(Revised) **June 17, 2020**
PK# 2386-20.065
Z190-238(AU)

TRAFFIC IMPACT ANALYSIS

Project:
Preston Center-Westchester Drive Mixed Use Redevelopments
In Dallas, Texas

Prepared for:
City of Dallas

On behalf of:
RB Pass, LLC and Matilda Realty-I, L.P.

Prepared by:

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EXECUTIVE SUMMARY

The services of **Pacheco Koch** were jointly retained by **RB Pass, LLC** and **Matilda Realty-I, L.P.** to prepare a Traffic Impact Analysis (TIA) for two proposed redevelopments on adjacent properties in Preston Center—6030 Luther Lane (RB Pass) and 8215 Westchester Drive (Matilda) in Dallas, Texas. The Projects will replace existing mixed commercial and medical office uses with new high-rise construction containing residential, hotel, and commercial uses. Buildout of the Projects is estimated to be completed in 2023. A TIA is required by the City of Dallas for review as part of the Owner's request to create a new PD Subdistrict for the subject properties.

The purpose of this report is to estimate the incremental impact on the background traffic operational conditions caused by the proposed development within a specific study area as determined by standardized engineering analyses. The study parameters used in this TIA are based upon the requirements of City and are consistent with the standard industry practices used in similar studies.

Based upon the analyses performed herein, Pacheco Koch developed the following findings and recommendations.

FINDING: The proposed residential and hotel developments on the subject sites will replace existing commercial and medical office uses. Based upon industry-standard calculations, the trip generation rates on a per-square-foot basis for hotel, and especially residential uses, are considerably lower than commercial and medical office uses. Hence, despite the significant difference in building square footage, the net increase in trip generation between the proposed uses and existing uses is relatively low.

FINDING: Existing traffic operations at the study area intersections of Luther Lane and Westchester Drive, Luther Lane and Douglas Avenue, and Westchester Drive and Sherry Lane are very good (efficient) during peak hour periods. With the addition of estimated background growth and traffic generated by the proposed residential and hotel developments, the study area intersections are expected to experience very little net impact and will continue to operate at very good conditions. No operational mitigation measures are required.

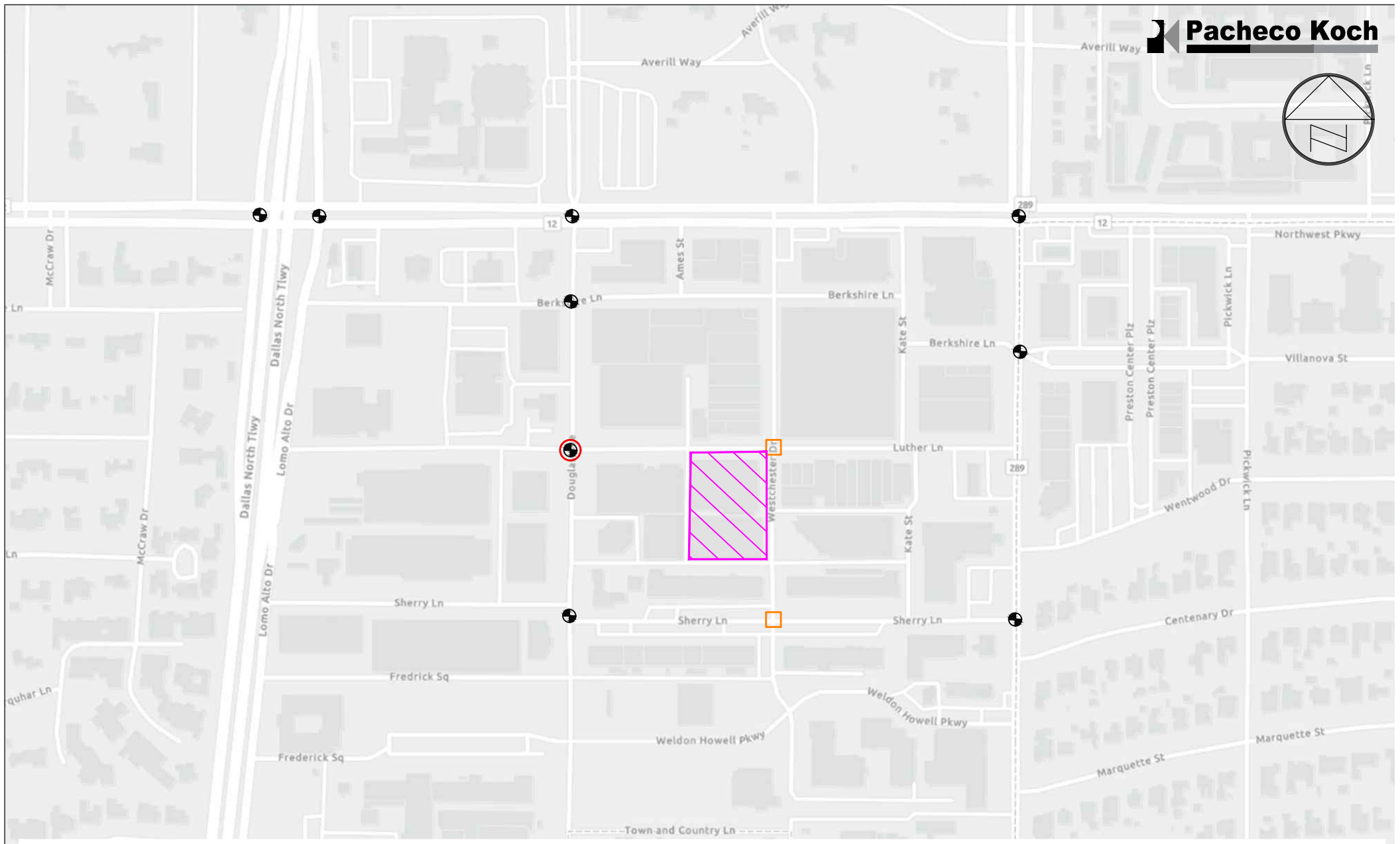
FINDING: In the proposed condition, removal of the existing angled parking along Westchester Drive will eliminate associated parking maneuvers from the street and allow for an alignment of the western curbline. These changes will improve traffic flow along the street. The proposed modifications will also provide an aligned pedestrian corridor with consistent landscaping along both property frontages that will significantly improve the pedestrian environment.

- RECOMMENDATION: It is recommended that ambient lighting be added in the vicinity of the site to improve nighttime visibility of and for pedestrians.

FINDING: The RB Pass site can easily stage up to eight vehicles on site in the drop-off area of the motor court without affecting internal traffic flow and another seven vehicles along the internal drive aisle during special (hotel) event conditions, if required. During hotel events valet staffing will be increased accordingly.

- RECOMMENDATION: It is also recommended that hotel management develop contingency operational plans if undue impact to the local street system occurs. Such traffic management strategies may include: employment of off-duty police officers at key locations, advanced coordination with guests regarding traffic routes, parking, etc.

END

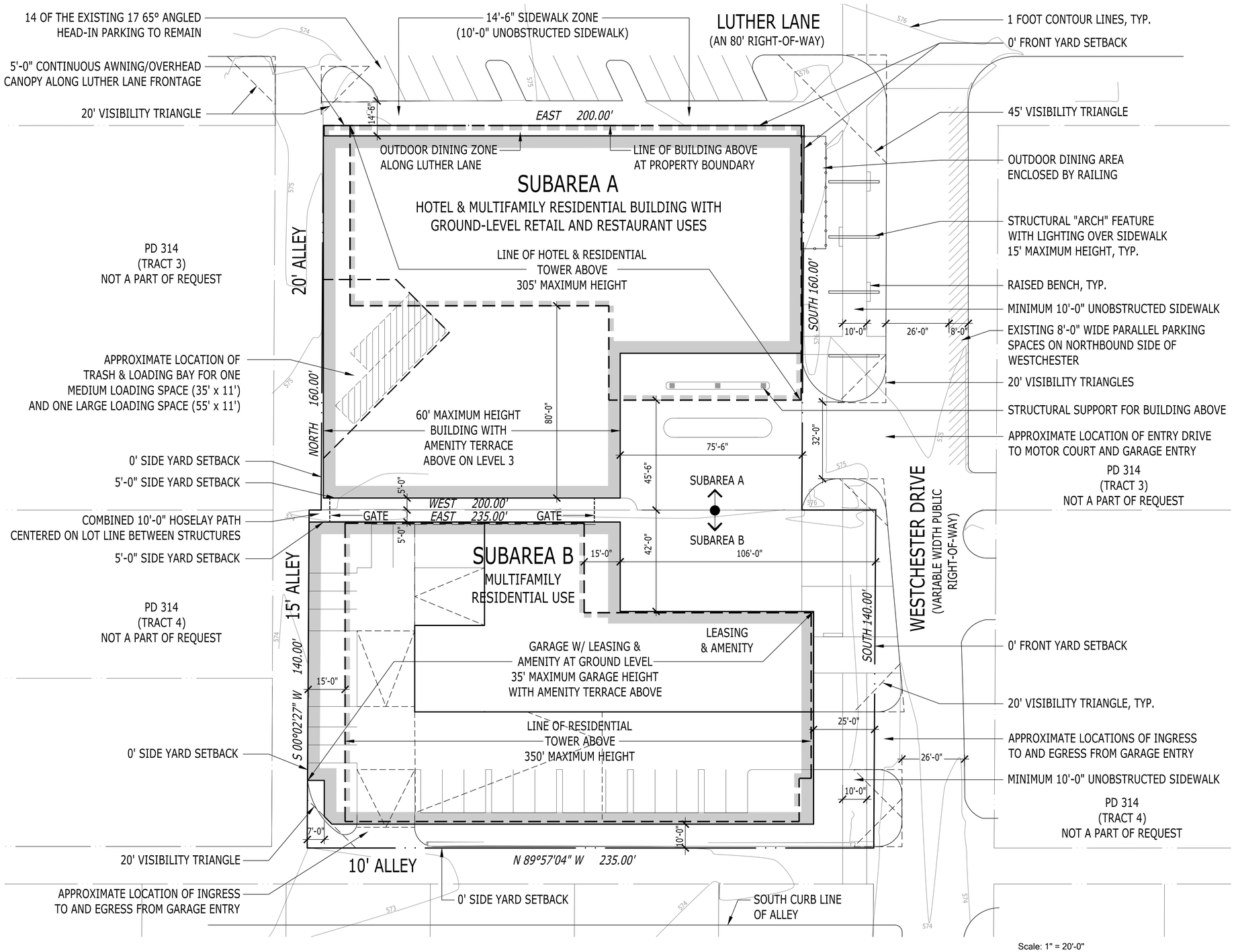


Site Location Map

Preston Center Development, Dallas, Texas

PK 2386-20.065A (AJV: 06/16/20)

EXHIBIT **1**



VICINITY MAP
N.T.S.

TRACT VIII - SUBAREA A PROJECT DATA	
SITE AREA	32,000 SF, 0.7346 AC
USES	RETAIL, RESTAURANT, HOTEL, MULTIFAMILY
MULTIFAMILY DENSITY	MAXIMUM 90 DWELLING UNITS
LOT COVERAGE BELOW 60 FEET	85%
LOT COVERAGE ABOVE 60 FEET	60%
MAXIMUM STRUCTURE HEIGHT	305 FEET
PARKING*	PER PD 314

* PARKING REQUIREMENTS TO BE CONFIRMED AT THE TIME OF INDIVIDUAL TENANT FINISH OUT PERMIT APPLICATION AND MAY VARY BASED ON TENANT MIX. ALL REQUIRED PARKING ON TRACT 5 / BLOCK 5623 TO BE LOCATED BELOW GRADE.

TRACT VIII - SUBAREA B PROJECT DATA	
SITE AREA	33,153 SF, 0.761 AC
USES	MULTIFAMILY RESIDENTIAL
MULTIFAMILY DENSITY	MAXIMUM 270 DWELLING UNITS **
LOT COVERAGE BELOW 60 FEET	70%
LOT COVERAGE ABOVE 60 FEET	60%
MAXIMUM STRUCTURE HEIGHT	350 FEET
PARKING	PER PD 314

** MULTIFAMILY DENSITY MAY BE INCREASED TO 270 UNITS IF PROJECT COMPLIES WITH 51P-314.111 (b)(7) AND 51P-314.114

Scale: 1" = 20'-0"
0 20 40 80 Feet

NORTH

PD 314 : EXHIBIT 314-I : TRACT VIII - SUBAREAS A & B DEVELOPMENT PLAN

Preston Center Mixed-Use Project at Luther and Westchester
Dallas, Texas

Job #: 19066.00
Date: 06.16.20 Scale: 1" = 20'-0"
Drawn by: ELB, RR, GCN File Name: Preston Center Development Plan 2020 03 29.dwg

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TRAFFIC IMPACT ANALYSIS
Preston Center-Westchester Drive Mixed Use Redevelopments
Dallas, Texas

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INTRODUCTION

The services of **Pacheco Koch** (PK) were jointly retained by **RB Pass, LLC** and **Matilda Realty-I, L.P.** to prepare a Traffic Impact Analysis for proposed redevelopment in Preston Center at 6030 Luther Lane (RB Pass) and 8215 Westchester Drive (Matilda) in Dallas, Texas. The Project will replace low-rise mixed commercial and medical office uses with high-rise residential, hotel, and commercial uses. The Projects are collectively referred to herein as *Preston Center-Westchester Drive Mixed Use Redevelopments*. Preliminary site plan for each Project, prepared by **HKS** (RB Pass) and **GFF** (Matilda), and a site location map (**Exhibit *1***) are provided following the EXECUTIVE SUMMARY section of this report.

In order to facilitate development of the Project, RB Pass, LLC and Matilda Realty-I, L.P. (the joint "Applicant") have made a request to the City of Dallas (the "Approving Agency") to create a new PD Subdistrict for the subject properties. As part of application process for this request, submittal of a TIA commissioned by the Applicant must be submitted to the Approving Agency for review.

This TIA was prepared by traffic engineers at Pacheco Koch (the "Engineer") in accordance with industry and local standards. Pacheco Koch is a licensed engineering firm, based in Texas, that provides professional engineering and related services.

Purpose

A Traffic Impact Analysis (TIA) is an engineering study used to provide information on the projected off-site impacts produced by a specific Project on the traffic operations of public traffic facilities. Commissioning a TIA may be required by an Approving Agency when an Applicant is seeking approvals or entitlements for the Project. Using standardized analysis methodologies, the findings of the TIA are used to gage the direct impacts on the transportation system that are attributable to the Project. Under certain circumstances and within legal parameters, the Approving Agency may require the Applicant to fund the improvement(s) needed to mitigate the impacts.

A TIA should be prepared by a licensed Engineer skilled in the principles of traffic and transportation engineering and planning. The general methodologies, processes, and guidelines used in a TIA are established by industry standards—which are maintained by organizations such as the Institute of Transportation Engineers (ITE) and others—although, the project-specific parameters of the study (e.g., study locations, analysis scenarios, analytical assumptions, etc.) may be established by local ordinances or technical staff of the Approving Agency.

Based upon the findings of the analysis, the Engineer may suggest or recommend modifications to the transportation system that, in the Engineer's opinion, could improve overall traffic operations, safety, site access, circulation, etc. Such proposals may or may not be directly related to the traffic impacts of the Project. Implementation of any modifications to the transportation system are subject to

the discretion and approval of the respective agency that is responsible for the operation of the facilities. Also, the Engineer's proposals should not be considered mandatory and are not intended to assign or imply funding responsibility.

A TIA is not a detailed site plan review nor a substitute for local or regional transportation planning.

Project Description

The Project will generally replace existing, low-rise commercial and medical office uses with high-rise residential and hotel uses. Although the two projects are independent, it is assumed for purposes of this study that both projects will be completed by 2023. A summary of the proposed development programs is provided in **Table 1.**

Table 1. Development Program Summary

PROPERTY	EXISTING USES (AMOUNT)	PROPOSED USES (AMOUNT)
6030 Luther Lane	Mixed commercial—retail, restaurant, and personal service (38,764 SF)	Hotel (225 Rooms, 3,500 SF Restaurant) Residential (63 DU) Retail/Restaurant (5,000 SF)
8215 Westchester Drive	Medical Office (42,077 SF)	Residential (270 DU)

NOTE: The development program provided above is based upon the most current and complete information available at the time of this study publication.

The existing RB Pass parcel is essentially fully developed with no on-site parking; public, on-street parking exists along the north and east sides of the property. The remaining parking demand generated by the site is accommodated by other, public parking located on-street and in the Preston Center public garage located catty-corner from the site. The existing Matilda parcel does not front any on-street public parking but does provide an internal parking structure to accommodate tenant and guest parking needs.

The collective 1.5-acre subject site is currently zoned Preston Center Special Purpose District (PD 314). The RB Pass parcel is part of PD 314 Tract III; and, the Matilda parcel is part of PD 314 Tract IV.

Study Parameters

The study parameters used in this TIA are based upon industry standard practices and requirements of the City of Dallas. Project-specific study parameters were reviewed with City staff at the outset of the study.

This TIA analyzed the day-to-day traffic operations on the public roadway system at time periods that have the greatest combined volume of the background traffic and site-related traffic. Due to the predominant influence of background traffic, the weekday AM and PM peak hours of adjacent street traffic are typically

analyzed. In addition to the peak hour operational analysis, Pacheco Koch also evaluated the pedestrian environment at the Luther-Westchester intersection during the noon/lunch period and the proposed valet operations along Westchester Drive.

The analysis scenarios addressed in this study include the following:

- at existing conditions ("Existing" scenario)
- at site buildout year without site-generated traffic ("Background" scenario)
- at site buildout year with site-generated traffic ("Buildout" scenario)
- at five-year-after-buildout horizon with site-generated traffic ("Horizon" scenario)

  NOTE: Analyses of all future conditions scenarios utilize projected traffic volumes derived by Pacheco Koch using reasonable and customary assumptions that are based upon existing conditions where possible. ITE appropriately points out that, due to natural changes in traffic patterns that occur over time, the margin of error for projected traffic volumes increases as the length of time of the projection increases; and, any projection of hourly turning movement volumes beyond five years inherently contain significant assumptions.

The following technical assumptions were also made in this analysis.

- The existing land uses on the subject properties actively generate vehicular traffic on a day-to-day basis. For purposes of this study, the existing trip generation was calculated and deducted from the projected trip generation for the proposed uses. Detailed methodologies applied are described in the Site-Related Traffic section of this report.
- Pacheco Koch is aware of the potential redevelopment of the Preston Center garage into a residential/mixed-use project that will include expansion of the public parking facility. While this project may result in significant changes to traffic conditions in the Preston Center area, the project is still speculative and not been approved. The Developer of the project is also commissioning a separate Traffic Impact Analysis for the project, which will be submitted to and reviewed by the City at a later time; but, at the time of this study publication, was not available for review.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA are listed below and depicted in **Exhibit *1***.

Traffic-Signal-Controlled Intersections:

(a) Douglas Avenue and Luther Lane

STOP-Sign-Controlled Intersections:

(b) Luther Lane and Westchester Drive
(c) Westchester Drive and Sherry Lane
(d) Major site driveways

Roadway Links:

(A) Luther Lane, west of Westchester Drive
- Existing operation and cross-section: *two lanes; two-way operation; on-street parking (angled) in some segments*

  [NOTE: one-way, eastbound operation east of Westchester Drive]
- City of Dallas Thoroughfare Plan Designation: *none (local)*
- Current Daily Traffic Volume: *4,654 (Wednesday, March 11, 2020)*
- Posted Speed Limit: *30 MPH (prima facie)*

(B) Westchester Drive, south of Luther Lane
- Existing operation and cross-section: *two lanes; two-way operation; on-street parking (both angled and parallel) in some segments*

  [NOTE: one-way, southbound operation north of Luther Lane]
- City of Dallas Thoroughfare Plan Designation: *none (local)*
- Current Daily Traffic Volume: *3,295 (Wednesday, March 11, 2020)*
- Posted Speed Limit: *30 MPH (prima facie)*

TRAFFIC IMPACT ANALYSIS

The following is a description of the analyses performed as part of this Traffic Impact Analysis.

Approach

The TIA presented in this report analyzed the operational conditions for the peak hours and study area as defined above using standardized analytical methodologies where applicable. Current (or recent) traffic volume data were collected on a typical day throughout the study area to represent existing traffic conditions. Where applicable, growth factors were applied to the existing volumes to project future background traffic at the site buildout year conditions. Then, traffic generated by the proposed development was projected using the standard four-step approach: Trip Generation, Mode Split, Trip Distribution, and Traffic Assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background traffic impact to operational conditions may be assessed from which approach mitigation measures may be recommended, if needed.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on Wednesday, March 11, 2020. Traffic volumes are graphically summarized in APPENDIX A; detailed data sheets are provided in APPENDIX B.

Projected Background Traffic Volumes

Background traffic growth is defined as the normal growth of traffic that is not directly related to the subject development of this study. A review of historical traffic volume data can provide an indication of the local traffic growth patterns. **Table 2** provides a comparison of prior traffic volumes from institutional sources in the vicinity of the subject site, from which PK calculated an annual growth rate.

Table 2. Historical Daily Traffic Volume Data

ROADWAY SEGMENT	HISTORICAL DAILY VOLUME (DATE)	ANNUAL GROWTH RATE
Luther Lane, between Preston Road and Kate Street	4,183 ('14)[A] 4,210 ('09)[A] 5,120 ('04)[A]	-0.13% -3.84%

Data Source: A = TxDOT

According to these data, traffic volumes in the vicinity of the subject site are generally slightly decreasing. Although no positive growth is evident, Pacheco Koch assumed a growth rate of one percent (1.0%) per year for purposes of this study in order to estimate future background traffic volumes.

By applying the assumed growth rate(s) described previously, future background traffic volumes at the Project buildout year were calculated for the study area intersections. These volumes are graphically summarized in APPENDIX A.

Site-Related Traffic

Trip Generation and Mode Split

Trip generation is calculated in terms of "trip ends" – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation* manual (10th Edition). ITE *Trip Generation* is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base

ITE calculations in order to more accurately reflect Project-specific conditions. For this analysis, no adjustments to the base ITE data were applied.

"Mode split" refers to the consideration of all modes of transportation. Typically, the majority of trips occur by passenger vehicles such as personal autos and ridesharing services. But, some alternative modes—such as travel by public transit, bicycle, and walking—do not generate additional vehicle trips. The default trip generation data from ITE is summarized in vehicular trip ends and incorporate "typical" mode split characteristics. However, when travel by alternative mode has the potential to be greater than normal, a reduction in the number of vehicular trip volume may be warranted. For this analysis, the following assumptions were applied:

- For all existing and proposed retail and restaurant uses (RB Pass parcel), a 50% reduction was applied to account for walking trips.

Table 3 provides a summary of the calculated net increase in trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in APPENDIX C.

Table 3. Projected Trip Generation Summary

SCENARIO (BOTH PROPERTIES, COMBINED)	DAILY TRIP ENDS (WEEKDAY)	AM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)
		Total (In/Out)	**Total** (In/Out)
Existing Uses	1,931	**114** (86/28)	**194** (69/124)
Proposed Uses	3,550	**224** (96/128)	**272** (149/123)
Net Increase	1,619	**+110** (+10/+100)	**+78** (+80/-1)

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic, trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Detailed trip distribution and traffic assignment calculations and results are summarized in APPENDIX C.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 3**) by the corresponding traffic assignments (from APPENDIX C). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in APPENDIX A.

Traffic Operational Analysis —Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions -- in the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG) – the metropolitan planning agency for the Dallas-Fort Worth region – has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principals presented in the *Highway Capacity Manual* with "regional calibration" factors applied. Though these per-lane capacities, or "Service Volumes" (summarized in the table below), are intended for modelling purposes, they do provide a reasonable gage of theoretical capacity.

Hourly Service Volumes By Roadway Function

Area Type	Activity Density Range (per acre)	Principal Arterial		Minor Arterial & Frontage Road		Collector & Local Street	
		Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way
CBD	>125	725	650	725	650	475	425
Outer Business	30-125	775	725	775	725	500	450
Urban Residential	7.5-30	850	775	825	750	525	475
Suburban Residential	1.8-7.5	900	875	900	825	575	525
Rural	<1.8	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume:capacty ratio can be calculated – a v/c ratio of less than 1.0 indicates that the roadway is operating under capacity. NCTCOG's Level of Service denominations are as follows:

Volume:Capacity Ratio ≤ 65% is LOS *A/B/C*,
Volume:Capacity Ratio > 65% and ≤ 100% is LOS *D/E*,
Volume:Capacity Ratio ≥ 100% is LOS *F*

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. A summary of the link capacity analysis is provided in **Table 4**. See specific recommendations in the *Recommendations* section of this report.

Table 4. Roadway Link Capacity Analysis Results Summary

ROADWAY/ SCENARIO	PEAK HOUR VOLUME	THEORETICAL HOURLY CAPACITY	V:C RATIO/ LEVEL OF SERVICE
Luther Lane			
Existing Conditions	442	950	0.47 – *A/B/C*
Buildout Year-Background Conditions	455	950	0.48 – *A/B/C*
Buildout Year-Buildout Conditions	475	950	*0.50* – *A/B/C*
Westchester Drive			
Existing Conditions	294	950	0.31 – *A/B/C*
Buildout Year-Background Conditions	303	950	0.32 – *A/B/C*
Buildout Year-Buildout Conditions	384	950	*0.40* – *A/B/C*

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity over a 60-minute period is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the Highway Capacity Manual (HCM). HCM uses the term "Level of Service" (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS can be described as follows:

LOS *A* = free, unobstructed flow
LOS *B* = reasonably free flow
LOS *C* = stable flow
LOS *D* = approaching unstable flow
LOS *E* = unstable flow, operating at design capacity
LOS *F* = operating over design capacity

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable in urban conditions; LOS E indicates a facility or maneuver is approaching capacity, while LOS F is theoretically an over-capacity condition. On highly-utilized transportation facilities, brief periods of LOS E or F conditions are not uncommon for during peak periods. In some cases measures to increase capacity, either through operational changes and/or physical improvements, can be identified to improve efficiency and sometimes raise Level of Service.

For traffic-signal-controlled ("signalized") intersections and STOP-controlled ("unsignalized") intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way.

NOTE: The HCM unsignalized intersection analysis methodology was developed and calibrated for low-to-moderate volume intersections. When applied to intersections with one or more high-volume or high-capacity approaches, the analyses often reflect poor results (i.e., low Level of Service). However, the actual delay/operational conditions are typical of similar locations and do not necessarily represent unique conditions. Low-performing, high-volume, unsignalized intersections cannot be analytically mitigated unless a traffic signal is installed. (Traffic signal installation is subject to a detailed analysis of established criteria AND approval of the responsible agency. Neither Level of Service nor vehicle delay is a warrant for traffic signal installation.)

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	**Unsignalized Intersection (Average Delay per Vehicle)**
LOS *A*	≤ 10	≤ 10
LOS *B*	> 10 - ≤ 20	> 10 - ≤ 15
LOS *C*	> 20 - ≤ 35	> 15 - ≤ 25
LOS *D*	> 35 - ≤ 55	> 25 - ≤ 35
LOS *E*	> 55 - ≤ 80	> 35 - ≤ 50
LOS *F*	> 80	> 50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. APPENDIX A provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Background traffic volumes at the Site Buildout Year during study peak hours

- Projected Site-Generated traffic volumes during study peak hours
- Projected Background-plus-Site-Generated traffic volumes at the Site Buildout Year during study peak hours
- Projected five-year-after-buildout horizon traffic volumes, including Site-Generated traffic during study peak hours

A summary of the existing intersection/roadway geometry and traffic control devices is also graphically summarized in APPENDIX A.

Summary of Results

Intersection capacity analyses presented in this study were performed using the *Synchro* software package. **Table 5** and **Table 6** provide a summary of the peak period intersection operational conditions under the analysis conditions presented previously. Detailed software output is provided in APPENDIX D.

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

SITE ACCESS EVALUATION

The City of Dallas *Street Design Manual* suggests various site access items should be evaluated for each project, where applicable. **Table 7** summarizes the findings and recommendations of these evaluations. Applicable supplemental information is provided in APPENDIX E.

Pedestrian Environment at Luther Lane-Westchester Drive Intersection

Preston Center is already a very pedestrian-oriented environment, especially during the lunch period. The addition of residential and hotel uses to the district will increase pedestrian activity at other times of the day. Generally, the district is very walkable and pedestrian-friendly, although design standards and user expectations continue to increase.

Where possible, minimizing the physical size of an intersection and reducing the walking distance of crosswalks are considered measures to incrementally improve safety. Although, no pedestrian accidents have been reported in the recent years according to the TxDOT Crash Records Information System (CRIS) database, it is generally recommended to seek opportunities to optimize pedestrian safety and capacity where it does not compromise traffic operations and maneuverability. The addition of ambient lighting to improve nighttime visibility for pedestrians is recommended.

As part of the proposed development, it is recommended to seek opportunities to enhance the streetscape and pedestrian environment on the southwest corner of the Luther Lane-Westchester Drive intersection.

Table 5. Peak Hour Intersection Capacity Analysis Results Summary
(Signalized Intersections)

INTERSECTION		EXISTING CONDITIONS						BACKGROUND CONDITIONS						BUILDOUT CONDITIONS						HORIZON CONDITIONS					
		AM			PM			AM			PM			AM			PM			AM			PM		
		LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue
Douglas Avenue	**Overall**	**A**	***(8.4)***		**B**	***(15.3)***		**A**	***(8.6)***		**B**	***(15.4)***		**A**	***(9.5)***		**B**	***(15.3)***		**A**	***(9.9)***		**B**	***(15.6)***	
@ Luther Lane	NB	A	*(3.4)*	30 ft	A	*(7.8)*	84 ft	A	*(3.5)*	32 ft	A	*(8.3)*	90 ft	A	*(4.0)*	35 ft	A	*(8.3)*	90 ft	A	*(4.3)*	38 ft	A	*(9.0)*	99 ft
	EB	C	*(30.2)*	48 ft	D	*(46.2)*	190 ft	C	*(29.9)*	49 ft	D	*(45.3)*	194 ft	C	*(28.8)*	47 ft	D	*(44.6)*	194 ft	C	*(27.7)*	48 ft	D	*(43.3)*	200 ft
	WB	C	*(34.5)*	137 ft	A	*(8.7)*	63 ft	C	*(34.9)*	140 ft	A	*(8.5)*	63 ft	C	*(33.5)*	158 ft	A	*(8.5)*	63 ft	C	*(34.4)*	168 ft	A	*(8.7)*	66 ft
	SB	A	*(4.0)*	89 ft	A	*(7.9)*	54 ft	A	*(4.1)*	94 ft	A	*(8.4)*	57 ft	A	*(4.7)*	103 ft	A	*(8.7)*	57 ft	A	*(5.1)*	114 ft	A	*(9.5)*	63 ft

NOTE: Traffic signal operational parameters used in this analysis were based upon actual traffic signal operational characteristics observed in the field at the time of data collection.

Table 6. Peak Hour Intersection Capacity Analysis Results Summary
(Unsignalized Intersections)

INTERSECTION	TRAFFIC MANEUVER	EXISTING CONDITIONS						BACKGROUND CONDITIONS						BUILDOUT CONDITIONS					
		AM			PM			AM			PM			AM			PM		
		LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue	LOS	delay	queue
Westchester Drive	NB	A	*(8.4)*	0.3 ft	A	*(9.1)*	0.3 ft	A	*(8.5)*	0.3 ft	A	*(9.2)*	0.4 ft	A	*(9.1)*	0.6 ft	A	*(9.4)*	0.4 ft
@ Luther Lane	EB	A	*(9.2)*	0.7 ft	B	*(11.4)*	1.8 ft	A	*(9.3)*	0.7 ft	B	*(11.6)*	1.9 ft	A	*(9.6)*	0.8 ft	B	*(12.2)*	2.2 ft
	SB	B	*(10.3)*	2.0 ft	B	*(10.6)*	1.3 ft	B	*(10.4)*	2.1 ft	B	*(10.7)*	1.4 ft	B	*(10.8)*	2.3 ft	B	*(11.4)*	1.9 ft
Westchester Drive	NB	A	*(8.4)*	0.4 ft	A	*(8.9)*	0.8 ft	A	*(8.4)*	0.4 ft	A	*(9.0)*	0.8 ft	A	*(8.5)*	0.4 ft	A	*(9.2)*	0.8 ft
@ Sherry Lane	EB	A	*(8.3)*	0.4 ft	A	*(9.6)*	1.0 ft	A	*(8.4)*	0.4 ft	A	*(9.7)*	1.0 ft	A	*(8.5)*	0.4 ft	A	*(9.8)*	1.0 ft
	WB	A	*(9.2)*	1.2 ft	A	*(9.0)*	0.7 ft	A	*(9.3)*	1.3 ft	A	*(9.1)*	0.7 ft	A	*(9.5)*	1.3 ft	A	*(9.3)*	0.9 ft
	SB	A	*(8.9)*	0.7 ft	A	*(9.5)*	0.9 ft	A	*(9.0)*	0.7 ft	A	*(9.6)*	1.0 ft	A	*(9.4)*	0.9 ft	A	*(9.7)*	1.0 ft

KEY:

A, B, C, D, E, F = Level-of-Service
NB-, SB-, EB-, WB- = intersection approach
AM = AM Peak Hour of Adjacent Street
(##.#) = Average Seconds of Delay Per Vehicle
-L, -T, -R = Left, Through, Right turning movement
PM = PM Peak Hour of Adjacent Street

Table 7. Site Access Evaluation

EVALUATION	FINDING
Auxiliary (Deceleration) Lanes	Westchester Drive - due to low right-turn volumes, low-speed conditions, and urban setting, installation of a right-turn deceleration lane at site driveways is not recommended.
Signage and Pavement Markings on Public Rights-of-Way	Existing signs in the area are in good condition. The pedestrian crosswalks at the intersection of Luther Lane and Westchester Drive should be refreshed.
Historical Accident Analysis	A graphical summary of the study area Crash Record Information Service (CRIS) 3-year historical data is provided in Exhibit E-2.
Driveway Sight Distances	(RB Pass) - All building structure to comply with visiblity triangle requirements.
	(Matilda) - All building structure to comply with visiblity triangle requirements.
Pedestrian Safety at Unsignalized Crossing(s)	Luther Lane and Westchester Drive - This is a high-pedestrian volume intersection with all-way STOP control and crosswalks on all approaches.
	Sherry Lane and Westchester Drive - This is a low-pedestrian volume intersection with all-way STOP control and no marked crosswalks.
Number of Access Points	(RB Pass) - The project will have one driveway (new) on Westchesterd Drive. Based upon the projected site-generated traffic volumes, the proposed driveway is considered sufficient.
	(Matilda) - The project will have one primary driveway on Westchesterd Drive, generally located where the existing site driveway occurs, and a secondary driveway on the side alley. Based upon the projected site-generated traffic volumes, the proposed driveways are considered sufficient.
Driveway Spacing	See Appendix E1.
Corner Clearances	Building and hardscape design shall comply with required corner clearances.
Median Openings	N/A
Shared Access	N/A
Stopping Sight Distance	N/A
Traffic Signal or STOP Control Warrant Analysis	N/A
Driveway Improvements	(RB Pass) - All driveways will be newly constructed to meet applicable standards.
	(Matilda) - Existing driveways to be reconstructed to meet applicable standards.
Curb Return Radius	All curb returns to meet or exceed minimum City standards.

Traffic Operations Along Westchester Drive

Adjacent to the Matilda property, Westchester Drive is a two-lane roadway of approximately 27 feet of pavement width and no on-street parking. The narrow pavement width allows for generous pedestrian and landscape areas, which will be maintained in the proposed design.

The RB Pass property fronts two rights-of-way—Luther Lane and Westchester Drive. Luther Lane will remain relatively unchanged aside from other than addition of some street trees. Westchester Drive has a much wider right-of-way width than the Matilda property frontage as it includes the existing angled parking spaces on the west side and parallel parking spaces along the east side. The existing travel way is also two lanes wide, generally, although there east-side parallel parking lane transitions into a dedicated, northbound right-turn at the Luther Lane intersection.

In the proposed condition, each property will have a single driveway on Westchester Drive. RB Pass will replace the existing angled parking along the west side of Westchester with a wide pedestrian sidewalk that aligns with the Matilda property sidewalk and the existing crosswalk on Luther Lane. Both properties will install generous and consistent landscaping creating a significantly improved pedestrian experience compared to existing conditions. The new western curbline along Westchester will also generally align across both properties with a gentle taper that transitions into existing conditions in front of the Matilda property. By adjusting the curbline and removing the angled parking, vehicular traffic flow will also significantly improve.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

NOTE: Recommendations presented in this report reflect the opinion of Pacheco Koch based solely upon technical analysis and professional judgment but are not intended to infer mandates or funding responsibility. Any proposed improvements in the public right-of-way are subject to approval of the responsible agency(-ies). Should the approving agency determine that any off-site improvements are required for approval of the Project, legal precedents apply with regard to jurisdiction and funding allocation.

The following findings and, if applicable, recommendations were based upon an analysis of the anticipated traffic impact generated by the proposed development scenario outlined in the Project Description section of this report.

FINDING: The proposed residential and hotel developments on the subject sites will replace existing commercial and medical office uses. Based upon industry-standard calculations, the trip generation rates on a per-square-foot basis for hotel, and especially residential uses, are considerably lower than commercial and medical office uses. Hence, despite the significant difference in building square footage, the net increase in trip generation between the proposed uses and existing uses is relatively low.

FINDING: Existing traffic operations at the study area intersections of Luther Lane and Westchester Drive, Luther Lane and Douglas Avenue, and Westchester Drive and Sherry Lane are very good (efficient) during peak hour periods. With the addition of estimated background growth and

traffic generated by the proposed residential and hotel developments, the study area intersections are expected to experience very little net impact and will continue to operate at very good conditions. No operational mitigation measures are required.

FINDING: In the proposed condition, removal of the existing angled parking along Westchester Drive will eliminate associated parking maneuvers from the street and allow for an alignment of the western curbline. These changes will improve traffic flow along the street. The proposed modifications will also provide an aligned pedestrian corridor with consistent landscaping along both property frontages that will significantly improve the pedestrian environment.

- RECOMMENDATION: It is recommended that ambient lighting be added in the vicinity of the site to improve nighttime visibility of and for pedestrians.

  FINDING: The RB Pass site can easily stage up to eight vehicles on site in the drop-off area of the motor court without affecting internal traffic flow and another seven vehicles along the internal drive aisle during special (hotel) event conditions, if required. During hotel events valet staffing will be increased accordingly.

- RECOMMENDATION: It is also recommended that hotel management develop contingency operational plans if undue impact to the local street system occurs. Such traffic management strategies may include: employment of off-duty police officers at key locations, advanced coordination with guests regarding traffic routes, parking, etc.

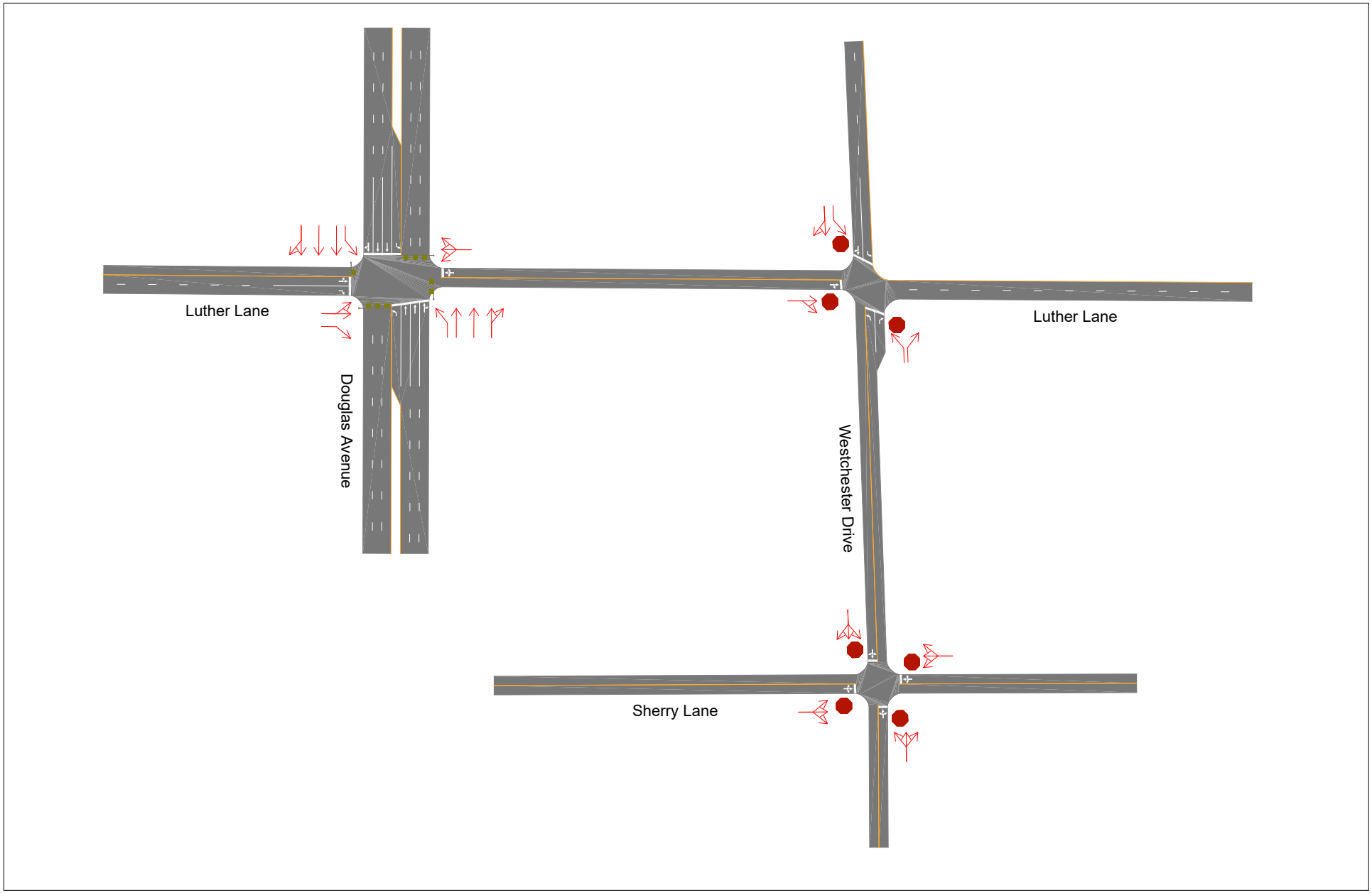
END OF MEMO

APPENDIX A. Traffic Volumes Exhibits

Appendix A1 - Roadway Geometry

North ▲

Not to Scale



2386-20.065A

AJV

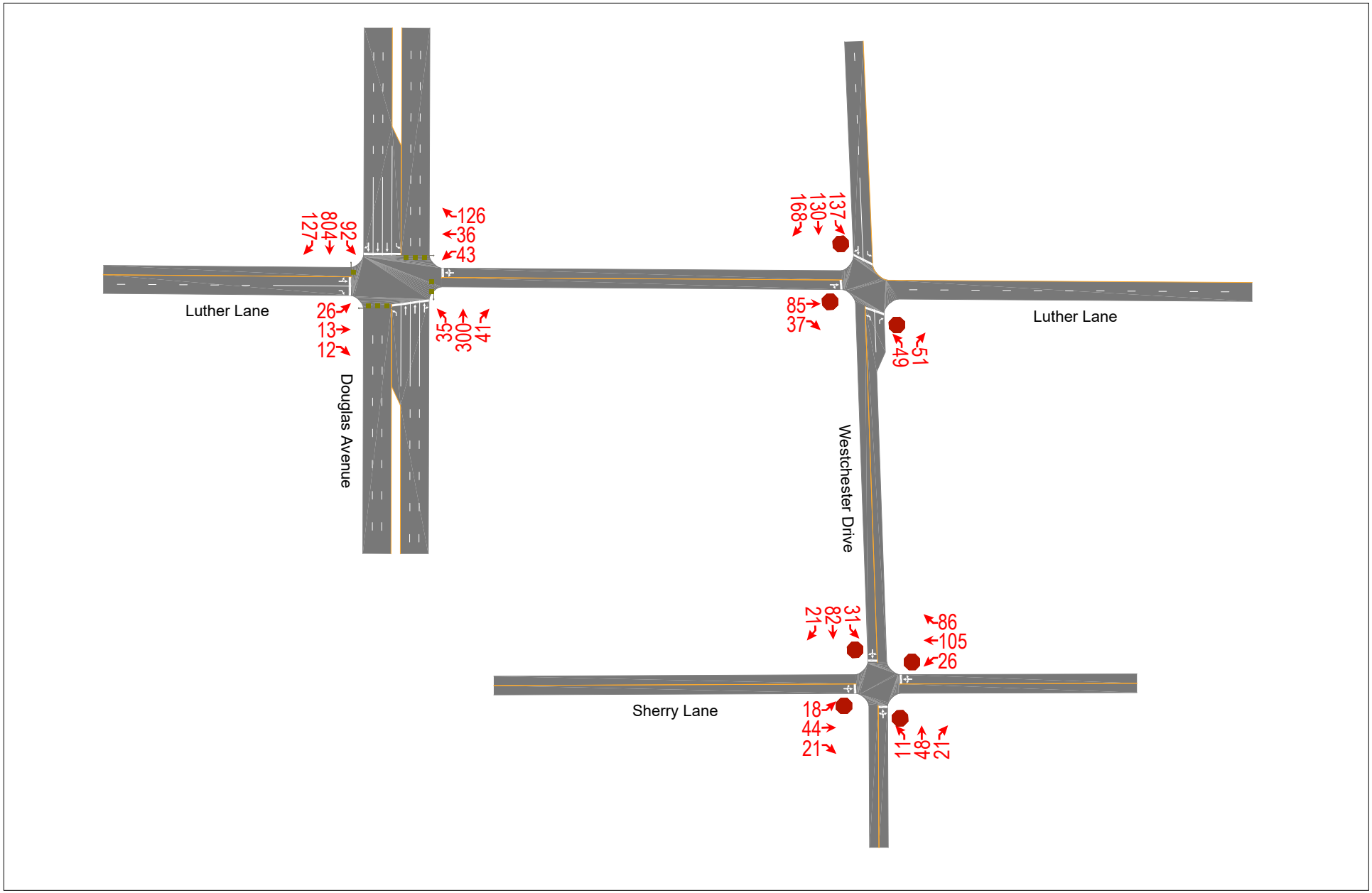
03/26/2020

Pacheco Koch

Appendix A2 - Existing AM

North ▲

Not to Scale



2386-20.065A

AJV

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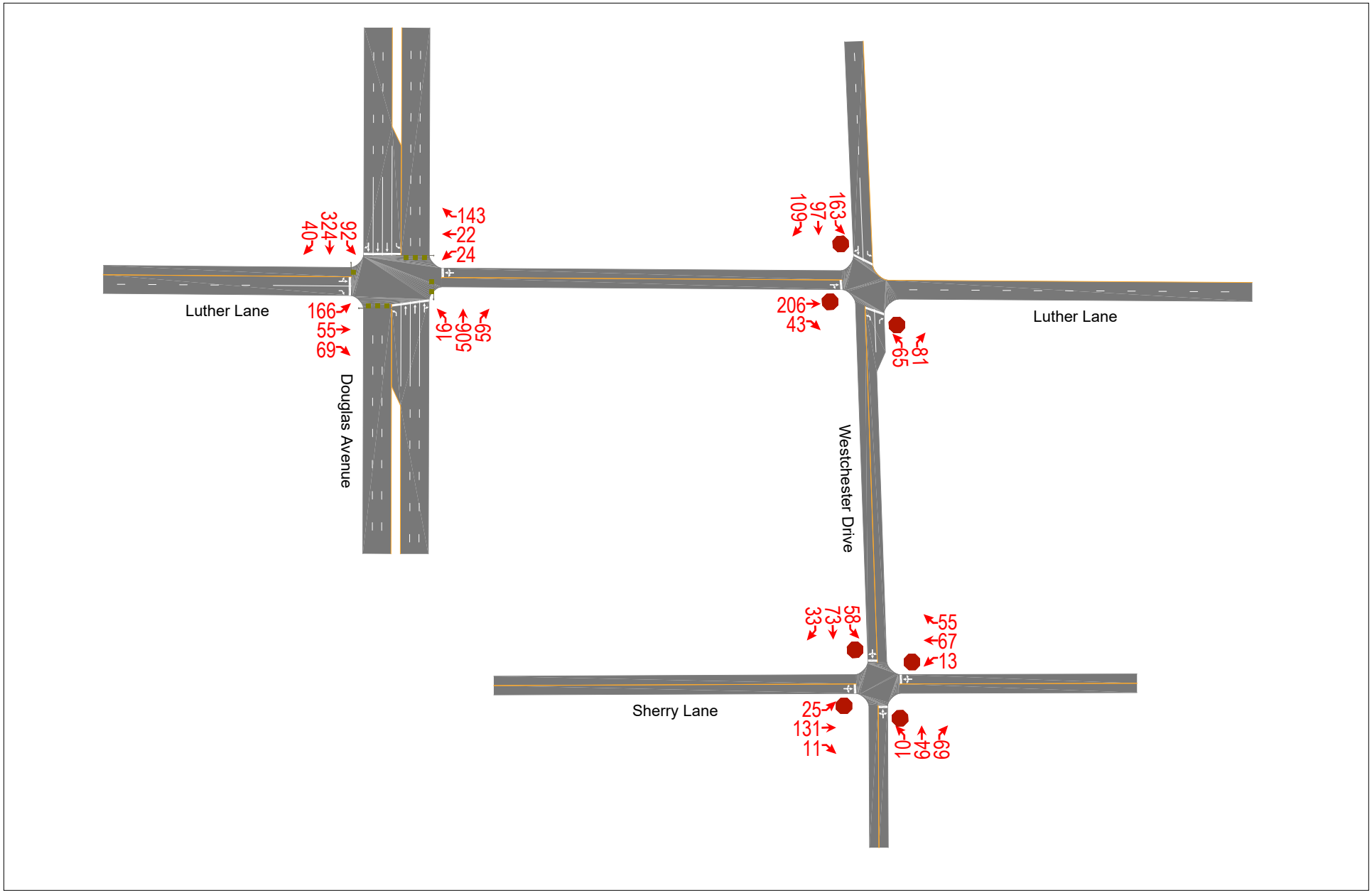
Appendix A3 - Existing PM

North ▲

Not to Scale



2386-20.065A

AJV

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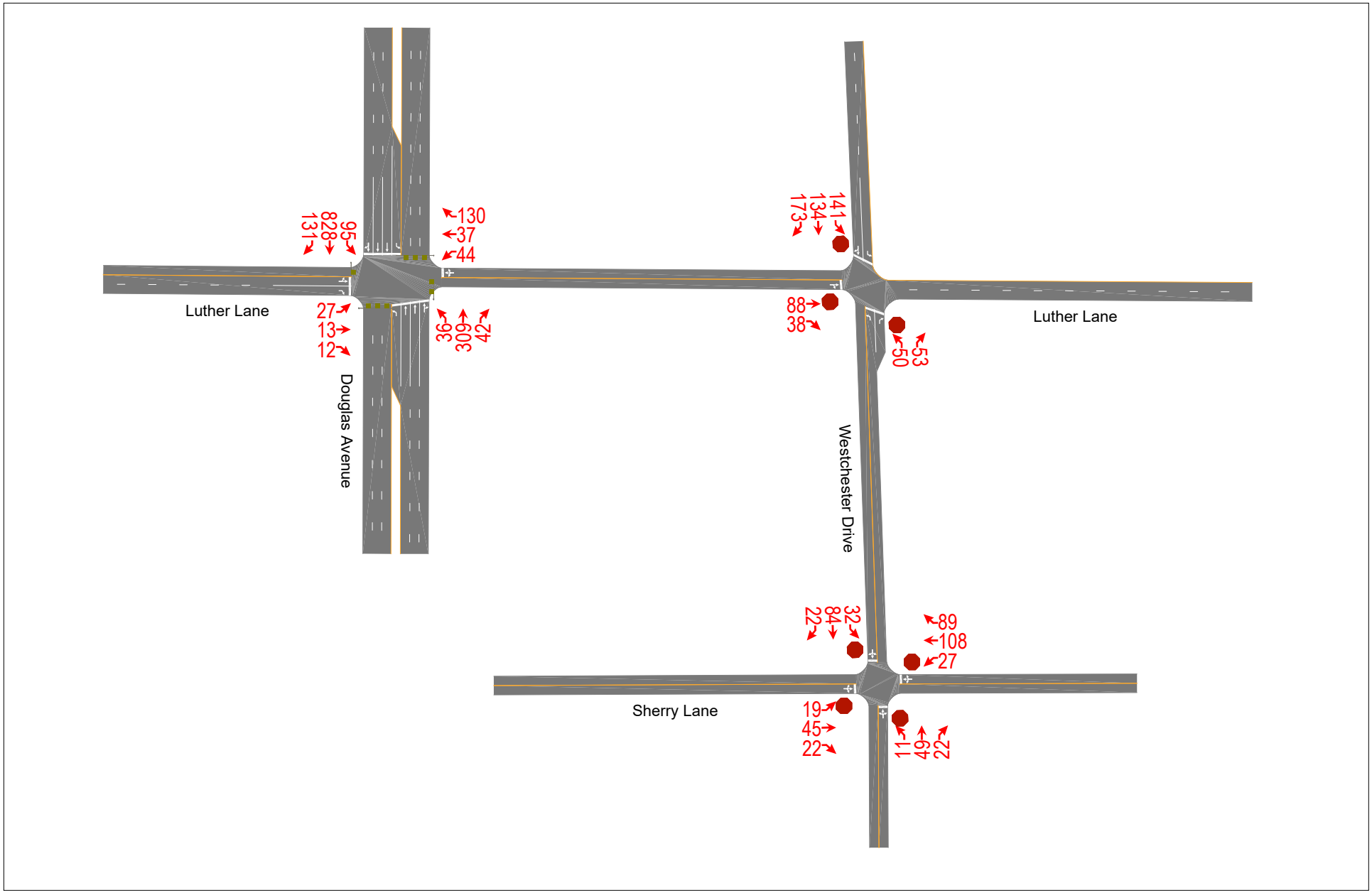
Appendix A4 - Background AM

North ▲

Not to Scale



2386-20.065A

AJV

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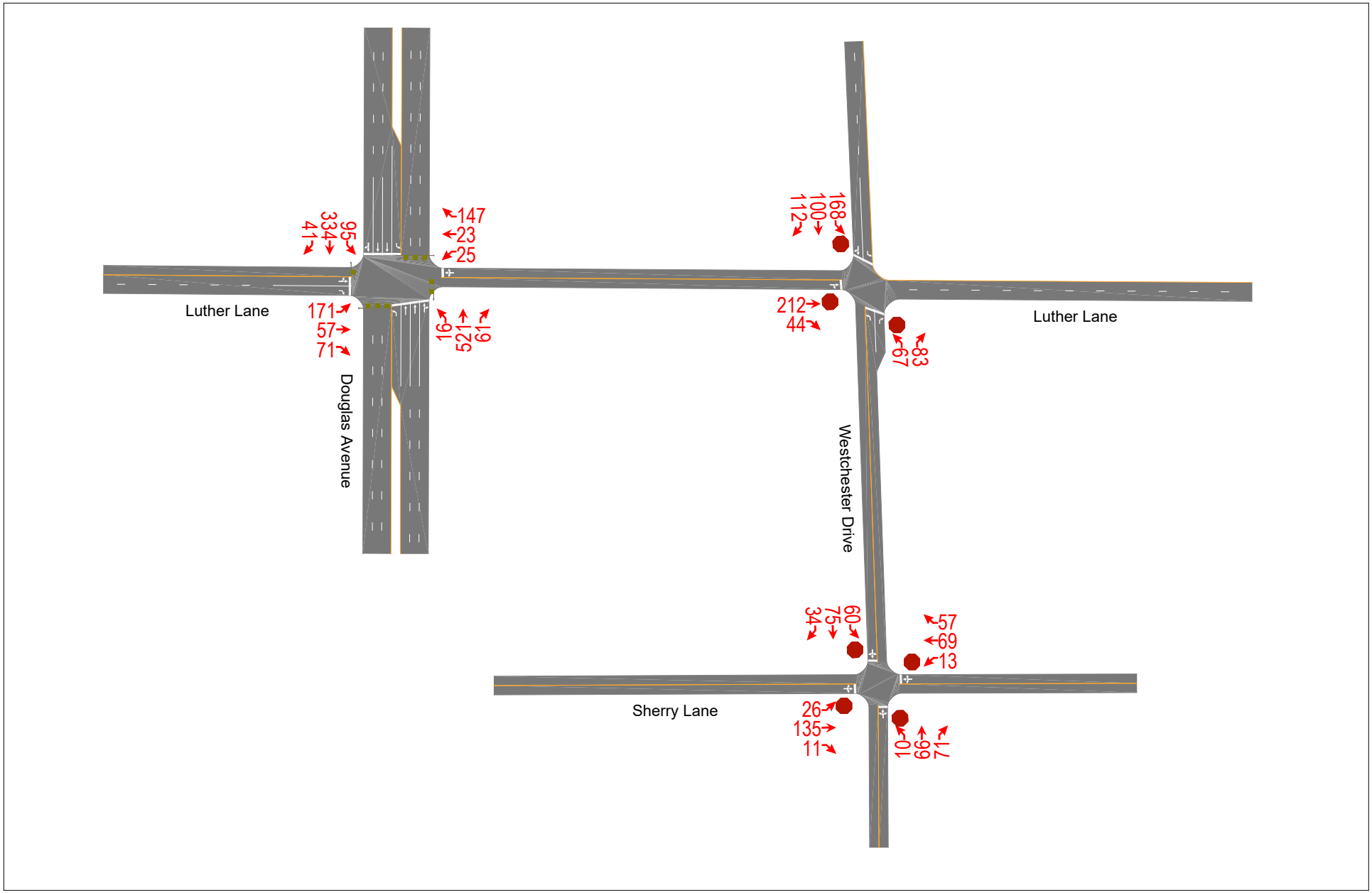
Appendix A5 - Background PM

North ▲

Not to Scale



2386-20.065A

AJV

03/30/2020

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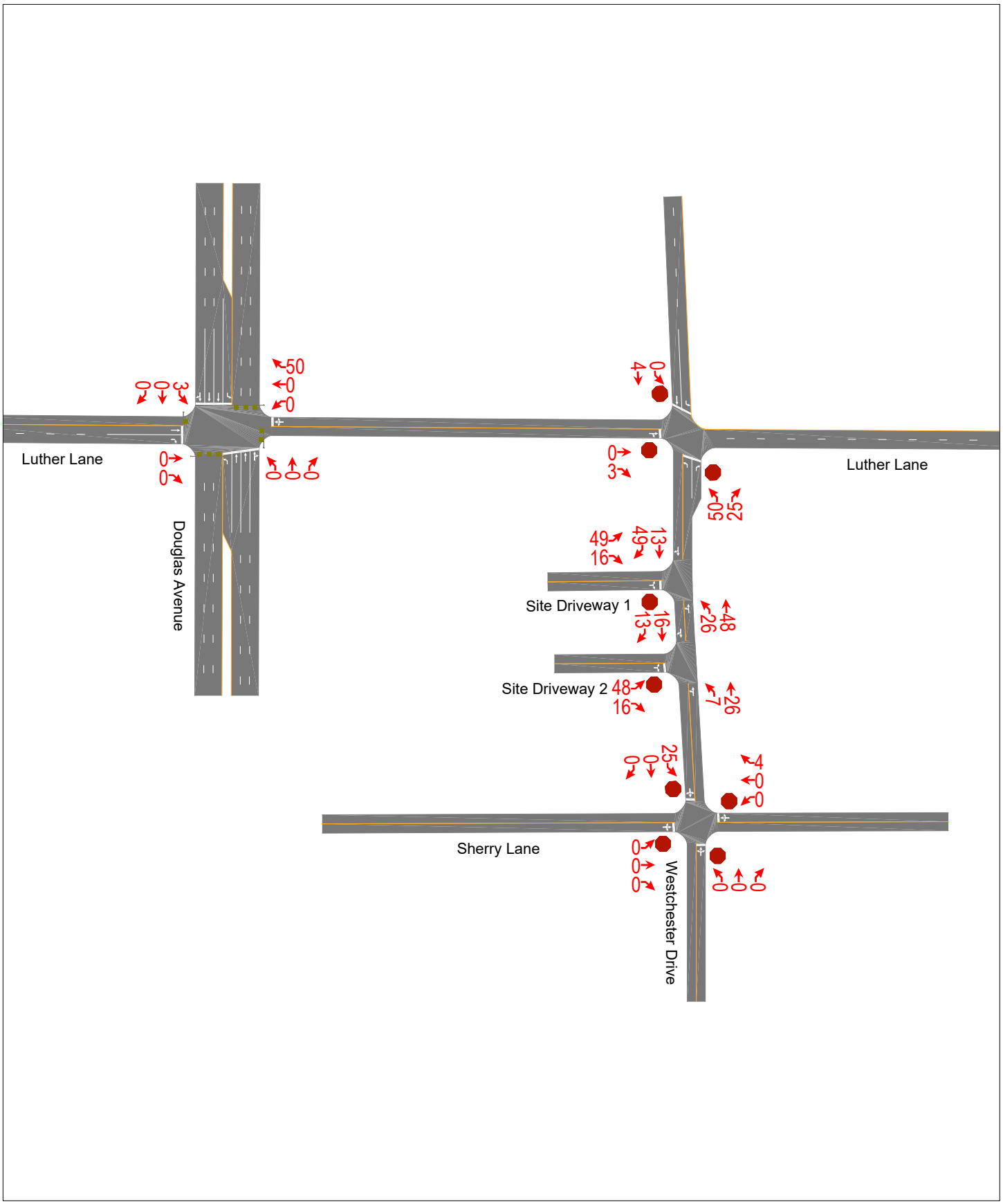
Appendix A6 - Site Generated AM

North ▲

Not to Scale



2386-20.065A

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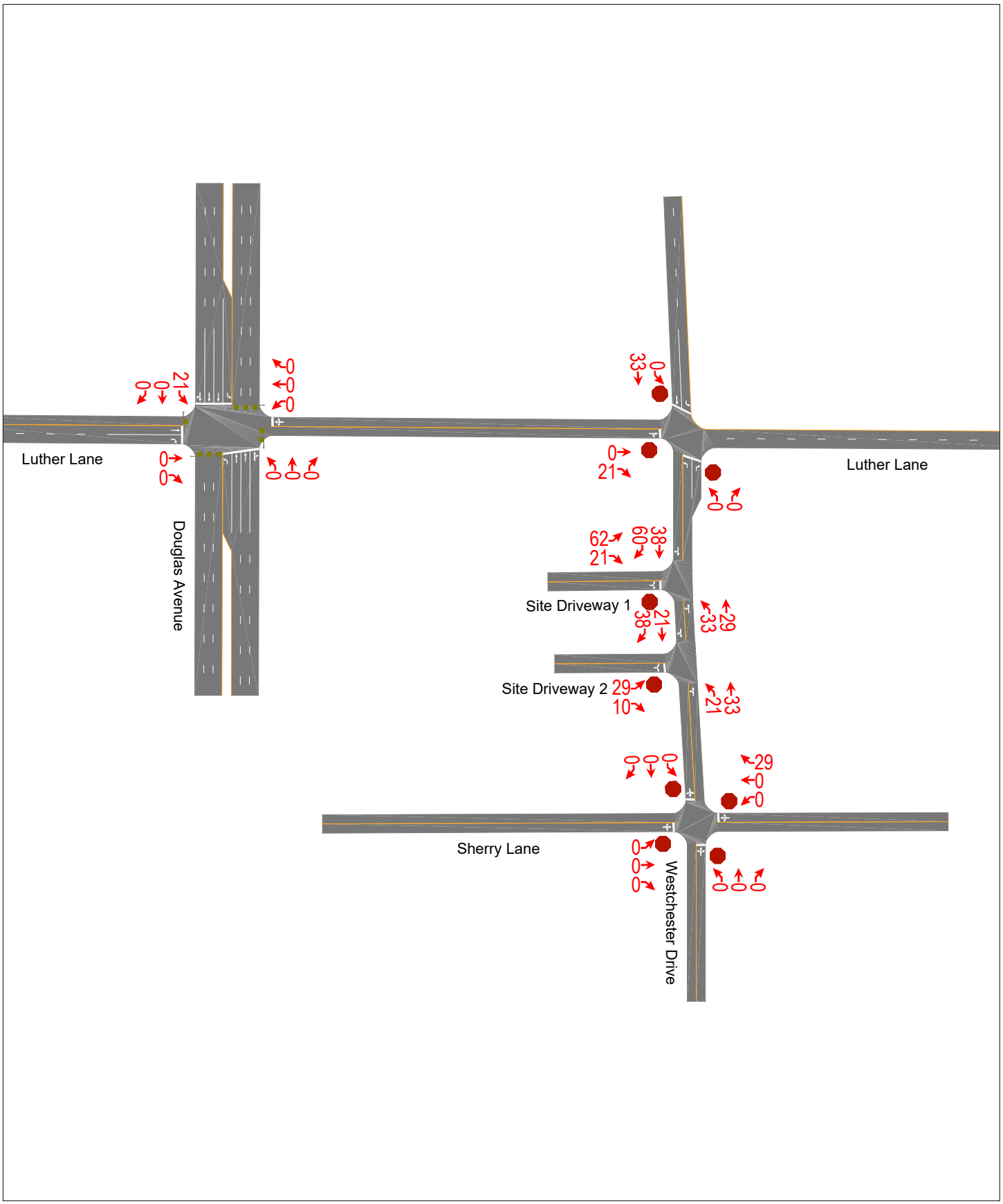
Appendix A7 - Site Generated PM

North ▲

Not to Scale



2386-20.065A

AJV

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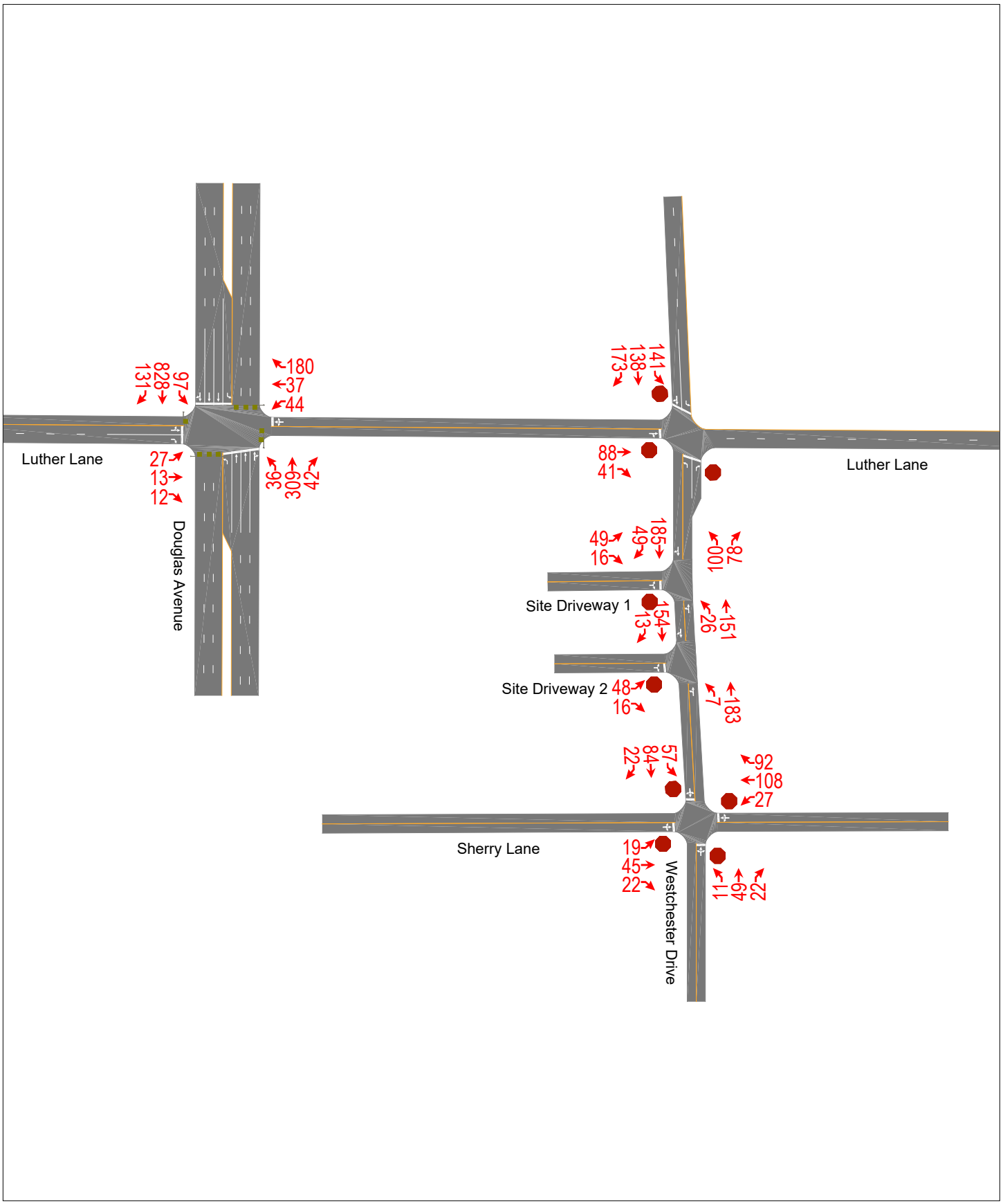
Appendix A8 - Buildout AM

North ▲

Not to Scale



2386-20.065A

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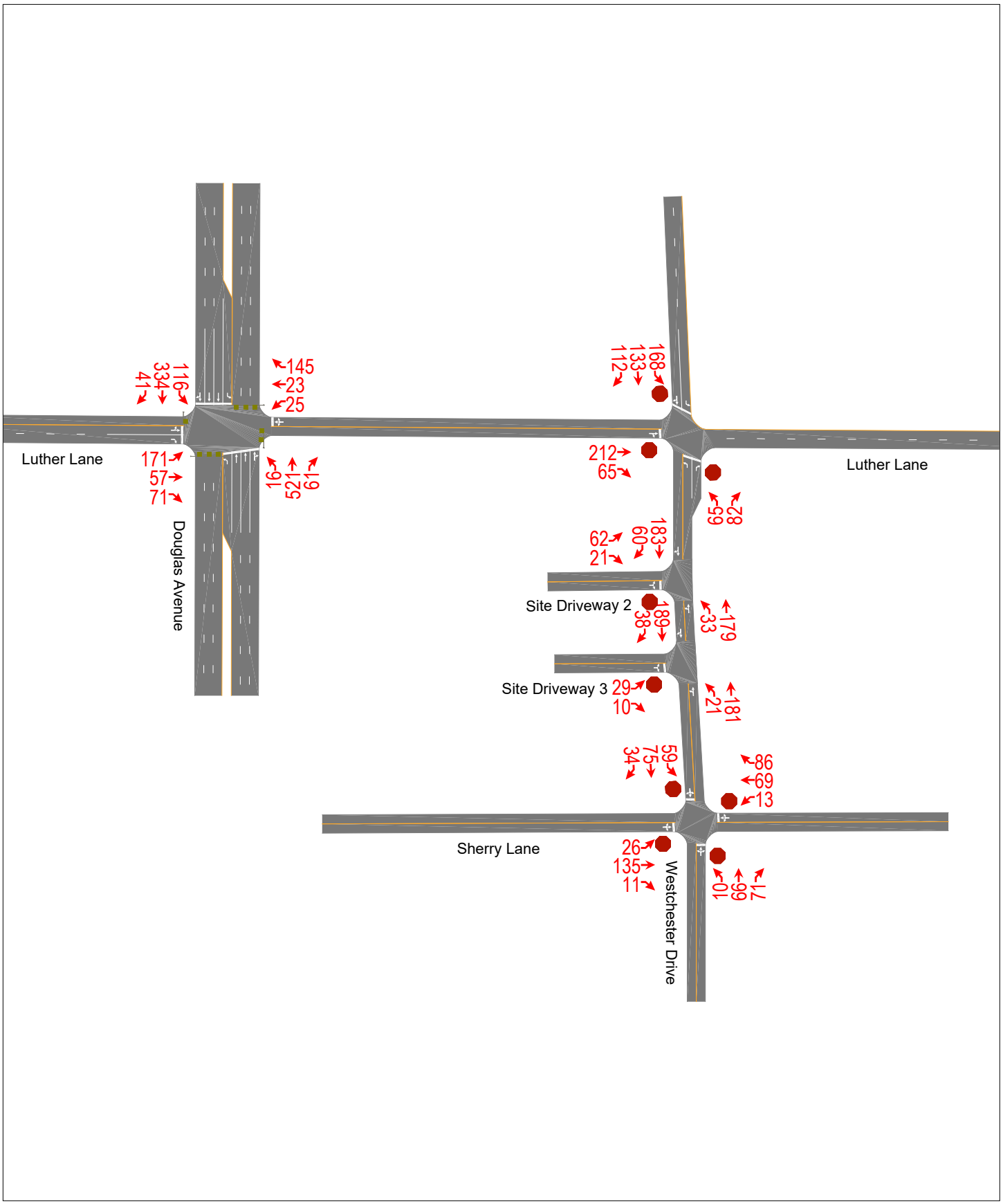
Appendix A9 - Buildout PM

North ▲
Not to Scale



2386-20.065A
AJV

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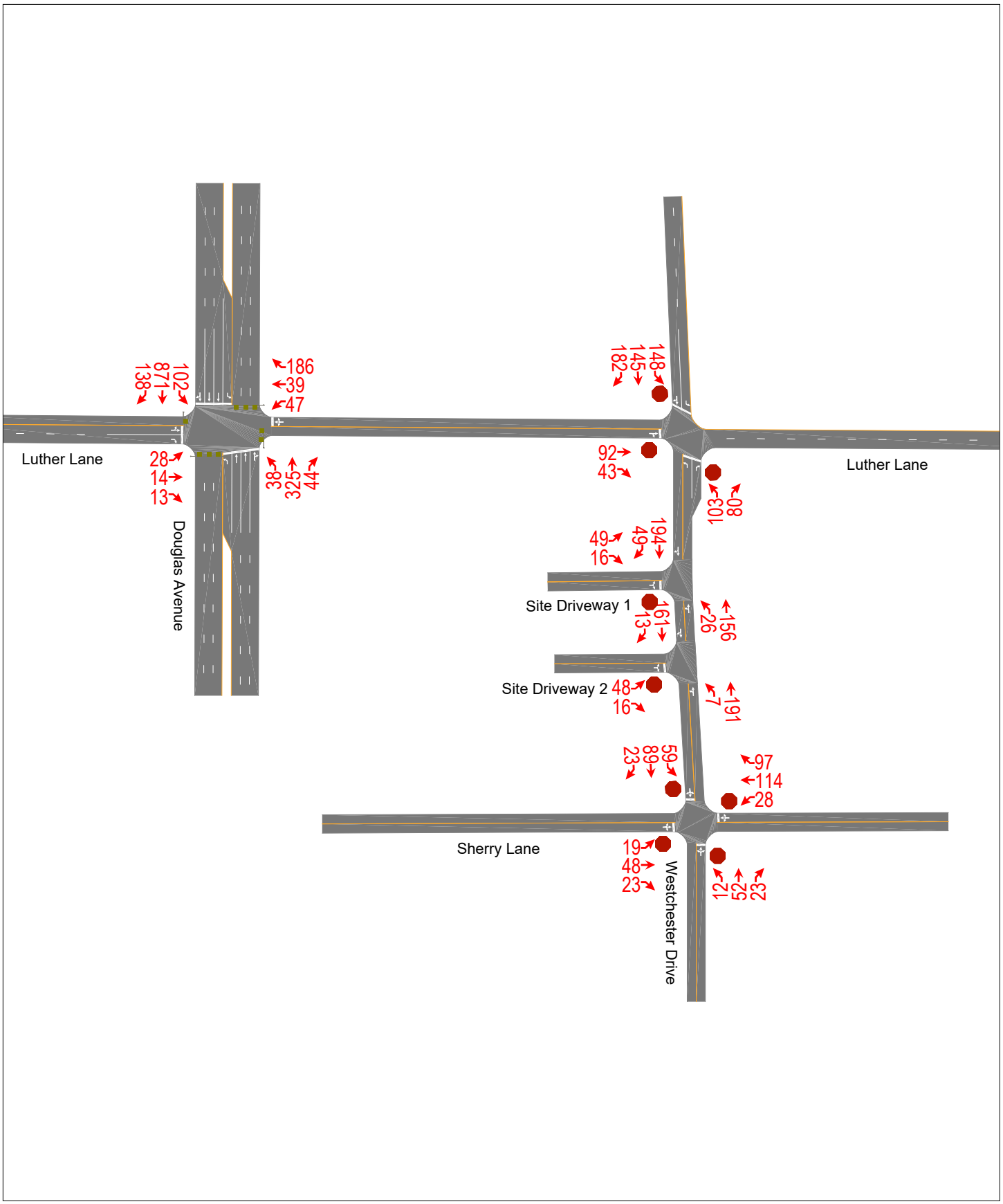
Appendix A10 - Horizon AM

North ▲

Not to Scale



2386-20.065A

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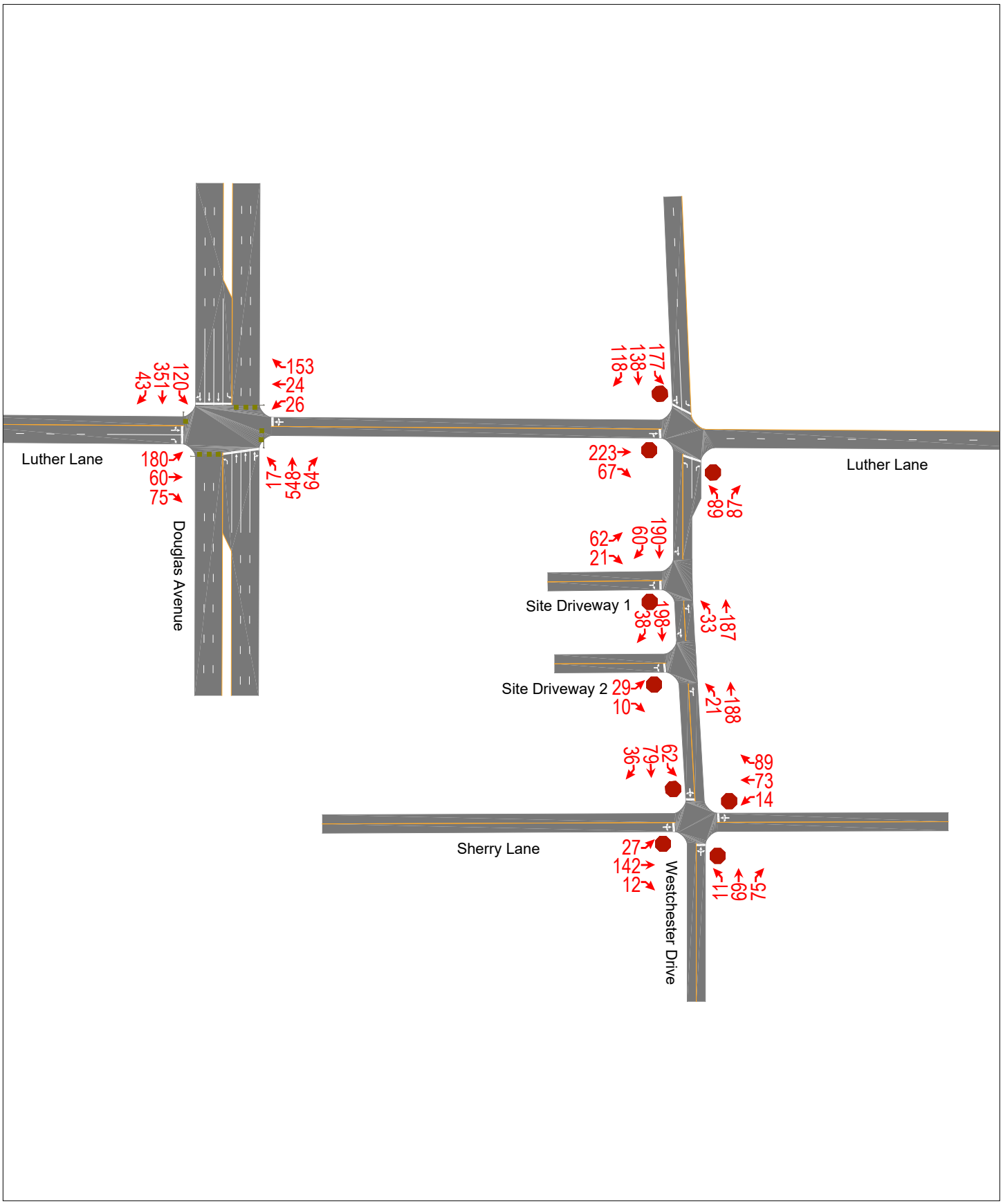
Appendix A11 - Horizon PM

North ▲

Not to Scale



2386-20.065A

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APPENDIX B. Detailed Traffic Volume Data

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on Douglas Avenue						Westbound Approach on Luther Lane						Northbound Approach on Douglas Avenue						Eastbound Approach on Luther Lane					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Dallas***	7:00 AM	7:15 AM		7	96	22				5	3	15				4	25	4				3	0	1		
State:	***Texas***	7:15 AM	7:30 AM		13	132	21				4	1	11				0	25	5				2	0	2		
Day:	***Wednesday***	7:30 AM	7:45 AM		22	154	19				10	6	17				0	85	9				4	5	2		
Date:	***11-Mar***	7:45 AM	8:00 AM		15	166	23				12	8	17				5	84	11				5	3	4		
Year:	***2020***	***8:00 AM***	***8:15 AM***		***21***	***195***	***28***				***7***	***11***	***31***				***6***	***79***	***11***				***5***	***4***	***4***		
Data Collector:	***Camera***	***8:15 AM***	***8:30 AM***		***23***	***214***	***24***				***13***	***10***	***21***				***10***	***80***	***8***				***8***	***2***	***4***		
Data Source:	***CJ Hensch & Associates, Inc.***	***8:30 AM***	***8:45 AM***		***21***	***207***	***37***				***12***	***8***	***39***				***8***	***69***	***9***				***2***	***3***	***1***		
Traffic Control:	***Traffic Signal***	***8:45 AM***	***9:00 AM***		***27***	***188***	***38***				***11***	***7***	***35***				***11***	***72***	***13***				***11***	***4***	***3***		
Observations:																											
		4:30 PM	4:45 PM		15	74	6				4	5	37				5	114	13				31	18	11		
		4:45 PM	***5:00 PM***		***26***	***88***	***15***				***4***	***5***	***35***				***6***	***111***	***18***				***34***	***17***	***15***		
		5:00 PM	***5:15 PM***		***27***	***92***	***11***				***8***	***5***	***43***				***5***	***157***	***16***				***52***	***12***	***26***		
		5:15 PM	***5:30 PM***		***22***	***78***	***4***				***9***	***5***	***35***				***3***	***123***	***16***				***38***	***8***	***12***		
		5:30 PM	***5:45 PM***		***17***	***66***	***10***				***3***	***7***	***30***				***2***	***115***	***9***				***42***	***18***	***16***		
		5:45 PM	6:00 PM		21	78	6				9	7	35				4	97	24				33	12	19		
		6:00 PM	6:15 PM		22	53	8				5	5	36				6	93	13				24	8	10		
		6:15 PM	6:30 PM		25	71	10				7	7	26				4	77	13				14	8	10		
AM Peak Hour	*Intersection PHF:*	*0.99*	*Intersection PHV:*	*0*	*92*	*804*	*127*			*0*	*43*	*36*	*126*			*0*	*35*	*300*	*41*			*0*	*26*	*13*	*12*		
	Peak Hour	*8:00 AM - 9:00 AM*	*PHF:*		*0.85*	*0.94*	*0.84*				*0.83*	*0.82*	*0.81*				*0.80*	*0.94*	*0.79*				*0.59*	*0.81*	*0.75*		
	Study Area PHF:	**0.99**	**Study Area PHV:**	**0**	**92**	**804**	**127**			**0**	**43**	**36**	**126**			**0**	**35**	**300**	**41**			**0**	**26**	**13**	**12**		
	Peak Hour:	**8:00 AM - 9:00 AM**	**PHF:**		**0.85**	**0.94**	**0.84**				**0.83**	**0.82**	**0.81**				**0.80**	**0.94**	**0.79**				**0.59**	**0.81**	**0.75**		
PM Peak Hour	*Intersection PHF:*	*0.83*	*Intersection PHV:*	*0*	*92*	*324*	*40*			*0*	*24*	*22*	*143*			*0*	*16*	*506*	*59*			*0*	*166*	*55*	*69*		
	Peak Hour	*4:45 PM - 5:45 PM*	*PHF:*		*0.85*	*0.88*	*0.67*				*0.67*	*0.79*	*0.83*				*0.67*	*0.81*	*0.82*				*0.80*	*0.76*	*0.66*		
	Study Area PHF:	**0.83**	**Study Area PHV:**	**0**	**92**	**324**	**40**			**0**	**24**	**22**	**143**			**0**	**16**	**506**	**59**			**0**	**166**	**55**	**69**		
	Peak Hour:	**4:45 PM - 5:45 PM**	**PHF:**		**0.85**	**0.88**	**0.67**				**0.67**	**0.79**	**0.83**				**0.67**	**0.81**	**0.82**				**0.80**	**0.76**	**0.66**		

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PK# 2386-20.065A

Douglas Avenue at Luther Lane

Intersection Turning Movement Counts

				NORTH LEG						EAST LEG						SOUTH LEG						WEST LEG					
				Southbound Approach on Westchester Drive						Westbound Approach on Sherry Lane						Northbound Approach on Westchester Drive						Eastbound Approach on Sherry Lane					
				Vehicles				Peds		Vehicles				Peds		Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Dallas***	7:00 AM	7:15 AM		0	17	2				2	11	11				0	3	2				3	4	2		
State:	***Texas***	7:15 AM	7:30 AM		8	14	5				4	7	6				0	9	3				2	5	2		
Day:	***Wednesday***	7:30 AM	7:45 AM		4	14	1				4	12	13				2	18	5				2	6	2		
Date:	***11-Mar***	*7:45 AM*	*8:00 AM*		*2*	*23*	*6*				*6*	*25*	*11*				*2*	*15*	*10*				*3*	*11*	*4*		
Year:	***2020***	***8:00 AM***	***8:15 AM***		***5***	***25***	***6***				***8***	***31***	***20***				***3***	***11***	***3***				***7***	***11***	***5***		
Data Collector:	***Camera***	***8:15 AM***	***8:30 AM***		***8***	***22***	***1***				***6***	***27***	***21***				***5***	***10***	***10***				***3***	***12***	***9***		
Data Source:	***CJ Hensch & Associates, Inc.***	***8:30 AM***	***8:45 AM***		***12***	***20***	***6***				***8***	***23***	***24***				***1***	***15***	***6***				***3***	***10***	***3***		
Traffic Control:	***All-Way Stop***	**8:45 AM**	**9:00 AM**		**6**	**15**	**8**				**4**	**24**	**21**				**2**	**12**	**2**				**5**	**11**	**4**		
Observations:																											
		4:30 PM	4:45 PM		8	15	6				2	10	20				0	16	15				1	27	2		
		4:45 PM	***5:00 PM***		***18***	***21***	***10***				***3***	***16***	***13***				***3***	***21***	***13***				***7***	***35***	***2***		
		5:00 PM	***5:15 PM***		***9***	***20***	***11***				***1***	***26***	***12***				***4***	***12***	***20***				***9***	***41***	***6***		
		5:15 PM	***5:30 PM***		***20***	***14***	***11***				***2***	***15***	***15***				***2***	***18***	***19***				***3***	***25***	***2***		
		5:30 PM	***5:45 PM***		***11***	***18***	***1***				***7***	***10***	***15***				***1***	***13***	***17***				***6***	***30***	***1***		
		5:45 PM	6:00 PM		10	24	7				5	13	14				1	20	16				3	26	2		
		6:00 PM	6:15 PM		17	17	11				1	20	17				0	5	11				2	25	3		
		6:15 PM	6:30 PM		8	13	6				1	13	18				1	6	4				8	21	0		
AM Peak Hour	*Intersection PHF:*	*0.96*	*Intersection PHV:*	*0*	*27*	*90*	*19*			*0*	*28*	*106*	*76*			*0*	*11*	*51*	*29*			*0*	*16*	*44*	*21*		
	Peak Hour	*7:45 AM - 8:45 AM*	*PHF:*		*0.56*	*0.90*	*0.79*				*0.88*	*0.85*	*0.79*				*0.55*	*0.85*	*0.73*				*0.57*	*0.92*	*0.58*		
	Study Area PHF:	**0.95**	**Study Area PHV:**	**0**	**31**	**82**	**21**			**0**	**26**	**105**	**86**			**0**	**11**	**48**	**21**			**0**	**18**	**44**	**21**		
	Peak Hour:	**8:00 AM - 9:00 AM**	**PHF:**		**0.65**	**0.82**	**0.66**				**0.81**	**0.85**	**0.90**				**0.55**	**0.80**	**0.53**				**0.64**	**0.92**	**0.58**		
PM Peak Hour	*Intersection PHF:*	*0.89*	*Intersection PHV:*	*0*	*58*	*73*	*33*			*0*	*13*	*67*	*55*			*0*	*10*	*64*	*69*			*0*	*25*	*131*	*11*		
	Peak Hour	*4:45 PM - 5:45 PM*	*PHF:*		*0.73*	*0.87*	*0.75*				*0.46*	*0.64*	*0.92*				*0.63*	*0.76*	*0.86*				*0.69*	*0.80*	*0.46*		
	Study Area PHF:	**0.89**	**Study Area PHV:**	**0**	**58**	**73**	**33**			**0**	**13**	**67**	**55**			**0**	**10**	**64**	**69**			**0**	**25**	**131**	**11**		
	Peak Hour:	**4:45 PM - 5:45 PM**	**PHF:**		**0.73**	**0.87**	**0.75**				**0.46**	**0.64**	**0.92**				**0.63**	**0.76**	**0.86**				**0.69**	**0.80**	**0.46**		

Pacheco Koch

PK# 2386-20.065A

Westchester Drive at Sherry Lane

Intersection Turning Movement Counts

				NORTH LEG												SOUTH LEG						WEST LEG					
				Southbound Approach on Westchester Drive												Northbound Approach on Westchester Drive						Eastbound Approach on Luther Lane					
				Vehicles				Peds								Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW							U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	***Dallas***	7:00 AM	7:15 AM		14	22	22										7	-	5				-	8	2		
State:	***Texas***	7:15 AM	7:30 AM		30	28	15										5	-	5				-	12	4		
Day:	***Wednesday***	7:30 AM	7:45 AM		21	25	29										10	-	17				-	19	2		
Date:	***11-Mar***	7:45 AM	8:00 AM		21	32	30										14	-	18				-	14	11		
Year:	***2020***	***8:00 AM***	***8:15 AM***		***28***	***42***	***39***										***8***	***-***	***17***				***-***	***18***	***7***		
Data Collector:	***Camera***	***8:15 AM***	***8:30 AM***		***31***	***25***	***44***										***8***	***-***	***12***				***-***	***24***	***12***		
Data Source:	***CJ Hensch & Associates, Inc.***	***8:30 AM***	***8:45 AM***		***30***	***34***	***43***										***17***	***-***	***13***				***-***	***18***	***11***		
Traffic Control:	***All-Way Stop***	***8:45 AM***	***9:00 AM***		***48***	***29***	***42***										***16***	***-***	***9***				***-***	***25***	***7***		
Observations:																											
		4:30 PM	4:45 PM		24	14	34										18	-	18				-	47	11		
		4:45 PM	**5:00 PM**		**40**	**19**	**22**										**20**	**-**	**21**				**-**	**56**	**16**		
		5:00 PM	***5:15 PM***		***46***	***24***	***32***										***15***	***-***	***22***				***-***	***66***	***13***		
		5:15 PM	***5:30 PM***		***35***	***29***	***29***										***17***	***-***	***22***				***-***	***39***	***8***		
		5:30 PM	***5:45 PM***		***42***	***25***	***26***										***13***	***-***	***16***				***-***	***45***	***6***		
		5:45 PM	*6:00 PM*		*65*	*27*	*26*										*17*	-	*23*				-	*54*	*10*		
		6:00 PM	6:15 PM		52	27	30										14	-	9				-	37	9		
		6:15 PM	6:30 PM		49	22	36										7	-	22				-	36	7		
AM Peak Hour	*Intersection PHF:*	*0.93*	*Intersection PHV:*	*0*	*137*	*130*	*168*									*0*	*49*	*0*	*51*			*0*	*0*	*85*	*37*		
	Peak Hour	*8:00 AM - 9:00 AM*	*PHF:*		*0.71*	*0.77*	*0.95*										*0.72*	*0.00*	*0.75*				*0.00*	*0.85*	*0.77*		
	Study Area PHF:	**0.93**	**Study Area PHV:**	**0**	**137**	**130**	**168**									**0**	**49**	**0**	**51**			**0**	**0**	**85**	**37**		
	Peak Hour:	**8:00 AM - 9:00 AM**	**PHF:**		**0.71**	**0.77**	**0.95**										**0.72**	**0.00**	**0.75**				**0.00**	**0.85**	**0.77**		
PM Peak Hour	*Intersection PHF:*	*0.89*	*Intersection PHV:*	*0*	*188*	*105*	*113*									*0*	*62*	*0*	*83*			*0*	*0*	*204*	*37*		
	Peak Hour	*5:00 PM - 6:00 PM*	*PHF:*		*0.72*	*0.91*	*0.88*										*0.91*	*0.00*	*0.90*				*0.00*	*0.77*	*0.71*		
	Study Area PHF:	**0.88**	**Study Area PHV:**	**0**	**163**	**97**	**109**									**0**	**65**	**0**	**81**			**0**	**0**	**206**	**43**		
	Peak Hour:	**4:45 PM - 5:45 PM**	**PHF:**		**0.89**	**0.84**	**0.85**										**0.81**	**0.00**	**0.92**				**0.00**	**0.78**	**0.67**		

Intersection Turning Movement Counts

				NORTH LEG										SOUTH LEG						WEST LEG					
				Southbound Approach on Westchester Drive										Northbound Approach on Westchester Drive						Eastbound Approach on Luther Lane					
				Vehicles				Peds						Vehicles				Peds		Vehicles				Peds	
		START	END	U	L	T	R	CCW	CW					U	L	T	R	CCW	CW	U	L	T	R	CCW	CW
City:	*Dallas*	11:00 AM	11:15 AM		26	25	27								9	-	11				-	31	7		
State:	*Texas*	11:15 AM	11:30 AM		51	21	38								11	-	21				-	37	17		
Day:	*Wednesday*	11:30 AM	11:45 AM		60	19	33								10	-	26				-	42	15		
Date:	*11-Mar*	***11:45 AM***	***12:00 PM***		***68***	***19***	***36***								***13***	***-***	***19***				***-***	***55***	***18***		
Year:	*2020*	***12:00 PM***	***12:15 PM***		***70***	***28***	***34***								***19***	***-***	***21***				***-***	***49***	***21***		
Data Collector:	*Camera*	***12:15 PM***	***12:30 PM***		***60***	***19***	***42***								***7***	***-***	***20***				***-***	***46***	***14***		
Data Source:	*CJ Hensch & Associates, Inc.*	***12:30 PM***	***12:45 PM***		***58***	***25***	***42***								***14***	***-***	***28***				***-***	***28***	***11***		
Traffic Control:	*All-Way Stop*	12:45 PM	1:00 PM		57	30	54								12	-	18				-	31	5		
Observations:																									
MIDDAY Peak Hour	*Intersection PHF:*	*0.91*		*Intersection PHV:*	*0*	*256*	*91*	*154*						*0*	*53*	*0*	*88*			*0*	*0*	*178*	*64*		
	Peak Hour	*11:45 AM - 12:45 PM*		*PHF:*		*0.91*	*0.81*	*0.92*							*0.70*	*0.00*	*0.79*				*0.00*	*0.81*	*0.76*		
	Study Area PHF:	**0.91**		**Study Area PHV:**	**0**	**256**	**91**	**154**						**0**	**53**	**0**	**88**			**0**	**0**	**178**	**64**		
	Peak Hour:	**11:45 AM - 12:45 PM**		**PHF:**		**0.91**	**0.81**	**0.92**							**0.70**	**0.00**	**0.79**				**0.00**	**0.81**	**0.76**		

Pacheco Koch

PK# 2386-20.065A

Westchester Drive at Luther Lane

ROADWAY: Douglas Avenue
LOCATION: Between Sherry Lane and Luther Lane
DAY: Wednesday
DATE: 11-Mar
YEAR: 2020
SOURCE: CJ Hensch & Associates, Inc.

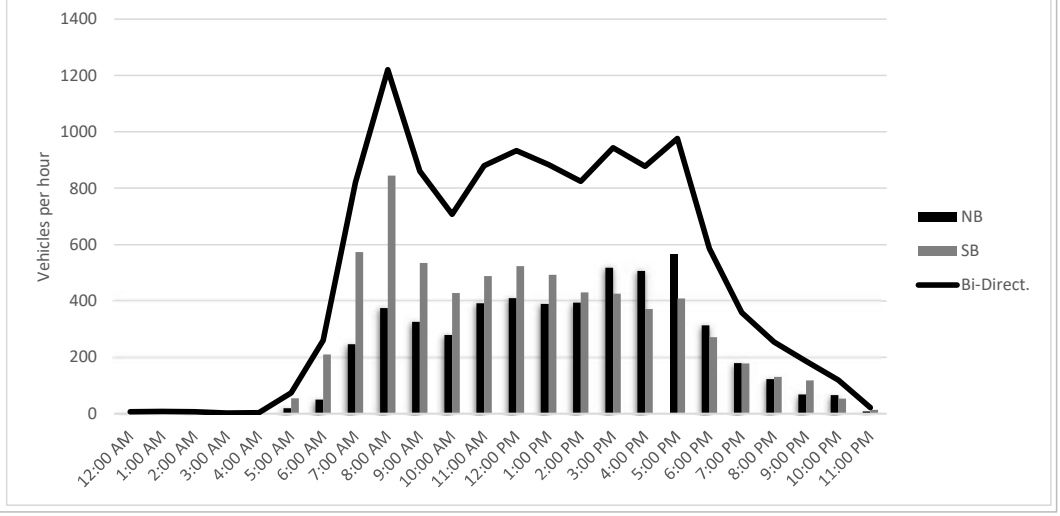
24-HOUR, BI-DIRECTIONAL VOLUME
11,816
(WEEKDAY)

Douglas Avenue

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	1	1	0	0	2	2	1	0	2	5	7
1:00 AM	0	0	0	1	1	1	1	4	1	7	8
2:00 AM	4	0	0	1	0	0	2	0	5	2	7
3:00 AM	0	0	0	0	0	0	0	2	0	2	2
4:00 AM	0	0	0	0	0	0	0	4	0	4	4
5:00 AM	4	2	1	12	1	6	12	36	19	55	74
6:00 AM	7	11	13	19	22	28	68	92	50	210	260
7:00 AM	32	29	89	97	100	133	164	177	247	574	821
8:00 AM	94	102	82	97	201	226	217	201	375	845	1220
9:00 AM	92	95	67	72	156	128	116	135	326	535	861
10:00 AM	73	64	79	63	116	108	94	110	279	428	707
11:00 AM	80	90	104	118	106	130	111	141	392	488	880
12:00 PM	118	109	93	90	137	95	137	154	410	523	933
1:00 PM	114	104	100	72	118	123	108	144	390	493	883
2:00 PM	74	90	112	118	114	107	99	110	394	430	824
3:00 PM	108	112	150	148	96	113	116	101	518	426	944
4:00 PM	124	112	138	133	90	83	92	106	507	371	878
5:00 PM	173	134	138	122	121	98	86	104	567	409	976
6:00 PM	112	86	73	43	68	88	54	62	314	272	586
7:00 PM	62	50	43	25	58	49	36	36	180	179	359
8:00 PM	32	30	41	20	36	27	40	28	123	131	254
9:00 PM	21	17	17	13	16	36	43	23	68	118	186
10:00 PM	28	16	10	12	32	9	7	6	66	54	120
11:00 PM	1	3	1	3	4	9	1	0	8	14	22

			NB	SB	Bi-Direct.
		24-Hour Total:	5,241	6,575	11,816
8:00 AM	9:00 AM	(Bi-Direct.) AM Peak Hour Total:	375	845	1,220
4:30 PM	5:30 PM	(Bi-Direct.) PM Peak Hour Total:	578	417	995
4:30 PM	5:30 PM	Highest By Direction (NB):	578		
8:00 AM	9:00 AM	Highest By Direction (SB):		845	

Graph



PK# 2386-20.065A

Pacheco Koch

ROADWAY: Luther Lane
LOCATION: Between Douglas Avenue and Westchester Drive
DAY: Wednesday
DATE: 11-Mar
YEAR: 2020
SOURCE: CJ Hensch & Associates, Inc.

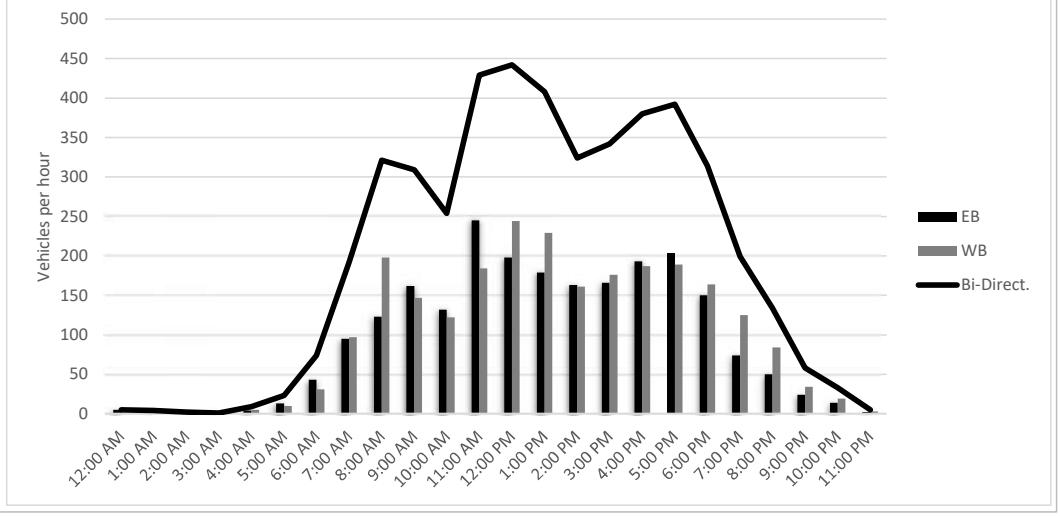
24-HOUR, BI-DIRECTIONAL VOLUME
4,654
(WEEKDAY)

Luther Lane

	Eastbound				Westbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	EB	WB	Bi-Direct.
12:00 AM	0	1	1	3	0	0	0	0	5	0	5
1:00 AM	1	0	0	0	1	1	0	1	1	3	4
2:00 AM	0	0	0	0	1	0	1	0	0	2	2
3:00 AM	0	0	0	1	0	0	0	0	1	0	1
4:00 AM	0	1	1	2	3	1	0	1	4	5	9
5:00 AM	0	2	2	9	1	2	4	3	13	10	23
6:00 AM	6	11	8	18	8	4	7	12	43	31	74
7:00 AM	13	16	35	31	18	16	30	33	95	97	192
8:00 AM	27	34	30	32	49	46	55	48	123	198	321
9:00 AM	33	56	30	43	39	45	37	26	162	147	309
10:00 AM	40	26	22	44	30	26	28	38	132	122	254
11:00 AM	41	62	59	83	37	52	42	53	245	184	429
12:00 PM	68	54	44	32	58	53	66	67	198	244	442
1:00 PM	49	49	48	33	54	66	54	55	179	229	408
2:00 PM	36	31	43	53	36	43	38	44	163	161	324
3:00 PM	33	40	34	59	36	45	47	48	166	176	342
4:00 PM	57	36	42	58	47	49	45	46	193	187	380
5:00 PM	56	47	47	53	53	46	41	49	203	189	392
6:00 PM	45	44	32	29	46	40	37	41	150	164	314
7:00 PM	24	20	13	17	33	35	27	30	74	125	199
8:00 PM	12	17	13	8	25	15	31	13	50	84	134
9:00 PM	5	2	8	9	6	12	12	4	24	34	58
10:00 PM	10	0	2	2	9	4	4	2	14	19	33
11:00 PM	0	0	2	0	2	1	0	0	2	3	5

			EB	WB	Bi-Direct.
		24-Hour Total:	2,240	2,414	4,654
11:00 AM	12:00 PM	(Bi-Direct.) AM Peak Hour Total:	245	184	429
12:00 PM	1:00 PM	(Bi-Direct.) PM Peak Hour Total:	198	244	442
11:15 AM	12:15 PM	Highest By Direction (EB):	272		
12:30 PM	1:30 PM	Highest By Direction (WB):		253	

Graph



PK# 2386-20.065A

Pacheco Koch

ROADWAY: Sherry Lane
LOCATION: Between Douglas Avenue and Westchester Drive
DAY: Wednesday
DATE: 11-Mar
YEAR: 2020
SOURCE: CJ Hensch & Associates, Inc.

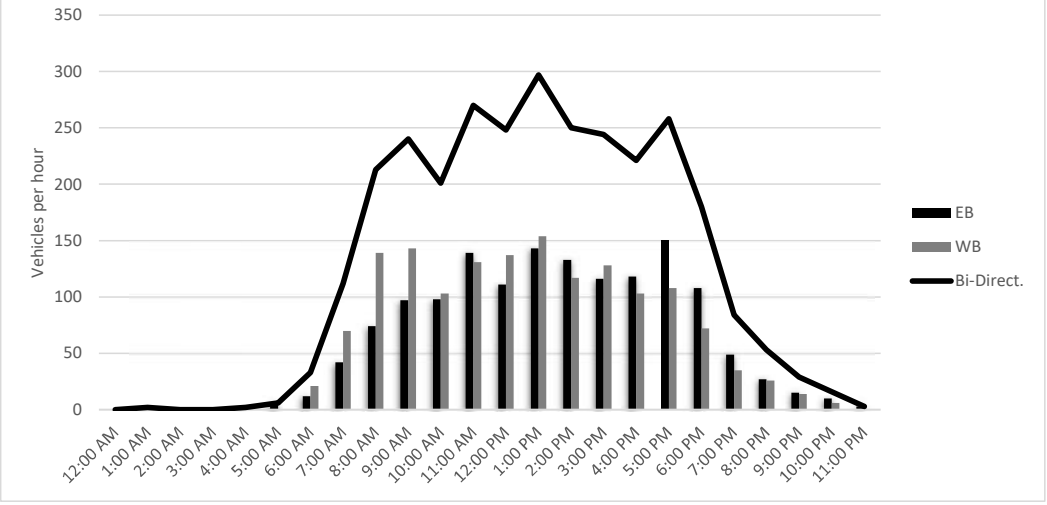
24-HOUR, BI-DIRECTIONAL VOLUME
2,962
(WEEKDAY)

Sherry Lane

	Eastbound				Westbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	EB	WB	Bi-Direct.
12:00 AM	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	1	0	0	0	0	0	1	1	1	2
2:00 AM	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	1	0	0	0	0	1	0	0	1	1	2
5:00 AM	0	2	2	2	0	0	0	0	6	0	6
6:00 AM	1	5	4	2	3	3	8	7	12	21	33
7:00 AM	6	8	10	18	12	12	14	32	42	70	112
8:00 AM	23	21	10	20	42	34	32	31	74	139	213
9:00 AM	19	22	30	26	35	37	32	39	97	143	240
10:00 AM	28	26	22	22	30	23	25	25	98	103	201
11:00 AM	27	42	39	31	29	34	23	45	139	131	270
12:00 PM	25	33	25	28	30	39	35	33	111	137	248
1:00 PM	35	46	24	38	39	39	32	44	143	154	297
2:00 PM	39	38	33	23	28	27	26	36	133	117	250
3:00 PM	30	35	28	23	29	22	41	36	116	128	244
4:00 PM	27	24	26	41	27	28	17	31	118	103	221
5:00 PM	54	26	37	33	42	28	14	24	150	108	258
6:00 PM	30	30	25	23	31	19	14	8	108	72	180
7:00 PM	16	12	12	9	15	11	5	4	49	35	84
8:00 PM	14	6	4	3	9	5	9	3	27	26	53
9:00 PM	3	3	2	7	7	4	2	1	15	14	29
10:00 PM	5	1	4	0	4	0	0	2	10	6	16
11:00 PM	0	2	1	0	0	0	0	0	3	0	3

			EB	WB	Bi-Direct.
		24-Hour Total:	1,453	1,509	2,962
11:00 AM	12:00 PM	(Bi-Direct.) AM Peak Hour Total:	139	131	270
1:00 PM	2:00 PM	(Bi-Direct.) PM Peak Hour Total:	143	154	297
4:45 PM	5:45 PM	Highest By Direction (EB):	158		
1:00 PM	2:00 PM	Highest By Direction (WB):		154	

Graph



PK# 2386-20.065A

Pacheco Koch

ROADWAY: Westchester Drive
LOCATION: Between Sherry Lane and Luther Lane
DAY: Wednesday
DATE: 11-Mar
YEAR: 2020
SOURCE: CJ Hensch & Associates, Inc.

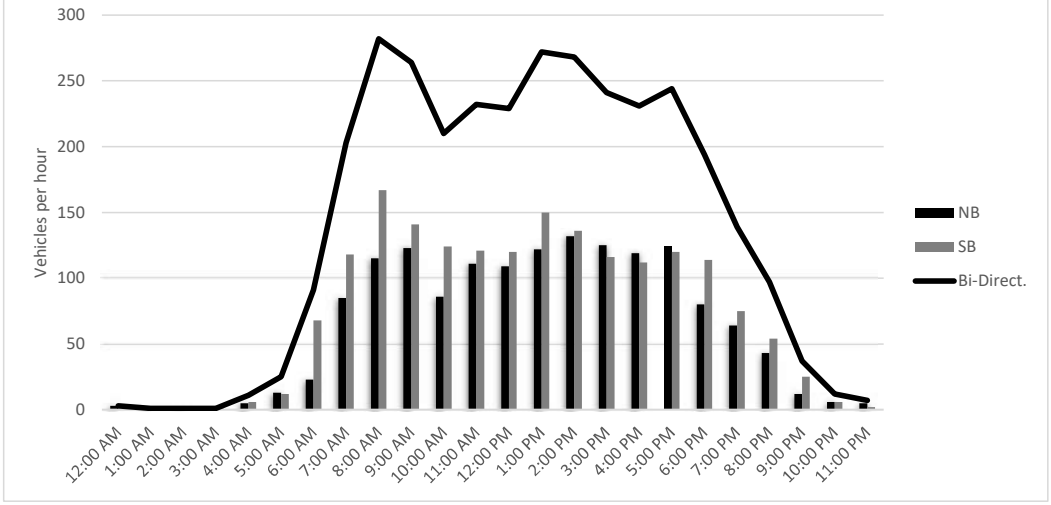
24-HOUR, BI-DIRECTIONAL VOLUME
3,295
(WEEKDAY)

Westchester Drive

	Northbound				Southbound				Totals		
START TIME	0:00	0:15	0:30	0:45	0:00	0:15	0:30	0:45	NB	SB	Bi-Direct.
12:00 AM	0	2	0	1	0	0	0	0	3	0	3
1:00 AM	0	0	0	1	0	0	0	0	1	0	1
2:00 AM	1	0	0	0	0	0	0	0	1	0	1
3:00 AM	0	0	0	0	0	1	0	0	0	1	1
4:00 AM	2	1	1	1	3	1	1	1	5	6	11
5:00 AM	2	5	4	2	2	1	5	4	13	12	25
6:00 AM	1	11	3	8	6	15	24	23	23	68	91
7:00 AM	12	13	31	29	23	29	29	37	85	118	203
8:00 AM	29	33	31	22	48	39	48	32	115	167	282
9:00 AM	23	33	28	39	31	39	31	40	123	141	264
10:00 AM	21	20	18	27	24	33	27	40	86	124	210
11:00 AM	20	35	20	36	34	33	19	35	111	121	232
12:00 PM	24	28	34	23	23	38	35	24	109	120	229
1:00 PM	28	33	40	21	39	34	44	33	122	150	272
2:00 PM	29	27	33	43	27	30	44	35	132	136	268
3:00 PM	27	31	30	37	27	36	23	30	125	116	241
4:00 PM	42	24	30	23	35	26	29	22	119	112	231
5:00 PM	29	30	29	36	19	40	30	31	124	120	244
6:00 PM	20	13	21	26	45	24	26	19	80	114	194
7:00 PM	15	15	20	14	21	20	19	15	64	75	139
8:00 PM	12	12	15	4	17	11	23	3	43	54	97
9:00 PM	4	3	3	2	9	11	4	1	12	25	37
10:00 PM	2	2	1	1	1	1	3	1	6	6	12
11:00 PM	2	2	0	1	2	0	0	0	5	2	7

			NB	SB	Bi-Direct.
		24-Hour Total:	1,507	1,788	3,295
7:45 AM	8:45 AM	(Bi-Direct.) AM Peak Hour Total:	122	172	294
2:30 PM	3:30 PM	(Bi-Direct.) PM Peak Hour Total:	134	142	276
3:15 PM	4:15 PM	Highest By Direction (NB):	140		
7:45 AM	8:45 AM	Highest By Direction (SB):		172	

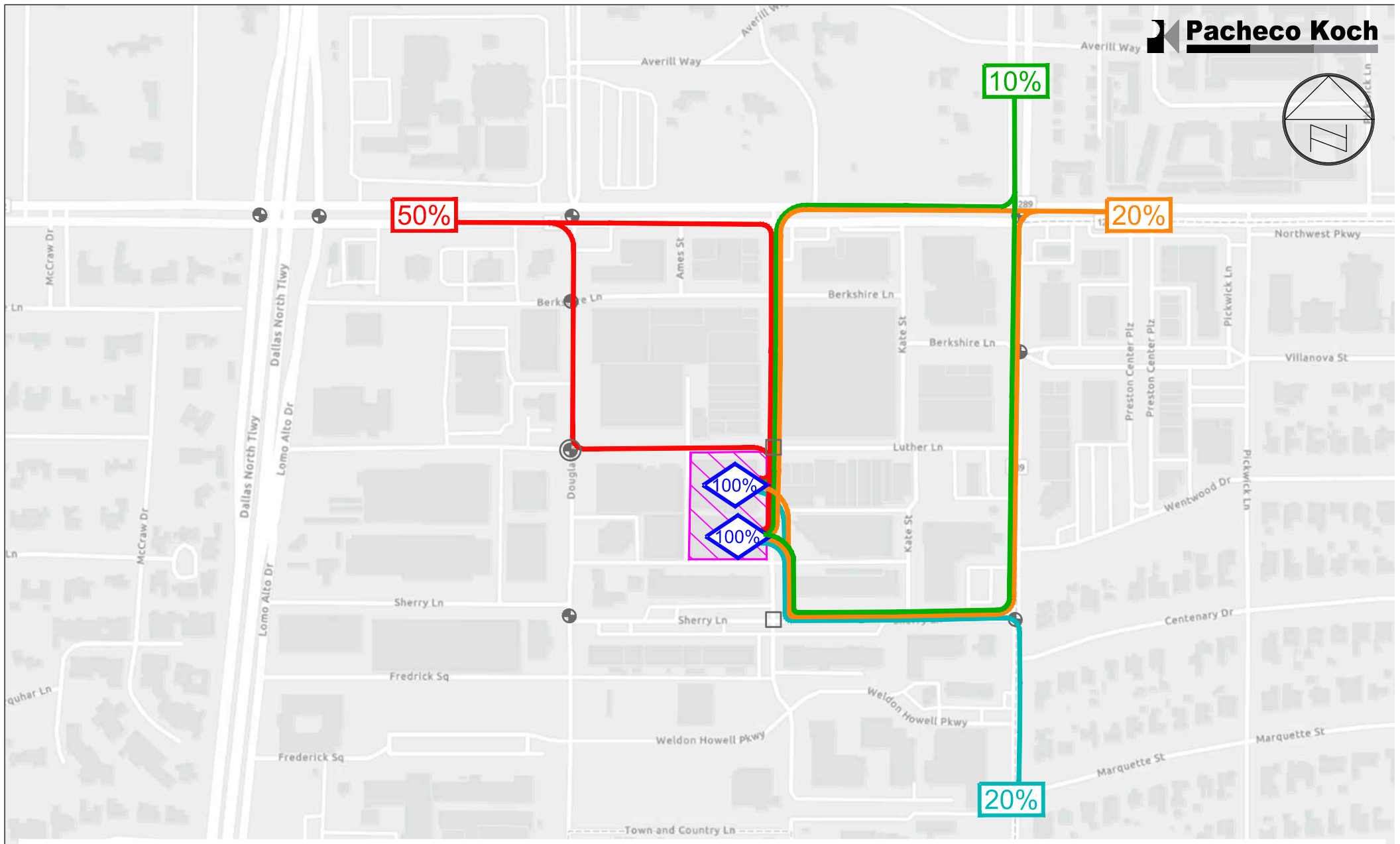
Graph



PK# 2386-20.065A

Pacheco Koch

APPENDIX C. Site-Generated Traffic Supplement

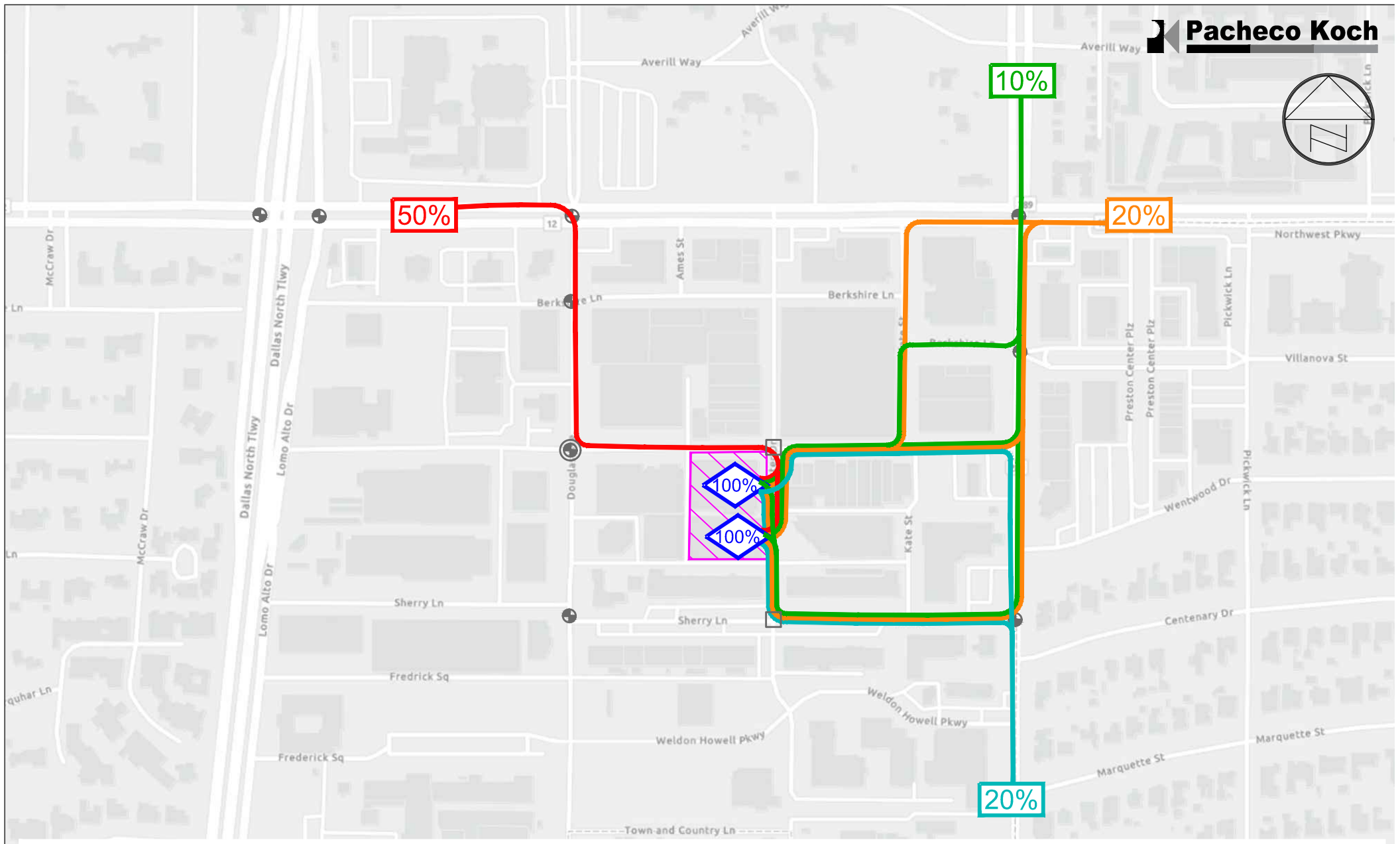


Site Generated Trip Distribution - Inbound

Preston Center Development, Dallas, Texas

PK 2386-20.065A (AJV: 06/16/20)

APPENDIX **C1**



Site Generated Trip Distribution - Outbound

Preston Center Development, Dallas, Texas

PK 2386-20.065A (AJV: 06/16/20)

APPENDIX **C2**

			DAILY	AM PEAK HOUR OF ADJ ST			PM PEAK HOUR OF ADJ ST			
				TOTAL	IN	OUT	TOTAL	IN	OUT	
RB Pass	6030 Luther Lane									
Existing	38764 SF GLA	820 - SHOPPING CENTER (GEN URBAN/SUBURBAN)	1463	36	22	14	148	71	77	
	100% leased	The Gem (Juice Bar) - 6030 Luther Lane #160								
		J Grace (Salon) - 6030 Luther Lane #150								
		Cedars Express (Restaurant) - 6030 Luther Lane #140								
		Urban Caphe (Restaurant) - 6030 Luther Lane #130								
		Cowboy Up (Salon) - 6030 Luther Lane #120								
		Go Fish Poke (Restaurant) - 6030 Luther Lane #110								
		Hopdoddy Burger (Restaurant) - 6030 Luther Lane #100								
		Larry North Fitness - 6030 Luther Lane #180								
		SUBTOTAL	1463	36	22	14	148	71	77	
	50% WALK	WALK TOTAL	732	18	11	7	74	36	39	
		NET TOTAL	**731**	**18**	**11**	**7**	**74**	**35**	**38**	
Proposed	225 Rooms	310- HOTEL (GEN URBAN/SUBURBAN)	1881	106	63	43	135	69	66	
	63 DU	222 - MULTIFAMILY HOUSING (HIGH-RISE) [GENERAL UR	280	20	5	15	23	14	9	
	3500 SF	RESTAURANT (INC. IN HOTEL)								
	2500 SF	932 - HIGH-TURNOVER RESTAURANT	280	25	14	11	24	9	15	
	2500 SF	820 - SHOPPING CENTER	94	2	1	1	10	5	5	
	50% WALK		187	14	8	6	17	7	10	
		SUBTOTAL	**2348**	**140**	**76**	**64**	**175**	**90**	**85**	**at Driveway 1**
		NET CHANGE	**1617**	**122**	**65**	**57**	**101**	**55**	**47**	
Matilda	8215 Westchester Drive									
Existing	42077 SF GLA	720 - MEDICAL-DENTAL OFFICE BLG (GEN URBAN/SUBUI	1464	117	91	26	146	41	105	
	82% leased	**NET TOTAL**	**1200**	**96**	**75**	**21**	**120**	**34**	**86**	
Proposed	**270 DU**	**222 - MULTIFAMILY HOUSING (HIGH-RISE) [GENERAL U**	**1202**	**84**	**20**	**64**	**97**	**59**	**38**	**at Driveway 2**
		NET CHANGE	**2**	**-12**	**-55**	**43**	**-23**	**25**	**-48**	
		EXISTING USES (BOTH PROPERTIES)	1931	114	86	28	194	69	124	
		PROPOSED USES (BOTH PROPERTIES)	3550	224	96	128	272	149	123	
NET DIFFERENCE		**(PROPOSED - EXISTING)**	**1619**	**110**	**10**	**100**	**78**	**80**	**-1**	**STUDY AREA INTERSECTIONS**

APPENDIX D. Detailed Intersection Capacity Analysis Results

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	13	12	43	36	126	35	300	41	92	804	127
Future Volume (vph)	26	13	12	43	36	126	35	300	41	92	804	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	14	13	47	39	137	38	326	45	100	874	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	13	0	223	0	38	371	0	100	1012	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		13.3	13.3		13.3		67.7	67.7		67.7	67.7	
Actuated g/C Ratio		0.15	0.15		0.15		0.75	0.75		0.75	0.75	
v/c Ratio		0.27	0.05		0.72		0.10	0.10		0.14	0.27	
Control Delay		36.1	11.1		34.5		5.0	3.2		4.6	3.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		36.1	11.1		34.5		5.0	3.2		4.6	3.9	
LOS		D	B		C		A	A		A	A	
Approach Delay		30.2			34.5			3.4			4.0	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		22	0		72		5	14		13	48	
Queue Length 95th (ft)		48	13		137		18	30		37	89	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		295	461		508		372	3766		732	3763	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.14	0.03		0.44		0.10	0.10		0.14	0.27	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72

Intersection Signal Delay: 8.4 — Intersection LOS: A
Intersection Capacity Utilization 52.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Douglas Avenue & Luther Lane

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	85	37	0	0	0	49	0	51	137	130	168
Future Vol, veh/h	0	85	37	0	0	0	49	0	51	137	130	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	92	40	0	0	0	53	0	55	149	141	183
Number of Lanes	0	1	0	0	0	0	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.2	8.4	10.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	70%	0%	44%
Vol Right, %	0%	100%	30%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	51	122	137	298
LT Vol	49	0	0	137	0
Through Vol	0	0	85	0	130
RT Vol	0	51	37	0	168
Lane Flow Rate	53	55	133	149	324
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.086	0.071	0.184	0.227	0.412
Departure Headway (Hd)	5.817	4.608	4.991	5.478	4.579
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	615	774	717	655	787
Service Time	3.562	2.352	3.028	3.211	2.311
HCM Lane V/C Ratio	0.086	0.071	0.185	0.227	0.412
HCM Control Delay	9.1	7.7	9.2	9.8	10.5
HCM Lane LOS	A	A	A	A	B
HCM 95th-tile Q	0.3	0.2	0.7	0.9	2

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	44	21	26	105	86	11	48	21	31	82	21
Future Vol, veh/h	18	44	21	26	105	86	11	48	21	31	82	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	48	23	28	114	93	12	52	23	34	89	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

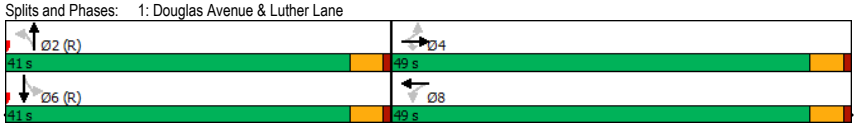
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	9.2	8.4	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	22%	12%	23%
Vol Thru, %	60%	53%	48%	61%
Vol Right, %	26%	25%	40%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	83	217	134
LT Vol	11	18	26	31
Through Vol	48	44	105	82
RT Vol	21	21	86	21
Lane Flow Rate	87	90	236	146
Geometry Grp	1	1	1	1
Degree of Util (X)	0.114	0.117	0.287	0.191
Departure Headway (Hd)	4.727	4.651	4.384	4.733
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	756	769	818	756
Service Time	2.771	2.691	2.417	2.773
HCM Lane V/C Ratio	0.115	0.117	0.289	0.193
HCM Control Delay	8.4	8.3	9.2	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	1.2	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	55	69	24	22	143	16	506	59	92	324	40
Future Volume (vph)	166	55	69	24	22	143	16	506	59	92	324	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	60	75	26	24	155	17	550	64	100	352	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	240	75	0	205	0	17	614	0	100	395	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	49.0	49.0	49.0	49.0	49.0		41.0	41.0		41.0	41.0	
Total Split (%)	54.4%	54.4%	54.4%	54.4%	54.4%		45.6%	45.6%		45.6%	45.6%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		23.9	23.9		23.9		57.1	57.1		57.1	57.1	
Actuated g/C Ratio		0.27	0.27		0.27		0.63	0.63		0.63	0.63	
v/c Ratio		0.87	0.16		0.39		0.03	0.19		0.21	0.12	
Control Delay		58.9	5.8		8.7		9.1	7.8		10.6	7.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		58.9	5.8		8.7		9.1	7.8		10.6	7.3	
LOS		E	A		A		A	A		B	A	
Approach Delay		46.2			8.7			7.8			7.9	
Approach LOS		D			A			A			A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 15.3	Intersection LOS: B
Intersection Capacity Utilization 54.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Douglas Avenue & Luther Lane



Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	206	43	0	0	0	65	0	81	163	97	109
Future Vol, veh/h	0	206	43	0	0	0	65	0	81	163	97	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	224	47	0	0	0	71	0	88	177	105	118
Number of Lanes	0	1	0	0	0	0	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.4	9.1	10.6
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	83%	0%	47%
Vol Right, %	0%	100%	17%	0%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	81	249	163	206
LT Vol	65	0	0	163	0
Through Vol	0	0	206	0	97
RT Vol	0	81	43	0	109
Lane Flow Rate	71	88	271	177	224
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.124	0.122	0.384	0.291	0.314
Departure Headway (Hd)	6.301	4.985	5.106	5.921	5.042
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	572	710	698	602	705
Service Time	4.001	2.784	3.177	3.707	2.828
HCM Lane V/C Ratio	0.124	0.124	0.388	0.294	0.318
HCM Control Delay	9.9	8.5	11.4	11.2	10.2
HCM Lane LOS	A	A	B	B	B
HCM 95th-tile Q	0.4	0.4	1.8	1.2	1.3

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	131	11	13	67	55	10	64	69	58	73	33
Future Vol, veh/h	25	131	11	13	67	55	10	64	69	58	73	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	142	12	14	73	60	11	70	75	63	79	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	9	8.9	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	15%	10%	35%
Vol Thru, %	45%	78%	50%	45%
Vol Right, %	48%	7%	41%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	167	135	164
LT Vol	10	25	13	58
Through Vol	64	131	67	73
RT Vol	69	11	55	33
Lane Flow Rate	155	182	147	178
Geometry Grp	1	1	1	1
Degree of Util (X)	0.202	0.247	0.193	0.241
Departure Headway (Hd)	4.678	4.901	4.739	4.865
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	762	728	751	733
Service Time	2.743	2.966	2.806	2.93
HCM Lane V/C Ratio	0.203	0.25	0.196	0.243
HCM Control Delay	8.9	9.6	9	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1	0.7	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	13	12	44	37	130	36	309	42	95	828	131
Future Volume (vph)	27	13	12	44	37	130	36	309	42	95	828	131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	14	13	48	40	141	39	336	46	103	900	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	13	0	229	0	39	382	0	103	1042	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		13.7	13.7		13.7		67.3	67.3		67.3	67.3	
Actuated g/C Ratio		0.15	0.15		0.15		0.75	0.75		0.75	0.75	
v/c Ratio		0.27	0.05		0.73		0.11	0.10		0.14	0.28	
Control Delay		35.7	10.9		34.9		5.2	3.3		4.8	4.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		35.7	10.9		34.9		5.2	3.3		4.8	4.1	
LOS		D	B		C		A	A		A	A	
Approach Delay		29.9			34.9			3.5			4.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		22	0		76		5	15		13	52	
Queue Length 95th (ft)		49	12		140		19	32		39	94	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		294	461		508		356	3748		720	3744	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.15	0.03		0.45		0.11	0.10		0.14	0.28	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73

Intersection Signal Delay: 8.6 — Intersection LOS: A
Intersection Capacity Utilization 53.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Douglas Avenue & Luther Lane

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	88	38	0	0	0	50	0	53	141	134	173
Future Vol, veh/h	0	88	38	0	0	0	50	0	53	141	134	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	96	41	0	0	0	54	0	58	153	146	188
Number of Lanes	0	1	0	0	0	0	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.3	8.5	10.4
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	70%	0%	44%
Vol Right, %	0%	100%	30%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	53	126	141	307
LT Vol	50	0	0	141	0
Through Vol	0	0	88	0	134
RT Vol	0	53	38	0	173
Lane Flow Rate	54	58	137	153	334
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.088	0.074	0.191	0.234	0.426
Departure Headway (Hd)	5.845	4.636	5.025	5.494	4.595
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	611	770	714	653	784
Service Time	3.594	2.384	3.063	3.229	2.33
HCM Lane V/C Ratio	0.088	0.075	0.192	0.234	0.426
HCM Control Delay	9.2	7.8	9.3	9.9	10.7
HCM Lane LOS	A	A	A	A	B
HCM 95th-tile Q	0.3	0.2	0.7	0.9	2.1

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	45	22	27	108	89	11	49	22	32	84	22
Future Vol, veh/h	19	45	22	27	108	89	11	49	22	32	84	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	49	24	29	117	97	12	53	24	35	91	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	9.3	8.4	9
HCM LOS	A	A	A	A

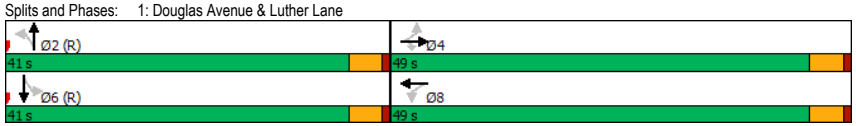
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	22%	12%	23%
Vol Thru, %	60%	52%	48%	61%
Vol Right, %	27%	26%	40%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	86	224	138
LT Vol	11	19	27	32
Through Vol	49	45	108	84
RT Vol	22	22	89	22
Lane Flow Rate	89	93	243	150
Geometry Grp	1	1	1	1
Degree of Util (X)	0.118	0.121	0.298	0.198
Departure Headway (Hd)	4.755	4.677	4.405	4.759
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	750	764	813	752
Service Time	2.803	2.723	2.442	2.805
HCM Lane V/C Ratio	0.119	0.122	0.299	0.199
HCM Control Delay	8.4	8.4	9.3	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	1.3	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	57	71	25	23	147	16	521	61	95	334	41
Future Volume (vph)	171	57	71	25	23	147	16	521	61	95	334	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	62	77	27	25	160	17	566	66	103	363	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	77	0	212	0	17	632	0	103	408	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	49.0	49.0	49.0	49.0	49.0		41.0	41.0		41.0	41.0	
Total Split (%)	54.4%	54.4%	54.4%	54.4%	54.4%		45.6%	45.6%		45.6%	45.6%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		24.8	24.8		24.8		56.2	56.2		56.2	56.2	
Actuated g/C Ratio		0.28	0.28		0.28		0.62	0.62		0.62	0.62	
v/c Ratio		0.87	0.16		0.39		0.03	0.20		0.22	0.13	
Control Delay		57.7	5.5		8.5		9.6	8.2		11.3	7.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		57.7	5.5		8.5		9.6	8.2		11.3	7.7	
LOS		E	A		A		A	A		B	A	
Approach Delay		45.3			8.5			8.3			8.4	
Approach LOS		D			A			A			A	
Queue Length 50th (ft)		134	0		22		3	48		23	28	
Queue Length 95th (ft)		194	26		63		15	90		67	57	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		513	821		857		585	3132		461	3130	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.48	0.09		0.25		0.03	0.20		0.22	0.13	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87

Intersection Signal Delay: 15.4 — Intersection LOS: B
Intersection Capacity Utilization 55.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Douglas Avenue & Luther Lane



Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	212	44	0	0	0	67	0	83	168	100	112
Future Vol, veh/h	0	212	44	0	0	0	67	0	83	168	100	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	230	48	0	0	0	73	0	90	183	109	122
Number of Lanes	0	1	0	0	0	0	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.6	9.2	10.7
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	83%	0%	47%
Vol Right, %	0%	100%	17%	0%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	83	256	168	212
LT Vol	67	0	0	168	0
Through Vol	0	0	212	0	100
RT Vol	0	83	44	0	112
Lane Flow Rate	73	90	278	183	230
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.128	0.129	0.397	0.302	0.325
Departure Headway (Hd)	6.349	5.132	5.14	5.953	5.074
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	568	703	693	599	701
Service Time	4.049	2.832	3.22	3.745	2.865
HCM Lane V/C Ratio	0.129	0.128	0.401	0.306	0.328
HCM Control Delay	10	8.6	11.6	11.3	10.3
HCM Lane LOS	A	A	B	B	B
HCM 95th-tile Q	0.4	0.4	1.9	1.3	1.4

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	135	11	13	69	57	10	66	71	60	75	34
Future Vol, veh/h	26	135	11	13	69	57	10	66	71	60	75	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	147	12	14	75	62	11	72	77	65	82	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9.1	9	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	15%	9%	36%
Vol Thru, %	45%	78%	50%	44%
Vol Right, %	48%	6%	41%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	172	139	169
LT Vol	10	26	13	60
Through Vol	66	135	69	75
RT Vol	71	11	57	34
Lane Flow Rate	160	187	151	184
Geometry Grp	1	1	1	1
Degree of Util (X)	0.209	0.256	0.2	0.25
Departure Headway (Hd)	4.713	4.936	4.772	4.899
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	754	722	745	727
Service Time	2.784	3.006	2.845	2.968
HCM Lane V/C Ratio	0.212	0.259	0.203	0.253
HCM Control Delay	9	9.7	9.1	9.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1	0.7	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	13	12	44	37	180	36	309	42	97	828	131
Future Volume (vph)	27	13	12	44	37	180	36	309	42	97	828	131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	14	13	48	40	196	39	336	46	105	900	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	13	0	284	0	39	382	0	105	1042	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		15.0	15.0		15.0		66.0	66.0		66.0	66.0	
Actuated g/C Ratio		0.17	0.17		0.17		0.73	0.73		0.73	0.73	
v/c Ratio		0.27	0.05		0.77		0.11	0.10		0.15	0.28	
Control Delay		34.4	10.2		33.5		6.0	3.8		5.4	4.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		34.4	10.2		33.5		6.0	3.8		5.4	4.6	
LOS		C	B		C		A	A		A	A	
Approach Delay		28.8			33.5			4.0			4.7	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		22	0		87		5	16		15	56	
Queue Length 95th (ft)		47	12		158		21	35		43	103	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		266	461		536		348	3672		705	3669	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.16	0.03		0.53		0.11	0.10		0.15	0.28	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77

Intersection Signal Delay: 9.5 — Intersection LOS: A
Intersection Capacity Utilization 56.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Douglas Avenue & Luther Lane

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	88	41	0	0	0	100	0	78	141	138	173
Future Vol, veh/h	0	88	41	0	0	0	100	0	78	141	138	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	96	45	0	0	0	109	0	85	153	150	188
Number of Lanes	0	1	0	0	0	0	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.6	9.1	10.8
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	68%	0%	44%
Vol Right, %	0%	100%	32%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	78	129	141	311
LT Vol	100	0	0	141	0
Through Vol	0	0	88	0	138
RT Vol	0	78	41	0	173
Lane Flow Rate	109	85	140	153	338
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.177	0.11	0.202	0.238	0.441
Departure Headway (Hd)	5.877	4.667	5.199	5.595	4.7
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	609	763	687	641	764
Service Time	3.635	2.424	3.253	3.341	2.446
HCM Lane V/C Ratio	0.179	0.111	0.204	0.239	0.442
HCM Control Delay	9.9	8	9.6	10.1	11.1
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.6	0.4	0.8	0.9	2.3

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	45	22	27	108	92	11	49	22	57	84	22
Future Vol, veh/h	19	45	22	27	108	92	11	49	22	57	84	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	49	24	29	117	100	12	53	24	62	91	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	9.5	8.5	9.4
HCM LOS	A	A	A	A

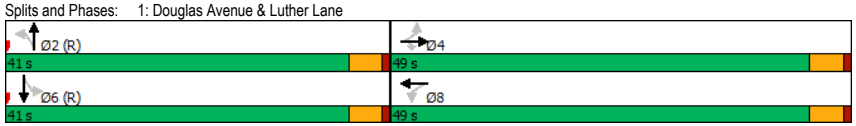
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	22%	12%	35%
Vol Thru, %	60%	52%	48%	52%
Vol Right, %	27%	26%	41%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	86	227	163
LT Vol	11	19	27	57
Through Vol	49	45	108	84
RT Vol	22	22	92	22
Lane Flow Rate	89	93	247	177
Geometry Grp	1	1	1	1
Degree of Util (X)	0.119	0.124	0.307	0.237
Departure Headway (Hd)	4.808	4.759	4.473	4.814
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	741	749	802	742
Service Time	2.868	2.814	2.517	2.867
HCM Lane V/C Ratio	0.12	0.124	0.308	0.239
HCM Control Delay	8.5	8.5	9.5	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	1.3	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	57	71	25	23	145	16	521	61	116	334	41
Future Volume (vph)	171	57	71	25	23	145	16	521	61	116	334	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	62	77	27	25	158	17	566	66	126	363	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	77	0	210	0	17	632	0	126	408	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	49.0	49.0	49.0	49.0	49.0		41.0	41.0		41.0	41.0	
Total Split (%)	54.4%	54.4%	54.4%	54.4%	54.4%		45.6%	45.6%		45.6%	45.6%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		24.8	24.8		24.8		56.2	56.2		56.2	56.2	
Actuated g/C Ratio		0.28	0.28		0.28		0.62	0.62		0.62	0.62	
v/c Ratio		0.86	0.16		0.38		0.03	0.20		0.27	0.13	
Control Delay		56.8	5.5		8.5		9.6	8.2		11.9	7.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		56.8	5.5		8.5		9.6	8.2		11.9	7.7	
LOS		E	A		A		A	A		B	A	
Approach Delay		44.6			8.5			8.3			8.7	
Approach LOS		D			A			A			A	
Queue Length 50th (ft)		134	0		22		3	48		29	28	
Queue Length 95th (ft)		194	26		63		15	90		83	57	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		516	821		856		585	3132		461	3130	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.48	0.09		0.25		0.03	0.20		0.27	0.13	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86

Intersection Signal Delay: 15.3 — Intersection LOS: B
Intersection Capacity Utilization 56.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Douglas Avenue & Luther Lane



Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	212	65	0	0	0	65	0	82	168	133	112
Future Vol, veh/h	0	212	65	0	0	0	65	0	82	168	133	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	230	71	0	0	0	71	0	89	183	145	122
Number of Lanes	0	1	0	0	0	0	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.2	9.4	11.4
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	77%	0%	54%
Vol Right, %	0%	100%	23%	0%	46%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	82	277	168	245
LT Vol	65	0	0	168	0
Through Vol	0	0	212	0	133
RT Vol	0	82	65	0	112
Lane Flow Rate	71	89	301	183	266
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.127	0.13	0.432	0.31	0.391
Departure Headway (Hd)	6.481	5.262	5.271	6.117	5.291
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	555	685	686	592	684
Service Time	4.191	2.972	3.271	3.821	2.991
HCM Lane V/C Ratio	0.128	0.13	0.439	0.309	0.389
HCM Control Delay	10.1	8.8	12.2	11.5	11.3
HCM Lane LOS	B	A	B	B	B
HCM 95th-tile Q	0.4	0.4	2.2	1.3	1.9

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	135	11	13	69	86	10	66	71	59	75	34
Future Vol, veh/h	26	135	11	13	69	86	10	66	71	59	75	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	147	12	14	75	93	11	72	77	64	82	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	9.3	9.2	9.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	15%	8%	35%
Vol Thru, %	45%	78%	41%	45%
Vol Right, %	48%	6%	51%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	172	168	168
LT Vol	10	26	13	59
Through Vol	66	135	69	75
RT Vol	71	11	86	34
Lane Flow Rate	160	187	183	183
Geometry Grp	1	1	1	1
Degree of Util (X)	0.212	0.259	0.239	0.252
Departure Headway (Hd)	4.784	4.979	4.714	4.969
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	741	714	754	716
Service Time	2.868	3.058	2.793	3.051
HCM Lane V/C Ratio	0.216	0.262	0.243	0.256
HCM Control Delay	9.2	9.8	9.3	9.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1	0.9	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	14	13	47	39	186	38	325	44	102	871	138
Future Volume (vph)	28	14	13	47	39	186	38	325	44	102	871	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	15	14	51	42	202	41	353	48	111	947	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	14	0	295	0	41	401	0	111	1097	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		15.9	15.9		15.9		65.1	65.1		65.1	65.1	
Actuated g/C Ratio		0.18	0.18		0.18		0.72	0.72		0.72	0.72	
v/c Ratio		0.26	0.05		0.78		0.13	0.11		0.16	0.30	
Control Delay		33.1	10.3		34.4		6.6	4.0		5.8	5.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		33.1	10.3		34.4		6.6	4.0		5.8	5.0	
LOS		C	B		C		A	A		A	A	
Approach Delay		27.7			34.4			4.3			5.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		22	0		95		6	18		17	63	
Queue Length 95th (ft)		48	13		168		23	38		47	114	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		276	461		534		320	3627		683	3620	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.16	0.03		0.55		0.13	0.11		0.16	0.30	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78

Intersection Signal Delay: 9.9 — Intersection LOS: A
Intersection Capacity Utilization 58.1% — ICU Level of Service B
Analysis Period (min) 15

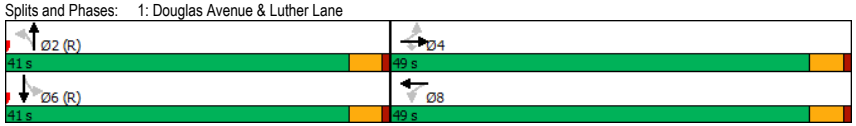
Splits and Phases: 1: Douglas Avenue & Luther Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	60	75	26	24	153	17	548	64	120	351	43
Future Volume (vph)	180	60	75	26	24	153	17	548	64	120	351	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	65	82	28	26	166	18	596	70	130	382	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	261	82	0	220	0	18	666	0	130	429	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	49.0	49.0	49.0	49.0	49.0		41.0	41.0		41.0	41.0	
Total Split (%)	54.4%	54.4%	54.4%	54.4%	54.4%		45.6%	45.6%		45.6%	45.6%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		26.2	26.2		26.2		54.8	54.8		54.8	54.8	
Actuated g/C Ratio		0.29	0.29		0.29		0.61	0.61		0.61	0.61	
v/c Ratio		0.86	0.16		0.39		0.03	0.22		0.30	0.14	
Control Delay		55.3	5.0		8.7		10.4	9.0		13.4	8.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		55.3	5.0		8.7		10.4	9.0		13.4	8.4	
LOS		E	A		A		B	A		B	A	
Approach Delay		43.3			8.7			9.0			9.5	
Approach LOS		D			A			A			A	
Queue Length 50th (ft)		140	0		26		4	54		32	32	
Queue Length 95th (ft)		200	26		66		17	99		92	63	
Internal Link Dist (ft)		296			526			275			240	
Turn Bay Length (ft)							100			140		
Base Capacity (vph)		513	824		855		558	3056		431	3057	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.51	0.10		0.26		0.03	0.22		0.30	0.14	

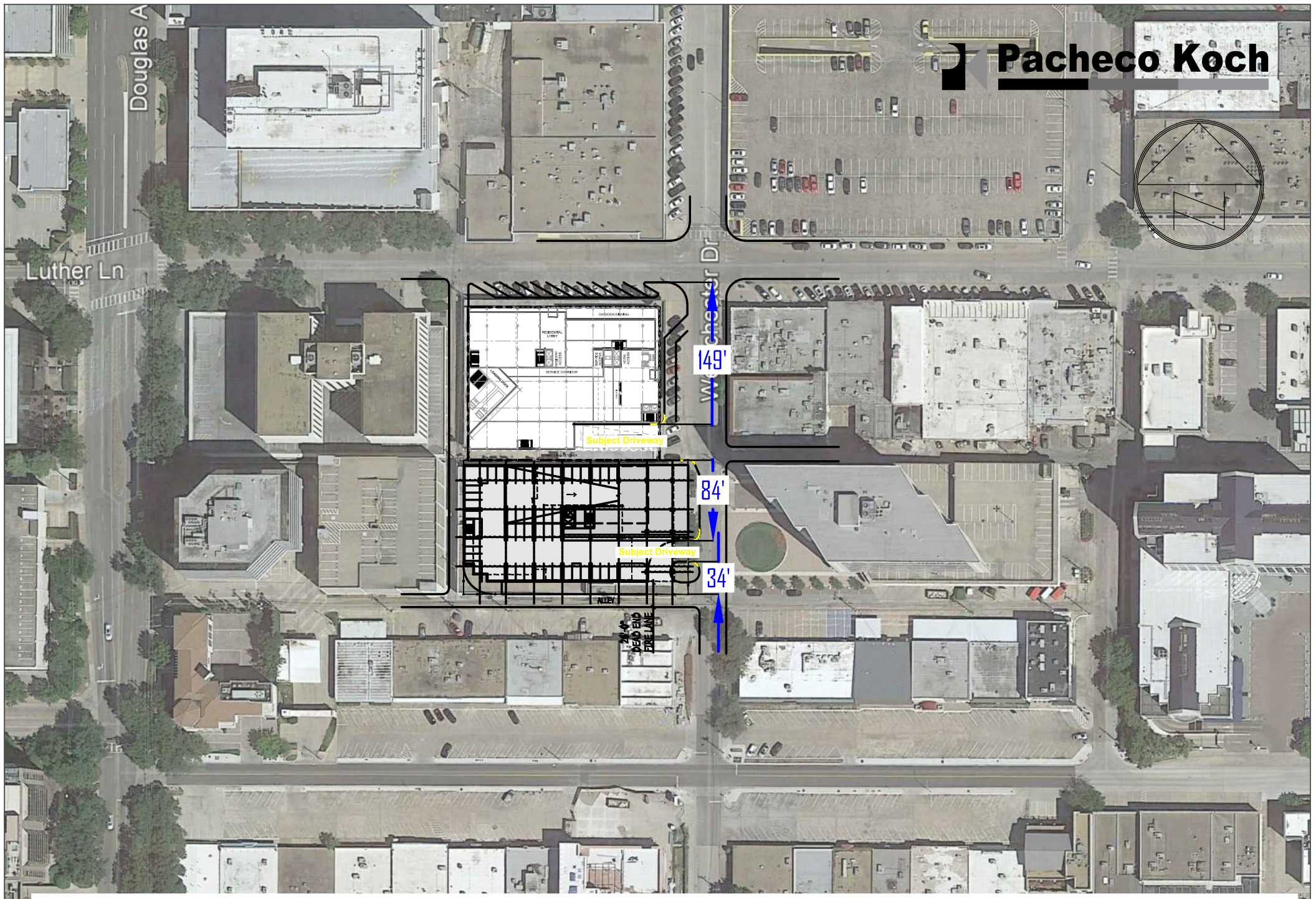
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86

Intersection Signal Delay: 15.6 — Intersection LOS: B
Intersection Capacity Utilization 58.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Douglas Avenue & Luther Lane



APPENDIX E. Site Access Evaluation Supplement



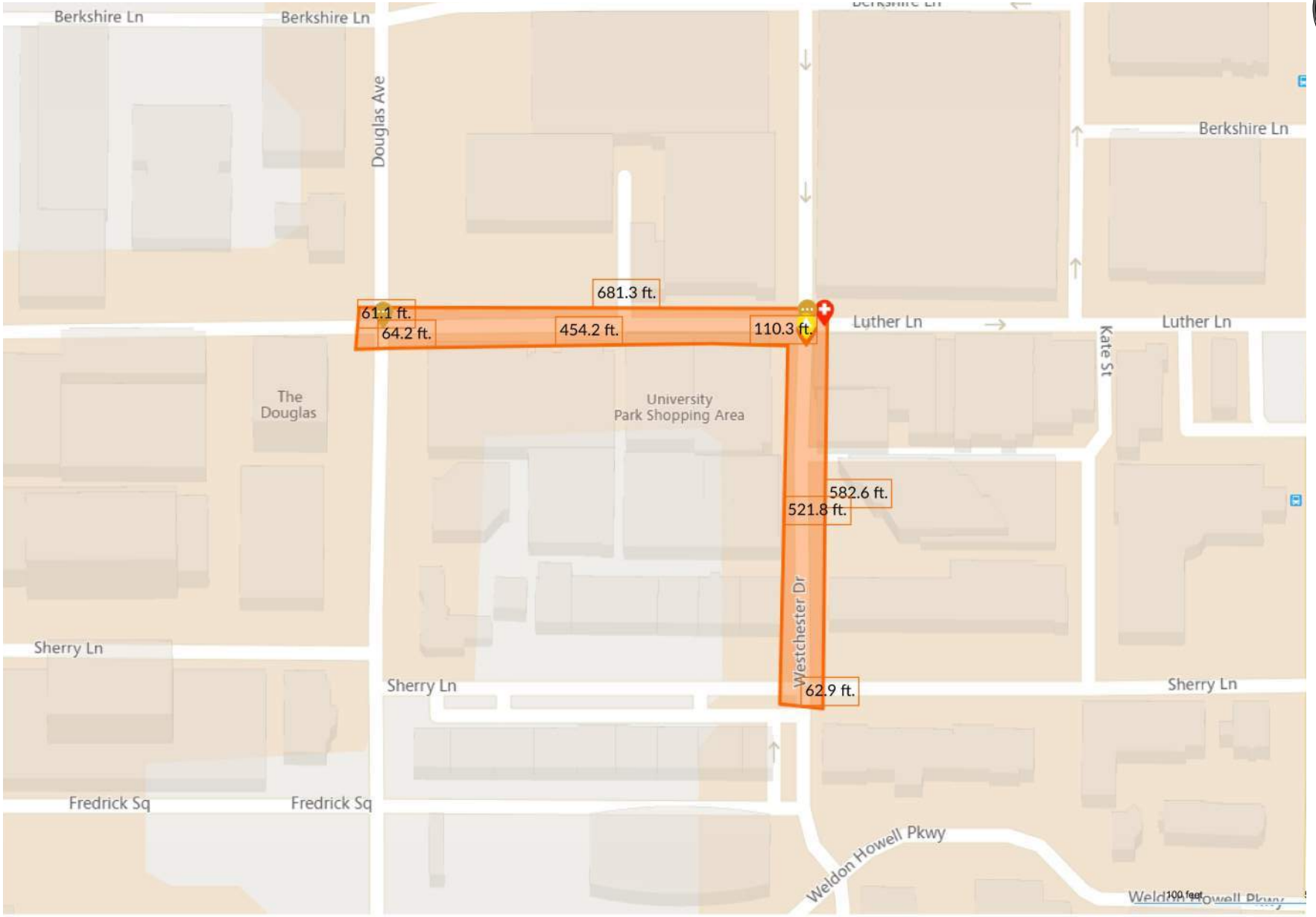
Pacheco Koch

Driveway Spacing

Preston Center Development, Dallas, Texas

PK 2386-20.065A (AJV: 03/26/20)

APPENDIX **E1**



More Than 1 Crash Located

2017: 99-UNKNOWN

2019: C - POSSIBLE INJURY

2018: A - SUSPECTED SERIOUS INJURY

APPENDIX **E2**