5	0	0	0	1	166	4	3	0	0	1	0	10	0	0	0	246	
8:15 AM	1	57	1	0	0	0	3	0	7	0	0	0	2	156	5	0	0	0	3	0	3	0	0	0	238	
8:30 AM	3	46	1	1	0	0	7	1	3	0	0	0	0	147	3	3	0	0	3	0	3	0	0	0	221	
Movement Total	5	220	4	2	0	0	15	1	16	0	0	0	6	695	13	7	0	0	14	0	21	0	0	0	Total: 1019	
Approach Total	231				0	0	32				0	0	721				0	0	35				0	0	Total: 1019	

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound				Intersection									
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
4:30 PM	6	252	1	0	0	0	19	0	18	0	1	0	12	85	19	7	0	0	0	0	6	0	0	0	425	0.91
4:45 PM	6	192	1	0	1	0	28	1	16	0	0	0	3	102	6	3	0	0	1	0	2	0	2	0	361	
5:00 PM	9	236	10	0	0	0	20	0	13	0	1	0	5	106	8	5	0	0	4	1	0	0	0	0	417	
5:15 PM	4	180	4	0	0	0	30	0	11	0	1	0	3	103	8	4	0	0	2	0	1	0	0	0	350	
Movement Total	25	860	16	0	1	0	97	1	58	0	3	0	23	396	41	19	0	0	7	1	9	0	2	0	Total: 1553	
Approach Total	901				1	0	156				3	0	479				0	0	17				2	0	Total: 1553	

Heavy Vehicles

AM Peak

Roadway	Junction Rd				Isaac Dr				Junction Rd				Isaac Dr			
Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:45 AM	0	5	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:30 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Movement Total	0	10	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Approach Total	10				0				7				0			
Heavy Vehicle %	4.3%				0.0%				1.0%				0.0%			

PM Peak

Approach	Southbound				Westbound				Northbound				Eastbound			
Time	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	3	0	0	0	0	1	0	0	2	1	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0
Movement Total	0	6	0	0	0	0	2	0	0	7	1	0	0	0	0	0
Approach Total	6				2				8				0			
Heavy Vehicle %	0.7%				1.3%				1.7%				0.0%			

KL Engineering, Inc.

5950 Seminole Centre Court, Suite 200
Madison, WI 53711

Junction Road & Isaac Drive
Madison, Dane, WI
AM Count

File Name : AM Peak
Site Code :
Start Date : 1/10/2017
Page No : 1

Groups Printed- Cars + - Trucks - Bank 3 - Bank 4

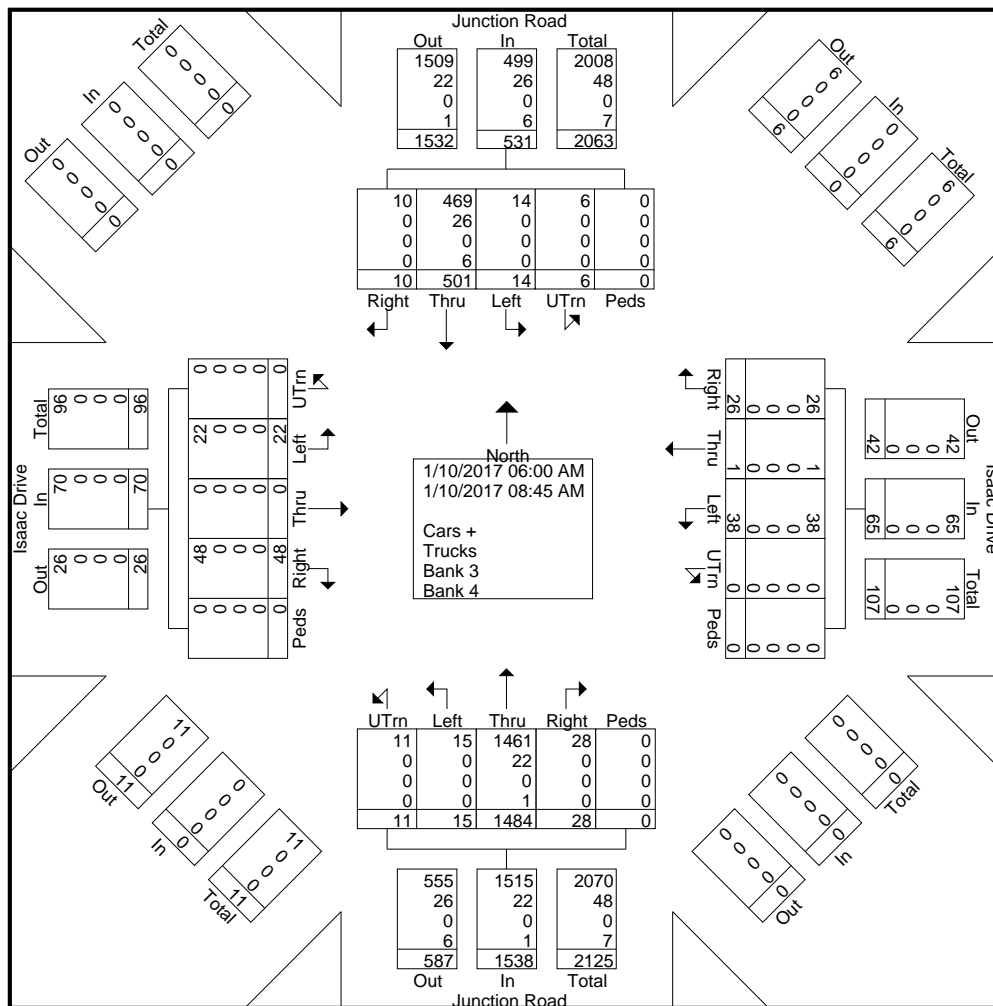
Start Time	Junction Road From North						Isaac Drive From East						Junction Road From South						Isaac Drive From West						Int. Total						
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total							
06:00 AM	1	0	10	1	0	12	0	2	0	0	0	2	0	1	39	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	54
06:15 AM	0	0	15	0	0	15	0	0	0	0	0	0	1	1	38	1	0	41	0	1	0	3	0	4	0	0	0	0	0	0	60
06:30 AM	0	0	34	1	0	35	0	5	0	1	0	6	0	1	51	2	0	54	0	0	0	0	0	0	0	0	0	0	0	0	95
06:45 AM	2	2	16	1	0	21	0	0	0	0	0	0	0	2	86	2	0	90	0	0	0	3	0	3	0	0	0	0	0	0	114
Total	3	2	75	3	0	83	0	7	0	1	0	8	1	5	214	5	0	225	0	1	0	6	0	7	0	0	0	0	0	0	323
07:00 AM	0	1	45	2	0	48	0	5	0	1	0	6	0	0	110	2	0	112	0	1	0	7	0	8	0	0	0	0	0	0	174
07:15 AM	0	2	53	0	0	55	0	7	0	1	0	8	1	2	156	1	0	160	0	1	0	5	0	6	0	0	0	0	0	0	229
07:30 AM	0	2	53	0	0	55	0	2	0	0	0	2	0	1	155	0	0	156	0	2	0	5	0	7	0	0	0	0	0	0	220
07:45 AM	0	0	67	2	0	69	0	1	0	1	0	2	1	3	226	1	0	231	0	7	0	5	0	12	0	0	0	0	0	0	314
Total	0	5	218	4	0	227	0	15	0	3	0	18	2	6	647	4	0	659	0	11	0	22	0	33	0	0	0	0	0	0	937
08:00 AM	1	1	50	0	0	52	0	4	0	5	0	9	3	1	166	4	0	174	0	1	0	10	0	11	0	0	0	0	0	0	246
08:15 AM	0	1	57	1	0	59	0	3	0	7	0	10	0	2	156	5	0	163	0	3	0	3	0	6	0	0	0	0	0	0	238
08:30 AM	1	3	46	1	0	51	0	7	1	3	0	11	3	0	147	3	0	153	0	3	0	3	0	6	0	0	0	0	0	0	221
08:45 AM	1	2	55	1	0	59	0	2	0	7	0	9	2	1	154	7	0	164	0	3	0	4	0	7	0	0	0	0	0	0	239
Total	3	7	208	3	0	221	0	16	1	22	0	39	8	4	623	19	0	654	0	10	0	20	0	30	0	0	0	0	0	0	944
Grand Total	6	14	501	10	0	531	0	38	1	26	0	65	11	15	1484	28	0	1538	0	22	0	48	0	70	0	0	0	0	0	0	2204
Apprch %	1.1	2.6	94.4	1.9	0		0	58.5	1.5	40	0		0.7	1	96.5	1.8	0		0	31.4	0	68.6	0								
Total %	0.3	0.6	22.7	0.5	0	24.1	0	1.7	0	1.2	0	2.9	0.5	0.7	67.3	1.3	0	69.8	0	1	0	2.2	0	3.2							
Cars +	6	14	469	10	0	499	0	38	1	26	0	65	11	15	1461	28	0	1515	0	22	0	48	0	70	0	0	0	0	0	0	2149
% Cars +	100	100	93.6	100	0	94	0	100	100	100	0	100	100	100	98.5	100	0	98.5	0	100	0	100	0	100	0	0	0	0	0	0	97.5
Trucks	0	0	26	0	0	26	0	0	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	48
% Trucks	0	0	5.2	0	0	4.9	0	0	0	0	0	0	0	0	1.5	0	0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	2.2
Bank 3	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
% Bank 3	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
Bank 4	0	0	6	0	0	6	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7
% Bank 4	0	0	1.2	0	0	1.1	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.3

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Madison, WI 53711

Junction Road & Isaac Drive
Madison, Dane, WI
AM Count

File Name : AM Peak
Site Code :
Start Date : 1/10/2017
Page No : 2



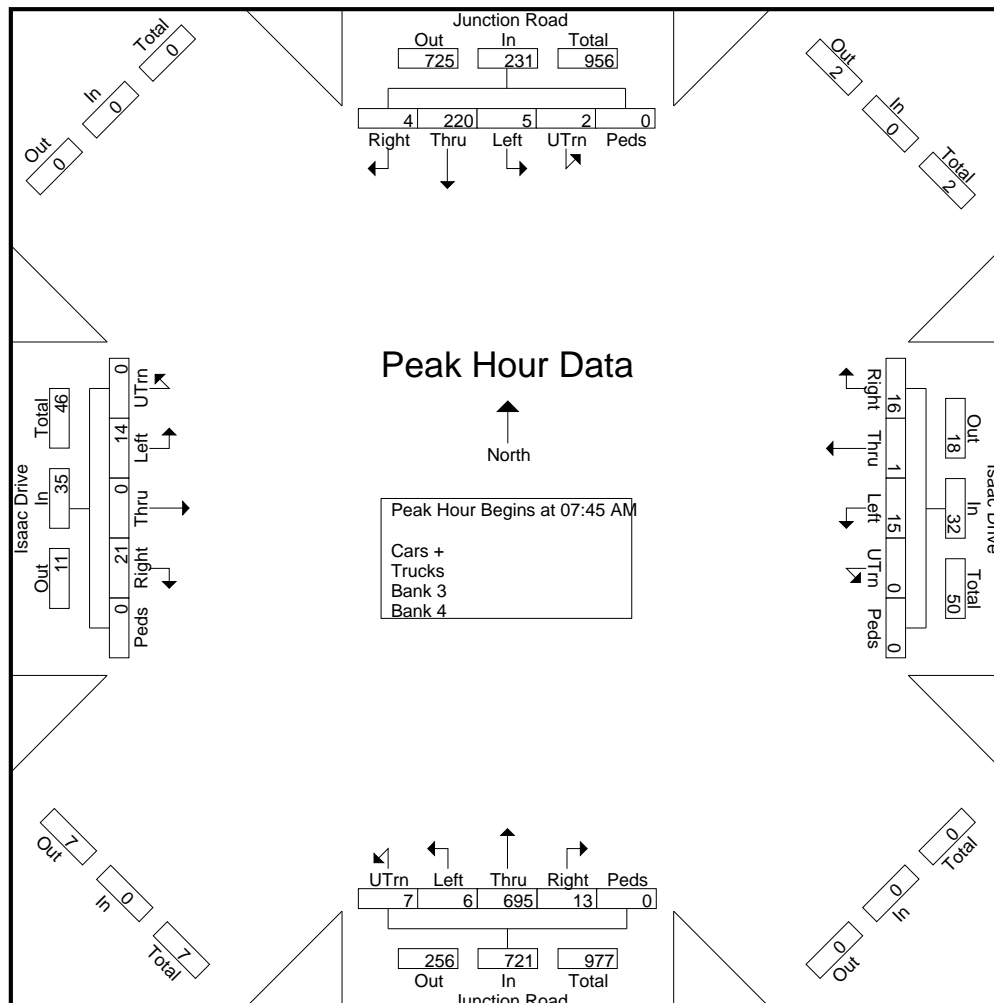
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Start Date : 1/10/2017
Page No : 3

Start Time	Junction Road From North					Isaac Drive From East					Junction Road From South					Isaac Drive From West					Int. Total				
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left		Thru	Right	Peds	App. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:45 AM																									
07:45 AM	0	0	67	2	0	69	0	1	0	1	0	2	1	3	226	1	0	231	0	7	0	5	0	12	314
08:00 AM	1	1	50	0	0	52	0	4	0	5	0	9	3	1	166	4	0	174	0	1	0	10	0	11	246
08:15 AM	0	1	57	1	0	59	0	3	0	7	0	10	0	2	156	5	0	163	0	3	0	3	0	6	238
08:30 AM	1	3	46	1	0	51	0	7	1	3	0	11	3	0	147	3	0	153	0	3	0	3	0	6	221
Total Volume	2	5	220	4	0	231	0	15	1	16	0	32	7	6	695	13	0	721	0	14	0	21	0	35	1019
% App. Total	0.9	2.2	95.2	1.7	0		0	46.9	3.1	50	0		1	0.8	96.4	1.8	0		0	40	0	60	0		
PHF	.500	.417	.821	.500	.000	.837	.000	.536	.250	.571	.000	.727	.583	.500	.769	.650	.000	.780	.000	.500	.000	.525	.000	.729	.811



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PM Count

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Groups Printed- Cars + - Trucks - Bank 3 - Bank 4

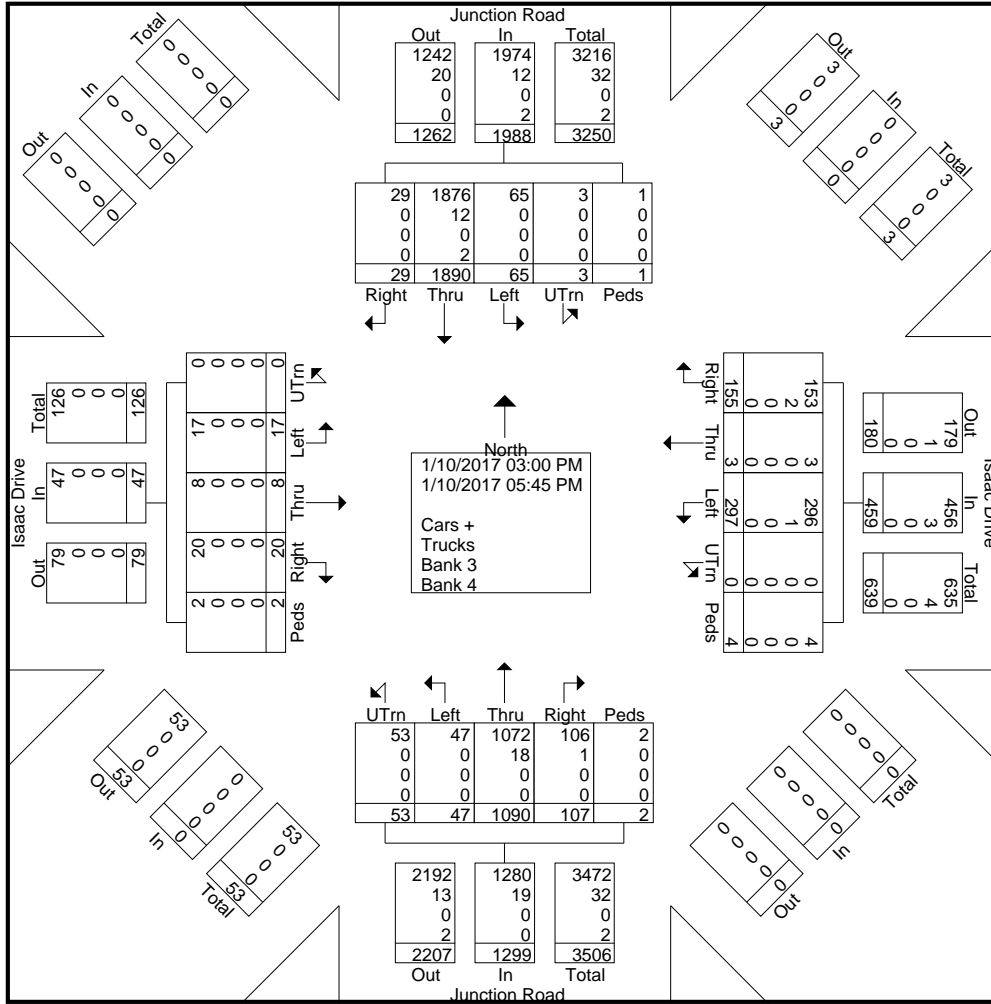
Start Time	Junction Road From North						Isaac Drive From East						Junction Road From South						Isaac Drive From West						Int. Total
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	9	102	0	0	111	0	27	0	9	0	36	5	2	84	12	0	103	0	1	2	0	0	3	253
03:15 PM	0	4	97	1	0	102	0	16	1	15	0	32	5	5	78	9	1	98	0	0	0	2	0	2	234
03:30 PM	1	7	130	0	0	138	0	24	0	12	0	36	3	1	72	8	0	84	0	1	0	1	0	2	260
03:45 PM	1	2	115	2	0	120	0	30	0	9	0	39	2	4	108	8	0	122	0	1	1	1	0	3	284
Total	2	22	444	3	0	471	0	97	1	45	0	143	15	12	342	37	1	407	0	3	3	4	0	10	1031
04:00 PM	1	4	186	4	0	195	0	28	0	11	0	39	8	2	81	5	0	96	0	3	2	3	0	8	338
04:15 PM	0	7	145	3	0	155	0	27	0	13	1	41	3	2	84	12	0	101	0	4	2	0	0	6	303
04:30 PM	0	6	252	1	0	259	0	19	0	18	1	38	7	12	85	19	0	123	0	0	0	6	0	6	426
04:45 PM	0	6	192	1	1	200	0	28	1	16	0	45	3	3	102	6	0	114	0	1	0	2	2	5	364
Total	1	23	775	9	1	809	0	102	1	58	2	163	21	19	352	42	0	434	0	8	4	11	2	25	1431
05:00 PM	0	9	236	10	0	255	0	20	0	13	1	34	5	5	106	8	0	124	0	4	1	0	0	5	418
05:15 PM	0	4	180	4	0	188	0	30	0	11	1	42	4	3	103	8	0	118	0	2	0	1	0	3	351
05:30 PM	0	6	138	1	0	145	0	28	0	14	0	42	5	5	102	5	1	118	0	0	0	2	0	2	307
05:45 PM	0	1	117	2	0	120	0	20	1	14	0	35	3	3	85	7	0	98	0	0	0	2	0	2	255
Total	0	20	671	17	0	708	0	98	1	52	2	153	17	16	396	28	1	458	0	6	1	5	0	12	1331
Grand Total	3	65	1890	29	1	1988	0	297	3	155	4	459	53	47	1090	107	2	1299	0	17	8	20	2	47	3793
Apprch %	0.2	3.3	95.1	1.5	0.1		0	64.7	0.7	33.8	0.9		4.1	3.6	83.9	8.2	0.2		0	36.2	17	42.6	4.3		
Total %	0.1	1.7	49.8	0.8	0	52.4	0	7.8	0.1	4.1	0.1	12.1	1.4	1.2	28.7	2.8	0.1	34.2	0	0.4	0.2	0.5	0.1	1.2	
Cars +	3	65	1876	29	1	1974	0	296	3	153	4	456	53	47	1072	106	2	1280	0	17	8	20	2	47	3757
% Cars +	100	100	99.3	100	100	99.3	0	99.7	100	98.7	100	99.3	100	100	98.3	99.1	100	98.5	0	100	100	100	100	100	99.1
Trucks	0	0	12	0	0	12	0	1	0	2	0	3	0	0	18	1	0	19	0	0	0	0	0	0	34
% Trucks	0	0	0.6	0	0	0.6	0	0.3	0	1.3	0	0.7	0	0	1.7	0.9	0	1.5	0	0	0	0	0	0	0.9
Bank 3	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
% Bank 3	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
Bank 4	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Bank 4	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

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Junction Road & Isaac Drive
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PM Count

File Name : PM Peak
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Page No : 2



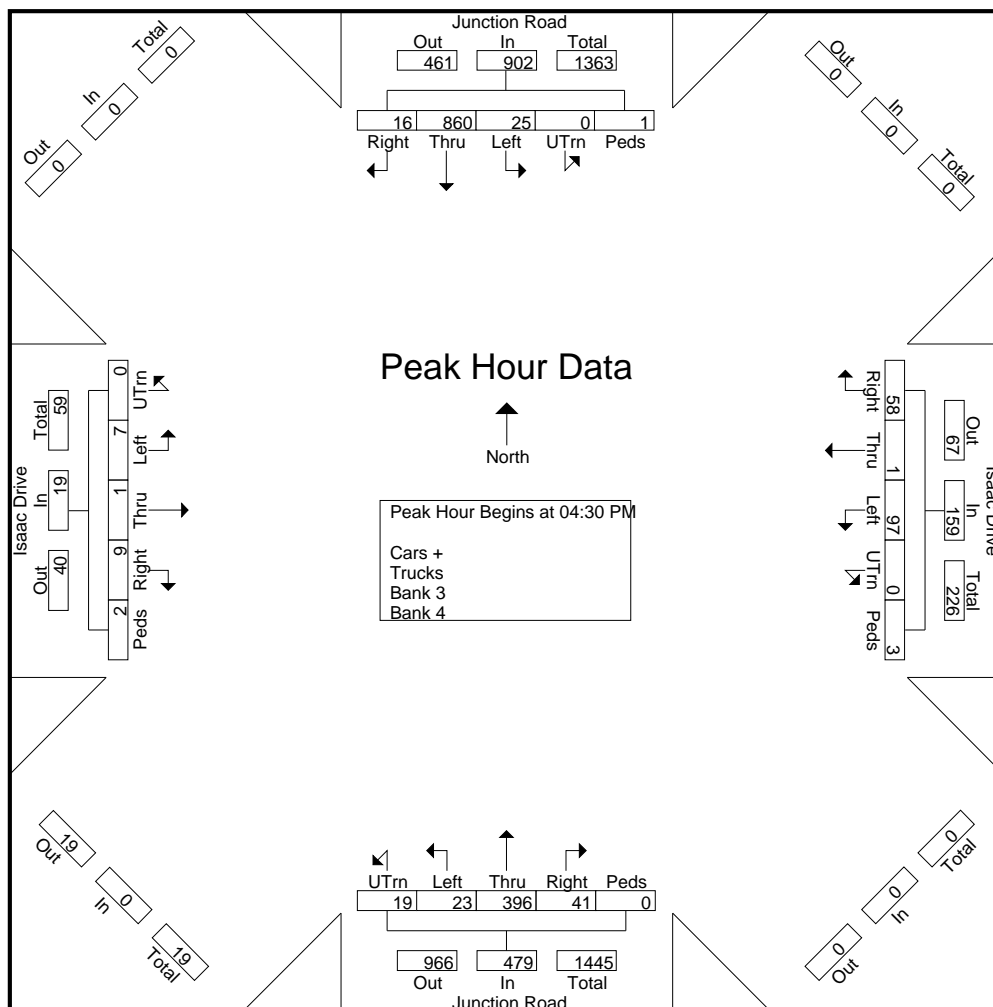
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PM Count

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Page No : 3

Start Time	Junction Road From North					Isaac Drive From East					Junction Road From South					Isaac Drive From West					Int. Total				
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left		Thru	Right	Peds	App. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	0	6	252	1	0	259	0	19	0	18	1	38	7	12	85	19	0	123	0	0	0	6	0	6	426
04:45 PM	0	6	192	1	1	200	0	28	1	16	0	45	3	3	102	6	0	114	0	1	0	2	2	5	364
05:00 PM	0	9	236	10	0	255	0	20	0	13	1	34	5	5	106	8	0	124	0	4	1	0	0	5	418
05:15 PM	0	4	180	4	0	188	0	30	0	11	1	42	4	3	103	8	0	118	0	2	0	1	0	3	351
Total Volume	0	25	860	16	1	902	0	97	1	58	3	159	19	23	396	41	0	479	0	7	1	9	2	19	1559
% App. Total	0	2.8	95.3	1.8	0.1		0	61	0.6	36.5	1.9		4	4.8	82.7	8.6	0		0	36.8	5.3	47.4	10.5		
PHF	.000	.694	.853	.400	.250	.871	.000	.808	.250	.806	.750	.883	.679	.479	.934	.539	.000	.966	.000	.438	.250	.375	.250	.792	.915



Traffic Count Summary

Location: Junction Road & Steve's Liquor Driveway
Madison, Dane, WI

Traffic Control: Two Way Stop Controlled

Date: Tuesday, January 10, 2017

Hours Counted: 6 AM - 9 AM & 3 PM - 6 PM

Counted By: Carter Lanser

All Vehicles

AM Peak

Roadway Approach	Junction Rd				Isaac Dr				Junction Rd				Isaac Dr				Intersection									
	Southbound				Westbound				Northbound				Eastbound													
Time	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	Sum	PHF
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	4	0.77
8:00 AM	0	0	0	0	0	0	0	0	3	0	0	0	2	0	6	0	0	0	0	0	0	0	0	0	11	
8:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	0	2	0	0	0	9	
8:30 AM	0	0	1	0	0	0	0	0	2	0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	10	
Movement Total	0	0	3	0	0	0	0	0	6	0	0	0	7	0	15	0	0	0	0	0	3	0	0	0	Total: 34	
Approach Total	3				0	0	6				0	0	22				0	0	3				0	0		

PM Peak

Roadway Approach	Southbound				Westbound				Northbound				Eastbound				Intersection									
	L	T	R	U	Peds	Bikes	L	T	R	U	Peds	Bikes	L	T	R	U			Peds	Bikes						
4:30 PM	0	0	5	0	0	0	0	0	14	0	0	0	3	0	4	0	0	0	0	0	8	0	0	0	34	0.91
4:45 PM	0	0	7	0	0	0	0	0	12	0	0	0	2	0	4	0	0	0	0	0	7	0	0	0	32	
5:00 PM	0	0	7	0	0	0	0	0	12	0	0	0	4	0	5	0	0	0	0	0	10	0	0	0	38	
5:15 PM	0	0	7	0	0	0	0	0	10	0	0	0	3	0	7	0	0	0	0	0	8	0	0	0	35	
Movement Total	0	0	26	0	0	0	0	0	48	0	0	0	12	0	20	0	0	0	0	0	33	0	0	0	Total: 139	
Approach Total	26				0	0	48				0	0	32				0	0	33				0	0		

Heavy Vehicles

AM Peak

Roadway Approach	Junction Rd				Isaac Dr				Junction Rd				Isaac Dr			
	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Movement Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Approach Total	0				0				1				0			
Heavy Vehicle %	0.0%				0.0%				4.5%				0.0%			

PM Peak

Roadway Approach	Southbound				Westbound				Northbound				Eastbound			
	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Movement Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Approach Total	0				1				0				0			
Heavy Vehicle %	0.0%				2.1%				0.0%				0.0%			

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Groups Printed- Cars + - Trucks - Bank 3 - Bank 4

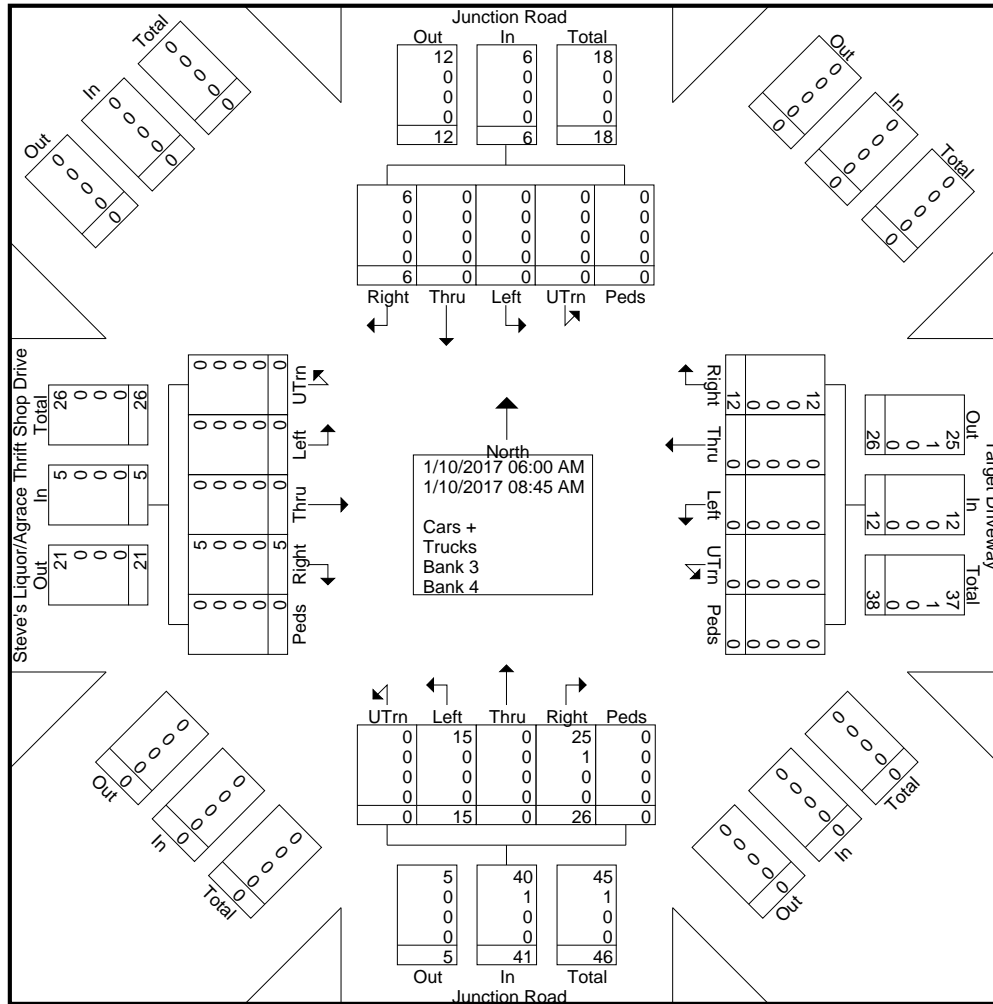
Start Time	Junction Road From North						Target Driveway From East						Junction Road From South						Steve's Liquor/Agrace Thrift Shop Drive From West						Int. Total						
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total							
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	7
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	2	0	0	0	1	0	1	0	0	0	1	0	1	4
Total	0	0	0	1	0	1	0	0	0	3	0	3	0	3	0	5	0	8	0	0	0	1	0	1	0	0	0	1	0	1	13
08:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	6	0	8	0	0	0	0	0	0	0	0	0	0	0	0	11
08:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	3	0	5	0	0	0	2	0	2	0	0	0	2	0	2	9
08:30 AM	0	0	0	1	0	1	0	0	0	2	0	2	0	2	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	0	10
08:45 AM	0	0	0	2	0	2	0	0	0	3	0	3	0	2	0	5	0	7	0	0	0	2	0	2	0	0	0	2	0	2	14
Total	0	0	0	5	0	5	0	0	0	8	0	8	0	8	0	19	0	27	0	0	0	4	0	4	0	0	0	4	0	4	44
Grand Total	0	0	0	6	0	6	0	0	0	12	0	12	0	15	0	26	0	41	0	0	0	5	0	5	0	0	0	5	0	5	64
Approch %	0	0	0	100	0	0	0	0	0	100	0	0	0	36.6	0	63.4	0	0	0	0	0	100	0	0	0	0	0	100	0	0	
Total %	0	0	0	9.4	0	9.4	0	0	0	18.8	0	18.8	0	23.4	0	40.6	0	64.1	0	0	0	7.8	0	7.8	0	0	0	7.8	0	7.8	
Cars +	0	0	0	6	0	6	0	0	0	12	0	12	0	15	0	25	0	40	0	0	0	5	0	5	0	0	0	5	0	5	63
% Cars +	0	0	0	100	0	100	0	0	0	100	0	100	0	100	0	96.2	0	97.6	0	0	0	100	0	100	0	0	0	100	0	100	98.4
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.8	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	1.6
Bank 3	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
% Bank 3	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
Bank 4	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
% Bank 4	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

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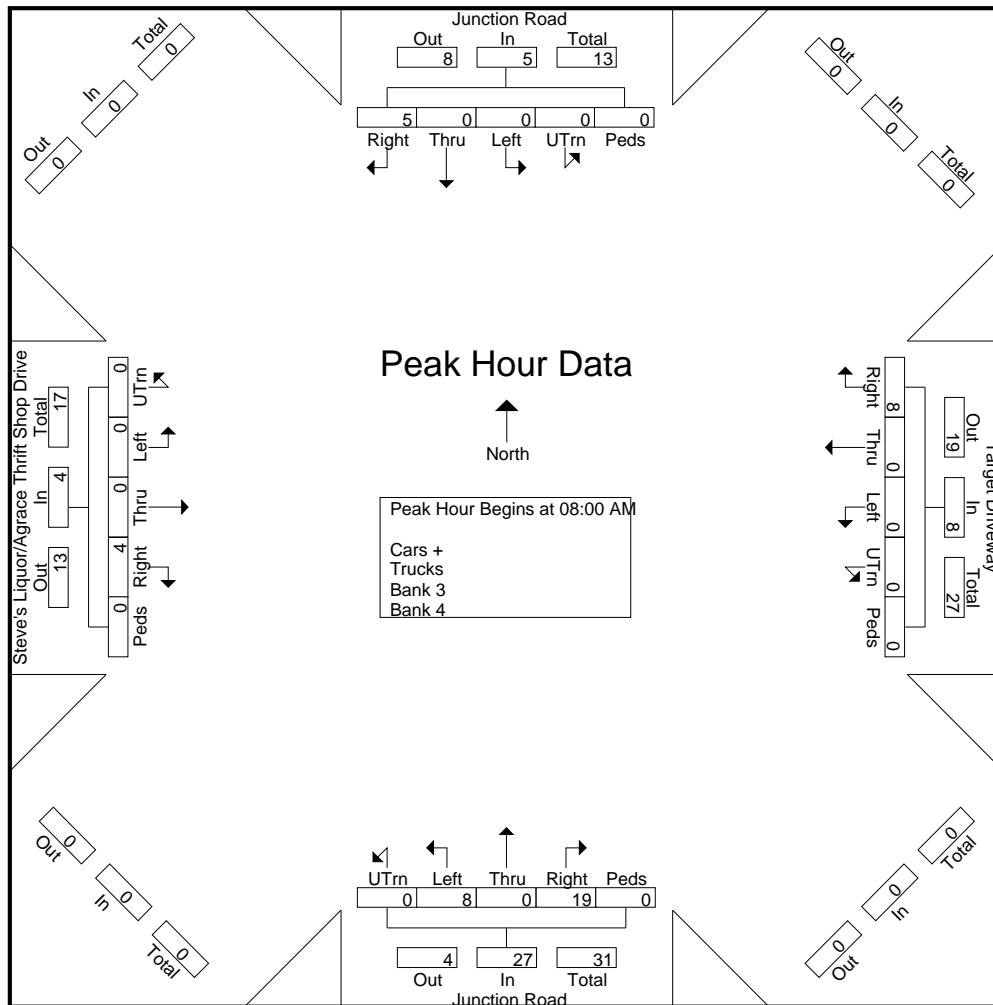
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Start Time	Junction Road From North						Target Driveway From East						Junction Road From South						Steve's Liquor/Agrace Thrift Shop Drive From West						Int. Total	
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 08:00 AM																										
08:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	6	0	8	0	0	0	0	0	0	0	11
08:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	3	0	5	0	0	0	2	0	2	9	
08:30 AM	0	0	0	1	0	1	0	0	0	2	0	2	0	2	0	5	0	7	0	0	0	0	0	0	10	
08:45 AM	0	0	0	2	0	2	0	0	0	3	0	3	0	2	0	5	0	7	0	0	0	2	0	2	14	
Total Volume	0	0	0	5	0	5	0	0	0	8	0	8	0	8	0	19	0	27	0	0	0	4	0	4	44	
% App. Total	0	0	0	100	0	100	0	0	0	100	0	100	0	29.6	0	70.4	0	100	0	0	0	100	0	100	100	
PHF	.000	.000	.000	.625	.000	.625	.000	.000	.000	.667	.000	.667	.000	1.0	.000	.792	.000	.844	.000	.000	.000	.500	.000	.500	.786	



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Groups Printed- Cars + - Trucks - Bank 3 - Bank 4

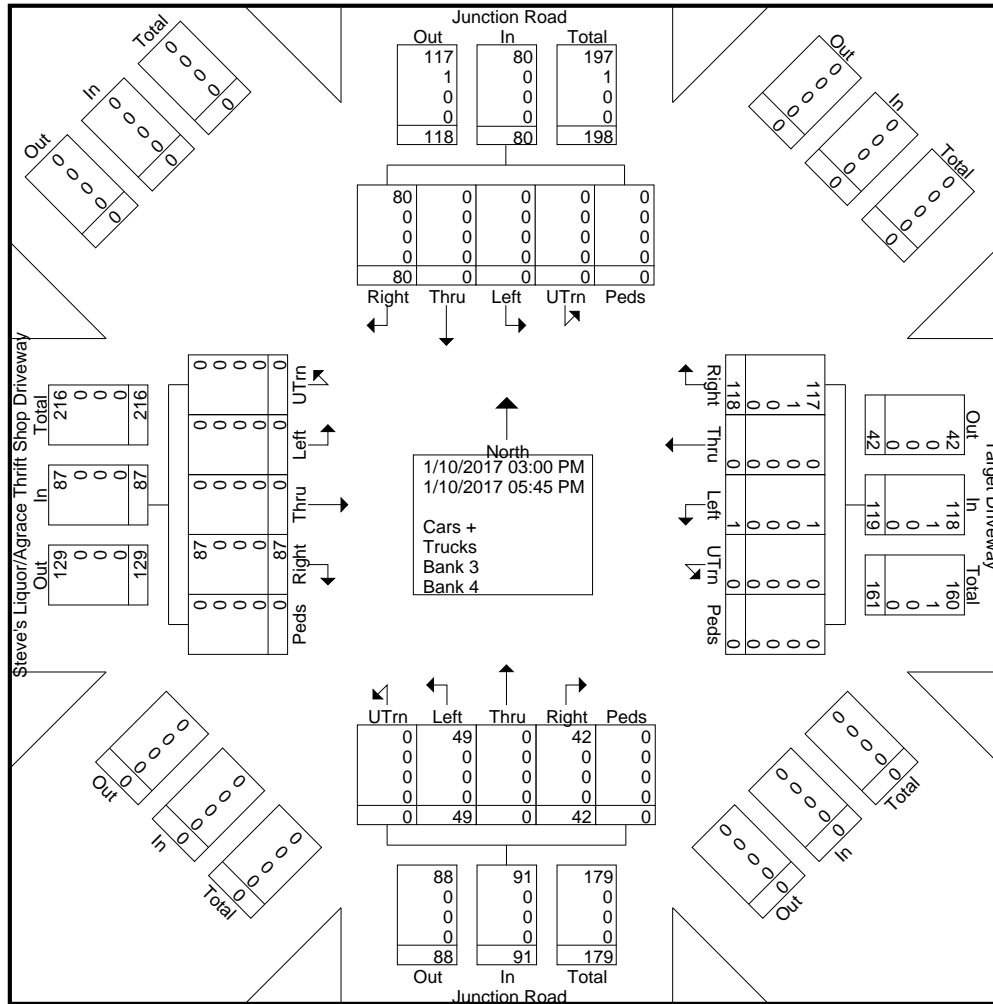
Start Time	Junction Road From North						Target Driveway From East						Junction Road From South						Steve's Liquor/Agrace Thrift Shop Driveway From West						Int. Total
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	0	0	8	0	8	0	0	0	8	0	8	0	2	0	2	0	4	0	0	0	6	0	6	26
03:15 PM	0	0	0	6	0	6	0	0	0	10	0	10	0	4	0	1	0	5	0	0	0	8	0	8	29
03:30 PM	0	0	0	4	0	4	0	0	0	7	0	7	0	7	0	3	0	10	0	0	0	10	0	10	31
03:45 PM	0	0	0	5	0	5	0	1	0	9	0	10	0	3	0	1	0	4	0	0	0	4	0	4	23
Total	0	0	0	23	0	23	0	1	0	34	0	35	0	16	0	7	0	23	0	0	0	28	0	28	109
04:00 PM	0	0	0	12	0	12	0	0	0	12	0	12	0	7	0	4	0	11	0	0	0	6	0	6	41
04:15 PM	0	0	0	10	0	10	0	0	0	10	0	10	0	7	0	2	0	9	0	0	0	11	0	11	40
04:30 PM	0	0	0	5	0	5	0	0	0	14	0	14	0	3	0	4	0	7	0	0	0	8	0	8	34
04:45 PM	0	0	0	7	0	7	0	0	0	12	0	12	0	2	0	4	0	6	0	0	0	7	0	7	32
Total	0	0	0	34	0	34	0	0	0	48	0	48	0	19	0	14	0	33	0	0	0	32	0	32	147
05:00 PM	0	0	0	7	0	7	0	0	0	12	0	12	0	4	0	5	0	9	0	0	0	10	0	10	38
05:15 PM	0	0	0	7	0	7	0	0	0	10	0	10	0	3	0	7	0	10	0	0	0	8	0	8	35
05:30 PM	0	0	0	6	0	6	0	0	0	7	0	7	0	4	0	6	0	10	0	0	0	5	0	5	28
05:45 PM	0	0	0	3	0	3	0	0	0	7	0	7	0	3	0	3	0	6	0	0	0	4	0	4	20
Total	0	0	0	23	0	23	0	0	0	36	0	36	0	14	0	21	0	35	0	0	0	27	0	27	121
Grand Total	0	0	0	80	0	80	0	1	0	118	0	119	0	49	0	42	0	91	0	0	0	87	0	87	377
Approch %	0	0	0	100	0		0	0.8	0	99.2	0		0	53.8	0	46.2	0		0	0	0	100	0		
Total %	0	0	0	21.2	0	21.2	0	0.3	0	31.3	0	31.6	0	13	0	11.1	0	24.1	0	0	0	23.1	0	23.1	
Cars +	0	0	0	80	0	80	0	1	0	117	0	118	0	49	0	42	0	91	0	0	0	87	0	87	376
% Cars +	0	0	0	100	0	100	0	100	0	99.2	0	99.2	0	100	0	100	0	100	0	0	0	100	0	100	99.7
Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0.8	0	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0.3
Bank 3	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
% Bank 3	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
Bank 4	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
% Bank 4	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

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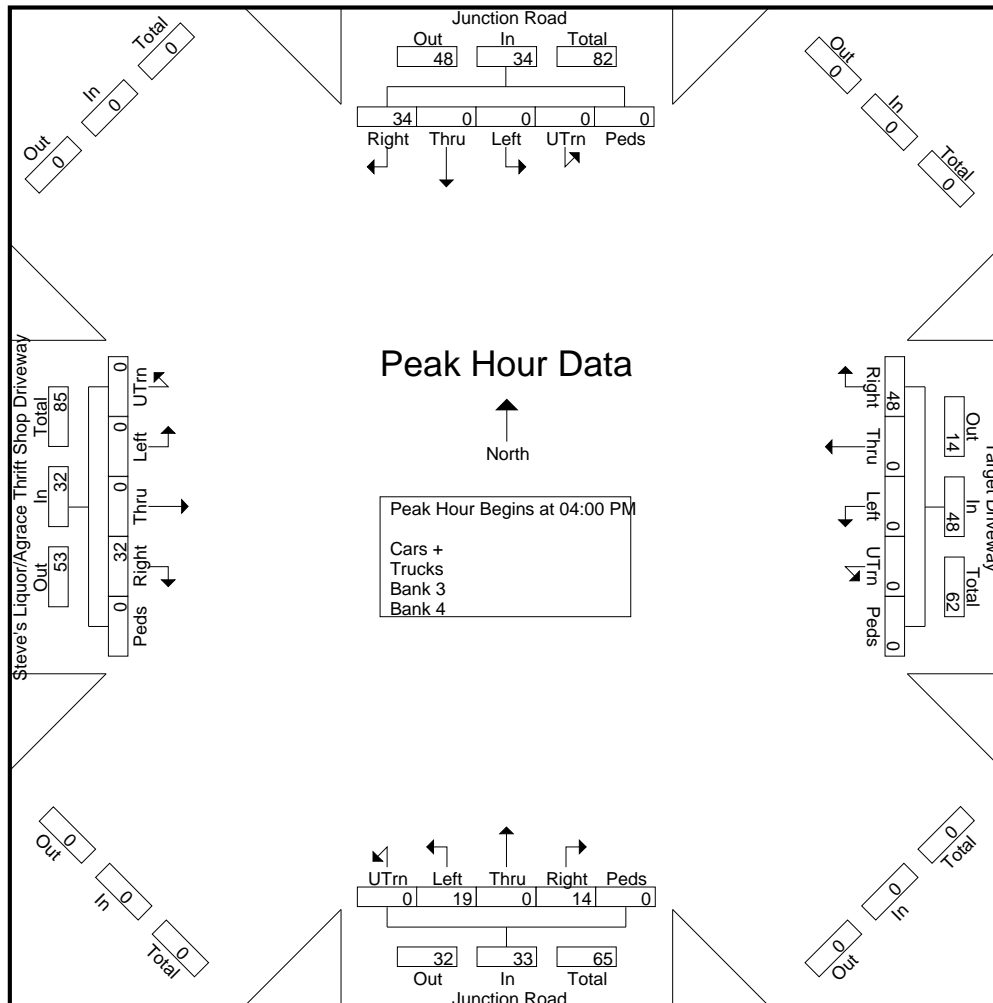
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Start Time	Junction Road From North						Target Driveway From East						Junction Road From South						Steve's Liquor/Agrace Thrift Shop Driveway From West						Int. Total
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:00 PM																									
04:00 PM	0	0	0	12	0	12	0	0	0	12	0	12	0	7	0	4	0	11	0	0	0	6	0	6	41
04:15 PM	0	0	0	10	0	10	0	0	0	10	0	10	0	7	0	2	0	9	0	0	0	11	0	11	40
04:30 PM	0	0	0	5	0	5	0	0	0	14	0	14	0	3	0	4	0	7	0	0	0	8	0	8	34
04:45 PM	0	0	0	7	0	7	0	0	0	12	0	12	0	2	0	4	0	6	0	0	0	7	0	7	32
Total Volume	0	0	0	34	0	34	0	0	0	48	0	48	0	19	0	14	0	33	0	0	0	32	0	32	147
% App. Total	0	0	0	100	0	100	0	0	0	100	0	100	0	57.6	0	42.4	0	100	0	0	0	100	0	100	
PHF	.000	.000	.000	.708	.000	.708	.000	.000	.000	.857	.000	.857	.000	.679	.000	.875	.000	.750	.000	.000	.000	.727	.000	.727	.896



APPENDIX B

Traffic Modelling Analysis Output

Lanes and Geometrics
1: Junction Rd & Isaac Dr/Driveway 1

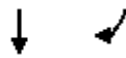
Existing Conditions
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations		↕↔			↔↕	↔↕		↔↕	↕↔	↔↕		↔↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%				0%			
Storage Length (ft)	0		0	0		0		125		0		125
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				100				125
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.925				0.850				0.850		
Flt Protected		0.979			0.955			0.950				0.950
Satd. Flow (prot)	0	1704	0	0	1797	1599	0	1787	3574	1599	0	1736
Flt Permitted		0.979			0.955			0.950				0.950
Satd. Flow (perm)	0	1704	0	0	1797	1599	0	1787	3574	1599	0	1736
Link Speed (mph)		30			30				35			
Link Distance (ft)		431			484				255			
Travel Time (s)		9.8			11.0				5.0			

Intersection Summary

Area Type: Other

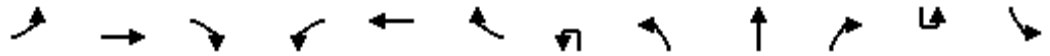


Lane Group	SBT	SBR
Lane Configurations	↕↔	
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	12	12
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor		
Frt	0.997	
Flt Protected		
Satd. Flow (prot)	3461	0
Flt Permitted		
Satd. Flow (perm)	3461	0
Link Speed (mph)	35	
Link Distance (ft)	579	
Travel Time (s)	11.3	

Intersection Summary

Volume
1: Junction Rd & Isaac Dr/Driveway 1

Existing Conditions
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Traffic Volume (vph)	15	1	20	15	1	15	5	5	695	15	1	5
Future Volume (vph)	15	1	20	15	1	15	5	5	695	15	1	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%				0%			
Adj. Flow (vph)	19	1	25	19	1	19	6	6	858	19	1	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	20	19	0	12	858	19	0	7

Intersection Summary



Lane Group	SBT	SBR
Traffic Volume (vph)	220	5
Future Volume (vph)	220	5
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor	0.81	0.81
Growth Factor	100%	100%
Heavy Vehicles (%)	4%	4%
Bus Blockages (#/hr)	0	0
Parking (#/hr)		
Mid-Block Traffic (%)	0%	
Adj. Flow (vph)	272	6
Shared Lane Traffic (%)		
Lane Group Flow (vph)	278	0

Intersection Summary

Intersection														
Int Delay, s/veh	1.1													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔		↔	↔	
Traffic Vol, veh/h	15	1	20	15	1	15	5	5	695	15	1	5	220	5
Future Vol, veh/h	15	1	20	15	1	15	5	5	695	15	1	5	220	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	-	125	-	0	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	4	4	4	4
Mvmt Flow	19	1	25	19	1	19	6	6	858	19	1	6	272	6

Major/Minor	Minor2			Minor1			Major1			Major2				
Conflicting Flow All	744	1173	139	1034	1176	429	202	278	0	0	-	858	0	0
Stage 1	290	290	-	883	883	-	-	-	-	-	-	-	-	-
Stage 2	454	883	-	151	293	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	6.42	4.12	-	-	6.48	4.18	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.51	2.21	-	-	2.54	2.24	-	-
Pot Cap-1 Maneuver	305	192	887	188	191	577	1073	1289	-	-	-	766	-	-
Stage 1	696	673	-	309	364	-	-	-	-	-	-	-	-	-
Stage 2	558	364	-	839	671	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-				
Mov Cap-1 Maneuver	294	192	887	182	191	577	1157	1157	-	-	~ -6	~ -6	-	-
Mov Cap-2 Maneuver	294	192	-	182	191	-	-	-	-	-	-	-	-	-
Stage 1	696	673	-	309	364	-	-	-	-	-	-	-	-	-
Stage 2	538	364	-	814	671	-	-	-	-	-	-	-	-	-





















Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	19.5	0.1	
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1157	-	-	457	183	577	+	-	-
HCM Lane V/C Ratio	0.011	-	-	0.097	0.108	0.032	-	-	-
HCM Control Delay (s)	8.1	-	-	13.7	27	11.4	-	-	-
HCM Lane LOS	A	-	-	B	D	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-	-

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

Lanes and Geometrics
2: Junction Rd & Driveway 2

Existing Conditions
AM Peak













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	90		0	0		0
Storage Lanes	0		1	0		1	1		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor			0.865			0.865			0.850		0.997	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1627	0	0	1627	1787	3574	1599	0	3461	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1627	0	0	1627	1787	3574	1599	0	3461	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		417			498			569			255	
Travel Time (s)		9.5			11.3			11.1			5.0	

Intersection Summary

Area Type: Other

Volume
2: Junction Rd & Driveway 2

Existing Conditions
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	0	5	0	0	5	5	715	15	0	255	5
Future Volume (vph)	0	0	5	0	0	5	5	715	15	0	255	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	6	0	0	6	6	883	19	0	315	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	6	0	0	6	6	883	19	0	321	0
Intersection Summary												

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↗↗	↗		↗↗	
Traffic Vol, veh/h	0	0	5	0	0	5	5	715	15	0	255	5
Future Vol, veh/h	0	0	5	0	0	5	5	715	15	0	255	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	0	6	0	0	6	6	883	19	0	315	6
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	160	-	-	441	321	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.92	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.31	2.21	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	860	0	0	567	1243	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	860	-	-	567	1243	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.2			11.4			0.1			0		
HCM LOS	A			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR					
Capacity (veh/h)	1243	-	-	860	567	-	-					
HCM Lane V/C Ratio	0.005	-	-	0.007	0.011	-	-					
HCM Control Delay (s)	7.9	-	-	9.2	11.4	-	-					
HCM Lane LOS	A	-	-	A	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	0	0	-	-					

Intersection: 1: Junction Rd & Isaac Dr/Driveway 1

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	UL	UL
Maximum Queue (ft)	48	28	26	22	26
Average Queue (ft)	22	11	10	2	3
95th Queue (ft)	47	32	29	13	17
Link Distance (ft)	384	426	426		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				125	125
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Junction Rd & Driveway 2

Movement	EB	WB	NB
Directions Served	R	R	L
Maximum Queue (ft)	30	31	23
Average Queue (ft)	5	6	1
95th Queue (ft)	23	25	7
Link Distance (ft)	370	439	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Lanes and Geometrics
1: Junction Rd & Isaac Dr/Driveway 1

Existing Conditions
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations		↕↔			↔↕	↔↕			↕↔	↔↕		↕↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%				0%			
Storage Length (ft)	0		0	0		0		125		0		125
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				100				125
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.913				0.850				0.850		
Flt Protected		0.986			0.953			0.950				0.950
Satd. Flow (prot)	0	1693	0	0	1793	1599	0	1770	3539	1583	0	1787
Flt Permitted		0.986			0.953			0.950				0.950
Satd. Flow (perm)	0	1693	0	0	1793	1599	0	1770	3539	1583	0	1787
Link Speed (mph)		30			30				35			
Link Distance (ft)		431			484				255			
Travel Time (s)		9.8			11.0				5.0			

Intersection Summary

Area Type: Other



Lane Group	SBT	SBR
Lane Configurations	↕↔	
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	12	12
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor		
Frt	0.998	
Flt Protected		
Satd. Flow (prot)	3567	0
Flt Permitted		
Satd. Flow (perm)	3567	0
Link Speed (mph)	35	
Link Distance (ft)	579	
Travel Time (s)	11.3	

Intersection Summary

Volume
1: Junction Rd & Isaac Dr/Driveway 1

Existing Conditions
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Traffic Volume (vph)	5	1	10	95	1	60	20	25	395	40	1	25
Future Volume (vph)	5	1	10	95	1	60	20	25	395	40	1	25
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%				0%			
Adj. Flow (vph)	5	1	11	104	1	66	22	27	434	44	1	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	105	66	0	49	434	44	0	28

Intersection Summary



Lane Group	SBT	SBR
Traffic Volume (vph)	860	15
Future Volume (vph)	860	15
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor	0.91	0.91
Growth Factor	100%	100%
Heavy Vehicles (%)	1%	1%
Bus Blockages (#/hr)	0	0
Parking (#/hr)		
Mid-Block Traffic (%)	0%	
Adj. Flow (vph)	945	16
Shared Lane Traffic (%)		
Lane Group Flow (vph)	961	0

Intersection Summary

Intersection														
Int Delay, s/veh	4.3													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔		↔	↔	
Traffic Vol, veh/h	5	1	10	95	1	60	20	25	395	40	1	25	860	15
Future Vol, veh/h	5	1	10	95	1	60	20	25	395	40	1	25	860	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	-	125	-	0	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	2	1	1	1	1
Mvmt Flow	5	1	11	104	1	66	22	27	434	44	1	27	945	16

Major/Minor	Minor2		Minor1		Major1			Major2						
Conflicting Flow All	1326	1543	481	1063	1552	217	702	962	0	0	-	434	0	0
Stage 1	1010	1010	-	533	533	-	-	-	-	-	-	-	-	-
Stage 2	316	533	-	530	1019	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	6.44	4.14	-	-	6.42	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.52	2.22	-	-	2.51	2.21	-	-
Pot Cap-1 Maneuver	115	115	534	179	114	791	515	711	-	-	-	1129	-	-
Stage 1	259	318	-	501	526	-	-	-	-	-	-	-	-	-
Stage 2	672	526	-	503	315	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-				
Mov Cap-1 Maneuver	105	115	534	174	114	791	602	602	-	-	~ -27	~ -27	-	-
Mov Cap-2 Maneuver	105	115	-	174	114	-	-	-	-	-	-	-	-	-
Stage 1	259	318	-	501	526	-	-	-	-	-	-	-	-	-
Stage 2	615	526	-	491	315	-	-	-	-	-	-	-	-	-




















Approach	EB	WB	NB	SB
HCM Control Delay, s	23.4	37	1.1	
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	602	-	-	213 173 791	+	-	-
HCM Lane V/C Ratio	0.082	-	-	0.083 0.61 0.083	-	-	-
HCM Control Delay (s)	11.5	-	-	23.4 53.9 10	-	-	-
HCM Lane LOS	B	-	-	C F B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3 3.4 0.3	-	-	-

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

Lanes and Geometrics
2: Junction Rd & Driveway 2

Existing Conditions
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	90		0	0		0
Storage Lanes	0		1	0		1	1		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.865			0.865			0.850		0.996	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1627	0	0	1611	1770	3539	1583	0	3560	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1627	0	0	1611	1770	3539	1583	0	3560	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		417			498			569			255	
Travel Time (s)		9.5			11.3			11.1			5.0	

Intersection Summary

Area Type: Other

Volume
2: Junction Rd & Driveway 2

Existing Conditions
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	0	35	0	0	50	10	430	20	0	960	25
Future Volume (vph)	0	0	35	0	0	50	10	430	20	0	960	25
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	38	0	0	55	11	473	22	0	1055	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	38	0	0	55	11	473	22	0	1082	0
Intersection Summary												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↗↗	↗		↗↗	
Traffic Vol, veh/h	0	0	35	0	0	50	10	430	20	0	960	25
Future Vol, veh/h	0	0	35	0	0	50	10	430	20	0	960	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	1	1	1
Mvmt Flow	0	0	38	0	0	55	11	473	22	0	1055	27
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	541	-	-	236	1082	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.94	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.32	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	488	0	0	766	640	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	488	-	-	766	640	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	13			10.1			0.2			0		
HCM LOS	B			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR					
Capacity (veh/h)	640	-	-	488	766	-	-					
HCM Lane V/C Ratio	0.017	-	-	0.079	0.072	-	-					
HCM Control Delay (s)	10.7	-	-	13	10.1	-	-					
HCM Lane LOS	B	-	-	B	B	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	-					

Intersection: 1: Junction Rd & Isaac Dr/Driveway 1

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	UL	R	UL
Maximum Queue (ft)	43	153	63	56	4	36
Average Queue (ft)	14	58	24	21	0	7
95th Queue (ft)	40	121	45	50	3	27
Link Distance (ft)	384	426	426		194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				125		125
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Junction Rd & Driveway 2

Movement	EB	WB	NB	SB
Directions Served	R	R	L	T
Maximum Queue (ft)	44	51	38	4
Average Queue (ft)	23	25	5	0
95th Queue (ft)	47	47	24	3
Link Distance (ft)	370	439		194
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			90	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Lanes and Geometrics
1: Junction Rd & Isaac Dr/Driveway 1

Proposed Conditions
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations		↕↔			↕	↗		↔	↕↕	↗		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%				0%			
Storage Length (ft)	0		0	0		0		125		0		125
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				100				125
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.925				0.850				0.850		
Flt Protected		0.979			0.953			0.950				0.950
Satd. Flow (prot)	0	1704	0	0	1793	1599	0	1775	3574	1599	0	1737
Flt Permitted		0.979			0.953			0.950				0.950
Satd. Flow (perm)	0	1704	0	0	1793	1599	0	1775	3574	1599	0	1737
Link Speed (mph)		30			30				35			
Link Distance (ft)		431			484				255			
Travel Time (s)		9.8			11.0				5.0			

Intersection Summary

Area Type: Other



Lane Group	SBT	SBR
Lane Configurations	↕↔	
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	12	12
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor		
Frt	0.997	
Flt Protected		
Satd. Flow (prot)	3461	0
Flt Permitted		
Satd. Flow (perm)	3461	0
Link Speed (mph)	35	
Link Distance (ft)	579	
Travel Time (s)	11.3	

Intersection Summary

Volume
1: Junction Rd & Isaac Dr/Driveway 1

Proposed Conditions
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Traffic Volume (vph)	15	1	20	40	1	20	10	5	710	15	2	35
Future Volume (vph)	15	1	20	40	1	20	10	5	710	15	2	35
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	2%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%				0%			
Adj. Flow (vph)	19	1	25	49	1	25	12	6	877	19	2	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	50	25	0	18	877	19	0	45

Intersection Summary



Lane Group	SBT	SBR
Traffic Volume (vph)	210	5
Future Volume (vph)	210	5
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor	0.81	0.81
Growth Factor	100%	100%
Heavy Vehicles (%)	4%	4%
Bus Blockages (#/hr)	0	0
Parking (#/hr)		
Mid-Block Traffic (%)	0%	
Adj. Flow (vph)	259	6
Shared Lane Traffic (%)		
Lane Group Flow (vph)	265	0

Intersection Summary

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔		↔	↔	
Traffic Vol, veh/h	15	1	20	40	1	20	10	5	710	15	2	35	210	5
Future Vol, veh/h	15	1	20	40	1	20	10	5	710	15	2	35	210	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	-	125	-	0	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	1	1	1	2	1	1	1	2	4	4	4
Mvmt Flow	19	1	25	49	1	25	12	6	877	19	2	43	259	6

Major/Minor	Minor2			Minor1			Major1			Major2				
Conflicting Flow All	830	1268	133	1136	1271	438	193	265	0	0	-	877	0	0
Stage 1	354	354	-	914	914	-	-	-	-	-	-	-	-	-
Stage 2	476	914	-	222	357	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	6.44	4.12	-	-	6.44	4.18	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.52	2.21	-	-	2.52	2.24	-	-
Pot Cap-1 Maneuver	264	169	895	158	168	569	1081	1303	-	-	-	753	-	-
Stage 1	639	631	-	296	352	-	-	-	-	-	-	-	-	-
Stage 2	541	352	-	763	629	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-				
Mov Cap-1 Maneuver	251	169	895	153	168	569	1128	1128	-	-	-19	-19	-	-
Mov Cap-2 Maneuver	251	169	-	153	168	-	-	-	-	-	-	-	-	-
Stage 1	639	631	-	296	352	-	-	-	-	-	-	-	-	-
Stage 2	516	352	-	740	629	-	-	-	-	-	-	-	-	-





















Approach	EB	WB	NB	SB
HCM Control Delay, s	14.9	30.5	0.2	
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1128	-	-	409	153	569	+	-	-
HCM Lane V/C Ratio	0.016	-	-	0.109	0.331	0.043	-	-	-
HCM Control Delay (s)	8.2	-	-	14.9	39.7	11.6	-	-	-
HCM Lane LOS	A	-	-	B	E	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.3	0.1	-	-	-

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

Lanes and Geometrics
2: Junction Rd & Driveway 2

Proposed Conditions
AM Peak













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	90		0	0		0
Storage Lanes	0		1	0		1	1		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.865			0.865			0.850		0.997	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1627	0	0	1627	1787	3574	1599	0	3461	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1627	0	0	1627	1787	3574	1599	0	3461	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		417			498			569			255	
Travel Time (s)		9.5			11.3			11.1			5.0	

Intersection Summary

Area Type: Other

Volume
2: Junction Rd & Driveway 2

Proposed Conditions
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	0	5	0	0	45	5	695	60	0	275	5
Future Volume (vph)	0	0	5	0	0	45	5	695	60	0	275	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	6	0	0	56	6	858	74	0	340	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	6	0	0	56	6	858	74	0	346	0
Intersection Summary												

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↗↗	↗		↗↗	
Traffic Vol, veh/h	0	0	5	0	0	45	5	695	60	0	275	5
Future Vol, veh/h	0	0	5	0	0	45	5	695	60	0	275	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	0	6	0	0	56	6	858	74	0	340	6
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	173	-	-	429	346	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.92	4.12	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.31	2.21	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	844	0	0	577	1217	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	844	-	-	577	1217	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.3			11.9			0.1			0		
HCM LOS	A			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR					
Capacity (veh/h)	1217	-	-	844	577	-	-					
HCM Lane V/C Ratio	0.005	-	-	0.007	0.096	-	-					
HCM Control Delay (s)	8	-	-	9.3	11.9	-	-					
HCM Lane LOS	A	-	-	A	B	-	-					
HCM 95th %tile Q(veh)	0	-	-	0	0.3	-	-					

Intersection: 1: Junction Rd & Isaac Dr/Driveway 1

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	UL	UL
Maximum Queue (ft)	52	58	30	28	47
Average Queue (ft)	21	21	12	3	16
95th Queue (ft)	46	49	32	18	40
Link Distance (ft)	384	426	426		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				125	125
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Junction Rd & Driveway 2

Movement	EB	WB	NB
Directions Served	R	R	L
Maximum Queue (ft)	31	40	23
Average Queue (ft)	5	25	1
95th Queue (ft)	23	45	9
Link Distance (ft)	370	439	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Lanes and Geometrics
1: Junction Rd & Isaac Dr/Driveway 1

Proposed Conditions
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕↔			↔↕	↔↕			↕↔	↔↕	↕↔	↕↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%				0%			0%
Storage Length (ft)	0		0	0		0		125		0	125	
Storage Lanes	0		0	0		1		1		1	1	
Taper Length (ft)	25			25				100			125	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor												
Frt		0.913				0.850				0.850		0.997
Flt Protected		0.986			0.953			0.950			0.950	
Satd. Flow (prot)	0	1693	0	0	1793	1599	0	1770	3539	1583	1787	3564
Flt Permitted		0.986			0.953			0.950			0.950	
Satd. Flow (perm)	0	1693	0	0	1793	1599	0	1770	3539	1583	1787	3564
Link Speed (mph)		30			30				35			35
Link Distance (ft)		431			484				255			579
Travel Time (s)		9.8			11.0				5.0			11.3

Intersection Summary

Area Type: Other



Lane Group	SBR
Lane Configurations	↕↔
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	

Intersection Summary

Volume
1: Junction Rd & Isaac Dr/Driveway 1

Proposed Conditions
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Traffic Volume (vph)	5	1	10	110	1	60	20	25	405	40	40	855
Future Volume (vph)	5	1	10	110	1	60	20	25	405	40	40	855
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%				0%			0%
Adj. Flow (vph)	5	1	11	121	1	66	22	27	445	44	44	940
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	122	66	0	49	445	44	44	956

Intersection Summary



Lane Group	SBR
Traffic Volume (vph)	15
Future Volume (vph)	15
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.91
Growth Factor	100%
Heavy Vehicles (%)	1%
Bus Blockages (#/hr)	0
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	16
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0

Intersection Summary

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	5	1	10	110	1	60	20	25	405	40	40	855	15
Future Vol, veh/h	5	1	10	110	1	60	20	25	405	40	40	855	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	125	-	0	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	2	1	1	1
Mvmt Flow	5	1	11	121	1	66	22	27	445	44	44	940	16





















Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1358	1580	478	1102	1588	223	697	956	0	0	445	0	0
Stage 1	1036	1036	-	544	544	-	-	-	-	-	-	-	-
Stage 2	322	544	-	558	1044	-	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	6.44	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.52	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	108	109	536	167	108	784	519	715	-	-	1119	-	-
Stage 1	250	309	-	493	520	-	-	-	-	-	-	-	-
Stage 2	667	520	-	484	306	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			
Mov Cap-1 Maneuver	95	105	536	157	104	784	606	606	-	-	1119	-	-
Mov Cap-2 Maneuver	95	105	-	157	104	-	-	-	-	-	-	-	-
Stage 1	250	297	-	493	520	-	-	-	-	-	-	-	-
Stage 2	610	520	-	454	294	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.9	56.5	1.1	0.4
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	606	-	-	198	156	784	1119
HCM Lane V/C Ratio	0.082	-	-	0.089	0.782	0.084	0.039
HCM Control Delay (s)	11.5	-	-	24.9	81.6	10	8.3
HCM Lane LOS	B	-	-	C	F	B	A
HCM 95th %tile Q(veh)	0.3	-	-	0.3	5	0.3	0.1

Lanes and Geometrics
2: Junction Rd & Driveway 2

Proposed Conditions
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	90		0	0		0
Storage Lanes	0		1	0		1	1		1	0		0
Taper Length (ft)	25			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor			0.865			0.865			0.850		0.996	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1627	0	0	1611	1770	3539	1583	0	3560	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1627	0	0	1611	1770	3539	1583	0	3560	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		417			498			569			255	
Travel Time (s)		9.5			11.3			11.1			5.0	

Intersection Summary

Area Type: Other

Volume
2: Junction Rd & Driveway 2

Proposed Conditions
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	0	35	0	0	65	10	425	35	0	970	25
Future Volume (vph)	0	0	35	0	0	65	10	425	35	0	970	25
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	38	0	0	71	11	467	38	0	1066	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	38	0	0	71	11	467	38	0	1093	0
Intersection Summary												

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑	↑	↑↑	↑		↑↑	
Traffic Vol, veh/h	0	0	35	0	0	65	10	425	35	0	970	25
Future Vol, veh/h	0	0	35	0	0	65	10	425	35	0	970	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	90	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	1	1	1
Mvmt Flow	0	0	38	0	0	71	11	467	38	0	1066	27
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	547	-	-	234	1093	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.94	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.32	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	484	0	0	768	634	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	484	-	-	768	634	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	13.1			10.2			0.2			0		
HCM LOS	B			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR					
Capacity (veh/h)	634	-	-	484	768	-	-					
HCM Lane V/C Ratio	0.017	-	-	0.079	0.093	-	-					
HCM Control Delay (s)	10.8	-	-	13.1	10.2	-	-					
HCM Lane LOS	B	-	-	B	B	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.3	-	-					

Intersection: 1: Junction Rd & Isaac Dr/Driveway 1

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	LT	R	UL	UL	TR
Maximum Queue (ft)	43	239	61	44	40	3
Average Queue (ft)	16	89	26	19	12	0
95th Queue (ft)	42	194	47	44	35	2
Link Distance (ft)	384	426	426			534
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				125	125	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Junction Rd & Driveway 2

Movement	EB	WB	NB
Directions Served	R	R	L
Maximum Queue (ft)	47	58	38
Average Queue (ft)	22	29	6
95th Queue (ft)	45	51	26
Link Distance (ft)	370	439	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

APPENDIX C

Site Access Overview Map

