Traffic Impact Study and Parking Evaluation
Proposed McDonald's Remodel

Arlington Heights, Illinois

Prepared For:

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1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study and a parking evaluation conducted by Kenig, Lindgren, OôHara, Aboona, Inc. (KLOA, Inc.) for the proposed remodel of the existing McDonaldôs drive-through restaurant located at 45 E. Golf Road in Arlington Heights, Illinois. The existing approximately 3,300 square-foot McDonaldôs drive-through restaurant provides a tandem drive-through and 37 parking spaces of which two are occupied by a trash receptacle. Access to the existing building is provided via a shared access road which has a signalized intersection with Golf Road approximately 900 feet east of Arlington Heights Road. As proposed, the existing building will be remodeled and the site will be modified to provide dual drive-through lanes. The number of parking spaces on site will be reduced to 30.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed remodel will have on traffic conditions on site and in the area, determine if any roadway or access improvements are necessary, and identify the existing parking supply and its adequacy in accommodating the future parking demand. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site.

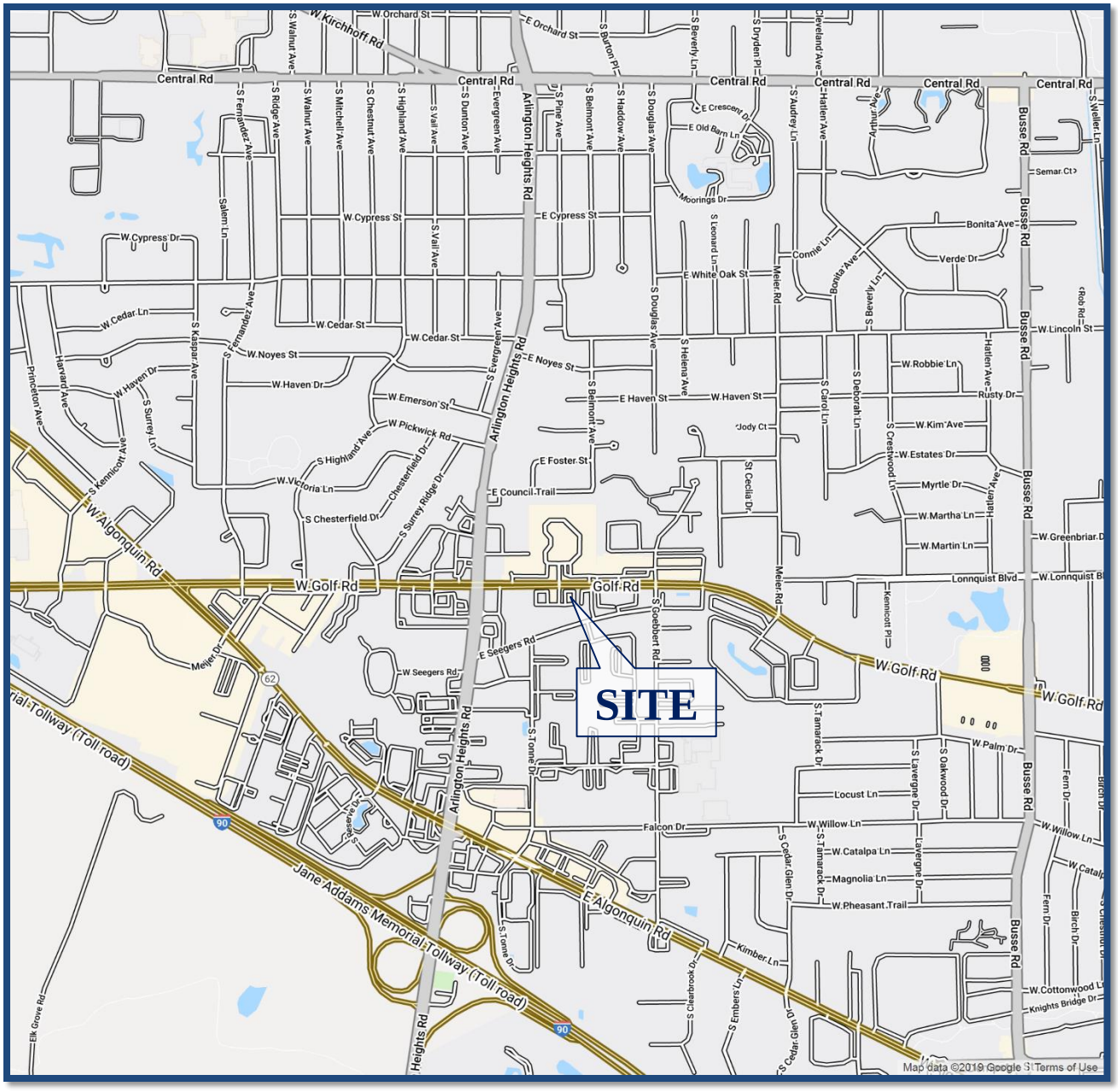
The sections of this report present the following:

- Existing roadway conditions and site operations
- A description of the proposed remodel
- Vehicle trip generation for the remodel
- Future traffic conditions including access to the remodel
- Traffic analyses for the weekday morning, weekday midday, weekday evening, and Saturday midday peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system
- On-site circulation and drive-through stacking evaluation
- Parking evaluation

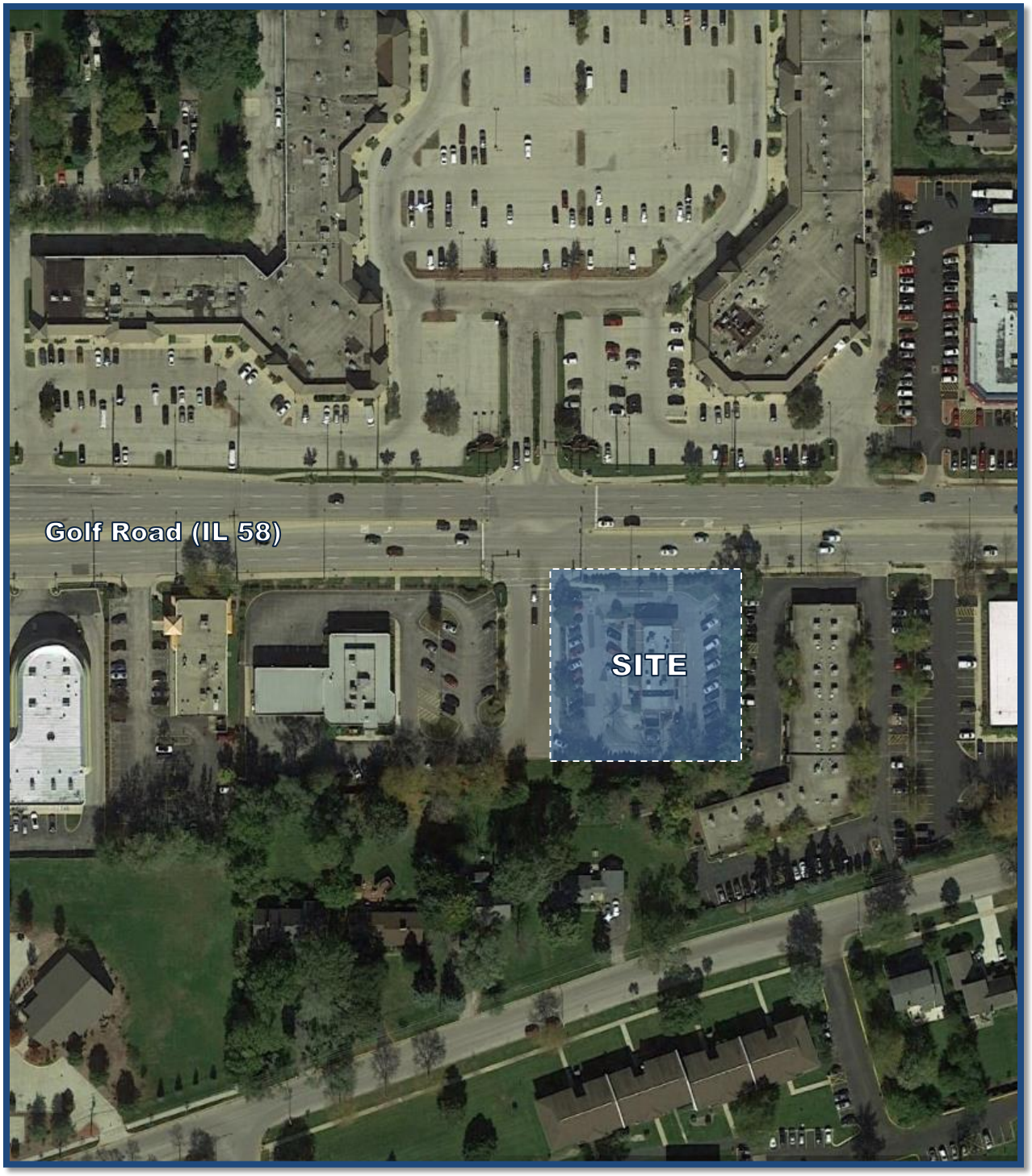
Traffic capacity analyses were conducted for the weekday morning, weekday midday, weekday evening, and Saturday midday peak hours for the following conditions:

1. Existing Conditions ï Analyze the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.

2. Projected Conditions ï Analyze the capacity of the future roadway system using projected traffic volumes that include the existing traffic volumes, ambient traffic growth and the increase in traffic estimated to be generated by the proposed remodel.



Site Location **Figure 1**



Aerial View of Site **Figure 2**

2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented based on field visits conducted by KLOA, Inc. in order to obtain a database for projecting future conditions. The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices, and existing peak hour traffic volumes.

Existing McDonaldôs Drive-Through Restaurant Operations

Site Location

The existing McDonaldôs drive-through restaurant is located in the southeast corner of the signalized intersection of Golf Road with the International Plaza access drive and the shared Chase Bank/McDonaldôs access road. Land uses in the vicinity of the site include the International Plaza Shopping Center to the north, the Golf Plaza Office Park to the east, residential to the south, and Chase Bank to the west.

Site Operations

Under existing conditions, all restaurant traffic enters and exits the site via the shared access road that runs along the siteôs western border and provides access to the site approximately 220 feet south of its signalized intersection with Golf Road. The site access drive off the shared access road is located in the southwest corner of the site and provides one inbound lane and one outbound lane with outbound movements under stop sign control. Within the site, all traffic operates in a one-way counterclockwise direction. Upon entering the site, all vehicles travel along the south, then east, then north drive aisles which provide seven, 15, and zero angled parking spaces along the outside of the site, respectively. The four northernmost spaces on the east drive aisle are designated for drive-through customers waiting for their orders. It should be noted that some vehicles were observed to enter the site and immediately make a left turn onto the west drive aisle and travel the wrong direction in order to access the parking spaces there. The west drive aisle provides 12 angled parking spaces along the outside of the site and three spaces along the face of the building. At its south end, the west drive aisle splits into two separate lanes, of which one lane connects to the access drive off the shared access road and the other forms the beginning of the drive-through lane. The drive-through lane continues along the south and east faces of the building where it runs parallel to the south and east drive aisles. The drive-through lane provides stacking for two vehicles between the payment window and the pick-up window, two vehicles between the ordering boards and the first payment window, and approximately five vehicles from the ordering boards for a total of approximately nine vehicles. **Figure 3** shows an aerial photo detailing existing on-site circulation.

KLOA, Inc. conducted surveys to determine the existing traffic generated by the restaurant (walk-ins and drive-throughs) as well as drive-through stacking. The surveys were conducted from 7:00 A.M. to 7:00 P.M. on Thursday, May 16, 2019 and Saturday, May 18, 2019. A summary of the trip generation and drive-through stacking, which summarizes the peak stacking observed for the one-hour periods, is shown in **Tables 1A, 1B,** and **2**, respectively.

Based on observations conducted by KLOA, Inc, northbound queues on the shared McDonaldôs/Chase Bank access roadôs intersection with Golf Road did not extend to the location of the McDonaldôs access drive. Further, northbound queues were observed to clear the intersection with each green cycle. As such, these northbound queues did not block vehicles from exiting the McDonaldôs or Chase Bank sites and did not impact the internal circulation of either site.

Existing On-Site Circulation **Figure 3**

Table 1A
EXISTING SITE-GENERATED TRAFFIC ï WEEKDAY

Time of Day	Total Inbound Traffic	Total Outbound Traffic	Total Site Traffic	Inbound Drive Through Traffic	Inbound Walk-In Traffic
7:00 AM	95	97	192	69	26
8:00 AM	92	90	182	68	24
9:00 AM	79	75	154	46	33
10:00 AM	73	76	149	49	24
11:00 AM	93	96	189	62	31
12:00 PM	109	107	216	69	40
1:00 PM	83	95	178	58	25
2:00 PM	62	68	130	44	18
3:00 PM	76	73	149	53	23
4:00 PM	67	73	140	44	23
5:00 PM	62	61	123	49	13
6:00 PM	54	60	114	43	11

Table 1B
EXISTING SITE-GENERATED TRAFFIC ï SATURDAY

Time of Day	Total Inbound Traffic	Total Outbound Traffic	Total Site Traffic	Inbound Drive Through Traffic	Inbound Walk-In Traffic
7:00 AM	71	61	132	35	36
8:00 AM	93	84	177	59	34
9:00 AM	83	86	169	55	28
10:00 AM	101	93	194	69	32
11:00 AM	91	103	194	54	37
12:00 PM	119	117	236	68	51
1:00 PM	99	105	204	60	39
2:00 PM	86	86	172	57	29
3:00 PM	52	59	111	38	14
4:00 PM	62	62	124	37	25
5:00 PM	51	57	108	35	16
6:00 PM	41	43	84	23	18

Table 2
EXISTING PEAK HOURLY DRIVE-THROUGH STACKING

Time of Day	Peak Stacking – Weekday[1]			Peak Stacking – Saturday[1]		
	Stacking from Ordering Board	Stacking from Pick-Up Window	Total Drive-Through Stacking	Stacking from Ordering Board	Stacking from Pick-Up Window	Total Drive-Through Stacking
7:00 AM	2	4	**6**	6	3	**9**
8:00 AM	4	4	**8**	5	4	**9**
9:00 AM	0	4	**4**	2	3	**5**
10:00 AM	4	4	**8**	4	2	**6**
11:00 AM	9	4	**13**	4	4	**8**
12:00 PM	7	4	**11**	6	4	**10**
1:00 PM	6	4	**10**	5	4	**9**
2:00 PM	3	1	**4**	6	3	**9**
3:00 PM	3	4	**7**	2	4	**6**
4:00 PM	3	3	**6**	2	4	**6**
5:00 PM	1	2	**3**	1	4	**5**
6:00 PM	1	3	**4**	3	4	**7**

1. Represents the peak stacking observed for each hour

Existing Roadway System Characteristics

The characteristics of the existing roadways near the restaurant are described below and illustrated in **Figure 4**.

Golf Road (Illinois Route 58) is an east-west, other principal arterial roadway that provides three lanes in each direction. At its signalized intersection with the International Plaza access drive and the shared McDonaldôs/Chase Bank access road, Golf Road provides an exclusive left-turn lane, two through lanes, and a combined through/right-turn lane on both approaches. It should be noted that approximately 300 feet east of this intersection, Golf Road narrows to two lanes in each direction. Golf Road is under the jurisdiction of the Illinois Department of Transportation (IDOT), has a posted speed limit of 40 mph, is designated as a Strategic Regional Arterial (SRA), and is part of the Arlington Heights Road/IL 58/IL 62 interconnect system, comprising a total of 21 signalized intersections. According to IDOT, Golf Road had a 2017 Annual Average Daily Traffic (AADT) volume of 29,200 vehicles along the site frontage.

The Shared McDonald's/Chase Bank Access Road is a north-south driveway that provides one southbound lane and two northbound lanes. At its signalized intersection with Golf Road, the shared access road forms the south leg of the intersection and provides an exclusive left-turn lane and a combined through/right-turn lane. The north leg of this intersection is the International Plaza access drive, which provides an exclusive left-turn lane and a combined through/right-turn lane.

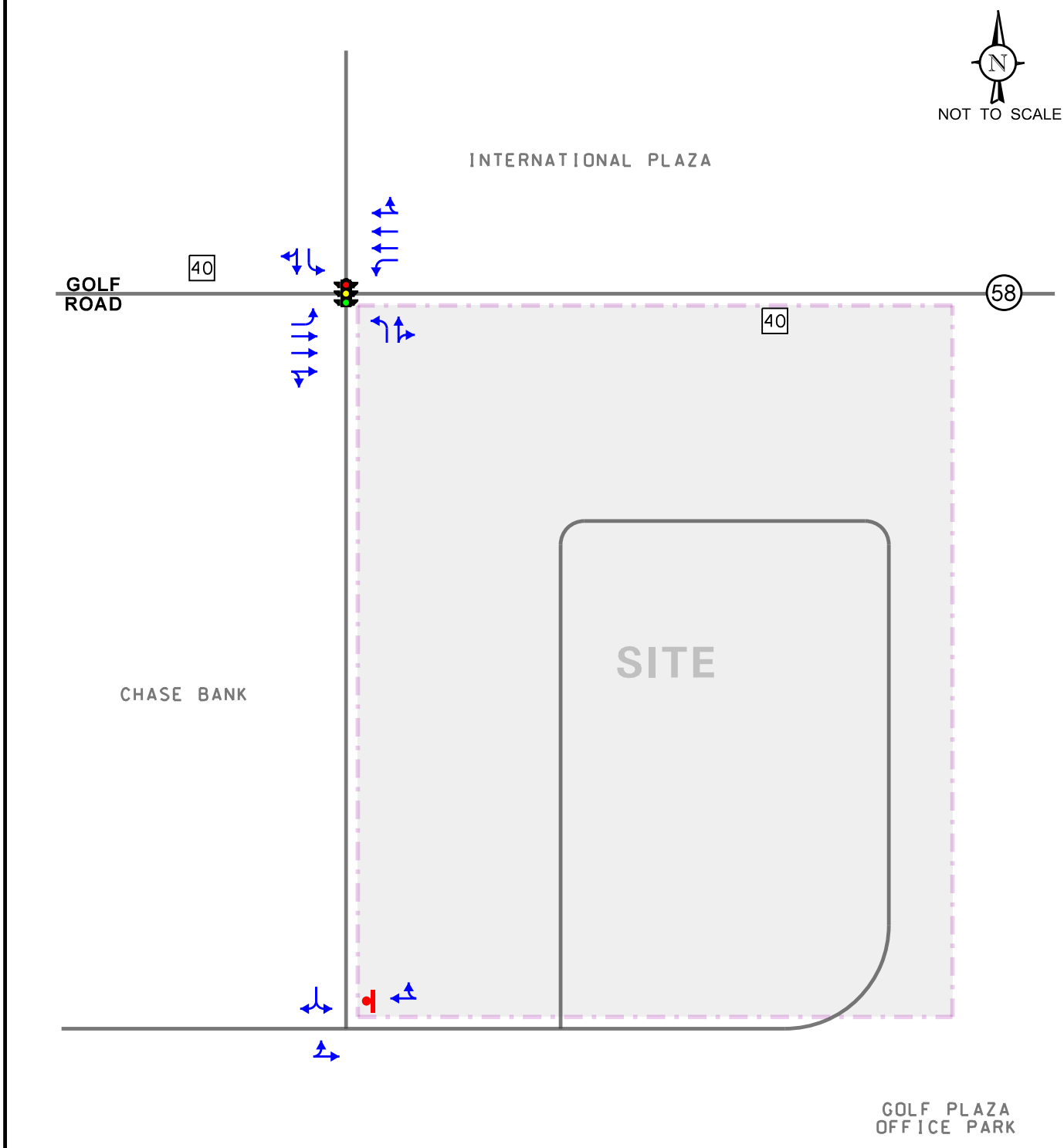
Existing Traffic Volumes

In order to determine current vehicle, pedestrian, and bicycle conditions within the study area, KLOA, Inc. conducted peak period traffic, pedestrian, and bicycle counts at the following intersections:

- Golf Road with the International Plaza Access Drive and the Shared McDonaldôs/Chase Bank Access Road

- The Shared McDonaldôs/Chase Bank Access Road with the McDonaldôs Access Drive and the Chase Bank Access Drive

The traffic counts were conducted on Thursday, May 16, 2019 during the morning (7:00 A.M. to 9:00 A.M.), midday (11:30 A.M. to 1:30 P.M.), and evening (4:00 P.M. to 6:00 P.M.) peak periods and on Saturday, May 18, 2019 during the midday (11:30 A.M. to 1:30 P.M.) peak period. The results of the traffic counts show that the peak hours of traffic generally occur between 7:30 A.M. and 8:30 A.M. during the weekday morning peak period, between 11:30 A.M. and 12:30 P.M. during the weekday midday peak period, between 4:30 P.M. and 5:30 P.M. during the weekday evening peak period, and between 11:45 A.M. and 12:45 P.M. during the Saturday midday peak period. Copies of the traffic count summary sheets are included in the Appendix. **Figure 5** illustrates the existing peak hour vehicle traffic volumes.



Proposed McDonald's Remodel
Arlington Heights, Illinois

Existing Roadway Characteristics

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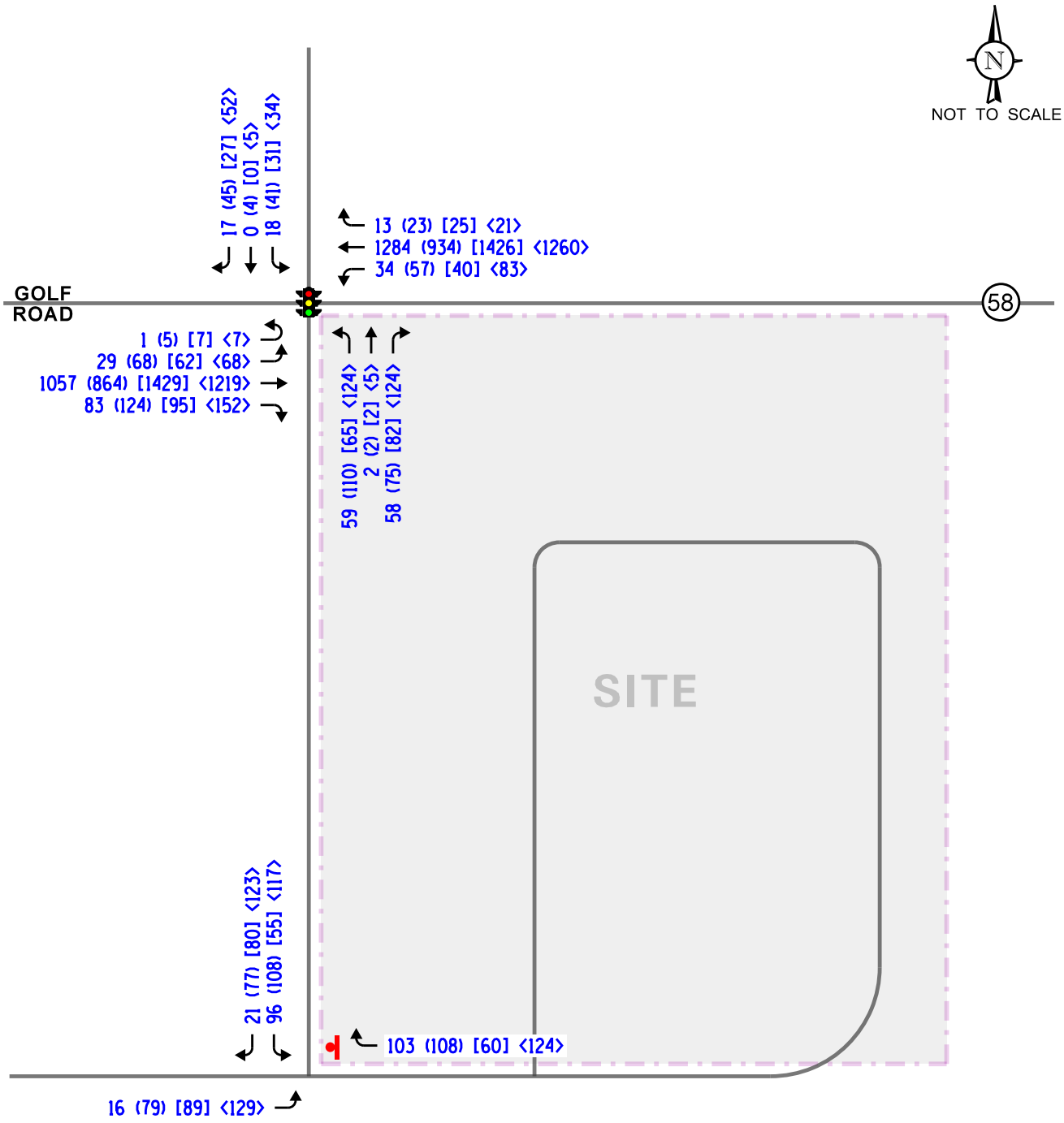

LEGEND

OO - WEEKDAY AM PEAK HOUR (7:30-8:30 AM)

(OO) - WEEKDAY MIDDAY PEAK HOUR (11:30 AM-12:30 PM)

[OO] - WEEKDAY PM PEAK HOUR (4:45-5:45 PM)

[OO] - SATURDAY MIDDAY PEAK HOUR (11:45 AM- 12:45 PM)

Proposed McDonald's Remodel
Arlington Heights, Illinois

Existing Traffic Volumes

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Crash Analysis

KLOA, Inc. obtained accident data for the most recent available past five years (2013 to 2017) for the intersection of Golf Road with the International Plaza access drive and the shared McDonaldôs/Chase Bank access road. A review of the crash data revealed no fatalities were reported at the intersection during the 2013 to 2017 period. A summary of the crash data for this intersection is shown in **Table 3.**[1]

Table 3
GOLF ROAD WITH THE INTERNATIONAL PLAZA ACCESS DRIVE AND THE SHARED MCDONALDôS/CHASE BANK ACCESS ROAD - CRASH SUMMARY

	Type of Accident Frequency						
Year	**Angle**	**Object**	**Rear End**	**Sideswipe**	**Turning**	**Other**	**Total**
2013	0	0	1	0	1	0	2
2014	0	0	1	0	0	0	1
2015	1	0	3	0	0	0	4
2016	0	0	0	0	0	0	0
2017	0	0	3	0	0	0	3
Total	**1**	**0**	**8**	**0**	**1**	**0**	**10**
Average/Year	**<1.0**	**--**	**1.6**	**--**	**<1.0**	**--**	**2.0**

[1] **IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. The author is responsible for any data analyses and conclusions drawn.**

3. Traffic Characteristics of the Remodel

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed remodeled restaurant, including the directional distribution and volumes of traffic that it will generate.

Proposed Restaurant Remodel

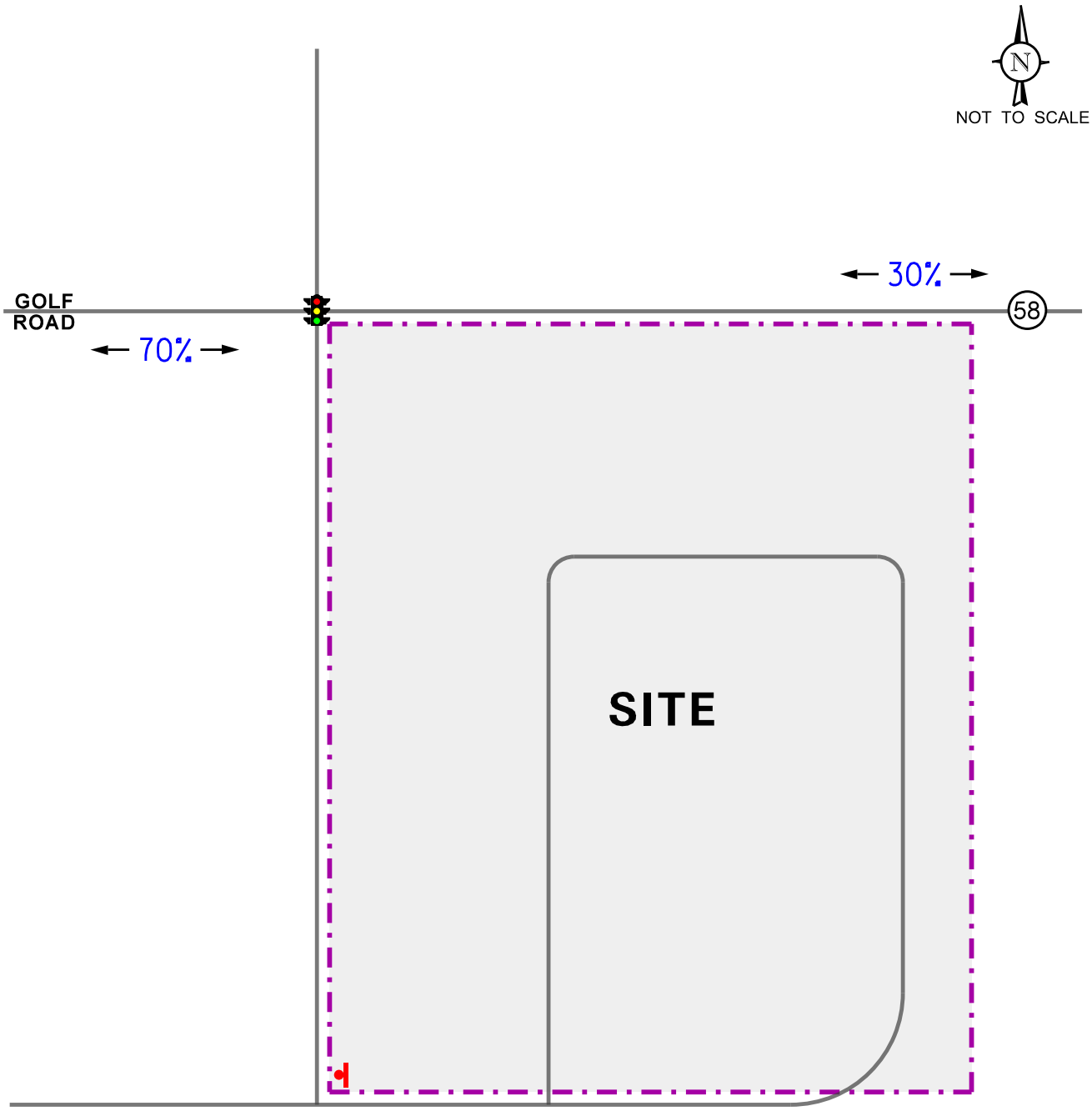
As proposed, the restaurant will be remodeled and the drive-through will be modified to provide dual drive-through lanes. The number of parking spaces will be reduced as a result from 37 spaces to 30 spaces. Access to the restaurant will continue to be provided via the existing access drive off the shared access road that is signalized at its intersection with Golf Road. Access to the drive-through lanes will continue to be provided on the west side of the building with vehicles continuing to be required to circulate the site to access the entrance to the drive-through lanes. The drive-through will provide dual ordering lanes with each lane providing stacking for approximately four vehicles. After the ordering boards, the lanes will merge into a single drive-through lane along the the east side of the building with space for approximately four vehicles between the ordering boards and the first payment window. An additional two vehicles will be able to stack between the payment window and the pick-up window, providing a total stacking of approximately 14 vehicles. A copy of the preliminary site plan is included in the appendix.

Directional Distribution

The directions from which patrons will approach and depart the site were estimated based on existing travel patterns, as determined from the traffic counts. **Figure 6** illustrates the directional distribution of traffic.

Peak Hour Traffic Volumes

The traffic to be generated by the remodeled restaurant will increase primarily due to the proposed modifications to the drive-through operations. It is anticipated that with the provision of the dual drive-through lanes, the amount of traffic utilizing the drive-through will increase by 10 percent. While this increase in traffic may not all be new, with some customers that are currently parking and walking into the restaurant utilizing the drive-through instead, it was assumed for the purposes of the analysis that they will all be new trips. **Table 4** summarizes the existing and additional trips generated by the restaurant.



LEGEND

00% - PERCENT DISTRIBUTION

Proposed McDonald's Remodel Arlington Heights, Illinois	Estimated Directional Distribution	KLOA Kenig,Lindgren,O'Hara,Aboona,Inc. Job No: 19-121 Figure: 6

Table 4
EXISTING AND PROJECTED SITE TRAFFIC VOLUMES

McDonald's Restaurant	Weekday Morning Peak Hour			Weekday Midday Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Existing Drive-Through Traffic Volumes	72	72	144	70	70	140	45	45	90	66	66	132
Existing Walk-In Traffic Volumes	24	31	55	38	38	76	10	15	25	51	58	109
Total Existing Traffic Volumes	**96**	**103**	**199**	**108**	**108**	**216**	**55**	**60**	**115**	**117**	**124**	**241**
10% Increase in Drive-Through Traffic Volumes	7	7	14	7	7	14	5	5	10	7	7	14
Total Projected Traffic Volumes	**103**	**110**	**213**	**115**	**115**	**230**	**60**	**65**	**125**	**124**	**131**	**255**

4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to growth, and the increase in traffic that will be generated by the proposed remodel.

Traffic Assignment

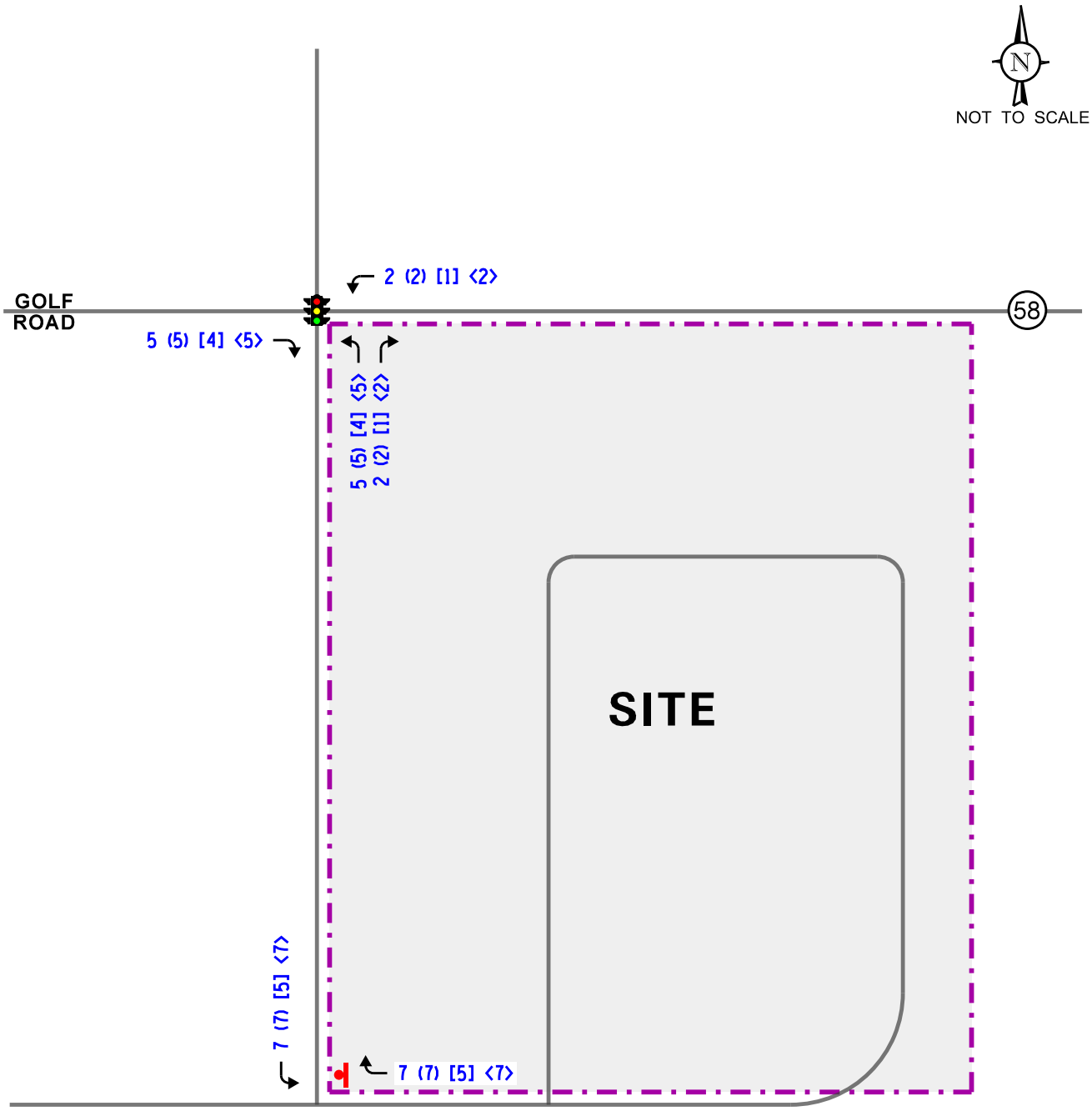
The estimated additional weekday morning, weekday midday, weekday evening, and Saturday midday peak hour traffic volumes that will be generated by the proposed remodel were assigned to the roadway system in accordance with the previously described directional distribution (Figure 6). The traffic assignment for the remodel is illustrated in **Figure 7**.

Background Traffic Conditions

The existing traffic volumes (Figure 5) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on AADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP), the existing traffic volumes are projected to increase by a compound annual growth rate of less than 0.1 percent per year. As such, in order to provide a conservative analysis, traffic volumes were increased by 0.5 percent to represent total projected conditions. A copy of the CMAP projections letter is included in the Appendix.

Total Projected Traffic Volumes

The new drive-through traffic was added to the existing traffic volumes accounting for background growth to determine the total projected traffic volumes, as shown in **Figure 8**.



LEGEND

00 - WEEKDAY AM PEAK HOUR (7:30-8:30 AM)
(00) - WEEKDAY MIDDAY PEAK HOUR (11:30 AM-12:30 PM)
[00] - WEEKDAY PM PEAK HOUR (4:45-5:45 PM)
[00] - SATURDAY MIDDAY PEAK HOUR (11:45 AM- 12:45 PM)

Proposed McDonald's Remodel
Arlington Heights, Illinois

Estimated Site-Generated Traffic Volumes

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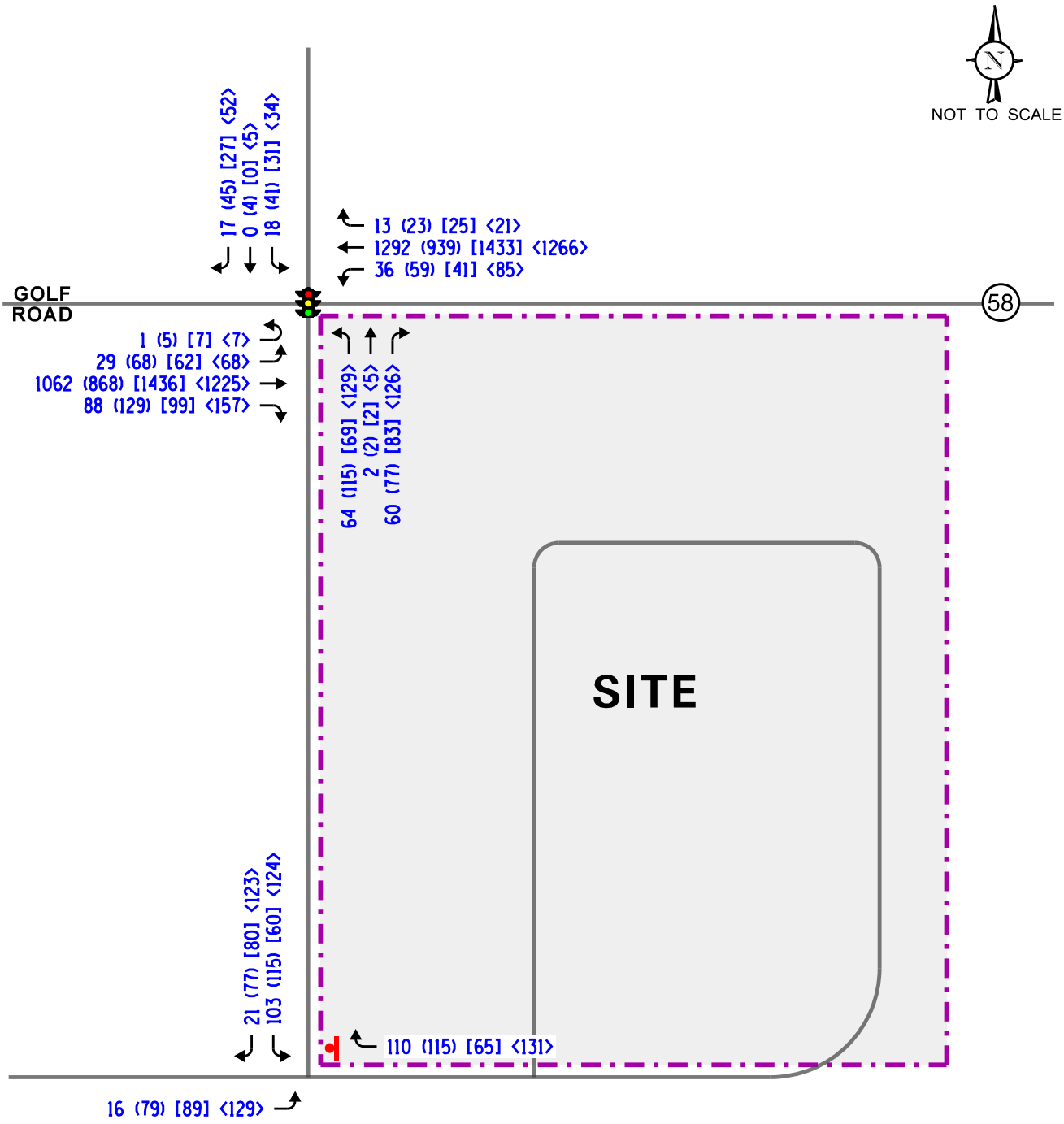

LEGEND

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Proposed McDonald's Remodel
Arlington Heights, Illinois

Total Projected Traffic Volumes

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Job No: 19-121 Figure: 8

5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning, weekday midday, weekday evening, and Saturday midday peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modifications are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, weekday midday, weekday evening, and Saturday midday peak hours for the existing (Year 2019) and Year 2025 projected traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Boardôs *Highway Capacity Manual (HCM), 2010* and analyzed using the Synchro/SimTraffic 10 software. The analysis for the traffic-signal controlled intersections were accomplished using field measured cycle lengths and phasings to determine the average overall vehicle delay and levels of service.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing and total projected conditions are presented in **Tables 5** and **6**. A discussion of each intersection follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 5
CAPACITY ANALYSIS RESULTS ï GOLF ROAD WITH THE INTERNATIONAL PLAZA ACCESS DRIVE AND THE SHARED MCDONALDðS/CHASE BANK ACCESS ROAD ï SIGNALIZED

	Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall
		L	T/R	L	T/R	L	T/R	L	T/R	
Year 2019 Existing Traffic Volumes	Weekday Morning	E 77.7	A 9.2	E 77.6	A 9.5	E 60.6	E 77.7	D 53.3	E 65.8	B 14.3
		B ï 10.9		B ï 11.3		E ï 69.2		E 59.4		
	Weekday Midday	E 65.0	B 12.9	E 64.3	B 13.3	D 44.9	E 58.9	D 39.4	E 61.3	C 20.4
		B ï 16.4		B ï 16.1		D ï 50.7		D ï 51.3		
	Weekday Evening	E 79.8	B 11.2	E 77.7	B 11.9	E 56.4	E 78.3	E 52.2	E 64.8	B 17.1
		B ï 14.0		B ï 13.7		E - 68.8		E ï 58.1		
	Saturday Midday	E 65.3	B 18.2	E 65.6	B 16.6	D 43.0	E 58.3	D 36.4	E 59.0	C 23.5
		C ï 20.7		B ï 19.6		D ï 50.8		D ï 50.5		
Total Projected Traffic Volumes	Weekday Morning	E 77.7	A 9.9	E 77.8	A 9.9	E 60.9	E 77.8	D 53.0	E 65.5	B 15.0
		B ï 11.7		B ï 11.7		E ï 69.1		E 59.1		
	Weekday Midday	E 65.0	B 13.1	E 64.4	B 13.4	D 45.1	E 58.8	D 39.2	E 61.3	C 20.6
		B ï 16.6		B ï 16.3		D ï 50.7		D ï 51.2		
	Weekday Evening	E 79.8	B 11.4	E 77.8	B 12.0	E 56.9	E 78.3	E 52.1	E 64.6	B 17.3
		B ï 14.1		B ï 13.8		E - 68.7		E ï 57.9		
	Saturday Midday	E 65.3	B 18.5	E 65.6	B 16.8	D 43.2	E 58.2	D 36.2	E 58.9	C 23.7
		C ï 21.0		B ï 19.8		D ï 50.8		D ï 50.4		

Letter denotes Level of Service L ï Left Turns R ï Right Turns
Delay is measured in seconds. T ï Through

Table 6
CAPACITY ANALYSIS RESULTS – SHARED ACCESS ROAD WITH THE MCDONALD'S AND CHASE BANK ACCESS DRIVES - UNSIGNALIZED (ICU)

	Weekday Morning Peak Hour		Weekday Midday Peak Hour		Weekday Evening Peak Hour		Weekday Evening Peak Hour	
	LOS	**ICU Capacity**	**LOS**	**ICU Capacity**	**LOS**	**ICU Capacity**	**LOS**	**ICU Capacity**
Existing Conditions								
	A	20.8%	A	28.4%	A	26.2%	A	38.9%
Projected Conditions								
	A	21.2%	A	28.8%	A	26.5%	A	39.7%

LOS = Level of Service
The operation of this intersection is based on a critical volume to saturation flow (v/s) evaluation also known as the Intersection Capacity Utilization (ICU) method.

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and traffic control improvements necessary to accommodate the future traffic volumes.

Golf Road with the International Plaza Access Drive and the Shared McDonaldôs/Chase Bank Access Road

The results of the capacity analysis indicate that overall this intersection currently operates at Level of Service (LOS) B during the weekday morning and weekday evening peak hours and at LOS C during the weekday midday and Saturday midday peak hours. It should be noted that the eastbound and westbound through movements operate at LOS B or better during all four peak hours. Further, the northbound and southbound approaches operate at LOS E during the weekday morning and weekday evening peak hours and at LOS D during the weekday midday and Saturday midday peak hours. As can be seen, the traffic signal is programmed such that the signal gives a majority of its green time to the Golf Road (eastbound/westbound) approaches during the morning and evening peak hours, resulting in increased delays for the northbound and southbound approaches. However, this is typical and expected at the intersection of an access road with a major arterial such as Golf Road.

Under total projected traffic conditions, this intersection is projected to continue to operate at the same LOS during the weekday morning, weekday midday, weekday evening, and Saturday midday peak hours with increases in delay of less than one second. Further, all movements are projected to continue to operate at the same levels of service as under existing traffic conditions.

As previously mentioned, northbound queues were not observed to extend to the access drives serving McDonaldôs and the Chase Bank site. As the remodel is not projected to increase northbound traffic significantly and as indicated by the results of the capacity analyses, the northbound queues will not extend to the access drives and, as such, will not impact the internal circulation of the site. Therefore, this intersection has sufficient reserve capacity to accommodate the future traffic volumes and no additional geometric or traffic control improvements are required or recommended as part of this remodel.

Shared Access Road with the McDonaldôs/Chase Bank Access Drives

Because of the traffic control configuration of this intersection where only traffic exiting McDonaldôs and Chase Bank sites stop, the intersection could not be analyzed using HCM procedures. The intersection was analyzed using the Intersection Capacity Utilization (ICU) level of service. The ICU indicates how much reserve capacity is available or how much an intersection is over capacity.

Based on the ICU analysis, the intersection currently utilizes approximately 20 to 40 percent of its capacity. Under future conditions, it is projected that the intersection will continue to utilize approximately 20 to 40 percent of its capacity. As a result, the intersection will continue to operate efficiently and with minimal delays.

Drive-Through Usage and Stacking

Under existing conditions, the drive-through lane is able to accommodate up to nine vehicles without impacting internal circulation. Based on observations conducted by KLOA, Inc. and as shown in Table 2, the restaurant currently experiences drive-through queues of up to 13 vehicles. As such, on several occasions traffic from the drive-through lane exceeded its capacity and blocked the circulation drive.

With the proposed remodel, the drive-through lanes will be able to accommodate up to 14 vehicles before blocking the circulation drive. With this added stacking area combined with the greater efficiency resulting from the dual ordering boards, the observed maximum queue of 13 vehicles can therefore be accommodated within the drive-through lanes without impacting on-site circulation.

As noted earlier, a number of customers were observed to turn left immediately upon entering the site and travel in the wrong direction in the parking lot west of the building. It is recommended that ñDo Not Enterò signs be posted facing south at the drive aisle exit.

6. Parking Evaluation

In order to determine the parking demand of the existing McDonaldôs restaurant parking lot during the peak time periods, KLOA, Inc. conducted parking occupancy surveys on a Friday and Saturday (June 7th and 8th, 2019, respectively). The surveys of the existing parking lot providing 37 spaces, of which two spaces are occupied by trash receptacles, were conducted in 15-minute intervals from 7:00 A.M. to 7:00 P.M**.** The results of the parking occupancy surveys are summarized in **Table 7**. The results of the parking occupancy surveys indicated the following:

- Peak occupancy on Friday was 25 vehicles (71 percent occupied) occurring at 1:45 P.M., resulting in a surplus of 10 parking spaces.

- Peak occupancy on Saturday was 23 vehicles (66 percent occupied) occurring at 1:30 P.M., resulting in a surplus of 12 parking spaces.

It should be noted that the parking occupancy surveys included observations of any customers who parked in the Chase Bank parking lot and walked over to McDonaldôs. The results indicated that a total of three cars were observed to park at the Chase Bank site on Friday occurring at 8:30 A.M., 2:00 P.M., and 6:45 P.M. No McDonaldôs customers were observed to park in the Chase Bank parking lot on Saturday.

As indicated earlier, the proposed remodel will require the reconfiguration of the parking lot to provide dual drive-through lanes. The resulting parking lot configuration will result in a total of 30 provided parking spaces (parking ratio of approximately 9.1 spaces per 1,000 square-feet). While the dual drive-through lanes will increase the efficiency of the drive-through operations and may result in walk-in customers utilizing the drive-through instead, the existing observed parking demand was not reduced to account for this. Therefore, the McDonaldôs restaurantôs peak parking demand, of 25 spaces on Friday and 23 spaces on Saturday, can be accommodated by the modified parking lot with 30 spaces.

Table 7
PARKING OCCUPANCY SURVEY RESULTS

Time	Friday, June 8, 2019					Saturday, June 9, 2019				
	Unreserved	Mobile Order	Handicap	Chase Bank	Total	Unreserved	Mobile Order	Handicap	Chase Bank	Total
7:00 AM	14	0	0	0	14	8	0	1	0	9
7:15 AM	6	1	0	0	7	4	1	0	0	5
7:30 AM	7	0	0	0	7	4	0	0	0	4
7:45 AM	9	0	0	0	9	6	1	0	0	7
8:00 AM	8	0	0	0	8	13	0	0	0	13
8:15 AM	11	0	0	0	11	10	0	1	0	11
8:30 AM	12	2	0	1	15	12	0	1	0	13
8:45 AM	19	1	0	0	20	14	0	1	0	15
9:00 AM	16	0	0	0	16	10	0	1	0	11
9:15 AM	13	0	0	0	13	12	0	1	0	13
9:30 AM	20	0	0	0	20	12	0	1	0	13
9:45 AM	20	0	0	0	20	18	0	2	0	20
10:00 AM	17	0	1	0	18	16	1	1	0	18
10:15 AM	19	0	0	0	19	14	1	2	0	17
10:30 AM	16	0	0	0	16	11	0	2	0	13
10:45 AM	19	0	0	0	19	9	0	0	0	9
11:00 AM	16	1	1	0	18	18	0	0	0	18
11:15 AM	17	2	1	0	20	18	0	2	0	20
11:30 AM	15	2	2	0	19	16	0	2	0	18
11:45 AM	18	1	2	0	21	12	0	2	0	14
12:00 PM	18	1	2	0	21	18	0	2	0	20
12:15 PM	19	1	2	0	22	12	0	1	0	13
12:30 PM	19	2	2	0	23	8	0	1	0	9
12:45 PM	15	0	0	0	15	12	2	1	0	15
1:00 PM	16	0	1	0	17	11	1	0	0	12
1:15 PM	22	0	2	0	24	15	0	0	0	15
1:30 PM	22	1	1	0	24	21	2	0	0	23
1:45 PM	23	2	0	0	25	22	0	0	0	22
2:00 PM	20	1	0	1	22	20	1	0	0	21
2:15 PM	20	0	0	0	20	17	0	1	0	18
2:30 PM	19	0	0	0	19	17	0	0	0	17
2:45 PM	16	0	0	0	16	12	0	1	0	13
3:00 PM	14	3	0	0	17	11	0	1	0	12
3:15 PM	9	0	0	0	9	8	0	1	0	9
3:30 PM	9	0	0	0	9	9	1	1	0	11
3:45 PM	6	0	0	0	6	11	1	1	0	13
4:00 PM	6	0	0	0	6	12	1	0	0	13
4:15 PM	7	0	0	0	7	9	0	1	0	10
4:30 PM	7	0	0	0	7	10	0	0	0	10
4:45 PM	5	0	0	0	5	12	0	1	0	13
5:00 PM	10	0	0	0	10	12	1	1	0	14
5:15 PM	11	0	0	0	11	10	0	1	0	11
5:30 PM	10	0	0	0	10	10	1	1	0	12
5:45 PM	6	0	0	0	6	5	0	0	0	5
6:00 PM	12	1	1	0	14	6	0	0	0	6
6:15 PM	11	0	0	0	11	5	0	0	0	5
6:30 PM	8	1	0	0	9	6	0	0	0	6
6:45 PM	5	0	0	1	6	8	0	0	0	8
7:00 PM	3	0	0	0	3	4	1	0	0	5
Inventory	**29**	**2**	**4**	**0**	**35**	**29**	**2**	**4**	**0**	**35**

7. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- The adjacent street system and study area intersections have sufficient reserve capacity to accommodate the increase in traffic projected to be generated by the proposed McDonaldôs redevelopment.

- The existing access system will continue to be adequate in accommodating all traffic in and out of the restaurant and will have a limited impact on the operation of the shared access road.

- The proposed dual drive-through lanes will result in an increased stacking capacity and will provide more efficient service, which will adequately accommodate the projected drive-through stacking.

- Based on the results of the parking occupancy surveys conducted at the existing restaurant, the proposed 30 parking spaces will adequately accommodate the peak parking demand of the remodeled restaurant.

Appendix

Traffic Count Summary Sheets
Preliminary Site Plan
CMAP 2050 Projections Letter
Level of Service Criteria
Capacity Analysis Summary Sheets

Traffic Count Summary Sheets

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Gold Road with Shared Access Drive
Site Code:
Start Date: 05/16/2019

Turning Movement Data

Start Time	Golf Road Eastbound						Golf Road Westbound						Access Drive Northbound						Access Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	5	218	22	0	245	0	6	224	2	0	232	0	8	0	15	0	23	0	3	0	3	1	6	506
7:15 AM	0	5	230	18	0	253	0	8	282	2	0	292	0	7	0	16	0	23	0	2	0	2	0	4	572
7:30 AM	0	8	289	25	0	322	0	10	379	4	0	393	0	17	0	12	0	29	0	4	0	4	0	8	752
7:45 AM	1	2	284	21	0	308	0	7	306	2	0	315	0	17	1	19	0	37	0	4	0	2	0	6	666
Hourly Total	1	20	1021	86	0	1128	0	31	1191	10	0	1232	0	49	1	62	0	112	0	13	0	11	1	24	2496
8:00 AM	0	10	240	22	1	272	0	12	313	3	1	328	0	14	1	11	1	26	0	3	0	5	1	8	634
8:15 AM	0	9	244	15	0	268	0	5	286	4	0	295	0	11	0	16	0	27	0	7	0	6	1	13	603
8:30 AM	1	9	239	23	0	272	0	16	305	2	0	323	0	13	0	13	2	26	0	6	1	6	0	13	634
8:45 AM	0	12	237	25	0	274	0	18	297	4	0	319	0	32	0	13	0	45	0	3	0	3	2	6	644
Hourly Total	1	40	960	85	1	1086	0	51	1201	13	1	1265	0	70	1	53	3	124	0	19	1	20	4	40	2515
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:30 AM	0	10	209	36	0	255	0	22	238	5	0	265	0	25	2	19	0	46	0	8	1	10	0	19	585
11:45 AM	0	22	247	32	0	301	0	10	229	9	0	248	0	28	0	23	0	51	0	10	0	6	0	16	616
Hourly Total	0	32	456	68	0	556	0	32	467	14	0	513	0	53	2	42	0	97	0	18	1	16	0	35	1201
12:00 PM	1	17	213	32	0	263	0	19	226	5	0	250	0	27	0	24	0	51	0	10	2	17	0	29	593
12:15 PM	4	19	195	24	0	242	0	6	241	4	0	251	0	30	0	9	0	39	0	13	1	12	1	26	558
12:30 PM	3	5	207	21	0	236	0	10	228	3	0	241	0	19	0	21	0	40	0	7	2	11	0	20	537
12:45 PM	0	10	210	30	0	250	0	14	256	3	0	273	0	27	1	16	0	44	0	10	0	6	0	16	583
Hourly Total	8	51	825	107	0	991	0	49	951	15	0	1015	0	103	1	70	0	174	0	40	5	46	1	91	2271
1:00 PM	2	6	211	40	0	259	0	14	224	5	0	243	0	25	1	24	0	50	0	6	0	15	1	21	573
1:15 PM	2	10	209	23	0	244	0	11	184	3	0	198	0	23	0	19	0	42	0	7	3	8	0	18	502
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	4	16	420	63	0	503	0	25	408	8	0	441	0	48	1	43	0	92	0	13	3	23	1	39	1075
4:00 PM	1	11	328	31	0	371	1	14	322	8	1	345	0	17	0	17	1	34	0	5	1	4	0	10	760
4:15 PM	3	9	304	26	0	342	0	16	321	7	0	344	0	19	1	25	0	45	0	5	0	8	0	13	744
4:30 PM	2	14	367	32	1	415	0	8	305	3	0	316	0	20	0	18	1	38	0	5	2	5	0	12	781
4:45 PM	2	7	366	22	0	397	0	10	367	10	0	387	0	14	0	26	2	40	0	12	0	4	0	16	840
Hourly Total	8	41	1365	111	1	1525	1	48	1315	28	1	1392	0	70	1	86	4	157	0	27	3	21	0	51	3125
5:00 PM	1	12	346	22	1	381	0	11	366	5	0	382	0	20	0	23	0	43	0	3	0	4	0	7	813
5:15 PM	1	20	387	24	6	432	0	8	334	5	1	347	0	15	1	19	1	35	0	5	0	10	8	15	829
5:30 PM	3	19	330	27	2	379	0	11	359	5	0	375	0	16	1	14	2	31	0	11	0	9	2	20	805
5:45 PM	4	14	373	20	0	411	0	10	343	12	1	365	0	18	2	16	1	36	0	8	0	9	0	17	829
Hourly Total	9	65	1436	93	9	1603	0	40	1402	27	2	1469	0	69	4	72	4	145	0	27	0	32	10	59	3276
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:30 AM	1	19	255	27	0	302	0	26	256	3	0	285	0	22	0	14	0	36	0	10	0	19	0	29	652
11:45 AM	3	16	327	41	0	387	0	18	251	8	0	277	0	34	0	27	1	61	0	5	0	15	1	20	745
Hourly Total	4	35	582	68	0	689	0	44	507	11	0	562	0	56	0	41	1	97	0	15	0	34	1	49	1397

12:00 PM	1	21	264	29	1	315	0	33	298	3	0	334	0	21	0	36	3	57	0	14	3	9	0	26	732
12:15 PM	0	19	299	45	0	363	0	11	362	4	0	377	0	29	1	32	2	62	0	7	2	12	2	21	823
12:30 PM	3	12	329	37	0	381	0	21	349	6	1	376	0	40	4	29	2	73	0	8	0	16	0	24	854
12:45 PM	2	8	280	33	0	323	1	13	322	8	0	344	0	25	0	21	1	46	0	6	1	13	0	20	733
Hourly Total	6	60	1172	144	1	1382	1	78	1331	21	1	1431	0	115	5	118	8	238	0	35	6	50	2	91	3142
1:00 PM	0	9	296	20	0	325	0	13	285	4	0	302	0	29	0	20	0	49	0	2	1	12	1	15	691
1:15 PM	0	11	317	22	0	350	0	13	283	7	0	303	0	22	0	16	0	38	0	11	2	12	3	25	716
1:30 PM	3	10	304	31	0	348	0	27	324	6	0	357	0	25	0	27	0	52	0	7	4	7	0	18	775
1:45 PM	4	17	286	25	0	332	0	9	333	7	0	349	0	19	0	33	2	52	0	5	2	6	0	13	746
Hourly Total	7	47	1203	98	0	1355	0	62	1225	24	0	1311	0	95	0	96	2	191	0	25	9	37	4	71	2928
Grand Total	48	407	9440	923	12	10818	2	460	9998	171	5	10631	0	728	16	683	22	1427	0	232	28	290	24	550	23426
Approach %	0.4	3.8	87.3	8.5	-	-	0.0	4.3	94.0	1.6	-	-	0.0	51.0	1.1	47.9	-	-	0.0	42.2	5.1	52.7	-	-	-
Total %	0.2	1.7	40.3	3.9	-	46.2	0.0	2.0	42.7	0.7	-	45.4	0.0	3.1	0.1	2.9	-	6.1	0.0	1.0	0.1	1.2	-	2.3	-
Lights	48	403	9262	916	-	10629	2	460	9802	169	-	10433	0	727	16	676	-	1419	0	227	28	288	-	543	23024
% Lights	100.0	99.0	98.1	99.2	-	98.3	100.0	100.0	98.0	98.8	-	98.1	-	99.9	100.0	99.0	-	99.4	-	97.8	100.0	99.3	-	98.7	98.3
Buses	0	2	48	1	-	51	0	0	52	1	-	53	0	0	0	1	-	1	0	1	0	0	-	1	106
% Buses	0.0	0.5	0.5	0.1	-	0.5	0.0	0.0	0.5	0.6	-	0.5	-	0.0	0.0	0.1	-	0.1	-	0.4	0.0	0.0	-	0.2	0.5
Single-Unit Trucks	0	2	77	5	-	84	0	0	106	1	-	107	0	1	0	5	-	6	0	4	0	2	-	6	203
% Single-Unit Trucks	0.0	0.5	0.8	0.5	-	0.8	0.0	0.0	1.1	0.6	-	1.0	-	0.1	0.0	0.7	-	0.4	-	1.7	0.0	0.7	-	1.1	0.9
Articulated Trucks	0	0	53	1	-	54	0	0	38	0	-	38	0	0	0	1	-	1	0	0	0	0	-	0	93
% Articulated Trucks	0.0	0.0	0.6	0.1	-	0.5	0.0	0.0	0.4	0.0	-	0.4	-	0.0	0.0	0.1	-	0.1	-	0.0	0.0	0.0	-	0.0	0.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	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
Pedestrians	-	-	-	-	12	-	-	-	-	-	5	-	-	-	-	-	22	-	-	-	-	-	24	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Gold Road with Shared Access Drive
Site Code:
Start Date: 05/16/2019

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Access Drive Northbound						Access Drive Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	8	289	25	0	322	0	10	379	4	0	393	0	17	0	12	0	29	0	4	0	4	0	8	752
7:45 AM	1	2	284	21	0	308	0	7	306	2	0	315	0	17	1	19	0	37	0	4	0	2	0	6	666
8:00 AM	0	10	240	22	1	272	0	12	313	3	1	328	0	14	1	11	1	26	0	3	0	5	1	8	634
8:15 AM	0	9	244	15	0	268	0	5	286	4	0	295	0	11	0	16	0	27	0	7	0	6	1	13	603
Total	1	29	1057	83	1	1170	0	34	1284	13	1	1331	0	59	2	58	1	119	0	18	0	17	2	35	2655
Approach %	0.1	2.5	90.3	7.1	-	-	0.0	2.6	96.5	1.0	-	-	0.0	49.6	1.7	48.7	-	-	0.0	51.4	0.0	48.6	-	-	-
Total %	0.0	1.1	39.8	3.1	-	44.1	0.0	1.3	48.4	0.5	-	50.1	0.0	2.2	0.1	2.2	-	4.5	0.0	0.7	0.0	0.6	-	1.3	-
PHF	0.250	0.725	0.914	0.830	-	0.908	0.000	0.708	0.847	0.813	-	0.847	0.000	0.868	0.500	0.763	-	0.804	0.000	0.643	0.000	0.708	-	0.673	0.883
Lights	1	27	1023	82	-	1133	0	34	1248	13	-	1295	0	58	2	58	-	118	0	16	0	17	-	33	2579
% Lights	100.0	93.1	96.8	98.8	-	96.8	-	100.0	97.2	100.0	-	97.3	-	98.3	100.0	100.0	-	99.2	-	88.9	-	100.0	-	94.3	97.1
Buses	0	2	11	0	-	13	0	0	10	0	-	10	0	0	0	0	-	0	0	1	0	0	-	1	24
% Buses	0.0	6.9	1.0	0.0	-	1.1	-	0.0	0.8	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	-	5.6	-	0.0	-	2.9	0.9
Single-Unit Trucks	0	0	17	1	-	18	0	0	19	0	-	19	0	1	0	0	-	1	0	1	0	0	-	1	39
% Single-Unit Trucks	0.0	0.0	1.6	1.2	-	1.5	-	0.0	1.5	0.0	-	1.4	-	1.7	0.0	0.0	-	0.8	-	5.6	-	0.0	-	2.9	1.5
Articulated Trucks	0	0	6	0	-	6	0	0	7	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	13
% Articulated Trucks	0.0	0.0	0.6	0.0	-	0.5	-	0.0	0.5	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	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
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Gold Road with Shared Access Drive
Site Code:
Start Date: 05/16/2019

Turning Movement Peak Hour Data (11:30 AM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Access Drive Northbound						Access Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
11:30 AM	0	10	209	36	0	255	0	22	238	5	0	265	0	25	2	19	0	46	0	8	1	10	0	19	585
11:45 AM	0	22	247	32	0	301	0	10	229	9	0	248	0	28	0	23	0	51	0	10	0	6	0	16	616
12:00 PM	1	17	213	32	0	263	0	19	226	5	0	250	0	27	0	24	0	51	0	10	2	17	0	29	593
12:15 PM	4	19	195	24	0	242	0	6	241	4	0	251	0	30	0	9	0	39	0	13	1	12	1	26	558
Total	5	68	864	124	0	1061	0	57	934	23	0	1014	0	110	2	75	0	187	0	41	4	45	1	90	2352
Approach %	0.5	6.4	81.4	11.7	-	-	0.0	5.6	92.1	2.3	-	-	0.0	58.8	1.1	40.1	-	-	0.0	45.6	4.4	50.0	-	-	-
Total %	0.2	2.9	36.7	5.3	-	45.1	0.0	2.4	39.7	1.0	-	43.1	0.0	4.7	0.1	3.2	-	8.0	0.0	1.7	0.2	1.9	-	3.8	-
PHF	0.313	0.773	0.874	0.861	-	0.881	0.000	0.648	0.969	0.639	-	0.957	0.000	0.917	0.250	0.781	-	0.917	0.000	0.788	0.500	0.662	-	0.776	0.955
Lights	5	68	830	121	-	1024	0	57	904	22	-	983	0	110	2	72	-	184	0	41	4	44	-	89	2280
% Lights	100.0	100.0	96.1	97.6	-	96.5	-	100.0	96.8	95.7	-	96.9	-	100.0	100.0	96.0	-	98.4	-	100.0	100.0	97.8	-	98.9	96.9
Buses	0	0	6	0	-	6	0	0	8	0	-	8	0	0	0	0	-	0	0	0	0	0	-	0	14
% Buses	0.0	0.0	0.7	0.0	-	0.6	-	0.0	0.9	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.6
Single-Unit Trucks	0	0	13	3	-	16	0	0	15	1	-	16	0	0	0	3	-	3	0	0	0	1	-	1	36
% Single-Unit Trucks	0.0	0.0	1.5	2.4	-	1.5	-	0.0	1.6	4.3	-	1.6	-	0.0	0.0	4.0	-	1.6	-	0.0	0.0	2.2	-	1.1	1.5
Articulated Trucks	0	0	15	0	-	15	0	0	7	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	22
% Articulated Trucks	0.0	0.0	1.7	0.0	-	1.4	-	0.0	0.7	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.9
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	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
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Gold Road with Shared Access Drive
Site Code:
Start Date: 05/16/2019

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Access Drive Northbound						Access Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	2	7	366	22	0	397	0	10	367	10	0	387	0	14	0	26	2	40	0	12	0	4	0	16	840
5:00 PM	1	12	346	22	1	381	0	11	366	5	0	382	0	20	0	23	0	43	0	3	0	4	0	7	813
5:15 PM	1	20	387	24	6	432	0	8	334	5	1	347	0	15	1	19	1	35	0	5	0	10	8	15	829
5:30 PM	3	19	330	27	2	379	0	11	359	5	0	375	0	16	1	14	2	31	0	11	0	9	2	20	805
Total	7	58	1429	95	9	1589	0	40	1426	25	1	1491	0	65	2	82	5	149	0	31	0	27	10	58	3287
Approach %	0.4	3.7	89.9	6.0	-	-	0.0	2.7	95.6	1.7	-	-	0.0	43.6	1.3	55.0	-	-	0.0	53.4	0.0	46.6	-	-	-
Total %	0.2	1.8	43.5	2.9	-	48.3	0.0	1.2	43.4	0.8	-	45.4	0.0	2.0	0.1	2.5	-	4.5	0.0	0.9	0.0	0.8	-	1.8	-
PHF	0.583	0.725	0.923	0.880	-	0.920	0.000	0.909	0.971	0.625	-	0.963	0.000	0.813	0.500	0.788	-	0.866	0.000	0.646	0.000	0.675	-	0.725	0.978
Lights	7	58	1413	94	-	1572	0	40	1416	25	-	1481	0	65	2	81	-	148	0	31	0	27	-	58	3259
% Lights	100.0	100.0	98.9	98.9	-	98.9	-	100.0	99.3	100.0	-	99.3	-	100.0	100.0	98.8	-	99.3	-	100.0	-	100.0	-	100.0	99.1
Buses	0	0	4	1	-	5	0	0	1	0	-	1	0	0	0	1	-	1	0	0	0	0	-	0	7
% Buses	0.0	0.0	0.3	1.1	-	0.3	-	0.0	0.1	0.0	-	0.1	-	0.0	0.0	1.2	-	0.7	-	0.0	-	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	5	0	-	5	0	0	5	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	10
% Single-Unit Trucks	0.0	0.0	0.3	0.0	-	0.3	-	0.0	0.4	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.3
Articulated Trucks	0	0	7	0	-	7	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	11
% Articulated Trucks	0.0	0.0	0.5	0.0	-	0.4	-	0.0	0.3	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	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
Pedestrians	-	-	-	-	9	-	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

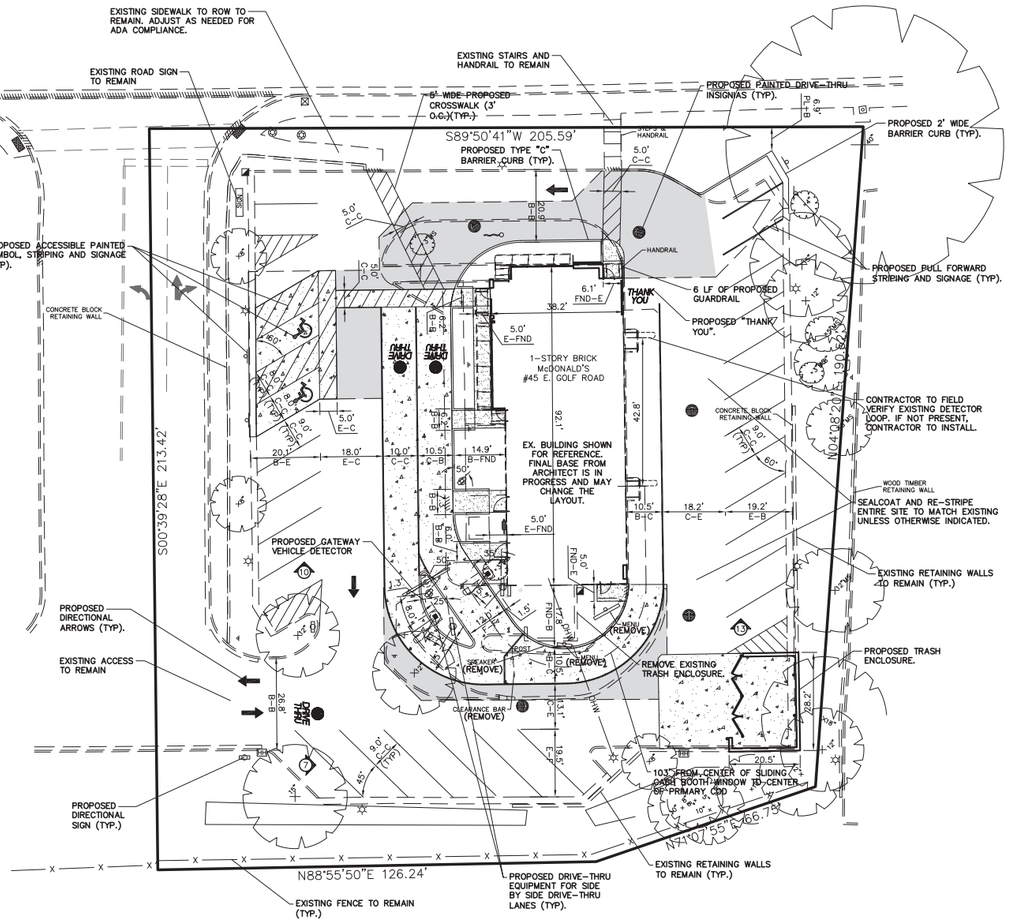
Rosemont, Illinois, United States 60018
(847)518-9990

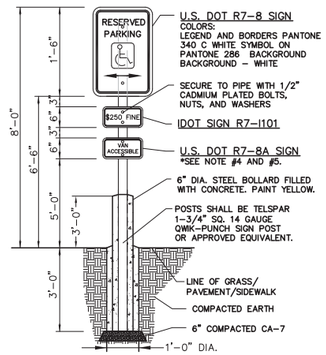
Count Name: Gold Road with Shared Access Drive
Site Code:
Start Date: 05/16/2019

Turning Movement Peak Hour Data (11:45 AM)

Start Time	Golf Road Eastbound						Golf Road Westbound						Access Drive Northbound						Access Drive Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
11:45 AM	3	16	327	41	0	387	0	18	251	8	0	277	0	34	0	27	1	61	0	5	0	15	1	20	745
12:00 PM	1	21	264	29	1	315	0	33	298	3	0	334	0	21	0	36	3	57	0	14	3	9	0	26	732
12:15 PM	0	19	299	45	0	363	0	11	362	4	0	377	0	29	1	32	2	62	0	7	2	12	2	21	823
12:30 PM	3	12	329	37	0	381	0	21	349	6	1	376	0	40	4	29	2	73	0	8	0	16	0	24	854
Total	7	68	1219	152	1	1446	0	83	1260	21	1	1364	0	124	5	124	8	253	0	34	5	52	3	91	3154
Approach %	0.5	4.7	84.3	10.5	-	-	0.0	6.1	92.4	1.5	-	-	0.0	49.0	2.0	49.0	-	-	0.0	37.4	5.5	57.1	-	-	-
Total %	0.2	2.2	38.6	4.8	-	45.8	0.0	2.6	39.9	0.7	-	43.2	0.0	3.9	0.2	3.9	-	8.0	0.0	1.1	0.2	1.6	-	2.9	-
PHF	0.583	0.810	0.926	0.844	-	0.934	0.000	0.629	0.870	0.656	-	0.905	0.000	0.775	0.313	0.861	-	0.866	0.000	0.607	0.417	0.813	-	0.875	0.923
Lights	7	68	1211	151	-	1437	0	83	1246	21	-	1350	0	124	5	123	-	252	0	34	5	52	-	91	3130
% Lights	100.0	100.0	99.3	99.3	-	99.4	-	100.0	98.9	100.0	-	99.0	-	100.0	100.0	99.2	-	99.6	-	100.0	100.0	100.0	-	100.0	99.2
Buses	0	0	2	0	-	2	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	5
% Buses	0.0	0.0	0.2	0.0	-	0.1	-	0.0	0.2	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	4	1	-	5	0	0	7	0	-	7	0	0	0	1	-	1	0	0	0	0	-	0	13
% Single-Unit Trucks	0.0	0.0	0.3	0.7	-	0.3	-	0.0	0.6	0.0	-	0.5	-	0.0	0.0	0.8	-	0.4	-	0.0	0.0	0.0	-	0.0	0.4
Articulated Trucks	0	0	2	0	-	2	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	6
% Articulated Trucks	0.0	0.0	0.2	0.0	-	0.1	-	0.0	0.3	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	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
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

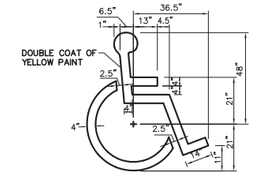
Preliminary Site Plan





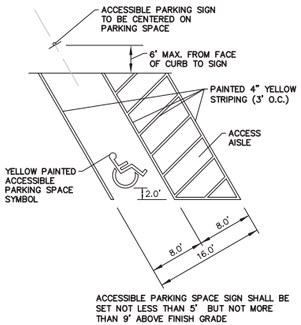
1. WHERE A FINE IN EXCESS OF $250 IS ESTABLISHED BY A MUNICIPALITY BY ORDINANCE IN ACCORDANCE WITH THE STATUTES, THE ACTUAL AMOUNT OF THE FINE SHOULD BE SHOWN.
2. THIS PLATE MAY BE MOUNTED DIRECTLY BELOW THE R7-8 SIGN OR COMBINED WITH THAT SIGN ON A SINGLE 12 INCH BY 24 INCH PANEL.
3. ON THE RESERVED PARKING SIGN, THE ARROW SHOULD BE OMITTED WHERE THERE IS ONLY ONE SPACE. THE ARROW MAY ALSO BE MADE TO POINT IN ONLY ONE DIRECTION. THE ARROW MAY ALSO BE REPLACED BY "TIME" SUCH AS 9 AM-5 PM WHERE A PART TIME RESTRICTION EXISTS.
4. ONE IN EVERY SIX ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESS AISLE 8 FEET WIDE MINIMUM AND SHALL BE DESIGNATED "VAN ACCESSIBLE".
5. THE LOWEST BOTTOM EDGE OF THE LOWEST REQUIRED SIGN SHALL BE MOUNTED AT 60" ABOVE FINISHED GRADE.
6. COLORS FOR BOTH IDOT SIGN R7-1101 AND USDOT R7-8A, LEGEND AND BORDERS-GREEN NON-REFLECTORIZED (PANTONE 340C) BACKGROUND-WHITE REFLECTORIZED

ACCESSIBLE PARKING SPACE BOLLARD SIGN DETAIL



ACCESSIBLE PARKING SPACE SYMBOL

1. SYMBOL IS CENTERED ON WIDTH OF PARKING STALL AND 2' FROM THE END OF THE STALL.



ACCESSIBLE PARKING SPACE DETAIL

GENERAL NOTES:
1. THESE PLANS ARE BASED ON THE BOUNDARY AND TOPOGRAPHIC SURVEY
   (SURVEY PROJECT #18-0411 DATED 01/16/19)
   PREPARED BY: COMPASS SURVEYING LTD
   2631 GINGER WOODS PARKWAY, STE 100, AURORA, IL 60502
   (630) 820-9100
2. PRIOR TO CONSTRUCTION, CONTRACTOR TO CONTACT THE DESIGN ENGINEER AND ARCHITECT TO VERIFY THAT THEY ARE WORKING FROM THE MOST CURRENT SET OF PLANS AND SPECIFICATIONS.

ON SITE PARKING DATA

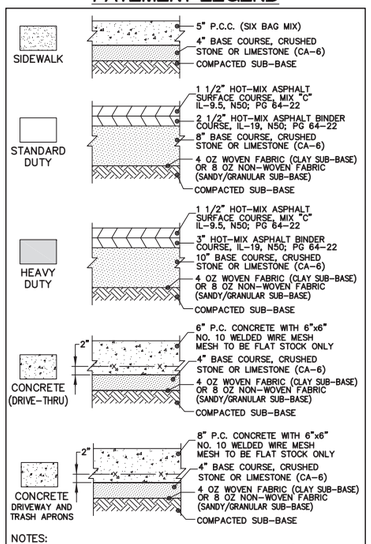
EX. REGULAR SPACES	35
EX. ADA ACCESSIBLE SPACES	2
EX. TOTAL SPACES	37
PROP. REGULAR SPACES	28
PROP. ADA ACCESSIBLE SPACES	2
PROP. TOTAL SPACES	30

SITE DATA

LOT AREA = 41,054 S.F. (0.94 AC.)

SITE PLAN NOTES:
1. ALL RADIUS DIMENSIONS ARE TO BACK OF CURB.
2. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
3. ALL STRIPING TO BE DOUBLE COATED 4" YELLOW PAINT UNLESS OTHERWISE NOTED.
4. WHERE PEDESTRIANS HAVE TO CROSS A TAPERING RAMP OR CURB RAMP THE FACE AND TOP OF CURB ARE TO BE PAINTED USING YELLOW, SLIP RESISTANT PAINT.

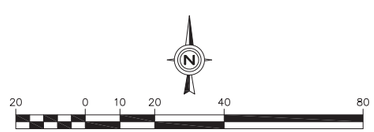
PAVEMENT LEGEND



NOTES:
1. REFERENCE I.D.O.T. STANDARD SPECIFICATIONS (LATEST EDITION) SECTION 406 FOR BINDER & SURFACE COURSES AND SECTION 351 FOR AGGREGATE BASE COURSE.
2. THE APPLICATION RATES FOR THE PRIME COAT AND TACK COAT ARE TO BE 0.30 AND 0.10 GALLONS PER SQUARE YARD, RESPECTIVELY.
3. SEE PROJECT SPECIFICATIONS FOR SUB-BASE AND BASE COURSE COMPACTION.
4. ALL CONCRETE FLATWORK TO INCLUDE A JOINTING PATTERN SUBMITTAL TO THE CONSTRUCTION MANAGER. CONTRACTOR TO STAY AS CLOSE TO 9'x9' SQUARE PANELS IN LARGE CONCRETE FLATWORK AREAS AS POSSIBLE.
5. FOR SIDEWALKS, PROVIDE TOOLED JOINTS AT 5' O.C., CONTRACTION JOINTS AT 15' O.C., EXPANSION JOINTS AT 45' O.C.
6. PROVIDE AN EXPANSION JOINT ADJACENT TO ALL STRUCTURES. THESE JOINTS SHOULD BE SEALED WITH A TOOL-FINISHED SILICONE SEALANT PER I.D.O.T. STANDARD.

DIMENSION LEGEND

F	= FACE	FNC	= FENCE
FND	= FOUNDATION	R	= RADIUS
B	= BACK	C	= CENTER
E	= EDGE	PL	= PROPERTY LINE



GEOMETRIC PLAN

DATE | NO. | REVISIONS

Prepared For:
McDonald's
711 Jorie Blvd., 3rd Floor
Oak Brook, IL 60523

McDONALD'S - ARLINGTON HEIGHTS
45 E. Golf Road
Arlington Heights, Illinois

Prepared By:
Watermark Engineering Resources, Ltd.
2631 Ginger Woods Parkway, Suite 100 Aurora, IL 60502
phone 630-375-1800 fax 630-238-9800 www.watermark-engineering.com

CHECKED BY: J. MILLER
DESIGN BY: H.WITTENKELLER
DRAWN BY: K. SACK
DATE: APRIL 17, 2019
SCALE: 1" = 20'
PROJECT NO.: 18-108

C-2
LC #12-1434

GEOMETRIC PLAN

CMAP 2050 Projections Letter

Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

May 31, 2019

Andrew Bowen
Consultant
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

Subject: Golf Road (IL 58) East of Arlington Heights Road
IDOT

Dear Mr. Bowen:

In response to a request made on your behalf and dated May 31, 2019, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current Volume	Year 2050 ADT
IL 58 from Arlington Hts Rd to IL 62	30,500	31,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the March 2019 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Quigley (IDOT)
S:\AdminGroups\ResearchAnalysis\2019_ForecastsTraffic\ArlingtonHeights\ck-83-19\ck-83-19.docx

Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	>35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	>55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80.0

Unsignalized Intersections	
Level of Service	Average Total Delay (SEC/VEH)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets

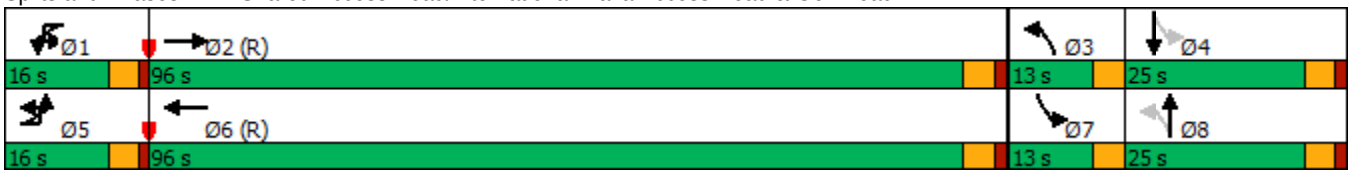
Existing Weekday Morning Peak Hour Conditions

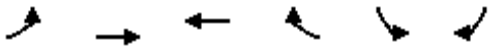
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	29	1057	83	34	1284	13	59	2	58	18	0
Future Volume (vph)	1	29	1057	83	34	1284	13	59	2	58	18	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99
Frt			0.989			0.998			0.854			0.850
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1690	4980	0	1805	5026	0	1770	1600	0	1626	1592
Flt Permitted		0.950			0.950			0.534			0.713	
Satd. Flow (perm)	0	1687	4980	0	1803	5026	0	993	1600	0	1219	1592
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		2		1	1		2	1		1	1	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	3%	1%	0%	3%	0%	2%	0%	0%	11%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	1295	0	39	1474	0	67	68	0	20	19
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	16.0	16.0	96.0		16.0	96.0		13.0	25.0		13.0	25.0
Total Split (%)	10.7%	10.7%	64.0%		10.7%	64.0%		8.7%	16.7%		8.7%	16.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		8.5	112.8		8.6	113.0		19.3	12.7		16.2	11.3
Actuated g/C Ratio		0.06	0.75		0.06	0.75		0.13	0.08		0.11	0.08

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.36	0.35		0.38	0.39		0.38	0.50		0.13	0.16
Control Delay		77.7	9.2		77.6	9.5		60.6	77.7		53.3	65.8
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		77.7	9.2		77.6	9.5		60.6	77.7		53.3	65.8
LOS		E	A		E	A		E	E		D	E
Approach Delay			10.9			11.3			69.2			59.4
Approach LOS			B			B			E			E
Queue Length 50th (ft)		33	179		38	212		58	65		17	18
Queue Length 95th (ft)		68	249		75	291		98	112		39	44
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		129	3746		139	3786		183	213		175	212
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		0.26	0.35		0.28	0.39		0.37	0.32		0.11	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 22.5 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	16	0	0	103	96	21
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	16	103	0	117	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.93	0.85
Saturated Flow (vph)	0	1805	1615	0	1773	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		118	
Reference Time A (s)	0.0	16.0	7.7		118.8	
Adj Saturation B (vph	0	0	1615		NA	
Reference Time B (s)	9.1	9.1	7.7		NA	
Reference Time (s)		9.1	7.7			
Adj Reference Time (s)		13.1	11.7			
Split Option						
Ref Time Combined (s)	0.0	1.1	7.7		7.9	
Ref Time Seperate (s)	1.1	0.0	0.0		6.5	
Reference Time (s)	1.1	1.1	7.7		7.9	
Adj Reference Time (s)	8.0	8.0	11.7		11.9	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	13.1	Err	
Split Option (s)	19.7	11.9	
Minimum (s)	13.1	11.9	25.0

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	20.8%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

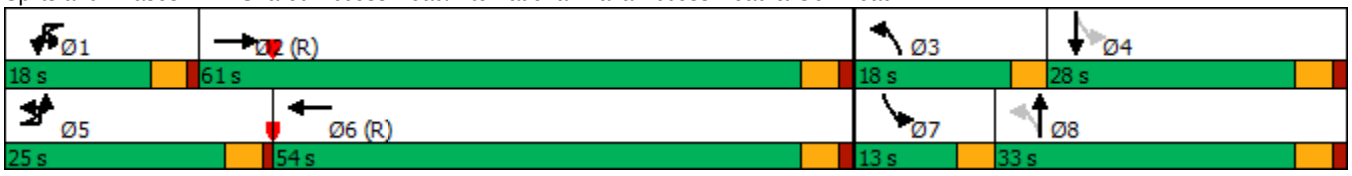
Existing Weekday Midday Peak Hour Conditions

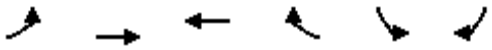
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	5	68	864	124	57	934	23	110	2	75	41	4
Future Volume (vph)	5	68	864	124	57	934	23	110	2	75	41	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				1.00						
Frt			0.981			0.996			0.854			0.862
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1805	4905	0	1805	5012	0	1805	1562	0	1805	1608
Flt Permitted		0.950			0.950			0.521			0.705	
Satd. Flow (perm)	0	1804	4905	0	1805	5012	0	990	1562	0	1340	1608
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		1					1					
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	2%	0%	3%	4%	0%	0%	4%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	1029	0	59	997	0	115	80	0	43	51
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	25.0	25.0	61.0		18.0	54.0		18.0	33.0		13.0	28.0
Total Split (%)	20.0%	20.0%	48.8%		14.4%	43.2%		14.4%	26.4%		10.4%	22.4%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		10.6	79.6		9.4	78.5		25.1	14.2		17.9	10.6
Actuated g/C Ratio		0.08	0.64		0.08	0.63		0.20	0.11		0.14	0.08

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.50	0.33		0.43	0.32		0.42	0.45		0.20	0.38
Control Delay		65.0	12.9		64.3	13.3		44.9	58.9		39.4	61.3
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		65.0	12.9		64.3	13.3		44.9	58.9		39.4	61.3
LOS		E	B		E	B		D	E		D	E
Approach Delay			16.4			16.1			50.7			51.3
Approach LOS			B			B			D			D
Queue Length 50th (ft)		60	145		46	142		78	61		28	40
Queue Length 95th (ft)		108	211		90	209		125	109		57	80
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		296	3122		194	3149		300	349		246	295
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		0.26	0.33		0.30	0.32		0.38	0.23		0.17	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 22.5 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	79	0	0	108	108	77
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	79	108	0	185	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.91	0.85
Saturated Flow (vph)	0	1805	1615	0	1729	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		115	
Reference Time A (s)	0.0	78.8	8.0		192.6	
Adj Saturation B (vph	0	0	1615		NA	
Reference Time B (s)	13.3	13.3	8.0		NA	
Reference Time (s)		13.3	8.0			
Adj Reference Time (s)		17.3	12.0			
Split Option						
Ref Time Combined (s)	0.0	5.3	8.0		12.8	
Ref Time Seperate (s)	5.3	0.0	0.0		7.5	
Reference Time (s)	5.3	5.3	8.0		12.8	
Adj Reference Time (s)	9.3	9.3	12.0		16.8	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	17.3	Err	
Split Option (s)	21.3	16.8	
Minimum (s)	17.3	16.8	34.1

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	28.4%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

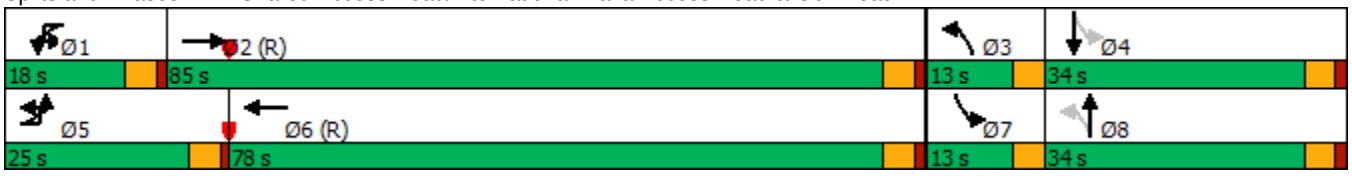
Existing Weekday Evening Peak Hour Conditions

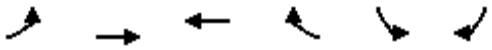
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	58	1429	95	40	1426	25	65	2	82	31	0
Future Volume (vph)	7	58	1429	95	40	1426	25	65	2	82	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	1.00		1.00	1.00		0.99	0.99		1.00	0.97
Frt			0.991			0.997			0.853			0.850
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1805	5082	0	1805	5118	0	1805	1584	0	1805	1574
Flt Permitted		0.950			0.950			0.578			0.701	
Satd. Flow (perm)	0	1797	5082	0	1799	5118	0	1087	1584	0	1331	1574
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		10		5	5		10	9		1	1	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	1%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	1555	0	41	1481	0	66	86	0	32	28
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	25.0	25.0	85.0		18.0	78.0		13.0	34.0		13.0	34.0
Total Split (%)	16.7%	16.7%	56.7%		12.0%	52.0%		8.7%	22.7%		8.7%	22.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		10.8	107.0		8.8	105.2		21.6	14.4		19.2	13.1
Actuated g/C Ratio		0.07	0.71		0.06	0.70		0.14	0.10		0.13	0.09

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.51	0.43		0.39	0.41		0.33	0.57		0.16	0.20
Control Delay		79.8	11.2		77.7	11.9		56.4	78.3		52.2	64.8
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		79.8	11.2		77.7	11.9		56.4	78.3		52.2	64.8
LOS		E	B		E	B		E	E		D	E
Approach Delay			14.0			13.7			68.8			58.1
Approach LOS			B			B			E			E
Queue Length 50th (ft)		63	244		39	238		56	82		26	26
Queue Length 95th (ft)		113	342		81	337		96	138		55	58
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		246	3624		162	3588		206	306		210	304
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		0.27	0.43		0.25	0.41		0.32	0.28		0.15	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 22.5 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	0	0	60	55	80
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	89	60	0	135	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.89	0.85
Saturated Flow (vph)	0	1805	1615	0	1696	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		113	
Reference Time A (s)	0.0	88.8	4.5		143.3	
Adj Saturation B (vph	0	0	1615		NA	
Reference Time B (s)	13.9	13.9	4.5		NA	
Reference Time (s)		13.9	4.5			
Adj Reference Time (s)		17.9	8.5			
Split Option						
Ref Time Combined (s)	0.0	5.9	4.5		9.6	
Ref Time Seperate (s)	5.9	0.0	0.0		3.9	
Reference Time (s)	5.9	5.9	4.5		9.6	
Adj Reference Time (s)	9.9	9.9	8.5		13.6	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	17.9	Err	
Split Option (s)	18.4	13.6	
Minimum (s)	17.9	13.6	31.5

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	26.2%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

Existing Saturday Midday Peak Hour Conditions

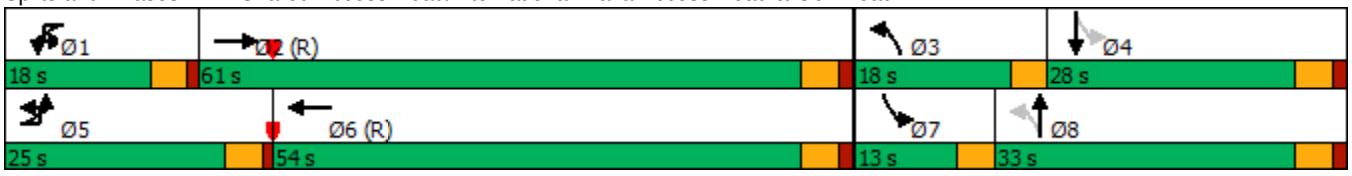
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	68	1219	152	83	1260	21	124	5	124	34	5
Future Volume (vph)	7	68	1219	152	83	1260	21	124	5	124	34	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99
Frt			0.983			0.998			0.855			0.862
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1805	5032	0	1805	5124	0	1805	1588	0	1805	1617
Flt Permitted		0.950			0.950			0.544			0.668	
Satd. Flow (perm)	0	1803	5032	0	1797	5124	0	1033	1588	0	1268	1617
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		3		8	8		3	1		1	1	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	1%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	1490	0	90	1393	0	135	140	0	37	62
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	25.0	25.0	61.0		18.0	54.0		18.0	33.0		13.0	28.0
Total Split (%)	20.0%	20.0%	48.8%		14.4%	43.2%		14.4%	26.4%		10.4%	22.4%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		11.0	72.6		11.5	75.4		27.8	19.2		19.3	12.2
Actuated g/C Ratio		0.09	0.58		0.09	0.60		0.22	0.15		0.15	0.10

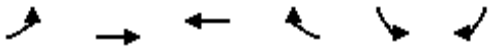
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.52	0.51		0.54	0.45		0.43	0.58		0.16	0.39
Control Delay		65.3	18.2		65.6	16.6		43.0	58.3		36.4	59.0
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		65.3	18.2		65.6	16.6		43.0	58.3		36.4	59.0
LOS		E	B		E	B		D	E		D	E
Approach Delay			20.7			19.6			50.8			50.5
Approach LOS			C			B			D			D
Queue Length 50th (ft)		64	259		71	232		91	109		23	48
Queue Length 95th (ft)		115	379		123	339		137	170		48	90
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		296	2924		201	3091		322	355		256	297
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		0.28	0.51		0.45	0.45		0.42	0.39		0.14	0.21

Intersection Summary

Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 125
Offset: 22.5 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 23.5 Intersection LOS: C
Intersection Capacity Utilization 60.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	129	0	0	124	117	123
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	129	124	0	240	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.90	0.85
Saturated Flow (vph)	0	1805	1615	0	1711	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		114	
Reference Time A (s)	0.0	128.6	9.2		252.5	
Adj Saturation B (vph	NA	NA	1615		NA	
Reference Time B (s)	NA	NA	9.2		NA	
Reference Time (s)		128.6	9.2			
Adj Reference Time (s)		132.6	13.2			
Split Option						
Ref Time Combined (s)	0.0	8.6	9.2		16.8	
Ref Time Seperate (s)	8.6	0.0	0.0		8.2	
Reference Time (s)	8.6	8.6	9.2		16.8	
Adj Reference Time (s)	12.6	12.6	13.2		20.8	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	132.6	Err	
Split Option (s)	25.8	20.8	
Minimum (s)	25.8	20.8	46.6

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	38.9%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

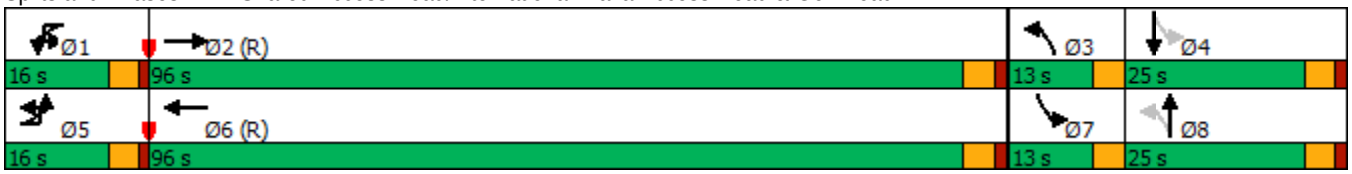
Total Projected Weekday Morning Peak Hour Conditions

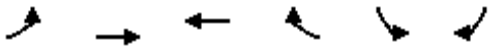
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	29	1057	88	36	1284	13	64	2	60	18	0
Future Volume (vph)	1	29	1057	88	36	1284	13	64	2	60	18	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99
Frt			0.988			0.998			0.854			0.850
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1690	4632	0	1805	5026	0	1770	1600	0	1626	1592
Flt Permitted		0.950			0.950			0.524			0.711	
Satd. Flow (perm)	0	1687	4632	0	1803	5026	0	975	1600	0	1215	1592
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		2		1	1		2	1		1	1	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	3%	100%	0%	3%	0%	2%	0%	0%	11%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	1301	0	41	1474	0	73	70	0	20	19
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	16.0	16.0	96.0		16.0	96.0		13.0	25.0		13.0	25.0
Total Split (%)	10.7%	10.7%	64.0%		10.7%	64.0%		8.7%	16.7%		8.7%	16.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		8.5	108.9		8.8	109.2		20.1	12.9		16.4	11.5
Actuated g/C Ratio		0.06	0.73		0.06	0.73		0.13	0.09		0.11	0.08

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.36	0.39		0.39	0.40		0.40	0.51		0.13	0.16
Control Delay		77.7	9.9		77.8	9.9		60.9	77.8		53.0	65.5
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		77.7	9.9		77.8	9.9		60.9	77.8		53.0	65.5
LOS		E	A		E	A		E	E		D	E
Approach Delay			11.7			11.7			69.1			59.1
Approach LOS			B			B			E			E
Queue Length 50th (ft)		33	187		39	213		63	67		17	18
Queue Length 95th (ft)		68	260		79	293		105	115		39	44
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		129	3362		139	3659		183	213		176	212
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		0.26	0.39		0.29	0.40		0.40	0.33		0.11	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 22.5 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	16	0	0	110	103	21
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	16	110	0	124	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.93	0.85
Saturated Flow (vph)	0	1805	1615	0	1775	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		118	
Reference Time A (s)	0.0	16.0	8.2		125.8	
Adj Saturation B (vph	0	0	1615		NA	
Reference Time B (s)	9.1	9.1	8.2		NA	
Reference Time (s)		9.1	8.2			
Adj Reference Time (s)		13.1	12.2			
Split Option						
Ref Time Combined (s)	0.0	1.1	8.2		8.4	
Ref Time Seperate (s)	1.1	0.0	0.0		7.0	
Reference Time (s)	1.1	1.1	8.2		8.4	
Adj Reference Time (s)	8.0	8.0	12.2		12.4	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	13.1	Err	
Split Option (s)	20.2	12.4	
Minimum (s)	13.1	12.4	25.4

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	21.2%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

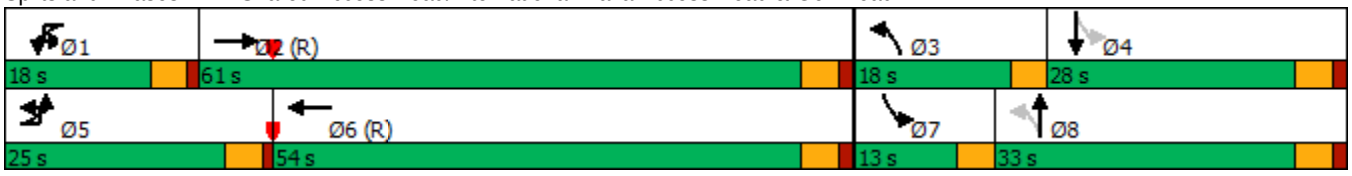
Total Projected Weekday Midday Peak Hour Conditions

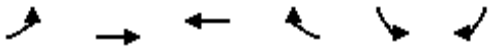
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	5	68	868	129	59	939	23	115	2	77	41	4
Future Volume (vph)	5	68	868	129	59	939	23	115	2	77	41	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				1.00						
Frt			0.981			0.996			0.854			0.862
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1805	4905	0	1805	5012	0	1805	1562	0	1805	1608
Flt Permitted		0.950			0.950			0.521			0.704	
Satd. Flow (perm)	0	1804	4905	0	1805	5012	0	990	1562	0	1338	1608
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		1					1					
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	4%	2%	0%	3%	4%	0%	0%	4%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	1038	0	61	1002	0	120	82	0	43	51
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	25.0	25.0	61.0		18.0	54.0		18.0	33.0		13.0	28.0
Total Split (%)	20.0%	20.0%	48.8%		14.4%	43.2%		14.4%	26.4%		10.4%	22.4%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		10.6	79.2		9.6	78.3		25.3	14.4		17.9	10.6
Actuated g/C Ratio		0.08	0.63		0.08	0.63		0.20	0.12		0.14	0.08

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.50	0.33		0.44	0.32		0.43	0.46		0.20	0.38
Control Delay		65.0	13.1		64.4	13.4		45.1	58.8		39.2	61.3
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		65.0	13.1		64.4	13.4		45.1	58.8		39.2	61.3
LOS		E	B		E	B		D	E		D	E
Approach Delay			16.6			16.3			50.7			51.2
Approach LOS			B			B			D			D
Queue Length 50th (ft)		60	148		48	144		81	63		28	40
Queue Length 95th (ft)		108	214		92	210		130	112		57	80
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		296	3109		194	3141		302	349		246	295
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		0.26	0.33		0.31	0.32		0.40	0.23		0.17	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 22.5 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 48.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	79	0	0	115	115	77
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	79	115	0	192	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.91	0.85
Saturated Flow (vph)	0	1805	1615	0	1732	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		115	
Reference Time A (s)	0.0	78.8	8.5		199.5	
Adj Saturation B (vph	0	0	1615		NA	
Reference Time B (s)	13.3	13.3	8.5		NA	
Reference Time (s)		13.3	8.5			
Adj Reference Time (s)		17.3	12.5			
Split Option						
Ref Time Combined (s)	0.0	5.3	8.5		13.3	
Ref Time Seperate (s)	5.3	0.0	0.0		8.0	
Reference Time (s)	5.3	5.3	8.5		13.3	
Adj Reference Time (s)	9.3	9.3	12.5		17.3	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	17.3	Err	
Split Option (s)	21.8	17.3	
Minimum (s)	17.3	17.3	34.6

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	28.8%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

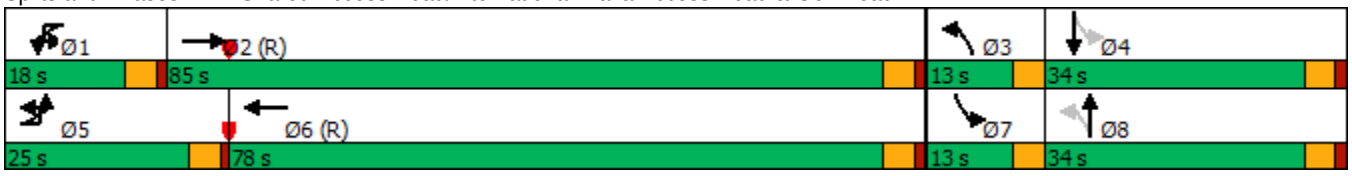
Total Projected Weekday Evening Peak Hour Conditions

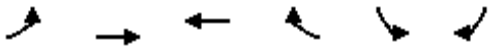
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	58	1436	99	41	1433	25	69	2	83	31	0
Future Volume (vph)	7	58	1436	99	41	1433	25	69	2	83	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	1.00		1.00	1.00		0.99	0.99		1.00	0.97
Frt			0.990			0.997			0.853			0.850
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1805	5076	0	1805	5118	0	1805	1584	0	1805	1574
Flt Permitted		0.950			0.950			0.575			0.701	
Satd. Flow (perm)	0	1797	5076	0	1799	5118	0	1081	1584	0	1331	1574
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		10		5	5		10	9		1	1	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	1%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	1566	0	42	1488	0	70	87	0	32	28
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	25.0	25.0	85.0		18.0	78.0		13.0	34.0		13.0	34.0
Total Split (%)	16.7%	16.7%	56.7%		12.0%	52.0%		8.7%	22.7%		8.7%	22.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		10.8	106.8		8.9	105.1		21.7	14.5		19.3	13.2
Actuated g/C Ratio		0.07	0.71		0.06	0.70		0.14	0.10		0.13	0.09

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.51	0.43		0.40	0.42		0.34	0.57		0.16	0.20
Control Delay		79.8	11.4		77.8	12.0		56.9	78.3		52.1	64.6
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		79.8	11.4		77.8	12.0		56.9	78.3		52.1	64.6
LOS		E	B		E	B		E	E		D	E
Approach Delay			14.1			13.8			68.7			57.9
Approach LOS			B			B			E			E
Queue Length 50th (ft)		63	248		40	240		59	83		26	26
Queue Length 95th (ft)		113	347		82	340		100	138		55	57
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		246	3614		162	3585		206	306		210	304
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		0.27	0.43		0.26	0.42		0.34	0.28		0.15	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 22.5 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 55.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	0	0	65	60	80
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	89	65	0	140	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.89	0.85
Saturated Flow (vph)	0	1805	1615	0	1700	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		113	
Reference Time A (s)	0.0	88.8	4.8		148.2	
Adj Saturation B (vph	0	0	1615		NA	
Reference Time B (s)	13.9	13.9	4.8		NA	
Reference Time (s)		13.9	4.8			
Adj Reference Time (s)		17.9	8.8			
Split Option						
Ref Time Combined (s)	0.0	5.9	4.8		9.9	
Ref Time Seperate (s)	5.9	0.0	0.0		4.2	
Reference Time (s)	5.9	5.9	4.8		9.9	
Adj Reference Time (s)	9.9	9.9	8.8		13.9	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	17.9	Err	
Split Option (s)	18.7	13.9	
Minimum (s)	17.9	13.9	31.8

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	26.5%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Capacity Analysis Summary Sheets

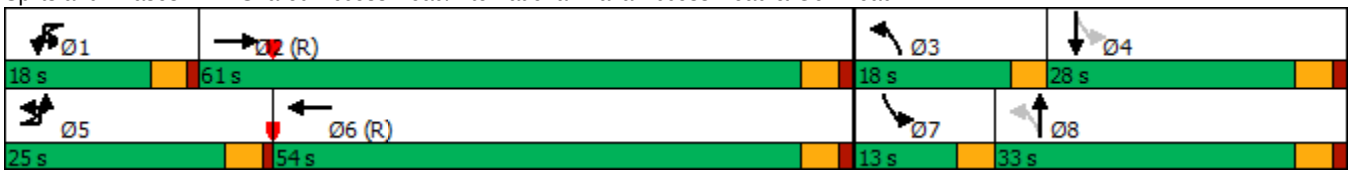
Existing Saturday Midday Peak Hour Conditions

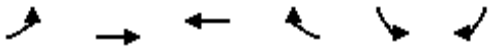
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	68	1225	157	85	1266	21	129	5	126	34	5
Future Volume (vph)	7	68	1225	157	85	1266	21	129	5	126	34	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)			0%			0%			0%			0%
Storage Length (ft)		130		0	125		0	0		0	0	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		250			130			25			25	
Lane Util. Factor	0.91	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99
Frt			0.983			0.998			0.855			0.862
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1805	5032	0	1805	5124	0	1805	1588	0	1805	1617
Flt Permitted		0.950			0.950			0.544			0.666	
Satd. Flow (perm)	0	1803	5032	0	1797	5124	0	1033	1588	0	1264	1617
Right Turn on Red				No			No			No		
Satd. Flow (RTOR)												
Link Speed (mph)			40			40			30			30
Link Distance (ft)			760			401			215			251
Travel Time (s)			13.0			6.8			4.9			5.7
Confl. Peds. (#/hr)		3		8	8		3	1		1	1	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	1%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	0	0	2	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)			0%			0%			0%			0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	1503	0	92	1399	0	140	142	0	37	62
Turn Type	Prot	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA
Protected Phases	5	5	2		1	6		3	8		7	4
Permitted Phases								8			4	
Detector Phase	5	5	2		1	6		3	8		7	4
Switch Phase												
Minimum Initial (s)	3.0	3.0	15.0		3.0	15.0		3.0	8.0		3.0	8.0
Minimum Split (s)	7.5	7.5	21.0		7.5	21.0		6.5	14.0		6.5	14.0
Total Split (s)	25.0	25.0	61.0		18.0	54.0		18.0	33.0		13.0	28.0
Total Split (%)	20.0%	20.0%	48.8%		14.4%	43.2%		14.4%	26.4%		10.4%	22.4%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.5		1.0	1.5		0.0	1.5		0.0	1.5
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	5.0		4.5	5.0		3.5	5.0		3.5	5.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		11.0	72.3		11.7	75.3		28.0	19.4		19.3	12.2
Actuated g/C Ratio		0.09	0.58		0.09	0.60		0.22	0.16		0.15	0.10

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
v/c Ratio		0.52	0.52		0.55	0.45		0.45	0.58		0.16	0.39
Control Delay		65.3	18.5		65.6	16.8		43.2	58.2		36.2	58.9
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		65.3	18.5		65.6	16.8		43.2	58.2		36.2	58.9
LOS		E	B		E	B		D	E		D	E
Approach Delay			21.0			19.8			50.8			50.4
Approach LOS			C			B			D			D
Queue Length 50th (ft)		64	264		72	234		94	110		23	48
Queue Length 95th (ft)		115	386		125	342		141	171		48	90
Internal Link Dist (ft)			680			321			135			171
Turn Bay Length (ft)		130			125							
Base Capacity (vph)		296	2911		202	3085		324	355		256	297
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		0.28	0.52		0.46	0.45		0.43	0.40		0.14	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 125			
Offset: 22.5 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Shared Access Road/International Plaza Access Road & Golf Road





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	129	0	0	131	124	123
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	0	129	131	0	247	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.85	0.90	0.85
Saturated Flow (vph)	0	1805	1615	0	1714	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		No	No		No	
Reference Time (s)				0.0		0.0
Adj Reference Time (s)				0.0		0.0
Permitted Option						
Adj Saturation A (vph)	0	120	1615		114	
Reference Time A (s)	0.0	128.6	9.7		259.4	
Adj Saturation B (vph	NA	NA	1615		NA	
Reference Time B (s)	NA	NA	9.7		NA	
Reference Time (s)		128.6	9.7			
Adj Reference Time (s)		132.6	13.7			
Split Option						
Ref Time Combined (s)	0.0	8.6	9.7		17.3	
Ref Time Seperate (s)	8.6	0.0	0.0		8.7	
Reference Time (s)	8.6	8.6	9.7		17.3	
Adj Reference Time (s)	12.6	12.6	13.7		21.3	

Summary	EB WB	SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	132.6	Err	
Split Option (s)	26.3	21.3	
Minimum (s)	26.3	21.3	47.6

Right Turns
Adj Reference Time (s)
Cross Thru Ref Time (s)
Oncoming Left Ref Time (s)
Combined (s)

Intersection Summary			
Intersection Capacity Utilization	39.7%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.