

TRAFFIC IMPACT ANALYSIS

Extreme Clean Car Wash
SE Corner of Illinois Route 64 (West Main Street) and 17th Street
St. Charles, Illinois

Arc Project Number: 18157
December 3, 2018



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Prepared For:

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dba Extreme Clean Car Wash

Introduction

This traffic study reviews the impact of the development of a proposed Extreme Clean Car Wash facility at 1625 West Main Street (IL 64), or the southeast corner of Illinois Route 64 (West Main Street) and 17th Street. The proposed car wash is a newer tunnel concept car wash, which is a hybrid of the pull-in, self serve car wash and the drive-thru car wash you might find at a gas station. In this concept, the user pays at a pay station to select his wash type then the car is pulled through the facility instead of having the equipment move around the car. By moving the car through the wash cycle, instead of moving the equipment around the car, the operation is sped up and this type of car wash is able to process many more cars per hour than the standard gas station car wash. Users also have the “perk” of a free vacuum station, which helps drive customers to this facility.

A single full access driveway will connect the facility to 17th Street. In addition, a secondary right-in/right-out restricted access will connect the facility to IL 64 (West Main Street). The full access driveway location has been determined by a Queuing Analysis that was prepared for the 17th Street/IL 64 intersection. The secondary right-in/right-out restricted access driveway location was determined and set by the Illinois Department of Transportation (IDOT) during the land acquisition process with the previous property owner. The secondary right-in/right-out access also serves the existing developments to the east and the south of the subject site via cross access drives.

Note that there is a full signalized access just east of the subject site that services the entire retail development area including the car wash. This access appears to be utilized the majority of the time for patrons that wish to travel westbound on Illinois Route 64 (West Main Street) as it allows for much safer and certain access to IL 64 during times of higher traffic volumes.

At this time, no offsite improvements are proposed by the Illinois Department of Transportation (IDOT) or the City of St. Charles.

Preparer's Qualifications

Arc Design Resources is a full service civil engineering and surveying firm located in the Rockford, Illinois area. Arc has been in business since 1993 and has worked on both public and private projects. The company has served several nationwide clientele in its history, including Wal-Mart, CVS, Target, and several fast food and gas station clients. The company works throughout the region, including the Chicago suburbs and has prepared dozens of traffic reports, Intersection Design Studies, and other traffic analyses for municipal, county, and private clients.

Mr. Jeffrey Linkenheld, PE directed the preparation of this study. Mr. Linkenheld has a BS and MS in Civil Engineering from the University of Illinois, with his graduate research concentration in traffic analysis. His graduate school traffic work culminated in the receipt of the Arthur M. Wellington prize from the American Society of Civil Engineers.

Project Description, Roadway Details, Surrounding Land Uses

The project is located at the southeast corner of Illinois Route 64 (West Main Street) and 17th Street in St. Charles, Illinois. The prior use on this site was Main St. Wash, the redevelopment and new traffic pattern is expected to be similar to the prior use. Note that the old Main St. Wash is vacant, so any current traffic counts for the existing condition do not account for past use of the property and would tend to be lower than the historical use, for comparison. The car wash use provides an important opportunity to redevelop and improve the property. Illinois Route 64 (West Main Street) is classified as a major arterial and 17th Street is a local collector street. Illinois Route 64 (West Main Street) is a 5 lane section with two through lanes each direction and a center turn lane (East-West). 17th Street is a local 2 lane roadway with one lane of travel in each direction (North-South). The secondary right-in/right-out access driveway location was determined by IDOT (per Doc. 2018K016459) and has been incorporated into the construction plans for the roadway project.

Adjacent to the property on the east is a chiropractic/physical therapy clinic. A restaurant is east of the chiropractic/physical therapy clinic, and a title company is located east of the restaurant. Immediately south of these businesses is strip retail consisting of a number of mixed uses. A mix of single-family and multi-family residential is located south of the strip retail. Immediately to the west, on the west side of 17th Street, there is a 7-Eleven. A mix of single-family and multi-family residential is located south of the 7-Eleven. Immediately to the north, on the north side of Illinois Route 64 (West Main Street), there is a BP Gas Station, restaurant and Midas.

Refer to **Exhibit 1** for an area location map.

The proposed site will consist of a 5,540 s.f. automated self-serve car wash. The car wash will be located on the east side of the property. The layout of the site is also the only logical design because of the access locations and the need for an exit queue when leaving the car wash tunnel. The site has been designed to provide 3 lanes of stacking prior to the pay station after the pay stations the cars are funneled down to a single lane that provides additional ample storage prior to the cars entering the building. Twenty-four (24) vacuum/parking stalls have been provided along the west side of the building along with a dedicated 2-way driveway to allow for cars to enter/exit the stalls.

Refer to **Exhibit 2** for the site layout plan.

Existing Traffic

Traffic count data was obtained during a site visit on Wednesday November 28, 2018 during the PM Peak hours. Based on the data that was collected, the PM Peak hour was been determined to be 4:15-5:15 PM. A summary of the count data at 17th Street and the driveway is included as **Exhibit 3A**.

We understand that a condition has been placed on the existing driveway to convert to a right in/ right out. Our peak hour counts had minor left turns both in and out of this driveway. We have created a modified existing condition to account for this as **Exhibit 3B**. In summary, the following adjustments were made:

- Left turn traffic entering the site was 7 cars. 5 cars have been relocated to 17th Street with access through the car wash. The other two cars have been removed from the study with the assumption they would turn into the development at 15th Street instead of going past.
- Two cars attempted to turn left out of the driveway. These have been relocated to 17th Street.

Development Traffic

Trip Generation

An express car wash is typically a “pass-by” use, that is, an impulse type decision for a person that is already driving down the adjacent street. The use of an express car wash is not typically a destination use, or predetermined trip with the sole purpose of going to the car wash and returning home; as might be the case for a “full service” wash or detail center. During the morning and afternoon rush hours of the Chicagoland area, the peak hour traffic volumes dictate that this is especially true. While it is easy to speculate that a retired person would travel to the car wash and back during the midday, it is not likely that that same person would decide that he needs to wash his car during afternoon rush hour. Generally, a pass-by percentage of 60% would be used for a car wash usage. Pass-by trips are drivers that are already traveling past the site on IL 64 and decide to stop at the facility, then continue on their way. These trips do not add to the overall traffic volumes, but will divert trips from the roadway. The pass-by ratio for a car wash is very high, and 60% is considered to be a conservative value, with actual pass-by being closer to 90%. For purposes of this traffic study all trips generated by the proposed car wash development have are being considered as new trips (a conservative assumption). A “trip” is considered one vehicular movement – either IN or OUT. For a car wash use, the Institute of Transportation Engineers (ITE) Trip Generation Manual assumes a 50/50 split of IN vs. OUT traffic. Meaning that all of the cars will be expected to enter and leave the site within that peak hour. Since a trip is defined as one movement and the in/out split is 50/50, the actual number of cars expected on the lot is 50% of the total trips. For example, an expectation of 50 trips during the peak hour would be the result of 25 actual customers. Historical data from our client infers that AM traffic is approximately half of PM peak hour traffic, so the PM Peak is the critical time period to analyze.

The ITE Trip Generation Manual has limited data for this type of use. The City’s engineering consultant suggested that actual wash data could be used as more accurate indication of the expected use of the facility. Therefore, the proposed traffic generation is based on existing sales data provided by the owner

for two existing facilities that are similarly located along high-volume roadways in similarly populated areas. The first site is located at the northeast corner of McLean Boulevard and Lillian Street in Elgin, IL. The second site is located just south of the intersection of Illinois Route 68 (Barrington Avenue) and Illinois Route 25 (Dundee Avenue) in East Dundee, IL. Data is available on an hourly basis. Since the peak hour at this location overlaps between the hours of 4 and 6 pm, we used the 4pm hourly data and the 5pm hourly data to develop an “average” traffic count based on the two other similar car wash locations. Below you will find the corresponding data as it relates to the PM Peak hours for each of the stores.

Extreme Clean Car Wash – Elgin, IL

| | 4:00 PM | 5:00 PM |
|------------------|---------|---------|
| October 22, 2018 | 77 | 83 |
| October 23, 2018 | 68 | 58 |
| October 24, 2018 | 58 | 57 |
| October 25, 2018 | 40 | 28 |
| October 26, 2018 | 53 | 44 |

Extreme Clean Car Wash – East Dundee, IL

| | 4:00 PM | 5:00 PM |
|------------------|---------|---------|
| October 22, 2018 | 93 | 88 |
| October 23, 2018 | 14 | 81 |
| October 24, 2018 | 61 | 28 |
| October 25, 2018 | 36 | 54 |
| October 26, 2018 | 56 | 52 |

Combined PM Peak Hour (Average)

| | 4:00 PM | 5:00 PM |
|-----------------|---------|---------|
| Elgin, IL | 59 | 54 |
| East Dundee, IL | 52 | 61 |
| Average | 56 | 57 |

| | |
|---|-----|
| Total Cars During PM Peak Hour (Average) | 113 |
| Average Cars Per Hour During PM Peak Hour | 57 |

Trip Distribution

We have calculated that 57 patrons will use the car wash, on average, during the PM Peak Hour. This traffic equates to 57 incoming movements and 57 exits. For the trip distribution, we generally look to guidance from the ambient street traffic with an assumption that, due to the heavy volume of traffic on IL 64, there will be a preponderance of eastbound traffic using the wash, simply because it will be easier to get in and out, and people are on their way home or to other destinations. The peak hour traffic along IL 64 is oriented 60% westbound and 40% eastbound. It is interesting to note the very low volumes of traffic turning left onto IL 64 from either 17th Street or the existing driveway access. For our study, it is assumed that the traffic for this use will skew to more eastbound since customers can avoid a left turn back onto IL

64 after the car wash. Therefore, our recommended distribution is 60% EASTBOUND and 40% WESTBOUND. For purposes of this study, remember that we are not considering any pass-by trips in this analysis. A further review of the existing traffic exiting from either 17th Street or the existing driveway is skewed to about 80% of the total traffic turning right. This indicates that traffic wanting to go left onto IL 64 are finding alternate routes that are safer and more regular (signalized). We have taken a queue from this information to assume that about half of the car wash traffic wishing to turn left will migrate back to the traffic signal on 15th Street. The total amount of this traffic is fairly low, 12 cars, which correlates to about 1 car per 5 minutes during the peak hour. This is hardly a cause for internal circulation concerns.

The Trip distribution from the car wash is shown as **Exhibit 4**. The Generated traffic from the development is shown as **Exhibit 5**. Combined traffic for the proposed condition is shown as **Exhibit 6**.

Capacity Analysis – PM Peak Hour

IL 64 and 17th Street – EXISTING CONDITIONS

A capacity analysis was performed at the intersection of IL 64 and 17th Street to quantify the Level of Service (LOS) for the unsignalized existing condition. The Highway Capacity Manual uses LOS as a measure of an intersection's delay using letter grades ranging from A through F. A LOS A represents minimal delay, while LOS F represents high levels of delay and generally considered to be a failure situation. LOS C is considered stable flow with acceptable delays. In the greater Chicagoland area, peak hour levels of service of D are also considered as "tolerable", and a LOS of E is not to be unexpected for left turns accessing a busy highway. The intersection is a stop condition, eastbound traffic has a free turn from IL 64 onto 17th Street. Westbound traffic has only to wait for an interval in the eastbound traffic stream, and a left turn lane is already present. Since traffic at 17th Street is a single northbound lane, any right turn vehicle needs to wait for a blocking left turn vehicle to clear.

The table below summarizes the existing conditions.

| Study Period/ Scenario | Level of Service (Delay) |
|--------------------------------|-------------------------------|
| PM Peak IL 64 eastbound right | N/A free flow movement |
| PM Peak IL 64 westbound left | B (10.7 sec) |
| Northbound 17 th St | E (39.7 sec) |

Intersection Level of Service and Corresponding Delay (in seconds) IL 64 and 17th Street EXISTING CONDITIONS

IL 64 and 17th Street – PROPOSED CONDITIONS

Car wash traffic will add volume to the intersection of IL 64 and 17th Street. Due to the fact that 17th Street has only one lane approaching IL 64, we believe the driveway to the east will act to carry a high portion of exiting traffic. Left turn traffic will be required to use 17th Street, but it is believed that a high percentage of the westbound traffic will travel through the development to the signalized intersection at 15th Street. It is also believed that the eastbound right turn traffic will be able to access IL 64 via the driveway rather than sitting through additional delays at 17th Street due to the left turn traffic. The fact is that we are adding a use back into the corner of IL 64 and 17th Street that does not exist today, but did exist prior and probably had similar results of long delays.

The table below summarizes the proposed conditions at IL 64 and 17th Street.

| Study Period/ Scenario | Level of Service (Delay) |
|--------------------------------|-------------------------------|
| PM Peak IL 64 eastbound right | N/A free flow movement |
| PM Peak IL 64 westbound left | B (11.2 sec) |
| Northbound 17 th St | F (251.8 sec) |

**Intersection Level of Service and Corresponding Delay (in seconds)
IL 64 and 17th Street EXISTING CONDITIONS**

IL 64 and driveway – EXISTING CONDITIONS

The driveway to the east of the car wash site is currently a full access drive, but carries minimal traffic. This driveway will be converted to a right in/out for the proposed condition, but for completeness, an analysis of the existing condition is presented below.

| Study Period/ Scenario | Level of Service (Delay) |
|-------------------------------|-------------------------------|
| PM Peak IL 64 eastbound right | N/A free flow movement |
| PM Peak IL 64 westbound left | B (10.7 sec) |
| Northbound private driveway | D (29.4 sec) |

**Intersection Level of Service and Corresponding Delay (in seconds)
IL 64 and Driveway EXISTING CONDITIONS**

IL 64 and driveway – PROPOSED CONDITIONS

In the proposed condition, the driveway will become a right in / right out with an expected increase in use from the car wash traffic. The proposed condition is presented below.

| Study Period/ Scenario | Level of Service (Delay) |
|-------------------------------|------------------------------------|
| PM Peak IL 64 eastbound right | N/A free flow movement |
| PM Peak IL 64 westbound left | N/A – restricted No traffic |
| Northbound private driveway | B (13.4 sec) |

**Intersection Level of Service and Corresponding Delay (in seconds)
IL 64 and Driveway PROPOSED CONDITIONS**

17th Street and Car Wash driveway – PROPOSED CONDITIONS

The car wash will construct a driveway connection to 17th Street. For purposes of this study, all traffic using this driveway is oriented toward IL 64 with no traffic heading south or coming from the south to the site. The proposed condition is presented below.

| Study Period/ Scenario | Level of Service (Delay) |
|--|-------------------------------|
| PM Peak 17 th St southbound left | A (7.3 sec) |
| PM Peak 17 th St northbound right | N/A free flow movement |
| Car Wash driveway | A (8.4 sec) |

**Intersection Level of Service and Corresponding Delay (in seconds)
17th Street and Car Wash Driveway PROPOSED CONDITIONS**

17th Street Queue Analysis

The queue length was also a concern for the proposed full access driveway location due to its proximity to the 17th Street/IL 64 intersection. Based on the analysis, it has been determined that worst case scenario the required queue at the intersection would be approximately four (4) vehicles. Compare this to approximately 1-2 cars for the existing condition. Based on this the length of the queue would need to be approximately eighty (80) feet. Refer to **Exhibit 2** showing that the location of the proposed driveway is approximately eight-two (82) feet from the existing stop bar to the center of the proposed entrance. The placement of the driveway will still allow for the traffic entering off of IL 64 to enter the site and not back traffic up onto IL 64. The driveway will not negatively impact the flow of traffic on IL 64 (West main Street), nor is there a concern that traffic waiting to exit the site will cause a backup.

Internal Circulation

Based on the average daily use obtained from the existing facilities in Elgin and West Dundee, the daily expected peak hour traffic is proposed to be 114 trips per hour in the PM Peak Hour. The car wash equipment has the capacity to process 120 cars per hour (2 per minute) minimum and up to 180 cars per hour (3 per minute) for short periods. The expected peak hour user volume is 57 customers. At a worst case assumption of twice the normal users, one could expect 114 customers during the peak hour. Even with a platoon effect of the nearby signals with several customers entering at once, it is not possible to “back up” the car wash. The capacity of the car wash is, on average, almost 2 times the expected influx of cars. In addition, there is stacking for over 40 cars in queue, which means almost the entire inflow of expected customers during the peak hour can fit within the stacking lanes at any given time.

Regarding cross access, the existing count data shows actual usage of the private driveway is extremely low. In fact, from observations during the counts, the primary use of the driveway was access to the adjacent chiropractic clinic. Driveway use for the nearby Rookies Bar was non-existent, indicating that the vast majority of the Rookies traffic comes via the existing traffic signal at 15th Street. We expect that trend to continue as the addition of a driveway connection from the larger development to 17th Street provides no real traffic flow benefit to any of the uses east of the car wash. In fact, we see that many cars that will be headed westbound will utilize the signalized intersection to minimize the delay that may occur at 17th Street. This study assumes that about half of the left turning traffic leaving the car wash will utilize the cross access to get to the 15th Street traffic signal. This equates to 12 cars, or about one additional car every 5 minutes. Based on the projected operation of 17th Street, this assumption may in fact be low. But even if all left turning traffic from the car wash used internal circulation, the resulting additional traffic would hardly be noticed (just over 1 per 3 minutes). In addition, we see the converted right in/out driveway as an expedient way for car wash traffic to continue east on IL 64.

Conclusions

- The vast majority of trips during the peak hour to/from the car wash are pass by trips meaning the customers are already traveling on the road and do not increase the overall traffic, but divert and then continue on their way.
- The expected traffic comes from data supplied by the owner from existing facilities with similar roadway volumes and shows a projected peak hour volume of 57 customers.
- A capacity analysis of the site driveway shows no adverse impacts to traffic on Illinois Route 64.
- Delays on 17th Street will increase with the added commercial use. However, the driveway into the car wash has been set back to account for this stacking distance.
- The capacity of the mechanical equipment in the car wash tunnel exceeds the expected average number of customers per hour, minimizing the chance of any backups.
- Existing traffic patterns counted indicate that the tendency of the uses east of the car wash will access via 15th Street (traffic signal) vs. attempting to leave via 17th Street (unsignalized).
- We anticipate a sizeable portion of the car wash traffic to use the existing cross access to get to 15th Street, but that this volume would have a negligible impact on the existing businesses (1 added car every 3 to 5 minutes)
- In summary, the proposed car wash does not adversely impact the ambient traffic along Illinois Route 64.

ATTACHMENTS

Exhibit 1 – Site Location Map (Aerial)

Exhibit 2 – Proposed Site Plan

Exhibit 3A – Existing Traffic PM Peak Hour

**Exhibit 3B – “Future Existing” Traffic PM Peak Hour No Build
(Assuming Right-in/Right-out)**

Exhibit 4 – Proposed Traffic Distribution

Exhibit 5 – Generated Traffic PM Peak Hour (57 In/57 Out)

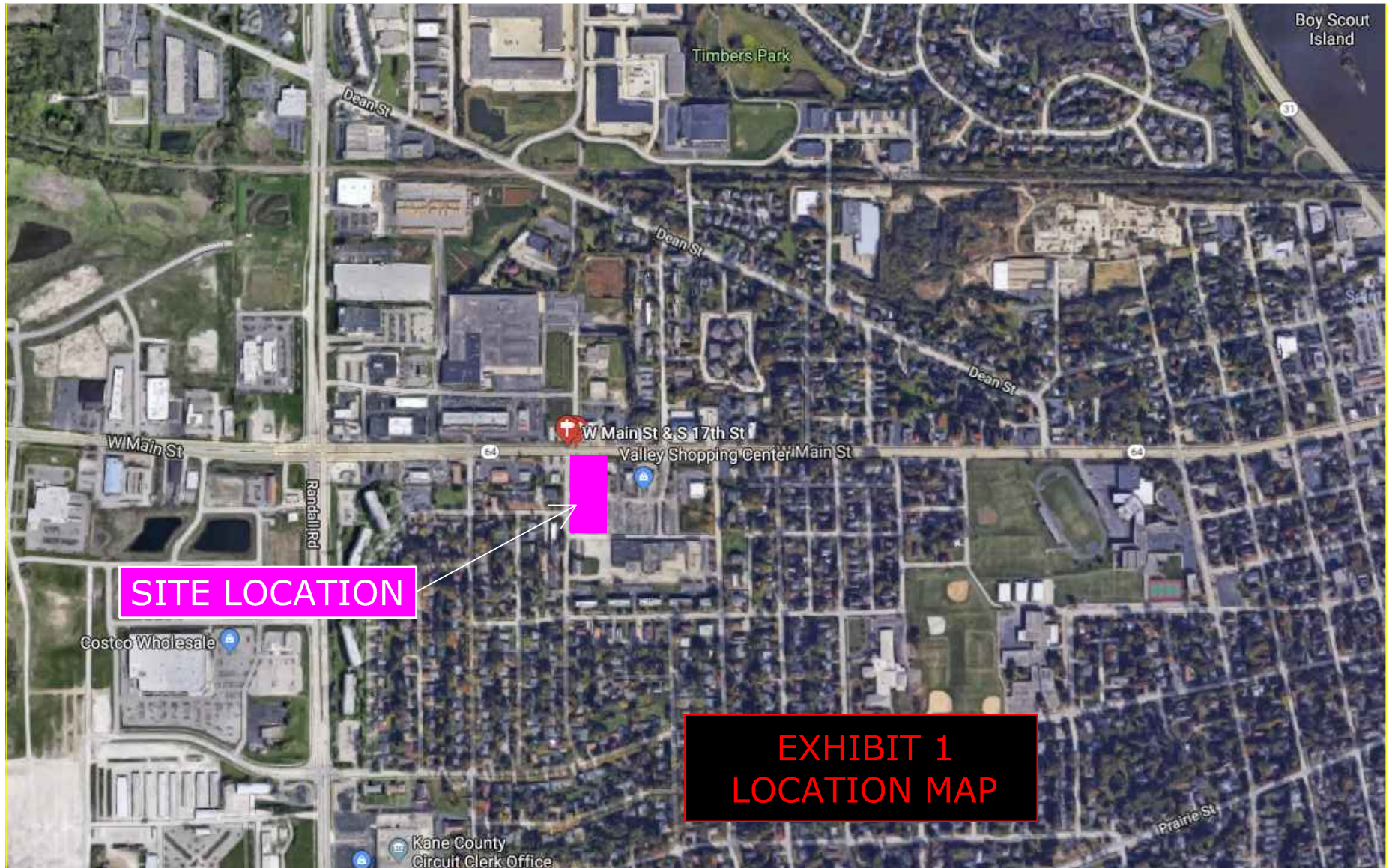
Exhibit 6 – Proposed Total Traffic PM Peak Hour

Highway Capacity Analysis Summary Table Results

A. Existing LOS Analysis PM Peak Hour

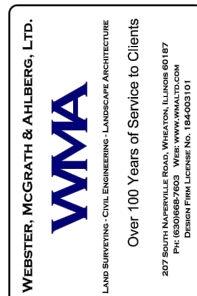
B. “Future Existing ” LOS Analysis PM Peak Hour

C. Proposed LOS Analysis PM Peak Hour



SITE LOCATION

EXHIBIT 1
LOCATION MAP

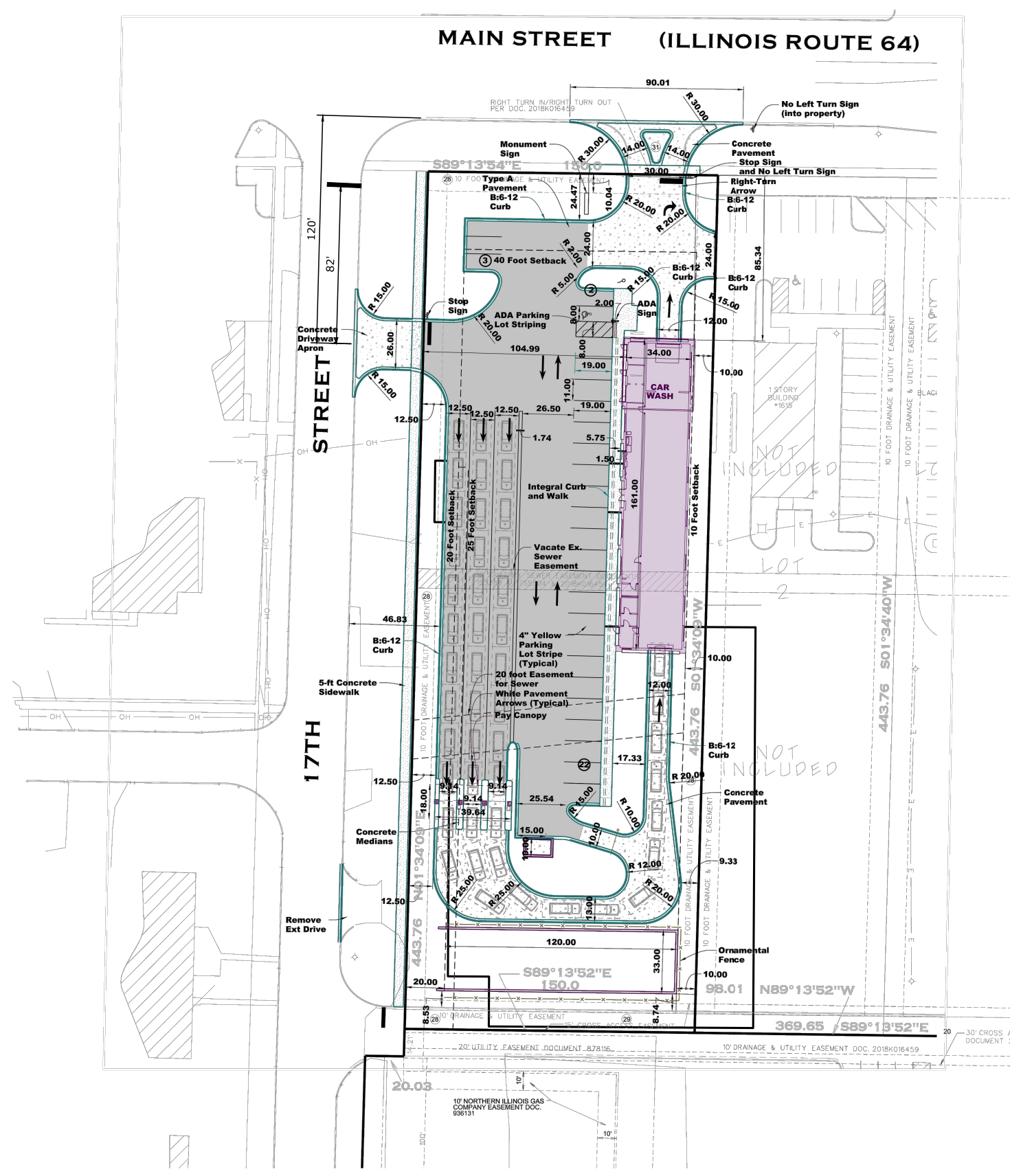


| | | | |
|------------------------|-------------|---------|----------|
| REVISION DISCUSSION | | BY | |
| CITY REVIEW | | | |
| REV# | DATE | | |
| 1 | 11/29/18 | | |
| Section-Township-Range | | | |
| County: NW¼ 33-4N-08E | | | |
| JOB # | 44008-Lot 1 | SURV. | GA |
| DRAWN: | BMB | REVIEW: | SMR |
| SCALE: | 1"=30' | DATE: | 10-19-18 |
| SHEET NAME | | | |

SITE PLAN

SHEET #

SP-1



SITE DATA TABLE:

ZONING DISTRICT = BC - COMMUNITY BUSINESS

SITE AREA = 66,394 S.FT. (1.52 AC.)

BUILDING AREA = 5,520 S.FT.

PAVED AREA = 36,723 S.FT.

PERVIOUS AREA = 24,151 S.FT.




PARKING REQUIRED = 6 CARS

EMPLOYEE PARKING PROVIDED =6 CARS

VACUUM STALL PARKING PROVIDED = 24 CARS

STACKING REQUIRED = 30 CARS

STACKING PROVIDED = 47 CARS

| | |
|--|---|
| <p>PAVEMENT LEGEND:</p>  | <p>CONCRETE SIDEWALK 5" Concrete 4" CA-6 Base</p> |
|  | <p>CONCRETE PAVEMENT 6" Concrete 4" CA-6 Base</p> |
|  | <p>TYPE A PAVEMENT 1.5" Hot Mix Asphalt Surface High ESAL IL-9.5, Mix D, N 50 1.5" Bituminous Binder High ESAL IL-19, N 50 10" CA-6 Base</p> |

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

2. CROSS SLOPE OF SIDEWALKS SHALL NOT EXCEED 2.0%

DATE: 11/30/2018
FILE: E:\ACTIVE\PROJECTS\4008-334008-KARME\ENGR-BIM\Lot 1144008 - Prelim - Car Wash.dgn
MODEL: SP-1

EXHIBIT 3A

EXISTING TRAFFIC PM PEAK HOUR

West Main Street (IL 64)

70

1511

26

7

5

33

960

16

50

88

103

42

5

0

29

2

5

17th Street

Existing Shared Full Access

EXHIBIT 3B

"FUTURE" TRAFFIC
PM PEAK HOUR NO BUILD
(ASSUMING RIGHT IN / RIGHT OUT)

West Main Street (IL 64)

70

1511

31

5

New Full Access

2

Right-In/Right-Out Access

5

103

88

50

33

960

16

29

0

7

5

42

17th Street

EXHIBIT 4

PROPOSED TRAFFIC
DISTRIBUTION

West Main Street (IL 64)

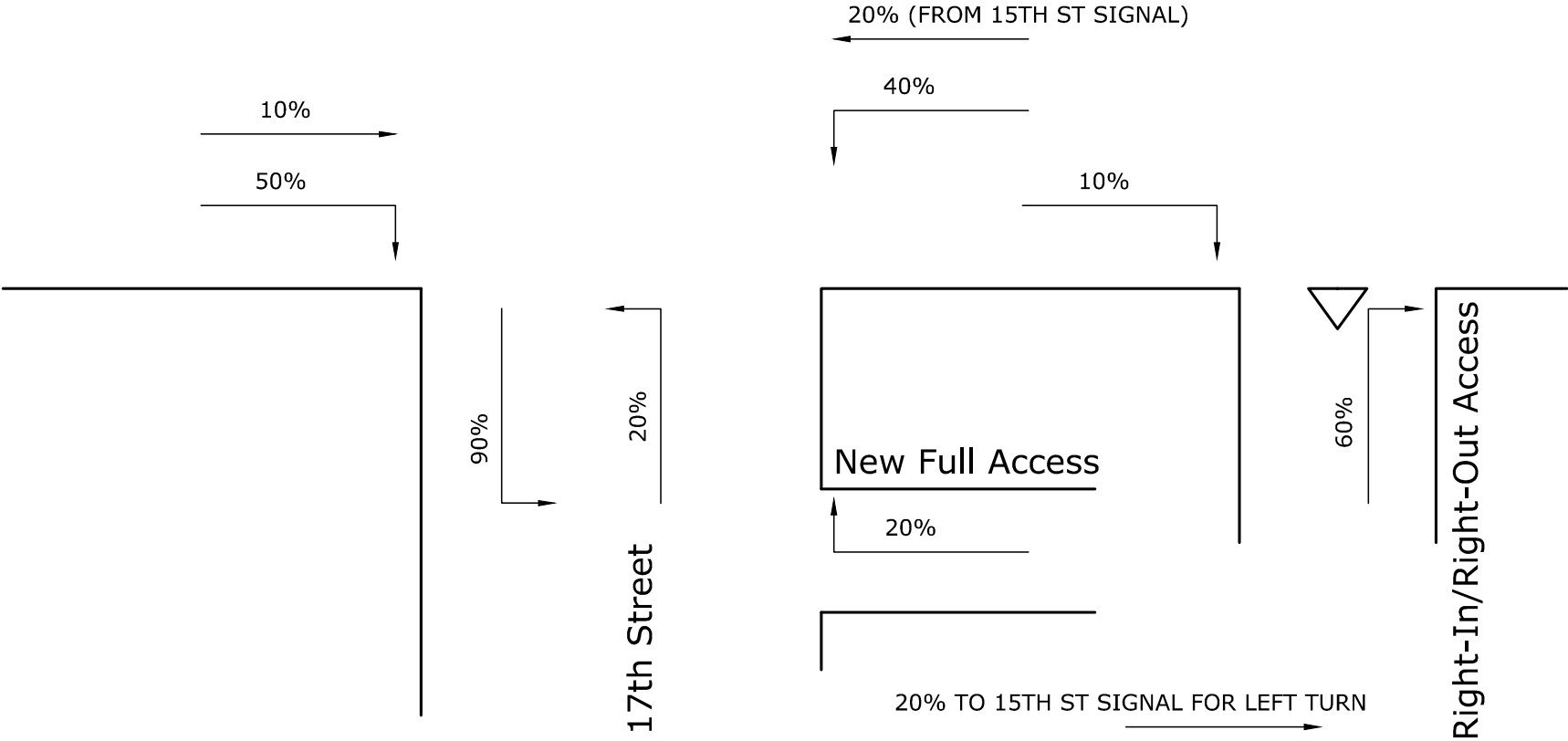


EXHIBIT 5
GENERATED TRAFFIC
PM PEAK HOUR
(57 IN / 57 OUT)

West Main Street (IL 64)

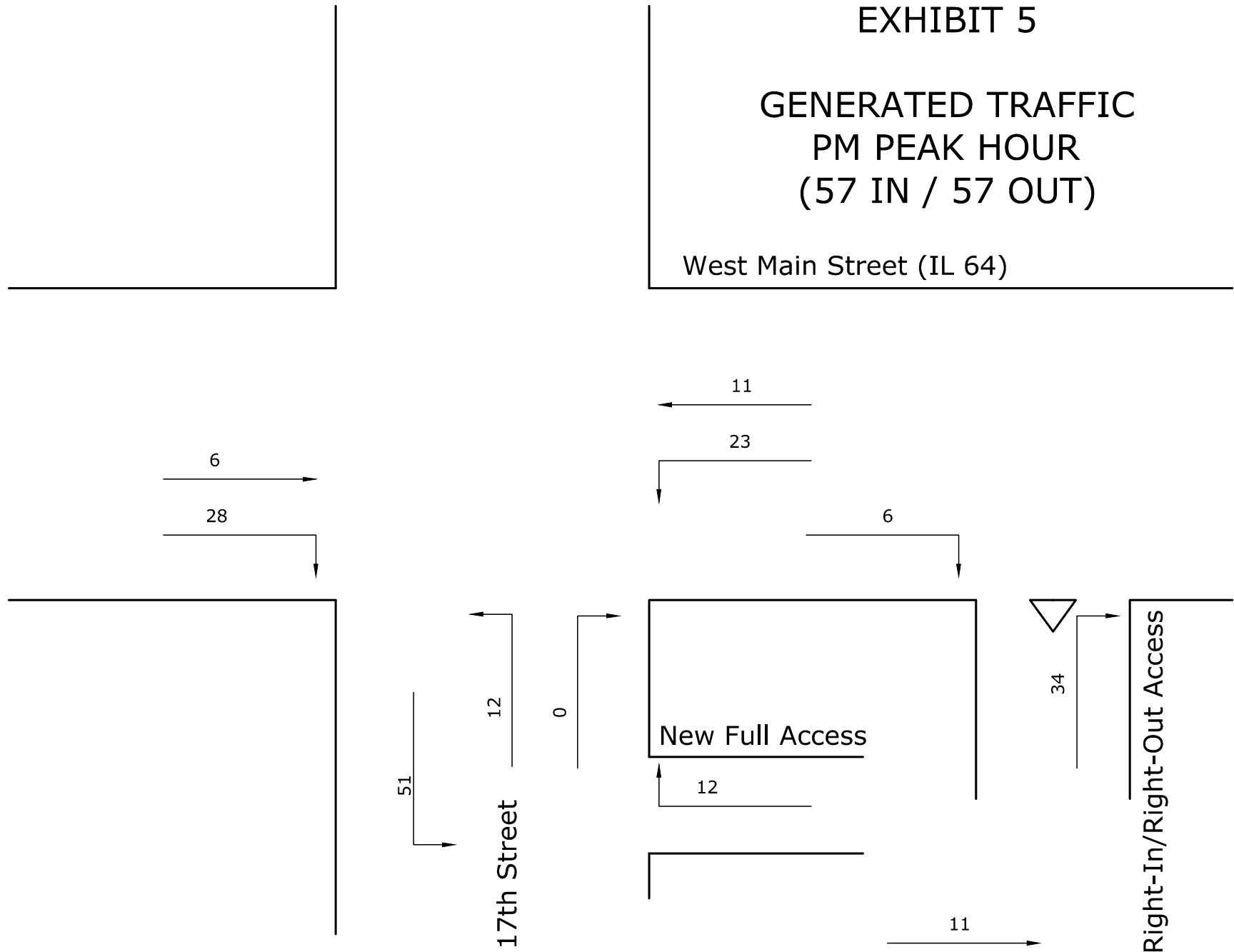
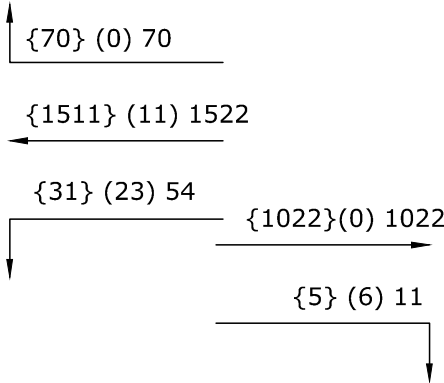


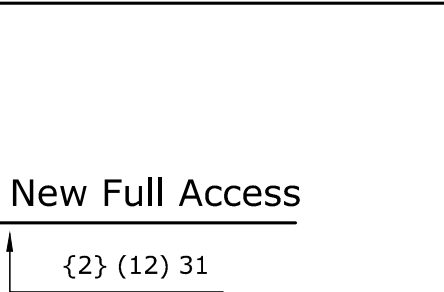
EXHIBIT 6

PROPOSED TOTAL TRAFFIC
PM PEAK HOUR

West Main Street (IL 64)



New Full Access

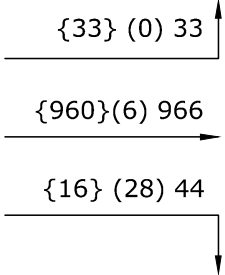
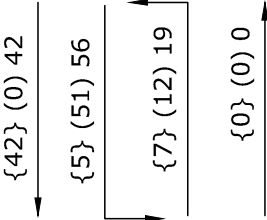


{5} (34) 39

Right-In/Right-Out Access

{0} (11) 11 TO 15TH ST SIGNALS







17th Street



LEGEND
{XX} EXISTING TRAFFIC PER EXHIBIT 3B
(XX) NEW CAR WASH TRAFFIC
XX TOTAL TRAFFIC

Intersection LOS (3A)
1: 17th Street & IL 64

12/03/2018

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 31.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 33 | 960 | 16 | 26 | 1511 | 70 | 5 | 0 | 29 | 38 | 0 | 50 |
| Future Vol, veh/h | 33 | 960 | 16 | 26 | 1511 | 70 | 5 | 0 | 29 | 38 | 0 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 36 | 1043 | 17 | 28 | 1642 | 76 | 5 | 0 | 32 | 41 | 0 | 54 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|-----|--------|------|-----|
| Conflicting Flow All | 1718 | 0 | 0 | 1060 | 0 | 0 | 2001 | 2898 | 530 | 2330 | 2868 | 859 |
| Stage 1 | - | - | - | - | - | - | 1124 | 1124 | - | 1736 | 1736 | - |
| Stage 2 | - | - | - | - | - | - | 877 | 1774 | - | 594 | 1132 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 374 | - | - | 665 | - | - | 36 | 16 | 499 | ~ 20 | 17 | 304 |
| Stage 1 | - | - | - | - | - | - | 222 | 283 | - | 93 | 143 | - |
| Stage 2 | - | - | - | - | - | - | 314 | 137 | - | 463 | 281 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 374 | - | - | 665 | - | - | 27 | 14 | 499 | ~ 17 | 15 | 304 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 27 | 14 | - | ~ 17 | 15 | - |
| Stage 1 | - | - | - | - | - | - | 201 | 256 | - | 84 | 137 | - |
| Stage 2 | - | - | - | - | - | - | 247 | 131 | - | 392 | 254 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|------|----------|
| HCM Control Delay, s | 0.5 | 0.2 | 39.7 | \$ 949.3 |
| HCM LOS | | | E | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|----------|
| Capacity (veh/h) | 140 | 374 | - | - | 665 | - | - | 37 |
| HCM Lane V/C Ratio | 0.264 | 0.096 | - | - | 0.042 | - | - | 2.585 |
| HCM Control Delay (s) | 39.7 | 15.6 | - | - | 10.7 | - | - | \$ 949.3 |
| HCM Lane LOS | E | C | - | - | B | - | - | F |
| HCM 95th %tile Q(veh) | 1 | 0.3 | - | - | 0.1 | - | - | 10.7 |

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

Intersection LOS (3A)
9: Exist. Driveway & IL 64

12/03/2018

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.9 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑↑ | ↑ | ↑ |
| Traffic Vol, veh/h | 984 | 5 | 7 | 1605 | 2 | 5 |
| Future Vol, veh/h | 984 | 5 | 7 | 1605 | 2 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 0 | 0 |
| Mvmt Flow | 1070 | 5 | 8 | 1745 | 2 | 5 |







| Major/Minor | Major1 | Major2 | Minor1 | | | |
|----------------------|--------|--------|--------|---|------|-----|
| Conflicting Flow All | 0 | 0 | 1075 | 0 | 1787 | 538 |
| Stage 1 | - | - | - | - | 1073 | - |
| Stage 2 | - | - | - | - | 714 | - |
| Critical Hdwy | - | - | 4.14 | - | 6.25 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.8 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6 | - |
| Follow-up Hdwy | - | - | 2.22 | - | 3.65 | 3.3 |
| Pot Cap-1 Maneuver | - | - | 644 | - | 96 | 493 |
| Stage 1 | - | - | - | - | 287 | - |
| Stage 2 | - | - | - | - | 422 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 644 | - | 57 | 493 |
| Mov Cap-2 Maneuver | - | - | - | - | 57 | - |
| Stage 1 | - | - | - | - | 171 | - |
| Stage 2 | - | - | - | - | 422 | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 1.4 | 29.4 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 155 | - | - | 644 | - |
| HCM Lane V/C Ratio | 0.049 | - | - | 0.012 | - |
| HCM Control Delay (s) | 29.4 | - | - | 10.7 | 1.4 |
| HCM Lane LOS | D | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

Intersection LOS (3B)
1: 17th Street & IL 64

12/03/2018

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 31.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 33 | 960 | 16 | 31 | 1511 | 70 | 7 | 0 | 29 | 38 | 0 | 50 |
| Future Vol, veh/h | 33 | 960 | 16 | 31 | 1511 | 70 | 7 | 0 | 29 | 38 | 0 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 36 | 1043 | 17 | 34 | 1642 | 76 | 8 | 0 | 32 | 41 | 0 | 54 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|-----|--------|------|-----|
| Conflicting Flow All | 1718 | 0 | 0 | 1060 | 0 | 0 | 2013 | 2910 | 530 | 2342 | 2880 | 859 |
| Stage 1 | - | - | - | - | - | - | 1124 | 1124 | - | 1748 | 1748 | - |
| Stage 2 | - | - | - | - | - | - | 889 | 1786 | - | 594 | 1132 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 374 | - | - | 665 | - | - | 35 | 16 | 499 | ~ 20 | 17 | 304 |
| Stage 1 | - | - | - | - | - | - | 222 | 283 | - | 91 | 141 | - |
| Stage 2 | - | - | - | - | - | - | 309 | 135 | - | 463 | 281 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 374 | - | - | 665 | - | - | 26 | 14 | 499 | ~ 17 | 15 | 304 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 26 | 14 | - | ~ 17 | 15 | - |
| Stage 1 | - | - | - | - | - | - | 201 | 256 | - | 82 | 134 | - |
| Stage 2 | - | - | - | - | - | - | 241 | 128 | - | 392 | 254 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|------|----------|
| HCM Control Delay, s | 0.5 | 0.2 | 54.8 | \$ 949.3 |
| HCM LOS | | | F | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|----------|
| Capacity (veh/h) | 110 | 374 | - | - | 665 | - | - | 37 |
| HCM Lane V/C Ratio | 0.356 | 0.096 | - | - | 0.051 | - | - | 2.585 |
| HCM Control Delay (s) | 54.8 | 15.6 | - | - | 10.7 | - | - | \$ 949.3 |
| HCM Lane LOS | F | C | - | - | B | - | - | F |
| HCM 95th %tile Q(veh) | 1.4 | 0.3 | - | - | 0.2 | - | - | 10.7 |

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







Intersection LOS (3B)
9: Exist. Driveway & IL 64

12/03/2018

| Intersection | | | | | | |
|--------------------------|--------|------|--------|------|--------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑↑ | | ↗ |
| Traffic Vol, veh/h | 984 | 5 | 0 | 1605 | 0 | 5 |
| Future Vol, veh/h | 984 | 5 | 0 | 1605 | 0 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 0 | 0 |
| Mvmt Flow | 1070 | 5 | 0 | 1745 | 0 | 5 |
| | | | | | | |
| Major/Minor | Major1 | | Major2 | | Minor1 | |
| Conflicting Flow All | 0 | 0 | - | - | - | 538 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 493 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | - | 493 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| | | | | | | |
| Approach | EB | | WB | | NB | |
| HCM Control Delay, s | 0 | | 0 | | 12.4 | |
| HCM LOS | | | | | B | |
| | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT | | |
| Capacity (veh/h) | 493 | - | - | - | | |
| HCM Lane V/C Ratio | 0.011 | - | - | - | | |
| HCM Control Delay (s) | 12.4 | - | - | - | | |
| HCM Lane LOS | B | - | - | - | | |
| HCM 95th %tile Q(veh) | 0 | - | - | - | | |

Intersection LOS (6)
1: 17th Street & IL 64

12/03/2018

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 42.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 33 | 966 | 45 | 54 | 1522 | 70 | 19 | 0 | 29 | 38 | 0 | 50 |
| Future Vol, veh/h | 33 | 966 | 45 | 54 | 1522 | 70 | 19 | 0 | 29 | 38 | 0 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 0 | - | - | 0 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 36 | 1050 | 49 | 59 | 1654 | 76 | 21 | 0 | 32 | 41 | 0 | 54 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|-----|--------|------|-----|
| Conflicting Flow All | 1730 | 0 | 0 | 1099 | 0 | 0 | 2092 | 2995 | 550 | 2407 | 2981 | 865 |
| Stage 1 | - | - | - | - | - | - | 1147 | 1147 | - | 1810 | 1810 | - |
| Stage 2 | - | - | - | - | - | - | 945 | 1848 | - | 597 | 1171 | - |
| Critical Hdwy | 4.1 | - | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |
| Follow-up Hdwy | 2.2 | - | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |
| Pot Cap-1 Maneuver | 370 | - | - | 643 | - | - | 31 | 14 | 484 | ~ 18 | 14 | 301 |
| Stage 1 | - | - | - | - | - | - | 215 | 276 | - | 83 | 132 | - |
| Stage 2 | - | - | - | - | - | - | 285 | 126 | - | 461 | 269 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 370 | - | - | 643 | - | - | 22 | 11 | 484 | ~ 14 | 11 | 301 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 22 | 11 | - | ~ 14 | 11 | - |
| Stage 1 | - | - | - | - | - | - | 194 | 249 | - | 75 | 120 | - |
| Stage 2 | - | - | - | - | - | - | 212 | 114 | - | 389 | 243 | - |




| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|-------|---------|
| HCM Control Delay, s | 0.5 | 0.4 | 251.8 | \$ 1208 |
| HCM LOS | | | F | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|---------|
| Capacity (veh/h) | 52 | 370 | - | - | 643 | - | - | 31 |
| HCM Lane V/C Ratio | 1.003 | 0.097 | - | - | 0.091 | - | - | 3.086 |
| HCM Control Delay (s) | 251.8 | 15.8 | - | - | 11.2 | - | - | \$ 1208 |
| HCM Lane LOS | F | C | - | - | B | - | - | F |
| HCM 95th %tile Q(veh) | 4.4 | 0.3 | - | - | 0.3 | - | - | 11.3 |

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

Intersection LOS (6)
7: 17th Street & Proposed Driveway

12/03/2018

| Intersection | | | | | | |
|--------------------------|---|----------|---|--------|------|---|
| Int Delay, s/veh | 4.2 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 0 | 14 | 6 | 0 | 51 | 47 |
| Future Vol, veh/h | 0 | 14 | 6 | 0 | 51 | 47 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 0 | 0 | 2 | 2 | 0 | 0 |
| Mvmt Flow | 0 | 15 | 7 | 0 | 55 | 51 |
| Major/Minor | Minor1 | Major1 | | Major2 | | |
| Conflicting Flow All | 168 | 7 | 0 | 0 | 7 | 0 |
| Stage 1 | 7 | - | - | - | - | - |
| Stage 2 | 161 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.2 | - | - | 4.1 | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | - | - | 2.2 | - |
| Pot Cap-1 Maneuver | 827 | 1081 | - | - | 1627 | - |
| Stage 1 | 1021 | - | - | - | - | - |
| Stage 2 | 873 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 798 | 1081 | - | - | 1627 | - |
| Mov Cap-2 Maneuver | 798 | - | - | - | - | - |
| Stage 1 | 985 | - | - | - | - | - |
| Stage 2 | 873 | - | - | - | - | - |
| Approach | WB | NB | | SB | | |
| HCM Control Delay, s | 8.4 | 0 | | 3.8 | | |
| HCM LOS | A | | | | | |
| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | | SBL | SBT | |
| Capacity (veh/h) | - | - 1081 | | 1627 | - | |
| HCM Lane V/C Ratio | - | - 0.014 | | 0.034 | - | |
| HCM Control Delay (s) | - | - 8.4 | | 7.3 | 0 | |
| HCM Lane LOS | - | - A | | A | A | |
| HCM 95th %tile Q(veh) | - | - 0 | | 0.1 | - | |

Intersection LOS (6)
9: Exist. Driveway & IL 64

12/03/2018

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 1028 | 11 | 0 | 1646 | 0 | 40 |
| Future Vol, veh/h | 1028 | 11 | 0 | 1646 | 0 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 0 | 0 |
| Mvmt Flow | 1117 | 12 | 0 | 1789 | 0 | 43 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|-----------|
| Conflicting Flow All | 0 | 0 | - - - 565 |
| Stage 1 | - | - | - - - |
| Stage 2 | - | - | - - - |
| Critical Hdwy | - | - | - - - 6.9 |
| Critical Hdwy Stg 1 | - | - | - - - |
| Critical Hdwy Stg 2 | - | - | - - - |
| Follow-up Hdwy | - | - | - - - 3.3 |
| Pot Cap-1 Maneuver | - | - 0 | - 0 473 |
| Stage 1 | - | - 0 | - 0 - |
| Stage 2 | - | - 0 | - 0 - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | - - 473 |
| Mov Cap-2 Maneuver | - | - | - - - |
| Stage 1 | - | - | - - - |
| Stage 2 | - | - | - - - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 13.4 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 473 | - | - | - |
| HCM Lane V/C Ratio | 0.092 | - | - | - |
| HCM Control Delay (s) | 13.4 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - |