Site Circulation and Traffic Evaluation

Glenn Westlake Middle School
Manor Hill Elementary School

Lombard, Illinois

Prepared For:

Prepared By:

KLOA
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April 10, 2019

1. Introduction

This report summarizes the methodologies, findings and recommendations of a site circulation and traffic evaluation conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the Glenn Westlake Middle School (GWMS) and Manor Hill Elementary School (MHES) campus in Lombard, Illinois. The school campus is located in the northwest quadrant of the intersection of Main Street with 16th Street. The campus is served by two access drives off Main Street. The north access drive is restricted to one-way inbound (westbound) traffic only while the south access drive is opposite 16th Street and allows for full ingress/egress movements.

The plans call for constructing an approximate 70,000 square foot building on the northwest corner of the Glenn Westlake Middle School building providing for better facilities within the school. As part of the development, the ultimate plans call for improving the drop-off/pick-up operations by providing two separate drop-off/pick-up areas for parents and relocating the bus drop-off/pick-up location immediately in front of the school where the drop-off/pick-up operations currently occur. In addition, the plans contemplate the widening of the north access drive to provide two-way traffic (in and out), expanding the parking area for both schools, potentially providing a traffic signal at the intersection of Main Street with the north access drive and widening the southern access drive to provide an exclusive left-turn lane out of the site into Main Street.

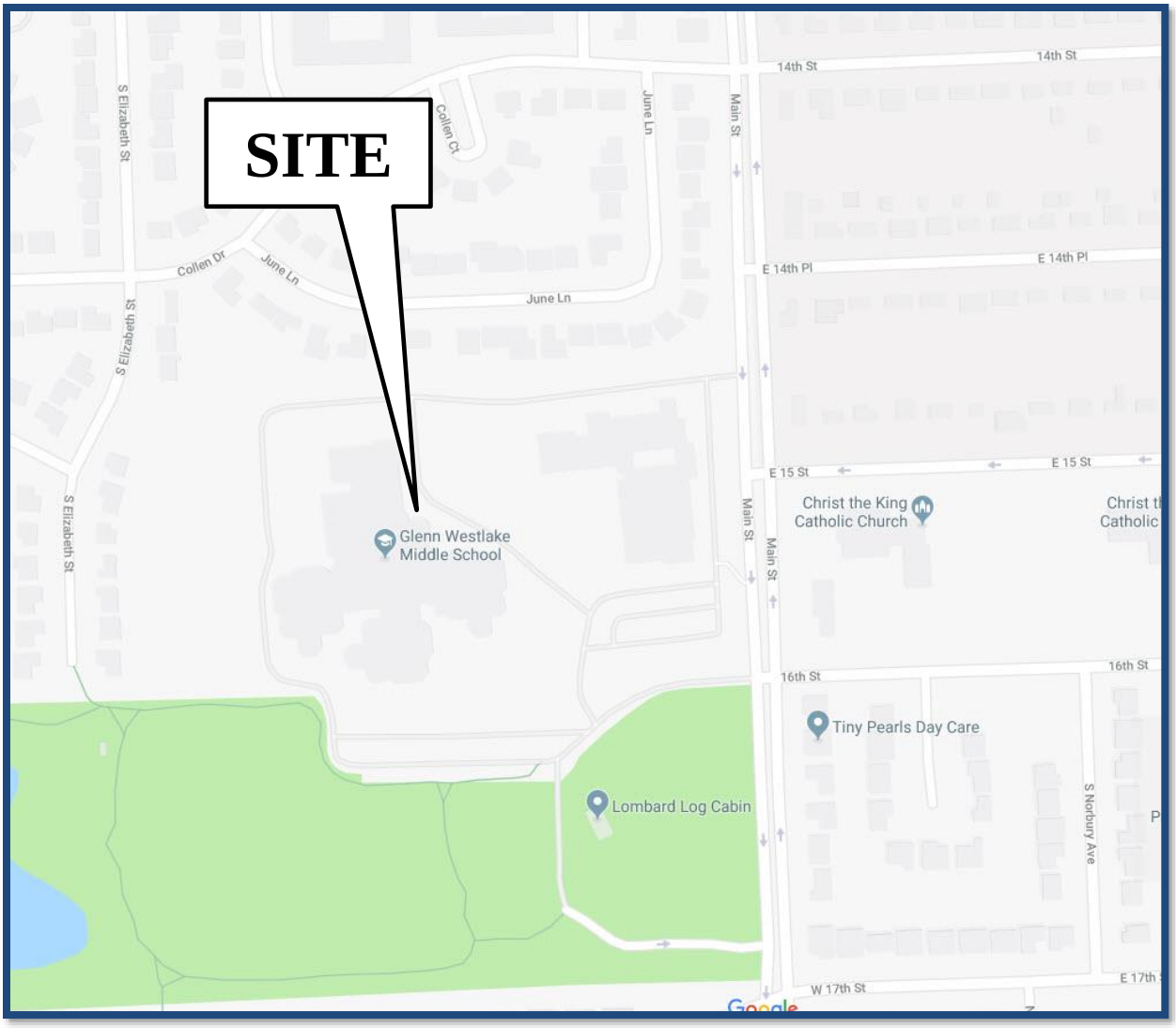
Figure 1 shows a map of the study area in the context of the surrounding roadway network. **Figure 2** shows an aerial view of the campus and adjoining roadways.

The purpose of this study is three-fold:

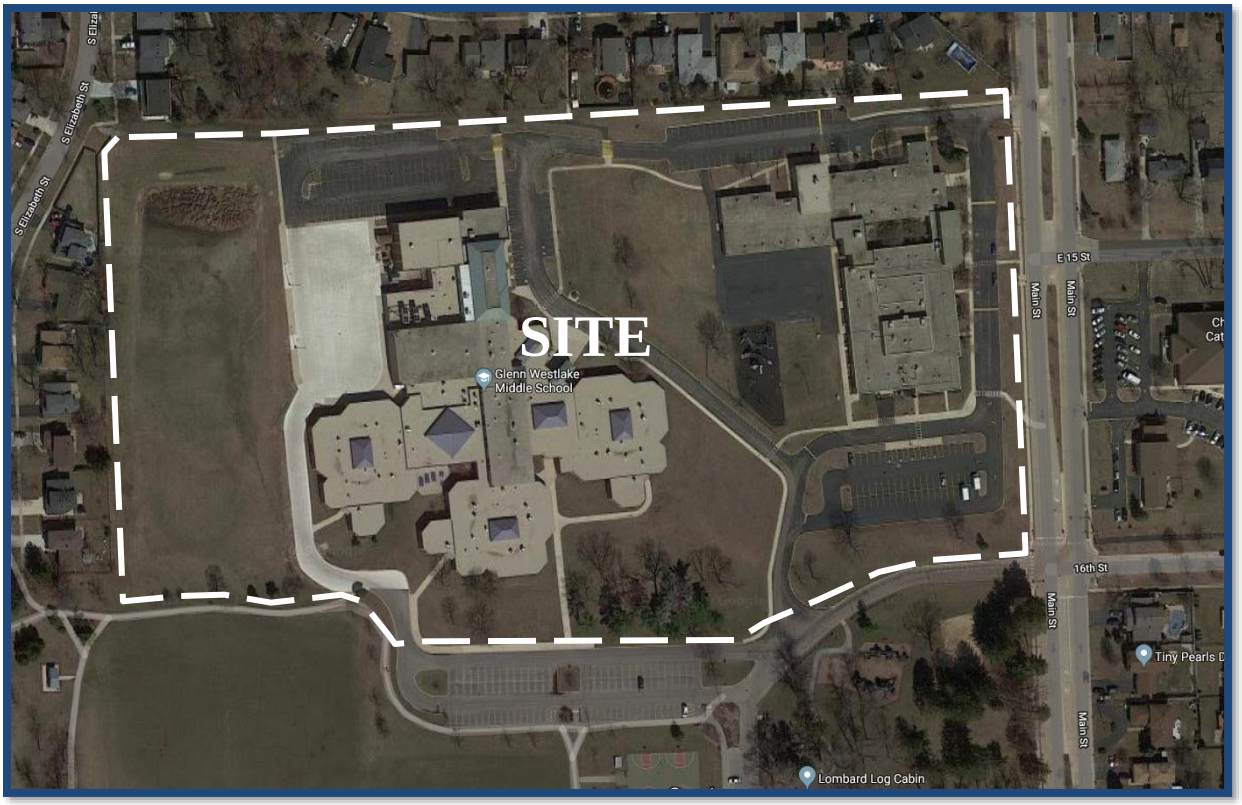
1. To document existing traffic circulation, parking and pedestrian patterns on campus and identify the major issues and conflicts to be addressed.

2. To determine potential issues with the proposed pick-up and drop-off operations of the two schools.

3. To develop and recommend any geometric, timing and operational improvements necessary to mitigate any potential circulation conflicts with the proposed plan and reduce conflicts between each school's pick-up and drop-off activity.



Study Area Location **Figure 1**



Aerial View of Campus **Figure 2**

2. Existing Conditions

Field observations and surveys were performed on the GWMS/MHES campus to document traffic and pedestrian volumes, examine traffic circulation and drop-off/pick-up operations, and identify major issues and vehicular-pedestrian conflicts. The observations and surveys were completed in April 2019 during the student arrival and dismissal times. The data collected provided a baseline for evaluating alternate circulation options described in Chapter 3. Six general components of existing conditions are summarized below.

1. Characteristics of the adjacent public roadway system
2. School enrollment and operating hours
3. Campus access system
4. Existing traffic and pedestrian volumes
5. Intersection traffic operations
6. Student drop-off/pick-up circulation

Roadway System Characteristics

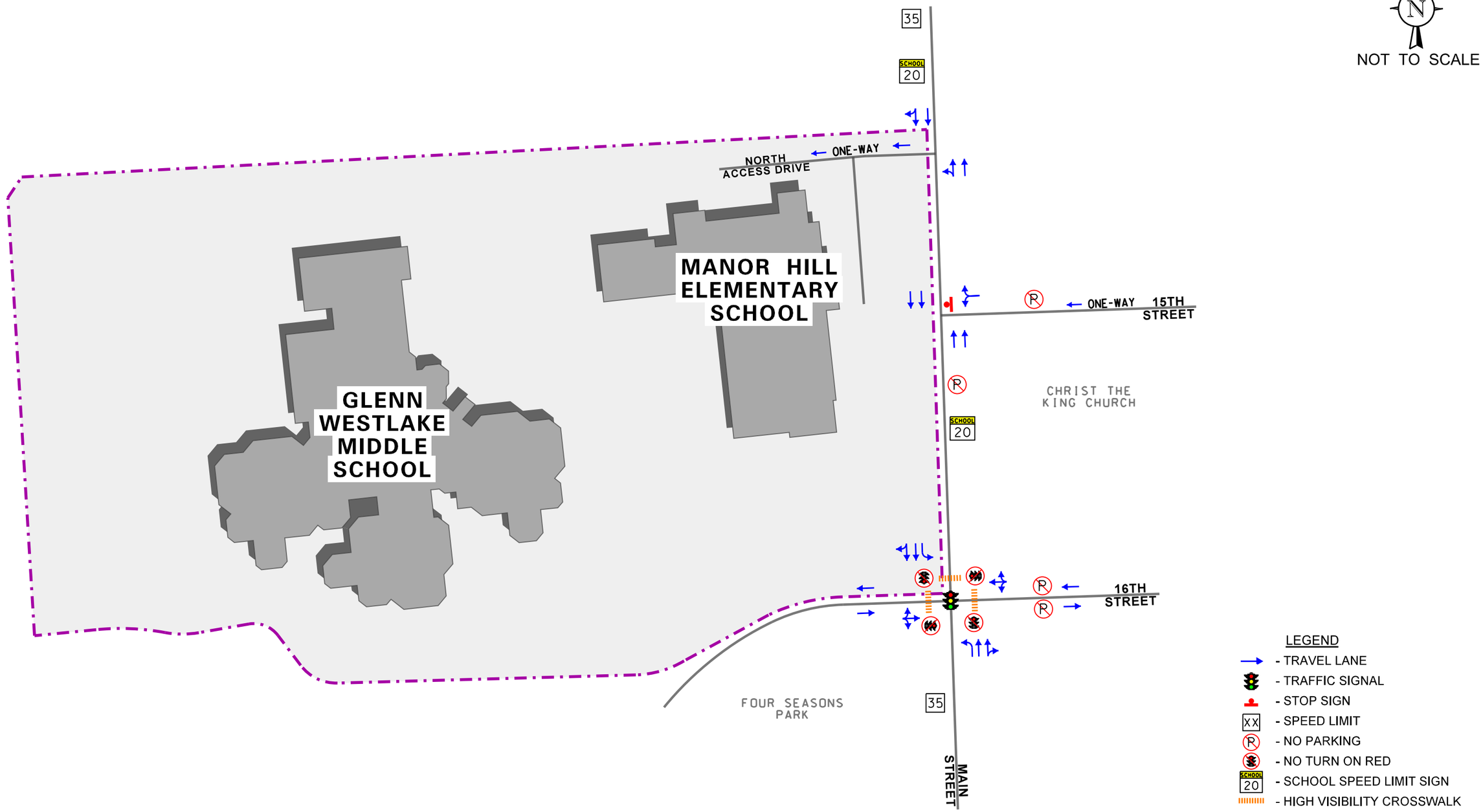
Access to the GWMS/MHES campus is provided off Main Street and 16th Street. The characteristics of these public roadways are shown in **Figure 3** and described below.

Main Street is a north-south minor arterial roadway that in the vicinity of the campus provides two through lanes in each direction divided by a raised landscaped median. At its signalized intersection with 16th Street, Main Street provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane on both approaches. No exclusive turn lanes are provided at its unsignalized intersections with 15th Street and the campus north access drive. On-street parking is not allowed on either side of the road. Main Street is under the jurisdiction of the Village of Lombard and carries an annual average daily traffic (AADT) volume of 18,600 vehicles (IDOT AADT 2016). The roadway has a posted speed limit of 35 miles per hour (mph) with a 20 mph school speed zone adjacent to the campus.

16th Street is an east-west residential road that extends from Highland Avenue west to Main Street. West of Main Street, 16th Street becomes an access drive serving the school campus and the Lombard Park District Four Seasons Park. At its signalized intersection with Main Street, 16th Street provides one inbound lane and one outbound lane on both approaches. It is important to note that 16th Street and the access drive serving the campus and the Four Seasons Park operate under a split phase with the westbound phase occurring first and then the eastbound phase. On-street parking is not allowed on either side of the road. High visibility crosswalks are provided o the north, east and west legs of the intersection. No turn on red when pedestrian are present signs are posted on all four quadrants of the intersection. 16th Street is under the jurisdiction of the Village of Lombard.

15th Street is a one-way westbound road that extends from Highland Avenue west to Main Street. At its unsignalized intersection with Main Street, 15th Street is under stop sign control and provides a combined left/right-turn lane. On-street parking is restricted on the north side of the road. 15th Street is under the Jurisdiction of the Village of Lombard.

NOT TO SCALE



MANOR HILL / GLENN WESTLAKE SCHOOLS
LOMBARD, ILLINOIS

EXISTING ROADWAY CHARACTERISTICS

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Job No: 19-069 Figure: 4

GWMS and MHES Enrollment and Operating Hours

GWMS educates grades 5-8 and has a population of approximately 1,200 students and 135 staff. MHES educates grades K-5 and has a population of approximately 320 students and 60 staff. The GWMS boundaries are generally between North Avenue to the north and Butterfield Road to the south. The boundary to the east is mostly along Grace Avenue extending to Fairview Avenue between Madison Street and Roosevelt Road and receding to generally Ainsley Lane between Roosevelt Road and Butterfield Road. The western boundary generally shifts between IL 53, Finley Road, the York Township boundary line and the East Branch of the DuPage River. The MHES boundary extends from Roosevelt Road to the north to 22nd Street to the south, Ainsley Lane to the east and Finley Road to the west. The bell schedule for regular school days at GWMS starts at 8:00 A.M. and ends at 2:45 P.M. The bell schedule for regular school days at MHES starts at 8:35 A.M. and ended at 3:15 P.M.

GWMS and MHES Campus Access System

Access to/from the GWMS/MHES campus is available from two access drives off Main Street. Both access drives are described below.

1. North Access Drive (Entrance Only) – This one-way westbound only access drive located approximately 190 feet north of 15th Street serves both schools. This access drive is mostly utilized by parents dropping-off and picking-up students of the GWMS, by staff personnel of both schools, by visitors to the GWMS and by ten school buses that drop-off and pick-up students on the west side of the school. It should be noted that approximately 60 feet west from the edge of pavement of Main Street, vehicles can turn left into the MHES easterly drop-off/pick-up area.

2. South Access Drive off Main Street (Exit only) – This access drive is located opposite 16th Street and is under traffic signal control. The access drive serves both schools as well as the Four Seasons Park. This access drive is approximately 24 feet wide providing one inbound lane and one outbound lane and its inbound traffic is mostly composed of parents/visitors destined to the MHES, a small portion of GWMS staff that parks on the Four Seasons Park parking lot, and approximately six school buses that drop-off and pick-up students on the south side of the GWMS. While some traffic exiting the campus that desires to travel south on Main Street utilizes the Four Seasons Park southern access drive, the great majority of the passenger vehicle outbound traffic from the campus, the Four Seasons Park and all of the school buses exit onto Main Street via this access drive.

GWMS and MHES Parking

The GWMS provides a staff only surface parking lot on the north side of the school with approximately 96 parking spaces and a small parking lot for visitors on the east side of the school with approximately 24 parking spaces. It is our understanding that there is an agreement between the Park District and the school that allows staff and teachers to also park in the Four Seasons Park parking lot south of the school.

The MHES provides approximately 52 surface parking spaces on the north side of the school and a surface parking lot with 56 parking spaces on the south side of the school.

Existing Traffic and Pedestrian Volumes

Traffic volume counts were conducted on Tuesday, March 19, 2019 from 6:00-9:00 A.M. and from 2:00-5:00 P.M. at the following locations:

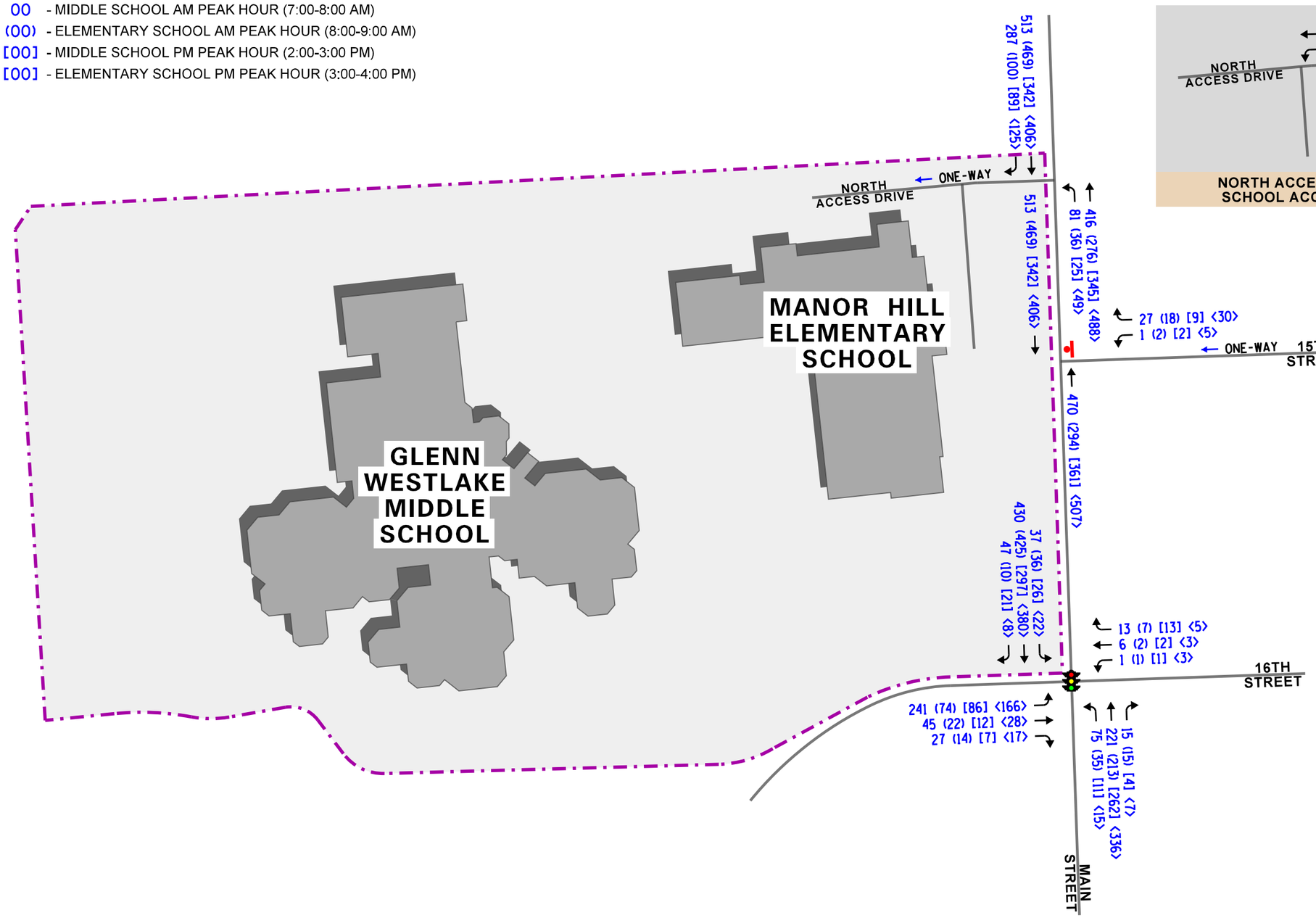
1. Main Street with 16th Street/GWMS/MHES/Four Seasons park access drive
2. Main Street with 15th Street
3. Main Street with GWMS/MHES North Access Drive

The time periods for the traffic counts were selected to coincide with the peak student arrival and dismissal times at both schools. The traffic count data indicates that the peak hours of school traffic activity occur in the morning between 7:00 and 8:00 A.M. and from 8:00 to 9:00 A.M. and in the afternoon between 2:00 and 3:00 P.M. and 3:00 and 4:00P.M. These peak hours coincide with the entrance and dismissal times of both schools (GWMS – 7:00 to 8:00 A.M. and 2:00 to 3:00 P.M. and MHES – 8:00 to 9:00 A.M. and 3:00 to 4:00 P.M.). It should be noted that the highest morning volumes for the GWMS are condensed into a 30-minute period from 7:15-7:45 A.M. and the highest morning volumes for MHES are condensed into a 30-minute period from 8:15 to 8:45 A.M. During the afternoon, the highest volumes for both schools are condensed into a 30-minute period from 2:45 to 3:15 P.M. Pedestrian activity was also collected and was observed to be low.

It is important to note that while the morning peak hour of the GWMS does coincide with the peak hours of adjacent street traffic along Main Street, the afternoon peak hours of both schools do not coincide with the peak hours of adjacent street traffic as this occurs around 5:00 P.M. Furthermore, based on KLOA, Inc.'s observations and a review of the traffic counts, traffic along Main Street is flowing efficiently and with minimal interruptions. **Figure 4** shows the existing traffic volumes during the peak hours of school activity.

LEGEND

00 - MIDDLE SCHOOL AM PEAK HOUR (7:00-8:00 AM)
(00) - ELEMENTARY SCHOOL AM PEAK HOUR (8:00-9:00 AM)
[00] - MIDDLE SCHOOL PM PEAK HOUR (2:00-3:00 PM)
[00] - ELEMENTARY SCHOOL PM PEAK HOUR (3:00-4:00 PM)



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EXISTING TRAFFIC VOLUMES

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Figure: 4

Existing Intersection Traffic Operations

To evaluate existing traffic operations for the access system serving the GWMS/MHES campus, and to establish a baseline for comparison with the proposed circulation options (as described in the following section), traffic analyses were performed for the morning arrival and afternoon dismissal periods at the studied intersections.:

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM), 2010* and analyzed using Synchro/SimTraffic 10 computer software. The methodologies use traffic signal timings and phasing, stop sign controls, traffic volumes, lane geometrics, and other roadway characteristics to determine the average control delay and levels of service for vehicles at an intersection.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service (LOS), which is assigned a letter grade from A to F based on the average control delay experienced by vehicles passing through the intersection. Control delay is that portion of the total delay attributed to the traffic signal or stop sign controlled operation and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Level of Service A is the highest grade (best traffic flow and least delay), Level of Service E represents saturated or at-capacity conditions, and Level of Service F is the lowest grade (oversaturated conditions, extensive delays). Typically, Level of Service D is the lowest acceptable grade for peak-hour conditions in a suburban environment such as Lombard. The HCM definitions for levels of service and the corresponding control delay for both signalized and unsignalized intersections and included in the Appendix.

For signal-controlled intersections, levels of service are calculated for lane groups, intersection approaches, and the intersection as a whole. For all-way stop controlled (AWSC) intersections, levels of service are calculated based on the weighted average of the delay on each of the intersection approaches. For two-way stop controlled (TWSC) intersections, levels of service are only calculated for the approaches controlled by a stop sign. Level of Service F at TWSC intersections occurs when there are not enough suitable gaps in the flow of traffic on the major (uncontrolled) street to allow minor-street traffic to safely enter the major street flow or cross the major street.

The results of the capacity analyses for the existing conditions are summarized in **Tables 1** and **2**. A description of the results of the traffic analysis follows. The capacity analysis summary sheets are included in the Appendix.

Table 1
CAPACITY ANALYSIS RESULTS – EXISTING CONDITIONS

Intersection	Weekday 1st Morning Peak Hour LOS	Weekday 1st Morning Peak Hour Delay	Weekday 2nd Morning Peak Hour LOS	Weekday 2nd Morning Peak Hour Delay
Main Street with 16th Street/GWMS/MHES/Four Seasons Park Access Drive[1]				
• Overall	C	25.7	B	12.7
• Northbound Approach	B	11.8	A	5.7
• Southbound Approach	B	12.5	A	6.0
• Eastbound Approach	E	59.0	D	54.6
• Westbound Approach	E	58.9	D	52.6
Main Street with 15th Street[2]				
• Westbound Approach	B	10.6	A	9.9
Main Street with GWMS/MHES North Access Drive[2]				
• Northbound Left/Through	A	5.5	A	3.0

LOS = Level of Service
Delay is measured in seconds.
1 – Signalized Intersection
2 – Unsignalized Intersection

Table 2
CAPACITY ANALYSIS RESULTS – EXISTING CONDITIONS

Intersection	Weekday 1st Afternoon Peak Hour LOS	Weekday 1st Afternoon Peak Hour Delay	Weekday 2nd Afternoon Peak Hour LOS	Weekday 2nd Afternoon Peak Hour Delay
Main Street with 16th Street/GWMS/MHES/Four Seasons Park Access Drive[1]				
• Overall	B	16.2	C	22.7
• Northbound Approach	A	8.4	B	10.7
• Southbound Approach	A	8.6	B	11.0
• Eastbound Approach	D	54.7	E	64.2
• Westbound Approach	E	60.9	E	55.3
Main Street with 15th Street[2]				
• Westbound Approach	B	10.5	B	11.7
Main Street with GWMS/MHES North Access Drive[2]				
• Northbound Left/Through	A	1.8	A	2.7

LOS = Level of Service
Delay is measured in seconds.
1 – Signalized Intersection
2 – Unsignalized Intersection

Main Street with GWMS/MHES/Four Seasons Park access drive

A review of the capacity analyses indicates that, overall, the studied intersections are operating at acceptable levels of service. Further inspection of the capacity analyses indicates that the outbound movements from the GWMS/MHES/Four Seasons Park access drive operate at a LOS E with long delays and long queues in excess of 400 feet. This is consistent with our observations out in the field. The following section discusses the drop-off/pick-up operation and our observations.

Student Drop-off/Pick-up Circulation

Field observations were conducted on two separate days during the weekday morning and afternoon peak periods to observe existing circulation patterns for school bus, drop-off and pick-up activity at both schools during morning arrival and afternoon dismissal times, and to quantify vehicle stacking at peak times. The drop-off and pick-up circulation for each school is described below. **Figures A1** through **A4** in the Appendix illustrate the GWMS peak morning drop-off stacking, the MHES peak morning drop-off stacking, the GWMS peak afternoon pick-up stacking, and the MHES peak afternoon pick-up stacking, respectively.

GWMS Morning Drop-Off

The morning drop-off activity at GWMS began at approximately 7:20 A.M. with two vehicles lined up on the east side of the building. Vehicles primarily accessed the campus from the north access drive and utilized the north-south aisle on the east side of the school to drop-off students. Vehicle queues began near the front door of the school but continue to build up along the whole school frontage. Vehicles then exited the campus via the Four Seasons Park/GWMS/MHES access drive to travel north or south on Main Street or east on 16th Street. The peak stacking was observed to occur between 7:45 and 7:52 A.M. with a queue of approximately 58 vehicles. It should be noted that by 7:45 A.M. the queue of vehicles was already spilling into Main Street with as many as eight vehicles and four vehicles queued in the southbound and northbound directions on Main Street, respectively. These sustained queues lasted for approximately eight to 10 minutes. Internal observations indicated the following deficiencies:

- Many parents drop-off their children and do not move out of the standing line until the entrance bell rings and their child is inside the school.

- Typically parents leave large gaps in between vehicles compounding the length of the queues.

- Given the designation of one-way westbound traffic along the north drive aisle, parents very often block the entrance to the parking lot for staff and employees north of the school. Conversely many teachers were observed to wait in the line of traffic for the drop-off thus compounding the observed queues.

- Approximately 20 to 25 percent of the inbound traffic destined to the drop-off/pick-up area for the GWMS turned into the MHES campus and dropped-off their children. This created additional internal conflicts with children crossing from the MHES to the GWMS and blocking/slowing down exiting traffic and the vehicles of parents who dropped-off their children at the MHES competing with the outbound movement from the drop-off/pick-up line.

- Only one school aide was present directing traffic with many parents disregarding the directions given to them thus making it difficult for the school aide to ensure efficient flow of traffic.

- As parents are exiting the school, they have to stop for traffic along the Four Seasons Park drive and yield to school buses. Given the location where parents exit into the Four Seasons Park access drive coupled with the proximity of the drive aisles serving the Four Seasons Park parking lot and the lack of traffic control for those aisles, it is very difficult for exiting vehicles to find an adequate gap to exit the campus

- 16th Street and the Four Seasons Park/GWMS/MHES access drive operate under a split phase with the westbound phase occurring first and then the eastbound phase. This is a very inefficient phasing plan that creates long delays and queues. Furthermore, the access drive only provides one outbound lane when there are almost 250 vehicles in one hour desiring to turn left and travel northbound on Main Street.

GWMS Afternoon Pick-Up

The afternoon pick-up activity at GWMS began at 2:00 P.M. Vehicles primarily accessed the campus from the north access drive and utilized the north-south aisle on the east side of the school to drop-off students. Vehicle queues began near the front door of the school but continue to build up along the whole school frontage. Vehicles then exited the campus via the Four Seasons Park/GWMS/MHES access drive to travel north or south on Main Street or east on 16th Street. The peak stacking was observed to occur between 2:40 and 2:45 P.M. with a queue of approximately 45 vehicles. It should be noted that by 2:55 P.M. the queue of vehicles subsided. The sustained queues that lasted for approximately eight to 10 minutes were caused for the same reasons identified under the drop-off conditions.

MHES Morning Drop-Off

The morning drop-off activity at PES began at 8:20 A.M. Vehicles accessed the campus from both the north and south access drives. Vehicles then queued along the south side of the MHES to drop-off students. School buses lined up on the east and south sides of the school. No excessive stacking was observed to occur during the drop-off period. All MHES drop-off activity concluded by 8:40 A.M.

MHES Afternoon Pick-Up

The afternoon pick-up activity at MHES began at 3:00 P.M. with vehicles lining up along the south side of the school, parking on the south parking lot and along the drive aisle between the GWMS and MHES. No excessive stacking was observed to occur during the pick-up period. All MHES pick-up activity concluded by 3:25 P.M.

3. Proposed Campus Site Access and Circulation

As part of the development, the ultimate plans call for improving the drop-off/pick-up operations of the GWMS by providing two separate drop-off/pick-up areas for parents and relocating the bus drop-off/pick-up location immediately on the east side of the school where the drop-off/pick-up operations currently occur. In addition, the plans contemplate the widening of the north access drive to provide two-way traffic (in and out), expanding the parking area for both schools, potentially providing a traffic signal at the intersection of Main Street with the north access drive and widening the southern access drive to provide an exclusive left-turn lane out of the site into Main Street.

Proposed GWMS Drop-Off/Pick-Up Operations

The drop-off/pick-up operations will continue to occur at the times of day that are currently in effect. However, under the new plans, parents will have two drop-off/pick-up areas. The first area will be located east of the current drop-off/pick-up area while the second area will be located on the south and west sides of the school. By providing two separate drop-off/pick-up areas the currently experienced queues will be distributed more efficiently and potentially reducing the likelihood of traffic backing onto Main Street. In order to ensure that the drop-off/pick-up operations are more efficient than current conditions, the following measures are recommended:

- Create a continuous drop-off pick-up lane along the south and west side of the school thus maximizing the on-site stacking of vehicles.

- One drop-off/pick-up zone should be designated at the end of each drop-off/pick-up lane.

- All vehicles should be required to pull all the way up to the end of these drop-off/pick-up zones before they are allowed to load/unload students. Parents should not be allowed to park in the drop-off/pick-up zones and enter the school. Parents needing to visit the school will have to park their vehicle in one of the designated parking spaces for visitors or make alternate arrangements with the school.

- Provide staff to aid in the drop-off/pick-up operation. It is recommended that a minimum of three aides be stationed along the southern proposed drop-off/pick-up area and two along the eastern drop-off/pick-up area. This will ensure stacking is being used efficiently and that drivers are moving along the line thus reducing any unnecessary queueing.

- The school should continue to educate parents through flyers, e-mails and the school website regarding the policies and procedures with respect to drop-off/pick-up operations. School officials and the traffic aides will need to enforce these policies and procedures.

- Widen the Four Seasons Park/GWMS/MHES access drive from Main Street west to its intersection with the middle drive aisle to provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and a combined left/through/right-turn lane. Main Street north of 16th Street will have to be widened to 35 feet for approximately 100 feet to accept the dual left-turn lanes. Furthermore, 16th Street will have to be widened to ensure that alignment of the east-west movements is appropriate.

- Consideration should be given to blocking the drive aisle on the east side of MHES with cones from 7:30 to 8:00 A.M. and have an aide at this location to ensure that parents of GWMS students do not use the MHES campus for drop-off. In order to ensure that parents of MHES students or school buses are able to use this drive should they arrive early, the MHES should consider providing their parents with placards that can be placed on the dashboard identifying it as a MHES vehicle.

- The north access drive aisle ranges in width from 21 to 24 feet. In order to ensure that drop-off/pick-up vehicles do not block access to the parking lot on the north side of the school, the drive aisle should be striped for two lanes with the inside lane designated for drop-off/pick-up stacking and the outside lane designated for school bus traffic destined to the school bus drop-off/pick-up area immediately east of the school.

- As a follow up to the implementation of the above, if inbound traffic still fills up internally, consideration should be given to providing an exclusive northbound left-turn lane on Main Street at its intersection with the north access drive. Given the limited room, the exclusive left-turn lane could provide 75 feet of storage and 25 feet of taper. This would accommodate at least three vehicles and reduce the chances for left-turn traffic to spill onto Main Street.

MHES Drop-Off/Pick-Up Operations

Based on a review of the plans, the MHES school bus traffic will continue entering the campus via the north access drive and exit via the south access drive at its signalized intersection with Main Street as it currently does. Further inspection of the proposed plans shows that the provision of two-way traffic on the north is being contemplated thus providing for clockwise circulation around the MHES. Based on our field observations, two-way traffic and the provision of a traffic signal is not recommended for the following reasons:

- The drive aisle on the east side of the MHES is located approximately 60 feet west of the edge of pavement of Main Street. This short distance means that approximately only two vehicles can queue on the northbound access drive before blocking the east drive aisle preventing vehicles from entering the east drive aisle on the east side of the school. This will then create gridlock resulting in traffic backing out onto Main Street

- The drop-off/pick-up operations of the MHES were efficient and it was not observed to back up internally or externally like those observed at the GWMS.

- The traffic volumes exiting the north access drive will not warrant the installation of a traffic signal.

As previously indicated, consideration should be given to blocking the drive aisle on the east side of MHES with cones from 7:30 to 8:00 A.M. and have an aide at this location to ensure that parents of GWMS students do not use the MHES campus for drop-off. In order to ensure that parents of MHES students or school buses are able to use this drive should they arrive early, the MHES should consider providing their parents with placards that can be placed on the dashboard identifying it as a MHES vehicle.

4. Projected Traffic Conditions

Traffic conditions assuming the proposed improvements and KLOA, Inc.'s recommendations were evaluated to determine operational efficiencies, compare to existing conditions, and verify that the existing access and roadway system will continue to adequately accommodate the GWMS/MHES traffic. Given the proposed plans to provide a 70,000 square foot building on the northwest corner of the Glenn Westlake Middle School building to provide for better facilities within the school is not expected to increase the current school population and traffic volumes, the existing traffic volumes were analyzed assuming all of the identified improvements. Intersection capacity analyses were performed and the results are summarized in **Tables 3** and **4**. The capacity analysis worksheets are in the Appendix.

Main Street with GWMS/MHES/Four Seasons Park access drive

A review of the capacity analyses indicates that assuming the widening of the GWMS/MHES/Four Seasons Park access drive to provide an exclusive left-turn lane and a shared left/through/right-turn lane, the outbound queues will be reduced by approximately 275 feet or a reduction of 11 vehicles. Notwithstanding this significant reduction in the 95th percentile queues, minor timing modifications could be implemented providing additional green time to the GWMS/MHES/Four Seasons Park access drive. This minor modification could further reduce the queues and delays experienced on this approach while still maintaining appropriate levels of service along Main Street.

Table 3
CAPACITY ANALYSIS RESULTS – FUTURE CONDITIONS

Intersection	Weekday Morning Peak Hour (7:00 – 8:00) LOS	Weekday Morning Peak Hour (7:00 – 8:00) Delay	Weekday Morning Peak Hour (800 – 9:00) LOS	Weekday Morning Peak Hour (800 – 9:00) Delay
Main Street with 16th Street/GWMS/MHES/Four Seasons Park Access Drive[1]				
• Overall	C	22.1	B	11.2
• Northbound Approach	A	8.9	A	4.2
• Southbound Approach	A	9.1	A	4.4
• Eastbound Approach	D	54.3	D	53.6
• Westbound Approach	E	58.9	D	52.6
Main Street with 15th Street[2]				
• Westbound Approach	B	10.6	A	9.9
Main Street with GWMS/MHES North Access Drive[2]				
• Northbound Left	B	11.5	A	9.4

LOS = Level of Service
Delay is measured in seconds.
1 – Signalized Intersection
2 – Unsignalized Intersection

Table 4
CAPACITY ANALYSIS RESULTS – FUTURE CONDITIONS

Intersection	Weekday Afternoon Peak Hour (2:00 – 3:00) LOS	Weekday Afternoon Peak Hour (2:00 – 3:00) Delay	Weekday Afternoon Peak Hour (3:00 – 4:00) LOS	Weekday Afternoon Peak Hour (3:00 – 4:00) Delay
Main Street with 16th Street/GWMS/MHES/Four Seasons Park Access Drive[1]				
• Overall	B	14.4	B	18.6
• Northbound Approach	A	6.4	A	8.4
• Southbound Approach	A	6.6	A	8.6
• Eastbound Approach	D	54.3	D	53.6
• Westbound Approach	E	60.9	E	55.3
Main Street with 15th Street[2]				
• Westbound Approach	B	10.5	B	11.7
Main Street with GWMS/MHES North Access Drive[2]				
• Northbound Left	A	8.7	A	9.3

LOS = Level of Service
Delay is measured in seconds.
1 – Signalized Intersection
2 – Unsignalized Intersection

5. Conclusions

This site circulation and traffic evaluation identifies existing stacking and traffic circulation issues on the GWMS/MHES campus. The study evaluated the proposed plans to improve the drop-off/pick-up operations and the proposed improvements as part of the development of an approximate 70,000 square foot building on the northwest corner of the Glenn Westlake Middle School building to provide for better facilities within the school. Based on the preceding evaluation, and in order to ensure efficient drop-off/pick-up operation, the following is recommended:

- Create a continuous drop-off pick-up lane along the south and west side of the GWMS thus maximizing the on-site stacking of vehicles.

- One drop-off/pick-up zone should be designated at the end of each drop-off/pick-up lane.

- All vehicles should be required to pull all the way up to the end of these drop-off/pick-up zones before they are allowed to load/unload students. Parents should not be allowed to park in the drop-off/pick-up zones and enter the school. Parents needing to visit the school will have to park their vehicle in one of the designated parking spaces for visitors or make alternate arrangements with the school.

- Provide staff to aid in the drop-off/pick-up operation. It is recommended that a minimum of three aides be stationed along the southern proposed drop-off/pick-up area and two along the eastern drop-off/pick-up area. This will ensure stacking is being used efficiently and that drivers are moving along the line thus reducing any unnecessary queueing.

- The school should continue to educate parents through flyers, e-mails and the school website regarding the policies and procedures with respect to drop-off/pick-up operations. School officials and the traffic aides will need to enforce these policies and procedures.

- Widen the Four Seasons Park/GWMS/MHES access drive from Main Street west to its intersection with the middle drive aisle to provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and a combined left/through/right-turn lane. Main Street north of 16th Street will have to be widened to 35 feet for approximately 100 feet to accept the dual left-turn lanes. Furthermore, 16th Street will have to be widened to ensure that alignment of the east-west movements are appropriate.

- Consideration should be given to blocking the drive aisle on the east side of MHES with cones from 7:30 to 8:00 A.M. and have an aide at this location to ensure that parents of GWMS students do not use the MHES campus for drop-off. In order to ensure that parents of MHES students or school buses are able to use this drive should they arrive early, the MHES should consider providing their parents with placards that can be placed on the dashboard identifying it as a MHES vehicle.

- The north access drive aisle ranges in width from 21 to 24 feet. In order to ensure that drop-off/pick-up vehicles do not block access to the parking lot on the north side of the school, the drive aisle should be striped for two lanes with the inside lane designated for drop-off/pick-up stacking and the outside lane designated for school bus traffic destined to the school bus drop-off/pick-up area immediately east of the school.

- As a follow up to the implementation of the above, if inbound traffic still fills up internally, consideration should be given to providing an exclusive northbound left-turn lane on Main Street at its intersection with the north access drive. Given the limited room, the exclusive left-turn lane could provide 75 feet of storage and 25 feet of taper. This would accommodate at least three vehicles and reduce the chances for left-turn traffic to spill onto Main Street.

Based on our field observations, two-way traffic along the north drive aisle fronting the MHES and providing a traffic signal at the intersection of Main Street with the north access drive is not recommended for the following reasons:

- The drive aisle on the east side of the MHES is located approximately 60 feet west of the edge of pavement of Main Street. This short distance means that approximately only two vehicles can queue on the northbound access drive before blocking the east drive aisle preventing vehicles from entering the east drive aisle on the east side of the school. This will then create gridlock resulting in traffic backing out onto Main Street

- The drop-off/pick-up operations of the MHES were efficient and it was not observed to back up internally or externally like those observed at the GWMS.

- The traffic volumes exiting the north access drive will not warrant the installation of a traffic signal

With these improvements, the access system currently serving the GWMS/MHES campus will continue to adequately accommodate the traffic generated by the schools, queueing of traffic onto Main Street will be diminished, and conflicts with pedestrians and vehicles will be minimized.

Appendix

Traffic Counts
Level of Service Criteria
Capacity Analysis Summary Sheets
Proposed Internal Circulation Modifications

Traffic Counts

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

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

Count Name: Main Street with 15th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Data

Start Time	15th Street Westbound					Main Street Northbound					Main Street Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
7:00 AM	0	0	5	0	5	0	90	0	0	90	0	0	92	0	92	187
7:15 AM	0	0	8	0	8	0	70	0	0	70	0	0	110	0	110	188
7:30 AM	0	1	7	0	8	0	126	0	0	126	0	0	142	0	142	276
7:45 AM	0	0	7	0	7	0	169	0	0	169	0	0	121	0	121	297
Hourly Total	0	1	27	0	28	0	455	0	0	455	0	0	465	0	465	948
8:00 AM	0	1	5	0	6	0	72	0	0	72	0	0	99	0	99	177
8:15 AM	0	0	7	0	7	0	86	0	0	86	0	0	143	0	143	236
8:30 AM	0	1	3	0	4	0	79	0	0	79	0	0	117	0	117	200
8:45 AM	0	0	3	0	3	0	51	0	0	51	0	0	106	0	106	160
Hourly Total	0	2	18	0	20	0	288	0	0	288	0	0	465	0	465	773
9:00 AM	0	6	17	0	23	3	50	0	0	53	0	0	91	0	91	167
9:15 AM	0	2	7	0	9	0	47	0	0	47	0	0	83	0	83	139
9:30 AM	0	0	1	0	1	1	55	0	0	56	0	0	93	0	93	150
9:45 AM	0	1	4	0	5	0	45	0	0	45	0	0	81	0	81	131
Hourly Total	0	9	29	0	38	4	197	0	0	201	0	0	348	0	348	587
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	1	1	0	2	0	81	0	0	81	0	0	67	0	67	150
2:15 PM	0	1	2	0	3	0	67	0	0	67	0	0	81	0	81	151
2:30 PM	0	0	4	0	4	1	82	0	0	83	0	0	93	0	93	180
2:45 PM	0	0	2	0	2	0	153	0	0	153	0	0	103	0	103	258
Hourly Total	0	2	9	0	11	1	383	0	0	384	0	0	344	0	344	739
3:00 PM	0	1	11	0	12	0	118	0	0	118	0	0	102	0	102	232
3:15 PM	0	3	5	0	8	1	146	0	0	147	0	0	101	0	101	256
3:30 PM	0	0	6	0	6	0	118	0	0	118	0	0	111	0	111	235
3:45 PM	0	1	8	0	9	0	125	0	0	125	0	0	87	0	87	221
Hourly Total	0	5	30	0	35	1	507	0	0	508	0	0	401	0	401	944
4:00 PM	0	1	4	0	5	0	144	1	0	145	0	0	115	0	115	265
4:15 PM	0	1	1	0	2	0	105	0	0	105	0	0	108	0	108	215
4:30 PM	0	2	4	0	6	0	118	0	0	118	0	0	105	0	105	229
4:45 PM	0	0	5	0	5	0	123	0	0	123	0	0	126	0	126	254
Hourly Total	0	4	14	0	18	0	490	1	0	491	0	0	454	0	454	963
5:00 PM	0	0	7	0	7	0	135	0	0	135	0	0	111	0	111	253
5:15 PM	0	2	4	1	6	0	140	0	0	140	0	0	135	0	135	281
5:30 PM	0	1	5	0	6	0	116	0	0	116	0	0	118	0	118	240
5:45 PM	0	2	1	0	3	1	100	0	0	101	0	0	135	0	135	239
Hourly Total	0	5	17	1	22	1	491	0	0	492	0	0	499	0	499	1013
Grand Total	0	28	144	1	172	7	2811	1	0	2819	0	0	2976	0	2976	5967
Approach %	0.0	16.3	83.7	-	-	0.2	99.7	0.0	-	-	0.0	0.0	100.0	-	-	-

Total %	0.0	0.5	2.4	-	2.9	0.1	47.1	0.0	-	47.2	0.0	0.0	49.9	-	49.9	-
Lights	0	28	139	-	167	7	2744	1	-	2752	0	0	2929	-	2929	5848
% Lights	-	100.0	96.5	-	97.1	100.0	97.6	100.0	-	97.6	-	-	98.4	-	98.4	98.0
Buses	0	0	3	-	3	0	50	0	-	50	0	0	27	-	27	80
% Buses	-	0.0	2.1	-	1.7	0.0	1.8	0.0	-	1.8	-	-	0.9	-	0.9	1.3
Single-Unit Trucks	0	0	2	-	2	0	13	0	-	13	0	0	19	-	19	34
% Single-Unit Trucks	-	0.0	1.4	-	1.2	0.0	0.5	0.0	-	0.5	-	-	0.6	-	0.6	0.6
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	0	0	1	-	1	3
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	-	-	0.0	-	0.0	0.1
Bicycles on Road	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% 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: Main Street with 15th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (7:30 AM)

Start Time	15th Street Westbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:30 AM	0	1	7	0	8	0	126	0	0	126	0	0	142	0	142	276
7:45 AM	0	0	7	0	7	0	169	0	0	169	0	0	121	0	121	297
8:00 AM	0	1	5	0	6	0	72	0	0	72	0	0	99	0	99	177
8:15 AM	0	0	7	0	7	0	86	0	0	86	0	0	143	0	143	236
Total	0	2	26	0	28	0	453	0	0	453	0	0	505	0	505	986
Approach %	0.0	7.1	92.9	-	-	0.0	100.0	0.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.2	2.6	-	2.8	0.0	45.9	0.0	-	45.9	0.0	0.0	51.2	-	51.2	-
PHF	0.000	0.500	0.929	-	0.875	0.000	0.670	0.000	-	0.670	0.000	0.000	0.883	-	0.883	0.830
Lights	0	2	25	-	27	0	432	0	-	432	0	0	488	-	488	947
% Lights	-	100.0	96.2	-	96.4	-	95.4	-	-	95.4	-	-	96.6	-	96.6	96.0
Buses	0	0	1	-	1	0	17	0	-	17	0	0	13	-	13	31
% Buses	-	0.0	3.8	-	3.6	-	3.8	-	-	3.8	-	-	2.6	-	2.6	3.1
Single-Unit Trucks	0	0	0	-	0	0	3	0	-	3	0	0	4	-	4	7
% Single-Unit Trucks	-	0.0	0.0	-	0.0	-	0.7	-	-	0.7	-	-	0.8	-	0.8	0.7
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	-	-	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	-	0.0	-	0.2	-	-	0.2	-	-	0.0	-	0.0	0.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

Count Name: Main Street with 15th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (8:30 AM)

Start Time	15th Street Westbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
8:30 AM	0	1	3	0	4	0	79	0	0	79	0	0	117	0	117	200
8:45 AM	0	0	3	0	3	0	51	0	0	51	0	0	106	0	106	160
9:00 AM	0	6	17	0	23	3	50	0	0	53	0	0	91	0	91	167
9:15 AM	0	2	7	0	9	0	47	0	0	47	0	0	83	0	83	139
Total	0	9	30	0	39	3	227	0	0	230	0	0	397	0	397	666
Approach %	0.0	23.1	76.9	-	-	1.3	98.7	0.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	1.4	4.5	-	5.9	0.5	34.1	0.0	-	34.5	0.0	0.0	59.6	-	59.6	-
PHF	0.000	0.375	0.441	-	0.424	0.250	0.718	0.000	-	0.728	0.000	0.000	0.848	-	0.848	0.833
Lights	0	9	29	-	38	3	221	0	-	224	0	0	390	-	390	652
% Lights	-	100.0	96.7	-	97.4	100.0	97.4	-	-	97.4	-	-	98.2	-	98.2	97.9
Buses	0	0	0	-	0	0	6	0	-	6	0	0	1	-	1	7
% Buses	-	0.0	0.0	-	0.0	0.0	2.6	-	-	2.6	-	-	0.3	-	0.3	1.1
Single-Unit Trucks	0	0	1	-	1	0	0	0	-	0	0	0	5	-	5	6
% Single-Unit Trucks	-	0.0	3.3	-	2.6	0.0	0.0	-	-	0.0	-	-	1.3	-	1.3	0.9
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	1
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	-	-	0.3	-	0.3	0.2
Bicycles on Road	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
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

Count Name: Main Street with 15th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (2:00 PM)

Start Time	15th Street Westbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
2:00 PM	0	1	1	0	2	0	81	0	0	81	0	0	67	0	67	150
2:15 PM	0	1	2	0	3	0	67	0	0	67	0	0	81	0	81	151
2:30 PM	0	0	4	0	4	1	82	0	0	83	0	0	93	0	93	180
2:45 PM	0	0	2	0	2	0	153	0	0	153	0	0	103	0	103	258
Total	0	2	9	0	11	1	383	0	0	384	0	0	344	0	344	739
Approach %	0.0	18.2	81.8	-	-	0.3	99.7	0.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.3	1.2	-	1.5	0.1	51.8	0.0	-	52.0	0.0	0.0	46.5	-	46.5	-
PHF	0.000	0.500	0.563	-	0.688	0.250	0.626	0.000	-	0.627	0.000	0.000	0.835	-	0.835	0.716
Lights	0	2	9	-	11	1	363	0	-	364	0	0	334	-	334	709
% Lights	-	100.0	100.0	-	100.0	100.0	94.8	-	-	94.8	-	-	97.1	-	97.1	95.9
Buses	0	0	0	-	0	0	17	0	-	17	0	0	8	-	8	25
% Buses	-	0.0	0.0	-	0.0	0.0	4.4	-	-	4.4	-	-	2.3	-	2.3	3.4
Single-Unit Trucks	0	0	0	-	0	0	2	0	-	2	0	0	2	-	2	4
% Single-Unit Trucks	-	0.0	0.0	-	0.0	0.0	0.5	-	-	0.5	-	-	0.6	-	0.6	0.5
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.3	-	-	0.3	-	-	0.0	-	0.0	0.1
Bicycles on Road	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
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

Count Name: Main Street with 15th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (3:00 PM)

Start Time	15th Street Westbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
3:00 PM	0	1	11	0	12	0	118	0	0	118	0	0	102	0	102	232
3:15 PM	0	3	5	0	8	1	146	0	0	147	0	0	101	0	101	256
3:30 PM	0	0	6	0	6	0	118	0	0	118	0	0	111	0	111	235
3:45 PM	0	1	8	0	9	0	125	0	0	125	0	0	87	0	87	221
Total	0	5	30	0	35	1	507	0	0	508	0	0	401	0	401	944
Approach %	0.0	14.3	85.7	-	-	0.2	99.8	0.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.5	3.2	-	3.7	0.1	53.7	0.0	-	53.8	0.0	0.0	42.5	-	42.5	-
PHF	0.000	0.417	0.682	-	0.729	0.250	0.868	0.000	-	0.864	0.000	0.000	0.903	-	0.903	0.922
Lights	0	5	28	-	33	1	498	0	-	499	0	0	399	-	399	931
% Lights	-	100.0	93.3	-	94.3	100.0	98.2	-	-	98.2	-	-	99.5	-	99.5	98.6
Buses	0	0	1	-	1	0	5	0	-	5	0	0	1	-	1	7
% Buses	-	0.0	3.3	-	2.9	0.0	1.0	-	-	1.0	-	-	0.2	-	0.2	0.7
Single-Unit Trucks	0	0	1	-	1	0	4	0	-	4	0	0	1	-	1	6
% Single-Unit Trucks	-	0.0	3.3	-	2.9	0.0	0.8	-	-	0.8	-	-	0.2	-	0.2	0.6
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	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
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

Count Name: Main Street with 16th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Data

Start Time	Access Drive Eastbound						16th Street Westbound						Main Street Northbound						Main Street 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	3	0	0	1	3	0	0	0	7	0	7	0	0	81	0	0	81	0	4	86	4	0	94	185
7:15 AM	0	4	0	0	0	4	0	0	0	5	0	5	0	6	60	0	0	66	1	8	94	11	0	114	189
7:30 AM	0	41	11	5	0	57	0	0	2	4	0	6	0	26	81	1	0	108	0	7	106	32	0	145	316
7:45 AM	0	109	22	15	0	146	0	0	2	3	0	5	0	15	60	4	0	79	0	3	100	6	0	109	339
Hourly Total	0	157	33	20	1	210	0	0	4	19	0	23	0	47	282	5	0	334	1	22	386	53	0	462	1029
8:00 AM	0	10	0	2	0	12	0	1	0	2	0	3	0	9	63	1	0	73	0	10	105	1	0	116	204
8:15 AM	0	31	12	5	0	48	0	0	2	4	0	6	0	25	57	9	0	91	4	13	117	8	0	142	287
8:30 AM	0	27	10	6	0	43	0	0	0	1	0	1	0	1	55	4	0	60	0	8	114	1	1	123	227
8:45 AM	0	6	0	1	0	7	0	0	0	0	0	0	0	0	45	1	0	46	0	6	96	0	0	102	155
Hourly Total	0	74	22	14	0	110	0	1	2	7	0	10	0	35	220	15	0	270	4	37	432	10	1	483	873
9:00 AM	0	5	0	1	1	6	0	2	1	3	0	6	1	1	37	1	0	40	0	8	84	2	1	94	146
9:15 AM	0	2	2	1	0	5	0	1	0	2	0	3	0	0	39	0	0	39	0	4	85	0	0	89	136
9:30 AM	0	3	0	1	0	4	0	1	0	6	0	7	0	0	47	0	0	47	0	5	88	0	0	93	151
9:45 AM	0	3	1	3	0	7	0	0	0	2	0	2	0	0	35	2	0	37	1	3	79	1	0	84	130
Hourly Total	0	13	3	6	1	22	0	4	1	13	0	18	1	1	158	3	0	163	1	20	336	3	1	360	563
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	4	1	1	0	6	0	0	0	3	0	3	0	3	74	1	0	78	0	4	63	1	0	68	155
2:15 PM	0	1	2	1	1	4	0	0	0	2	0	2	0	0	63	1	0	64	0	7	77	4	0	88	158
2:30 PM	0	4	0	1	0	5	0	0	2	3	0	5	1	5	75	0	0	81	0	5	79	12	0	96	187
2:45 PM	0	77	9	4	1	90	0	1	0	5	1	6	0	3	71	2	0	76	0	10	87	4	1	101	273
Hourly Total	0	86	12	7	2	105	0	1	2	13	1	16	1	11	283	4	0	299	0	26	306	21	1	353	773
3:00 PM	0	26	5	0	0	31	0	0	2	2	0	4	0	11	90	1	0	102	0	3	92	5	0	100	237
3:15 PM	0	62	9	7	6	78	0	1	0	1	0	2	1	2	80	4	0	87	0	3	104	1	5	108	275
3:30 PM	0	28	5	5	2	38	0	1	1	1	0	3	0	0	85	1	0	86	0	9	101	0	0	110	237
3:45 PM	0	50	9	5	0	64	0	1	0	1	0	2	1	2	73	1	1	77	0	7	78	2	0	87	230
Hourly Total	0	166	28	17	8	211	0	3	3	5	0	11	2	15	328	7	1	352	0	22	375	8	5	405	979
4:00 PM	0	39	9	2	0	50	0	1	2	1	0	4	0	2	103	2	0	107	0	5	107	2	0	114	275
4:15 PM	0	7	2	2	0	11	0	0	1	1	0	2	0	2	97	0	2	99	0	6	104	1	1	111	223
4:30 PM	0	3	1	1	0	5	0	0	0	2	0	2	0	0	113	0	0	113	0	6	99	1	1	106	226
4:45 PM	0	6	2	4	0	12	0	0	1	2	0	3	0	2	114	1	0	117	0	8	114	3	0	125	257
Hourly Total	0	55	14	9	0	78	0	1	4	6	0	11	0	6	427	3	2	436	0	25	424	7	2	456	981
5:00 PM	0	18	0	2	0	20	0	1	0	3	0	4	0	5	115	3	0	123	0	14	97	1	0	112	259
5:15 PM	0	5	2	1	0	8	0	0	0	6	0	6	0	1	129	6	0	136	0	5	129	1	0	135	285
5:30 PM	0	6	1	0	0	7	0	0	0	4	0	4	0	0	104	2	0	106	0	9	113	0	0	122	239
5:45 PM	0	3	0	0	1	3	0	0	0	1	0	1	0	1	96	1	0	98	0	7	129	1	0	137	239
Hourly Total	0	32	3	3	1	38	0	1	0	14	0	15	0	7	444	12	0	463	0	35	468	3	0	506	1022
Grand Total	0	583	115	76	13	774	0	11	16	77	1	104	4	122	2142	49	3	2317	6	187	2727	105	10	3025	6220

Approach %	0.0	75.3	14.9	9.8	-	-	0.0	10.6	15.4	74.0	-	-	0.2	5.3	92.4	2.1	-	-	0.2	6.2	90.1	3.5	-	-	-
Total %	0.0	9.4	1.8	1.2	-	12.4	0.0	0.2	0.3	1.2	-	1.7	0.1	2.0	34.4	0.8	-	37.3	0.1	3.0	43.8	1.7	-	48.6	-
Lights	0	541	111	72	-	724	0	10	14	76	-	100	4	119	2121	49	-	2293	6	187	2693	86	-	2972	6089
% Lights	-	92.8	96.5	94.7	-	93.5	-	90.9	87.5	98.7	-	96.2	100.0	97.5	99.0	100.0	-	99.0	100.0	100.0	98.8	81.9	-	98.2	97.9
Buses	0	40	4	2	-	46	0	1	2	1	-	4	0	3	8	0	-	11	0	0	11	19	-	30	91
% Buses	-	6.9	3.5	2.6	-	5.9	-	9.1	12.5	1.3	-	3.8	0.0	2.5	0.4	0.0	-	0.5	0.0	0.0	0.4	18.1	-	1.0	1.5
Single-Unit Trucks	0	2	0	1	-	3	0	0	0	0	-	0	0	0	10	0	-	10	0	0	20	0	-	20	33
% Single-Unit Trucks	-	0.3	0.0	1.3	-	0.4	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.5	0.0	-	0.4	0.0	0.0	0.7	0.0	-	0.7	0.5
Articulated Trucks	0	0	0	1	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	2	0	-	2	4
% Articulated Trucks	-	0.0	0.0	1.3	-	0.1	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.1	0.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	1	0	-	1	3
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.1	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	13	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	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: Main Street with 16th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Access Drive Eastbound						16th Street Westbound						Main Street Northbound						Main Street 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	
7:30 AM	0	41	11	5	0	57	0	0	2	4	0	6	0	26	81	1	0	108	0	7	106	32	0	145	316
7:45 AM	0	109	22	15	0	146	0	0	2	3	0	5	0	15	60	4	0	79	0	3	100	6	0	109	339
8:00 AM	0	10	0	2	0	12	0	1	0	2	0	3	0	9	63	1	0	73	0	10	105	1	0	116	204
8:15 AM	0	31	12	5	0	48	0	0	2	4	0	6	0	25	57	9	0	91	4	13	117	8	0	142	287
Total	0	191	45	27	0	263	0	1	6	13	0	20	0	75	261	15	0	351	4	33	428	47	0	512	1146
Approach %	0.0	72.6	17.1	10.3	-	-	0.0	5.0	30.0	65.0	-	-	0.0	21.4	74.4	4.3	-	-	0.8	6.4	83.6	9.2	-	-	-
Total %	0.0	16.7	3.9	2.4	-	22.9	0.0	0.1	0.5	1.1	-	1.7	0.0	6.5	22.8	1.3	-	30.6	0.3	2.9	37.3	4.1	-	44.7	-
PHF	0.000	0.438	0.511	0.450	-	0.450	0.000	0.250	0.750	0.813	-	0.833	0.000	0.721	0.806	0.417	-	0.813	0.250	0.635	0.915	0.367	-	0.883	0.845
Lights	0	174	42	26	-	242	0	1	5	12	-	18	0	72	257	15	-	344	4	33	423	35	-	495	1099
% Lights	-	91.1	93.3	96.3	-	92.0	-	100.0	83.3	92.3	-	90.0	-	96.0	98.5	100.0	-	98.0	100.0	100.0	98.8	74.5	-	96.7	95.9
Buses	0	15	3	1	-	19	0	0	1	1	-	2	0	3	1	0	-	4	0	0	2	12	-	14	39
% Buses	-	7.9	6.7	3.7	-	7.2	-	0.0	16.7	7.7	-	10.0	-	4.0	0.4	0.0	-	1.1	0.0	0.0	0.5	25.5	-	2.7	3.4
Single-Unit Trucks	0	2	0	0	-	2	0	0	0	0	-	0	0	0	2	0	-	2	0	0	3	0	-	3	7
% Single-Unit Trucks	-	1.0	0.0	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.8	0.0	-	0.6	0.0	0.0	0.7	0.0	-	0.6	0.6
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	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
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.3	0.0	0.0	0.0	0.0	-	0.0	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

Count Name: Main Street with 16th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (8:30 AM)

Start Time	Access Drive Eastbound						16th Street Westbound						Main Street Northbound						Main Street 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
8:30 AM	0	27	10	6	0	43	0	0	0	1	0	1	0	1	55	4	0	60	0	8	114	1	1	123	227
8:45 AM	0	6	0	1	0	7	0	0	0	0	0	0	0	0	45	1	0	46	0	6	96	0	0	102	155
9:00 AM	0	5	0	1	1	6	0	2	1	3	0	6	1	1	37	1	0	40	0	8	84	2	1	94	146
9:15 AM	0	2	2	1	0	5	0	1	0	2	0	3	0	0	39	0	0	39	0	4	85	0	0	89	136
Total	0	40	12	9	1	61	0	3	1	6	0	10	1	2	176	6	0	185	0	26	379	3	2	408	664
Approach %	0.0	65.6	19.7	14.8	-	-	0.0	30.0	10.0	60.0	-	-	0.5	1.1	95.1	3.2	-	-	0.0	6.4	92.9	0.7	-	-	-
Total %	0.0	6.0	1.8	1.4	-	9.2	0.0	0.5	0.2	0.9	-	1.5	0.2	0.3	26.5	0.9	-	27.9	0.0	3.9	57.1	0.5	-	61.4	-
PHF	0.000	0.370	0.300	0.375	-	0.355	0.000	0.375	0.250	0.500	-	0.417	0.250	0.500	0.800	0.375	-	0.771	0.000	0.813	0.831	0.375	-	0.829	0.731
Lights	0	36	12	8	-	56	0	3	1	6	-	10	1	2	174	6	-	183	0	26	372	3	-	401	650
% Lights	-	90.0	100.0	88.9	-	91.8	-	100.0	100.0	100.0	-	100.0	100.0	100.0	98.9	100.0	-	98.9	-	100.0	98.2	100.0	-	98.3	97.9
Buses	0	4	0	0	-	4	0	0	0	0	-	0	0	0	2	0	-	2	0	0	1	0	-	1	7
% Buses	-	10.0	0.0	0.0	-	6.6	-	0.0	0.0	0.0	-	0.0	0.0	0.0	1.1	0.0	-	1.1	-	0.0	0.3	0.0	-	0.2	1.1
Single-Unit Trucks	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	4	0	-	4	5
% Single-Unit Trucks	-	0.0	0.0	11.1	-	1.6	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	1.1	0.0	-	1.0	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	2
% Articulated Trucks	-	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	0.5	0.0	-	0.5	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	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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9575 W. Higgins Rd., Suite 400

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

Count Name: Main Street with 16th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Access Drive Eastbound						16th Street Westbound						Main Street Northbound						Main Street 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	
2:00 PM	0	4	1	1	0	6	0	0	0	3	0	3	0	3	74	1	0	78	0	4	63	1	0	68	155
2:15 PM	0	1	2	1	1	4	0	0	0	2	0	2	0	0	63	1	0	64	0	7	77	4	0	88	158
2:30 PM	0	4	0	1	0	5	0	0	2	3	0	5	1	5	75	0	0	81	0	5	79	12	0	96	187
2:45 PM	0	77	9	4	1	90	0	1	0	5	1	6	0	3	71	2	0	76	0	10	87	4	1	101	273
Total	0	86	12	7	2	105	0	1	2	13	1	16	1	11	283	4	0	299	0	26	306	21	1	353	773
Approach %	0.0	81.9	11.4	6.7	-	-	0.0	6.3	12.5	81.3	-	-	0.3	3.7	94.6	1.3	-	-	0.0	7.4	86.7	5.9	-	-	-
Total %	0.0	11.1	1.6	0.9	-	13.6	0.0	0.1	0.3	1.7	-	2.1	0.1	1.4	36.6	0.5	-	38.7	0.0	3.4	39.6	2.7	-	45.7	-
PHF	0.000	0.279	0.333	0.438	-	0.292	0.000	0.250	0.250	0.650	-	0.667	0.250	0.550	0.943	0.500	-	0.923	0.000	0.650	0.879	0.438	-	0.874	0.708
Lights	0	70	12	7	-	89	0	0	1	13	-	14	1	11	280	4	-	296	0	26	300	16	-	342	741
% Lights	-	81.4	100.0	100.0	-	84.8	-	0.0	50.0	100.0	-	87.5	100.0	100.0	98.9	100.0	-	99.0	-	100.0	98.0	76.2	-	96.9	95.9
Buses	0	16	0	0	-	16	0	1	1	0	-	2	0	0	1	0	-	1	0	0	3	5	-	8	27
% Buses	-	18.6	0.0	0.0	-	15.2	-	100.0	50.0	0.0	-	12.5	0.0	0.0	0.4	0.0	-	0.3	-	0.0	1.0	23.8	-	2.3	3.5
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	3	0	-	3	5
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.7	0.0	-	0.7	-	0.0	1.0	0.0	-	0.8	0.6
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	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
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	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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9575 W. Higgins Rd., Suite 400

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

Count Name: Main Street with 16th Street - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (3:00 PM)

Start Time	Access Drive Eastbound						16th Street Westbound						Main Street Northbound						Main Street 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	
3:00 PM	0	26	5	0	0	31	0	0	2	2	0	4	0	11	90	1	0	102	0	3	92	5	0	100	237
3:15 PM	0	62	9	7	6	78	0	1	0	1	0	2	1	2	80	4	0	87	0	3	104	1	5	108	275
3:30 PM	0	28	5	5	2	38	0	1	1	1	0	3	0	0	85	1	0	86	0	9	101	0	0	110	237
3:45 PM	0	50	9	5	0	64	0	1	0	1	0	2	1	2	73	1	1	77	0	7	78	2	0	87	230
Total	0	166	28	17	8	211	0	3	3	5	0	11	2	15	328	7	1	352	0	22	375	8	5	405	979
Approach %	0.0	78.7	13.3	8.1	-	-	0.0	27.3	27.3	45.5	-	-	0.6	4.3	93.2	2.0	-	-	0.0	5.4	92.6	2.0	-	-	-
Total %	0.0	17.0	2.9	1.7	-	21.6	0.0	0.3	0.3	0.5	-	1.1	0.2	1.5	33.5	0.7	-	36.0	0.0	2.2	38.3	0.8	-	41.4	-
PHF	0.000	0.669	0.778	0.607	-	0.676	0.000	0.750	0.375	0.625	-	0.688	0.500	0.341	0.911	0.438	-	0.863	0.000	0.611	0.901	0.400	-	0.920	0.890
Lights	0	163	27	16	-	206	0	3	3	5	-	11	2	15	324	7	-	348	0	22	371	8	-	401	966
% Lights	-	98.2	96.4	94.1	-	97.6	-	100.0	100.0	100.0	-	100.0	100.0	100.0	98.8	100.0	-	98.9	-	100.0	98.9	100.0	-	99.0	98.7
Buses	0	3	1	1	-	5	0	0	0	0	-	0	0	0	1	0	-	1	0	0	2	0	-	2	8
% Buses	-	1.8	3.6	5.9	-	2.4	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.3	-	0.0	0.5	0.0	-	0.5	0.8
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	2	0	-	2	4
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.6	0.0	-	0.6	-	0.0	0.5	0.0	-	0.5	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	0.1
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	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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Count Name: Main Street with Northerly Access Drive - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Data

Start Time	North Access Drive Eastbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	0	1	0	0	7	90	0	97	0	88	11	0	99	196
7:15 AM	0	0	0	0	0	0	11	66	0	77	1	111	19	0	131	208
7:30 AM	0	0	0	0	0	0	32	84	0	116	0	143	112	0	255	371
7:45 AM	0	0	0	0	0	0	23	170	0	193	0	122	96	0	218	411
Hourly Total	0	0	0	1	0	0	73	410	0	483	1	464	238	0	703	1186
8:00 AM	0	0	0	0	0	0	8	65	2	73	0	107	20	0	127	200
8:15 AM	0	0	0	0	0	0	18	77	0	95	0	141	59	0	200	295
8:30 AM	0	0	0	0	0	0	7	80	0	87	0	118	16	0	134	221
8:45 AM	0	0	0	0	0	0	3	54	0	57	0	103	5	0	108	165
Hourly Total	0	0	0	0	0	0	36	276	2	312	0	469	100	0	569	881
9:00 AM	0	0	0	0	0	0	1	63	0	64	0	88	3	0	91	155
9:15 AM	0	0	0	0	0	0	4	53	0	57	0	88	2	0	90	147
9:30 AM	0	0	0	0	0	0	0	54	0	54	0	86	3	0	89	143
9:45 AM	0	0	0	0	0	0	7	43	0	50	0	88	5	0	93	143
Hourly Total	0	0	0	0	0	0	12	213	0	225	0	350	13	0	363	588
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	0	0	0	0	0	4	71	0	75	0	65	9	0	74	149
2:15 PM	0	0	0	1	0	0	3	70	0	73	0	82	17	0	99	172
2:30 PM	0	0	0	0	0	0	9	73	0	82	0	96	29	0	125	207
2:45 PM	0	0	0	1	0	0	9	131	0	140	0	99	34	0	133	273
Hourly Total	0	0	0	2	0	0	25	345	0	370	0	342	89	0	431	801
3:00 PM	0	0	1	0	1	0	19	122	0	141	0	108	34	0	142	284
3:15 PM	0	0	0	1	0	0	4	141	0	145	0	94	20	0	114	259
3:30 PM	0	0	0	3	0	0	5	116	0	121	0	107	37	0	144	265
3:45 PM	0	0	0	0	0	1	21	109	0	131	0	97	34	0	131	262
Hourly Total	0	0	1	4	1	1	49	488	0	538	0	406	125	0	531	1070
4:00 PM	0	1	0	0	1	0	3	148	0	151	0	118	10	0	128	280
4:15 PM	0	0	0	0	0	0	1	108	0	109	0	110	2	0	112	221
4:30 PM	0	0	0	1	0	0	0	122	0	122	0	104	7	0	111	233
4:45 PM	0	1	0	0	1	0	1	128	0	129	0	128	5	0	133	263
Hourly Total	0	2	0	1	2	0	5	506	0	511	0	460	24	0	484	997
5:00 PM	0	0	0	0	0	0	0	129	0	129	0	117	6	0	123	252
5:15 PM	0	0	0	0	0	0	1	155	0	156	0	150	2	0	152	308
5:30 PM	0	0	0	0	0	0	0	119	0	119	0	122	1	0	123	242
5:45 PM	0	0	0	0	0	0	1	102	0	103	1	139	6	0	146	249
Hourly Total	0	0	0	0	0	0	2	505	0	507	1	528	15	0	544	1051
Grand Total	0	2	1	8	3	1	202	2743	2	2946	2	3019	604	0	3625	6574
Approach %	0.0	66.7	33.3	-	-	0.0	6.9	93.1	-	-	0.1	83.3	16.7	-	-	-

Total %	0.0	0.0	0.0	-	0.0	0.0	3.1	41.7	-	44.8	0.0	45.9	9.2	-	55.1	-
Lights	0	2	1	-	3	1	195	2685	-	2881	2	2966	578	-	3546	6430
% Lights	-	100.0	100.0	-	100.0	100.0	96.5	97.9	-	97.8	100.0	98.2	95.7	-	97.8	97.8
Buses	0	0	0	-	0	0	6	47	-	53	0	28	24	-	52	105
% Buses	-	0.0	0.0	-	0.0	0.0	3.0	1.7	-	1.8	0.0	0.9	4.0	-	1.4	1.6
Single-Unit Trucks	0	0	0	-	0	0	1	10	-	11	0	24	1	-	25	36
% Single-Unit Trucks	-	0.0	0.0	-	0.0	0.0	0.5	0.4	-	0.4	0.0	0.8	0.2	-	0.7	0.5
Articulated Trucks	0	0	0	-	0	0	0	1	-	1	0	1	1	-	2	3
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.2	-	0.1	0.0
Bicycles on Road	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
Pedestrians	-	-	-	8	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

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Count Name: Main Street with Northerly Access Drive - Total
Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (7:30 AM)

Start Time	North Access Drive Eastbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	0	0	0	0	0	32	84	0	116	0	143	112	0	255	371
7:45 AM	0	0	0	0	0	0	23	170	0	193	0	122	96	0	218	411
8:00 AM	0	0	0	0	0	0	8	65	2	73	0	107	20	0	127	200
8:15 AM	0	0	0	0	0	0	18	77	0	95	0	141	59	0	200	295
Total	0	0	0	0	0	0	81	396	2	477	0	513	287	0	800	1277
Approach %	0.0	0.0	0.0	-	-	0.0	17.0	83.0	-	-	0.0	64.1	35.9	-	-	-
Total %	0.0	0.0	0.0	-	0.0	0.0	6.3	31.0	-	37.4	0.0	40.2	22.5	-	62.6	-
PHF	0.000	0.000	0.000	-	0.000	0.000	0.633	0.582	-	0.618	0.000	0.897	0.641	-	0.784	0.777
Lights	0	0	0	-	0	0	78	378	-	456	0	492	280	-	772	1228
% Lights	-	-	-	-	-	-	96.3	95.5	-	95.6	-	95.9	97.6	-	96.5	96.2
Buses	0	0	0	-	0	0	3	15	-	18	0	15	6	-	21	39
% Buses	-	-	-	-	-	-	3.7	3.8	-	3.8	-	2.9	2.1	-	2.6	3.1
Single-Unit Trucks	0	0	0	-	0	0	0	3	-	3	0	6	1	-	7	10
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.8	-	0.6	-	1.2	0.3	-	0.9	0.8
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	-	-	-	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
% Bicycles on Road	-	-	-	-	-	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

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Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (8:30 AM)

Start Time	North Access Drive Eastbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
8:30 AM	0	0	0	0	0	0	7	80	0	87	0	118	16	0	134	221
8:45 AM	0	0	0	0	0	0	3	54	0	57	0	103	5	0	108	165
9:00 AM	0	0	0	0	0	0	1	63	0	64	0	88	3	0	91	155
9:15 AM	0	0	0	0	0	0	4	53	0	57	0	88	2	0	90	147
Total	0	0	0	0	0	0	15	250	0	265	0	397	26	0	423	688
Approach %	0.0	0.0	0.0	-	-	0.0	5.7	94.3	-	-	0.0	93.9	6.1	-	-	-
Total %	0.0	0.0	0.0	-	0.0	0.0	2.2	36.3	-	38.5	0.0	57.7	3.8	-	61.5	-
PHF	0.000	0.000	0.000	-	0.000	0.000	0.536	0.781	-	0.761	0.000	0.841	0.406	-	0.789	0.778
Lights	0	0	0	-	0	0	14	244	-	258	0	388	26	-	414	672
% Lights	-	-	-	-	-	-	93.3	97.6	-	97.4	-	97.7	100.0	-	97.9	97.7
Buses	0	0	0	-	0	0	0	6	-	6	0	1	0	-	1	7
% Buses	-	-	-	-	-	-	0.0	2.4	-	2.3	-	0.3	0.0	-	0.2	1.0
Single-Unit Trucks	0	0	0	-	0	0	1	0	-	1	0	7	0	-	7	8
% Single-Unit Trucks	-	-	-	-	-	-	6.7	0.0	-	0.4	-	1.8	0.0	-	1.7	1.2
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	-	0.0	-	0.3	0.0	-	0.2	0.1
Bicycles on Road	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
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Site Code:
Start Date: 03/19/2019

Turning Movement Peak Hour Data (2:00 PM)

Start Time	North Access Drive Eastbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
2:00 PM	0	0	0	0	0	0	4	71	0	75	0	65	9	0	74	149
2:15 PM	0	0	0	1	0	0	3	70	0	73	0	82	17	0	99	172
2:30 PM	0	0	0	0	0	0	9	73	0	82	0	96	29	0	125	207
2:45 PM	0	0	0	1	0	0	9	131	0	140	0	99	34	0	133	273
Total	0	0	0	2	0	0	25	345	0	370	0	342	89	0	431	801
Approach %	0.0	0.0	0.0	-	-	0.0	6.8	93.2	-	-	0.0	79.4	20.6	-	-	-
Total %	0.0	0.0	0.0	-	0.0	0.0	3.1	43.1	-	46.2	0.0	42.7	11.1	-	53.8	-
PHF	0.000	0.000	0.000	-	0.000	0.000	0.694	0.658	-	0.661	0.000	0.864	0.654	-	0.810	0.734
Lights	0	0	0	-	0	0	24	328	-	352	0	331	76	-	407	759
% Lights	-	-	-	-	-	-	96.0	95.1	-	95.1	-	96.8	85.4	-	94.4	94.8
Buses	0	0	0	-	0	0	1	16	-	17	0	8	13	-	21	38
% Buses	-	-	-	-	-	-	4.0	4.6	-	4.6	-	2.3	14.6	-	4.9	4.7
Single-Unit Trucks	0	0	0	-	0	0	0	1	-	1	0	3	0	-	3	4
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.3	-	0.3	-	0.9	0.0	-	0.7	0.5
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	-	-	-	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
% Bicycles on Road	-	-	-	-	-	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

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Start Date: 03/19/2019

Turning Movement Peak Hour Data (3:00 PM)

Start Time	North Access Drive Eastbound					Main Street Northbound					Main Street Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
3:00 PM	0	0	1	0	1	0	19	122	0	141	0	108	34	0	142	284
3:15 PM	0	0	0	1	0	0	4	141	0	145	0	94	20	0	114	259
3:30 PM	0	0	0	3	0	0	5	116	0	121	0	107	37	0	144	265
3:45 PM	0	0	0	0	0	1	21	109	0	131	0	97	34	0	131	262
Total	0	0	1	4	1	1	49	488	0	538	0	406	125	0	531	1070
Approach %	0.0	0.0	100.0	-	-	0.2	9.1	90.7	-	-	0.0	76.5	23.5	-	-	-
Total %	0.0	0.0	0.1	-	0.1	0.1	4.6	45.6	-	50.3	0.0	37.9	11.7	-	49.6	-
PHF	0.000	0.000	0.250	-	0.250	0.250	0.583	0.865	-	0.928	0.000	0.940	0.845	-	0.922	0.942
Lights	0	0	1	-	1	1	47	481	-	529	0	404	120	-	524	1054
% Lights	-	-	100.0	-	100.0	100.0	95.9	98.6	-	98.3	-	99.5	96.0	-	98.7	98.5
Buses	0	0	0	-	0	0	2	4	-	6	0	1	5	-	6	12
% Buses	-	-	0.0	-	0.0	0.0	4.1	0.8	-	1.1	-	0.2	4.0	-	1.1	1.1
Single-Unit Trucks	0	0	0	-	0	0	0	2	-	2	0	1	0	-	1	3
% Single-Unit Trucks	-	-	0.0	-	0.0	0.0	0.0	0.4	-	0.4	-	0.2	0.0	-	0.2	0.3
Articulated Trucks	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Articulated Trucks	-	-	0.0	-	0.0	0.0	0.0	0.2	-	0.2	-	0.0	0.0	-	0.0	0.1
Bicycles on Road	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
Pedestrians	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections

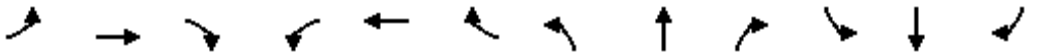
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual 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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	45	27	1	6	13	75	221	15	37	430	47
Future Volume (vph)	241	45	27	1	6	13	75	221	15	37	430	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.912			0.990			0.985	
Flt Protected		0.963			0.998		0.950			0.950		
Satd. Flow (prot)	0	1669	0	0	1611	0	1736	3508	0	1805	3440	0
Flt Permitted		0.963			0.998		0.421			0.579		
Satd. Flow (perm)	0	1669	0	0	1611	0	769	3508	0	1100	3440	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	373	0	0	23	0	89	281	0	44	568	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	30.0	30.0		11.0	11.0		64.0	64.0		64.0	64.0	
Total Split (%)	28.6%	28.6%		10.5%	10.5%		61.0%	61.0%		61.0%	61.0%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		27.2			5.0		59.9	59.9		59.9	59.9	
Actuated g/C Ratio		0.26			0.05		0.57	0.57		0.57	0.57	
v/c Ratio		0.87			0.30		0.20	0.14		0.07	0.29	
Control Delay		59.0			58.9		13.4	11.3		11.6	12.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		59.0			58.9		13.4	11.3		11.6	12.5	
LOS		E			E		B	B		B	B	
Approach Delay		59.0			58.9			11.8			12.5	
Approach LOS		E			E			B			B	
Queue Length 50th (ft)		225			15		27	43		12	96	
Queue Length 95th (ft)		#392			39		56	64		29	129	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)		431			76		438	2001		627	1963	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.87			0.30		0.20	0.14		0.07	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 59.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 9: Main Street & 16th Street

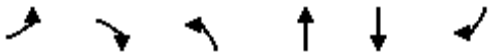
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	27	470	0	0	513
Future Vol, veh/h	1	27	470	0	0	513
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	4	5	2	2	3
Mvmt Flow	1	33	566	0	0	618

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	875	283	0	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	309	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	-	-
Pot Cap-1 Maneuver	293	708	-	0	0	-
Stage 1	537	-	-	0	0	-
Stage 2	724	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	293	708	-	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

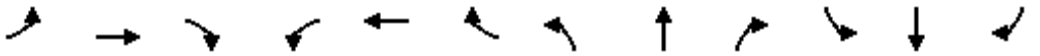
Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	674	-
HCM Lane V/C Ratio	-	0.05	-
HCM Control Delay (s)	-	10.6	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.2	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	81	416	513	287
Future Volume (Veh/h)	0	0	81	416	513	287
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	104	533	658	368
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	1316	515	1026			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1316	515	1026			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	84			
cM capacity (veh/h)	126	504	661			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	282	355	439	587
Volume Left	104	0	0	0
Volume Right	0	0	0	368
cSH	661	1700	1700	1700
Volume to Capacity	0.16	0.21	0.26	0.35
Queue Length 95th (ft)	14	0	0	0
Control Delay (s)	5.5	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	2.4		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	22	14	1	2	7	35	213	15	36	425	10
Future Volume (vph)	74	22	14	1	2	7	35	213	15	36	425	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982			0.902			0.990			0.997	
Flt Protected		0.968			0.995		0.950			0.950		
Satd. Flow (prot)	0	1673	0	0	1592	0	1736	3508	0	1805	3517	0
Flt Permitted		0.968			0.995		0.461			0.584		
Satd. Flow (perm)	0	1673	0	0	1592	0	842	3508	0	1110	3517	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	0	0	11	0	42	272	0	43	518	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	30.0	30.0		11.0	11.0		64.0	64.0		64.0	64.0	
Total Split (%)	28.6%	28.6%		10.5%	10.5%		61.0%	61.0%		61.0%	61.0%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		13.5			5.0		75.8	75.8		75.8	75.8	
Actuated g/C Ratio		0.13			0.05		0.72	0.72		0.72	0.72	
v/c Ratio		0.61			0.15		0.07	0.11		0.05	0.20	
Control Delay		54.6			52.6		6.7	5.6		6.4	6.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		54.6			52.6		6.7	5.6		6.4	6.0	
LOS		D			D		A	A		A	A	
Approach Delay		54.6			52.6			5.7			6.0	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		84			7		6	22		7	46	
Queue Length 95th (ft)		128			24		25	54		25	102	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)		382			75		607	2531		801	2538	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.34			0.15		0.07	0.11		0.05	0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & 16th Street

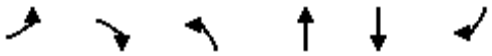
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	18	294	0	0	469
Future Vol, veh/h	2	18	294	0	0	469
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	4	5	2	2	3
Mvmt Flow	2	22	354	0	0	565

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	637	177	0	-	-	-
Stage 1	354	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	-	-
Pot Cap-1 Maneuver	414	829	-	0	0	-
Stage 1	687	-	-	0	0	-
Stage 2	746	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	414	829	-	-	-	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	746	-	-	-	-	-

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

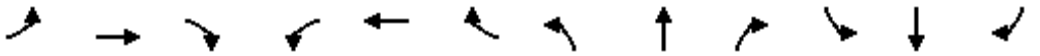
Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	753	-
HCM Lane V/C Ratio	-	0.032	-
HCM Control Delay (s)	-	9.9	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	36	276	469	100
Future Volume (Veh/h)	0	0	36	276	469	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	46	354	601	128
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	934	366	729			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	934	366	729			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	95			
cM capacity (veh/h)	250	629	857			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	164	236	401	328
Volume Left	46	0	0	0
Volume Right	0	0	0	128
cSH	857	1700	1700	1700
Volume to Capacity	0.05	0.14	0.24	0.19
Queue Length 95th (ft)	4	0	0	0
Control Delay (s)	3.0	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	1.2		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	12	7	1	2	13	11	262	4	26	297	21
Future Volume (vph)	86	12	7	1	2	13	11	262	4	26	297	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991			0.892			0.998			0.990	
Flt Protected		0.961			0.996		0.950			0.950		
Satd. Flow (prot)	0	1669	0	0	1574	0	1736	3533	0	1805	3473	0
Flt Permitted		0.961			0.996		0.474			0.512		
Satd. Flow (perm)	0	1669	0	0	1574	0	866	3533	0	973	3473	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	25	0	17	409	0	40	489	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	29.0	29.0		11.0	11.0		65.0	65.0		65.0	65.0	
Total Split (%)	27.6%	27.6%		10.5%	10.5%		61.9%	61.9%		61.9%	61.9%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		15.4			5.0		69.5	69.5		69.5	69.5	
Actuated g/C Ratio		0.15			0.05		0.66	0.66		0.66	0.66	
v/c Ratio		0.66			0.34		0.03	0.17		0.06	0.21	
Control Delay		54.7			60.9		9.4	8.3		9.2	8.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		54.7			60.9		9.4	8.3		9.2	8.6	
LOS		D			E		A	A		A	A	
Approach Delay		54.7			60.9			8.4			8.6	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		104			17		4	57		10	70	
Queue Length 95th (ft)		112			32		11	64		20	76	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)		365			74		573	2339		644	2299	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.44			0.34		0.03	0.17		0.06	0.21	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 43.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & 16th Street

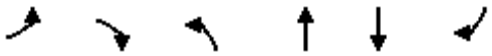
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	9	361	0	0	342
Future Vol, veh/h	2	9	361	0	0	342
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	4	5	2	2	3
Mvmt Flow	2	11	435	0	0	412

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	641	218	0	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	-	-
Pot Cap-1 Maneuver	412	780	-	0	0	-
Stage 1	626	-	-	0	0	-
Stage 2	814	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	412	780	-	-	-	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	671	-
HCM Lane V/C Ratio	-	0.02	-
HCM Control Delay (s)	-	10.5	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	25	345	342	89
Future Volume (Veh/h)	0	0	25	345	342	89
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	32	442	438	114
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	780	278	552			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	780	278	552			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	321	718	1000			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	179	295	292	260
Volume Left	32	0	0	0
Volume Right	0	0	0	114
cSH	1000	1700	1700	1700
Volume to Capacity	0.03	0.17	0.17	0.15
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	1.8	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.7		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	28	17	3	3	5	15	336	7	22	380	8
Future Volume (vph)	166	28	17	3	3	5	15	336	7	22	380	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.940			0.997			0.997	
Flt Protected		0.962			0.986		0.950			0.950		
Satd. Flow (prot)	0	1669	0	0	1669	0	1736	3530	0	1805	3519	0
Flt Permitted		0.962			0.986		0.412			0.451		
Satd. Flow (perm)	0	1669	0	0	1669	0	753	3530	0	857	3519	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	324	0	0	18	0	23	528	0	34	597	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	29.0	29.0		11.0	11.0		65.0	65.0		65.0	65.0	
Total Split (%)	27.6%	27.6%		10.5%	10.5%		61.9%	61.9%		61.9%	61.9%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		23.3			5.0		63.8	63.8		63.8	63.8	
Actuated g/C Ratio		0.22			0.05		0.61	0.61		0.61	0.61	
v/c Ratio		0.88			0.23		0.05	0.25		0.07	0.28	
Control Delay		64.2			55.2		10.8	10.7		10.8	11.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		64.2			55.2		10.8	10.7		10.8	11.0	
LOS		E			E		B	B		B	B	
Approach Delay		64.2			55.3			10.7			11.0	
Approach LOS		E			E			B			B	
Queue Length 50th (ft)		200			12		6	78		9	91	
Queue Length 95th (ft)		211			25		14	85		18	96	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)		382			79		457	2143		520	2136	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.85			0.23		0.05	0.25		0.07	0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 22.7		Intersection LOS: C	
Intersection Capacity Utilization 47.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & 16th Street

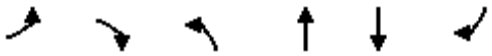
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	30	507	0	0	406
Future Vol, veh/h	5	30	507	0	0	406
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	4	5	2	2	3
Mvmt Flow	6	36	611	0	0	489

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	856	306	0	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	-	-
Pot Cap-1 Maneuver	301	684	-	0	0	-
Stage 1	510	-	-	0	0	-
Stage 2	779	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	301	684	-	-	-	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

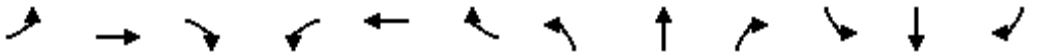
Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	579	-
HCM Lane V/C Ratio	-	0.073	-
HCM Control Delay (s)	-	11.7	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.2	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	49	488	406	125
Future Volume (Veh/h)	0	0	49	488	406	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	63	626	521	160
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	1040	342	681			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1040	342	681			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	93			
cM capacity (veh/h)	210	652	894			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	272	417	347	334
Volume Left	63	0	0	0
Volume Right	0	0	0	160
cSH	894	1700	1700	1700
Volume to Capacity	0.07	0.25	0.20	0.20
Queue Length 95th (ft)	6	0	0	0
Control Delay (s)	2.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	1.1		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

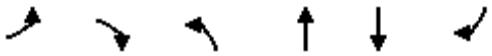


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	45	27	1	6	13	75	221	15	37	430	47
Future Volume (vph)	241	45	27	1	6	13	75	221	15	37	430	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.974			0.912			0.990			0.985	
Flt Protected	0.950	0.974			0.998		0.950			0.950		
Satd. Flow (prot)	1573	1592	0	0	1611	0	1736	3508	0	1805	3440	0
Flt Permitted	0.950	0.974			0.998		0.436			0.579		
Satd. Flow (perm)	1573	1592	0	0	1611	0	797	3508	0	1100	3440	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		313			317			391			445	
Travel Time (s)		10.7			10.8			13.3			15.2	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)	35%											
Lane Group Flow (vph)	187	186	0	0	23	0	89	281	0	44	568	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	30.0	30.0		11.0	11.0		64.0	64.0		64.0	64.0	
Total Split (%)	28.6%	28.6%		10.5%	10.5%		61.0%	61.0%		61.0%	61.0%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)	17.8	17.8			5.0		69.3	69.3		69.3	69.3	
Actuated g/C Ratio	0.17	0.17			0.05		0.66	0.66		0.66	0.66	
v/c Ratio	0.70	0.69			0.30		0.17	0.12		0.06	0.25	
Control Delay	54.8	53.9			58.9		10.5	8.4		9.6	9.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	54.8	53.9			58.9		10.5	8.4		9.6	9.1	
LOS	D	D			E		B	A		A	A	
Approach Delay		54.3			58.9			8.9			9.1	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)	126	125			15		18	28		8	62	
Queue Length 95th (ft)	176	174			39		55	64		29	129	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		233			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)	359	363			76		526	2316		726	2271	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.52	0.51			0.30		0.17	0.12		0.06	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 22.1		Intersection LOS: C	
Intersection Capacity Utilization 50.4%		ICU Level of Service A	
Analysis Period (min) 15			

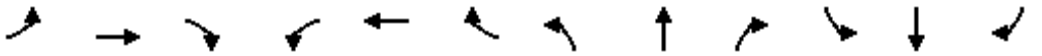
Splits and Phases: 9: Main Street & 16th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	81	416	513	287
Future Volume (Veh/h)	0	0	81	416	513	287
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	104	533	658	368
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	1316	515	1026			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1316	515	1026			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	84			
cM capacity (veh/h)	126	504	661			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	104	266	266	439	587
Volume Left	104	0	0	0	0
Volume Right	0	0	0	0	368
cSH	661	1700	1700	1700	1700
Volume to Capacity	0.16	0.16	0.16	0.26	0.35
Queue Length 95th (ft)	14	0	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	1.9			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

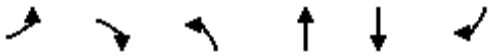


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	22	14	1	2	7	35	213	15	36	425	10
Future Volume (vph)	74	22	14	1	2	7	35	213	15	36	425	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.961			0.902			0.990			0.997	
Flt Protected	0.950	0.983			0.995		0.950			0.950		
Satd. Flow (prot)	1573	1595	0	0	1592	0	1736	3508	0	1805	3517	0
Flt Permitted	0.950	0.983			0.995		0.461			0.584		
Satd. Flow (perm)	1573	1595	0	0	1592	0	842	3508	0	1110	3517	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)	25%											
Lane Group Flow (vph)	66	65	0	0	11	0	42	272	0	43	518	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	30.0	30.0		11.0	11.0		64.0	64.0		64.0	64.0	
Total Split (%)	28.6%	28.6%		10.5%	10.5%		61.0%	61.0%		61.0%	61.0%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)	9.8	9.8			5.0		83.4	83.4		83.4	83.4	
Actuated g/C Ratio	0.09	0.09			0.05		0.79	0.79		0.79	0.79	
v/c Ratio	0.45	0.44			0.15		0.06	0.10		0.05	0.19	
Control Delay	54.0	53.3			52.6		5.1	4.1		4.9	4.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	54.0	53.3			52.6		5.1	4.1		4.9	4.3	
LOS	D	D			D		A	A		A	A	
Approach Delay		53.6			52.6			4.2			4.4	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	45	44			7		5	18		5	38	
Queue Length 95th (ft)	82	81			24		22	47		22	88	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)	359	364			75		668	2785		881	2792	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.18	0.18			0.15		0.06	0.10		0.05	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 43.5%		ICU Level of Service A	
Analysis Period (min) 15			

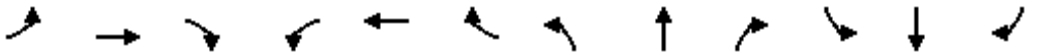
Splits and Phases: 9: Main Street & 16th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	36	276	469	100
Future Volume (Veh/h)	0	0	36	276	469	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	46	354	601	128
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	934	366	729			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	934	366	729			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	95			
cM capacity (veh/h)	250	629	857			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	46	177	177	401	328
Volume Left	46	0	0	0	0
Volume Right	0	0	0	0	128
cSH	857	1700	1700	1700	1700
Volume to Capacity	0.05	0.10	0.10	0.24	0.19
Queue Length 95th (ft)	4	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	1.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

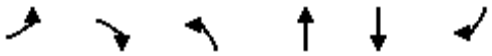


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	12	7	1	2	13	11	262	4	26	297	21
Future Volume (vph)	86	12	7	1	2	13	11	262	4	26	297	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.979			0.892			0.998			0.990	
Flt Protected	0.950	0.969			0.996		0.950			0.950		
Satd. Flow (prot)	1573	1587	0	0	1574	0	1736	3533	0	1805	3473	0
Flt Permitted	0.950	0.969			0.996		0.474			0.512		
Satd. Flow (perm)	1573	1587	0	0	1574	0	866	3533	0	973	3473	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	81	80	0	0	25	0	17	409	0	40	489	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	29.0	29.0		11.0	11.0		65.0	65.0		65.0	65.0	
Total Split (%)	27.6%	27.6%		10.5%	10.5%		61.9%	61.9%		61.9%	61.9%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)	10.7	10.7			5.0		74.2	74.2		74.2	74.2	
Actuated g/C Ratio	0.10	0.10			0.05		0.71	0.71		0.71	0.71	
v/c Ratio	0.51	0.49			0.34		0.03	0.16		0.06	0.20	
Control Delay	54.6	54.1			60.9		7.1	6.4		7.0	6.5	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	54.6	54.1			60.9		7.1	6.4		7.0	6.5	
LOS	D	D			E		A	A		A	A	
Approach Delay		54.3			60.9			6.4			6.6	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)	54	54			17		4	49		8	60	
Queue Length 95th (ft)	71	71			32		9	54		17	64	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)	344	347			74		611	2495		687	2452	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.24	0.23			0.34		0.03	0.16		0.06	0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 40.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & 16th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	25	345	342	89
Future Volume (Veh/h)	0	0	25	345	342	89
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	32	442	438	114
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	780	278	552			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	780	278	552			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	321	718	1000			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	32	221	221	292	260
Volume Left	32	0	0	0	0
Volume Right	0	0	0	0	114
cSH	1000	1700	1700	1700	1700
Volume to Capacity	0.03	0.13	0.13	0.17	0.15
Queue Length 95th (ft)	2	0	0	0	0
Control Delay (s)	8.7	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.6			0.0	
Approach LOS					

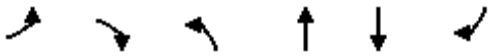
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	28	17	3	3	5	15	336	7	22	380	8
Future Volume (vph)	166	28	17	3	3	5	15	336	7	22	380	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	145		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			165			130		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.976			0.940			0.997			0.997	
Flt Protected	0.950	0.972			0.986		0.950			0.950		
Satd. Flow (prot)	1573	1591	0	0	1669	0	1736	3530	0	1805	3519	0
Flt Permitted	0.950	0.972			0.986		0.423			0.456		
Satd. Flow (perm)	1573	1591	0	0	1669	0	773	3530	0	866	3519	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			20			20	
Link Distance (ft)		396			317			391			445	
Travel Time (s)		13.5			10.8			13.3			15.2	
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	9%	7%	4%	0%	7%	8%	4%	2%	0%	0%	2%	16%
Shared Lane Traffic (%)	36%											
Lane Group Flow (vph)	163	161	0	0	18	0	23	528	0	34	597	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		3	3		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		45.0	45.0		45.0	45.0	
Total Split (s)	29.0	29.0		11.0	11.0		65.0	65.0		65.0	65.0	
Total Split (%)	27.6%	27.6%		10.5%	10.5%		61.9%	61.9%		61.9%	61.9%	
Yellow Time (s)	4.5	4.5		4.5	4.5		6.0	6.0		6.0	6.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		7.5	7.5		7.5	7.5	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)	16.4	16.4			5.0		70.7	70.7		70.7	70.7	
Actuated g/C Ratio	0.16	0.16			0.05		0.67	0.67		0.67	0.67	
v/c Ratio	0.67	0.65			0.23		0.04	0.22		0.06	0.25	
Control Delay	54.1	53.0			55.2		9.4	8.3		9.3	8.5	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	54.1	53.0			55.2		9.4	8.3		9.3	8.5	
LOS	D	D			E		A	A		A	A	
Approach Delay		53.6			55.3			8.4			8.6	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)	110	108			12		4	53		6	62	
Queue Length 95th (ft)	116	115			25		14	85		18	96	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		316			237			311			365	
Turn Bay Length (ft)							145			90		
Base Capacity (vph)	344	348			79		520	2376		583	2369	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.47	0.46			0.23		0.04	0.22		0.06	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & 16th Street

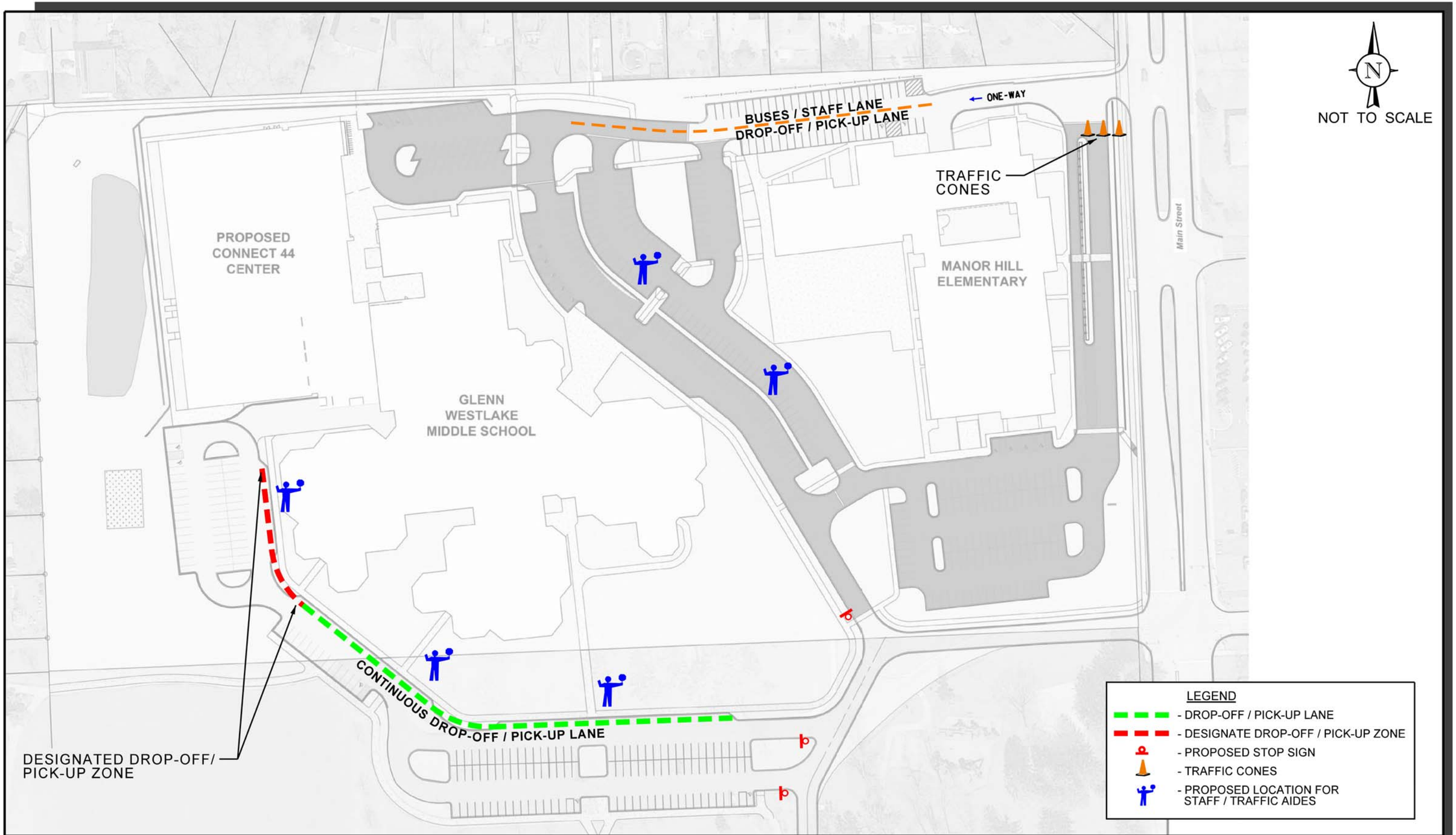


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	49	488	406	125
Future Volume (Veh/h)	0	0	49	488	406	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	63	626	521	160
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				645		
pX, platoon unblocked						
vC, conflicting volume	1040	342	681			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1040	342	681			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	93			
cM capacity (veh/h)	210	652	894			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	63	313	313	347	334
Volume Left	63	0	0	0	0
Volume Right	0	0	0	0	160
cSH	894	1700	1700	1700	1700
Volume to Capacity	0.07	0.18	0.18	0.20	0.20
Queue Length 95th (ft)	6	0	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.9			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Proposed Internal Circulation Modifications



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LOMBARD, ILLINOIS

PROPOSED INTERNAL CIRCULATION IMPROVEMENTS

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 19-069 Figure: A