



TRAFFIC IMPACT STUDY

3815 S. Ashland Redevelopment – Chicago, Illinois

April 20, 2022

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Table of Contents

01. Introduction	2
02. Existing Conditions	4
2.1. Area Land Uses & Connectivity	4
2.2. Existing Transit & Bike-Share Facilities	4
Transit	4
Divvy Bike Share	5
2.3. Existing Street Characteristics.....	5
2.4. Existing Traffic Volumes.....	7
2.5. Existing Intersection Operations	10
03. Future Conditions	14
3.1. Area Improvement Plans.....	14
3.2. Site Development Plan	14
3.3. Trip Generation	15
3.4. Site Trip Assignments.....	16
3.5. Future Traffic Projections	16
3.6. Future Intersection Operations	23
Future No-Build Conditions	23
Future Build Conditions	25
04. Recommendations & Conclusions.....	28
APPENDIX.....	29

01. Introduction

Sam Schwartz Consulting (Sam Schwartz) was retained by Jacob & Hefner Associates on behalf of KCS Acquisitions, LLC, to conduct a traffic impact study (TIS) for a proposed industrial redevelopment in Chicago, Illinois. The subject site, which is currently occupied by a vacant industrial building, is located on the east side of Ashland Avenue between Pershing Road and 38th Street. Under the proposed redevelopment plan, a 96,712 square-foot cold-storage warehouse would be constructed. An aerial view of the study area can be seen on **Figure 1**.

Site access would be provided via two existing driveways, labeled Access 1 and Access 2 for the purposes of this report. Access 1 is a full-access driveway at the south end of the property, located approximately 300 feet east of Ashland Avenue and aligned across from two Department of Water Management (DWM) driveways on the south side of Pershing Road. Access 2 meets 38th Street at a “T” intersection approximately 570 feet east of Ashland Avenue, providing full access at the north end of the property.

As a key influencing element of this study, it must be noted that the current COVID-19 pandemic and resulting state of emergency in the United States has resulted in significant changes to daily commuting behaviors. Traffic volumes throughout the region are substantially reduced, resulting in a need to apply adjustment factors to the turning movement counts conducted as a part of this study. As such, traffic data analyzed as a part of this study reflects pre-pandemic traffic patterns and mode splits and assumes a return to these conditions prior to completion of the proposed redevelopment. This assumption, which may be conservative, and the associated methodology are in accordance with current CDOT standards for traffic analysis.

The following report documents Sam Schwartz’s methodology regarding data collection, traffic forecasting, and analyses performed for this study. Recommended improvements are documented to mitigate anticipated traffic-related impacts resulting from the proposed redevelopment and to improve the functionality of the local transportation system.



Not to Scale



02. Existing Conditions

Sam Schwartz conducted a field visit to collect relevant information pertaining to the site, the surrounding street network, traffic controls, lane geometry, and infrastructure at the study intersections. Based on these characteristics, existing intersection capacity was evaluated to establish baseline operational conditions for the study area. This section of the report provides a description of these existing characteristics.

2.1. Area Land Uses & Connectivity

The subject parcel is located along the east side of Ashland Avenue between Pershing Road and 38th Street and is currently occupied by a vacant industrial building. This site is bordered to the immediate north and east by industrial developments, and the majority of area land uses on the east side of Ashland Avenue are industrial in nature. Across Pershing Road, the site is bordered to the south by the City of Chicago DWM facility. On the west side of Ashland Avenue in the vicinity of the site, the existing land uses are primarily residential.

Approximately one and a half miles northwest of the proposed site, Interstate 55 (I-55) provides a full-access interchange at Damen Avenue, which connects to the site by way of Ashland Avenue and 31st Street/31st Place. Roughly two miles to the east, Interstate 90/94 (I-90/94) is fully accessible at Pershing Road. The proposed site is also directly adjacent to Ashland Avenue, a minor arterial that provides north-south regional connectivity through the majority of the City.

2.2. Existing Transit & Bike-Share Facilities

Non-auto modes of transportation within the site vicinity include Chicago Transit Authority (CTA) bus and rail service, as well as Divvy bike share stations.

Transit

Rail service via the CTA Orange Line can be accessed at two nearby stations:

- **Ashland**, located approximately one mile (or a 15- to 22-minute walk) north of the site on the east side of Ashland Avenue. This station features a bus depot that serves three CTA bus routes, including Route 9 and Route X9.
- **35th/Archer**, located roughly one mile northwest of the site on the west side of Archer Avenue. This station also features a bus depot that serves four CTA bus routes, including Route 39.

The proposed redevelopment would also be served by three CTA bus routes with stations located immediately adjacent to the site. Each of the three routes stops at one of the two Orange Line bus depots described above, providing a convenient bus-rail connection.

- **Route 9 (Ashland)** provides daily service between the intersections of 104th Street/Vincennes Avenue and Clark Street/Belle Plaine Avenue. Far-side bus stops are provided along Ashland Avenue at Pershing Road, both of which have bus shelters. Far-side bus stops with shelters are also provided along Ashland Avenue at 37th Street. Overnight service on this route (Route N9) is provided between the North Avenue/Clark Street intersection and the CTA Red Line station at 95th Street. Route 9 also connects to the bus depot at the nearby CTA Orange Line station at Ashland.
- **Route X9 (Ashland Express)** provides Monday-through-Friday express service between the

intersections of Ashland Avenue/95th Street and Irving Park Road/Broadway. Route X9 stops at Pershing Road/Ashland Avenue and 37th Street/Ashland Avenue, as well as the bus depot at the CTA Orange Line station at Ashland.

- **Route 39 (Pershing)** provides daily service between the intersections of 38th Street/St. Louis Avenue and Pershing Road/Lake Park Avenue. Bus stops are located on Pershing Road at its intersection with Ashland Avenue, providing a near-side bus stop with a bench in the westbound direction and a far-side bus stop with a bench in the eastbound direction.

Divvy Bike Share

Two Divvy stations are currently located within one half-mile of the subject redevelopment project. These stations are listed below:

- Ashland Avenue & Pershing Road (northwest corner) – 11 docking stations
- Damen Avenue & Pershing Road (north side, center boulevard) – 11 docking stations

2.3. Existing Street Characteristics

Field data collection was performed along the primary study roadways of Ashland Avenue, Pershing Road, 37th Street, 38th Street, Paulina Street, Iron Street, and the existing DWM access driveways. Descriptions of these roadways are provided below.

Ashland Avenue is a north-south, four-lane Minor Arterial roadway that runs along the western boundary of the subject site. Throughout the study area, Ashland Avenue provides a 12- to 14-foot landscaped median with breaks at its intersections with public streets. Traffic signals are in place at Ashland Avenue's intersections with 37th Street and Pershing Road. At both of these intersections, the north- and southbound approaches of Ashland Avenue provide a dedicated left-turn lane, a dedicated through lane, and a shared through/right-turn lane. Additionally, both signals currently feature pedestrian countdown timers. Between 37th Street and Pershing Road, Ashland Avenue intersects 38th Street and 38th Place, both of which operate under minor-leg stop-control. Apart from the exclusive left-turn lane on the southbound approach at 38th Street, no other dedicated turn lanes are provided on Ashland Avenue at either intersection. High-visibility crosswalks are present on all approaches at intersections with Ashland Avenue with the exception of the northbound and southbound approaches at 38th Place, where the existing landscaped median currently prevents pedestrian crossings. On-street parallel parking is provided on Ashland Avenue through the study area, and a 30 MPH speed limit is posted. This roadway is under the jurisdiction of the Cook County Department of Transportation and Highways (CCDOH) and is maintained by the Chicago Department of Transportation (CDOT).

37th Street is a two-lane local roadway that runs east to west approximately 660 feet north of the study site. At its signalized intersection with Ashland Avenue, the eastbound and westbound approaches of 37th Street provide a single approach lane for left-turn, through, and right-turn movements. On-street parking is permitted on both sides of the street. To the west of Ashland Avenue, parallel parking spaces are located immediately adjacent to the curb. East of Ashland Avenue, on-street parking is accommodated in 17-foot-deep parking bays that appear to be utilized for parallel parking, based on field observations. West of Ashland Avenue, signs prohibiting vehicles weighing over five tons are posted. A 30 MPH speed limit was assumed, based on City ordinance. This roadway is under CDOT jurisdiction.

38th Street is an east-west, two-lane local road located directly north of the study site. At its unsignalized intersection with Ashland Avenue, the eastbound and westbound approaches of 38th Street operate under minor-leg stop control and provide a single lane for left-turn, through, and right-turn movements. West of Ashland Avenue, 38th Street is signed to prohibit vehicles weighing over five tons. 38th Street also provides on-street parking on both sides east and west of Ashland Avenue. A 30 MPH speed limit was assumed, based on City ordinance. This roadway is under CDOT jurisdiction.

38th Place is an east-west, one-way eastbound local road that terminates at a “T” intersection with Ashland Avenue. At its unsignalized intersection with Ashland Avenue, the eastbound approach of 38th Place operates under minor-leg stop control and provides a single lane for eastbound right-turn movements. 38th Place provides on-street parking on both sides. A 30 MPH speed limit was assumed, based on City ordinance. This roadway is under CDOT jurisdiction.

Pershing Road is an east-west, four-lane Principal Arterial roadway that runs along the southern boundary of the subject site and is designated as a Strategic Regional Arterial (SRA) by the Illinois Department of Transportation (IDOT). At its signalized intersection with Ashland Avenue, Pershing Road provides a dedicated left-turn lane on both approaches, plus a dedicated right-turn lane on the westbound approach. Approximately 300 feet east of Ashland Avenue, Pershing Road intersects the DWM driveways, which operate under minor-leg stop-control. Though no dedicated turn lanes are provided at this intersection, the westbound left-turn lane storage at Ashland Avenue extends through this intersection, providing a de-facto westbound turn lane. East of this intersection, a shared two-way left-turn lane is provided on Pershing Road that extends to its minor-leg stop-controlled intersection with Iron Street. Approximately 410 feet west of Ashland Avenue, Pershing Road narrows to a three-lane cross section and provides dedicated bike lanes and parallel on-street parking in both directions. At its unsignalized intersection with Paulina Street, Pershing Road provides an exclusive left-turn lane and a shared through/right-turn lane on its eastbound approach, and a single westbound lane for left-turn, through, and right-turn movements. High-visibility crosswalks are provided on the east, west, and north legs of the intersection of Pershing Road with Paulina Street. A 30 MPH speed limit is posted on Pershing Road in the study area. This roadway is under IDOT jurisdiction east of Ashland Avenue and under CDOT jurisdiction west of Ashland Avenue.

Paulina Street is a north-south, two-lane local road that meets Pershing Road opposite a private driveway. At this unsignalized intersection with Pershing Road, Paulina Street operates under minor-leg stop-control and provides a single lane for left-turn, through, and right-turn movements. Paulina Street provides on-street parking on both sides. A 30 MPH speed limit was assumed, based on City Ordinance. This roadway is under CDOT jurisdiction. The south leg of Paulina Street’s intersection with Pershing Road is a private access driveway serving a Chicago Indoor Sports facility. Its northbound approach, which operates under minor-leg stop control, provides a single left-turn/through/right-turn outbound lane. A 25 MPH speed limit was assumed based on its direct access to parking.

Two **DWM Access Driveways** are located on the south side of Pershing Road, with centerlines approximately 50 feet apart. Each driveway operates under minor-leg stop control and provides a single outbound lane for left-turn, through, and right-turn movements. A 25 MPH speed limit was assumed on both driveways based on their direct connection to parking. **Access 1** is located directly opposite the eastmost DWM driveway to serve the subject parcel. This driveway was assumed to operate under minor-leg stop-control and have a 25 MPH speed limit.

Iron Street is a north-south two-lane local roadway that meets Pershing Road at a “T” intersection. At its unsignalized intersection with Pershing Road, the southbound approach of Iron Street operates under minor-leg stop control. Iron Street is a gated roadway providing access to authorized vehicles only given its connection to the City of Chicago Department of Fleet Management, Department of Streets and Sanitation, and the Department of Water Management. Based on the approach width and the presence of on-street parking during field observations (despite the posting of parking-restriction signage), it was assumed for the purposes of this study that Iron Street operates with a shared left/right-turn lane in the southbound direction. A high-visibility crosswalk is provided across Iron Street at Pershing Road. A 30 MPH speed limit was assumed, based on City ordinance. This roadway is under CDOT jurisdiction.

2.4. Existing Traffic Volumes

As noted previously, the current state of area traffic conditions has been affected by the COVID-19 pandemic, resulting in significant changes to daily travel behaviors. Traffic volumes throughout the region are therefore impacted and require a comparison against historical data to provide a more reliable basis for traffic analyses. This section describes how baseline traffic volumes were derived.

Sam Schwartz performed intersection turning movements counts (TMCs) at the following study intersections in May 2021:

- 37th Street at Ashland Avenue
- 38th Street at Ashland Avenue
- 38th Place at Ashland Avenue
- Pershing Road at Ashland Avenue
- Pershing road at Paulina Street
- Pershing Road at DWM Driveways
- Pershing Road at Iron Street

All traffic counts were performed from 6:00-9:00AM and 3:00-6:00PM on a weekday in order to capture the typical morning and evening peak periods. Based on the resulting data, the observed weekday peak hours of the existing roadway network occurred from 7:00-8:00AM and 3:15-4:15PM. Based on these counts, it can be seen that the study area shows a general commuter pattern on Pershing Road, with heavier eastbound travel (toward I-90/94) in the morning peak hour and heavier westbound travel (away from I-90/94) in the evening peak. On Ashland Avenue, volumes were generally heavier in both directions during the evening peak hour compared to the morning peak. It should be noted that at the time of data collection, northbound Ashland Avenue was reduced to a single lane of travel north of 37th Street. This closure was observed to cause queuing that extended to Pershing Road in the evening peak hour. These conditions likely contributed to heavier-than-normal diversions away from northbound Ashland Avenue, particularly onto westbound 38th Street based on documented count data.

To supplement these counts, Sam Schwartz referenced a previously approved TIS for another nearby development. This study (also performed by Sam Schwartz) included turning movement counts at the intersection of Ashland Avenue and Pershing Road conducted in October 2017, reflecting pre-pandemic conditions. During the morning peak hour (7:30 AM), the 2017 intersection counts were shown to be approximately 38 percent higher than the 2021 counts overall. In the evening peak hour (4:00 PM), the 2017 counts were approximately three percent lower than the 2021 counts overall. This difference is consistent with the general trend of post-pandemic volume rebounds, with evening peak hours largely operating at pre-pandemic levels while morning peak periods continue to see reduced demand. While the

2017 morning and evening peak hours differ from those identified as the 2021 network peak hours, the 2017 counts were conservatively used as a basis for comparison.

Based on these observations, the 2017 turning movement counts at the intersection of Ashland Avenue and Pershing Road were used as a reference point to establish volumes throughout the study network. Through movements along Ashland Avenue and Pershing Road were balanced to match the 2017 counts throughout the study network. In most cases, this required increasing the 2021 volumes to match higher 2017 demand, particularly on northbound Ashland Avenue and westbound Pershing Road. Based on these assumptions, a baseline Year 2017 volume network was established. It should be noted that as the balanced northbound volumes along Ashland Avenue reflect unobstructed 2017 conditions, no further adjustments to account for the northbound lane closure observed during field visits were implemented. The resulting traffic volumes at each intersection during the morning and evening peak hours are illustrated in **Figure 2**. Summaries of the raw TMC counts and the 2017 historical TMC data are contained in the Appendix.



Not to Scale

xx = Weekday AM Peak Hour (7:00 - 8:00 AM)
 (xx) = Weekday PM Peak Hour (3:15 - 4:15 PM)
 ⓪ = Existing / Assumed Stop Sign
 ⊗ = Existing Traffic Signal
 - = Less than Five Vehicles

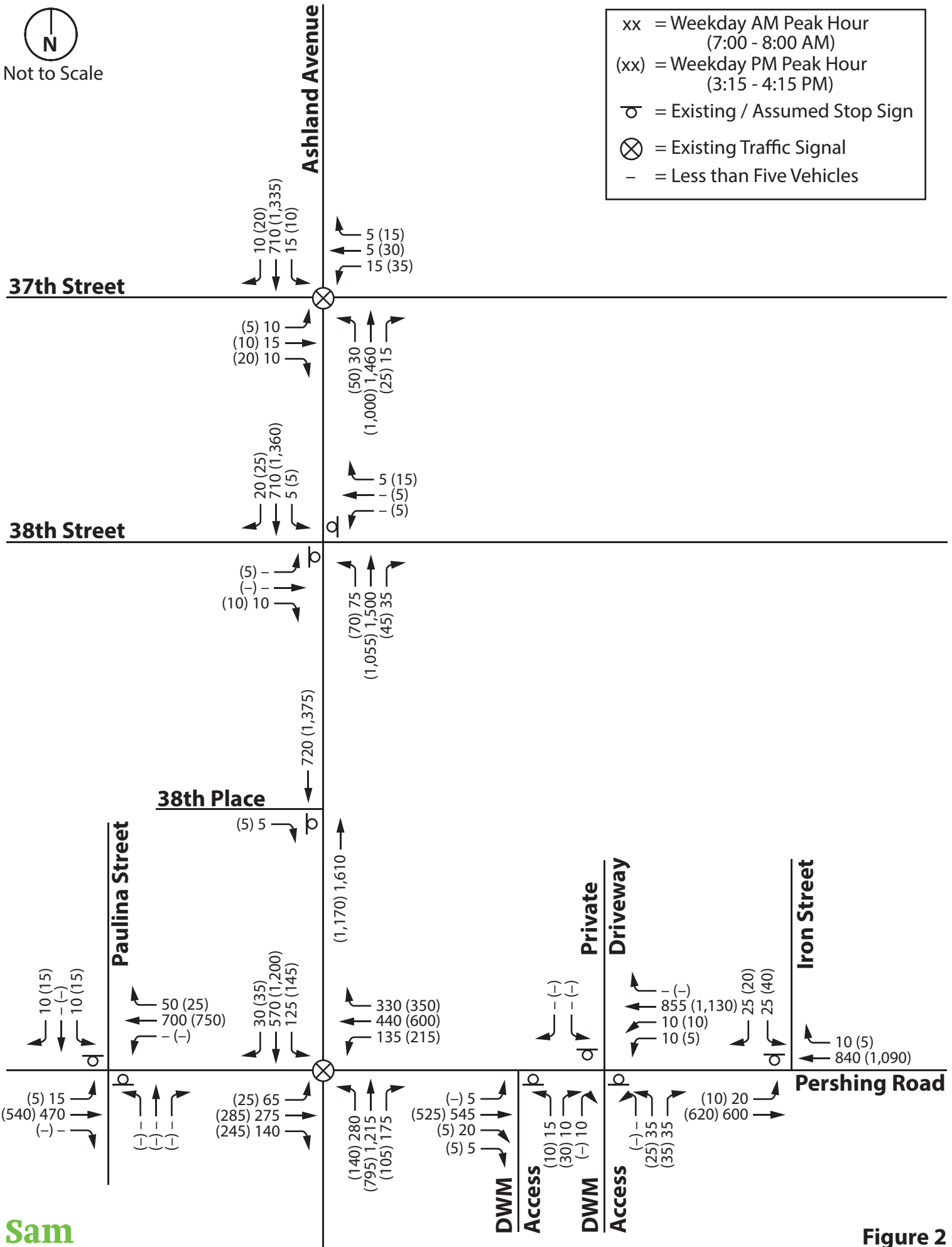


Figure 2
Baseline Traffic Volumes

2.5. Existing Intersection Operations

The operational effectiveness of transportation facilities is measured in terms of Level of Service (LOS). LOS ranges from LOS A to LOS F, with LOS A being the best level of operation for an intersection and LOS F being the worst. LOS A represent free-flow conditions where motorists experience a high level of comfort and convenience. LOS E represents saturated or at-capacity conditions, and LOS F represents oversaturated conditions.

LOS at a signalized intersection is defined in terms of average control delay (measured in seconds per vehicle), which is the portion of total delay experienced by a motorist that is attributable to the traffic signal. LOS A describes operations with minimal delays (up to 10 seconds per vehicle on average), while LOS F describes operations with delays in excess of 80 seconds per vehicle. At intersections with long cycle lengths, the quantity of red time that is allocated to an approach or movement may near or exceed that 80-second threshold, increasing the likelihood of poor LOS. The LOS criteria for signalized intersections, as defined in the Highway Capacity Manual, Sixth Edition, (HCM) are provided in **Table 1**.

Table 1. LOS Criteria for Signalized Intersections

Level of Service (LOS)	Average Delay	Volume-to-Capacity (v/c) Ratio
A	≤ 10.0 seconds	< 1.0
B	> 10.0 and ≤ 20.0 seconds	< 1.0
C	> 20.0 and ≤ 35.0 seconds	< 1.0
D	> 35.0 and ≤ 55.0 seconds	< 1.0
E	> 55.0 and ≤ 80.0 seconds	< 1.0
F	> 80.0 seconds	≥ 1.0

Transportation Research Board. Highway Capacity Manual, Sixth Edition.

For unsignalized intersections, total delay is defined as the total elapsed time from the moment a vehicle stops at the back of the queue until the vehicle departs from the stop bar on the stop-sign controlled approach. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The LOS thresholds for unsignalized intersections, which differ from those for signalized intersections, are summarized in **Table 2**.

Table 2. LOS Criteria for Unsignalized Intersections

Level of Service (LOS)	Average Delay	Volume-to-Capacity (v/c) Ratio
A	≤ 10.0 seconds	< 1.0
B	> 10.0 and ≤ 15.0 seconds	< 1.0
C	> 15.0 and ≤ 25.0 seconds	< 1.0
D	> 25.0 and ≤ 35.0 seconds	< 1.0
E	> 35.0 and ≤ 50.0 seconds	< 1.0
F	> 50.0 seconds	≥ 1.0

Transportation Research Board. [Highway Capacity Manual, Sixth Edition](#).

Capacity analysis was performed to analyze the study intersections for the weekday peak hours using Synchro 10 capacity analysis software. Synchro’s *Lanes, Volumes, and Timings* report was used to evaluate intersection capacity at the signalized intersections. For unsignalized study intersections, the *HCM 6th Edition* report was referenced. Due to the irregular configuration of Pershing Road’s intersection with the Department of Water Management driveways, delays at that intersection were reported using Synchro’s *SimTraffic* reports. These results are summarized in **Table 3**.

Table 3. Baseline (Year 2017) Levels of Service

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Ashland Avenue/37th Street¹				
Eastbound	38.1	D	24.7	C
Westbound	44.2	D	48.4	D
Northbound	1.8	A	1.6	A
Southbound	2.3	A	5.1	A
<i>Intersection</i>	3.0	A	5.3	A
Ashland Avenue/38th Street²				
Eastbound	27.0	D	36.1	E
Westbound	>120	F	34.9	D
Northbound (Left Turn)	9.8	A	14.1	B
Southbound (Left Turn)	16.1	C	10.8	B
Ashland Avenue/38th Place²				
Eastbound	11.0	B	14.7	B
Ashland Avenue/Pershing Road¹				
Eastbound	35.3	D	30.2	C
Westbound	32.1	C	27.8	C
Northbound	35.4	D	28.2	C
Southbound	24.5	C	35.5	D
<i>Intersection</i>	32.5	C	30.8	C
Pershing Road/Paulina Street²				
Eastbound (Left Turn)	9.9	A	10.2	B
Westbound (Left Turn)	8.5	A	9.0	A
Northbound	17.3	C	24.0	C
Southbound	18.1	C	23.5	C
¹ Signalized Intersection				
² Unsignalized Intersection				

Table 3. Baseline (Year 2017) Levels of Service (Continued)

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Pershing Road/DWM Driveways²				
Eastbound (Left Turn)	15.4	C	6.7	A
Westbound (Left Turn)	7.5	A	9.9	A
Northbound	43.4	E	92.3	F
Northeastbound	23.5	C	27.3	D
Southbound	14.7	B	23.0	C
Pershing Road/Iron Street²				
Eastbound (Left Turn)	12.9	B	13.8	B
Southbound	20.7	C	39.1	E
¹ Signalized Intersection				
² Unsignalized Intersection				

As the table shows, traffic operations at study area intersections are largely acceptable with most approaches operating at LOS D or better. Some side streets are shown to operate at LOS E or LOS F under existing baseline conditions, specifically on 38th Street at Ashland Avenue and for the DWM driveways and Iron Street at Pershing Road. High delay for stop-controlled minor-street approaches is not uncommon at intersections with high-volume arterials like Ashland Avenue and Pershing Road, and those delays can be particularly compounded at intersections with atypical configurations like the two closely spaced DWM driveways. These delays can be reduced when drivers can perform left turn movements in two parts by staging in the median while they wait for an acceptable gap in traffic. Based on field observations at the study intersections, these two-stage left turns were included in capacity analysis for 38th Street at Ashland Avenue and for both Paulina Street and Iron Street at Pershing Road. Two-stage left turns were not observed for the DWM driveways or Access 1, potentially due to the proximity of these driveways to the signalized intersection of Ashland Avenue/Pershing Road. Left turns out of these driveways also overlap Pershing Road’s westbound left-turn lane at Ashland Avenue, and Left-turn queues on this approach were observed to occupy the full storage length during the evening peak hour.

03. Future Conditions

In order to evaluate future intersection operations, traffic volumes were forecasted for a Year 2024 design horizon, two years after anticipated completion of the proposed redevelopment. Future traffic forecasting was based on three main factors: background traffic growth, background developments, and trips generated by the subject redevelopment. Based on the resulting projections, capacity analyses were prepared to evaluate future operational conditions after completion of the proposed redevelopment. The findings and resulting recommendations are discussed in this section of the report.

3.1. Area Improvement Plans

A review of IDOT's *Proposed Highway Improvement Plans for FY 2022-2027*, CDOT's *2021-2025 Capital Improvement Program*, and CCDOTH's *FY 2021-2025 Proposed Transportation Improvement Plan* indicated no planned improvements affecting intersections in the study area. As such, no improvements other than those recommended as a part of this study are included in future Year 2024 conditions.

3.2. Site Development Plan

As proposed, the subject site would be redeveloped to contain a single 96,712 square-foot industrial building envisioned to serve as a cold-storage warehouse. A preliminary site plan depicting the proposed facility is included in the Appendix. Access to the southern portion of the site would be provided by Access 1, an existing driveway to Pershing Road aligned opposite the DWM driveways, approximately 300 feet east of Ashland Avenue. Access 2 is located at 38th Street, approximately 570 feet to the east of Ashland Avenue.

3.3. Trip Generation

Based on the anticipated land use, site-generated trips were projected using the Institute of Transportation Engineers (ITE) manual *Trip Generation, 10th Edition* according to data provided for the relevant Land Use Code (LUC). High-Cube Cold Storage Warehouse (LUC 157) is the ITE designation that most closely matches the intended use. However, the description for LUC 157 stipulates that all trip generation studies performed for this land use type were conducted on buildings totaling at least 200,000 square feet of gross floor area. Therefore, Sam Schwartz also estimated trip generation for the proposed site utilizing the Warehousing (LUC 150) designation, which does not put forth any minimum square footage guidelines. Based on a comparison of these Land Use Codes, Sam Schwartz utilized data associated with LUC 150 to provide a more conservative trip generation estimate, which projects higher total trips in both the morning and evening peak hours. A full trip generation comparison is included in the Appendix.

Total vehicle trips and truck trips were calculated using the ITE equations summarized in the Appendix. Truck trips were then deducted from the total vehicle trips to obtain passenger car trips. These trips are considered primary trips, wherein a vehicle travels directly to and from the site and are considered new to the study area. The projected site-generated traffic volumes were calculated as shown in **Table 4**. Vehicles were rounded to the nearest multiple of five for the purposes of this study.

Table 4: Projected Site-Generated Trips

Land Use	Size	Vehicle Type	Daily	Weekday AM Peak			Weekday PM Peak		
				IN	OUT	TOTAL	IN	OUT	TOTAL
Warehousing (LUC 150)	96,712 sq. ft.	Cars	140	15	5	20	-	15	15
		Trucks	60	-	-	-	5	-	5
		Total	200	15	5	20	5	15	20

Additionally, as part of the air quality review process, trip projections for the proposed site were also estimated for each of the 24 hours of a typical weekday. This process is detailed in the Appendix.

3.4. Site Trip Assignments

The directional distribution of site-generated traffic is a function of several variables, including existing travel patterns, characteristics of the area street network and traffic control, and peak hour congestion within the study area. The resulting percentages are a best estimate using engineering judgement, familiarity with the area, and logical travel paths to likely origins and destinations for site users. Given these considerations, projected trip distribution percentages for passenger cars are shown in **Figure 3** and for trucks in **Figure 4**.

Using the above distributions and routing patterns, site-generated trips were assigned to the study intersections. In order to assign site traffic to the proposed accesses, Sam Schwartz assumed the implementation of several recommendations pertaining to site accessibility and internal circulation. As described in Section 2.3 of this report (*Existing Street Characteristics*), left turns into Access 1 from Pershing Road would make use of a shared left-turn/through lane and would cross three travel lanes. Given the difficulty and safety implications of performing such a turning maneuver, it is recommended that the tenant of the proposed building restrict employees and visitors from performing an inbound left turn at Access 1. To provide a point of ingress for site-bound vehicles that would otherwise perform this inbound left turn (those approaching from the south on Ashland Avenue or the west on Pershing Road), it is recommended that passenger vehicles be permitted to fully circulate within the site, including through the truck dock, to connect between Access 2 and the employee/visitor parking lot. Similarly, it is recommended that trucks be permitted to use Access 1 for inbound right-turn maneuvers and all outbound movements. Reflecting these recommendations, **Figure 5** shows site-generated trips for passenger cars, and **Figure 6** shows site-generated trips for trucks.

3.5. Future Traffic Projections

In order to estimate future background traffic for the Year 2024 design horizon, Year 2050 Annual Daily Traffic (ADT) projections were obtained from the Chicago Metropolitan Agency for Planning (CMAP) for the major study roadways. Based on the projections provided, a compounded annual growth rate of 0.75 percent was applied to baseline (2017) traffic volumes along 37th Street, Ashland Avenue, and Pershing Road. Since the residential and industrial uses along 38th Street, 38th Place, Paulina Street, Iron Street are fully developed today, no growth was applied to these roadways or to any of the private driveways in the study area.

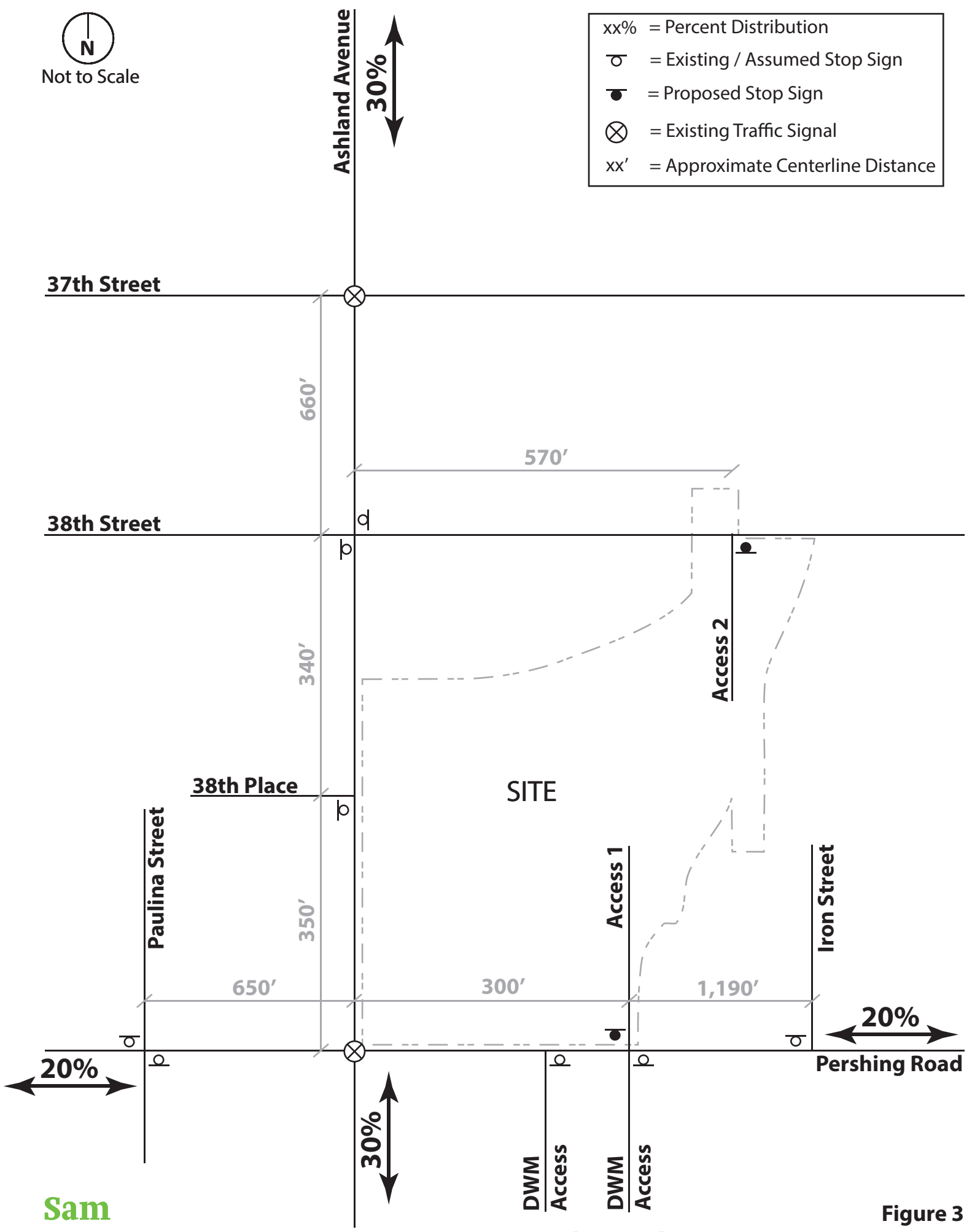
In addition to this background growth, site traffic generated by an approved industrial development at 3523 S. Ashland was also included based on information from a July 2020 traffic study performed by Sam Schwartz and approved by CDOT (excerpted in the Appendix). Note that this site was under construction at the time of this study, which is the reason for the northbound lane closure on Ashland Avenue at 37th Street referenced previously.

The background growth and background development volumes were balanced across the study area and added to existing volumes to yield Year 2024 Future No-Build traffic projections, illustrated in **Figure 7**. To develop a Future Build scenario, site-generated trips were then added to the No-Build condition. Trips counted on the existing site driveway were also removed based on the assumption that the redevelopment would replace any existing generators north of Pershing Road. The resulting Year 2024 Future Build projections are shown in **Figure 8**.



Not to Scale

- xx% = Percent Distribution
- ⊔ = Existing / Assumed Stop Sign
- = Proposed Stop Sign
- ⊗ = Existing Traffic Signal
- xx' = Approximate Centerline Distance



Sam Schwartz

Figure 3
Directional Distribution - Passenger Cars



- xx% = Percent Distribution
- ⊖ = Existing / Assumed Stop Sign
- = Proposed Stop Sign
- ⊗ = Existing Traffic Signal
- xx' = Approximate Centerline Distance

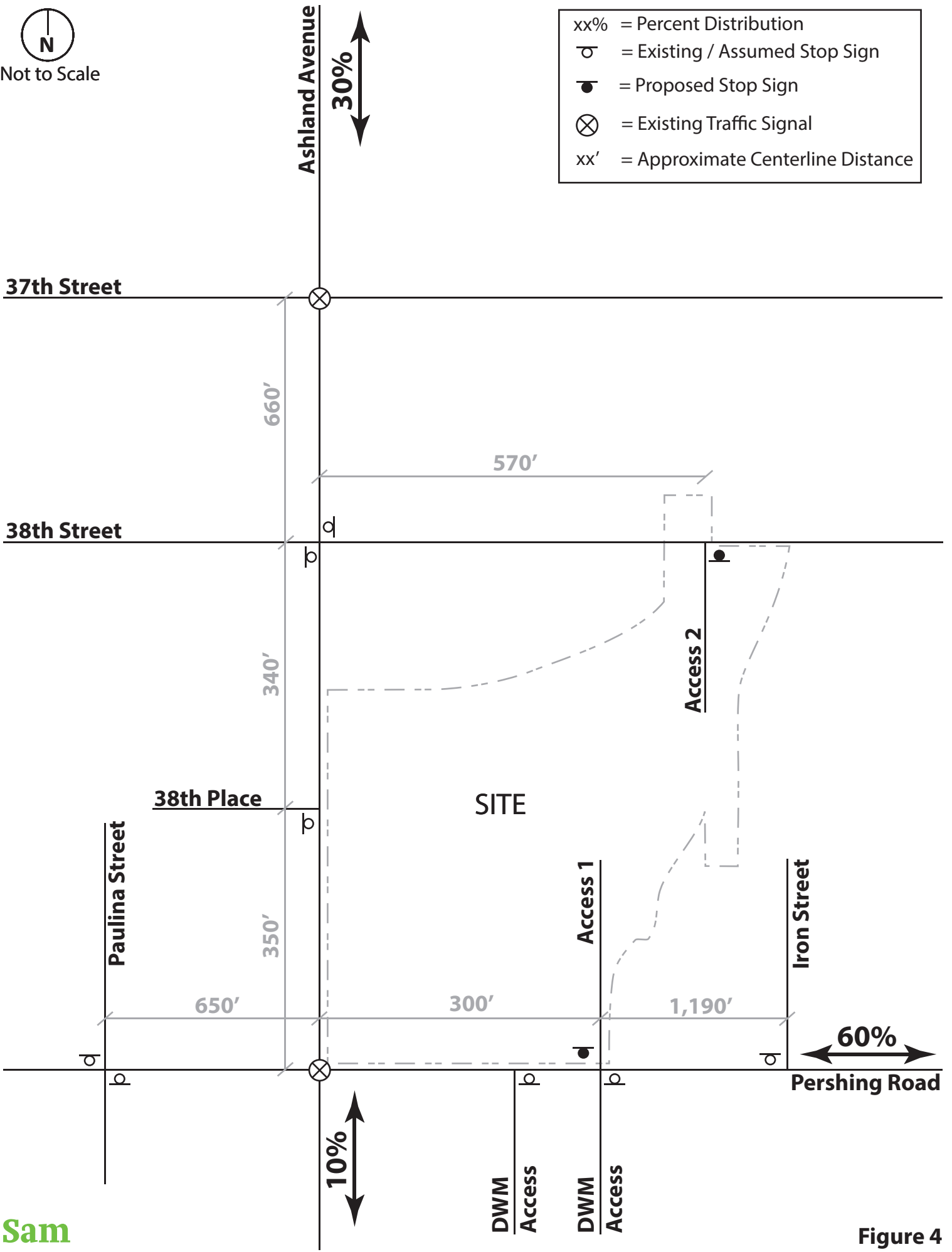


Figure 4
Directional Distribution - Trucks



Not to Scale

xx = Weekday AM Peak Hour (7:00 - 8:00 AM)
 (xx) = Weekday PM Peak Hour (3:15 - 4:15 PM)
 ⓪ = Existing / Assumed Stop Sign
 ● = Proposed Stop Sign
 ⊗ = Existing Traffic Signal
 - = Less than Five Vehicles

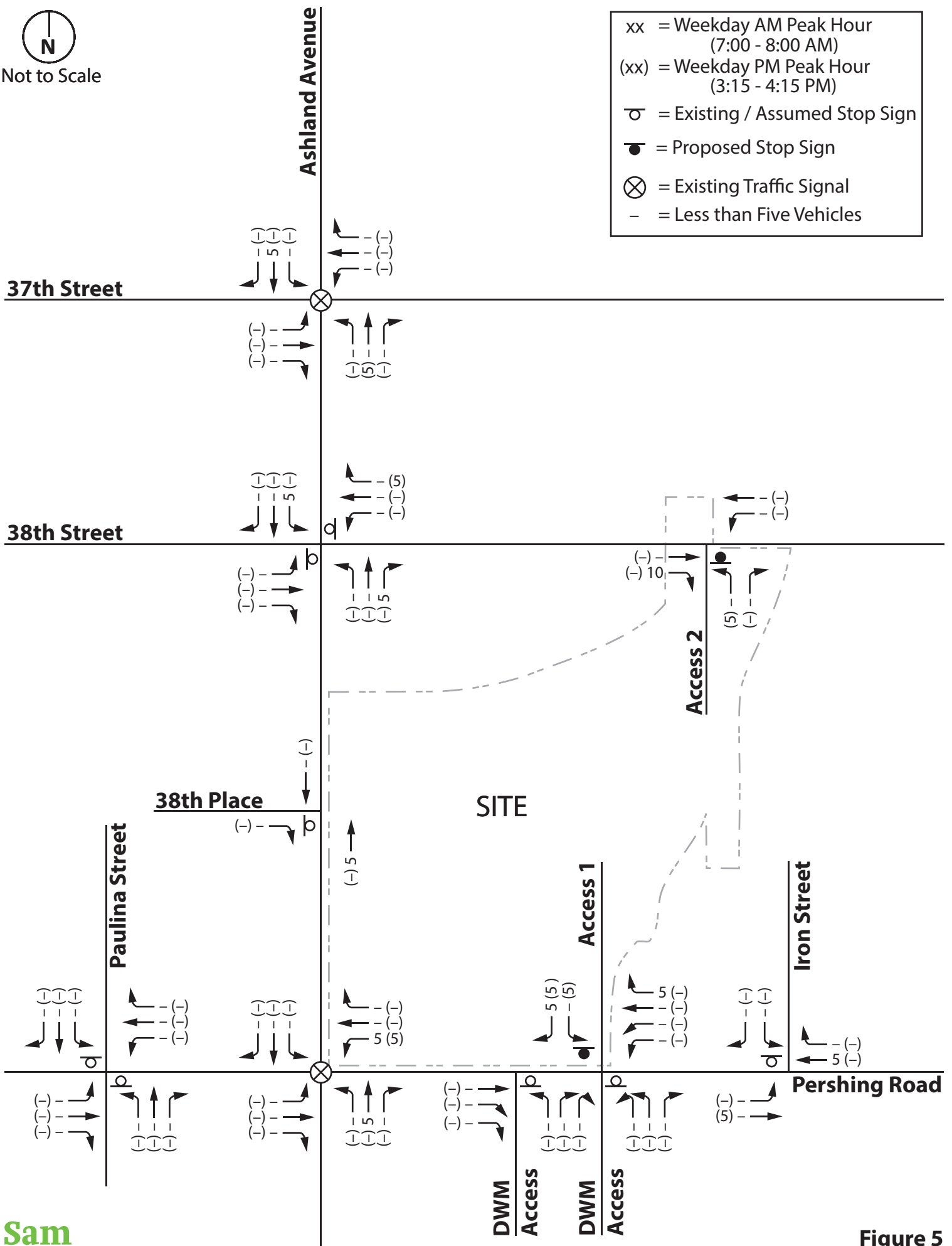


Figure 5 Site Generated Trip Projections - Passenger Cars



Not to Scale

xx	= Weekday AM Peak Hour (7:00 - 8:00 AM)
(xx)	= Weekday PM Peak Hour (3:15 - 4:15 PM)
⊖	= Existing / Assumed Stop Sign
●	= Proposed Stop Sign
⊗	= Existing Traffic Signal
-	= Less than Five Vehicles

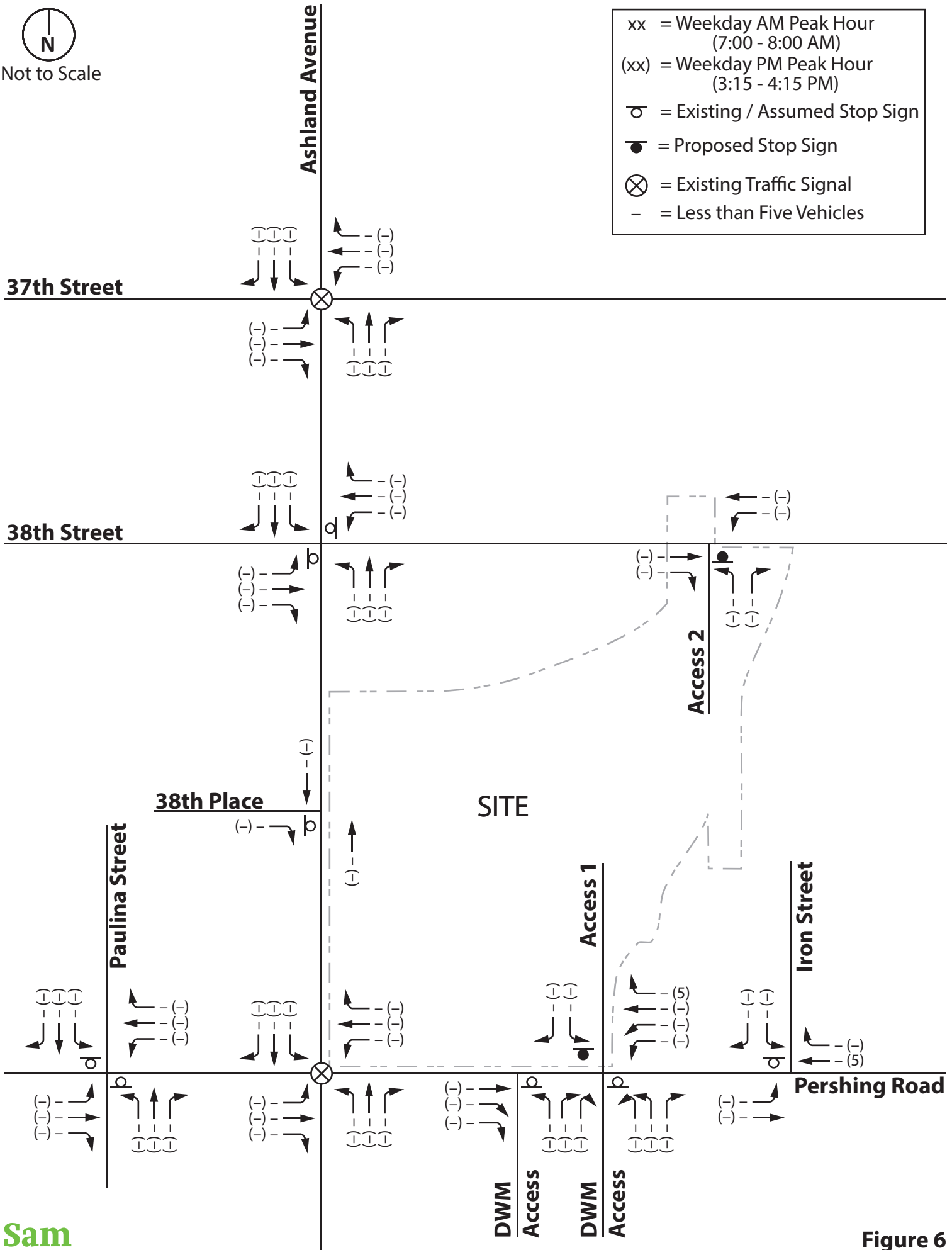
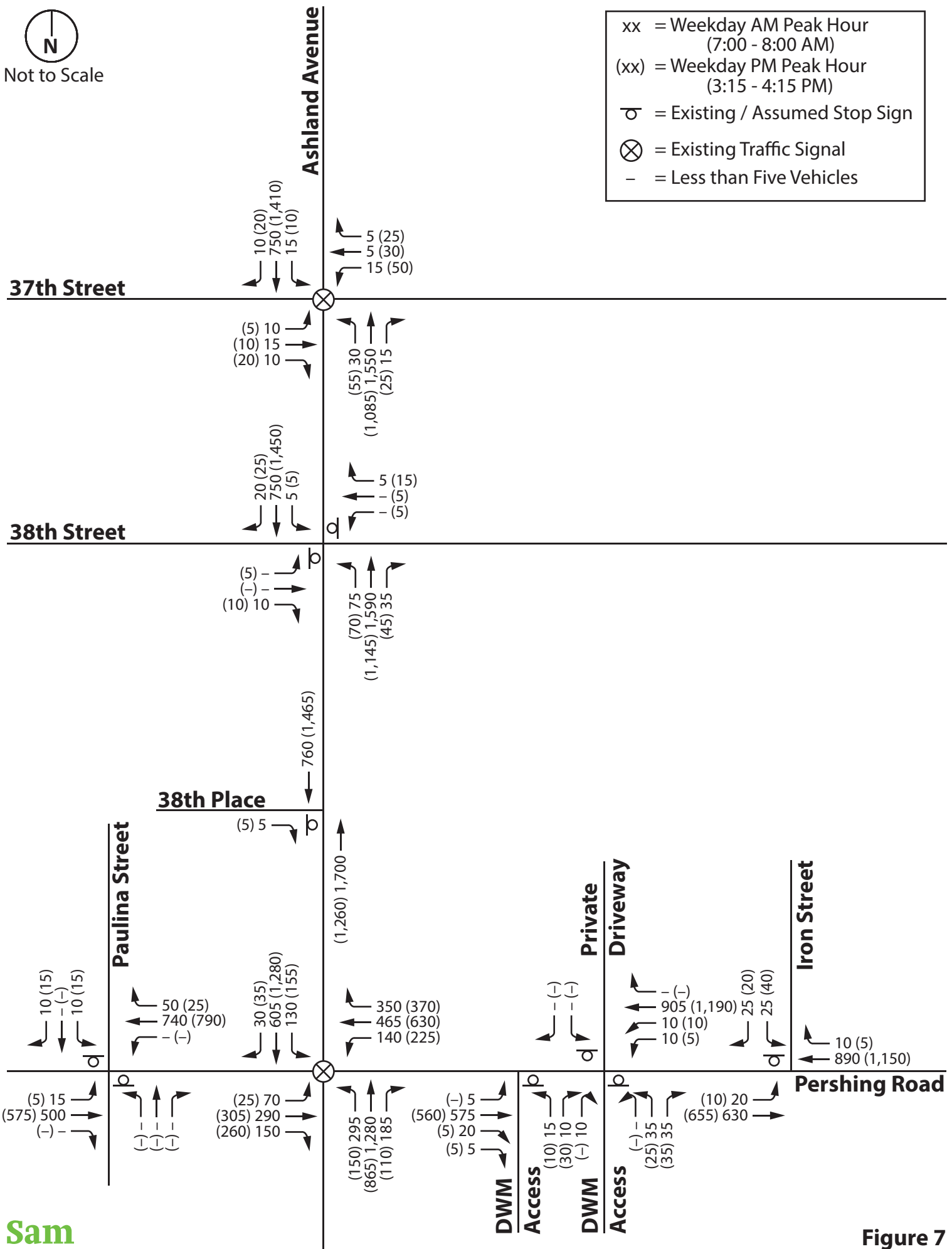


Figure 6 Site Generated Trip Projections - Trucks



Not to Scale

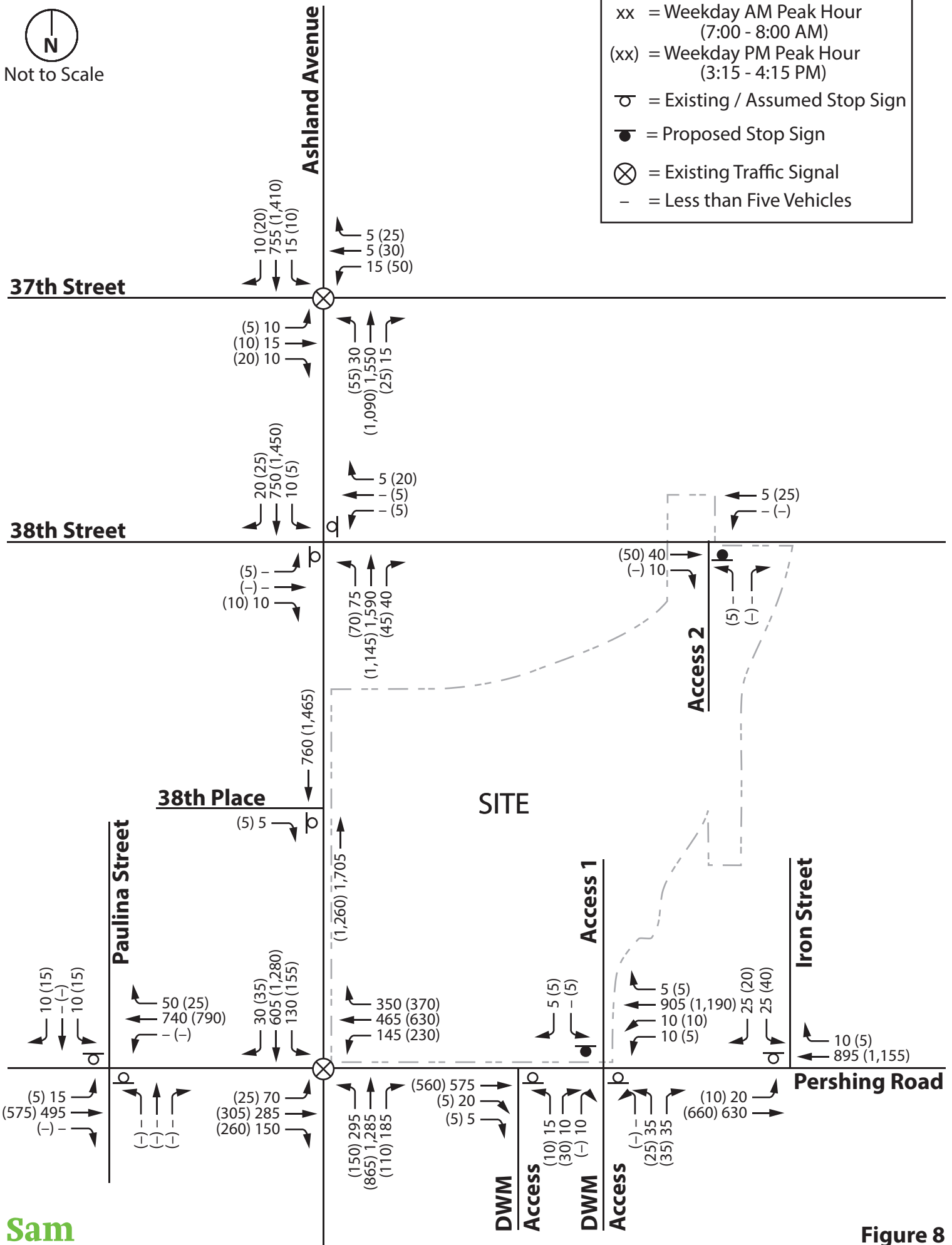
- xx = Weekday AM Peak Hour (7:00 - 8:00 AM)
- (xx) = Weekday PM Peak Hour (3:15 - 4:15 PM)
- ⊖ = Existing / Assumed Stop Sign
- ⊗ = Existing Traffic Signal
- = Less than Five Vehicles





Not to Scale

- xx = Weekday AM Peak Hour (7:00 - 8:00 AM)
- (xx) = Weekday PM Peak Hour (3:15 - 4:15 PM)
- ⊕ = Existing / Assumed Stop Sign
- = Proposed Stop Sign
- ⊗ = Existing Traffic Signal
- = Less than Five Vehicles



3.6. Future Intersection Operations

Capacity analyses were conducted using Synchro 10 software to assess future traffic operations during weekday morning and evening peak hours for Future No-Build and Build conditions. The results of these analyses are detailed in the following sections:

Future No-Build Conditions

As noted previously, there are no planned improvements in the study area, so no improvements were incorporated into the analysis of Future No-Build conditions. Based on this assumption, area traffic operations for this scenario are projected as shown in **Table 5**.

Table 5. No-Build (Year 2024) Levels of Service

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Ashland Avenue/37th Street¹				
Eastbound	38.1	D	23.0	C
Westbound	44.2	D	49.4	D
Northbound	2.1	A	2.7	A
Southbound	2.4	A	7.1	A
<i>Intersection</i>	<i>3.1</i>	<i>A</i>	<i>7.1</i>	<i>A</i>
Ashland Avenue/38th Street²				
Eastbound	32.1	D	48.5	E
Westbound	>120	F	45.6	E
Northbound (Left Turn)	10.0	B	15.1	C
Southbound (Left Turn)	17.1	C	11.3	B
Ashland Avenue/38th Place²				
Eastbound	11.2	B	15.4	C
Ashland Avenue/Pershing Road¹				
Eastbound	36.4	D	32.5	C
Westbound	33.7	C	29.2	C
Northbound	42.6	D	30.2	C
Southbound	25.3	C	38.4	D
<i>Intersection</i>	<i>36.4</i>	<i>D</i>	<i>33.0</i>	<i>C</i>
¹ Signalized Intersection				
² Unsignalized Intersection				

Table 5. No-Build (Year 2024) Levels of Service (Continued)

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Pershing Road/Paulina Street²				
Eastbound (Left Turn)	10.1	B	10.4	B
Westbound (Left Turn)	8.6	A	9.1	A
Northbound	18.2	C	25.6	D
Southbound	19.1	C	25.3	D
Pershing Road/DWM Driveways²				
Westbound (Left Turn)	9.6	A	12.4	B
Northbound	78.9	F	85.3	F
Northeastbound	54.6	F	75.0	F
Southbound	34.0	D	29.3	D
Pershing Road/Iron Street²				
Eastbound (Left Turn)	13.4	B	14.5	B
Southbound	22.0	C	45.4	E
¹ Signalized Intersection				
² Unsignalized Intersection				

As the table shows, intersection approaches are expected to operate at similar levels of delay under Future No-Build conditions as they do under existing baseline conditions, with most approaches projected at an acceptable LOS D or better in both peak hours analyzed. As in the existing condition, several approaches are projected to operate at LOS E or LOS F, including the westbound approach of 38th Street during the morning peak, the eastbound approach of 38th Street during the evening peak, the eastern DWM driveway (shown above as northbound) in both peak hours, and the southbound approach of Iron Street during the evening peak hour. In some cases, LOS is projected to degrade from LOS D to LOS E or LOS F in the No-Build condition. This is projected to occur on the westbound approach of 38th Street in the evening peak hour (LOS D to LOS E) and on the western DWM driveway (shown above as northeastbound) in both peak hours (LOS C and LOS D to LOS F, respectively).

Future Build Conditions

To assess the impact of the proposed site on traffic operations within the study area, capacity analyses were performed for Year 2024 Build conditions. Consistent with No-Build conditions, no background improvements were included in Future Build analysis. However, several improvement measures were identified to accommodate site traffic and promote safe and efficient traffic operations.

As a part of this redevelopment, the existing driveway opposite the DWM driveways on Pershing Road would be used as Access 1 for the proposed site. As previously mentioned in this report, it is expected that inbound lefts at this driveway would be potentially difficult and unsafe due to a combination of heavy volume on Pershing Road and the absence of a dedicated left-turn lane. As such, it is recommended that the tenant of the proposed building communicate to employees and visitors that they are restricted from performing an inbound left turn at Access 1. Coordination with CDOT should be undertaken to determine the feasibility of installing signage formally prohibiting inbound left turns at Access 1. To provide a point of ingress for site-bound vehicles that would otherwise perform this inbound left turn, it is recommended that passenger vehicles be permitted to fully circulate within the site, including through the truck dock, to connect between Access 2 and the employee/visitor parking lot.

To accommodate employees arriving and departing from the site via bus routes on Ashland Avenue and Pershing Road, a pedestrian connection between the south parking lot and the sidewalk on the north side of Pershing Road is recommended. The connection should extend internally through the parking lot to the building’s primary pedestrian access point, including a marked crosswalk across the vehicular access to the parking lot

It was also assumed that both proposed access driveways would provide a single shared left/right-turn lane for outbound traffic with a single receiving lane and would operate under minor-leg stop-control. Based on these assumptions, the capacity results for the Year 2024 Build scenario are presented in **Table 6**.

Table 6. Future Build (Year 2024) Levels of Service

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Ashland Avenue/37th Street¹				
Eastbound	38.1	D	23.2	C
Westbound	44.2	D	49.0	D
Northbound	2.0	A	2.6	A
Southbound	2.4	A	6.9	A
<i>Intersection</i>	<i>3.1</i>	<i>A</i>	<i>6.9</i>	<i>A</i>
Ashland Avenue/38th Street²				
Eastbound	33.4	D	48.5	E
Westbound	>120	F	41.1	E
Northbound (Left Turn)	10.0	B	15.1	C
Southbound (Left Turn)	16.1	C	11.3	B

Table 6. Build (Year 2024) Levels of Service (Continued)

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Ashland Avenue/38th Place²				
Eastbound	11.2	B	15.4	C
Ashland Avenue/Pershing Road¹				
Eastbound	35.9	D	32.6	C
Westbound	33.6	C	29.3	C
Northbound	43.2	D	30.2	C
Southbound	25.1	C	38.8	D
<i>Intersection</i>	36.5	<i>D</i>	33.1	<i>C</i>
Pershing Road/Paulina Street²				
Eastbound (Left Turn)	10.1	B	10.4	B
Westbound (Left Turn)	8.6	A	9.1	A
Northbound	18.1	C	25.6	D
Southbound	19.1	C	25.3	D
Pershing Road/DWM Driveways/Access 1²				
Westbound (Left Turn)	13.5	B	19.9	C
Northbound	99.2	F	>120	F
Northeastbound	108.7	F	65.6	F
Southbound	31.8	D	66.5	F
Pershing Road/Iron Street²				
Eastbound (Left Turn)	13.4	B	14.6	B
Southbound	22.2	C	45.8	E
38th Street/Access 2²				
Westbound (Left Turn)	7.3	A	7.3	A
Northbound	8.6	A	8.9	A
¹ Signalized Intersection				
² Unsignalized Intersection				

With the addition of site traffic and the recommended improvements, area traffic operation is expected to largely remain consistent with No-Build conditions. While delays are projected to increase incrementally on approaches that would handle site traffic, most approaches are expected to remain at the same LOS between the No-Build and Build conditions. The exceptions are the southbound approach at Access 1, which is expected to drop from LOS D to LOS F during the evening peak hour, and the westbound left-turn movement into the DWM driveway, which is projected to drop from LOS B to LOS C in the evening peak hour. Despite high delay for outbound site traffic at Access 1, outbound 95th percentile queues on this driveway are projected to be approximately two vehicles or fewer during both the morning and evening peak hours. Based on these findings, it is anticipated that the proposed development would not meaningfully impact area traffic operation.

04. Recommendations & Conclusions

Based on the analyses detailed in this report, several recommendations were identified to accommodate site traffic within the study area and the site itself, as detailed below:

- Pershing Road and Access 1:
 - Restrict employees and visitors from performing an inbound left turn at Access 1 due to the previously outlined difficulties projected with inbound left-turning movements at this driveway. This should be communicated by the tenant to employees and visitors to promote awareness of the policy and the ability to connect to the on-site parking lot via Access 2 through the truck dock.
 - Coordinate with CDOT about the potential installation of signage at this access to formally prohibit inbound left-turns.
 - On the existing southbound approach, stripe to indicate one inbound and one outbound lane.
 - Post minor-leg stop-control on the southbound approach.
- At 38th Street and Access 2, provide one inbound and one outbound lane on the northbound approach and post minor-leg stop-control.
- Internal to the site:
 - As noted above, allow full internal circulation of the site by both passenger vehicles and trucks to promote the use of both access driveways.
 - Provide a pedestrian connection between the sidewalk on the north side of Pershing Road and the main building entrance. This should include a crosswalk across the vehicular access to the on-site parking lot.

With these recommendations in place, it is anticipated that the proposed development would not meaningfully impact area traffic operation.

APPENDIX

Site Plan

Historical Count Data Excerpted from Other Traffic Studies

ITE Trip Generation Excerpts

Trip Generation Comparison & 24-Hour Trip Projections

2050 CMAP Traffic Projections

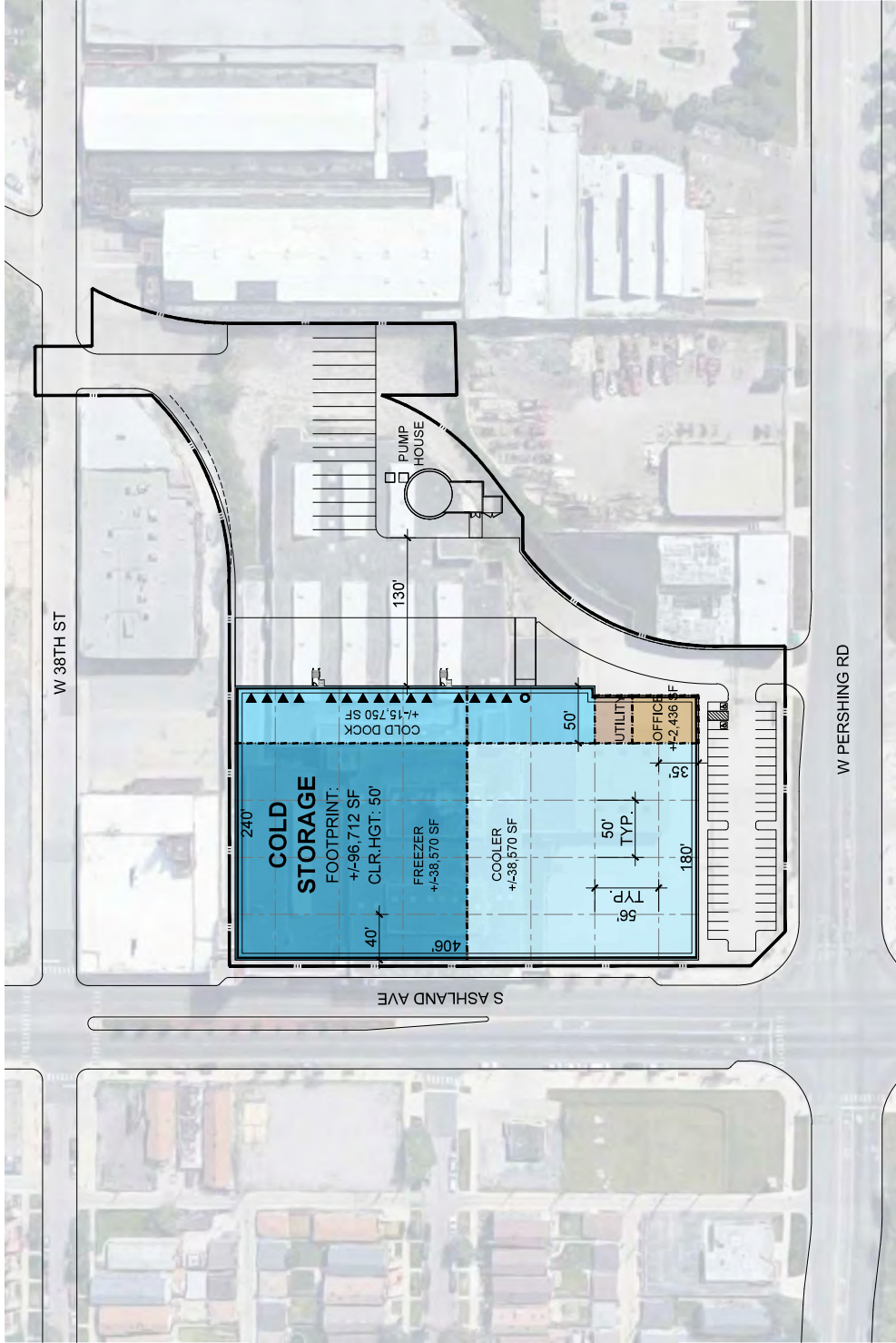
Background Development TISs

Capacity Analysis Results

Raw Traffic Data

**Sam
Schwartz**

Site Plan



PROJECT DATA:

SITE AREA:	5.02 AC
GROSS:	218,524 SF
NET:	5.02 AC
	218,524 SF

DEVELOPMENT STANDARDS:

ZONING:	PM08
MAX. F.A.R.:	3.00
LANDSCAPE REQ.:	10%
OFF-STREET PARKING:	8X18
STANDARD:	22 FT
DRIVE AISLE:	26 FT
FIRE LANE:	2 FT
OVERHANG:	8 FT
TREE WELL:	8 FT

REQ. PARKING RATIO BY USE:

WAREHOUSE:	1/4temp
OFFICE:	1/500 SF

NOTES:

1. Based on the use schedule of
2. Maximum 4.5 ft above 1.75% slope + 1.5%.

REQUIREMENTS:

PARKING REQUIRED:	1/4temp	TBD
WAREHOUSE:	1/500 SF	0 STALLS
TOTAL:		0 STALLS

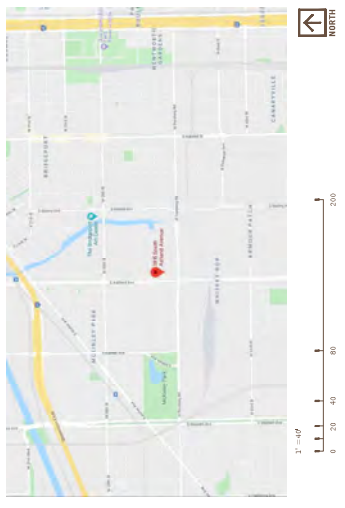
PARKING PROVIDED:

AUTO:	48 STALLS
REQ. ACCESSIBLE:	@0.5/1000 SF
TRAILER:	2 STALLS
TRUCK DOCKS:	12 STALLS
15 DOCK-HIGH DOORS	
1 GRADE-LEVEL DOORS	

This conceptual design is based upon a preliminary review of entitlement requirements and on site analysis building information, and is intended merely to assist in development of the project. It is not to be used for the project's final design.

Stormwater Management Design SYSTEM TO UNDERGROUND

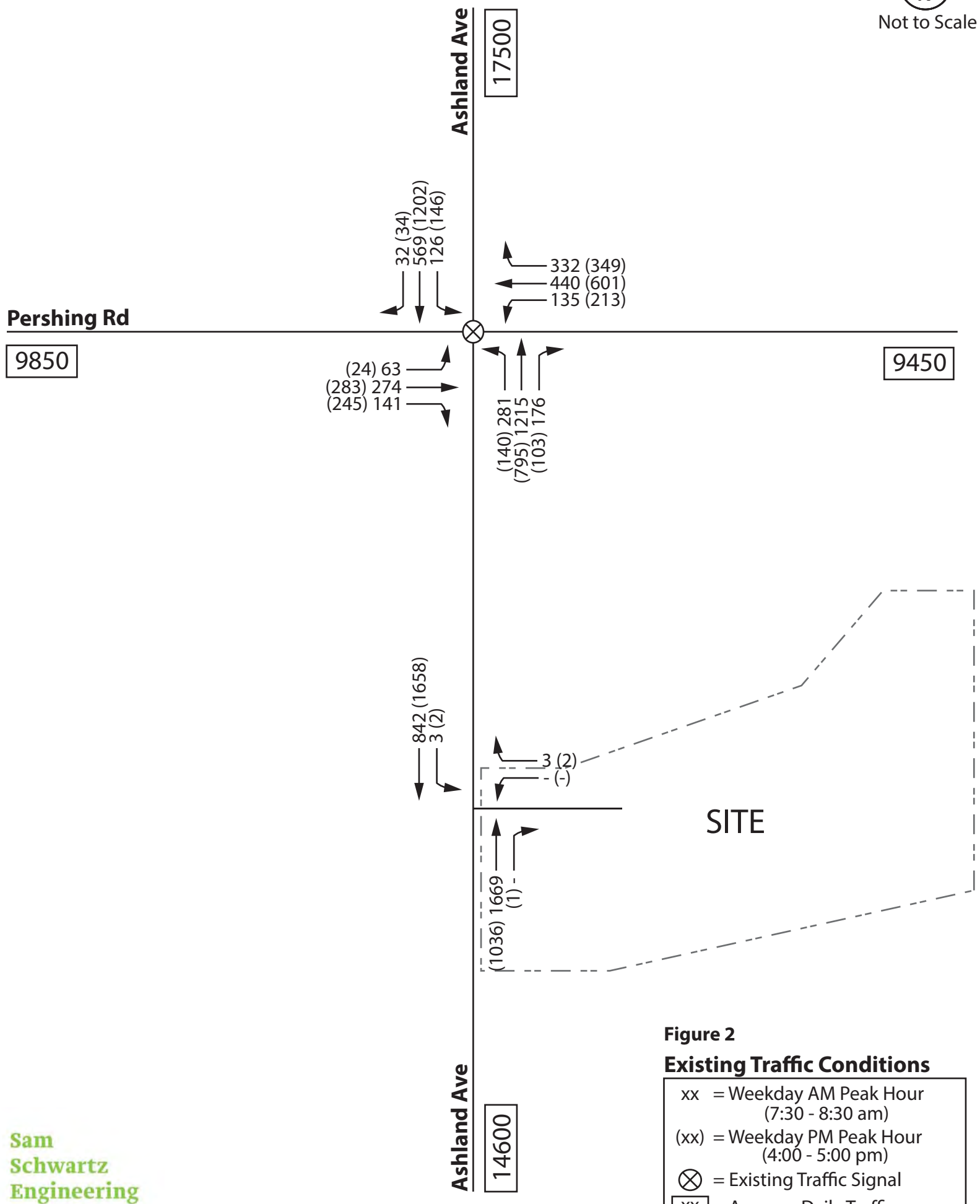
Boundary Source: GIS MAP & AERIAL IMAGE



**Historical Count Data Excerpted from Other Traffic
Studies**



Not to Scale



Sam Schwartz Engineering D.P.C.

Sam Schwartz Engineering (IL)

1000 W. Irving Park Rd., Suite 130
Itasca, IL, Illinois, United States 60143
630.213.1000 mritrosi@samschwartz.com
Ingenuity . Accessibility . Integrity

Count Name: Ashland Ave. @39Th. St.
Site Code:
Start Date: 10/31/2017
Page No: 1

Turning Movement Data

Start Time	Ashland Ave. Southbound						39Th. St. Westbound						Ashland Ave. Northbound						39Th. St. Eastbound												
	Right	Left	U-Turn	Peds	App. Total	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right on Red	Thru	Left	U-Turn	Peds	App. Total								
	on Red																														
7:00 AM	5	1	99	24	0	2	129	57	12	85	30	0	1	184	22	2	345	51	0	0	0	0	420	19	6	64	8	0	1	97	830
7:15 AM	5	0	126	29	0	2	160	61	9	101	36	0	3	207	40	4	340	66	0	4	450	18	4	79	12	0	0	0	113	930	
7:30 AM	5	0	141	30	0	0	176	64	12	121	33	0	2	230	43	2	320	73	0	4	438	21	11	78	10	0	0	0	120	964	
7:45 AM	7	0	139	27	0	8	173	76	11	136	47	0	2	270	39	2	325	80	0	1	446	27	3	65	17	0	0	0	112	1001	
Hourly Total	22	1	505	110	0	12	638	258	44	443	146	0	8	891	144	10	1330	270	0	9	1754	85	24	286	47	0	1	442	3725		
8:00 AM	7	0	131	35	0	1	173	66	19	89	26	0	0	200	32	4	285	63	0	0	384	29	13	66	19	0	0	0	127	884	
8:15 AM	13	0	158	34	0	2	205	70	14	94	29	0	0	207	53	1	285	65	0	0	404	31	6	65	17	0	2	119	935		
8:30 AM	3	1	139	39	0	3	182	54	15	81	27	0	2	177	29	2	279	31	0	4	341	22	10	60	11	0	2	103	803		
8:45 AM	7	0	119	28	0	4	154	43	19	57	27	0	1	146	25	0	232	26	0	0	283	11	19	58	12	0	2	100	683		
Hourly Total	30	1	547	136	0	10	714	233	67	321	109	0	3	730	139	7	1081	185	0	4	1412	93	48	249	59	0	6	449	3305		
9:00 AM	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	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Hourly Total	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
4:00 PM	8	0	295	29	0	2	332	101	9	147	54	0	3	311	21	2	197	37	0	1	257	73	4	75	2	0	0	0	154	1054	
4:15 PM	3	2	285	38	0	1	328	66	9	160	58	0	2	293	28	4	191	39	0	1	262	68	1	63	9	0	1	141	1024		
4:30 PM	10	0	310	42	0	4	362	70	7	161	48	0	2	286	20	2	204	37	0	1	263	49	1	71	7	0	1	128	1039		
4:45 PM	10	1	312	37	0	1	360	77	10	133	53	0	0	273	25	1	203	27	0	1	256	44	5	74	6	0	0	129	1018		
Hourly Total	31	3	1202	146	0	8	1382	314	35	601	213	0	7	1163	94	9	795	140	0	4	1038	234	11	283	24	0	2	552	4135		
5:00 PM	8	0	329	35	0	0	372	75	24	163	47	0	5	309	24	2	152	27	0	0	205	48	7	62	6	0	0	123	1009		
5:15 PM	5	0	316	35	0	1	356	72	18	169	64	0	1	323	21	0	162	25	0	2	208	30	2	60	9	0	2	101	988		
5:30 PM	13	0	292	27	0	1	332	56	14	101	57	0	3	228	21	1	161	31	0	2	214	34	7	57	5	0	3	103	877		
5:45 PM	15	0	269	36	0	6	320	71	13	153	58	0	0	295	21	4	164	25	0	1	214	36	10	36	8	0	0	90	919		
Hourly Total	41	0	1206	133	0	8	1380	274	69	586	226	0	9	1155	87	7	639	108	0	5	841	148	26	215	28	0	5	417	3793		
6:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	4	4	0	0	0	0	0	0	0	6	
Grand Total	124	5	3462	525	0	38	4116	1079	215	1951	694	0	27	3939	466	33	3847	703	0	22	5049	560	109	1033	158	0	14	1860	14964		
Approach %	3.0	0.1	84.1	12.8	0.0	-	-	27.4	5.5	49.5	17.6	0.0	-	-	9.2	0.7	76.2	13.9	0.0	-	-	30.1	5.9	55.5	8.5	0.0	-	-	-	-	
Total %	0.8	0.0	23.1	3.5	0.0	-	27.5	7.2	1.4	13.0	4.6	0.0	-	26.3	3.1	0.2	25.7	4.7	0.0	-	33.7	3.7	0.7	6.9	1.1	0.0	-	12.4	-	-	
Lights	113	3	3219	448	0	-	3783	899	184	1812	636	0	-	3531	418	24	3566	678	0	-	4686	532	107	953	140	0	-	1732	13732		
% Lights	91.1	60.0	93.0	85.3	-	-	91.9	83.3	85.6	92.9	91.6	-	-	89.6	89.7	72.7	92.7	96.4	-	-	92.8	95.0	98.2	92.3	88.6	-	-	93.1	91.8		
Buses	2	0	47	3	0	-	52	33	8	31	2	0	-	74	1	0	69	3	0	-	73	1	0	22	1	0	-	24	223		
% Buses	1.6	0.0	1.4	0.6	-	-	1.3	3.1	3.7	1.6	0.3	-	-	1.9	0.2	0.0	1.8	0.4	-	-	1.4	0.2	0.0	2.1	0.6	-	-	1.3	1.5		
Trucks	9	2	193	74	0	-	278	147	23	105	56	0	-	331	46	9	212	22	0	-	289	27	2	58	16	0	-	103	1001		
% Trucks	7.3	40.0	5.6	14.1	-	-	6.8	13.6	10.7	5.4	8.1	-	-	8.4	9.9	27.3	5.5	3.1	-	-	5.7	4.8	1.8	5.6	10.1	-	-	5.5	6.7		
Bicycles on Road	0	0	3	0	0	-	3	0	0	3	0	0	-	3	1	0	0	0	0	-	1	0	0	0	1	0	-	1	8		
% Bicycles on Road	0.0	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.2	0.0	-	-	0.1	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.6	-	-	0.1	0.1		

ITE Trip Generation Excerpts

Warehousing (150)

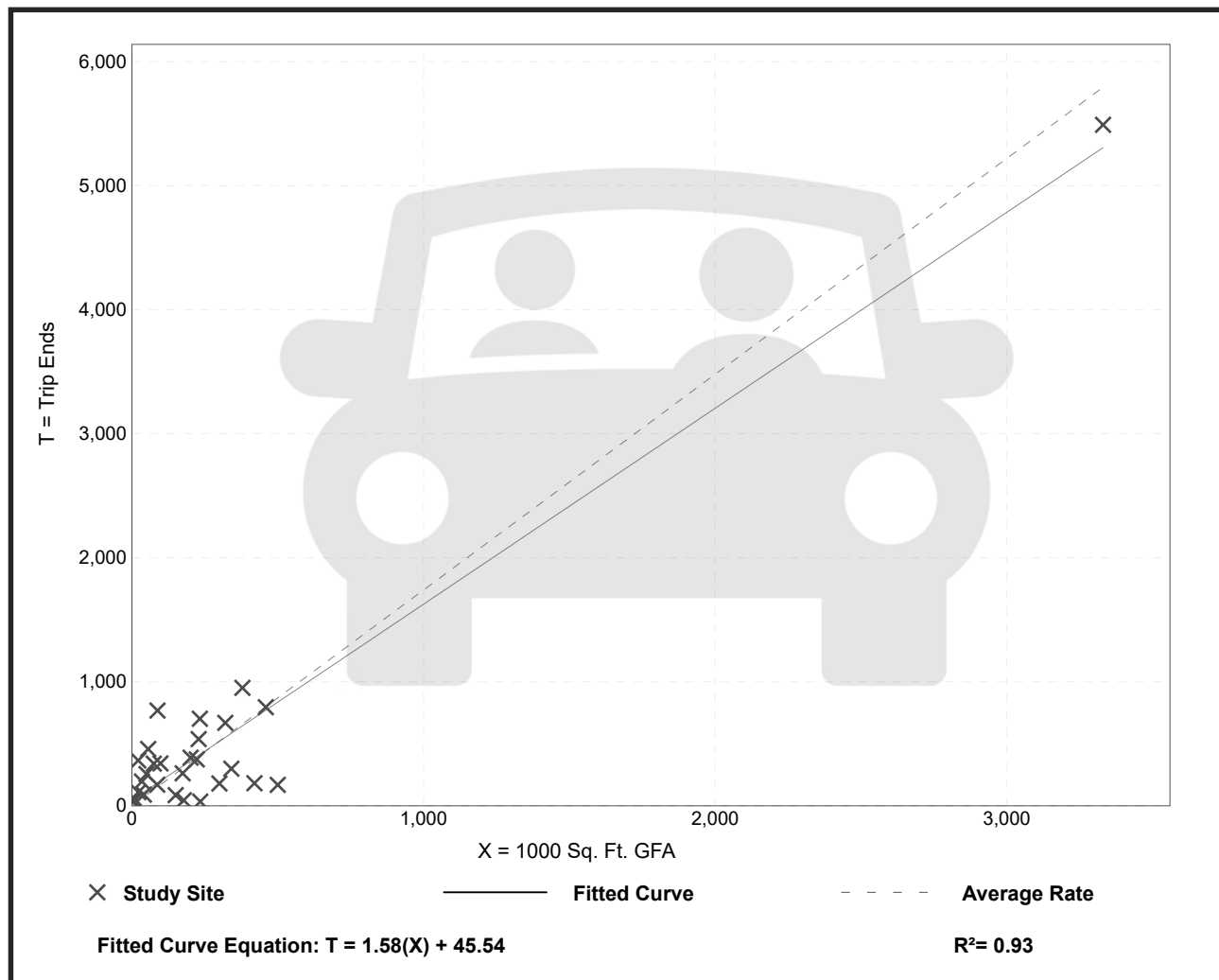
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 29
Avg. 1000 Sq. Ft. GFA: 285
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

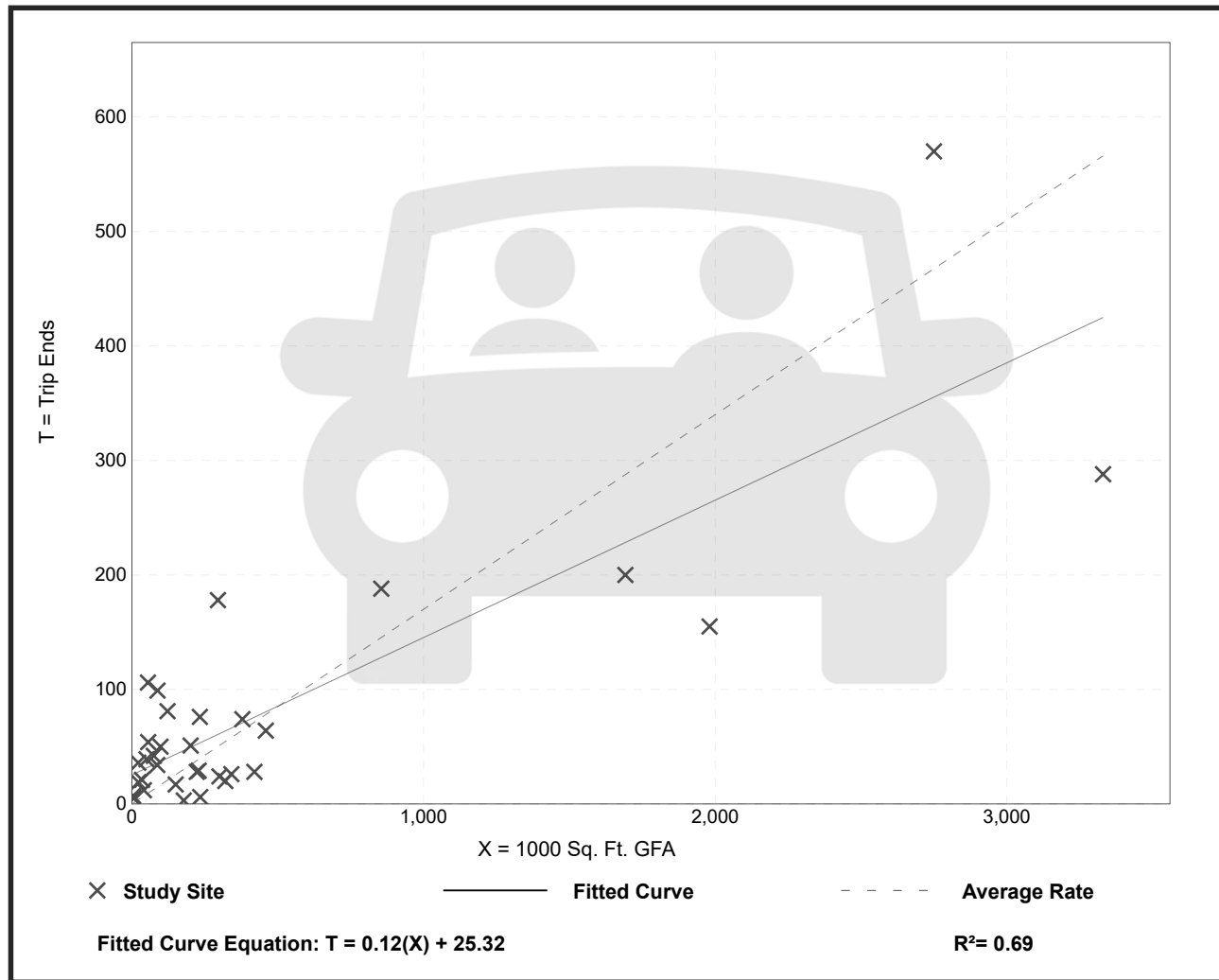
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 34
 Avg. 1000 Sq. Ft. GFA: 451
 Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

Data Plot and Equation



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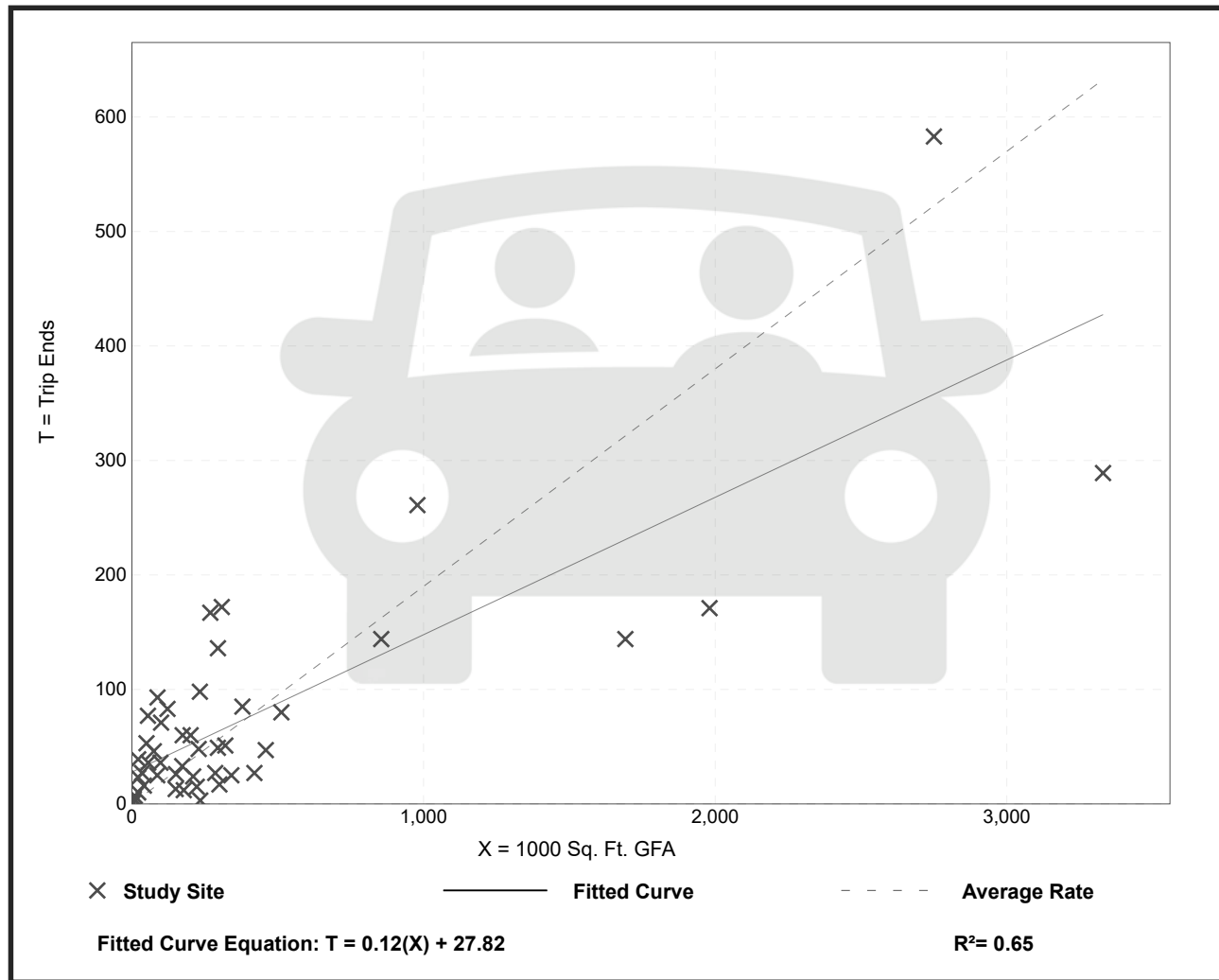
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 47
 Avg. 1000 Sq. Ft. GFA: 400
 Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



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Warehousing (150)

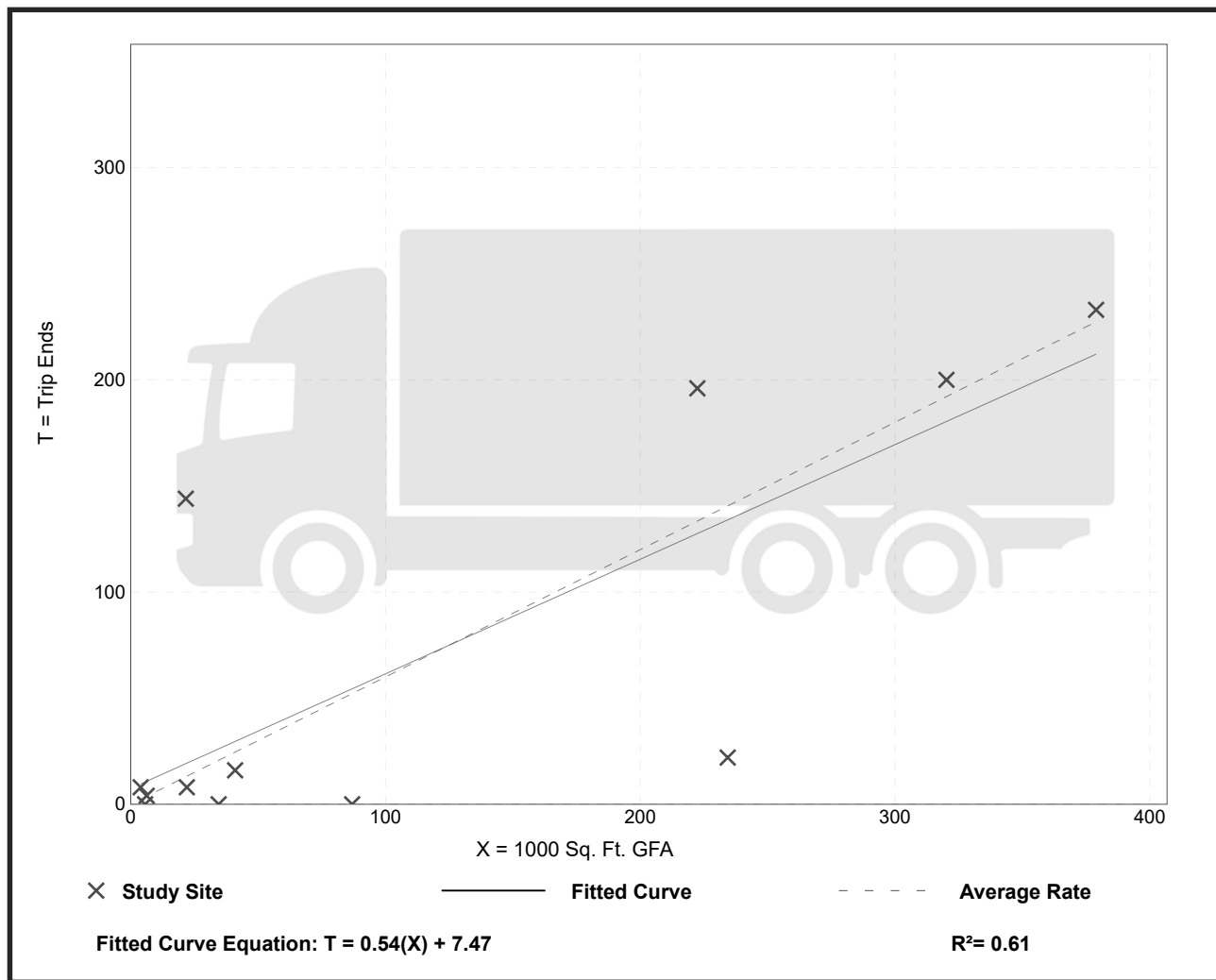
Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
 Number of Studies: 12
 Avg. 1000 Sq. Ft. GFA: 115
 Directional Distribution: 50% entering, 50% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.60	0.00 - 6.66	0.86

Data Plot and Equation



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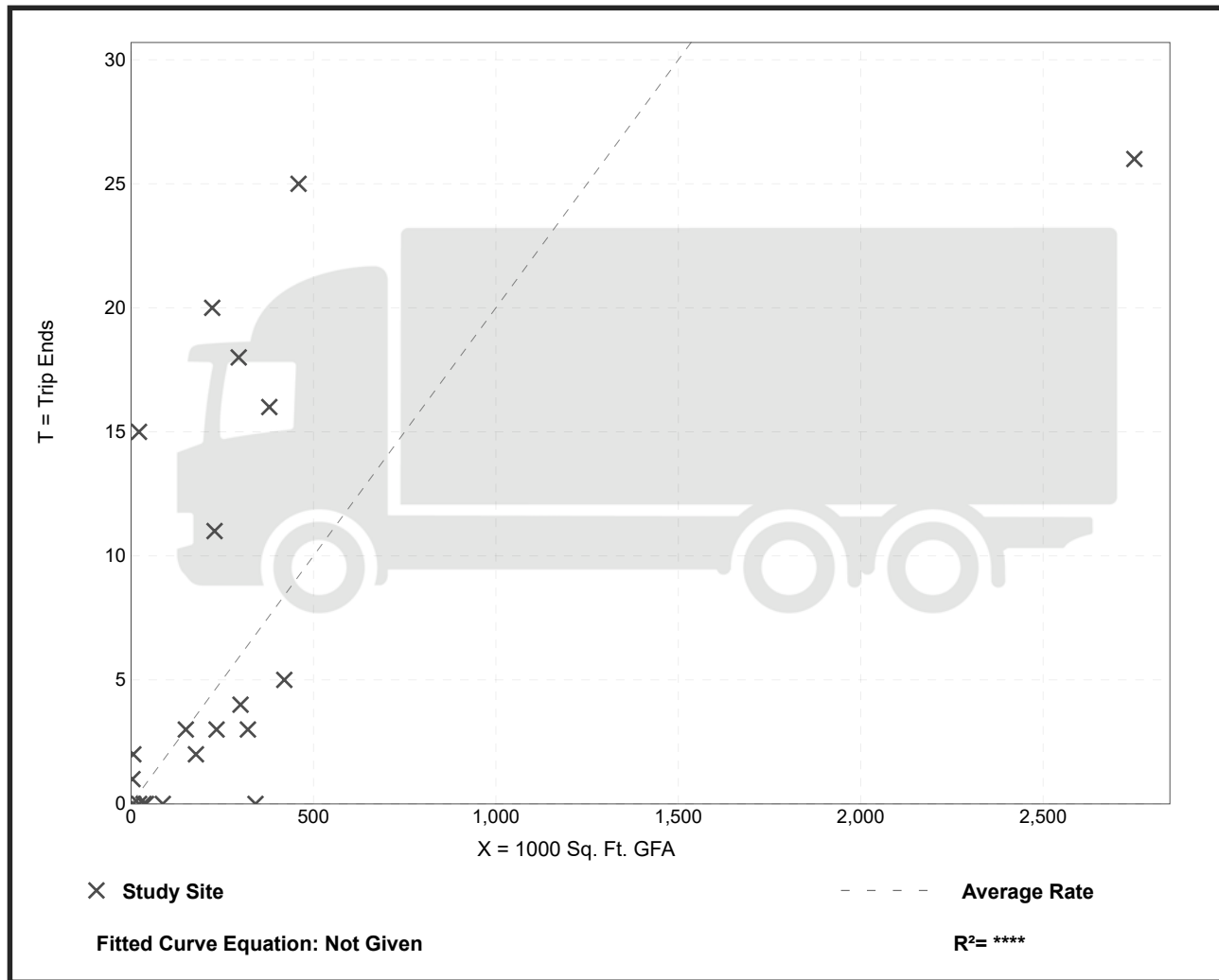
Warehousing (150)

Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 21
 Avg. 1000 Sq. Ft. GFA: 309
 Directional Distribution: 52% entering, 48% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.02	0.00 - 0.69	0.05

Data Plot and Equation



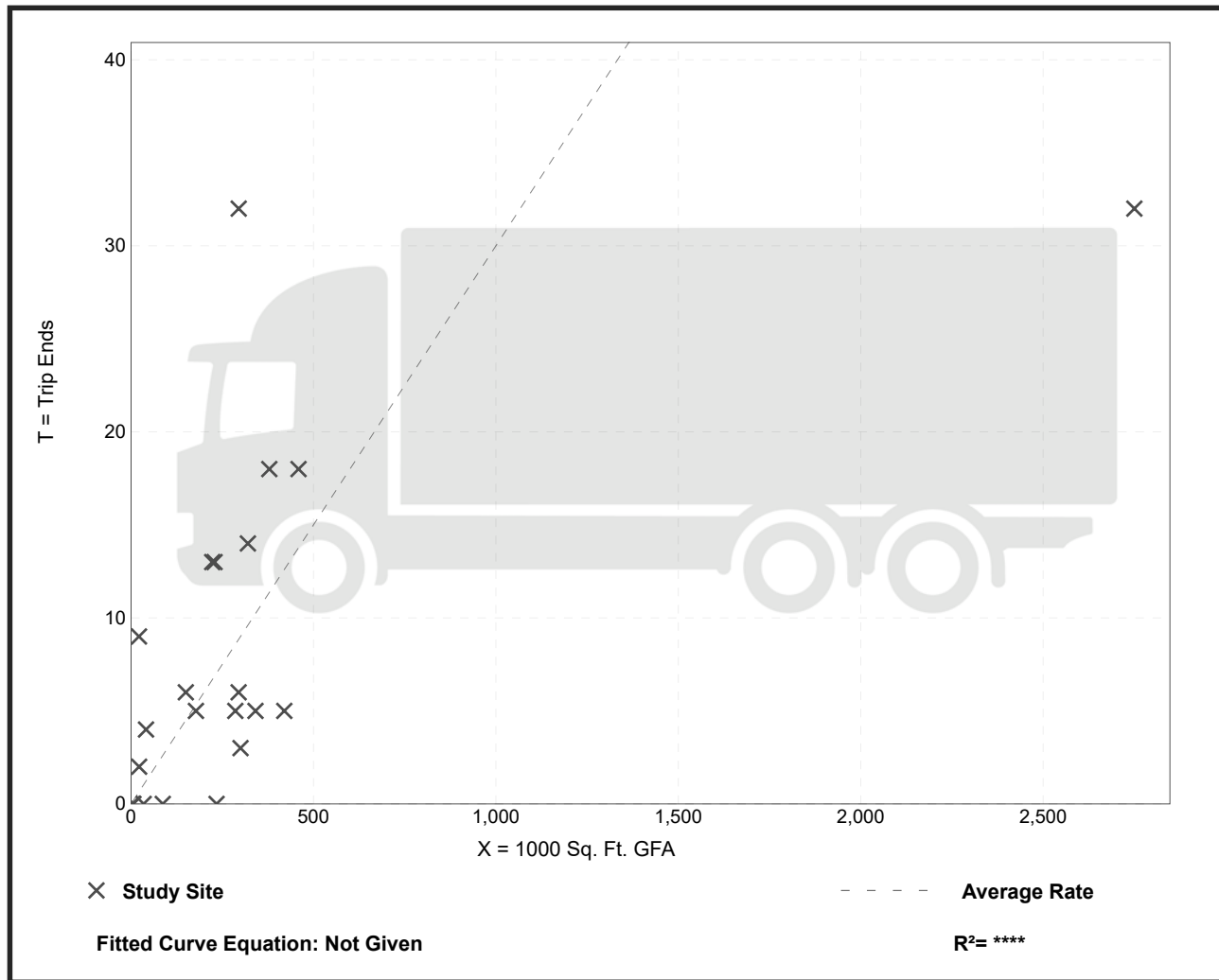
Warehousing (150)

Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 23
 Avg. 1000 Sq. Ft. GFA: 308
 Directional Distribution: 52% entering, 48% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.03	0.00 - 0.42	0.03

Data Plot and Equation



High-Cube Cold Storage Warehouse (157)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

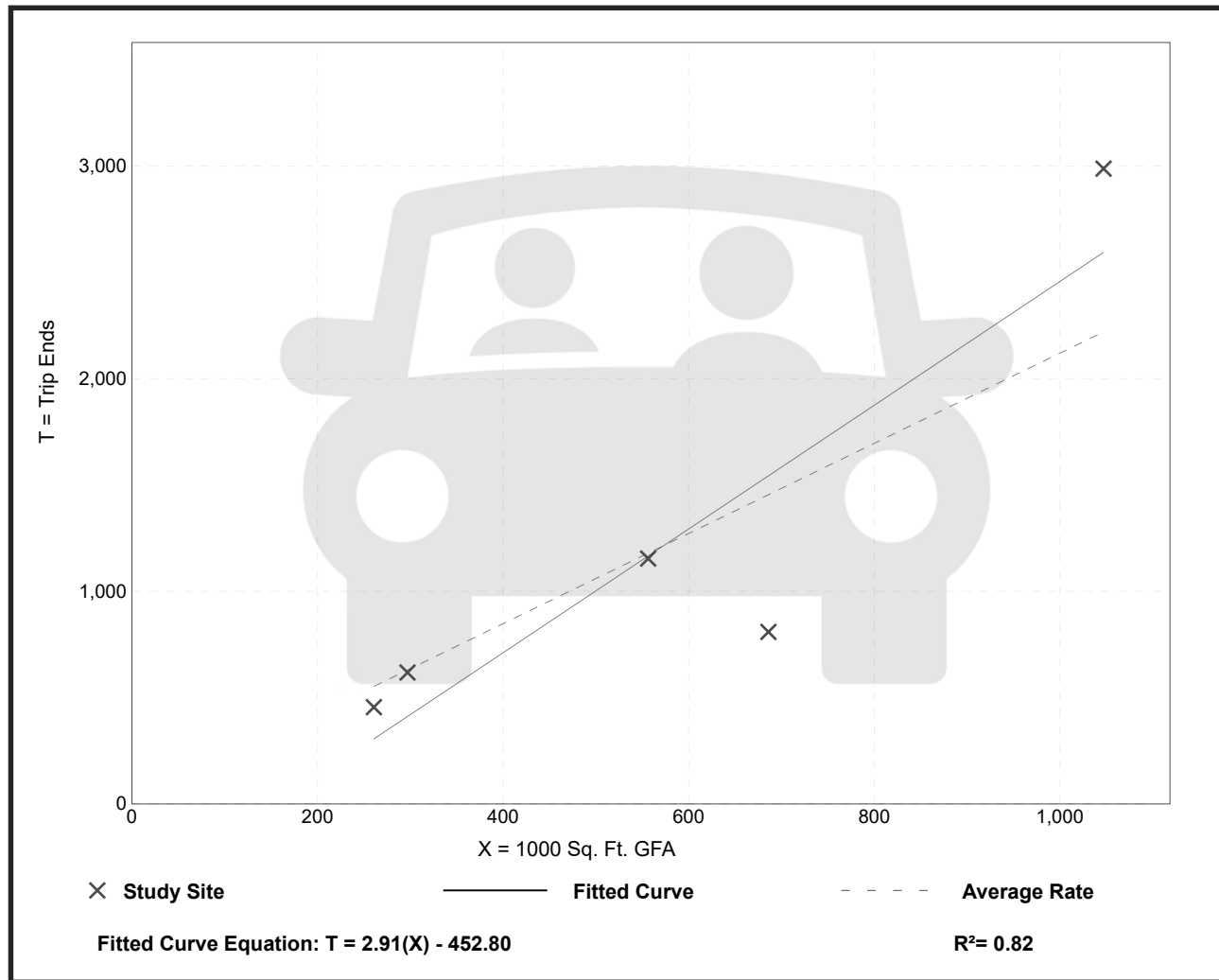
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 569
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.12	1.18 - 2.85	0.73

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Cube Cold Storage Warehouse (157)

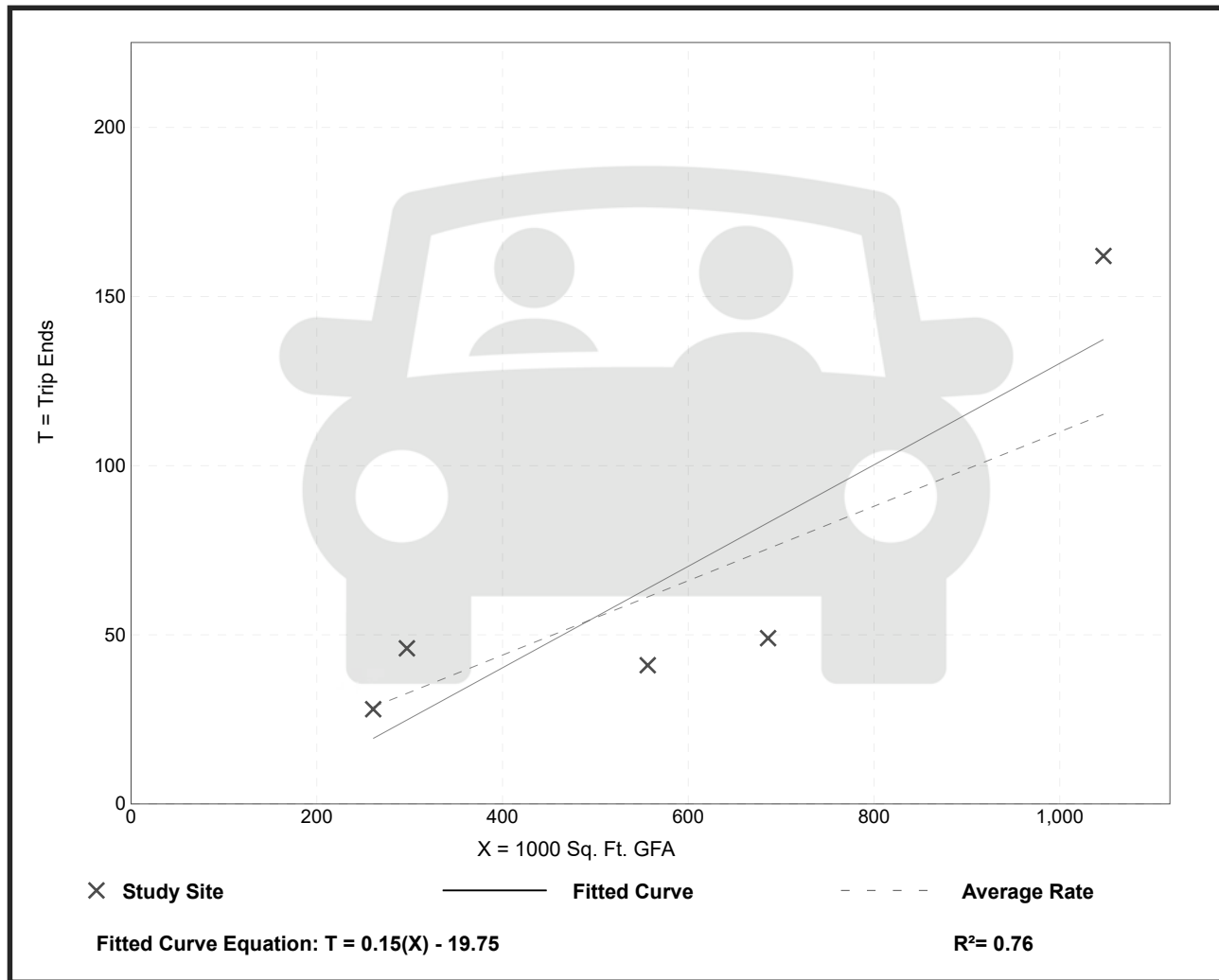
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GFA: 569
 Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.11	0.07 - 0.15	0.04

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Cube Cold Storage Warehouse (157)

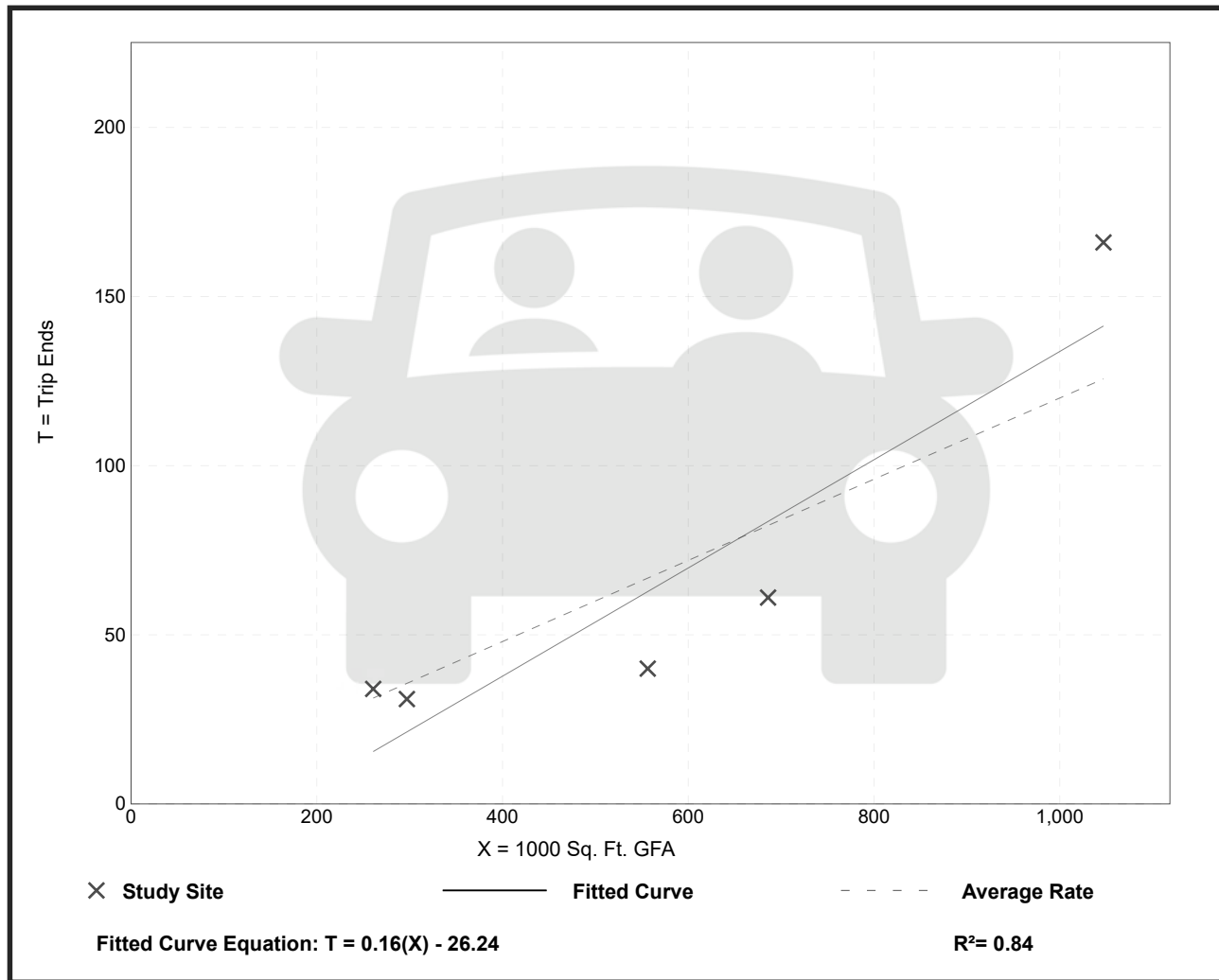
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GFA: 569
 Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.12	0.07 - 0.16	0.04

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Cube Cold Storage Warehouse (157)

Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

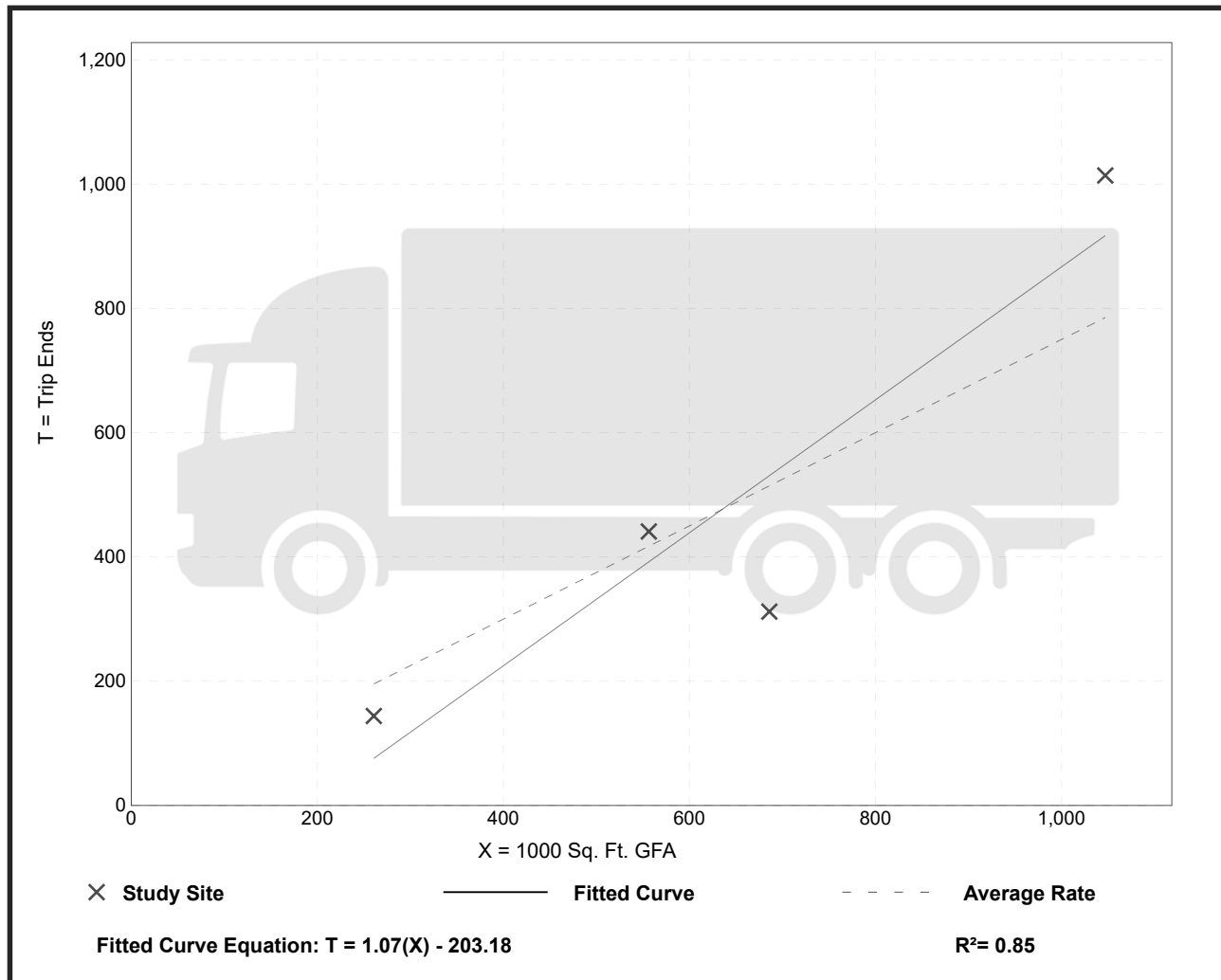
Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 638
Directional Distribution: 50% entering, 50% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.75	0.45 - 0.97	0.25

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Cube Cold Storage Warehouse (157)

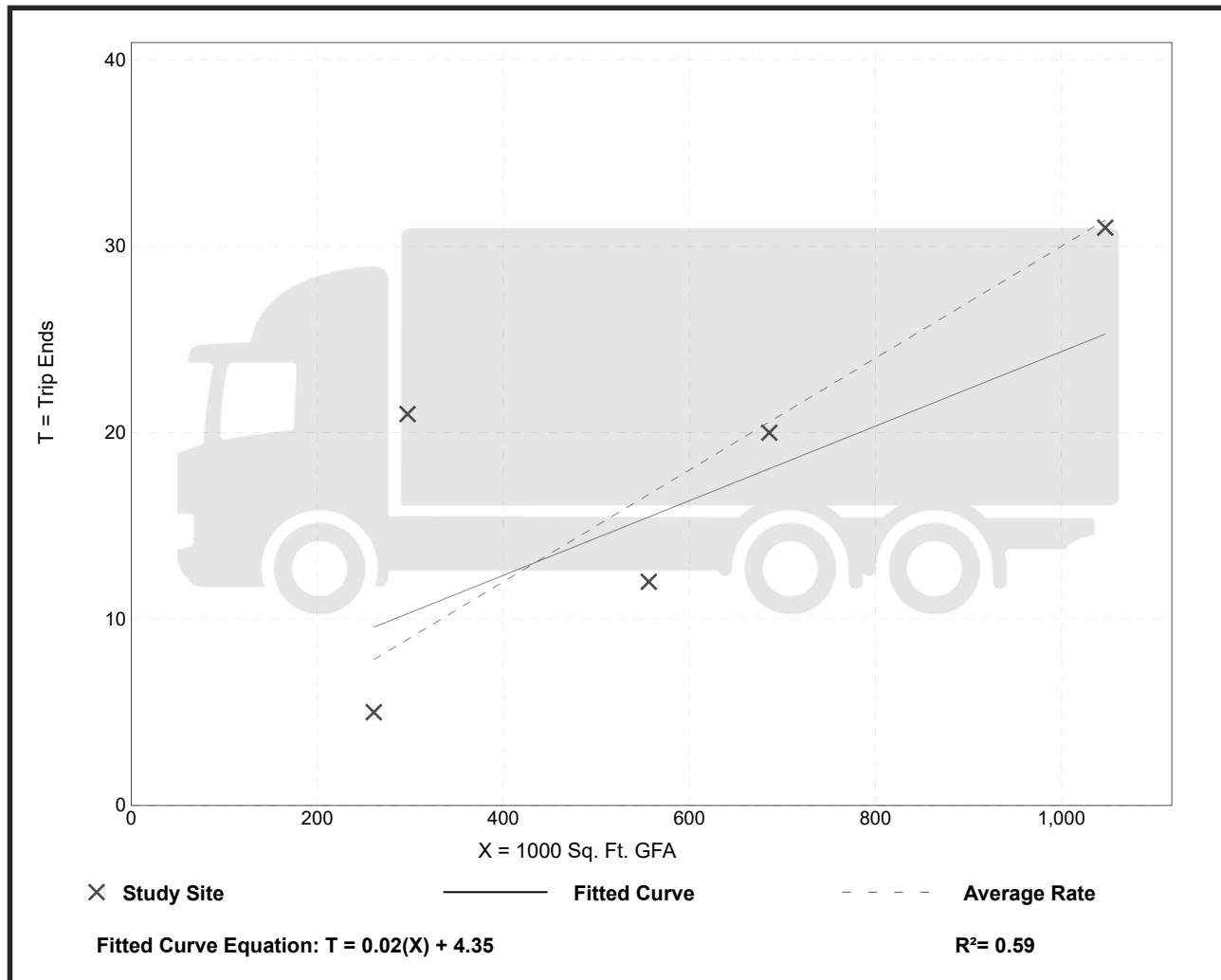
Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GFA: 569
 Directional Distribution: 33% entering, 67% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.03	0.02 - 0.07	0.02

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Cube Cold Storage Warehouse (157)

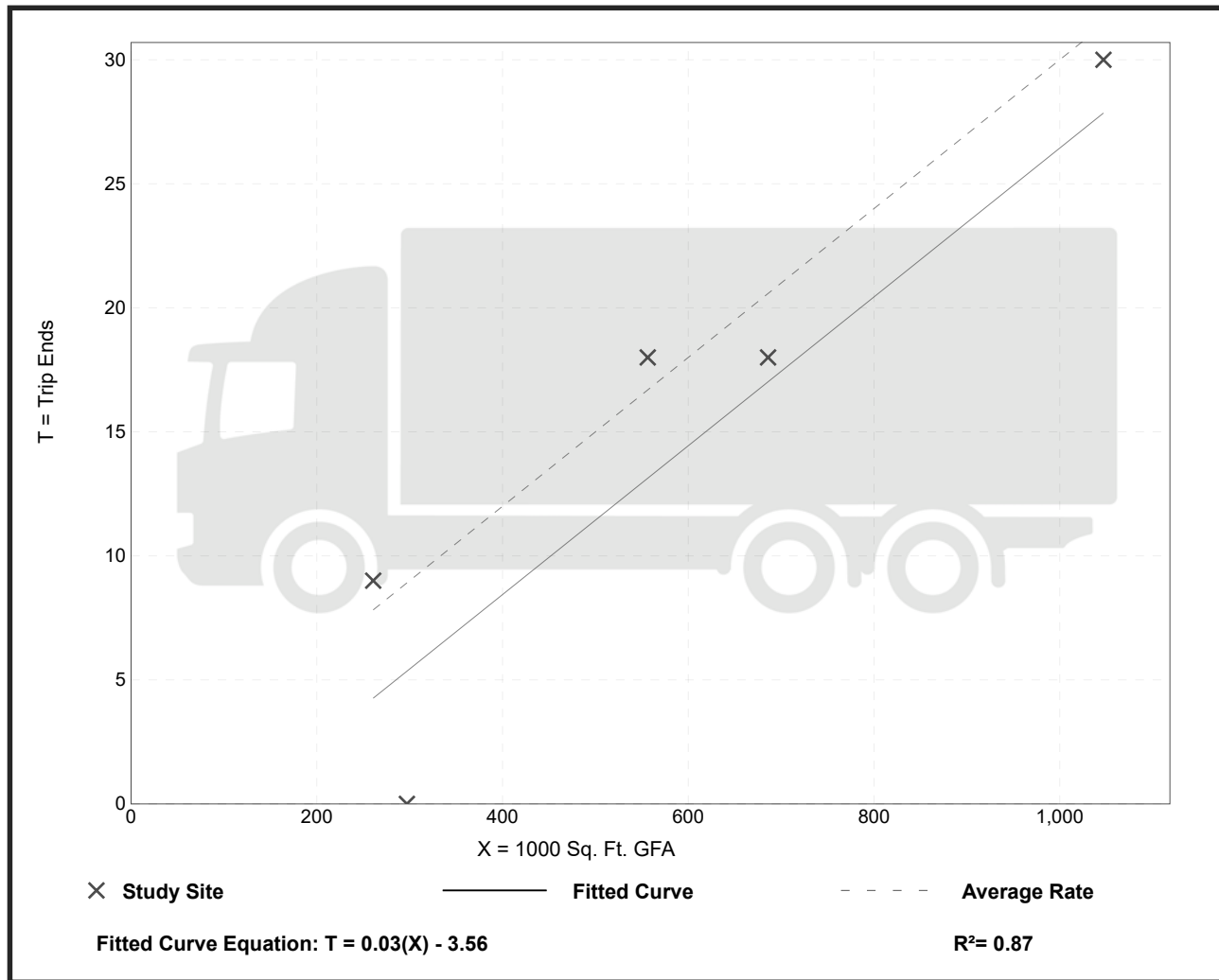
Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GFA: 569
 Directional Distribution: Not Available

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.03	0.00 - 0.03	0.01

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE Trip Generation Manual, 11th Edition

Land Use Code	150		
Land Use	Warehousing		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	15		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.2%	0.4%
1:00 - 2:00 AM	0.5%	0.2%	0.8%
2:00 - 3:00 AM	0.3%	0.2%	0.4%
3:00 - 4:00 AM	0.5%	0.5%	0.5%
4:00 - 5:00 AM	1.2%	1.2%	1.2%
5:00 - 6:00 AM	3.0%	3.9%	2.2%
6:00 - 7:00 AM	5.9%	9.0%	2.8%
7:00 - 8:00 AM	6.5%	8.6%	4.6%
8:00 - 9:00 AM	6.2%	7.6%	4.9%
9:00 - 10:00 AM	7.2%	8.8%	5.7%
10:00 - 11:00 AM	6.0%	6.0%	6.0%
11:00 - 12:00 PM	7.3%	7.2%	7.4%
12:00 - 1:00 PM	8.7%	9.6%	7.8%
1:00 - 2:00 PM	6.2%	6.7%	5.6%
2:00 - 3:00 PM	7.1%	7.9%	6.2%
3:00 - 4:00 PM	9.0%	6.4%	11.4%
4:00 - 5:00 PM	7.4%	5.0%	9.7%
5:00 - 6:00 PM	6.8%	4.7%	8.8%
6:00 - 7:00 PM	3.8%	1.9%	5.6%
7:00 - 8:00 PM	1.3%	1.0%	1.5%
8:00 - 9:00 PM	0.8%	0.8%	0.9%
9:00 - 10:00 PM	2.3%	0.7%	3.8%
10:00 - 11:00 PM	0.9%	1.3%	0.5%
11:00 - 12:00 AM	0.9%	0.6%	1.2%

Hourly Distribution of Entering and Exiting Truck Trips by Land Use

Source: ITE Trip Generation Manual, 11th Edition

Land Use Code	150		
Land Use	Warehousing		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	11		
	% of 24-Hour Truck Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.3%	0.3%	0.3%
1:00 - 2:00 AM	0.2%	0.3%	0.0%
2:00 - 3:00 AM	1.3%	1.3%	1.2%
3:00 - 4:00 AM	1.3%	1.9%	0.6%
4:00 - 5:00 AM	2.4%	1.9%	2.8%
5:00 - 6:00 AM	3.5%	3.8%	3.1%
6:00 - 7:00 AM	4.4%	5.7%	3.1%
7:00 - 8:00 AM	5.3%	3.5%	7.2%
8:00 - 9:00 AM	5.5%	4.8%	6.2%
9:00 - 10:00 AM	9.9%	13.3%	6.5%
10:00 - 11:00 AM	9.7%	8.9%	10.6%
11:00 - 12:00 PM	11.2%	11.7%	10.6%
12:00 - 1:00 PM	6.8%	8.9%	4.7%
1:00 - 2:00 PM	8.0%	9.2%	6.9%
2:00 - 3:00 PM	6.1%	7.0%	5.3%
3:00 - 4:00 PM	9.3%	11.7%	6.9%
4:00 - 5:00 PM	6.9%	8.3%	5.6%
5:00 - 6:00 PM	3.9%	3.8%	4.0%
6:00 - 7:00 PM	0.9%	1.0%	0.9%
7:00 - 8:00 PM	0.6%	0.6%	0.6%
8:00 - 9:00 PM	1.6%	1.9%	1.2%
9:00 - 10:00 PM	0.8%	0.3%	1.2%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.2%	0.3%	0.0%

Trip Generation Comparison & 24-Hour Trip Projections

Trip Generation Comparison

Table A1: Trip Generation Comparison Data

Land Use	Vehicle Type	Daily	Weekday AM Peak	Weekday PM Peak
High-Cube Cold Storage Warehouse (LUC 157)	Total Vehicle Trips	T = 2.12(X) 50% in / 50% out	T = 0.11(X) 77% in / 23% out ¹	T = 0.12(X) 27% in / 73% out ¹
	Truck Trips	T = 0.75(X) 50% in / 50% out	T = 0.03(X) 33% in / 67% out	T = 0.03(X) 52% in / 48% out ¹
Warehousing (LUC 150)	Total Vehicle Trips	T = 1.58(X) + 45.54 50% in / 50% out	T = 0.17(X) 77% in / 23% out	T = 0.19(X) 27% in / 73% out
	Truck Trips	T = 0.60(X) 50% in / 50% out	T = 0.02(X) 52% in / 48% out	T = 0.03(X) 52% in / 48% out

T = Trips Generated

X = Gross square feet of floor area (per 1,000 sq. ft.)

¹No in/out percentages provided. Referenced LUC 150

Table A2: Projected Site-Generated Trips

Land Use	Size	Vehicle Type	Daily	Weekday AM Peak			Weekday PM Peak		
				IN	OUT	TOTAL	IN	OUT	TOTAL
High-Cube Cold Storage Warehouse (LUC 157)	96,712 sq. ft.	Cars	140	5	-	5	-	10	10
		Trucks	70	5	-	5	5	-	5
		Total	210	10	-	10	5	10	15
Warehousing (LUC 150)	96,712 sq. ft.	Cars	140	15	5	20	-	15	15
		Trucks	60	-	-	-	5	-	5
		Total	200	15	5	20	5	15	20

Trip projections for the proposed site were also estimated for each of the 24 hours of a typical weekday. It should be noted that since the original submittal of this study, ITE's *Trip Generation, 11th Edition* was published, which includes additional time-of-day distribution information specific to LUC 150. As such, hourly trip generation projections were calculated using the time-of-day distribution tables for total vehicles and trucks provided in the appendices of *11th Edition*. Hourly vehicle trips are shown in **Table A3**. For the 7:00AM hour, site-traffic projections in the below table default to the more conservative values calculated using ITE data for the weekday AM peak hour of adjacent street traffic (also 7:00-8:00AM). Since the weekday evening peak hour of adjacent traffic (3:15-4:15PM) does not align with the 24-hour projection hours, the more conservative values calculated at 3:00PM and 4:00PM were utilized.

Table A3: Hourly Projected Site-Generated Trips

Time	Passenger Cars	Trucks	Total
12:00AM – 1:00AM	-	-	-
1:00AM – 2:00AM	1	-	1
2:00AM – 3:00AM	-	1	1
3:00AM – 4:00AM	-	1	1
4:00AM – 5:00AM	1	1	2
5:00AM – 6:00AM	4	2	6
6:00AM – 7:00AM	9	3	12
7:00AM – 8:00AM ¹	15	2	17
8:00AM – 9:00AM	8	3	11
9:00AM – 10:00AM	8	6	14
10:00AM – 11:00AM	6	6	12
11:00AM – 12:00PM	7	7	14
12:00PM – 1:00PM	13	4	17
1:00PM – 2:00PM	7	5	12
2:00PM – 3:00PM	10	4	14
3:00PM – 4:00PM	12	6	18
4:00PM – 5:00PM	11	4	15
5:00PM – 6:00PM	10	3	13
6:00PM – 7:00PM	7	1	8
7:00PM – 8:00PM	2	-	2
8:00PM – 9:00PM	1	1	2
9:00PM – 10:00PM	4	-	4
10:00PM – 11:00PM	2	-	2
11:00PM – 12:00AM	2	-	2
Total	140	60	200

¹7:00AM values are rounded to the nearest whole vehicle instead of to the nearest five vehicles, as reported in the study

**Sam
Schwartz**

2050 CMAP Traffic Projections



Chicago Metropolitan Agency for Planning

433 West Van Buren Street
Suite 450
Chicago, IL 60607
312-454-0400
cmap.illinois.gov

May 11, 2021

Kyle Sant, P.E., PTOE
Transportation Engineer
Sam Schwartz Engineering
223 West Jackson Boulevard
Suite 1101
Chicago, IL 60606

Subject: Ashland Avenue @ Pershing Road
IDOT

Dear Mr. Sant:

In response to a request made on your behalf and dated May 10, 2021, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Existing ADT	Year 2050 ADT
Ashland Ave. n/o Pershing Rd.	26,100	32,100
Ashland Ave. s/o Pershing Rd.	26,900	34,300
Pershing Rd. w/o Ashland Ave.	13,000	16,200
Pershing Rd. e/o Ashland Ave.	16,500	18,300
Iron St. n/o Pershing Rd.	2,450	3,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2020 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

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

Sincerely,

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

cc: Rios (IDOT)
\\2021_CY_TrafficForecast\Chicago\ck-59-21\ck-59-21.docx

Background Development TISs

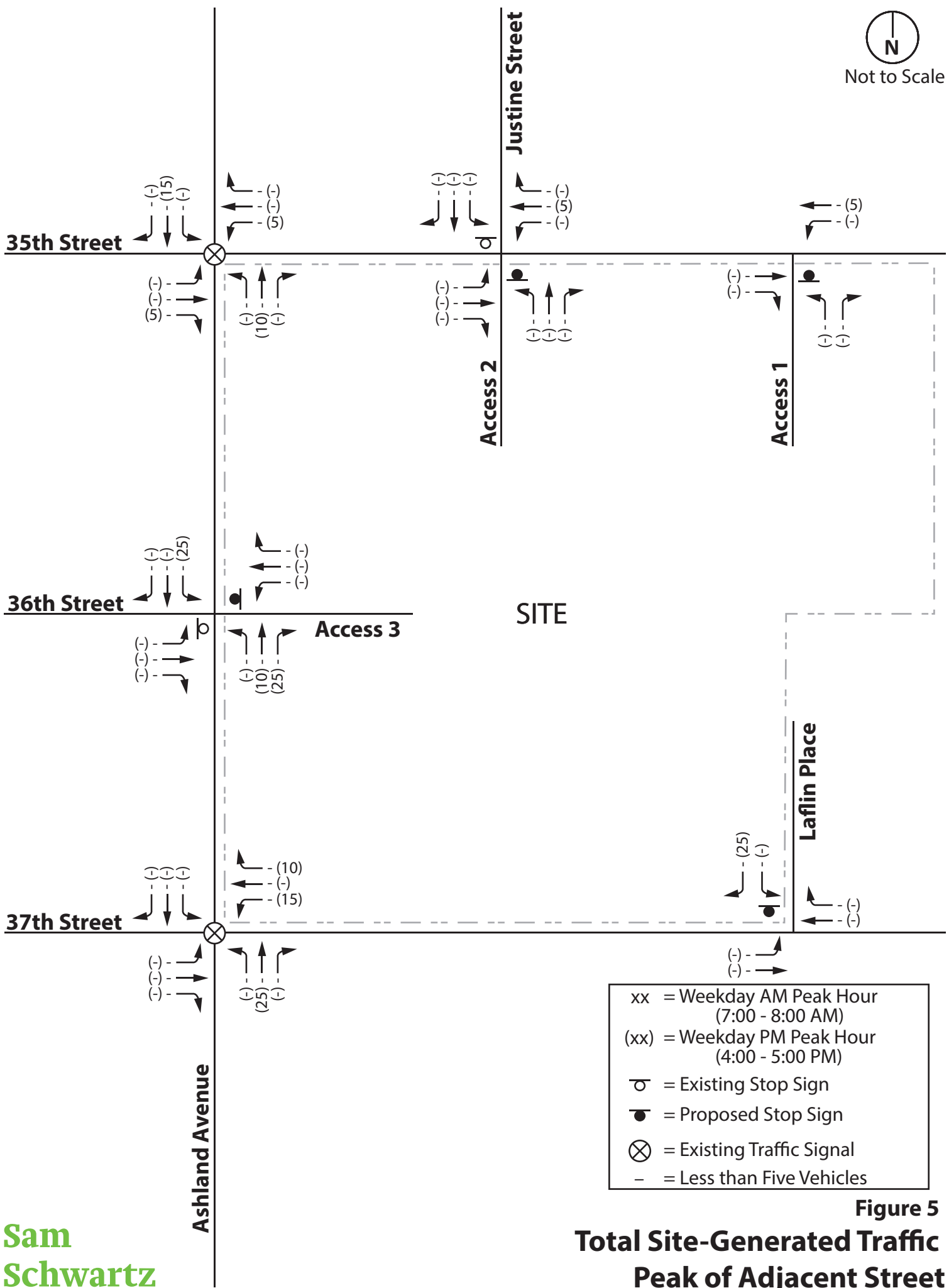





















Figure 5
Total Site-Generated Traffic
Peak of Adjacent Street

Capacity Analysis Results

Lanes, Volumes, Timings
 1: Ashland Avenue & 37th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	15	10	15	5	5	30	1460	15	15	710	10
Future Volume (vph)	10	15	10	15	5	5	30	1460	15	15	710	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	10	12	14	12	12	11	11	12
Storage Length (ft)	0		0	0		0	55		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			85			110		
Satd. Flow (prot)	0	1873	0	0	1227	0	1869	3075	0	1353	2857	0
Flt Permitted		0.894			0.844		0.343			0.131		
Satd. Flow (perm)	0	1698	0	0	1066	0	674	3075	0	187	2857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			2				2
Link Speed (mph)		30			30			30				30
Link Distance (ft)		602			581			663				632
Travel Time (s)		13.7			13.2			15.1				14.4
Confl. Peds. (#/hr)	1					1	3					3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	38%	0%	67%	3%	17%	33%	29%	22%	13%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	29	0	34	1657	0	17	809	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		67.0	67.0		67.0	67.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		71.0	71.0		71.0	71.0	
Total Split (s)	39.0	39.0		39.0	39.0		71.0	71.0		71.0	71.0	
Total Split (%)	35.5%	35.5%		35.5%	35.5%		64.5%	64.5%		64.5%	64.5%	
Maximum Green (s)	34.0	34.0		34.0	34.0		67.0	67.0		67.0	67.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	12.0	12.0		12.0	12.0		58.0	58.0		58.0	58.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		10.9			10.9		97.7	97.7		97.7	97.7	
Actuated g/C Ratio		0.10			0.10		0.89	0.89		0.89	0.89	
v/c Ratio		0.22			0.26		0.06	0.61		0.10	0.32	
Control Delay		38.1			44.2		1.2	1.8		3.7	2.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		38.1			44.2		1.2	1.8		3.7	2.3	
LOS		D			D		A	A		A	A	

Lanes, Volumes, Timings

1: Ashland Avenue & 37th Street

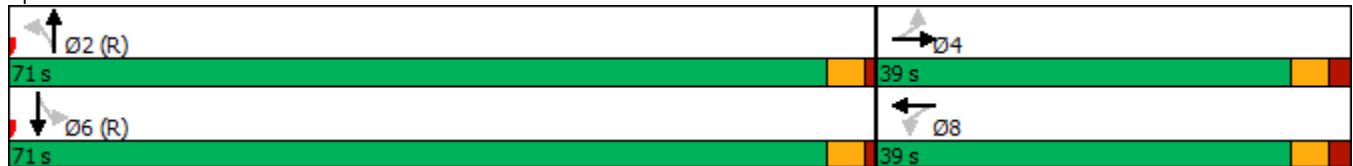


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		38.1			44.2			1.8				2.3
Approach LOS		D			D			A				A
90th %ile Green (s)	13.4	13.4		13.4	13.4		87.6	87.6		87.6	87.6	
90th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
70th %ile Green (s)	11.2	11.2		11.2	11.2		89.8	89.8		89.8	89.8	
70th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
50th %ile Green (s)	10.0	10.0		10.0	10.0		91.0	91.0		91.0	91.0	
50th %ile Term Code	Min	Min		Min	Min		Coord	Coord		Coord	Coord	
30th %ile Green (s)	0.0	0.0		0.0	0.0		106.0	106.0		106.0	106.0	
30th %ile Term Code	Skip	Skip		Skip	Skip		Coord	Coord		Coord	Coord	
10th %ile Green (s)	0.0	0.0		0.0	0.0		106.0	106.0		106.0	106.0	
10th %ile Term Code	Skip	Skip		Skip	Skip		Coord	Coord		Coord	Coord	
Queue Length 50th (ft)		19			15		2	83		2	53	
Queue Length 95th (ft)		50			44		m3	m97		8	86	
Internal Link Dist (ft)		522			501			583			552	
Turn Bay Length (ft)							55			40		
Base Capacity (vph)		532			333		598	2731		166	2537	
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		0.07			0.09		0.06	0.61		0.10	0.32	

Intersection Summary


















Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 31 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 3.0
 Intersection LOS: A
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Ashland Avenue & 37th Street



Lanes, Volumes, Timings

2: Ashland Avenue & 38th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	10	1	1	5	75	1500	35	5	710	20
Future Volume (vph)	1	1	10	1	1	5	75	1500	35	5	710	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			150		
Satd. Flow (prot)	0	1534	0	0	1177	0	0	3130	0	1543	3165	0
Flt Permitted		0.996			0.993			0.998		0.950		
Satd. Flow (perm)	0	1534	0	0	1177	0	0	3130	0	1543	3165	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		566			903			340			663	
Travel Time (s)		12.9			20.5			7.7			15.1	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	11%	100%	100%	50%	4%	15%	27%	17%	14%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	7	0	0	1713	0	5	776	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	78.4%						ICU Level of Service D					
Analysis Period (min)	15											

HCM 6th TWSC
 2: Ashland Avenue & 38th Street

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	1	1	10	1	1	5	75	1500	35	5	710	20
Future Vol, veh/h	1	1	10	1	1	5	75	1500	35	5	710	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	125	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	11	100	100	50	4	15	27	17	14	0
Mvmt Flow	1	1	11	1	1	5	80	1596	37	5	755	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1735	2570	388	2164	2562	818	776	0	0	1634	0	0
Stage 1	776	776	-	1776	1776	-	-	-	-	-	-	-
Stage 2	959	1794	-	388	786	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.12	9.5	8.5	7.9	4.18	-	-	4.44	-	-
Critical Hdwy Stg 1	6.5	5.5	-	8.5	7.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	8.5	7.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.41	4.5	5	3.8	2.24	-	-	2.37	-	-
Pot Cap-1 Maneuver	57	26	586	8	6	235	823	-	-	331	-	-
Stage 1	361	410	-	30	48	-	-	-	-	-	-	-
Stage 2	280	134	-	404	230	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	586	-	0	235	823	-	-	331	-	-
Mov Cap-2 Maneuver	-6	-5	-	25	0	-	-	-	-	-	-	-
Stage 1	361	404	-	30	0	-	-	-	-	-	-	-
Stage 2	-	0	-	390	227	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s					4.7		0.1	
HCM LOS	-		-					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	823	-	-	-	331	-	-
HCM Lane V/C Ratio	0.097	-	-	-	0.016	-	-
HCM Control Delay (s)	9.8	4.5	-	-	16.1	-	-
HCM Lane LOS	A	A	-	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-	-

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

Lanes, Volumes, Timings

3: Ashland Avenue & 38th Place



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Volume (vph)	0	5	0	1610	720	0
Future Volume (vph)	0	5	0	1610	720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Satd. Flow (prot)	0	1863	0	3195	3167	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3195	3167	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			351	340	
Travel Time (s)	12.4			8.0	7.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	13%	14%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	0	1769	791	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.8%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 3: Ashland Avenue & 38th Place

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	5	0	1610	720	0
Future Vol, veh/h	0	5	0	1610	720	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	13	14	0
Mvmt Flow	0	5	0	1769	791	0
























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	396	0
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	609	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	609	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 609	-
HCM Lane V/C Ratio	- 0.009	-
HCM Control Delay (s)	- 11	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings

4: Ashland Avenue & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	275	140	135	440	330	280	1215	175	125	570	30
Future Volume (vph)	65	275	140	135	440	330	280	1215	175	125	570	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	13	12
Storage Length (ft)	190		300	0		145	175		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			150			145			140		
Satd. Flow (prot)	1586	3114	0	1517	3312	1313	1752	3351	0	1556	3324	0
Flt Permitted	0.478			0.302			0.345			0.078		
Satd. Flow (perm)	793	3114	0	481	3312	1280	636	3351	0	128	3324	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74				79		19			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		386			321			1345			351	
Travel Time (s)		8.8			7.3			30.6			8.0	
Confl. Peds. (#/hr)	11		5	5		11	2		4	4		2
Confl. Bikes (#/hr)						2						2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	11%	6%	15%	9%	23%	3%	8%	16%	16%	11%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	436	0	142	463	347	295	1463	0	132	632	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	23.0		6.0	30.0	8.0	8.0	51.0		8.0	51.0	
Minimum Split (s)	8.0	28.0		9.0	35.0	11.0	11.0	56.0		11.0	56.0	
Total Split (s)	8.0	28.0		15.0	35.0	11.0	11.0	56.0		11.0	56.0	
Total Split (%)	7.3%	25.5%		13.6%	31.8%	10.0%	10.0%	50.9%		10.0%	50.9%	
Maximum Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0		0.0	2.0	0.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0	3.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	0.2	0.2		3.0	0.2	0.2	0.2	0.2		0.2	0.2	
Recall Mode	None	Min		None	Min	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			7.0			29.0			34.0	
Flash Dont Walk (s)		18.0			23.0			22.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.3	23.3		39.2	30.8	40.8	61.8	51.8		61.8	51.8	
Actuated g/C Ratio	0.28	0.21		0.36	0.28	0.37	0.56	0.47		0.56	0.47	
v/c Ratio	0.27	0.61		0.52	0.50	0.66	0.68	0.92		0.75	0.40	
Control Delay	27.3	36.5		32.1	35.6	27.4	21.6	38.1		49.2	19.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	27.3	36.5		32.1	35.6	27.4	21.6	38.1		49.2	19.4	

Lanes, Volumes, Timings

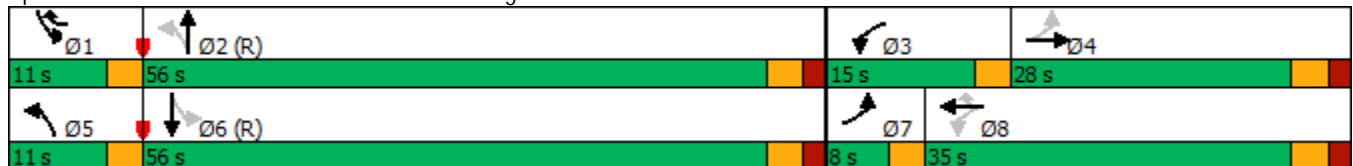
4: Ashland Avenue & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D		C	D	C	C	D		D	B	
Approach Delay		35.3			32.1			35.4			24.5	
Approach LOS		D			C			D			C	
90th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
70th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
70th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
50th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
50th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
30th %ile Green (s)	5.0	24.3		10.7	30.0	8.0	8.0	51.0		8.0	51.0	
30th %ile Term Code	Max	Hold		Gap	Max	Max	Max	Coord		Max	Coord	
10th %ile Green (s)	0.0	23.0		8.2	34.2	8.0	8.0	54.8		8.0	54.8	
10th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
Queue Length 50th (ft)	32	122		70	145	150	99	496		56	145	
Queue Length 95th (ft)	64	177		120	197	253	149	#663		#142	188	
Internal Link Dist (ft)		306			241			1265			271	
Turn Bay Length (ft)	190					145	175			200		
Base Capacity (vph)	254	716		284	928	527	437	1586		175	1567	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.27	0.61		0.50	0.50	0.66	0.68	0.92		0.75	0.40	






















Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 8 (7%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 32.5 Intersection LOS: C
 Intersection Capacity Utilization 102.2% ICU Level of Service G
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Ashland Avenue & Pershing Road



Lanes, Volumes, Timings
 5: Indoor Sports Access/Paulina Street & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	470	1	1	700	50	1	1	1	10	1	10
Future Volume (vph)	15	470	1	1	700	50	1	1	1	10	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	9	12	10	12	12	12	12	12	16	12
Storage Length (ft)	50		75	0		105	0		0	0		20
Storage Lanes	1		1	0		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1631	1527	1454	0	1503	1524	0	1854	1615	0	1967	0
Flt Permitted	0.950							0.976			0.977	
Satd. Flow (perm)	1631	1527	1454	0	1503	1524	0	1854	1615	0	1967	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		380			251			152			591	
Travel Time (s)		8.6			5.7			4.1			13.4	
Confl. Peds. (#/hr)	6		2	2		6	1					1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	12%	0%	0%	18%	6%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	534	1	0	796	57	0	2	1	0	23	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	54.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC

5: Indoor Sports Access/Paulina Street & Pershing Road

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗		↖	↗		↖	↗		↔	
Traffic Vol, veh/h	15	470	1	1	700	50	1	1	1	10	1	10
Future Vol, veh/h	15	470	1	1	700	50	1	1	1	10	1	10
Conflicting Peds, #/hr	6	0	2	2	0	6	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	75	-	-	105	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	12	0	0	18	6	0	0	0	0	0	0
Mvmt Flow	17	534	1	1	795	57	1	1	1	11	1	11






















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	858	0	0	537	0	0	1403	1430	536	1373	1374	802
Stage 1	-	-	-	-	-	-	570	570	-	803	803	-
Stage 2	-	-	-	-	-	-	833	860	-	570	571	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	762	-	-	1041	-	-	118	136	549	124	147	387
Stage 1	-	-	-	-	-	-	510	509	-	380	399	-
Stage 2	-	-	-	-	-	-	366	376	-	510	508	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	756	-	-	1039	-	-	112	131	548	120	142	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	246	-	246	264	-
Stage 1	-	-	-	-	-	-	498	497	-	369	395	-
Stage 2	-	-	-	-	-	-	353	372	-	496	496	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	17.3	18.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	239	548	756	-	-	1039	-	-	298
HCM Lane V/C Ratio	0.01	0.002	0.023	-	-	0.001	-	-	0.08
HCM Control Delay (s)	20.2	11.6	9.9	-	-	8.5	0	-	18.1
HCM Lane LOS	C	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	0.3

Lanes, Volumes, Timings

6: Private Driveway & Pershing Road

												
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations		  					  			  		
Traffic Volume (vph)	5	545	20	5	10	10	855	1	15	1	10	10
Future Volume (vph)	5	545	20	5	10	10	855	1	15	1	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	12	11	12	12
Storage Length (ft)	0		0			10		0	0		0	
Storage Lanes	0		0			1		0	0		0	
Taper Length (ft)	25					150			25			
Satd. Flow (prot)	0	2999	0	0	0	0	4295	0	0	1152	0	0
Flt Permitted							0.999			0.980		
Satd. Flow (perm)	0	2999	0	0	0	0	4295	0	0	1152	0	0
Link Speed (mph)		30					30			25		
Link Distance (ft)		321					1183			128		
Travel Time (s)		7.3					26.9			3.5		
Confl. Peds. (#/hr)	1		2	2	2	2		1			1	2
Confl. Bikes (#/hr)											1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	16%	11%	0%	13%	0%	21%	0%	62%	0%	45%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	618	0	0	0	0	942	0	0	39	0	0
Sign Control		Free					Free			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.4% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	1	1	1	1	1	35	1	35
Future Volume (vph)	1	1	1	1	1	35	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	12	12	11	12	12
Storage Length (ft)		0		0		0	0	
Storage Lanes		0		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	0	1672	0	0	1354	0	0
Flt Permitted			0.976			0.976		
Satd. Flow (perm)	0	0	1672	0	0	1354	0	0
Link Speed (mph)			25			25		
Link Distance (ft)			135			147		
Travel Time (s)			3.7			4.0		
Confl. Peds. (#/hr)	1	2			2		1	1
Confl. Bikes (#/hr)								
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	30%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	4	0	0	78	0	0
Sign Control			Stop			Stop		
Intersection Summary								

SimTraffic Performance Report
AM Peak Period

6: Private Driveway & Pershing Road Performance by approach

Approach	EB	WB	NB	SB	NW	All
Denied Del/Veh (s)	0.0	0.0	3.8	0.1	11.7	0.6
Total Del/Veh (s)	1.7	4.1	23.5	14.7	43.4	5.4

SimTraffic Performance Report
 AM Peak Period

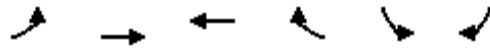
6: Private Driveway & Pershing Road Performance by movement

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	4.4	22.8	0.2	4.9
Total Del/Veh (s)	15.4	1.6	1.3	1.2	6.8	8.1	4.0	0.3	41.1	40.0	13.2	10.9

6: Private Driveway & Pershing Road Performance by movement

Movement	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1		11.6	0.1	12.0	0.6
Total Del/Veh (s)	32.5	14.8	21.0	6.6		58.3	40.1	30.1	5.4

Lanes, Volumes, Timings
 7: Pershing Road & Dept. of Water Access



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	600	840	10	25	25
Future Volume (vph)	20	600	840	10	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Satd. Flow (prot)	1203	3112	3055	0	1462	0
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1203	3112	3055	0	1462	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1183	811		343	
Travel Time (s)		26.9	18.4		7.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	50%	16%	18%	11%	26%	42%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	674	955	0	56	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 7: Pershing Road & Dept. of Water Access



















Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	600	840	10	25	25
Future Vol, veh/h	20	600	840	10	25	25
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	50	16	18	11	26	42
Mvmt Flow	22	674	944	11	28	28

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	956	0	-	0	1332 479
Stage 1	-	-	-	-	951 -
Stage 2	-	-	-	-	381 -
Critical Hdwy	5.1	-	-	-	7.32 7.74
Critical Hdwy Stg 1	-	-	-	-	6.32 -
Critical Hdwy Stg 2	-	-	-	-	6.32 -
Follow-up Hdwy	2.7	-	-	-	3.76 3.72
Pot Cap-1 Maneuver	482	-	-	-	118 438
Stage 1	-	-	-	-	284 -
Stage 2	-	-	-	-	595 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	481	-	-	-	112 437
Mov Cap-2 Maneuver	-	-	-	-	211 -
Stage 1	-	-	-	-	271 -
Stage 2	-	-	-	-	594 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	481	-	-	-	285
HCM Lane V/C Ratio	0.047	-	-	-	0.197
HCM Control Delay (s)	12.9	-	-	-	20.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Lanes, Volumes, Timings
1: Ashland Avenue & 37th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	10	20	35	30	15	50	1000	25	10	1335	20
Future Volume (vph)	5	10	20	35	30	15	50	1000	25	10	1335	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	10	12	14	12	12	11	11	12
Storage Length (ft)	0		0	0		0	55		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			85			110		
Satd. Flow (prot)	0	1716	0	0	1569	0	1816	3293	0	1479	3198	0
Flt Permitted		0.963			0.840		0.158			0.242		
Satd. Flow (perm)	0	1664	0	0	1346	0	302	3293	0	377	3198	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			10			5			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		602			581			663			632	
Travel Time (s)		13.7			13.2			15.1			14.4	
Confl. Peds. (#/hr)	3		2	2		3	1		2	2		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	25%	0%	14%	0%	7%	6%	9%	15%	18%	9%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	86	0	54	1102	0	11	1457	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		72.0	72.0		72.0	72.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		76.0	76.0		76.0	76.0	
Total Split (s)	34.0	34.0		34.0	34.0		76.0	76.0		76.0	76.0	
Total Split (%)	30.9%	30.9%		30.9%	30.9%		69.1%	69.1%		69.1%	69.1%	
Maximum Green (s)	29.0	29.0		29.0	29.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		63.0	63.0		63.0	63.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.6			13.6		91.2	91.2		91.2	91.2	
Actuated g/C Ratio		0.12			0.12		0.83	0.83		0.83	0.83	
v/c Ratio		0.17			0.49		0.22	0.40		0.04	0.55	
Control Delay		24.7			48.4		3.1	1.5		3.4	5.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.7			48.4		3.1	1.5		3.4	5.2	
LOS		C			D		A	A		A	A	

Lanes, Volumes, Timings
 1: Ashland Avenue & 37th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		24.7			48.4			1.6				5.1
Approach LOS		C			D			A				A
90th %ile Green (s)	18.5	18.5		18.5	18.5		82.5	82.5		82.5	82.5	
90th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
70th %ile Green (s)	15.4	15.4		15.4	15.4		85.6	85.6		85.6	85.6	
70th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
50th %ile Green (s)	13.2	13.2		13.2	13.2		87.8	87.8		87.8	87.8	
50th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
30th %ile Green (s)	11.1	11.1		11.1	11.1		89.9	89.9		89.9	89.9	
30th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
10th %ile Green (s)	0.0	0.0		0.0	0.0		106.0	106.0		106.0	106.0	
10th %ile Term Code	Skip	Skip		Skip	Skip		Coord	Coord		Coord	Coord	
Queue Length 50th (ft)		10			51		2	27		1	158	
Queue Length 95th (ft)		40			98		m7	48		6	262	
Internal Link Dist (ft)		522			501			583			552	
Turn Bay Length (ft)							55			40		
Base Capacity (vph)		454			362		250	2730		312	2651	
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		0.08			0.24		0.22	0.40		0.04	0.55	


















Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 5.3
 Intersection LOS: A
 Intersection Capacity Utilization 79.4%
 ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Ashland Avenue & 37th Street



Lanes, Volumes, Timings
2: Ashland Avenue & 38th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	10	5	5	15	70	1055	45	5	1360	25
Future Volume (vph)	5	1	10	5	5	15	70	1055	45	5	1360	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			150		
Satd. Flow (prot)	0	1714	0	0	1817	0	0	3346	0	1805	3368	0
Flt Permitted		0.985			0.990			0.997		0.950		
Satd. Flow (perm)	0	1714	0	0	1817	0	0	3346	0	1805	3368	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		566			903			340			663	
Travel Time (s)		12.9			20.5			7.7			15.1	
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	13%	3%	7%	11%	0%	7%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	25	0	0	1206	0	5	1428	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	84.4%
ICU Level of Service	E
Analysis Period (min)	15

HCM 6th TWSC
 2: Ashland Avenue & 38th Street

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	↕
Traffic Vol, veh/h	5	1	10	5	5	15	70	1055	45	5	1360	25
Future Vol, veh/h	5	1	10	5	5	15	70	1055	45	5	1360	25
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	125	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	13	3	7	11	0	7	0
Mvmt Flow	5	1	10	5	5	15	72	1088	46	5	1402	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2117	2705	715	1968	2695	568	1429	0	0	1135	0	0
Stage 1	1426	1426	-	1256	1256	-	-	-	-	-	-	-
Stage 2	691	1279	-	712	1439	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.16	4.16	-	-	4.1	-	-
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	3.5	4	3.3	3.5	4	3.43	2.23	-	-	2.2	-	-
Pot Cap-1 Maneuver	29	22	378	38	22	439	467	-	-	623	-	-
Stage 1	145	203	-	184	245	-	-	-	-	-	-	-
Stage 2	406	239	-	394	200	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	18	13	378	24	13	438	467	-	-	622	-	-
Mov Cap-2 Maneuver	61	79	-	80	67	-	-	-	-	-	-	-
Stage 1	84	201	-	106	141	-	-	-	-	-	-	-
Stage 2	218	138	-	378	198	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	36.1		34.9		3.2		0	
HCM LOS	E		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	467	-	-	132	146	622	-
HCM Lane V/C Ratio	0.155	-	-	0.125	0.177	0.008	-
HCM Control Delay (s)	14.1	2.6	-	36.1	34.9	10.8	-
HCM Lane LOS	B	A	-	E	D	B	-
HCM 95th %tile Q(veh)	0.5	-	-	0.4	0.6	0	-

Lanes, Volumes, Timings

3: Ashland Avenue & 38th Place



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Volume (vph)	0	5	0	1170	1375	0
Future Volume (vph)	0	5	0	1170	1375	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Satd. Flow (prot)	0	1863	0	3374	3374	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3374	3374	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			351	340	
Travel Time (s)	12.4			8.0	7.7	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	7%	7%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	0	1219	1432	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
 3: Ashland Avenue & 38th Place























Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	5	0	1170	1375	0
Future Vol, veh/h	0	5	0	1170	1375	0
Conflicting Peds, #/hr	0	0	8	0	0	8
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	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	7	7	0
Mvmt Flow	0	5	0	1219	1432	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	716	0
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	377	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	377	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 377	-
HCM Lane V/C Ratio	- 0.014	-
HCM Control Delay (s)	- 14.7	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings
 4: Ashland Avenue & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	285	245	215	600	350	140	795	105	145	1200	35
Future Volume (vph)	25	285	245	215	600	350	140	795	105	145	1200	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	13	12
Storage Length (ft)	190		300	0		145	175		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			150			145			140		
Satd. Flow (prot)	1678	3189	0	1678	3374	1392	1719	3388	0	1641	3569	0
Flt Permitted	0.420			0.221			0.085			0.190		
Satd. Flow (perm)	739	3189	0	390	3374	1365	154	3388	0	328	3569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		178				156		16				3
Link Speed (mph)		30			30			30				30
Link Distance (ft)		386			321			1343				351
Travel Time (s)		8.8			7.3			30.5				8.0
Confl. Peds. (#/hr)	8		4	4		8	2		7	7		2
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	5%	4%	4%	7%	16%	5%	8%	8%	10%	4%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	541	0	219	612	357	143	918	0	148	1260	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	23.0		5.0	35.0	8.0	8.0	46.0		8.0	46.0	
Minimum Split (s)	8.0	28.0		8.0	40.0	11.0	11.0	51.0		11.0	51.0	
Total Split (s)	8.0	28.0		20.0	40.0	11.0	11.0	51.0		11.0	51.0	
Total Split (%)	7.3%	25.5%		18.2%	36.4%	10.0%	10.0%	46.4%		10.0%	46.4%	
Maximum Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0		0.0	2.0	0.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0	3.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	0.2	0.2		3.0	0.2	0.2	0.2	0.2		0.2	0.2	
Recall Mode	None	Min		None	Min	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			12.0			24.0			29.0	
Flash Dont Walk (s)		18.0			23.0			22.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.4	23.4		43.0	36.2	46.2	58.0	48.0		58.0	48.0	
Actuated g/C Ratio	0.28	0.21		0.39	0.33	0.42	0.53	0.44		0.53	0.44	
v/c Ratio	0.11	0.66		0.68	0.55	0.54	0.73	0.62		0.55	0.81	
Control Delay	21.8	30.7		34.2	32.8	15.3	41.5	26.1		23.8	36.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.8	30.7		34.2	32.8	15.3	41.5	26.1		23.8	36.9	

Lanes, Volumes, Timings

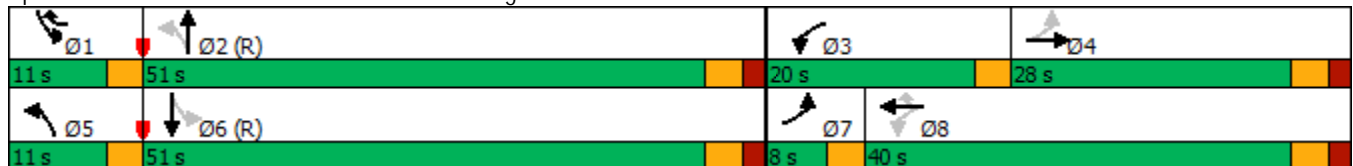
4: Ashland Avenue & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		C	C	B	D	C		C	D	
Approach Delay		30.2			27.8			28.2			35.5	
Approach LOS		C			C			C			D	
90th %ile Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
70th %ile Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
70th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
50th %ile Green (s)	5.0	24.8		15.2	35.0	8.0	8.0	46.0		8.0	46.0	
50th %ile Term Code	Max	Hold		Gap	Max	Max	Max	Coord		Max	Coord	
30th %ile Green (s)	0.0	23.0		13.5	39.5	8.0	8.0	49.5		8.0	49.5	
30th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
10th %ile Green (s)	0.0	23.0		10.5	36.5	8.0	8.0	52.5		8.0	52.5	
10th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
Queue Length 50th (ft)	11	122		103	188	97	49	261		65	482	
Queue Length 95th (ft)	29	185		163	247	184	#147	332		110	560	
Internal Link Dist (ft)		306			241			1263			271	
Turn Bay Length (ft)	190					145	175			200		
Base Capacity (vph)	246	817		351	1110	665	195	1487		268	1559	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.11	0.66		0.62	0.55	0.54	0.73	0.62		0.55	0.81	






















Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 5 (5%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 30.8
 Intersection LOS: C
 Intersection Capacity Utilization 94.7%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Ashland Avenue & Pershing Road



Lanes, Volumes, Timings
 5: Indoor Sports Access/Paulina Street & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	540	1	2	750	25	1	1	1	15	1	15
Future Volume (vph)	5	540	1	2	750	25	1	1	1	15	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	9	12	10	12	12	12	12	12	16	12
Storage Length (ft)	50		75	0		105	0		0	0		20
Storage Lanes	1		1	0		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1745	1629	1454	0	1642	1553	0	1236	1615	0	1898	0
Flt Permitted	0.950							0.976			0.976	
Satd. Flow (perm)	1745	1629	1454	0	1642	1553	0	1236	1615	0	1898	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		380			251			152			591	
Travel Time (s)		8.6			5.7			4.1			13.4	
Confl. Peds. (#/hr)	5		2	2		5	2					2
Confl. Bikes (#/hr)			3			3						
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	5%	0%	0%	8%	4%	100%	0%	0%	0%	0%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	692	1	0	965	32	0	2	1	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.5%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC

5: Indoor Sports Access/Paulina Street & Pershing Road

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	540	1	2	750	25	1	1	1	15	1	15
Future Vol, veh/h	5	540	1	2	750	25	1	1	1	15	1	15
Conflicting Peds, #/hr	5	0	2	2	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	75	-	-	105	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	5	0	0	8	4	100	0	0	0	0	7
Mvmt Flow	6	692	1	3	962	32	1	1	1	19	1	19
















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	999	0	0	695	0	0	1702	1711	694	1679	1680	969
Stage 1	-	-	-	-	-	-	706	706	-	973	973	-
Stage 2	-	-	-	-	-	-	996	1005	-	706	707	-
Critical Hdwy	4.1	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	701	-	-	910	-	-	42	92	446	76	96	301
Stage 1	-	-	-	-	-	-	303	442	-	306	333	-
Stage 2	-	-	-	-	-	-	198	322	-	430	441	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	697	-	-	908	-	-	39	90	445	74	94	299
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	206	-	193	212	-
Stage 1	-	-	-	-	-	-	300	437	-	301	329	-
Stage 2	-	-	-	-	-	-	183	318	-	424	436	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			24			23.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	445	697	-	-	908	-	-	234
HCM Lane V/C Ratio	0.017	0.003	0.009	-	-	0.003	-	-	0.17
HCM Control Delay (s)	29.4	13.1	10.2	-	-	9	0	-	23.5
HCM Lane LOS	D	B	B	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0.6

Lanes, Volumes, Timings

6: Private Driveway & Pershing Road

												
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	1	525	5	5	5	10	1130	1	10	1	30	1
Future Volume (vph)	1	525	5	5	5	10	1130	1	10	1	30	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	12	11	12	12
Storage Length (ft)	0		0				10		0	0		0
Storage Lanes	0		0				1		0	0		0
Taper Length (ft)	25						150			25		
Satd. Flow (prot)	0	3213	0	0	0	0	4759	0	0	1537	0	0
Flt Permitted							0.999			0.988		
Satd. Flow (perm)	0	3213	0	0	0	0	4759	0	0	1537	0	0
Link Speed (mph)		30					30			25		
Link Distance (ft)		321					1183			128		
Travel Time (s)		7.3					26.9			3.5		
Confl. Peds. (#/hr)	4		6	2	6	2		4	4			6
Confl. Bikes (#/hr)			1	1								
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	8%	50%	0%	0%	0%	9%	0%	8%	0%	6%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	695	0	0	0	0	1488	0	0	54	0	0
Sign Control		Free					Free			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 52.6% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	1	1	1	1	1	25	1	35
Future Volume (vph)	1	1	1	1	1	25	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	12	12	11	12	12
Storage Length (ft)		0		0		0	0	
Storage Lanes		0		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	0	1672	0	0	1580	0	0
Flt Permitted			0.976			0.980		
Satd. Flow (perm)	0	0	1672	0	0	1580	0	0
Link Speed (mph)			25			25		
Link Distance (ft)			135			147		
Travel Time (s)			3.7			4.0		
Confl. Peds. (#/hr)		6		4	2	4	4	
Confl. Bikes (#/hr)								
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	8%	0%	3%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	4	0	0	79	0	0
Sign Control			Stop			Stop		
Intersection Summary								

SimTraffic Performance Report
PM Peak Period

6: Private Driveway & Pershing Road Performance by approach

Approach	EB	WB	NB	SB	NW	All
Denied Del/Veh (s)	0.0	0.1	0.7	0.1	64.8	2.0
Total Del/Veh (s)	1.5	10.7	27.3	23.0	92.3	10.5

SimTraffic Performance Report
 PM Peak Period

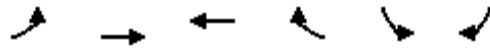
6: Private Driveway & Pershing Road Performance by movement

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.5	0.4	0.1	0.0	0.1	0.4	1.0	0.1
Total Del/Veh (s)	6.7	1.5	1.1	1.2	9.3	10.2	10.7	3.3	58.7	50.5	16.3	18.3

6: Private Driveway & Pershing Road Performance by movement

Movement	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2	All
Denied Del/Veh (s)			0.1	0.1		54.2	40.9	73.0	2.0
Total Del/Veh (s)			29.2	16.1		125.5	132.1	65.8	10.5

Lanes, Volumes, Timings
 7: Pershing Road & Dept. of Water Access



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	620	1090	5	40	20
Future Volume (vph)	10	620	1090	5	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Satd. Flow (prot)	1641	3406	3280	0	1993	0
Flt Permitted	0.950				0.968	
Satd. Flow (perm)	1641	3406	3280	0	1993	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1183	810		343	
Travel Time (s)		26.9	18.4		7.8	
Confl. Peds. (#/hr)	6			6		
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	10%	6%	10%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	816	1441	0	79	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.4%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC

7: Pershing Road & Dept. of Water Access

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	620	1090	5	40	20
Future Vol, veh/h	10	620	1090	5	40	20
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	10	6	10	0	0	0
Mvmt Flow	13	816	1434	7	53	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1447	0	0 1878 727
Stage 1	-	-	- 1444 -
Stage 2	-	-	- 434 -
Critical Hdwy	4.3	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.3	-	- 3.5 3.3
Pot Cap-1 Maneuver	426	-	- 64 371
Stage 1	-	-	- 187 -
Stage 2	-	-	- 627 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	423	-	- 61 368
Mov Cap-2 Maneuver	-	-	- 145 -
Stage 1	-	-	- 180 -
Stage 2	-	-	- 622 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	39.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	423	-	-	-	182
HCM Lane V/C Ratio	0.031	-	-	-	0.434
HCM Control Delay (s)	13.8	-	-	-	39.1
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2

Lanes, Volumes, Timings


















1: Ashland Avenue & 37th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↔		↕	↕↔	
Traffic Volume (vph)	10	15	10	15	5	5	30	1550	15	15	750	10
Future Volume (vph)	10	15	10	15	5	5	30	1550	15	15	750	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	10	12	14	12	12	11	11	12
Storage Length (ft)	0		0	0		0	55		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			85			110		
Satd. Flow (prot)	0	1873	0	0	1227	0	1869	3078	0	1353	2857	0
Flt Permitted		0.894			0.844		0.327			0.115		
Satd. Flow (perm)	0	1698	0	0	1066	0	643	3078	0	164	2857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			2				2
Link Speed (mph)		30			30			30				30
Link Distance (ft)		602			581			663				632
Travel Time (s)		13.7			13.2			15.1				14.4
Confl. Peds. (#/hr)	1					1	3					3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	38%	0%	67%	3%	17%	33%	29%	22%	13%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	29	0	34	1759	0	17	854	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		67.0	67.0		67.0	67.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		71.0	71.0		71.0	71.0	
Total Split (s)	39.0	39.0		39.0	39.0		71.0	71.0		71.0	71.0	
Total Split (%)	35.5%	35.5%		35.5%	35.5%		64.5%	64.5%		64.5%	64.5%	
Maximum Green (s)	34.0	34.0		34.0	34.0		67.0	67.0		67.0	67.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	12.0	12.0		12.0	12.0		58.0	58.0		58.0	58.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		10.9			10.9		97.7	97.7		97.7	97.7	
Actuated g/C Ratio		0.10			0.10		0.89	0.89		0.89	0.89	
v/c Ratio		0.22			0.26		0.06	0.64		0.12	0.34	
Control Delay		38.1			44.2		1.1	2.1		4.1	2.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		38.1			44.2		1.1	2.1		4.1	2.3	
LOS		D			D		A	A		A	A	

Lanes, Volumes, Timings

2: Ashland Avenue & 38th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	10	1	1	5	75	1590	35	5	750	20
Future Volume (vph)	1	1	10	1	1	5	75	1590	35	5	750	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			150		
Satd. Flow (prot)	0	1534	0	0	1177	0	0	3130	0	1543	3164	0
Flt Permitted		0.996			0.993			0.998		0.950		
Satd. Flow (perm)	0	1534	0	0	1177	0	0	3130	0	1543	3164	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		566			903			340			663	
Travel Time (s)		12.9			20.5			7.7			15.1	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	11%	100%	100%	50%	4%	15%	27%	17%	14%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	7	0	0	1808	0	5	819	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	81.9%						ICU Level of Service D					
Analysis Period (min)	15											

HCM 6th TWSC
2: Ashland Avenue & 38th Street

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	1	1	10	1	1	5	75	1590	35	5	750	20
Future Vol, veh/h	1	1	10	1	1	5	75	1590	35	5	750	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	125	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	11	100	100	50	4	15	27	17	14	0
Mvmt Flow	1	1	11	1	1	5	80	1691	37	5	798	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1825	2708	410	2281	2700	865	819	0	0	1729	0	0
Stage 1	819	819	-	1871	1871	-	-	-	-	-	-	-
Stage 2	1006	1889	-	410	829	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.12	9.5	8.5	7.9	4.18	-	-	4.44	-	-
Critical Hdwy Stg 1	6.5	5.5	-	8.5	7.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	8.5	7.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.41	4.5	5	3.8	2.24	-	-	2.37	-	-
Pot Cap-1 Maneuver	49	21	566	6	5	216	793	-	-	302	-	-
Stage 1	340	392	-	25	41	-	-	-	-	-	-	-
Stage 2	262	120	-	388	216	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	566	-	0	216	793	-	-	302	-	-
Mov Cap-2 Maneuver	-6	-5	-	21	0	-	-	-	-	-	-	-
Stage 1	340	385	-	25	0	-	-	-	-	-	-	-
Stage 2	-	0	-	373	212	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s						4.7		0.1
HCM LOS								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	793	-	-	-	302	-	-
HCM Lane V/C Ratio	0.101	-	-	-	0.018	-	-
HCM Control Delay (s)	10	4.6	-	-	17.1	-	-
HCM Lane LOS	B	A	-	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	-	-

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

Lanes, Volumes, Timings

3: Ashland Avenue & 38th Place



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Volume (vph)	0	5	0	1700	760	0
Future Volume (vph)	0	5	0	1700	760	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Satd. Flow (prot)	0	1863	0	3195	3167	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3195	3167	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			351	340	
Travel Time (s)	12.4			8.0	7.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	13%	14%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	0	1868	835	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.3%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 3: Ashland Avenue & 38th Place

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	5	0	1700	760	0
Future Vol, veh/h	0	5	0	1700	760	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	13	14	0
Mvmt Flow	0	5	0	1868	835	0






















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	418	0
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	589	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	589	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 589	-
HCM Lane V/C Ratio	- 0.009	-
HCM Control Delay (s)	- 11.2	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings

4: Ashland Avenue & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	290	150	140	465	350	295	1280	185	130	605	30
Future Volume (vph)	70	290	150	140	465	350	295	1280	185	130	605	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	13	12
Storage Length (ft)	190		300	0		145	175		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			150			145			140		
Satd. Flow (prot)	1586	3114	0	1517	3312	1313	1752	3351	0	1556	3328	0
Flt Permitted	0.452			0.277			0.325			0.078		
Satd. Flow (perm)	750	3114	0	441	3312	1280	599	3351	0	128	3328	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76				71		19			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		386			321			1345			351	
Travel Time (s)		8.8			7.3			30.6			8.0	
Confl. Peds. (#/hr)	11		5	5		11	2		4	4		2
Confl. Bikes (#/hr)						2						2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	11%	6%	15%	9%	23%	3%	8%	16%	16%	11%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	463	0	147	489	368	311	1542	0	137	669	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	23.0		6.0	30.0	8.0	8.0	51.0		8.0	51.0	
Minimum Split (s)	8.0	28.0		9.0	35.0	11.0	11.0	56.0		11.0	56.0	
Total Split (s)	8.0	28.0		15.0	35.0	11.0	11.0	56.0		11.0	56.0	
Total Split (%)	7.3%	25.5%		13.6%	31.8%	10.0%	10.0%	50.9%		10.0%	50.9%	
Maximum Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0		0.0	2.0	0.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0	3.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	0.2	0.2		3.0	0.2	0.2	0.2	0.2		0.2	0.2	
Recall Mode	None	Min		None	Min	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			7.0			29.0			34.0	
Flash Dont Walk (s)		18.0			23.0			22.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.2	23.2		39.3	30.9	40.9	61.7	51.7		61.7	51.7	
Actuated g/C Ratio	0.27	0.21		0.36	0.28	0.37	0.56	0.47		0.56	0.47	
v/c Ratio	0.30	0.65		0.55	0.53	0.70	0.74	0.97		0.78	0.43	
Control Delay	28.3	37.7		33.5	36.1	30.5	25.9	46.0		52.6	19.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	28.3	37.7		33.5	36.1	30.5	25.9	46.0		52.6	19.8	

Lanes, Volumes, Timings

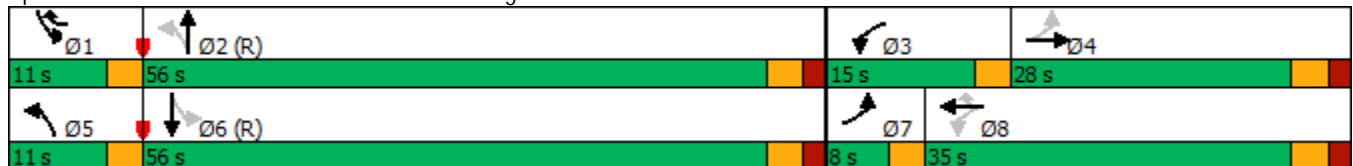
4: Ashland Avenue & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D		C	D	C	C	D		D	B	
Approach Delay		36.4			33.7			42.6			25.3	
Approach LOS		D			C			D			C	
90th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
70th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
70th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
50th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
50th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
30th %ile Green (s)	5.0	24.0		11.0	30.0	8.0	8.0	51.0		8.0	51.0	
30th %ile Term Code	Max	Hold		Gap	Max	Max	Max	Coord		Max	Coord	
10th %ile Green (s)	0.0	23.0		8.4	34.4	8.0	8.0	54.6		8.0	54.6	
10th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
Queue Length 50th (ft)	35	132		72	155	171	105	545		60	156	
Queue Length 95th (ft)	68	189		124	208	283	#169	#726		#151	202	
Internal Link Dist (ft)		306			241			1265			271	
Turn Bay Length (ft)	190					145	175			200		
Base Capacity (vph)	243	716		274	929	523	420	1585		175	1568	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.30	0.65		0.54	0.53	0.70	0.74	0.97		0.78	0.43	






















Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 8 (7%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 36.4
 Intersection LOS: D
 Intersection Capacity Utilization 103.0%
 ICU Level of Service G
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Ashland Avenue & Pershing Road



Lanes, Volumes, Timings
 5: Indoor Sports Access/Paulina Street & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	500	1	1	740	50	1	1	1	10	1	10
Future Volume (vph)	15	500	1	1	740	50	1	1	1	10	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	9	12	10	12	12	12	12	12	16	12
Storage Length (ft)	50		75	0		105	0		0	0		20
Storage Lanes	1		1	0		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1631	1527	1454	0	1503	1524	0	1854	1615	0	1967	0
Flt Permitted	0.950							0.976			0.977	
Satd. Flow (perm)	1631	1527	1454	0	1503	1524	0	1854	1615	0	1967	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		380			251			152			591	
Travel Time (s)		8.6			5.7			4.1			13.4	
Confl. Peds. (#/hr)	6		2	2		6	1					1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	12%	0%	0%	18%	6%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	568	1	0	842	57	0	2	1	0	23	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.6%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC
 5: Indoor Sports Access/Paulina Street & Pershing Road
















Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗		↖	↗		↖	↗		↕	
Traffic Vol, veh/h	15	500	1	1	740	50	1	1	1	10	1	10
Future Vol, veh/h	15	500	1	1	740	50	1	1	1	10	1	10
Conflicting Peds, #/hr	6	0	2	2	0	6	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	75	-	-	105	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	12	0	0	18	6	0	0	0	0	0	0
Mvmt Flow	17	568	1	1	841	57	1	1	1	11	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	904	0	0	571	0	0	1483	1510	570	1453	1454	848
Stage 1	-	-	-	-	-	-	604	604	-	849	849	-
Stage 2	-	-	-	-	-	-	879	906	-	604	605	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	732	-	-	1012	-	-	104	122	525	109	131	364
Stage 1	-	-	-	-	-	-	489	491	-	358	380	-
Stage 2	-	-	-	-	-	-	345	358	-	489	491	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	726	-	-	1010	-	-	98	118	524	105	126	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	232	-	229	248	-
Stage 1	-	-	-	-	-	-	477	479	-	347	376	-
Stage 2	-	-	-	-	-	-	332	354	-	475	479	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0			18.2			19.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	223	524	726	-	-	1010	-	-	279
HCM Lane V/C Ratio	0.01	0.002	0.023	-	-	0.001	-	-	0.086
HCM Control Delay (s)	21.3	11.9	10.1	-	-	8.6	0	-	19.1
HCM Lane LOS	C	B	B	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	0.3

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road

												
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	5	575	20	5	10	10	905	1	15	1	10	10
Future Volume (vph)	5	575	20	5	10	10	905	1	15	1	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	12	11	12	12
Storage Length (ft)	0		0			10		0	0		0	
Storage Lanes	0		0			1		0	0		0	
Taper Length (ft)	25					150			25			
Satd. Flow (prot)	0	3001	0	0	0	0	4295	0	0	1152	0	0
Flt Permitted							0.999			0.980		
Satd. Flow (perm)	0	3001	0	0	0	0	4295	0	0	1152	0	0
Link Speed (mph)		30					30			25		
Link Distance (ft)		321					1183			128		
Travel Time (s)		7.3					26.9			3.5		
Confl. Peds. (#/hr)	1		2	2	2	2		1			1	2
Confl. Bikes (#/hr)											1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	16%	11%	0%	13%	0%	21%	0%	62%	0%	45%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	650	0	0	0	0	996	0	0	39	0	0
Sign Control		Free					Free			Stop		

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.3%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

6: Private Driveway & Pershing Road



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	1	1	1	1	1	35	1	35
Future Volume (vph)	1	1	1	1	1	35	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	12	12	11	12	12
Storage Length (ft)		0		0		0	0	
Storage Lanes		0		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	0	1672	0	0	1354	0	0
Flt Permitted			0.976			0.976		
Satd. Flow (perm)	0	0	1672	0	0	1354	0	0
Link Speed (mph)			25			25		
Link Distance (ft)			135			147		
Travel Time (s)			3.7			4.0		
Confl. Peds. (#/hr)	1	2			2		1	1
Confl. Bikes (#/hr)								
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	30%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	4	0	0	78	0	0
Sign Control			Stop			Stop		
Intersection Summary								

SimTraffic Performance Report
AM Peak Period

6: Private Driveway & Pershing Road Performance by approach

Approach	EB	WB	NB	SB	NW	All
Denied Del/Veh (s)	0.0	0.0	83.9	0.1	182.4	10.0
Total Del/Veh (s)	1.7	7.8	54.6	34.0	78.9	9.8

SimTraffic Performance Report
 AM Peak Period

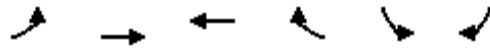
6: Private Driveway & Pershing Road Performance by movement

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.4	0.1	83.1	88.3
Total Del/Veh (s)	9.4	1.6	1.5	1.4	7.0	12.1	7.8	0.3	92.4	32.3	41.6	25.8

6: Private Driveway & Pershing Road Performance by movement

Movement	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2	All
Denied Del/Veh (s)		0.1	0.1	0.1		240.2	100.4	128.4	10.0
Total Del/Veh (s)		72.0	17.2	26.7		110.9	119.2	46.7	9.8

Lanes, Volumes, Timings
 7: Pershing Road & Dept. of Water Access



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	630	890	10	25	25
Future Volume (vph)	20	630	890	10	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Satd. Flow (prot)	1203	3112	3055	0	1462	0
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1203	3112	3055	0	1462	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1183	811		343	
Travel Time (s)		26.9	18.4		7.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	50%	16%	18%	11%	26%	42%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	708	1011	0	56	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.9% ICU Level of Service A
Analysis Period (min)	15

HCM 6th TWSC
 7: Pershing Road & Dept. of Water Access

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	630	890	10	25	25
Future Vol, veh/h	20	630	890	10	25	25
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	50	16	18	11	26	42
Mvmt Flow	22	708	1000	11	28	28
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1012	0	-	0	1405	507
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	398	-
Critical Hdwy	5.1	-	-	-	7.32	7.74
Critical Hdwy Stg 1	-	-	-	-	6.32	-
Critical Hdwy Stg 2	-	-	-	-	6.32	-
Follow-up Hdwy	2.7	-	-	-	3.76	3.72
Pot Cap-1 Maneuver	454	-	-	-	105	418
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	582	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	453	-	-	-	100	417
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	581	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.4	0	22			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	453	-	-	-	267	
HCM Lane V/C Ratio	0.05	-	-	-	0.21	
HCM Control Delay (s)	13.4	-	-	-	22	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8	

Lanes, Volumes, Timings
 1: Ashland Avenue & 37th Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	10	20	50	30	25	55	1085	25	10	1410	20
Future Volume (vph)	5	10	20	50	30	25	55	1085	25	10	1410	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	10	12	14	12	12	11	11	12
Storage Length (ft)	0		0	0		0	55		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			85			110		
Satd. Flow (prot)	0	1716	0	0	1542	0	1816	3296	0	1479	3198	0
Flt Permitted		0.963			0.829		0.136			0.211		
Satd. Flow (perm)	0	1664	0	0	1307	0	260	3296	0	328	3198	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			14			4			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		602			581			663			632	
Travel Time (s)		13.7			13.2			15.1			14.4	
Confl. Peds. (#/hr)	3		2	2		3	1		2	2		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	25%	0%	14%	0%	7%	6%	9%	15%	18%	9%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	113	0	59	1194	0	11	1538	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		72.0	72.0		72.0	72.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		76.0	76.0		76.0	76.0	
Total Split (s)	34.0	34.0		34.0	34.0		76.0	76.0		76.0	76.0	
Total Split (%)	30.9%	30.9%		30.9%	30.9%		69.1%	69.1%		69.1%	69.1%	
Maximum Green (s)	29.0	29.0		29.0	29.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		63.0	63.0		63.0	63.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		15.5			15.5		85.5	85.5		85.5	85.5	
Actuated g/C Ratio		0.14			0.14		0.78	0.78		0.78	0.78	
v/c Ratio		0.15			0.58		0.29	0.47		0.04	0.62	
Control Delay		23.0			49.4		5.8	2.6		4.3	7.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		23.0			49.4		5.8	2.6		4.3	7.2	
LOS		C			D		A	A		A	A	

Lanes, Volumes, Timings

1: Ashland Avenue & 37th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.0			49.4			2.7				7.1
Approach LOS		C			D			A				A
90th %ile Green (s)	21.6	21.6		21.6	21.6		79.4	79.4		79.4		79.4
90th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord		Coord
70th %ile Green (s)	17.9	17.9		17.9	17.9		83.1	83.1		83.1		83.1
70th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord		Coord
50th %ile Green (s)	15.4	15.4		15.4	15.4		85.6	85.6		85.6		85.6
50th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord		Coord
30th %ile Green (s)	12.8	12.8		12.8	12.8		88.2	88.2		88.2		88.2
30th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord		Coord
10th %ile Green (s)	10.0	10.0		10.0	10.0		91.0	91.0		91.0		91.0
10th %ile Term Code	Hold	Hold		Min	Min		Coord	Coord		Coord		Coord
Queue Length 50th (ft)		10			66		3	34		2		198
Queue Length 95th (ft)		38			119		m10	106		7		332
Internal Link Dist (ft)		522			501			583				552
Turn Bay Length (ft)							55			40		
Base Capacity (vph)		454			354		202	2561		254		2485
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		0.08			0.32		0.29	0.47		0.04		0.62

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 7.1

Intersection LOS: A

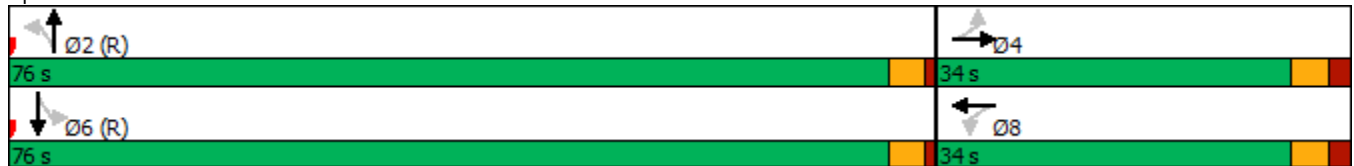
Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15


















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Ashland Avenue & 37th Street



Lanes, Volumes, Timings

2: Ashland Avenue & 38th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	10	5	5	15	70	1145	45	5	1450	25
Future Volume (vph)	5	1	10	5	5	15	70	1145	45	5	1450	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			150		
Satd. Flow (prot)	0	1714	0	0	1817	0	0	3349	0	1805	3367	0
Flt Permitted		0.985			0.990			0.997		0.950		
Satd. Flow (perm)	0	1714	0	0	1817	0	0	3349	0	1805	3367	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		566			903			340			663	
Travel Time (s)		12.9			20.5			7.7			15.1	
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	13%	3%	7%	11%	0%	7%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	25	0	0	1298	0	5	1521	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 89.3% ICU Level of Service E

Analysis Period (min) 15

HCM 6th TWSC
 2: Ashland Avenue & 38th Street

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	5	1	10	5	5	15	70	1145	45	5	1450	25
Future Vol, veh/h	5	1	10	5	5	15	70	1145	45	5	1450	25
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	125	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	13	3	7	11	0	7	0
Mvmt Flow	5	1	10	5	5	15	72	1180	46	5	1495	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2256	2890	762	2106	2880	614	1522	0	0	1227	0	0
Stage 1	1519	1519	-	1348	1348	-	-	-	-	-	-	-
Stage 2	737	1371	-	758	1532	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.16	4.16	-	-	4.1	-	-
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	3.5	4	3.3	3.5	4	3.43	2.23	-	-	2.2	-	-
Pot Cap-1 Maneuver	23	16	352	30	17	409	429	-	-	575	-	-
Stage 1	127	183	-	162	221	-	-	-	-	-	-	-
Stage 2	381	216	-	370	180	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	12	7	352	16	8	408	429	-	-	574	-	-
Mov Cap-2 Maneuver	43	60	-	59	51	-	-	-	-	-	-	-
Stage 1	59	181	-	75	103	-	-	-	-	-	-	-
Stage 2	162	100	-	354	178	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.5	45.6	4.1	0
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	429	-	-	99	114	574	-
HCM Lane V/C Ratio	0.168	-	-	0.167	0.226	0.009	-
HCM Control Delay (s)	15.1	3.6	-	48.5	45.6	11.3	-
HCM Lane LOS	C	A	-	E	E	B	-
HCM 95th %tile Q(veh)	0.6	-	-	0.6	0.8	0	-

Lanes, Volumes, Timings

3: Ashland Avenue & 38th Place



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Volume (vph)	0	5	0	1260	1465	0
Future Volume (vph)	0	5	0	1260	1465	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Satd. Flow (prot)	0	1863	0	3374	3374	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3374	3374	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			351	340	
Travel Time (s)	12.4			8.0	7.7	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	7%	7%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	0	1313	1526	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
 3: Ashland Avenue & 38th Place

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	5	0	1260	1465	0
Future Vol, veh/h	0	5	0	1260	1465	0
Conflicting Peds, #/hr	0	0	8	0	0	8
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	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	7	7	0
Mvmt Flow	0	5	0	1313	1526	0























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	763	0
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	351	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	351	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 351	-
HCM Lane V/C Ratio	- 0.015	-
HCM Control Delay (s)	- 15.4	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings

4: Ashland Avenue & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	305	260	225	630	370	150	865	110	155	1280	35
Future Volume (vph)	25	305	260	225	630	370	150	865	110	155	1280	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	13	12
Storage Length (ft)	190		300	0		145	175		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			150			145			140		
Satd. Flow (prot)	1678	3189	0	1678	3374	1392	1719	3389	0	1641	3569	0
Flt Permitted	0.407			0.192			0.086			0.158		
Satd. Flow (perm)	717	3189	0	338	3374	1365	156	3389	0	273	3569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		177				141		15			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		386			321			1343			351	
Travel Time (s)		8.8			7.3			30.5			8.0	
Confl. Peds. (#/hr)	8		4	4		8	2		7	7		2
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	5%	4%	4%	7%	16%	5%	8%	8%	10%	4%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	576	0	230	643	378	153	995	0	158	1342	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	23.0		5.0	35.0	8.0	8.0	46.0		8.0	46.0	
Minimum Split (s)	8.0	28.0		8.0	40.0	11.0	11.0	51.0		11.0	51.0	
Total Split (s)	8.0	28.0		20.0	40.0	11.0	11.0	51.0		11.0	51.0	
Total Split (%)	7.3%	25.5%		18.2%	36.4%	10.0%	10.0%	46.4%		10.0%	46.4%	
Maximum Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0		0.0	2.0	0.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0	3.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	0.2	0.2		3.0	0.2	0.2	0.2	0.2		0.2	0.2	
Recall Mode	None	Min		None	Min	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			12.0			24.0			29.0	
Flash Dont Walk (s)		18.0			23.0			22.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.2	23.2		43.2	36.4	46.4	57.8	47.8		57.8	47.8	
Actuated g/C Ratio	0.27	0.21		0.39	0.33	0.42	0.53	0.43		0.53	0.43	
v/c Ratio	0.11	0.71		0.73	0.58	0.57	0.78	0.67		0.65	0.86	
Control Delay	21.8	33.0		37.4	33.2	17.6	47.2	27.6		28.0	39.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.8	33.0		37.4	33.2	17.6	47.2	27.6		28.0	39.7	

Lanes, Volumes, Timings

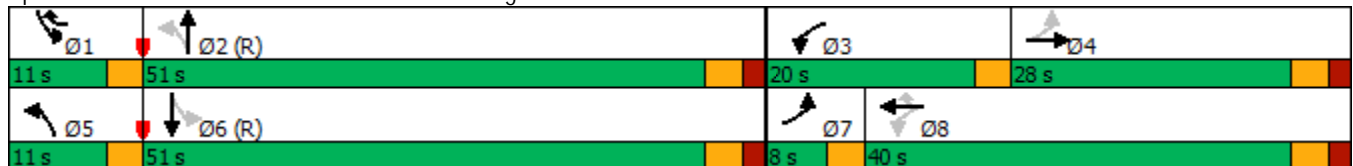
4: Ashland Avenue & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		D	C	B	D	C		C	D	
Approach Delay		32.5			29.2			30.2			38.4	
Approach LOS		C			C			C			D	
90th %ile Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
70th %ile Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
70th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
50th %ile Green (s)	5.0	24.1		15.9	35.0	8.0	8.0	46.0		8.0	46.0	
50th %ile Term Code	Max	Hold		Gap	Max	Max	Max	Coord		Max	Coord	
30th %ile Green (s)	0.0	23.0		14.0	40.0	8.0	8.0	49.0		8.0	49.0	
30th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
10th %ile Green (s)	0.0	23.0		11.0	37.0	8.0	8.0	52.0		8.0	52.0	
10th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
Queue Length 50th (ft)	11	137		109	200	118	55	293		70	519	
Queue Length 95th (ft)	29	203		172	262	213	#164	370		#126	#613	
Internal Link Dist (ft)		306			241			1263			271	
Turn Bay Length (ft)	190					145	175			200		
Base Capacity (vph)	240	812		339	1116	659	195	1480		242	1552	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.11	0.71		0.68	0.58	0.57	0.78	0.67		0.65	0.86	

Intersection Summary






















Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 5 (5%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 33.0
 Intersection LOS: C
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Ashland Avenue & Pershing Road



Lanes, Volumes, Timings

5: Indoor Sports Access/Paulina Street & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	575	1	2	790	25	1	1	1	15	1	15
Future Volume (vph)	5	575	1	2	790	25	1	1	1	15	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	9	12	10	12	12	12	12	12	16	12
Storage Length (ft)	50		75	0		105	0		0	0		20
Storage Lanes	1		1	0		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1745	1629	1454	0	1642	1553	0	1236	1615	0	1898	0
Flt Permitted	0.950							0.976			0.976	
Satd. Flow (perm)	1745	1629	1454	0	1642	1553	0	1236	1615	0	1898	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		380			251			152			591	
Travel Time (s)		8.6			5.7			4.1			13.4	
Confl. Peds. (#/hr)	5		2	2		5	2					2
Confl. Bikes (#/hr)			3			3						
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	5%	0%	0%	8%	4%	100%	0%	0%	0%	0%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	737	1	0	1016	32	0	2	1	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.6%
ICU Level of Service	B
Analysis Period (min)	15

HCM 6th TWSC
 5: Indoor Sports Access/Paulina Street & Pershing Road

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖		↖	↖		↖	↖		↔	
Traffic Vol, veh/h	5	575	1	2	790	25	1	1	1	15	1	15
Future Vol, veh/h	5	575	1	2	790	25	1	1	1	15	1	15
Conflicting Peds, #/hr	5	0	2	2	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	75	-	-	105	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	5	0	0	8	4	100	0	0	0	0	7
Mvmt Flow	6	737	1	3	1013	32	1	1	1	19	1	19

















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1050	0	0	740	0	0	1798	1807	739	1775	1776	1020
Stage 1	-	-	-	-	-	-	751	751	-	1024	1024	-
Stage 2	-	-	-	-	-	-	1047	1056	-	751	752	-
Critical Hdwy	4.1	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	671	-	-	876	-	-	35	80	421	65	84	281
Stage 1	-	-	-	-	-	-	284	421	-	286	315	-
Stage 2	-	-	-	-	-	-	184	305	-	406	421	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	667	-	-	874	-	-	32	78	420	63	82	279
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	192	-	178	198	-
Stage 1	-	-	-	-	-	-	281	416	-	282	311	-
Stage 2	-	-	-	-	-	-	169	301	-	400	416	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	25.6	25.3
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	138	420	667	-	-	874	-	-	217
HCM Lane V/C Ratio	0.019	0.003	0.01	-	-	0.003	-	-	0.183
HCM Control Delay (s)	31.6	13.6	10.4	-	-	9.1	0	-	25.3
HCM Lane LOS	D	B	B	-	-	A	A	-	D
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0.7

Lanes, Volumes, Timings

6: Private Driveway & Pershing Road

													
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2	
Lane Configurations													
Traffic Volume (vph)	1	560	5	5	5	10	1190	1	10	1	30	1	
Future Volume (vph)	1	560	5	5	5	10	1190	1	10	1	30	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	11	12	12	12	12	12	12	12	11	12	12	
Storage Length (ft)	0		0			10		0	0		0		
Storage Lanes	0		0			1		0	0		0		
Taper Length (ft)	25					150			25				
Satd. Flow (prot)	0	3217	0	0	0	0	4759	0	0	1537	0	0	
Flt Permitted							0.999			0.988			
Satd. Flow (perm)	0	3217	0	0	0	0	4759	0	0	1537	0	0	
Link Speed (mph)		30					30			25			
Link Distance (ft)		321					1183			128			
Travel Time (s)		7.3					26.9			3.5			
Confl. Peds. (#/hr)	4		6	2	6	2		4	4			6	
Confl. Bikes (#/hr)			1	1									
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	
Heavy Vehicles (%)	0%	8%	50%	0%	0%	0%	9%	0%	8%	0%	6%	0%	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	740	0	0	0	0	1565	0	0	54	0	0	
Sign Control		Free					Free			Stop			

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.7% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	1	1	1	1	1	25	1	35
Future Volume (vph)	1	1	1	1	1	25	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	12	12	11	12	12
Storage Length (ft)		0		0		0	0	
Storage Lanes		0		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	0	1672	0	0	1580	0	0
Flt Permitted			0.976			0.980		
Satd. Flow (perm)	0	0	1672	0	0	1580	0	0
Link Speed (mph)			25			25		
Link Distance (ft)			135			147		
Travel Time (s)			3.7			4.0		
Confl. Peds. (#/hr)		6		4	2	4	4	
Confl. Bikes (#/hr)								
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	8%	0%	3%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	4	0	0	79	0	0
Sign Control			Stop			Stop		
Intersection Summary								

SimTraffic Performance Report
PM Peak Period

6: Private Driveway & Pershing Road Performance by approach

Approach	EB	WB	NB	SB	NW	All
Denied Del/Veh (s)	0.0	0.1	131.0	0.1	102.6	5.7
Total Del/Veh (s)	1.5	15.7	75.0	29.3	85.3	14.2

SimTraffic Performance Report
PM Peak Period

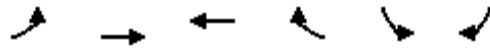
6: Private Driveway & Pershing Road Performance by movement

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	0.1	0.1	0.0	122.6	407.5	128.1	0.1
Total Del/Veh (s)		1.5	1.9	1.9	12.1	12.5	15.7	15.0	138.2	57.6	61.4	3.7

6: Private Driveway & Pershing Road Performance by movement

Movement	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2	All
Denied Del/Veh (s)		0.1	0.1		105.1	0.1	104.1	5.7
Total Del/Veh (s)		32.1	20.7		123.1	93.4	64.0	14.2

Lanes, Volumes, Timings
 7: Pershing Road & Dept. of Water Access



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	655	1150	5	40	20
Future Volume (vph)	10	655	1150	5	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Satd. Flow (prot)	1641	3406	3280	0	1993	0
Flt Permitted	0.950				0.968	
Satd. Flow (perm)	1641	3406	3280	0	1993	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1183	810		343	
Travel Time (s)		26.9	18.4		7.8	
Confl. Peds. (#/hr)	6			6		
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	10%	6%	10%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	862	1520	0	79	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.1% ICU Level of Service A
Analysis Period (min)	15

HCM 6th TWSC
 7: Pershing Road & Dept. of Water Access

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↘	
Traffic Vol, veh/h	10	655	1150	5	40	20
Future Vol, veh/h	10	655	1150	5	40	20
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	10	6	10	0	0	0
Mvmt Flow	13	862	1513	7	53	26



















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1526	0	-	0	1980 766
Stage 1	-	-	-	-	1523 -
Stage 2	-	-	-	-	457 -
Critical Hdwy	4.3	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.3	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	396	-	-	-	55 350
Stage 1	-	-	-	-	169 -
Stage 2	-	-	-	-	610 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	393	-	-	-	52 347
Mov Cap-2 Maneuver	-	-	-	-	131 -
Stage 1	-	-	-	-	162 -
Stage 2	-	-	-	-	605 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	45.4
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	393	-	-	-	165
HCM Lane V/C Ratio	0.033	-	-	-	0.478
HCM Control Delay (s)	14.5	-	-	-	45.4
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3

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

Lanes, Volumes, Timings
 1: Ashland Avenue & 37th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	15	10	15	5	5	30	1550	15	15	755	10
Future Volume (vph)	10	15	10	15	5	5	30	1550	15	15	755	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	10	12	14	12	12	11	11	12
Storage Length (ft)	0		0	0		0	55		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			85			110		
Satd. Flow (prot)	0	1873	0	0	1227	0	1869	3105	0	1353	2880	0
Flt Permitted		0.894			0.844		0.325			0.115		
Satd. Flow (perm)	0	1698	0	0	1066	0	639	3105	0	164	2880	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			2				2
Link Speed (mph)		30			30			30				30
Link Distance (ft)		602			581			663				632
Travel Time (s)		13.7			13.2			15.1				14.4
Confl. Peds. (#/hr)	1					1	3					3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	38%	0%	67%	3%	16%	33%	29%	21%	13%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	29	0	34	1759	0	17	859	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		67.0	67.0		67.0	67.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		71.0	71.0		71.0	71.0	
Total Split (s)	39.0	39.0		39.0	39.0		71.0	71.0		71.0	71.0	
Total Split (%)	35.5%	35.5%		35.5%	35.5%		64.5%	64.5%		64.5%	64.5%	
Maximum Green (s)	34.0	34.0		34.0	34.0		67.0	67.0		67.0	67.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	12.0	12.0		12.0	12.0		58.0	58.0		58.0	58.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		10.9			10.9		97.7	97.7		97.7	97.7	
Actuated g/C Ratio		0.10			0.10		0.89	0.89		0.89	0.89	
v/c Ratio		0.22			0.26		0.06	0.64		0.12	0.34	
Control Delay		38.1			44.2		1.1	2.0		4.1	2.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		38.1			44.2		1.1	2.0		4.1	2.3	
LOS		D			D		A	A		A	A	

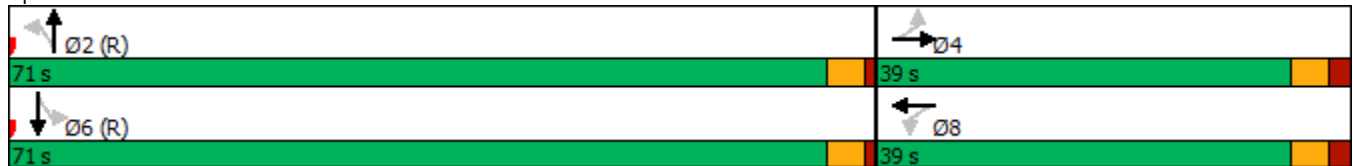
Lanes, Volumes, Timings
 1: Ashland Avenue & 37th Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		38.1			44.2			2.0			2.4	
Approach LOS		D			D			A			A	
90th %ile Green (s)	13.4	13.4		13.4	13.4		87.6	87.6		87.6	87.6	
90th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
70th %ile Green (s)	11.2	11.2		11.2	11.2		89.8	89.8		89.8	89.8	
70th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
50th %ile Green (s)	10.0	10.0		10.0	10.0		91.0	91.0		91.0	91.0	
50th %ile Term Code	Min	Min		Min	Min		Coord	Coord		Coord	Coord	
30th %ile Green (s)	0.0	0.0		0.0	0.0		106.0	106.0		106.0	106.0	
30th %ile Term Code	Skip	Skip		Skip	Skip		Coord	Coord		Coord	Coord	
10th %ile Green (s)	0.0	0.0		0.0	0.0		106.0	106.0		106.0	106.0	
10th %ile Term Code	Skip	Skip		Skip	Skip		Coord	Coord		Coord	Coord	
Queue Length 50th (ft)		19			15		2	87		2	57	
Queue Length 95th (ft)		50			44		m3	m97		8	93	
Internal Link Dist (ft)		522			501			583			552	
Turn Bay Length (ft)							55			40		
Base Capacity (vph)		532			333		567	2757		145	2557	
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		0.07			0.09		0.06	0.64		0.12	0.34	

Intersection Summary


















Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 31 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 3.1
 Intersection LOS: A
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Ashland Avenue & 37th Street



Lanes, Volumes, Timings

2: Ashland Avenue & 38th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	10	1	1	5	75	1590	40	10	750	20
Future Volume (vph)	1	1	10	1	1	5	75	1590	40	10	750	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			150		
Satd. Flow (prot)	0	1534	0	0	1177	0	0	3153	0	1671	3191	0
Flt Permitted		0.996			0.993			0.998		0.950		
Satd. Flow (perm)	0	1534	0	0	1177	0	0	3153	0	1671	3191	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		566			584			340			663	
Travel Time (s)		12.9			13.3			7.7			15.1	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	11%	100%	100%	50%	4%	14%	24%	8%	13%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	7	0	0	1814	0	11	819	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	82.1%						ICU Level of Service E					
Analysis Period (min)	15											

HCM 6th TWSC

2: Ashland Avenue & 38th Street

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	1	1	10	1	1	5	75	1590	40	10	750	20
Future Vol, veh/h	1	1	10	1	1	5	75	1590	40	10	750	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	125	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	11	100	100	50	4	14	24	8	13	0
Mvmt Flow	1	1	11	1	1	5	80	1691	43	11	798	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1837	2726	410	2296	2715	868	819	0	0	1735	0	0
Stage 1	831	831	-	1874	1874	-	-	-	-	-	-	-
Stage 2	1006	1895	-	422	841	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.12	9.5	8.5	7.9	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	6.5	5.5	-	8.5	7.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	8.5	7.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.41	4.5	5	3.8	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	48	21	566	6	5	215	793	-	-	334	-	-
Stage 1	334	387	-	25	41	-	-	-	-	-	-	-
Stage 2	262	119	-	380	212	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	566	-	0	215	793	-	-	334	-	-
Mov Cap-2 Maneuver	~ -11	~ -10	-	21	0	-	-	-	-	-	-	-
Stage 1	334	374	-	25	0	-	-	-	-	-	-	-
Stage 2	-	0	-	360	205	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s					4.7		0.2		
HCM LOS									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	793	-	-	-	334	-	-
HCM Lane V/C Ratio	0.101	-	-	-	0.032	-	-
HCM Control Delay (s)	10	4.6	-	-	16.1	-	-
HCM Lane LOS	B	A	-	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	-	-

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

Lanes, Volumes, Timings

3: Ashland Avenue & 38th Place



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Volume (vph)	0	5	0	1705	760	0
Future Volume (vph)	0	5	0	1705	760	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Satd. Flow (prot)	0	1863	0	3223	3195	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3223	3195	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			351	340	
Travel Time (s)	12.4			8.0	7.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	12%	13%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	0	1874	835	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 3: Ashland Avenue & 38th Place

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	5	0	1705	760	0
Future Vol, veh/h	0	5	0	1705	760	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	12	13	0
Mvmt Flow	0	5	0	1874	835	0






















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	418	0
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	589	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	589	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 589	-
HCM Lane V/C Ratio	- 0.009	-
HCM Control Delay (s)	- 11.2	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings

4: Ashland Avenue & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	285	150	145	465	350	295	1285	185	130	605	30
Future Volume (vph)	70	285	150	145	465	350	295	1285	185	130	605	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	13	12
Storage Length (ft)	190		300	0		145	175		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			150			145			140		
Satd. Flow (prot)	1601	3111	0	1531	3312	1324	1752	3355	0	1570	3356	0
Flt Permitted	0.454			0.281			0.325			0.078		
Satd. Flow (perm)	760	3111	0	451	3312	1291	599	3355	0	129	3356	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79				71		19			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		386			321			1345			351	
Travel Time (s)		8.8			7.3			30.6			8.0	
Confl. Peds. (#/hr)	11		5	5		11	2		4	4		2
Confl. Bikes (#/hr)						2						2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	11%	6%	14%	9%	22%	3%	8%	15%	15%	10%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	458	0	153	489	368	311	1548	0	137	669	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	23.0		6.0	30.0	8.0	8.0	51.0		8.0	51.0	
Minimum Split (s)	8.0	28.0		9.0	35.0	11.0	11.0	56.0		11.0	56.0	
Total Split (s)	8.0	28.0		15.0	35.0	11.0	11.0	56.0		11.0	56.0	
Total Split (%)	7.3%	25.5%		13.6%	31.8%	10.0%	10.0%	50.9%		10.0%	50.9%	
Maximum Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0		0.0	2.0	0.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0	3.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	0.2	0.2		3.0	0.2	0.2	0.2	0.2		0.2	0.2	
Recall Mode	None	Min		None	Min	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			7.0			29.0			34.0	
Flash Dont Walk (s)		18.0			23.0			22.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.2	23.2		39.3	30.9	40.9	61.7	51.7		61.7	51.7	
Actuated g/C Ratio	0.27	0.21		0.36	0.28	0.37	0.56	0.47		0.56	0.47	
v/c Ratio	0.30	0.64		0.57	0.53	0.70	0.74	0.98		0.77	0.42	
Control Delay	28.2	37.2		33.8	36.1	30.1	25.9	46.6		51.4	19.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	28.2	37.2		33.8	36.1	30.1	25.9	46.6		51.4	19.7	

Lanes, Volumes, Timings

4: Ashland Avenue & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D		C	D	C	C	D		D	B	
Approach Delay		35.9			33.6			43.2			25.1	
Approach LOS		D			C			D			C	
90th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
70th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
70th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
50th %ile Green (s)	5.0	23.0		12.0	30.0	8.0	8.0	51.0		8.0	51.0	
50th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
30th %ile Green (s)	5.0	23.8		11.2	30.0	8.0	8.0	51.0		8.0	51.0	
30th %ile Term Code	Max	Hold		Gap	Max	Max	Max	Coord		Max	Coord	
10th %ile Green (s)	0.0	23.0		8.6	34.6	8.0	8.0	54.4		8.0	54.4	
10th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
Queue Length 50th (ft)	34	129		76	155	170	105	549		60	156	
Queue Length 95th (ft)	68	185		128	208	281	#169	#729		#150	201	
Internal Link Dist (ft)		306			241			1265			271	
Turn Bay Length (ft)	190					145	175			200		
Base Capacity (vph)	246	717		278	931	527	420	1586		177	1580	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.30	0.64		0.55	0.53	0.70	0.74	0.98		0.77	0.42	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

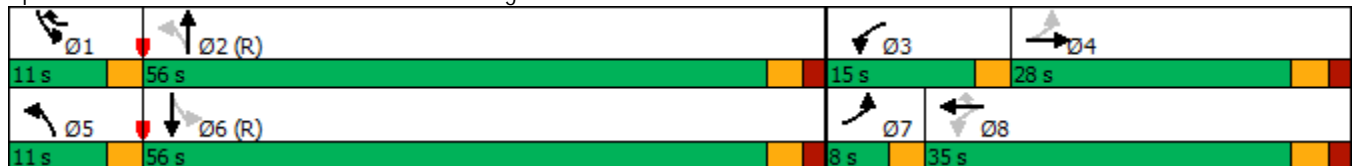
Intersection Signal Delay: 36.5 Intersection LOS: D

Intersection Capacity Utilization 103.0% ICU Level of Service G

Analysis Period (min) 15






















95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Ashland Avenue & Pershing Road



Lanes, Volumes, Timings

5: Indoor Sports Access/Paulina Street & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	495	1	1	740	50	1	1	1	10	1	10
Future Volume (vph)	15	495	1	1	740	50	1	1	1	10	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	9	12	10	12	12	12	12	12	16	12
Storage Length (ft)	50		75	0		105	0		0	0		20
Storage Lanes	1		1	0		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1631	1527	1454	0	1516	1524	0	1854	1615	0	1967	0
Flt Permitted	0.950							0.976			0.977	
Satd. Flow (perm)	1631	1527	1454	0	1516	1524	0	1854	1615	0	1967	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		380			251			152			591	
Travel Time (s)		8.6			5.7			4.1			13.4	
Confl. Peds. (#/hr)	6		2	2		6	1					1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	12%	0%	0%	17%	6%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	563	1	0	842	57	0	2	1	0	23	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	56.6%						ICU Level of Service B					
Analysis Period (min)	15											

HCM 6th TWSC

5: Indoor Sports Access/Paulina Street & Pershing Road

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗		↖	↗		↖	↗		↔	
Traffic Vol, veh/h	15	495	1	1	740	50	1	1	1	10	1	10
Future Vol, veh/h	15	495	1	1	740	50	1	1	1	10	1	10
Conflicting Peds, #/hr	6	0	2	2	0	6	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	75	-	-	105	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	12	0	0	17	6	0	0	0	0	0	0
Mvmt Flow	17	563	1	1	841	57	1	1	1	11	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	904	0	0	566	0	0	1478	1505	565	1448	1449	848
Stage 1	-	-	-	-	-	-	599	599	-	849	849	-
Stage 2	-	-	-	-	-	-	879	906	-	599	600	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	732	-	-	1016	-	-	105	122	528	110	132	364
Stage 1	-	-	-	-	-	-	492	494	-	358	380	-
Stage 2	-	-	-	-	-	-	345	358	-	492	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	726	-	-	1014	-	-	99	118	527	106	127	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	233	-	230	249	-
Stage 1	-	-	-	-	-	-	480	482	-	347	376	-
Stage 2	-	-	-	-	-	-	332	354	-	478	481	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0			18.1			19.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	527	726	-	-	1014	-	-	279
HCM Lane V/C Ratio	0.01	0.002	0.023	-	-	0.001	-	-	0.086
HCM Control Delay (s)	21.2	11.8	10.1	-	-	8.6	0	-	19.1
HCM Lane LOS	C	B	B	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	0.3

Lanes, Volumes, Timings

6: Private Driveway & Pershing Road & Access 1



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations		↕↕					↕↕↕			↕		
Traffic Volume (vph)	1	575	20	5	10	10	905	5	15	1	10	10
Future Volume (vph)	1	575	20	5	10	10	905	5	15	1	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	12	11	12	12
Storage Length (ft)	0		0				10		0	0		0
Storage Lanes	0		0				1		0	0		0
Taper Length (ft)	25						150			25		
Satd. Flow (prot)	0	3024	0	0	0	0	4364	0	0	1152	0	0
Flt Permitted							0.999			0.980		
Satd. Flow (perm)	0	3024	0	0	0	0	4364	0	0	1152	0	0
Link Speed (mph)		30					30			25		
Link Distance (ft)		321					1183			128		
Travel Time (s)		7.3					26.9			3.5		
Confl. Peds. (#/hr)	1		2	2	2	2		1			1	2
Confl. Bikes (#/hr)											1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	15%	11%	0%	13%	0%	19%	0%	62%	0%	45%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	646	0	0	0	0	1000	0	0	39	0	0
Sign Control		Free					Free			Stop		

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.7%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road & Access 1



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	1	1	1	5	1	35	1	35
Future Volume (vph)	1	1	1	5	1	35	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	12	12	11	12	12
Storage Length (ft)		0		0		0	0	
Storage Lanes		0		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	0	1605	0	0	1354	0	0
Flt Permitted			0.988			0.976		
Satd. Flow (perm)	0	0	1605	0	0	1354	0	0
Link Speed (mph)			25			25		
Link Distance (ft)			135			147		
Travel Time (s)			3.7			4.0		
Confl. Peds. (#/hr)	1	2			2		1	1
Confl. Bikes (#/hr)								
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	30%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	8	0	0	78	0	0
Sign Control			Stop			Stop		
Intersection Summary								

SimTraffic Performance Report
AM Peak Period

6: Private Driveway & Pershing Road & Access 1 Performance by approach

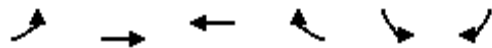
Approach	EB	WB	NB	SB	NW	All
Denied Del/Veh (s)	0.0	0.0	86.2	0.1	221.1	11.3
Total Del/Veh (s)	1.6	18.4	108.7	31.8	99.2	17.1

Queuing and Blocking Report
 AM Peak Period

Intersection: 6: Private Driveway & Pershing Road & Access 1

Movement	EB	EB	WB	WB	WB	NB	SB	NW
Directions Served	LT	TR>	<LT	T	TR	LTR>	<LTR	<LR>
Maximum Queue (ft)	32	12	160	451	443	117	39	146
Average Queue (ft)	1	0	58	168	146	54	9	80
95th Queue (ft)	15	6	172	449	416	121	33	145
Link Distance (ft)	224	224		1107	1107	85	83	95
Upstream Blk Time (%)						27		43
Queuing Penalty (veh)						0		0
Storage Bay Dist (ft)			10					
Storage Blk Time (%)			2	37				
Queuing Penalty (veh)			7	118				

Lanes, Volumes, Timings
 7: Pershing Road & Dept. of Water Access



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	630	895	10	25	25
Future Volume (vph)	20	630	895	10	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Satd. Flow (prot)	1203	3139	3081	0	1462	0
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1203	3139	3081	0	1462	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1183	811		343	
Travel Time (s)		26.9	18.4		7.8	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	50%	15%	17%	11%	26%	42%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	708	1017	0	56	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.1% ICU Level of Service A
Analysis Period (min)	15

HCM 6th TWSC
 7: Pershing Road & Dept. of Water Access

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	630	895	10	25	25
Future Vol, veh/h	20	630	895	10	25	25
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	50	15	17	11	26	42
Mvmt Flow	22	708	1006	11	28	28

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1018	0	-	0	1411 510
Stage 1	-	-	-	-	1013 -
Stage 2	-	-	-	-	398 -
Critical Hdwy	5.1	-	-	-	7.32 7.74
Critical Hdwy Stg 1	-	-	-	-	6.32 -
Critical Hdwy Stg 2	-	-	-	-	6.32 -
Follow-up Hdwy	2.7	-	-	-	3.76 3.72
Pot Cap-1 Maneuver	451	-	-	-	104 416
Stage 1	-	-	-	-	262 -
Stage 2	-	-	-	-	582 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	450	-	-	-	99 415
Mov Cap-2 Maneuver	-	-	-	-	195 -
Stage 1	-	-	-	-	249 -
Stage 2	-	-	-	-	581 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	22.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	450	-	-	-	265
HCM Lane V/C Ratio	0.05	-	-	-	0.212
HCM Control Delay (s)	13.4	-	-	-	22.2
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

Lanes, Volumes, Timings
 8: Access 2 & 38th Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	40	10	1	5	1	1
Future Volume (vph)	40	10	1	5	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1530	0	0	1077	1728	0
Flt Permitted				0.992	0.976	
Satd. Flow (perm)	1530	0	0	1077	1728	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	584			319	220	
Travel Time (s)	13.3			7.3	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	26%	0%	0%	90%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	6	2	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3% ICU Level of Service A
Analysis Period (min)	15

HCM 6th TWSC
 8: Access 2 & 38th Street



















Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	40	10	1	5	1	1
Future Vol, veh/h	40	10	1	5	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	26	0	0	90	0	0
Mvmt Flow	43	11	1	5	1	1

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	54	0	56	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1564	-	957	1025
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1564	-	956	1025
Mov Cap-2 Maneuver	-	-	-	-	956	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	1020	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	989	-	-	1564	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lanes, Volumes, Timings
1: Ashland Avenue & 37th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	10	20	50	30	25	55	1085	25	10	1410	20
Future Volume (vph)	5	10	20	50	30	25	55	1085	25	10	1410	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	10	12	14	12	12	11	11	12
Storage Length (ft)	0		0	0		0	55		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			85			110		
Satd. Flow (prot)	0	1716	0	0	1588	0	1834	3326	0	1479	3227	0
Flt Permitted		0.962			0.829		0.136			0.211		
Satd. Flow (perm)	0	1662	0	0	1346	0	262	3326	0	328	3227	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			14			4				3
Link Speed (mph)		30			30			30				30
Link Distance (ft)		602			581			663				632
Travel Time (s)		13.7			13.2			15.1				14.4
Confl. Peds. (#/hr)	3		2	2		3	1		2	2		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	25%	0%	9%	0%	4%	5%	8%	15%	18%	8%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	113	0	59	1194	0	11	1538	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		72.0	72.0		72.0	72.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		76.0	76.0		76.0	76.0	
Total Split (s)	34.0	34.0		34.0	34.0		76.0	76.0		76.0	76.0	
Total Split (%)	30.9%	30.9%		30.9%	30.9%		69.1%	69.1%		69.1%	69.1%	
Maximum Green (s)	29.0	29.0		29.0	29.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		63.0	63.0		63.0	63.0	
Flash Dont Walk (s)	22.0	22.0		22.0	22.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		15.3			15.3		85.7	85.7		85.7	85.7	
Actuated g/C Ratio		0.14			0.14		0.78	0.78		0.78	0.78	
v/c Ratio		0.15			0.57		0.29	0.46		0.04	0.61	
Control Delay		23.2			49.0		5.5	2.4		4.2	6.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		23.2			49.0		5.5	2.4		4.2	6.9	
LOS		C			D		A	A		A	A	

Lanes, Volumes, Timings

1: Ashland Avenue & 37th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.2			49.0			2.6			6.9	
Approach LOS		C			D			A			A	
90th %ile Green (s)	21.2	21.2		21.2	21.2		79.8	79.8		79.8	79.8	
90th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
70th %ile Green (s)	17.6	17.6		17.6	17.6		83.4	83.4		83.4	83.4	
70th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
50th %ile Green (s)	15.1	15.1		15.1	15.1		85.9	85.9		85.9	85.9	
50th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
30th %ile Green (s)	12.6	12.6		12.6	12.6		88.4	88.4		88.4	88.4	
30th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord		Coord	Coord	
10th %ile Green (s)	10.0	10.0		10.0	10.0		91.0	91.0		91.0	91.0	
10th %ile Term Code	Hold	Hold		Min	Min		Coord	Coord		Coord	Coord	
Queue Length 50th (ft)		10			66		3	33		1	194	
Queue Length 95th (ft)		38			119		m8	81		7	323	
Internal Link Dist (ft)		522			501			583			552	
Turn Bay Length (ft)							55			40		
Base Capacity (vph)		454			365		204	2592		255	2514	
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		0.08			0.31		0.29	0.46		0.04	0.61	

Intersection Summary


















Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 6.9 Intersection LOS: A
 Intersection Capacity Utilization 81.2% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Ashland Avenue & 37th Street



Lanes, Volumes, Timings

2: Ashland Avenue & 38th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	10	5	5	15	70	1145	45	5	1450	25
Future Volume (vph)	5	1	10	5	5	15	70	1145	45	5	1450	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	125		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			150		
Satd. Flow (prot)	0	1714	0	0	1817	0	0	3349	0	1805	3367	0
Flt Permitted		0.985			0.990			0.997		0.950		
Satd. Flow (perm)	0	1714	0	0	1817	0	0	3349	0	1805	3367	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		566			584			340			663	
Travel Time (s)		12.9			13.3			7.7			15.1	
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	13%	3%	7%	11%	0%	7%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	25	0	0	1298	0	5	1521	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	89.3%						ICU Level of Service E					
Analysis Period (min)	15											

HCM 6th TWSC
 2: Ashland Avenue & 38th Street

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	5	1	10	5	5	15	70	1145	45	5	1450	25
Future Vol, veh/h	5	1	10	5	5	15	70	1145	45	5	1450	25
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	125	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	13	3	7	11	0	7	0
Mvmt Flow	5	1	10	5	5	15	72	1180	46	5	1495	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2256	2890	762	2106	2880	614	1522	0	0	1227	0	0
Stage 1	1519	1519	-	1348	1348	-	-	-	-	-	-	-
Stage 2	737	1371	-	758	1532	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.16	4.16	-	-	4.1	-	-
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	3.5	4	3.3	3.5	4	3.43	2.23	-	-	2.2	-	-
Pot Cap-1 Maneuver	23	16	352	30	17	409	429	-	-	575	-	-
Stage 1	127	183	-	162	221	-	-	-	-	-	-	-
Stage 2	381	216	-	370	180	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	12	7	352	16	8	408	429	-	-	574	-	-
Mov Cap-2 Maneuver	43	60	-	59	51	-	-	-	-	-	-	-
Stage 1	59	181	-	75	103	-	-	-	-	-	-	-
Stage 2	162	100	-	354	178	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	48.5		45.6		4.1		0	
HCM LOS	E		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	429	-	-	99	114	574	-
HCM Lane V/C Ratio	0.168	-	-	0.167	0.226	0.009	-
HCM Control Delay (s)	15.1	3.6	-	48.5	45.6	11.3	-
HCM Lane LOS	C	A	-	E	E	B	-
HCM 95th %tile Q(veh)	0.6	-	-	0.6	0.8	0	-

Lanes, Volumes, Timings

3: Ashland Avenue & 38th Place



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Volume (vph)	0	5	0	1260	1465	0
Future Volume (vph)	0	5	0	1260	1465	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12
Satd. Flow (prot)	0	1863	0	3374	3374	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3374	3374	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			351	340	
Travel Time (s)	12.4			8.0	7.7	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	7%	7%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	0	1313	1526	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
 3: Ashland Avenue & 38th Place






















Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	5	0	1260	1465	0
Future Vol, veh/h	0	5	0	1260	1465	0
Conflicting Peds, #/hr	0	0	8	0	0	8
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	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	7	7	0
Mvmt Flow	0	5	0	1313	1526	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	763	0
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	351	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	351	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 351	-
HCM Lane V/C Ratio	- 0.015	-
HCM Control Delay (s)	- 15.4	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings
 4: Ashland Avenue & Pershing Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	305	260	230	635	370	150	865	110	155	1280	35
Future Volume (vph)	25	305	260	230	635	370	150	865	110	155	1280	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	13	12
Storage Length (ft)	190		300	0		145	175		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			150			145			140		
Satd. Flow (prot)	1678	3189	0	1678	3374	1404	1719	3417	0	1656	3569	0
Flt Permitted	0.406			0.190			0.086			0.158		
Satd. Flow (perm)	715	3189	0	335	3374	1377	156	3417	0	275	3569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		177				141		15				3
Link Speed (mph)		30			30			30				30
Link Distance (ft)		386			321			1343				351
Travel Time (s)		8.8			7.3			30.5				8.0
Confl. Peds. (#/hr)	8		4	4		8	2		7	7		2
Confl. Bikes (#/hr)									1			1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	5%	4%	4%	7%	15%	5%	7%	8%	9%	4%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	576	0	235	648	378	153	995	0	158	1342	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	23.0		5.0	35.0	8.0	8.0	46.0		8.0	46.0	
Minimum Split (s)	8.0	28.0		8.0	40.0	11.0	11.0	51.0		11.0	51.0	
Total Split (s)	8.0	28.0		20.0	40.0	11.0	11.0	51.0		11.0	51.0	
Total Split (%)	7.3%	25.5%		18.2%	36.4%	10.0%	10.0%	46.4%		10.0%	46.4%	
Maximum Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0		0.0	2.0	0.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0	3.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	0.2	0.2		3.0	0.2	0.2	0.2	0.2		0.2	0.2	
Recall Mode	None	Min		None	Min	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			12.0			24.0			29.0	
Flash Dont Walk (s)		18.0			23.0			22.0			17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.2	23.2		43.3	36.5	46.5	57.7	47.7		57.7	47.7	
Actuated g/C Ratio	0.27	0.21		0.39	0.33	0.42	0.52	0.43		0.52	0.43	
v/c Ratio	0.11	0.71		0.74	0.58	0.57	0.78	0.67		0.65	0.87	
Control Delay	21.8	33.0		38.3	33.2	17.4	47.3	27.5		27.8	40.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.8	33.0		38.3	33.2	17.4	47.3	27.5		27.8	40.0	

Lanes, Volumes, Timings

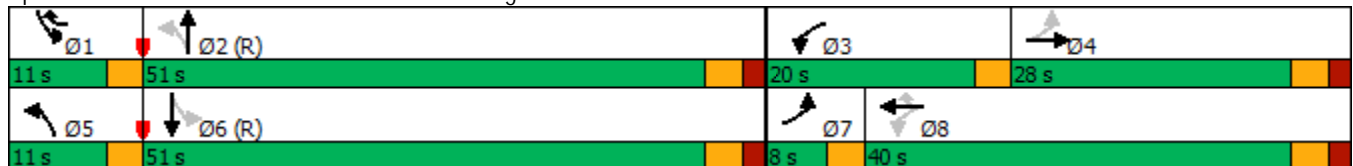
4: Ashland Avenue & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		D	C	B	D	C		C	D	
Approach Delay		32.6			29.4			30.2			38.8	
Approach LOS		C			C			C			D	
90th %ile Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
90th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
70th %ile Green (s)	5.0	23.0		17.0	35.0	8.0	8.0	46.0		8.0	46.0	
70th %ile Term Code	Max	Max		Max	Max	Max	Max	Coord		Max	Coord	
50th %ile Green (s)	5.0	23.8		16.2	35.0	8.0	8.0	46.0		8.0	46.0	
50th %ile Term Code	Max	Hold		Gap	Max	Max	Max	Coord		Max	Coord	
30th %ile Green (s)	0.0	23.0		14.3	40.3	8.0	8.0	48.7		8.0	48.7	
30th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
10th %ile Green (s)	0.0	23.0		11.3	37.3	8.0	8.0	51.7		8.0	51.7	
10th %ile Term Code	Skip	Min		Gap	Hold	Min	Min	Coord		Min	Coord	
Queue Length 50th (ft)	11	137		112	202	118	55	292		70	520	
Queue Length 95th (ft)	29	203		177	264	212	#164	368		#124	#613	
Internal Link Dist (ft)		306			241			1263			271	
Turn Bay Length (ft)	190					145	175			200		
Base Capacity (vph)	239	810		339	1120	665	195	1489		244	1548	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.11	0.71		0.69	0.58	0.57	0.78	0.67		0.65	0.87	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 5 (5%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 33.1
 Intersection LOS: C
 Intersection Capacity Utilization 95.3%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Ashland Avenue & Pershing Road



Lanes, Volumes, Timings
 5: Indoor Sports Access/Paulina Street & Pershing Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	575	1	2	795	25	1	1	1	15	1	15
Future Volume (vph)	5	575	1	2	795	25	1	1	1	15	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	9	12	10	12	12	12	12	12	16	12
Storage Length (ft)	50		75	0		105	0		0	0		20
Storage Lanes	1		1	0		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1745	1629	1454	0	1642	1553	0	1236	1615	0	1898	0
Flt Permitted	0.950							0.976			0.976	
Satd. Flow (perm)	1745	1629	1454	0	1642	1553	0	1236	1615	0	1898	0
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		380			251			152			591	
Travel Time (s)		8.6			5.7			4.1			13.4	
Confl. Peds. (#/hr)	5		2	2		5	2					2
Confl. Bikes (#/hr)			3			3						
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	5%	0%	0%	8%	4%	100%	0%	0%	0%	0%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	737	1	0	1022	32	0	2	1	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.9% ICU Level of Service B
Analysis Period (min)	15

HCM 6th TWSC

5: Indoor Sports Access/Paulina Street & Pershing Road
















Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	575	1	2	795	25	1	1	1	15	1	15
Future Vol, veh/h	5	575	1	2	795	25	1	1	1	15	1	15
Conflicting Peds, #/hr	5	0	2	2	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	75	-	-	105	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	5	0	0	8	4	100	0	0	0	0	7
Mvmt Flow	6	737	1	3	1019	32	1	1	1	19	1	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1056	0	0	740	0	0	1804	1813	739	1781	1782	1026
Stage 1	-	-	-	-	-	-	751	751	-	1030	1030	-
Stage 2	-	-	-	-	-	-	1053	1062	-	751	752	-
Critical Hdwy	4.1	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	667	-	-	876	-	-	35	79	421	65	83	279
Stage 1	-	-	-	-	-	-	284	421	-	284	313	-
Stage 2	-	-	-	-	-	-	182	303	-	406	421	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	663	-	-	874	-	-	32	77	420	63	81	277
Mov Cap-2 Maneuver	-	-	-	-	-	-	107	191	-	178	197	-
Stage 1	-	-	-	-	-	-	281	416	-	280	309	-
Stage 2	-	-	-	-	-	-	167	299	-	400	416	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			25.7			25.4		
HCM LOS							D			D		

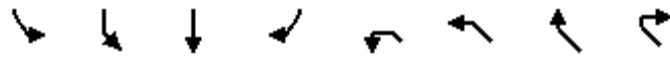
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	137	420	663	-	-	874	-	-	216
HCM Lane V/C Ratio	0.019	0.003	0.01	-	-	0.003	-	-	0.184
HCM Control Delay (s)	31.8	13.6	10.5	-	-	9.1	0	-	25.4
HCM Lane LOS	D	B	B	-	-	A	A	-	D
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0.7

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road & Access 1

												
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	1	560	5	5	5	10	1190	5	10	1	30	1
Future Volume (vph)	1	560	5	5	5	10	1190	5	10	1	30	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	12	11	12	12
Storage Length (ft)	0		0				10		0	0		0
Storage Lanes	0		0				1		0	0		0
Taper Length (ft)	25						150			25		
Satd. Flow (prot)	0	3217	0	0	0	0	4782	0	0	1537	0	0
Flt Permitted							0.999			0.988		
Satd. Flow (perm)	0	3217	0	0	0	0	4782	0	0	1537	0	0
Link Speed (mph)		30					30			25		
Link Distance (ft)		321					1183			128		
Travel Time (s)		7.3					26.9			3.5		
Confl. Peds. (#/hr)	4		6	2	6	2		4	4			6
Confl. Bikes (#/hr)			1	1								
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	8%	50%	0%	0%	0%	8%	100%	8%	0%	6%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	740	0	0	0	0	1570	0	0	54	0	0
Sign Control		Free					Free			Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.9% ICU Level of Service A
Analysis Period (min)	15

Lanes, Volumes, Timings
 6: Private Driveway & Pershing Road & Access 1



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	5	1	1	10	1	25	1	35
Future Volume (vph)	5	1	1	10	1	25	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	12	12	11	12	12
Storage Length (ft)		0		0		0	0	
Storage Lanes		0		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	0	1598	0	0	1580	0	0
Flt Permitted			0.984			0.980		
Satd. Flow (perm)	0	0	1598	0	0	1580	0	0
Link Speed (mph)			25			25		
Link Distance (ft)			135			147		
Travel Time (s)			3.7			4.0		
Confl. Peds. (#/hr)		6		4	2	4	4	
Confl. Bikes (#/hr)								
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	8%	0%	3%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	21	0	0	79	0	0
Sign Control			Stop			Stop		
Intersection Summary								

SimTraffic Performance Report
PM Peak Period

6: Private Driveway & Pershing Road & Access 1 Performance by approach

Approach	EB	WB	NB	SB	NW	All
Denied Del/Veh (s)	0.0	0.5	214.1	0.1	348.0	15.8
Total Del/Veh (s)	1.6	36.8	97.8	56.5	166.2	30.8

Queuing and Blocking Report
 PM Peak Period

Intersection: 6: Private Driveway & Pershing Road & Access 1

Movement	EB	EB	WB	WB	WB	NB	SB	NW
Directions Served	LT	TR>	<LT	T	TR	LTR>	<LTR	<LR>
Maximum Queue (ft)	43	24	160	833	747	101	68	129
Average Queue (ft)	1	1	85	317	271	45	18	74
95th Queue (ft)	16	14	208	823	742	96	54	136
Link Distance (ft)	224	224		1107	1107	85	83	95
Upstream Blk Time (%)				0		20	0	54
Queuing Penalty (veh)				0		0	0	0
Storage Bay Dist (ft)			10					
Storage Blk Time (%)			4	45				
Queuing Penalty (veh)			15	180				

SimTraffic Performance Report
 PM Peak Period

6: Private Driveway & Pershing Road & Access 1 Performance by movement

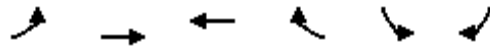
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.0	3.1	0.5	0.0	222.6		200.5	393.8
Total Del/Veh (s)	13.1	1.5	1.5	1.3	65.7	32.3	36.7	21.8	223.1		54.6	7.2

6: Private Driveway & Pershing Road & Access 1 Performance by movement

Movement	SBL2	SBL	SBT	SBR	NWL	NWR	NWR2	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	311.2	259.3	374.8	15.8
Total Del/Veh (s)	30.4	119.7	62.7	56.9	208.1	186.9	138.1	30.8

Lanes, Volumes, Timings

7: Pershing Road & Dept. of Water Access



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	660	1155	5	40	20
Future Volume (vph)	10	660	1155	5	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Satd. Flow (prot)	1641	3406	3310	0	1993	0
Flt Permitted	0.950				0.968	
Satd. Flow (perm)	1641	3406	3310	0	1993	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1183	810		343	
Travel Time (s)		26.9	18.4		7.8	
Confl. Peds. (#/hr)	6			6		
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	10%	6%	9%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	868	1527	0	79	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
 7: Pershing Road & Dept. of Water Access

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	10	660	1155	5	40	20
Future Vol, veh/h	10	660	1155	5	40	20
Conflicting Peds, #/hr	6	0	0	6	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	10	6	9	0	0	0
Mvmt Flow	13	868	1520	7	53	26

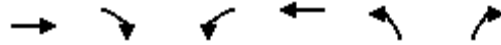
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1533	0	-	0	1990 770
Stage 1	-	-	-	-	1530 -
Stage 2	-	-	-	-	460 -
Critical Hdwy	4.3	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.3	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	393	-	-	-	54 348
Stage 1	-	-	-	-	168 -
Stage 2	-	-	-	-	608 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	390	-	-	-	51 345
Mov Cap-2 Maneuver	-	-	-	-	130 -
Stage 1	-	-	-	-	161 -
Stage 2	-	-	-	-	603 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	45.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	390	-	-	-	164
HCM Lane V/C Ratio	0.034	-	-	-	0.481
HCM Control Delay (s)	14.6	-	-	-	45.8
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3

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

Lanes, Volumes, Timings
 8: Access 2 & 38th Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	1	1	25	1	1
Future Volume (vph)	50	1	1	25	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1727	0	0	1760	1728	0
Flt Permitted				0.998	0.976	
Satd. Flow (perm)	1727	0	0	1760	1728	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	584			319	220	
Travel Time (s)	13.3			7.3	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	8%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	28	2	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3% ICU Level of Service A
Analysis Period (min)	15

HCM 6th TWSC
 8: Access 2 & 38th Street

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	50	1	1	25	1	1
Future Vol, veh/h	50	1	1	25	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	8	0	0
Mvmt Flow	54	1	1	27	1	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	55	0	84
Stage 1	-	-	-	-	55
Stage 2	-	-	-	-	29
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1563	-	923
Stage 1	-	-	-	-	973
Stage 2	-	-	-	-	999
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1563	-	922
Mov Cap-2 Maneuver	-	-	-	-	922
Stage 1	-	-	-	-	973
Stage 2	-	-	-	-	998

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	968	-	-	1563	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

**Sam
Schwartz**

Raw Traffic Data

Study Name Ashland Ave. @ 37th St.
 Start Date Wednesday, May 12, 2021
 Site Code

Road Volumes

TMV Interval	Movement Eastbound				Eastbound To				Westbound To				Northbound To				Southbound To				Grand Total
	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U	
5/12/2021 6:00	2	5	4	0	11	3	1	1	0	5	9	188	11	0	208	1	102	1	1	105	329
5/12/2021 6:15	3	2	1	0	6	1	0	2	0	3	8	173	10	0	191	4	114	2	0	120	320
5/12/2021 6:30	0	2	1	0	3	4	1	1	0	6	13	150	5	0	168	4	102	3	0	109	286
5/12/2021 6:45	2	5	2	0	9	4	3	1	0	8	8	159	9	0	176	5	99	3	0	107	300
5/12/2021 7:00	3	6	3	0	12	3	0	2	0	5	3	127	2	0	132	5	83	2	1	91	240
5/12/2021 7:15	3	4	4	0	11	2	1	1	0	4	12	128	3	0	143	4	103	2	0	109	267
5/12/2021 7:30	3	2	2	0	7	5	2	1	0	8	7	148	3	0	158	1	111	2	0	114	287
5/12/2021 7:45	3	5	3	0	11	3	2	2	0	7	8	157	7	0	172	4	114	2	0	120	310
5/12/2021 8:00	5	2	10	0	17	2	1	1	0	4	6	153	3	0	162	1	112	7	0	120	303
5/12/2021 8:15	4	5	9	0	18	3	2	1	0	6	11	147	6	0	164	2	111	2	0	115	303
5/12/2021 8:30	5	2	5	0	12	3	1	0	0	4	13	132	3	1	149	8	111	3	0	122	287
5/12/2021 8:45	1	7	4	0	12	2	3	2	0	7	10	156	18	0	184	6	143	2	0	151	354
5/12/2021 15:00	3	1	4	0	8	8	6	5	0	19	14	142	6	1	163	1	254	4	0	259	449
5/12/2021 15:15	0	2	7	0	9	9	9	4	0	22	13	165	5	0	183	2	263	6	0	271	485
5/12/2021 15:30	3	2	7	0	12	14	16	2	0	32	10	178	9	0	197	4	289	5	0	298	539
5/12/2021 15:45	0	1	5	0	6	7	5	2	0	14	15	164	12	0	191	4	316	3	0	323	534
5/12/2021 16:00	3	3	2	0	8	7	1	6	0	14	13	176	1	0	190	1	290	6	0	297	509
5/12/2021 16:15	7	4	8	0	19	6	3	1	0	10	16	156	7	0	179	4	312	5	0	321	529
5/12/2021 16:30	4	0	4	0	8	11	4	6	0	21	5	184	4	0	193	6	288	7	0	301	523
5/12/2021 16:45	4	3	5	0	12	14	3	2	0	19	18	156	12	0	186	3	318	10	0	331	548
5/12/2021 17:00	5	0	3	0	8	4	5	2	0	11	14	171	2	0	187	4	294	6	0	304	510
5/12/2021 17:15	8	5	6	0	19	9	4	1	0	14	5	170	5	0	180	1	310	9	0	320	533
5/12/2021 17:30	2	1	2	0	5	7	4	4	0	15	4	180	5	0	189	3	306	5	0	314	523
5/12/2021 17:45	5	0	3	0	8	5	3	7	0	15	6	178	3	0	187	4	258	3	0	265	475
Grand Total	78	69	104	0	251	136	80	57	0	273	241	3838	151	2	4232	82	4803	100	2	4987	9743

Crosswalk Volumes

Interval	Movement Eastbound		Eastbound To		Westbound		Westbound To		Northbound		Northbound To		Southbound		Southbound To		Grand Total
	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW			
6:00 AM	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	2	
6:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1		
6:45 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	1	2	3	0	0	0	0	0	0	0	0	0	0	0	3		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	2	0	2	1	0	1	0	0	0	1	0	1	0	1	4		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	1	0	1	1	0	1	3	0	3	0	0	0	0	0	5		
8:45 AM	0	1	1	1	0	1	0	0	0	0	0	0	0	0	2		
3:00 PM	0	0	0	0	1	1	0	0	0	0	1	1	1	1	2		
3:15 PM	0	0	0	0	0	0	0	0	1	1	1	0	1	1	2		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	1	0	1	0	0	0	1	1	1	2	3			
4:00 PM	1	0	1	1	0	1	1	0	1	0	0	0	0	3			
4:15 PM	3	1	4	1	0	1	0	0	0	1	0	1	0	6			
4:30 PM	2	0	2	1	0	1	0	1	1	0	0	0	0	4			
4:45 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	1			
5:30 PM	1	1	2	0	0	0	0	0	0	2	0	2	2	4			
5:45 PM	2	0	2	0	0	0	0	0	0	0	0	0	0	2			
Grand Total	15	6	21	7	1	8	5	2	7	6	6	12	48				

Study Name Ashland Ave.@38th St.
Start Date Tuesday, May 11, 2021 6:00 AM
Site Code

Road Volumes

TMV Interval	Movement Eastbound					Eastbound Tot					Westbound					Westbound To					Northbound					Northbound To					Southbound					Southbound To Grand Total				
	L	T	R	U		L	T	R	U		L	T	R	U		L	T	R	U		L	T	R	U		L	T	R	U		L	T	R	U						
5/11/2021 6:00	1	1	0	0		2	2	0	0	0	2	1	199	9	0	209	3	115	0	0	118	331																		
5/11/2021 6:15	0	0	3	0		3	0	0	1	0	1	6	193	2	2	203	3	124	0	0	127	334																		
5/11/2021 6:30	0	0	1	0		1	0	0	0	0	0	17	195	6	2	220	3	102	1	0	106	327																		
5/11/2021 6:45	0	0	0	0		0	0	1	3	0	4	14	182	9	2	207	10	109	3	0	122	333																		
5/11/2021 7:00	1	0	1	0		2	0	0	3	0	3	18	159	8	0	185	2	108	5	0	115	305																		
5/11/2021 7:15	0	0	2	0		2	1	0	0	0	1	31	150	13	2	196	3	134	3	0	140	339																		
5/11/2021 7:30	0	0	2	0		2	0	0	1	0	1	15	140	8	0	163	1	133	4	0	138	304																		
5/11/2021 7:45	0	0	4	0		4	0	1	0	0	1	12	156	4	1	173	0	145	7	0	152	330																		
5/11/2021 8:00	0	0	3	0		3	1	0	2	0	3	18	165	7	2	192	2	120	5	0	127	325																		
5/11/2021 8:15	0	0	6	0		6	0	1	2	0	3	15	175	3	2	195	1	146	5	0	152	356																		
5/11/2021 8:30	1	0	3	0		4	0	0	0	0	0	20	171	9	1	201	1	123	4	0	128	333																		
5/11/2021 8:45	2	0	1	0		3	0	1	1	0	2	10	161	4	0	175	1	136	4	0	141	321																		
5/11/2021 15:00	0	0	1	0		1	1	1	4	0	6	19	183	4	0	206	0	286	2	0	288	501																		
5/11/2021 15:15	1	0	3	0		4	0	1	2	0	3	22	179	9	0	210	1	326	12	0	339	556																		
5/11/2021 15:30	1	1	3	0		5	2	3	9	0	14	22	188	15	0	225	1	337	3	0	341	585																		
5/11/2021 15:45	0	0	0	0		0	1	1	3	0	5	17	196	9	0	222	0	308	5	0	313	540																		
5/11/2021 16:00	1	0	4	0		5	1	1	1	0	3	8	189	12	0	209	2	323	6	0	331	548																		
5/11/2021 16:15	2	0	3	0		5	1	0	0	0	1	7	190	12	0	209	1	310	6	0	317	532																		
5/11/2021 16:30	0	0	3	0		3	2	0	2	0	4	14	192	7	0	213	1	308	5	0	314	534																		
5/11/2021 16:45	0	0	5	0		5	0	0	2	0	2	12	187	1	1	201	0	288	5	0	293	501																		
5/11/2021 17:00	0	0	1	0		1	3	0	2	0	5	0	170	3	0	173	1	313	2	0	316	495																		
5/11/2021 17:15	1	1	1	0		3	1	0	0	0	1	0	172	0	0	172	0	305	3	0	308	484																		
5/11/2021 17:30	1	0	2	0		3	0	0	2	0	2	1	185	2	0	188	0	293	4	0	297	490																		
5/11/2021 17:45	0	0	2	0		2	0	0	1	0	1	2	143	1	0	146	0	236	6	1	243	392																		
Grand Total	12	3	54	0		69	16	11	41	0	68	301	4220	157	15	4693	37	5128	100	1	5266	10096																		

Crosswalk Volumes

Interval	Movement Eastbound		Eastbound Tot		Westbound		Westbound To		Northbound		Northbound To		Southbound		Southbound To Grand Total	
	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW
6:00 AM	0	3	3	1	0	1	0	1	0	0	0	0	0	0	0	4
6:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
6:45 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	2	3	1	0	1	0	0	0	0	1	0	1	0	1	5
8:30 AM	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	2	0	2	0	0	0	1	0	1	0	1	0	1	1	1	4
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
4:00 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	1	0	1	0	1	1	0	1	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	8	7	15	7	3	10	2	1	3	1	1	2	2	2	2	30

Study Name Ashland Avenue & 38th Place
 Start Date: 5/11/2021

Start Time	38TH PLACE				38TH PLACE				ASHLAND AVE.				ASHLAND AVE.			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
06:00 AM	0	0	0	2	0	0	0	0	0	206	0	0	0	116	0	0
06:15 AM	0	0	1	0	0	0	0	0	0	216	0	0	0	138	0	0
06:30 AM	0	0	1	0	0	0	0	0	0	227	0	0	0	119	0	0
06:45 AM	0	0	0	0	0	0	0	0	1	215	0	0	0	128	1	0
07:00 AM	0	0	0	0	0	0	0	0	0	184	0	0	0	112	0	0
07:15 AM	0	0	2	0	0	0	0	0	1	199	0	0	0	153	0	0
07:30 AM	0	0	1	0	0	0	0	0	2	159	0	0	0	142	0	0
07:45 AM	0	0	1	0	0	0	0	0	1	182	0	0	0	160	0	0
08:00 AM	0	0	3	0	0	0	0	0	0	183	0	0	0	135	0	0
08:15 AM	0	0	1	2	0	0	0	0	0	199	0	0	0	157	0	0
08:30 AM	0	0	1	0	0	0	0	0	0	191	0	0	0	132	0	0
08:45 AM	0	0	0	0	0	0	0	0	1	174	0	0	0	139	0	0
03:00 PM	0	0	1	1	0	0	0	0	0	212	0	0	0	303	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	203	0	0	0	332	1	0
03:30 PM	0	0	3	1	0	0	0	0	0	227	0	0	0	337	0	0
03:45 PM	0	0	2	5	0	0	0	0	0	212	0	0	0	315	1	0
04:00 PM	0	0	0	2	0	0	0	0	1	227	0	0	0	356	0	0
04:15 PM	0	0	2	0	0	0	0	0	0	205	0	0	0	326	0	0
04:30 PM	0	0	3	1	0	0	0	0	0	225	0	0	0	322	0	0
04:45 PM	0	0	0	3	0	0	0	0	0	178	0	0	0	308	0	0
05:00 PM	0	0	3	0	0	0	0	0	0	176	0	0	0	321	0	0
05:15 PM	0	0	2	1	0	0	0	0	0	184	0	0	0	331	0	0
05:30 PM	0	0	0	0	0	0	0	0	1	180	0	0	0	314	0	0
05:45 PM	0	0	0	1	0	0	0	0	0	140	0	0	0	254	0	0
	0	0	27	19	0	0	0	0	8	4704	0	0	0	5450	3	0

Study Name Ashland Ave.@Pershing Rd.
Start Date Tuesday, May 11, 2021 6:00 AM
Site Code

Road Volumes

TMV Interval	Movement Eastbound					Eastbound To					Westbound To					Northbound To					Southbound To					Grand Total
	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	U						
5/11/2021 6:00	9	50	13	0	72	32	36	21	0	89	19	160	21	0	200	21	80	5	0	106	467					
5/11/2021 6:15	9	63	12	0	84	22	47	21	0	90	27	183	36	0	246	32	76	12	0	120	540					
5/11/2021 6:30	6	67	29	0	102	24	49	28	0	101	47	185	62	0	294	33	72	13	0	118	615					
5/11/2021 6:45	6	89	28	0	123	25	62	32	0	119	47	166	53	0	266	29	75	11	0	115	623					
5/11/2021 7:00	5	63	24	1	93	34	73	20	0	127	47	159	54	0	260	25	90	16	0	131	611					
5/11/2021 7:15	6	87	21	0	114	36	76	29	0	141	65	168	56	0	289	31	109	14	0	154	698					
5/11/2021 7:30	7	92	21	0	120	31	99	29	0	159	96	117	58	0	271	30	108	7	0	145	695					
5/11/2021 7:45	7	73	28	0	108	26	110	25	0	161	86	155	62	0	303	30	126	18	0	174	746					
5/11/2021 8:00	6	65	34	0	105	36	84	27	0	147	41	150	33	0	224	29	96	6	0	131	607					
5/11/2021 8:15	6	86	31	0	123	24	73	21	0	118	45	160	34	0	239	30	125	9	0	164	644					
5/11/2021 8:30	11	68	25	0	104	26	79	20	0	125	39	163	34	0	236	30	89	10	0	129	594					
5/11/2021 8:45	7	65	45	0	117	31	71	25	0	127	29	146	41	0	216	31	100	11	0	142	602					
5/11/2021 15:00	10	79	71	0	160	43	121	40	0	204	42	168	55	0	265	39	236	16	0	291	920					
5/11/2021 15:15	8	86	53	0	147	33	114	37	0	184	43	153	46	0	242	43	271	12	0	326	899					
5/11/2021 15:30	8	108	63	0	179	57	162	49	0	268	43	168	46	0	257	38	293	11	0	342	1046					
5/11/2021 15:45	7	60	42	0	109	40	139	39	0	218	39	171	33	0	243	36	254	14	0	304	874					
5/11/2021 16:00	9	51	57	0	117	38	136	38	0	212	42	170	39	0	251	33	294	13	0	340	920					
5/11/2021 16:15	8	62	46	0	116	55	131	34	0	220	43	163	34	0	240	32	270	18	0	320	896					
5/11/2021 16:30	9	50	48	0	107	49	140	47	0	236	49	163	39	0	251	31	266	20	0	317	911					
5/11/2021 16:45	7	63	50	0	120	38	156	21	0	215	36	142	32	0	210	45	267	18	0	330	875					
5/11/2021 17:00	5	64	43	0	112	43	138	26	0	207	38	149	21	0	208	32	272	13	0	317	844					
5/11/2021 17:15	5	61	45	0	111	51	162	29	0	242	29	170	29	0	228	36	270	8	0	314	895					
5/11/2021 17:30	6	63	49	0	118	35	155	28	0	218	30	146	26	0	202	26	259	13	0	298	836					
5/11/2021 17:45	9	53	38	0	100	30	100	22	0	152	25	111	24	0	160	24	216	12	0	252	664					
Grand Total	176	1668	916	1	2761	859	2513	708	0	4080	1047	3786	968	0	5801	766	4314	300	0	5380	18022					

Crosswalk Volumes

Interval	Movement Eastbound		Eastbound To		Westbound		Westbound To		Northbound		Northbound To		Southbound		Southbound To		Grand Total
	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW	PCCW	PCW			
6:00 AM	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	2	
6:15 AM	1	0	1	1	1	0	1	0	1	0	1	0	0	0	0	3	
6:30 AM	0	0	0	1	1	1	2	1	1	1	2	0	0	0	4		
6:45 AM	0	0	0	1	0	1	1	0	1	0	1	0	0	0	2		
7:00 AM	0	0	0	0	3	3	0	0	0	0	0	0	0	0	3		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1		
7:30 AM	0	1	1	0	1	1	0	0	0	0	0	1	1	1	3		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1		
8:15 AM	1	1	2	2	2	4	0	1	1	0	0	0	0	0	7		
8:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1		
8:45 AM	0	0	0	0	0	0	2	1	3	0	0	0	0	0	3		
3:00 PM	0	0	0	0	1	1	0	0	0	1	0	1	0	1	2		
3:15 PM	0	2	2	0	1	1	0	1	1	0	0	0	0	0	4		
3:30 PM	1	1	2	0	1	1	0	0	0	0	0	0	0	0	3		
3:45 PM	3	0	3	0	2	2	0	2	2	1	0	1	0	1	8		
4:00 PM	1	3	4	0	0	0	0	0	1	1	0	0	0	0	5		
4:15 PM	0	0	0	0	0	0	0	1	1	0	1	0	1	1	2		
4:30 PM	2	0	2	1	0	1	0	0	0	0	0	0	0	0	3		
4:45 PM	0	0	0	4	0	4	3	0	3	0	0	0	0	0	7		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	1	1	1	2	3	1	0	1	0	1	1	1	1	6		
5:30 PM	0	0	0	1	1	2	0	1	1	0	0	0	0	0	3		
5:45 PM	1	1	2	1	0	1	0	0	0	0	0	0	0	0	3		
Grand Total	10	12	22	14	16	30	9	9	18	2	4	6	6	6	76		

Study Name Pershing Rd.@Paulina St.
Start Date Wednesday, May 12, 2021 6:00 AM
Site Code

Road Volumes

TMV Interval	Movement Eastbound				Eastbound Tot	Westbound				Westbound To	Northbound				Northbound To	Southbound				Southbound To Grand Total	
	L	T	R	U		L	T	R	U		L	T	R	U		L	T	R	U		
5/12/2021 6:00	0	83	0	0	83	0	56	1	0	57	0	0	0	0	0	2	0	1	0	3	143
5/12/2021 6:15	1	87	0	0	88	0	71	4	0	75	0	0	0	0	0	0	0	3	0	3	166
5/12/2021 6:30	0	100	0	0	100	0	100	4	0	104	0	0	0	0	0	1	0	0	0	1	205
5/12/2021 6:45	1	98	0	0	99	0	100	3	0	103	0	0	0	0	0	3	0	5	0	8	210
5/12/2021 7:00	3	106	0	0	109	0	111	17	0	128	0	0	0	0	0	2	0	1	0	3	240
5/12/2021 7:15	2	121	0	1	124	0	154	14	1	169	0	0	0	0	0	2	0	3	0	5	298
5/12/2021 7:30	4	103	0	0	107	0	138	10	0	148	0	0	0	0	0	2	0	4	0	6	261
5/12/2021 7:45	6	102	0	0	108	0	123	10	0	133	0	0	0	0	0	2	1	1	0	4	245
5/12/2021 8:00	11	90	0	0	101	0	114	14	1	129	0	0	0	0	0	3	0	5	0	8	238
5/12/2021 8:15	12	87	0	1	100	0	104	9	1	114	0	0	0	0	0	6	0	6	0	12	226
5/12/2021 8:30	6	100	0	0	106	0	130	10	1	141	0	0	0	0	0	8	0	3	0	11	258
5/12/2021 8:45	4	119	0	0	123	0	102	6	0	108	0	0	0	0	0	1	0	2	0	3	234
5/12/2021 15:00	5	155	0	0	160	0	181	4	0	185	0	0	0	0	0	0	0	4	0	4	349
5/12/2021 15:15	2	100	0	0	102	0	165	4	0	169	0	0	0	0	0	3	0	2	0	5	276
5/12/2021 15:30	1	176	1	0	178	1	237	10	0	248	0	0	1	0	1	3	0	5	0	8	435
5/12/2021 15:45	3	114	0	0	117	1	191	6	0	198	1	1	0	0	2	3	0	2	0	5	322
5/12/2021 16:00	1	142	0	0	143	0	170	6	0	176	0	0	0	0	0	4	1	5	0	10	329
5/12/2021 16:15	3	122	1	0	126	1	197	8	0	206	1	0	0	0	1	4	0	5	0	9	342
5/12/2021 16:30	1	116	0	0	117	0	194	4	0	198	0	0	0	0	0	0	0	4	0	4	319
5/12/2021 16:45	0	101	0	0	101	0	180	6	1	187	0	0	0	0	0	6	0	3	0	9	297
5/12/2021 17:00	7	117	0	0	124	1	187	3	0	191	0	0	1	0	1	5	0	3	0	8	324
5/12/2021 17:15	3	106	2	0	111	1	187	9	0	197	0	0	0	0	0	4	0	1	0	5	313
5/12/2021 17:30	3	100	0	0	103	1	175	7	0	183	0	0	1	0	1	2	0	5	0	7	294
5/12/2021 17:45	2	105	0	0	107	0	177	10	1	188	0	0	0	0	0	2	1	1	0	4	299
Grand Total	81	2650	4	2	2737	6	3544	179	6	3735	2	1	3	0	6	68	3	74	0	145	6623

Crosswalk Volumes

Interval	Movement Eastbound		Eastbound Tot	Westbound		Westbound To	Northbound		Northbound To	Southbound		Southbound To Grand Total
	PCCW	PCW		PCCW	PCW		PCCW	PCW		PCCW	PCW	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	1	1	0	1	1	0	0	2
6:30 AM	0	0	0	0	0	0	0	1	1	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	1	1	0	0	0	1	1	2	2	1	6
8:00 AM	0	0	0	0	0	0	1	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	1	1	1	0	2
8:30 AM	1	0	1	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	1	0	1	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0	2	2	4
3:15 PM	0	1	1	0	0	0	0	2	2	0	1	4
3:30 PM	1	0	1	0	0	0	0	0	0	2	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	2	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	3	1	4
5:00 PM	0	0	0	0	0	0	1	0	1	0	1	2
5:15 PM	0	0	0	0	0	0	0	1	1	1	0	2
5:30 PM	0	0	0	0	0	0	1	0	1	0	2	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2	2	4	0	1	1	5	7	12	17	12	46

Study Name Pershing Rd.@Existing Site Access
 Start Date Wednesday, May 12, 2021 6:00 AM
 Site Code

Road Volumes

TMV Interval	Movement Eastbound					Eastbound Tot	Westbound					Westbound To Northbound					Northbound To Southbound				
	L	T	R	HR	U		L	T	R	U	BL	L	T	R	U	HL	L	T	R	U	
5/12/2021 6:00	0	98	3	3	0	104	4	102	0	0	4	110	0	0	0	0	0	0	0	0	
5/12/2021 6:15	0	121	10	5	0	136	9	105	0	0	3	117	0	0	1	0	0	1	0	0	
5/12/2021 6:30	0	138	21	4	0	163	18	103	0	0	4	125	0	0	7	0	1	8	0	0	
5/12/2021 6:45	0	138	14	7	0	159	14	94	0	0	9	117	3	0	1	0	0	4	0	0	
5/12/2021 7:00	0	143	10	3	0	156	3	104	0	0	5	112	10	0	8	0	0	18	0	0	
5/12/2021 7:15	1	148	8	1	0	158	2	141	0	0	3	146	9	0	6	0	1	16	0	0	
5/12/2021 7:30	1	172	0	0	0	173	0	114	0	0	0	114	9	0	16	0	0	25	0	0	
5/12/2021 7:45	2	143	1	2	0	148	3	113	0	0	0	116	5	0	3	0	0	8	0	0	
5/12/2021 8:00	0	129	3	0	0	132	1	100	0	0	0	101	0	0	6	0	0	6	0	0	
5/12/2021 8:15	0	126	0	1	0	127	0	119	0	0	0	119	0	0	2	0	0	2	0	0	
5/12/2021 8:30	0	127	1	2	0	130	2	120	0	0	0	122	1	0	4	0	0	5	0	0	
5/12/2021 8:45	2	124	1	0	0	127	2	112	0	0	0	114	0	0	3	0	1	4	0	1	
5/12/2021 15:00	0	163	4	0	0	167	8	208	0	2	2	218	2	0	4	0	0	6	1	0	
5/12/2021 15:15	1	132	2	0	0	135	1	186	0	0	3	190	4	0	4	0	0	8	0	0	
5/12/2021 15:30	0	158	0	2	0	160	0	257	0	0	5	262	18	0	25	0	0	43	0	1	
5/12/2021 15:45	0	135	2	2	0	139	2	208	0	0	1	211	1	0	5	0	0	6	0	0	
5/12/2021 16:00	0	121	0	0	0	121	1	202	0	0	0	203	1	0	1	0	0	2	0	0	
5/12/2021 16:15	0	135	0	1	0	136	0	196	0	0	1	197	0	0	0	0	0	0	0	0	
5/12/2021 16:30	0	116	1	1	0	118	0	224	0	0	0	224	0	0	1	0	0	1	0	0	
5/12/2021 16:45	0	113	0	0	0	113	0	242	0	0	1	243	0	0	1	0	0	1	0	0	
5/12/2021 17:00	0	137	1	0	0	138	0	207	0	0	0	207	0	0	0	0	0	0	0	0	
5/12/2021 17:15	0	123	0	0	0	123	0	213	0	0	0	213	0	0	1	0	0	1	0	0	
5/12/2021 17:30	0	118	0	0	0	118	0	205	0	0	0	205	0	0	1	0	0	1	0	0	
5/12/2021 17:45	0	95	1	0	0	96	1	210	0	0	1	212	0	0	1	0	0	1	0	0	
Grand Total	7	3153	83	34	0	3277	71	3885	0	0	42	3998	63	0	101	0	3	167	1	2	

Crosswalk Volumes

Interval	Movement Eastbound		Eastbound Tot	Westbound		Westbound To	Northbound		Northbound To	Southbound		Southbound To	Northeastbound		Grand Total
	PCCW	PCW		PCCW	PCW		PCCW	PCW		PCCW	PCW		PCCW	PCW	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
7:15 AM	0	0	0	1	0	1	1	0	1	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1
8:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1
3:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	1	2
3:15 PM	0	0	0	0	0	0	0	1	1	2	1	3	2	1	7
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	3
3:45 PM	2	0	2	0	0	0	1	0	1	0	0	0	1	0	4
4:00 PM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	2	2	0	0	0	0	0	0	0	0	0	1	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	1	0	0	0	0	1	1	0	0	0	0	1	3
Grand Total	4	3	7	1	0	1	3	4	7	4	7	11	7	5	38



Southbound		Northeastbound				Northeastbound		Grand Total
BR	U	HR	U	BL	HL	BR		
0	0	3	0	0	1	0	4	218
0	0	3	1	0	1	2	7	261
0	0	3	0	0	0	1	4	300
0	0	3	0	0	2	3	8	288
0	0	4	0	0	2	1	7	293
0	0	3	0	0	4	2	9	329
0	0	2	0	0	6	6	14	326
0	0	0	0	0	1	2	3	275
0	0	0	0	0	1	0	1	240
0	0	0	0	0	1	4	5	253
0	0	0	0	0	0	1	1	258
0	1	0	0	0	0	0	0	246
0	1	0	0	0	1	1	2	394
0	0	0	0	0	2	3	5	338
0	1	0	0	0	4	23	27	493
0	0	0	0	0	6	5	11	367
0	0	0	0	0	0	0	0	326
0	0	0	0	0	1	2	3	336
0	0	0	0	0	0	0	0	343
0	0	0	0	0	0	0	0	357
0	0	0	0	0	0	0	0	345
0	0	0	0	0	0	0	0	337
0	0	0	0	0	0	0	0	324
0	0	0	0	0	0	0	0	309
0	3	21	1	0	33	56	111	7556



Study Name Pershing Road & Iron Street

Start Date: 5/12/2021

Comment 4: Then Click the Comments Tab

Start Time	PERSHING ST.				PERSHING ST.				IRON ST.				IRON ST.			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
06:00 AM	1	94	0	0	0	92	10	0	0	0	0	0	5	0	7	0
06:15 AM	7	100	0	0	0	106	9	0	0	0	0	0	12	0	9	0
06:30 AM	3	138	0	0	0	142	8	0	0	0	0	0	4	0	2	0
06:45 AM	13	107	0	0	0	131	5	0	0	0	0	0	3	0	4	0
07:00 AM	6	152	0	0	0	127	6	0	0	0	0	0	4	0	3	0
07:15 AM	2	162	0	0	0	127	2	0	0	0	0	0	5	0	5	0
07:30 AM	6	203	0	0	0	104	0	0	0	0	0	0	14	0	8	1
07:45 AM	4	145	0	0	0	97	1	0	0	0	0	0	4	0	8	0
08:00 AM	4	142	0	0	0	98	2	0	0	0	0	0	4	0	1	0
08:15 AM	0	135	0	0	0	117	6	0	0	0	0	0	6	0	2	0
08:30 AM	1	130	0	0	0	120	3	0	0	0	0	0	3	0	2	0
08:45 AM	0	129	0	0	0	113	4	0	0	0	0	0	5	0	1	1
03:00 PM	3	166	0	0	0	216	5	0	0	0	0	0	9	0	2	1
03:15 PM	2	145	0	0	0	188	1	0	0	0	0	0	6	0	6	5
03:30 PM	5	230	0	0	0	229	3	0	0	0	0	1	26	0	11	1
03:45 PM	2	147	0	0	0	205	2	0	0	0	0	0	1	0	1	0
04:00 PM	1	118	0	0	0	193	0	0	0	0	0	0	5	0	0	0
04:15 PM	1	139	0	0	0	211	1	0	0	0	0	0	1	0	0	0
04:30 PM	1	125	0	0	0	240	4	0	0	0	0	0	5	0	0	1
04:45 PM	1	103	0	0	0	239	4	0	0	0	0	0	4	0	1	1
05:00 PM	2	135	0	0	0	206	1	0	0	0	0	0	4	0	3	1
05:15 PM	0	118	0	0	0	216	1	1	0	0	0	2	3	0	0	1
05:30 PM	0	125	0	0	0	209	0	0	0	0	0	0	2	0	0	0
05:45 PM	0	100	0	0	0	207	0	0	0	0	0	2	3	0	1	1
	65	3288	0	0	0	3933	78	1	0	0	0	5	138	0	77	14