



TACO TIME – EAST MAIN  
TRAFFIC IMPACT ANALYSIS

*PUYALLUP, WA*



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# TACO TIME – EAST MAIN TRAFFIC IMPACT ANALYSIS

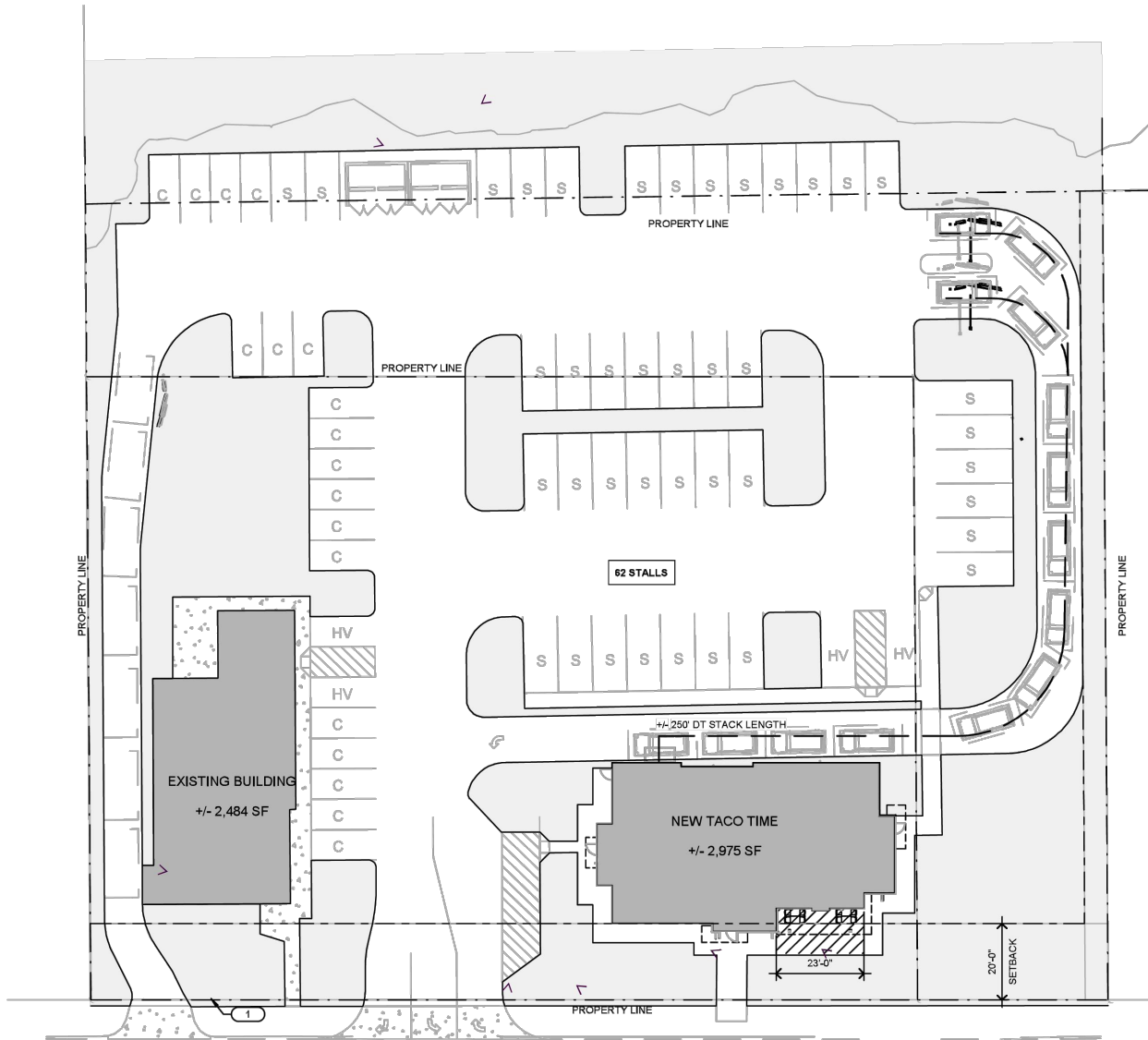
## 1. INTRODUCTION

The main goals of this study focus on the assessment of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent streets serving the subject site and gathering existing vehicular volumes within a defined study area. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined, if needed.

## 2. PROJECT DESCRIPTION

Taco Time – East Main is proposing to relocate their current operations to a new 2,975 square foot building. The subject site is to remain on tax parcel #'s: 7845100032 & 0420271171. The subject site is bordered to the south by E Main comprised of 3.30-acres. The existing Taco Time building (2,484 square feet) is to remain on-site for later use. The tenant is unknown at this time but is assumed to be a similar fast-food restaurant. Currently, the site is accessed via three driveways all extending north from E Main (westerly most access is egress only). As part of the project, the easterly access would be eliminated and replaced with curb, gutter, and sidewalk per City standards. Figure 1 below shows the vicinity map and adjacent street system with the subject parcels highlighted in blue. A conceptual site plan illustrating the proposed site layout is presented in Figure 2.





### 3. EXISTING CONDITIONS

#### 3.1 Surrounding Roadways

The street network serving the proposed project consists of a variety of roadways. The major roadways and arterials defined in the study area are listed and described below.

*E Main:* is an east-west, three-to-five-lane minor arterial bordering the subject site to the south. The roadway's cross section in the vicinity of the project consists of one 12-foot travel lane in each direction and a center two-way left-turn lane (TWLTL). Curb, gutter and sidewalks are available along either side of the roadway. The roadway provides connection to the city of Sumner and SR 410 to the east and N Meridian (SR 161) to the west. The posted speed limit is 30 mph near the subject site.

*5th Street:* is a north-south, two-lane minor arterial located west of the proposed project site. South of the intersection with E Main, the roadway's cross section consists of one, 12-foot travel lane in each direction with turn lanes provided at nearby intersections. Curb, gutter, and sidewalk are available along either side of the roadway. North of the intersection with E Main, the roadway generally consists of one travel lane in either direction and bicycle sharrows. A mid-block crosswalk for students attending JP Stewart Elementary School is located south of 4th Avenue NE. The posted speed limit is 30 mph with a reduced 20 mph school zone.

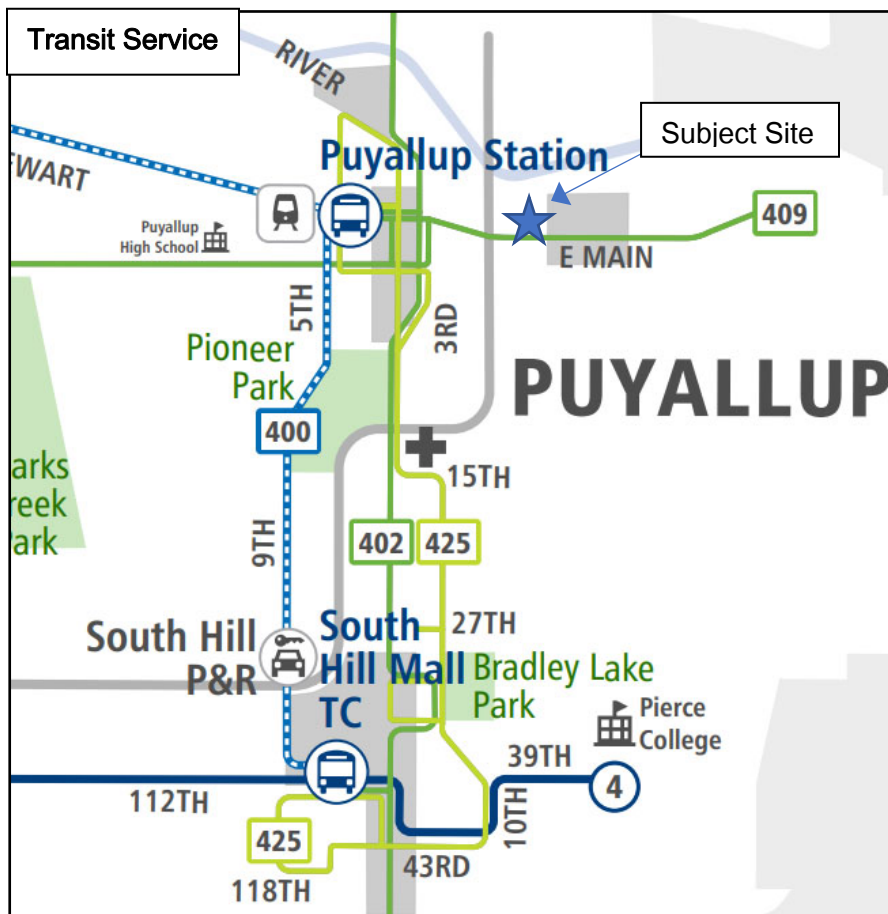
*15th Street SE:* is a north-south, four-lane minor arterial located east of the subject site. This approximate 1,000-foot roadway segment provides connection to E Main Avenue to the north and E Pioneer to the south. The roadway's cross section consists of two 10-foot travel lanes in each direction. Curb, gutter, sidewalk is present along either side of the roadway. The posted speed limit is 30 mph.

#### 3.2 Transit Service

According to the Pierce Transit regional bus schedule, Routes 402, 409, and 425 are all within walking distance from the project site (under 1.0-mile). Route 409 – Puyallup-72nd Street provides service from the intersection of 29th Street NE & 5th Avenue NE to the 72nd Street Transit Center – Zone D. The nearest stop in location to the subject site is provided at the intersection of E Main & 12th Street SE (~100-feet east of site). Weekday service is provided from 9:20 AM – 6:16 PM with 60-minute headways. Saturday service is provided from 9:07 AM – 6:25 PM with 60-minute headways. Sunday service is provided from 9:05 AM – 6:05 PM with 60-minute headways.

Route 402 – Meridian provides service from the intersection of Meridian Avenue E (SR 161) to the Federal Way Transit Center – Bay 1. The nearest stop in relation to the site is at the intersection of N Meridian (SR 161) and E Stewart Avenue (0.74-miles walking distance). Weekday service is provided from 5:00 AM – 8:48 PM with 60-minute headways, Saturday service is provided from 7:10 AM – 8:35 PM with 60-minute headways. Sunday service is provided from 9:41 AM – 7:26 PM with 60-minute headways.

Route 425 – Puyallup Connector is also within walking distance from the project at the intersection of N Meridian (SR 161) and 5th Avenue NW (0.94-miles). Route 425 provides service from the South Hill Mall Transit Center – Zone D to the Puyallup Station – Bay 2.



Weekday service is provided from 11:00 AM – 4:00 PM with 60-minute headways. Saturday service is provided from 9:00 AM – 5:00 PM with 60-minute headways. There is no Sunday transit service provided. See the Figure to the left which highlights transit routes in the area. Please refer to the Pierce Transit website for more detailed information.

### 3.3 Roadway Improvements

The City of Puyallup Six-Year (2023-2028) Transportation Improvement Program was reviewed in order to determine if any projects are planned in the vicinity of the Taco Time East Main development. Table 1 below provides project descriptions of planned improvements in the subject site vicinity.

**Table 1: City of Puyallup (2023-2028) Transportation Improvement Projects**

Name	Location	Improvement	Cost
21st St SE Road Improvements (P.N. #: 12)	21st St SE	Road is very steep and narrow and had to be closed at the steepest location. This project will scope out alternatives to improve roadway which would assist in north/south travel.	\$11,600,000
River Rd Corridor Improvements (P.N. #: 16)	River Rd	Planning road diet and pedestrian enhancements based on the River Rd corridor plan.	\$15,200,000
5th St NE & 2nd Ave NE and 5th & Main Signal Timing (P.N. #: 22)	5th St NE & 2nd Ave NE and 5th & Main	Create lane narrowing bumpout for southbound 5th St NE and modify timing of left turns at 5th & Main.	To Be Determined
E Pioneer; Shaw Rd to 5th St SE and E Main; Shaw Rd to 5th St SE (P.N.#: 25)	E Pioneer & E Main	Intelligent Transportation System (ITS) signal improvements. 5 signals on Pioneer and 3 signals on Main.	To Be Determined
9th Ave SW (P.N.#: 28)	5th St to Meridian	Design includes one lane in each direction, curbless design with bollards and planters, porous asphalt roadway, street lighting, and signal improvements at Meridian.	To Be Determined
10th St SE (P.N.#: 30)	E Main to terminus	Road reconstruction and utility replacement.	To Be Determined
2nd Ave NE (P.N.#: 36)	E Main to 5th St SE	Rebuild streets.	To Be Determined
Inter Ave (P.N.#: 37)	Inter Ave	Road condition is in poor shape. Reconstruct roadway with curb, gutter, sidewalks.	To Be Determined
Meridian Overlay (P.N.#: 45)	15th Ave SW to 9th Ave SE	Grind/overlay/repave S Meridian from 15th Ave SW to 9th Ave SW	\$2,000,000
East Main Sidewalks (P.N.#: 52)	East of 23rd St SE	Construct sidewalks on the south side from 23rd St SE to the new warehouse sidewalks to the east.	To Be Determined

### 3.4 Study Area and Peak Hour Volumes

Per City direction the off-site intersections of E Main at 5th Street and E Main at 15th Street SE in addition to the existing three site driveways were to be evaluated. Therefore, field counts were conducted in December of 2022 between the peak period of 4:00-6:00 PM. The single hour of which contains the greatest volumes is then used (known as the peak hour) for capacity analysis. The peak hour at the intersections were shown to occur between 4:30-5:30 PM. See Figure 3 on the following page for the PM peak hour volumes at all study intersections. Full count sheets are listed in the appendix.

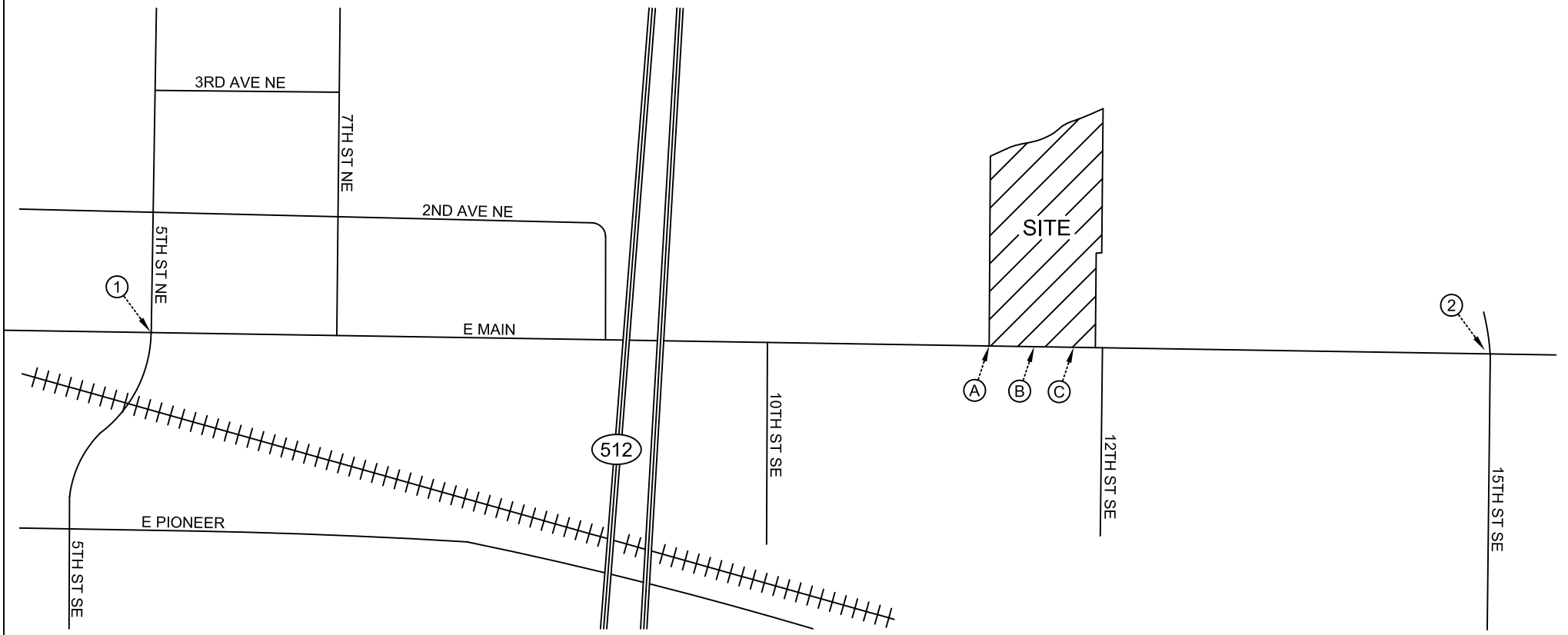
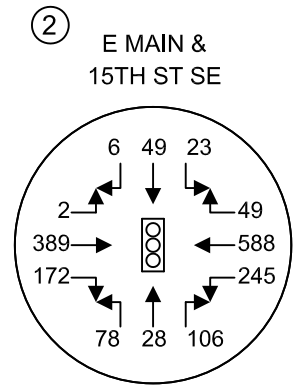
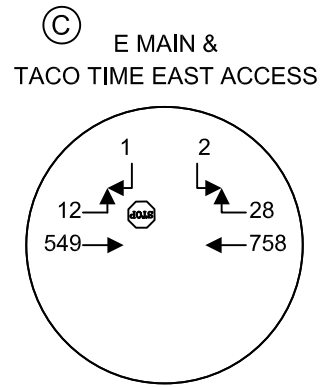
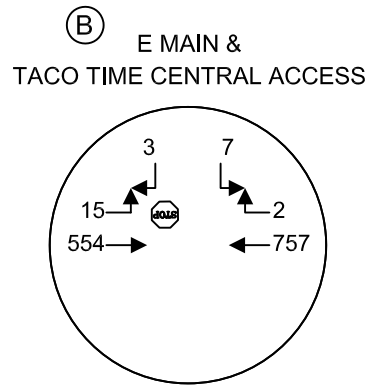
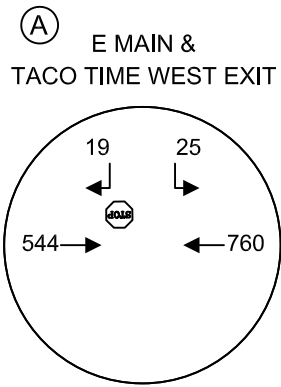
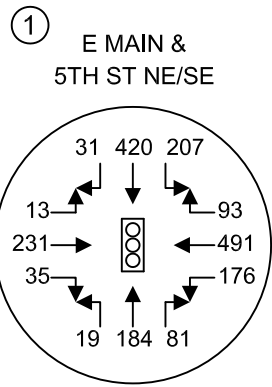
### 3.5 Unserved Demand

Unserved demand occurs at signalized intersections typically when volumes or demand for a given movement exceeds capacity whereby a number of motorists may not clear an intersection on a green phase. For the intersection of E Main & 15th Street SE, no unserved demand was observed. For the intersection of E Main & 5th Street, the predominate travel flow in the PM peak hour is southbound and westbound. As counts were conducted at Taco Time's frontage—east of the intersection—volumes can be compared to determine potential unserved demand on the westbound movements. As shown below, at the Taco Time entrance where free-flow conditions exist, 760 westbound movements were recorded between 4:30-5:30 PM. During the same hour, at the intersection with 5th Street, only 724 westbound movements went through the intersection. With little alternative routes between the two points, the delta ( $760 - 724 = 36$  vehicles) was considered unserved demand and was added to the intersection count for capacity analysis. Vehicles were assigned based on the existing turning movement percentages.



No counts were available along 5th Street north of E Main and therefore the same methodology was not performed. Based on observations during the initial study period, queues were examined. During the first 15-minute period of observations, the southbound movement experienced unserved demand one time consisting of approximately seven vehicles. While all other phases generally cleared the queue, level of service modeling will include an initial queue of seven vehicles for the north leg.





### 3.6 Non-Motorist Infrastructure & Activity

Presently, sidewalk is available along either side of E Main near the subject site with crosswalks provided at major intersections along the roadway. Moreover, the Riverwalk Trail is bordering the subject site to the north. Non-motorist activity was observed during the peak hour counts. See exhibits below for off-site intersection summaries. No bicycle activity was observed.



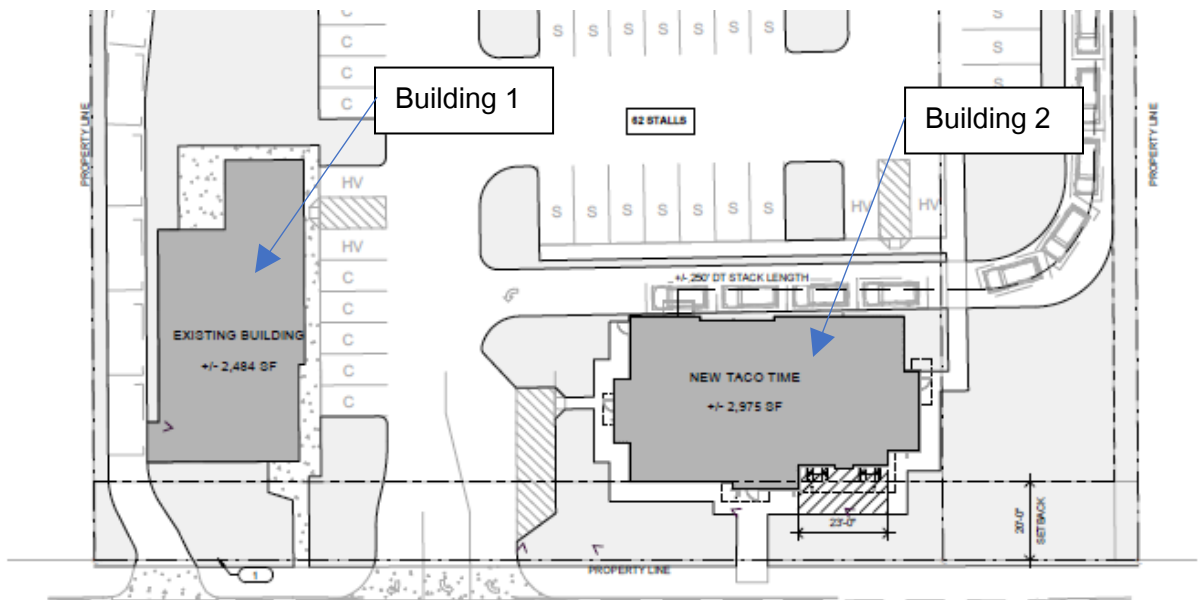
Moreover, two pedestrians were observed traversing the north sidewalk of E Main along the subject site's frontage during the peak hour. No non-motorist activity to or from the existing Taco Time was identified.

## 4. FUTURE TRAFFIC CONDITIONS

### 4.1 Trip Generation

Trip generation is defined as the number of vehicle movements that enter or exit a site during a designated time period such as a specific peak hour or an entire day. Data presented in this analysis was derived from the Institute of Transportation Engineer's (ITE) publication *Trip Generation*, 11th Edition. The Land Use Code (LUC) best representative of Taco Time is classified as LUC 934 – Fast-Food Restaurant with Drive-Through. Per City comments, the existing building is to be classified with a new user, LUC 937 – Coffee/Donut Shop with Drive-Through (worst-case scenario) as the tenant occupancy and timing are unknown at the time of this report. Square footage was used as the input variable with ITE average rates to determine trips ends. See the exhibit below which specifies building 1 (existing) from building 2 (proposed).

It should be noted that a portion of the trips produced by the development are anticipated in the form of pass-by trips. Pass-by trips are vehicles already traveling along the roadway who decide to make an intermediary stop before continuing to their primary destination. These trip types are common at fast food/coffee shop facilities and are not considered new to the city's system but do impact the site's accesses.



Building 1 – Existing (2,484 Sq. Ft.)

Building 2 – Proposed (2,975 Sq. Ft.)

Table 2 below highlights the change in use for building 1 (from fast-food to coffee shop – per City direction).

**Table 2: Building 1 (Existing) Trip Generation Summary**

Land Use	Sq. Ft.	Trip Type	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
				In	Out	Total	In	Out	Total
<u>Existing</u> Fast-Food Rest w/ DT (LUC-934)	2,484	Primary	-550	-28	-27	<b>-55</b>	-20	-17	<b>-37</b>
		Pass-By <sup>1</sup>	-609	-28	-28	<b>-56</b>	-22	-23	<b>-45</b>
<u>Future</u> Coffee Shop w/ DT (LUC-937)	2,484	Primary	662	55	52	<b>107</b>	24	25	<b>49</b>
		Pass-By <sup>2</sup>	661	54	52	<b>106</b>	24	24	<b>48</b>
Net New Primary Trips			112	27	25	<b>52</b>	4	8	<b>12</b>
Net New Pass-By Trips			52	26	24	<b>50</b>	2	1	<b>3</b>

The change in use from a fast-food restaurant to a potential coffee shop scenario would result in a net increase of 12 PM peak hour primary trips (4 inbound / 8 outbound) and 3 PM peak hour pass-by trips (2 inbound / 1 outbound).

Table 3 below shows the trips associated with the proposed Taco Time building (building 2 – 2,975 square feet).

**Table 3: Building 2 (Proposed) Trip Generation Summary**

Land Use	Sq. Ft.	Trip Type	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
				In	Out	Total	In	Out	Total
<u>Proposed</u> Fast-Food Rest w/ DT (LUC-934)	2,975	Primary	661	35	32	<b>67</b>	24	20	<b>44</b>
		Pass-By	730	33	33	<b>66</b>	27	27	<b>54</b>

The proposed 2,975 square foot Taco Time is estimated to generate 1391 average weekday daily trips with 133 AM peak hour trips and 98 PM peak hour trips.

<sup>1</sup> Pass-by Percentages are as follows per ITE data. AM – 50%, PM – 55%, ADT – average of AM and PM peak hours – 52.5%.

<sup>2</sup> Per City direction –Pass-by percentage: 50%

Table 4 below is a summation of buildings 1 and 2. As the site presently experiences activity, only the net new trips from Building 1 are included.

**Table 4: Buildings 1 & 2 Project Net Trip Generation Total**

Trip Type	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
		In	Out	Total	In	Out	Total
Net New Primary	773	62	57	119	28	28	56
Net New Pass-By	782	59	57	116	29	28	57
Total Estimated Driveway Trips	1555	121	114	235	57	56	113

The total estimated driveway trips from the table above will be applied to the adjacent street network. The PM peak hour trip distribution & assignment is provided in Figure 4.

#### 4.2 Distribution & Assignment

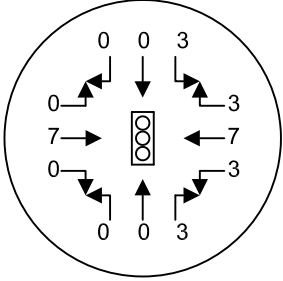
Trip distribution describes the process by which project generated trips are dispersed on the roadway network surrounding the site. Trip distribution percentages (primary & pass-by) were based on the existing count data conducted at all three access points which showed a 55%/45% east/west split along E Main. Moreover, the site is proposing to eliminate a driveway bringing the total from three to two points which is reflected in the trip distribution. The western driveway would continue as an egress only for the drive-through of Building 1. All new traffic has been assigned via the central access. Net new PM peak hour trip distribution (primary & pass-by) and assignment is provided in Figure 4.

#### 4.3 Peak Hour Volumes

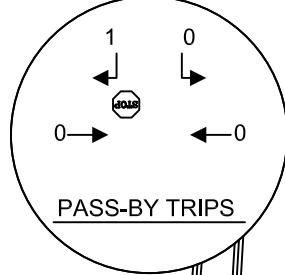
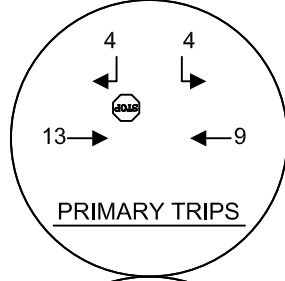
A three-year horizon of 2026 was used for future analysis. Future 2026 traffic volumes without the project were derived by applying a 3.0 percent annual growth rate to existing traffic volumes shown in Figure 3 (to account for growth along E Main) which has been used in the area on past developments. Future 2026 volumes without project traffic are illustrated in Figure 5. Figure 6 illustrates forecast 2026 PM peak hour volumes with project-generated traffic and the new driveway configurations.



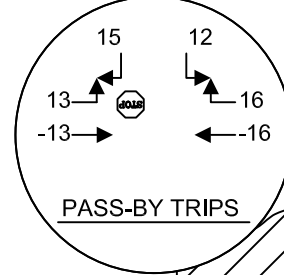
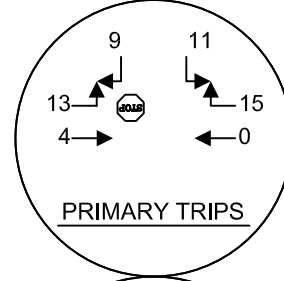
① E MAIN & 5TH ST NE/SE



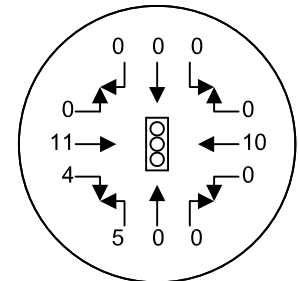
Ⓐ E MAIN & TACO TIME WEST EXIT



Ⓑ E MAIN & TACO TIME CENTRAL/EAST CONSOLIDATED ACCESS

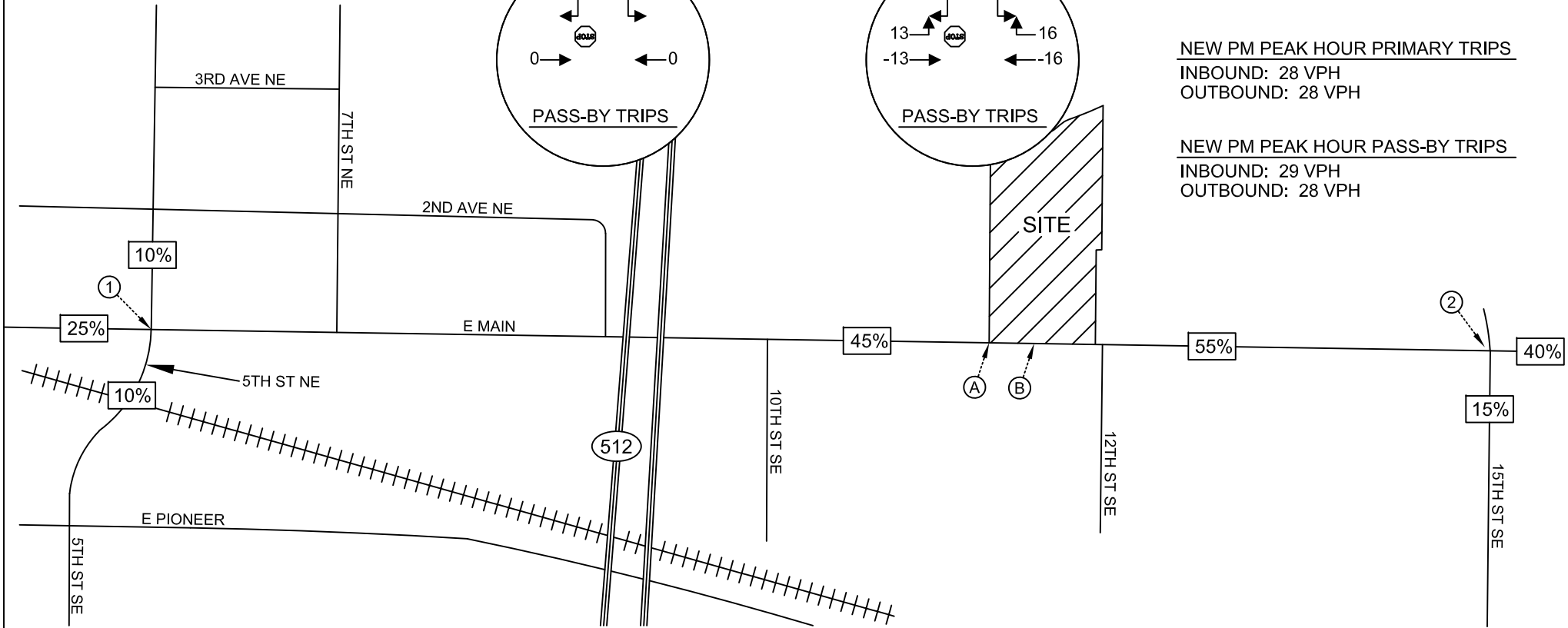


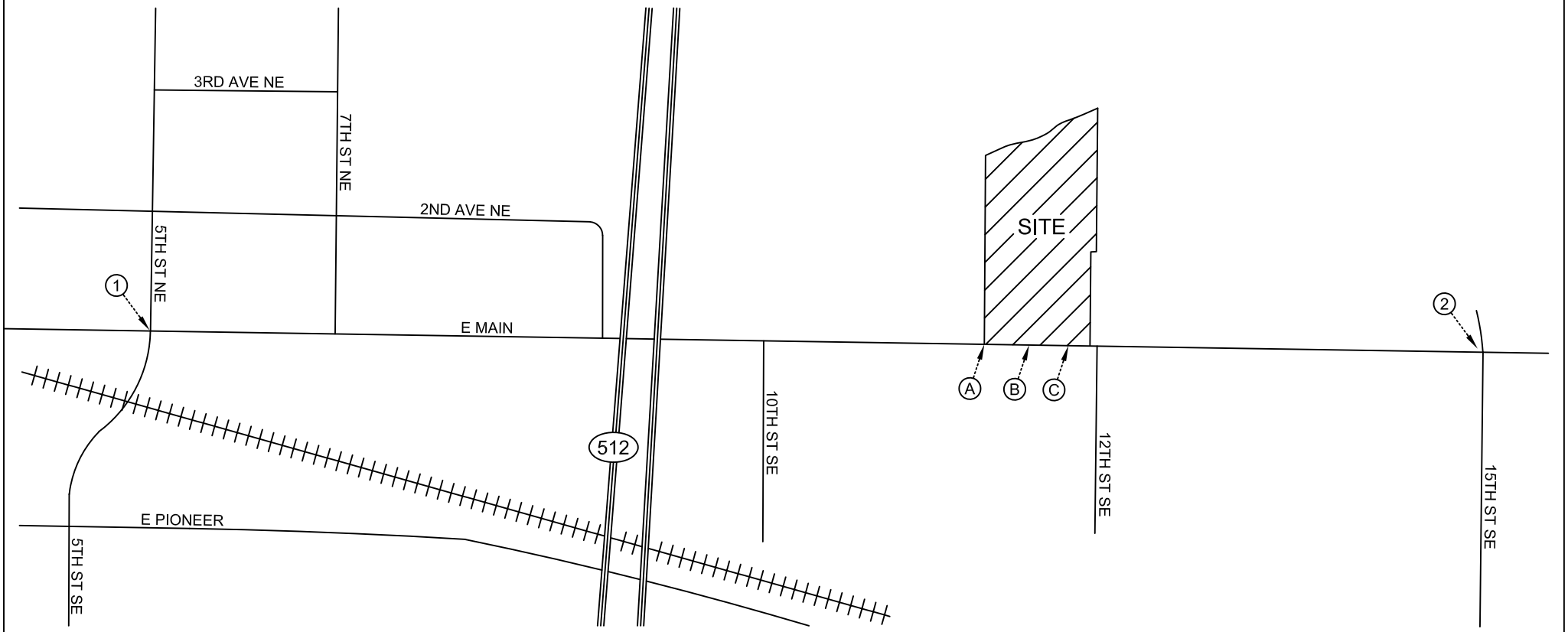
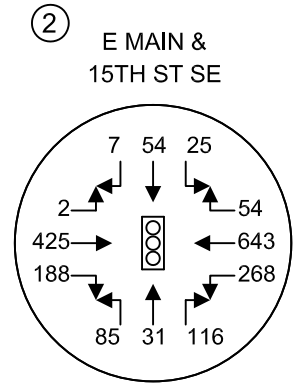
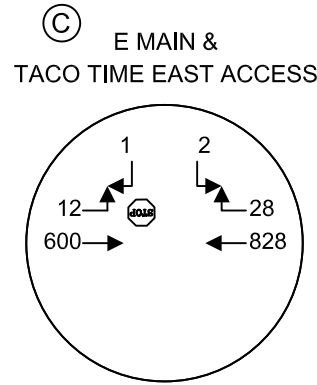
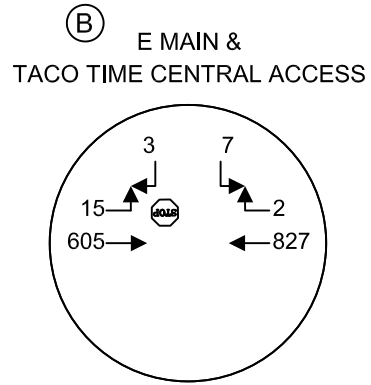
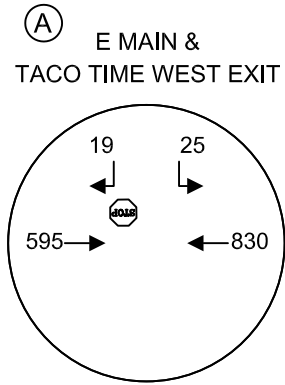
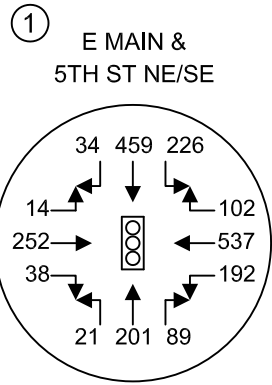
② E MAIN & 15TH ST SE

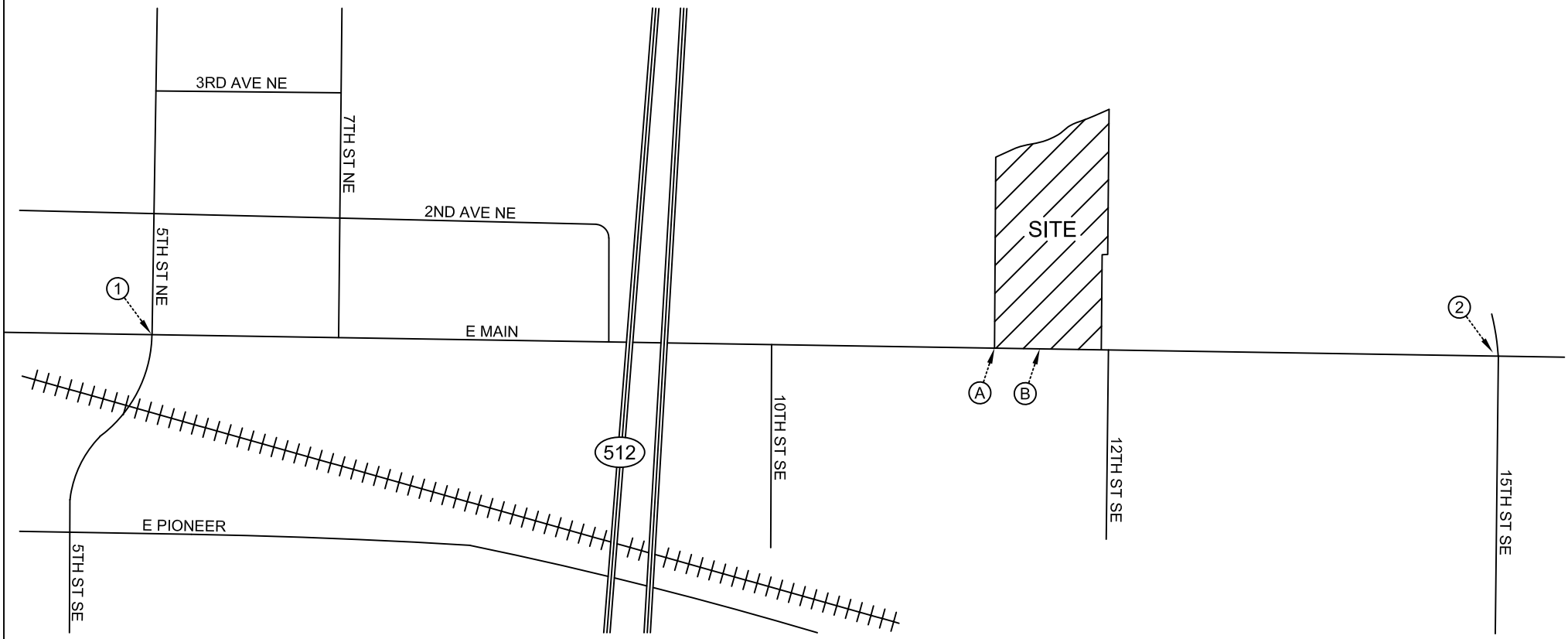
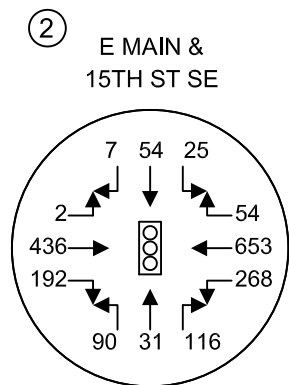
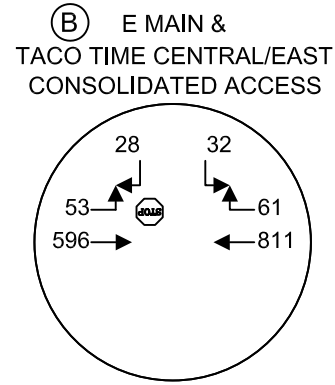
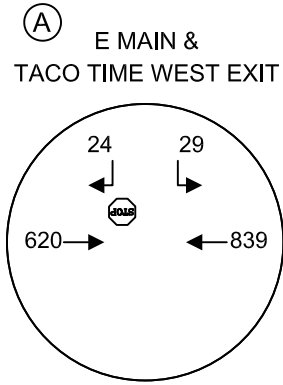
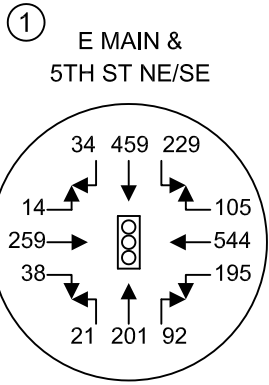


NEW PM PEAK HOUR PRIMARY TRIPS  
INBOUND: 28 VPH  
OUTBOUND: 28 VPH

NEW PM PEAK HOUR PASS-BY TRIPS  
INBOUND: 29 VPH  
OUTBOUND: 28 VPH









#### 4.4 Level of Service

Existing and forecast 2026 peak hour delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range<sup>3</sup> for intersection level of service is LOS A to LOS F ranging from low control delays to heavy control delays. Level of service calculations were derived from the *Synchro 11* analysis program. Delays presented represent overall weighted average delays for signals. For side-street stop-controlled intersections, LOS is determined by the approach with the highest delay. Table 5 below summarizes existing and forecast 2026 level of service (LOS) at the study/access intersections.

**Table 5: Existing & Forecast 2026 PM Peak Hour Level of Service**

*Delays given in seconds per vehicle*

Intersection	Control	<u>Existing</u>		<u>2026 Without</u>		<u>2026 With</u>	
		LOS	Delay	LOS	Delay	LOS	Delay
E Main & 5th St SE	Signal	B	17.8	C	22.2	C	22.9
E Main & West Exit	Stop	C	18.2	C	19.9	C	20.8
E Main & Center Access	Stop	C	17.0	C	18.3	--	--
E Main & East Access	Stop	C	17.1	C	18.4	--	--
E Main & Consolidated Center/East Access	Stop	--	--	--	--	C	20.6
E Main & 15th St SE	Signal	A	9.8	B	10.6	B	10.9

**City of Puyallup Level of Service Standards<sup>4</sup>** : LOS D for all intersection within the city.

All study/access intersections are shown to meet city LOS standards operating with LOS C conditions or better. No intersection deficiencies are identified.

<sup>3</sup> *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

*Stop Controlled Intersections – Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Highway Capacity Manual, 6th Edition

<sup>4</sup> Puyallup Comprehensive Plan – Chapter 7-Transportation Element

It is important to note that the intersection of E Main & 5th Street is scheduled for an improvement. Given the unknown timing and implementation of the improvement project, no adjustments were included in the analysis.

#### 4.5 Queuing Analysis

Queuing was analyzed at both proposed access points along E Main. *SimTraffic* software was utilized to calculate the average and 95th percentile queue lengths (five PM peak hour runs) to examine southbound (SB) queue interactions at the consolidated access intersection. Table 6 below summarizes average and 95th percentile queue lengths.

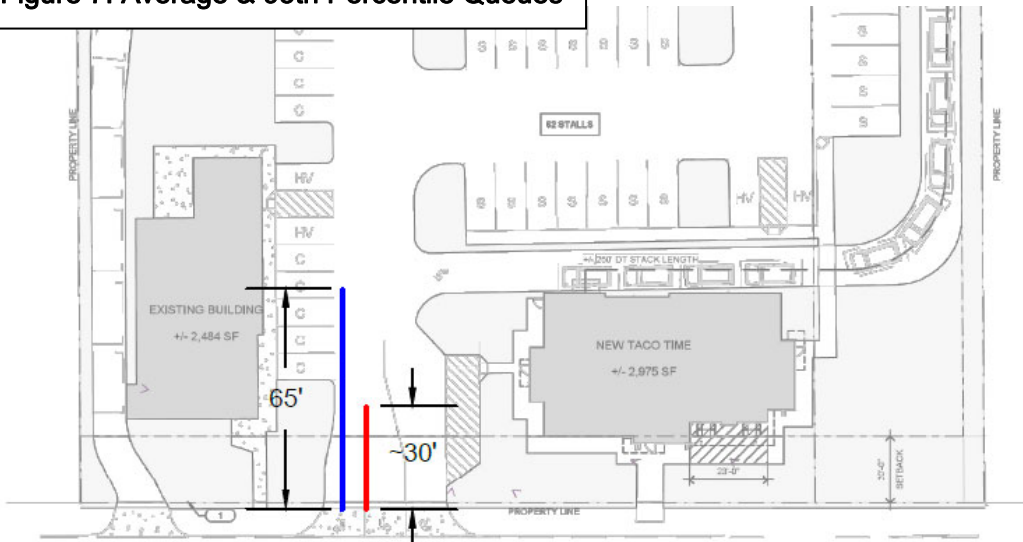
**Table 6: Forecast 2026 PM Queue Lengths (SimTraffic)**

Intersection	Average SB Queue	95th Percentile SB Queue
E Main & Consolidated Central Access	30-feet (~2 vehicles)	65-feet (~3-4 vehicles)

\*SB – Southbound

On average, approximately two vehicles would be stored at the consolidated access waiting for entry to E Main during the PM peak hour. Accounting for the 95th percentile, approximately four vehicles would be stored. Given the storage space on-site, the newly proposed Taco Time drive-through lane is anticipated to primarily remain unblocked during peak hour activity. If needed, the proposed Taco Time drive-through has enough capacity to store ~two vehicles before impacting the drive-through window. Refer to Figure 7 below which highlights queue lengths (average & 95th percentile) for the consolidated access along E Main.

**Figure 7: Average & 95th Percentile Queues**



#### 4.6 Access Sight Distance

Access to and from the site is proposed via two existing driveways both extending north from E Main. The westerly most access is an exit only for the existing Taco Time's drive-through. Taco Time is proposing to eliminate the eastern most driveway and widen the existing middle access (two outbound lanes). Based on city of Puyallup standards, 415 feet of entering sight distance and 400 feet of stopping sight distance is needed based on the classification and speed limit of E Main (Minor Arterial).

Based on a preliminary review of sight distance at each access, sight lines appear to be met; however, sight distance shall be verified upon final submittal plans.

### 5. SUMMARY & MITIGATION

Taco Time East Main proposes for the construction of a new 2,975 square foot fast-food building located within the city of Puyallup. Taco Time operations are to remain at 1115 E Main situated on two tax parcels comprised of 3.30-acres. The existing 2,484 square foot building currently occupied by Taco Time would remain though subsequent tenant occupancy is unknown at this time. Presently, three driveways serve the collective parcels. As part of site development, the easternmost driveway would be eliminated and the central driveway widened to accommodate a three-lane section.

Per ITE data, the new 2,975 square foot Taco Time is estimated to yield a total of 98 PM peak hour trips, 54 of which are considered pass-by and 44 of which are considered new trips. While unknown at this time, the former building was evaluated as a coffee shop with drive-through (per city request) resulting in a net increase of 15 PM peak hour trips over the present fast-food use. Under the forecast 2026 scenario, the two driveways were shown to operate acceptably with level of service (LOS) C conditions during the PM peak hour. Moreover, the two outlying study intersections of E Main & 5th Street and E Main & 15th Street SE were shown to operate with LOS C and LOS B conditions, respectively. Overall, no operational deficiencies were identified as a result of the proposed development.

Proposed mitigation for the project is as follows:

1. Pay traffic impact fees as required by Puyallup. Final fees will be calculated and assessed by the City at the time of building permit issuance.

TACO TIME – EAST MAIN  
TRAFFIC IMPACT ANALYSIS

*APPENDIX*

# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963a  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 1

Groups Printed- Passenger + - Heavy

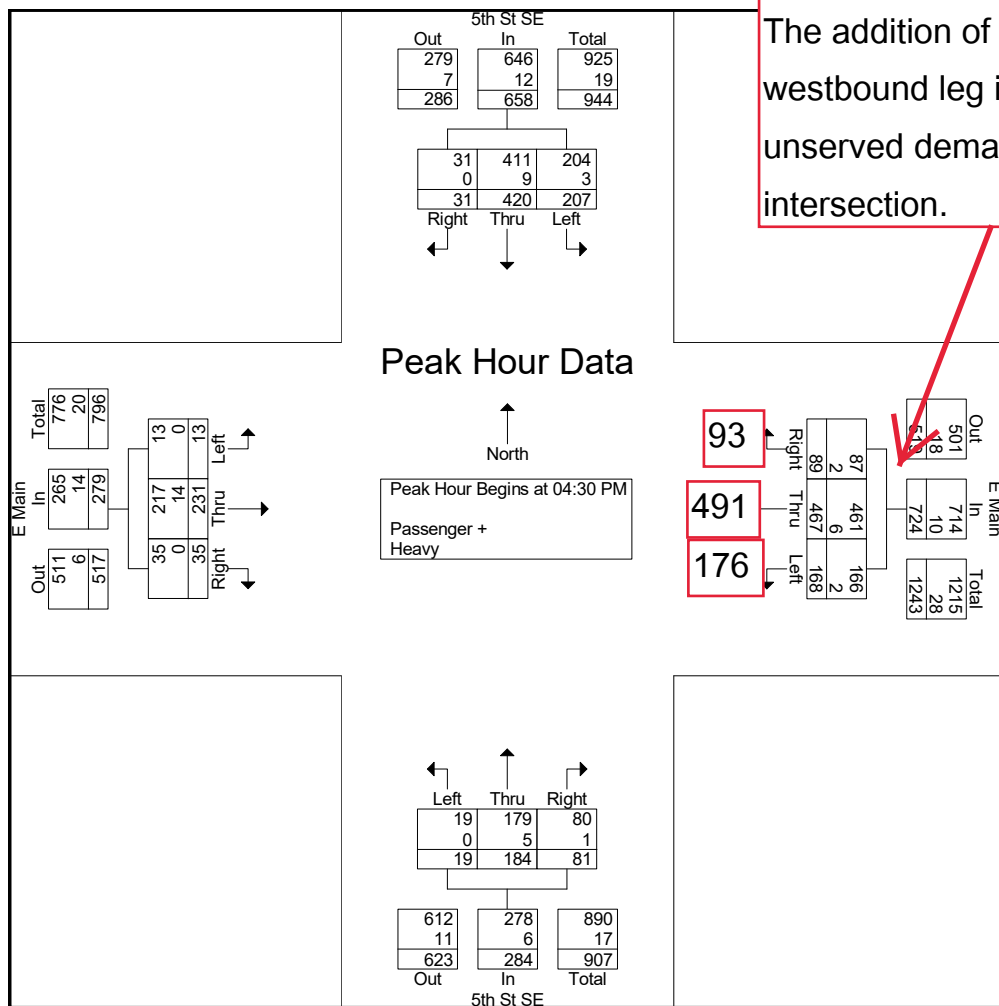
Start Time	5th St SE Southbound				E Main Westbound				5th St SE Northbound				E Main Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
04:00 PM	5	106	49	160	19	131	48	198	21	50	8	79	11	63	1	75	512
04:15 PM	4	78	44	126	26	107	48	181	18	41	4	63	7	78	4	89	459
04:30 PM	6	114	49	169	24	116	50	190	19	47	8	74	6	50	6	62	495
04:45 PM	6	97	52	155	16	115	23	154	25	44	4	73	16	50	3	69	451
Total	21	395	194	610	85	469	169	723	83	182	24	289	40	241	14	295	1917
05:00 PM	4	102	42	148	28	129	52	209	15	43	3	61	8	75	3	86	504
05:15 PM	15	107	64	186	21	107	43	171	22	50	4	76	5	56	1	62	495
05:30 PM	5	86	41	132	28	115	45	188	19	38	3	60	6	74	5	85	465
05:45 PM	3	61	32	96	16	75	18	109	31	40	3	74	7	73	2	82	361
Total	27	356	179	562	93	426	158	677	87	171	13	271	26	278	11	315	1825
Grand Total	48	751	373	1172	178	895	327	1400	170	353	37	560	66	519	25	610	3742
Apprch %	4.1	64.1	31.8		12.7	63.9	23.4		30.4	63	6.6		10.8	85.1	4.1		
Total %	1.3	20.1	10	31.3	4.8	23.9	8.7	37.4	4.5	9.4	1	15	1.8	13.9	0.7	16.3	
Passenger +	48	739	365	1152	173	881	324	1378	168	343	37	548	65	496	25	586	3664
% Passenger +	100	98.4	97.9	98.3	97.2	98.4	99.1	98.4	98.8	97.2	100	97.9	98.5	95.6	100	96.1	97.9
Heavy	0	12	8	20	5	14	3	22	2	10	0	12	1	23	0	24	78
% Heavy	0	1.6	2.1	1.7	2.8	1.6	0.9	1.6	1.2	2.8	0	2.1	1.5	4.4	0	3.9	2.1

# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963a  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 2

Start Time	5th St SE Southbound				E Main Westbound				5th St SE Northbound				E Main Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	114	49	169	24	116	50	190	19	47	8	74	6	50	6	62	495
04:45 PM	6	97	52	155	16	115	23	154	25	44	4	73	16	50	3	69	451
05:00 PM	4	102	42	148	28	129	52	209	15	43	3	61	8	75	3	86	504
05:15 PM	15	107	64	186	21	107	43	171	22	50	4	76	5	56	1	62	495
Total Volume	31	420	207	658	89	467	168	724	81	184	19	284	35	231	13	279	1945
% App. Total	4.7	63.8	31.5		12.3	64.5	23.2		28.5	64.8	6.7		12.5	82.8	4.7		
PHF	.517	.921	.809	.884	.795	.905	.808	.866	.810	.920	.594	.934	.547	.770	.542	.811	.965
Passenger +	31	411	204	646	87	461	166	714	80	179	19	278	35	217	13	265	1903
% Passenger +	100	97.9	98.6	98.2	97.8	98.7	98.8	98.6	98.8	97.3	100	97.9	100	93.9	100	95.0	97.8
Heavy	0	9	3	12	2	6	2	10	1	5	0	6	0	14	0	14	42
% Heavy	0	2.1	1.4	1.8	2.2	1.3	1.2	1.4	1.2	2.7	0	2.1	0	6.1	0	5.0	2.2



# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963b  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 1

Groups Printed- Passenger + - Heavy

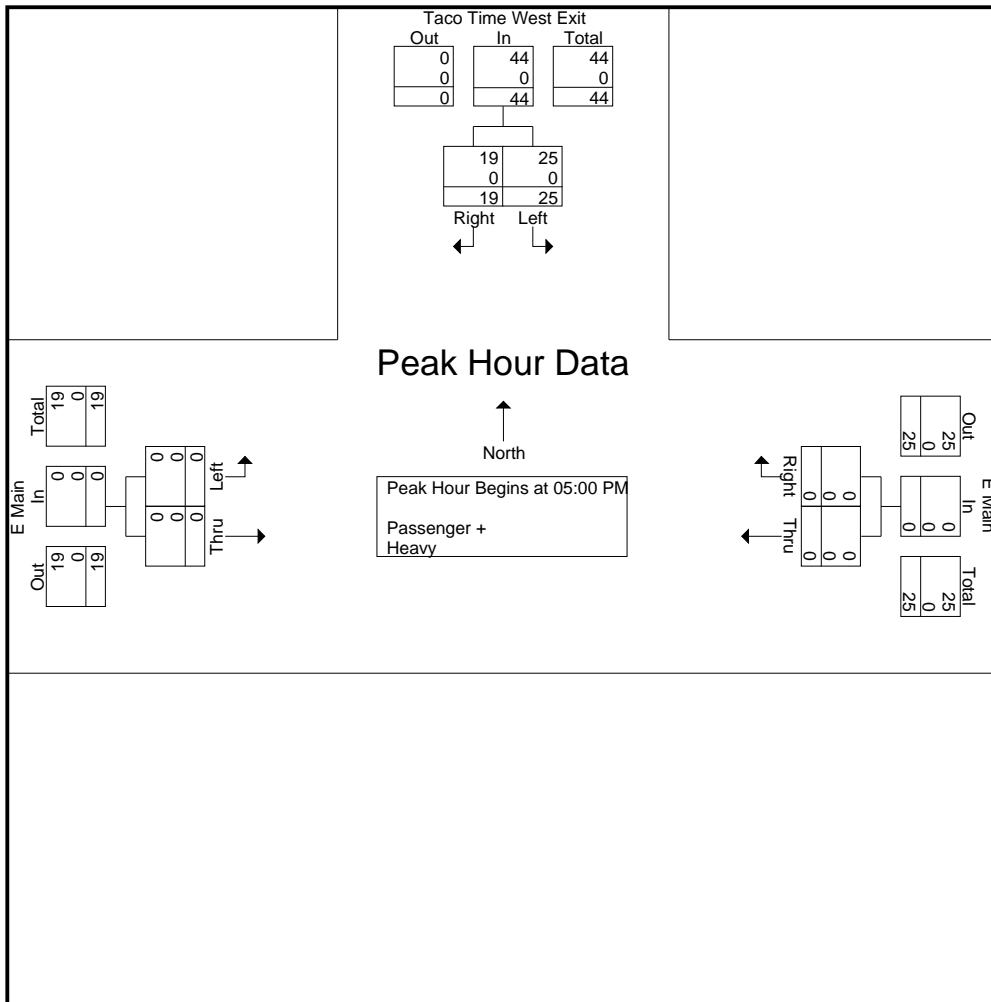
Start Time	Taco Time West Exit Southbound			E Main Westbound			E Main Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
04:00 PM	2	6	8	0	0	0	0	0	0	8
04:15 PM	9	2	11	0	0	0	0	0	0	11
04:30 PM	6	2	8	0	0	0	0	0	0	8
04:45 PM	1	2	3	0	0	0	0	0	0	3
Total	18	12	30	0	0	0	0	0	0	30
05:00 PM	3	5	8	0	0	0	0	0	0	8
05:15 PM	8	9	17	0	0	0	0	0	0	17
05:30 PM	7	4	11	0	0	0	0	0	0	11
05:45 PM	1	7	8	0	0	0	0	0	0	8
Total	19	25	44	0	0	0	0	0	0	44
Grand Total	37	37	74	0	0	0	0	0	0	74
Apprch %	50	50		0	0		0	0		
Total %	50	50	100	0	0	0	0	0	0	
Passenger +	37	37	74	0	0	0	0	0	0	74
% Passenger +	100	100	100	0	0	0	0	0	0	100
Heavy	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0

# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963b  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 2

Start Time	Taco Time West Exit Southbound			E Main Westbound			E Main Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	3	5	8	0	0	0	0	0	0	8
05:15 PM	8	9	17	0	0	0	0	0	0	17
05:30 PM	7	4	11	0	0	0	0	0	0	11
05:45 PM	1	7	8	0	0	0	0	0	0	8
Total Volume	19	25	44	0	0	0	0	0	0	44
% App. Total	43.2	56.8		0	0		0	0		
PHF	.594	.694	.647	.000	.000	.000	.000	.000	.000	.647
Passenger +	19	25	44	0	0	0	0	0	0	44
% Passenger +	100	100	100	0	0	0	0	0	0	100
Heavy	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0





# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963c  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 1

Groups Printed- Passenger + - Heavy

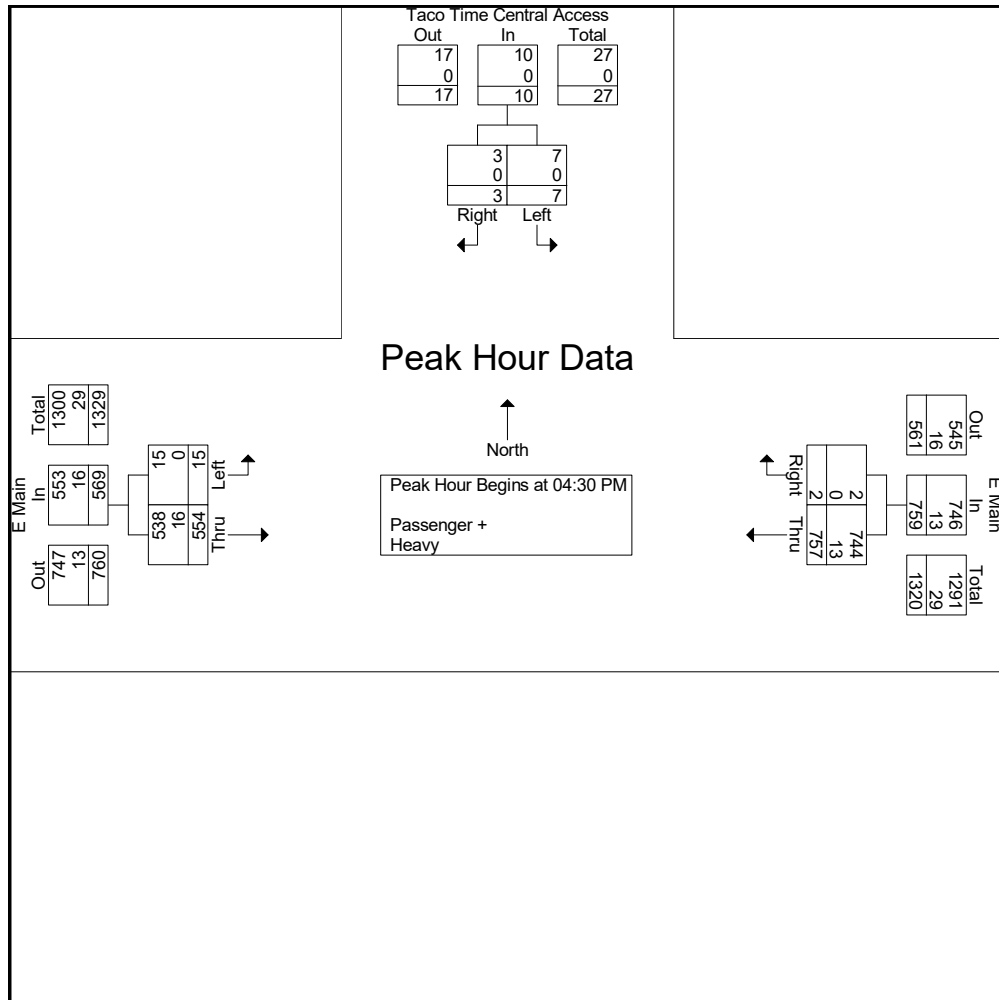
Start Time	Taco Time Central Access Southbound			E Main Westbound			E Main Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
04:00 PM	3	0	3	1	209	210	146	3	149	362
04:15 PM	1	0	1	3	160	163	154	2	156	320
04:30 PM	0	2	2	0	197	197	119	2	121	320
04:45 PM	1	1	2	0	182	182	140	3	143	327
Total	5	3	8	4	748	752	559	10	569	1329
05:00 PM	1	2	3	1	192	193	140	4	144	340
05:15 PM	1	2	3	1	186	187	155	6	161	351
05:30 PM	1	4	5	1	152	153	132	4	136	294
05:45 PM	1	2	3	0	106	106	130	7	137	246
Total	4	10	14	3	636	639	557	21	578	1231
Grand Total	9	13	22	7	1384	1391	1116	31	1147	2560
Apprch %	40.9	59.1		0.5	99.5		97.3	2.7		
Total %	0.4	0.5	0.9	0.3	54.1	54.3	43.6	1.2	44.8	
Passenger +	9	13	22	7	1360	1367	1087	31	1118	2507
% Passenger +	100	100	100	100	98.3	98.3	97.4	100	97.5	97.9
Heavy	0	0	0	0	24	24	29	0	29	53
% Heavy	0	0	0	0	1.7	1.7	2.6	0	2.5	2.1

# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963c  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 2

Start Time	Taco Time Central Access Southbound			E Main Westbound			E Main Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	2	2	0	197	197	119	2	121	320
04:45 PM	1	1	2	0	182	182	140	3	143	327
05:00 PM	1	2	3	1	192	193	140	4	144	340
05:15 PM	1	2	3	1	186	187	155	6	161	351
Total Volume	3	7	10	2	757	759	554	15	569	1338
% App. Total	30	70		0.3	99.7		97.4	2.6		
PHF	.750	.875	.833	.500	.961	.963	.894	.625	.884	.953
Passenger +	3	7	10	2	744	746	538	15	553	1309
% Passenger +	100	100	100	100	98.3	98.3	97.1	100	97.2	97.8
Heavy	0	0	0	0	13	13	16	0	16	29
% Heavy	0	0	0	0	1.7	1.7	2.9	0	2.8	2.2



# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963d  
 Site Code : 0004963\_  
 Start Date : 12/8/2022  
 Page No : 1

Groups Printed- Passenger + - Heavy

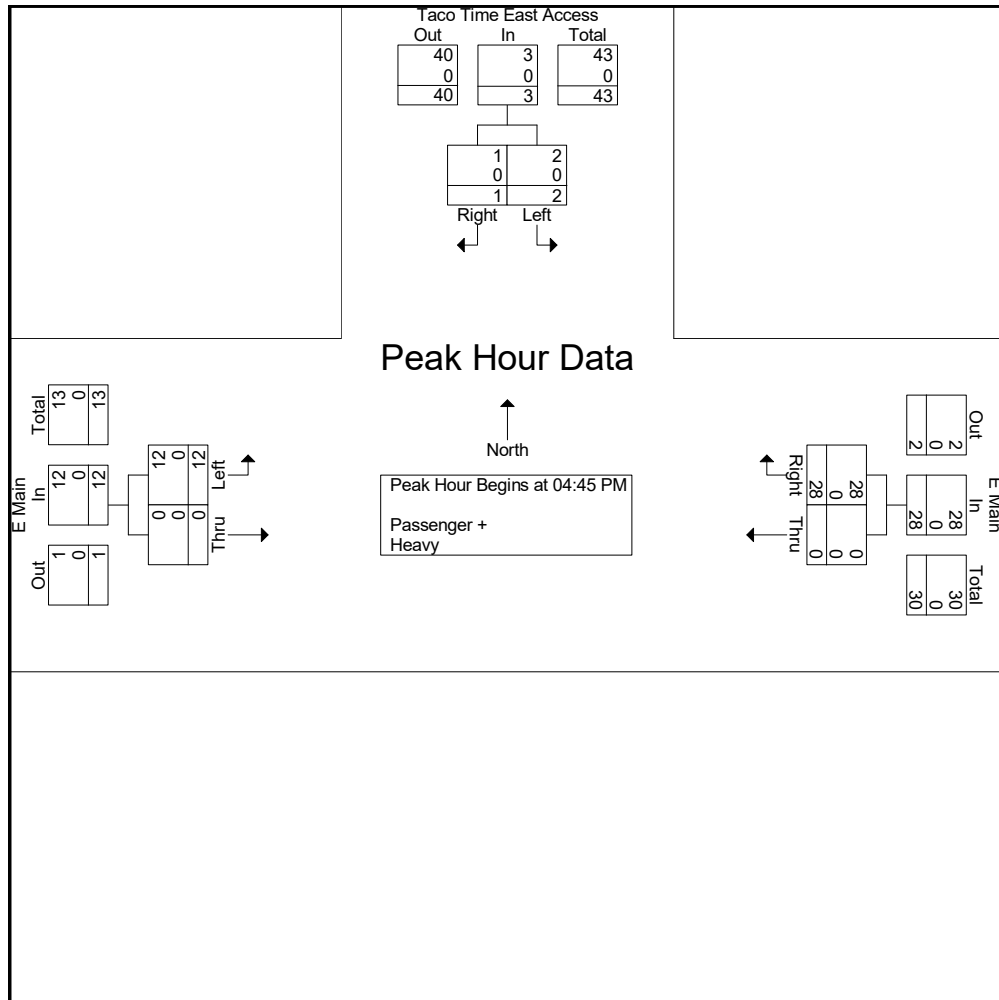
Start Time	Taco Time East Access Southbound			E Main Westbound			E Main Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
04:00 PM	0	0	0	6	0	6	0	2	2	8
04:15 PM	1	0	1	4	0	4	0	0	0	5
04:30 PM	1	0	1	3	0	3	0	3	3	7
04:45 PM	0	1	1	8	0	8	0	2	2	11
Total	2	1	3	21	0	21	0	7	7	31
05:00 PM	0	0	0	6	0	6	0	0	0	6
05:15 PM	0	0	0	8	0	8	0	4	4	12
05:30 PM	1	1	2	6	0	6	0	6	6	14
05:45 PM	0	0	0	7	0	7	0	2	2	9
Total	1	1	2	27	0	27	0	12	12	41
Grand Total	3	2	5	48	0	48	0	19	19	72
Apprch %	60	40		100	0		0	100		
Total %	4.2	2.8	6.9	66.7	0	66.7	0	26.4	26.4	
Passenger +	3	2	5	48	0	48	0	19	19	72
% Passenger +	100	100	100	100	0	100	0	100	100	100
Heavy	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0

# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963d  
 Site Code : 0004963\_  
 Start Date : 12/8/2022  
 Page No : 2

Start Time	Taco Time East Access Southbound			E Main Westbound			E Main Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	1	1	8	0	8	0	2	2	11
05:00 PM	0	0	0	6	0	6	0	0	0	6
05:15 PM	0	0	0	8	0	8	0	4	4	12
05:30 PM	1	1	2	6	0	6	0	6	6	14
Total Volume	1	2	3	28	0	28	0	12	12	43
% App. Total	33.3	66.7		100	0		0	100		
PHF	.250	.500	.375	.875	.000	.875	.000	.500	.500	.768
Passenger +	1	2	3	28	0	28	0	12	12	43
% Passenger +	100	100	100	100	0	100	0	100	100	100
Heavy	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0



# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963e  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 1

Groups Printed- Passenger+ - Heavy

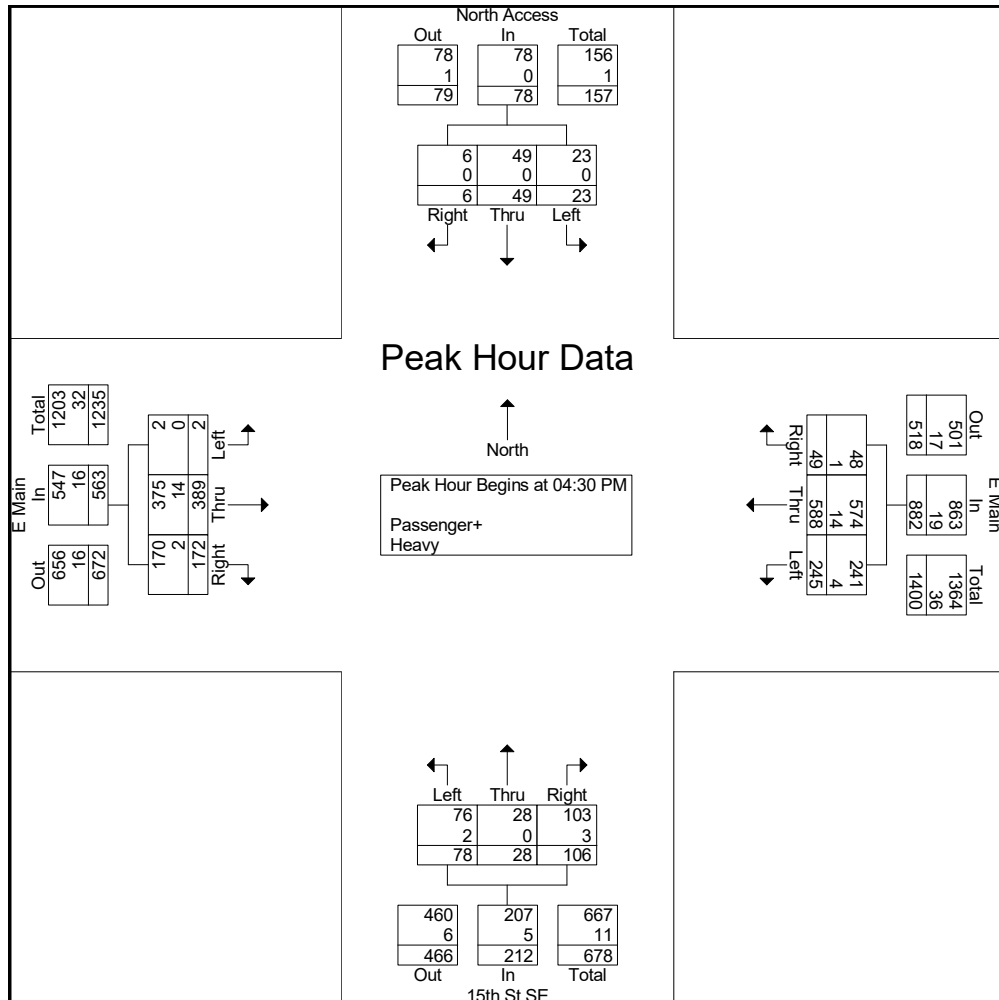
Start Time	North Access Southbound				E Main Westbound				15th St SE Northbound				E Main Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
04:00 PM	3	10	4	17	13	155	86	254	63	7	29	99	35	82	1	118	488
04:15 PM	3	17	4	24	17	116	67	200	29	9	15	53	55	90	0	145	422
04:30 PM	0	13	9	22	12	135	67	214	29	7	23	59	39	83	0	122	417
04:45 PM	4	5	6	15	8	144	50	202	19	6	21	46	44	85	0	129	392
Total	10	45	23	78	50	550	270	870	140	29	88	257	173	340	1	514	1719
05:00 PM	1	14	4	19	21	150	65	236	27	5	15	47	43	114	1	158	460
05:15 PM	1	17	4	22	8	159	63	230	31	10	19	60	46	107	1	154	466
05:30 PM	2	8	2	12	12	117	64	193	31	4	20	55	45	82	1	128	388
05:45 PM	5	5	3	13	17	91	49	157	44	3	8	55	18	92	0	110	335
Total	9	44	13	66	58	517	241	816	133	22	62	217	152	395	3	550	1649
Grand Total	19	89	36	144	108	1067	511	1686	273	51	150	474	325	735	4	1064	3368
Apprch %	13.2	61.8	25		6.4	63.3	30.3		57.6	10.8	31.6		30.5	69.1	0.4		
Total %	0.6	2.6	1.1	4.3	3.2	31.7	15.2	50.1	8.1	1.5	4.5	14.1	9.6	21.8	0.1	31.6	
Passenger+	19	88	36	143	107	1042	504	1653	264	50	146	460	321	712	4	1037	3293
% Passenger+	100	98.9	100	99.3	99.1	97.7	98.6	98	96.7	98	97.3	97	98.8	96.9	100	97.5	97.8
Heavy	0	1	0	1	1	25	7	33	9	1	4	14	4	23	0	27	75
% Heavy	0	1.1	0	0.7	0.9	2.3	1.4	2	3.3	2	2.7	3	1.2	3.1	0	2.5	2.2

# Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 4963e  
 Site Code : 00004963  
 Start Date : 12/8/2022  
 Page No : 2

Start Time	North Access Southbound				E Main Westbound				15th St SE Northbound				E Main Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	13	9	22	12	135	67	214	29	7	23	59	39	83	0	122	417
04:45 PM	4	5	6	15	8	144	50	202	19	6	21	46	44	85	0	129	392
05:00 PM	1	14	4	19	21	150	65	236	27	5	15	47	43	114	1	158	460
05:15 PM	1	17	4	22	8	159	63	230	31	10	19	60	46	107	1	154	466
Total Volume	6	49	23	78	49	588	245	882	106	28	78	212	172	389	2	563	1735
% App. Total	7.7	62.8	29.5		5.6	66.7	27.8		50	13.2	36.8		30.6	69.1	0.4		
PHF	.375	.721	.639	.886	.583	.925	.914	.934	.855	.700	.848	.883	.935	.853	.500	.891	.931
Passenger+	6	49	23	78	48	574	241	863	103	28	76	207	170	375	2	547	1695
% Passenger+	100	100	100	100	98.0	97.6	98.4	97.8	97.2	100	97.4	97.6	98.8	96.4	100	97.2	97.7
Heavy	0	0	0	0	1	14	4	19	3	0	2	5	2	14	0	16	40
% Heavy	0	0	0	0	2.0	2.4	1.6	2.2	2.8	0	2.6	2.4	1.2	3.6	0	2.8	2.3



# Fast-Food Restaurant with Drive-Through Window (934)

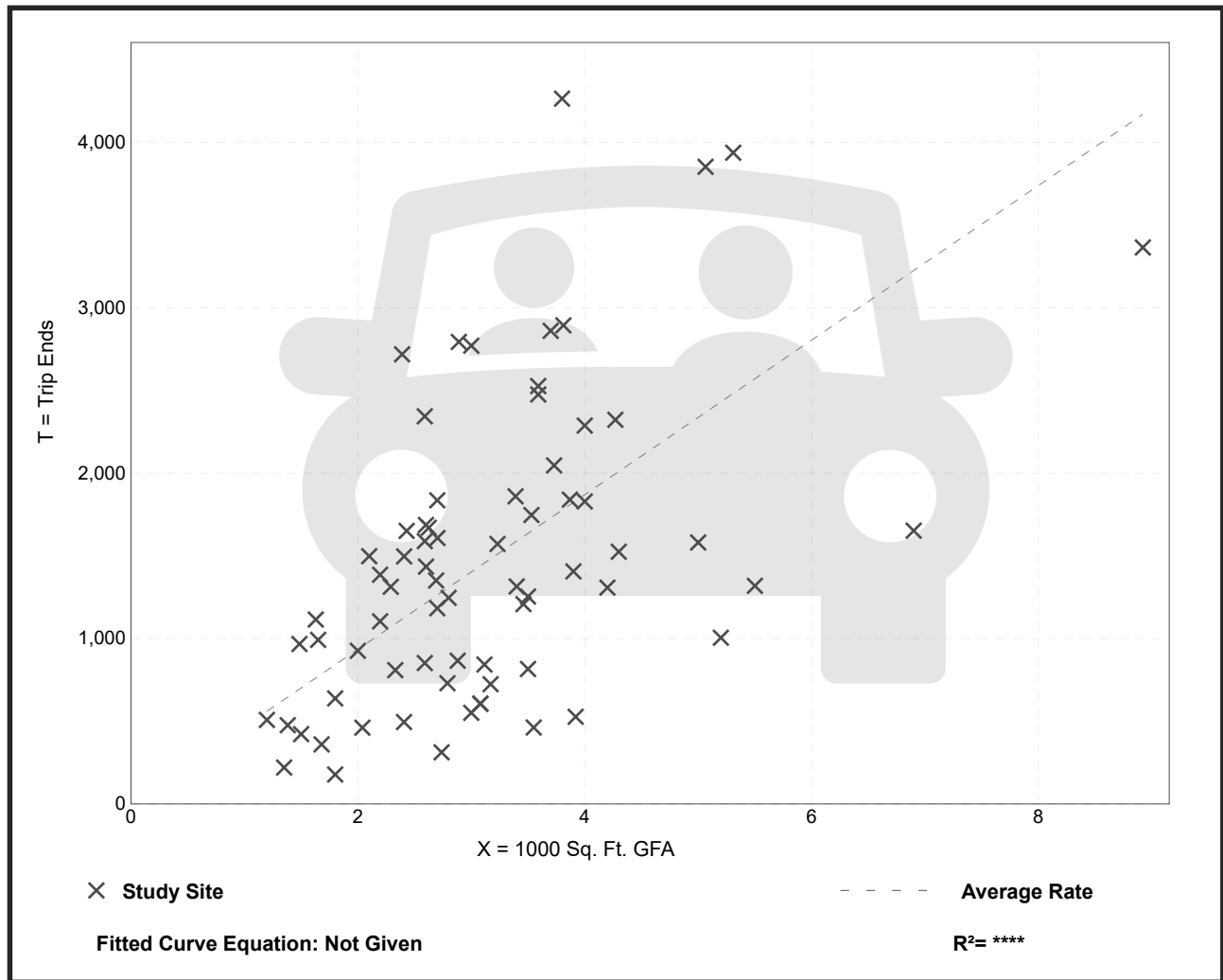
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 71  
Avg. 1000 Sq. Ft. GFA: 3  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

## Data Plot and Equation



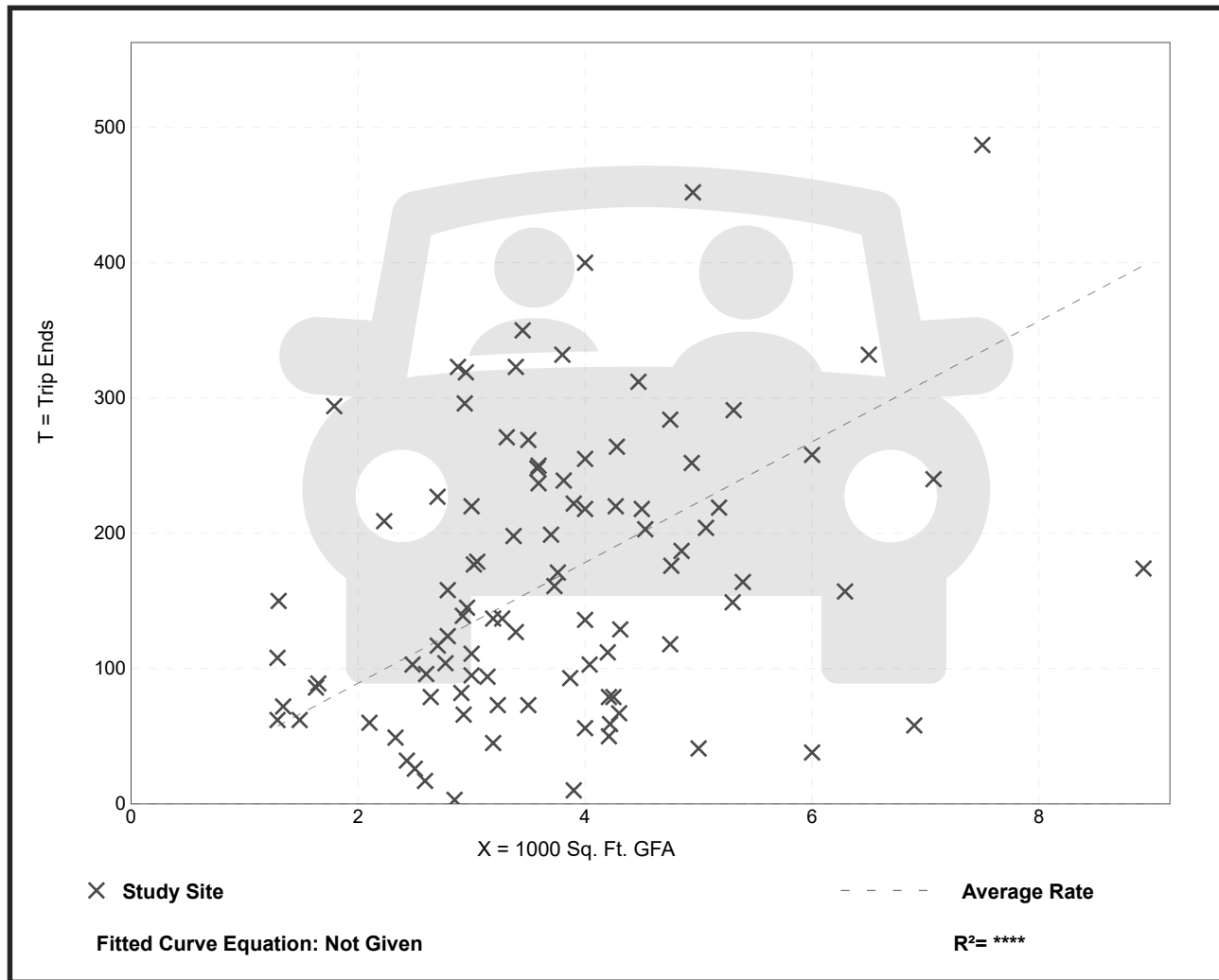
# Fast-Food Restaurant with Drive-Through Window (934)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 96  
 Avg. 1000 Sq. Ft. GFA: 4  
 Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

## Data Plot and Equation





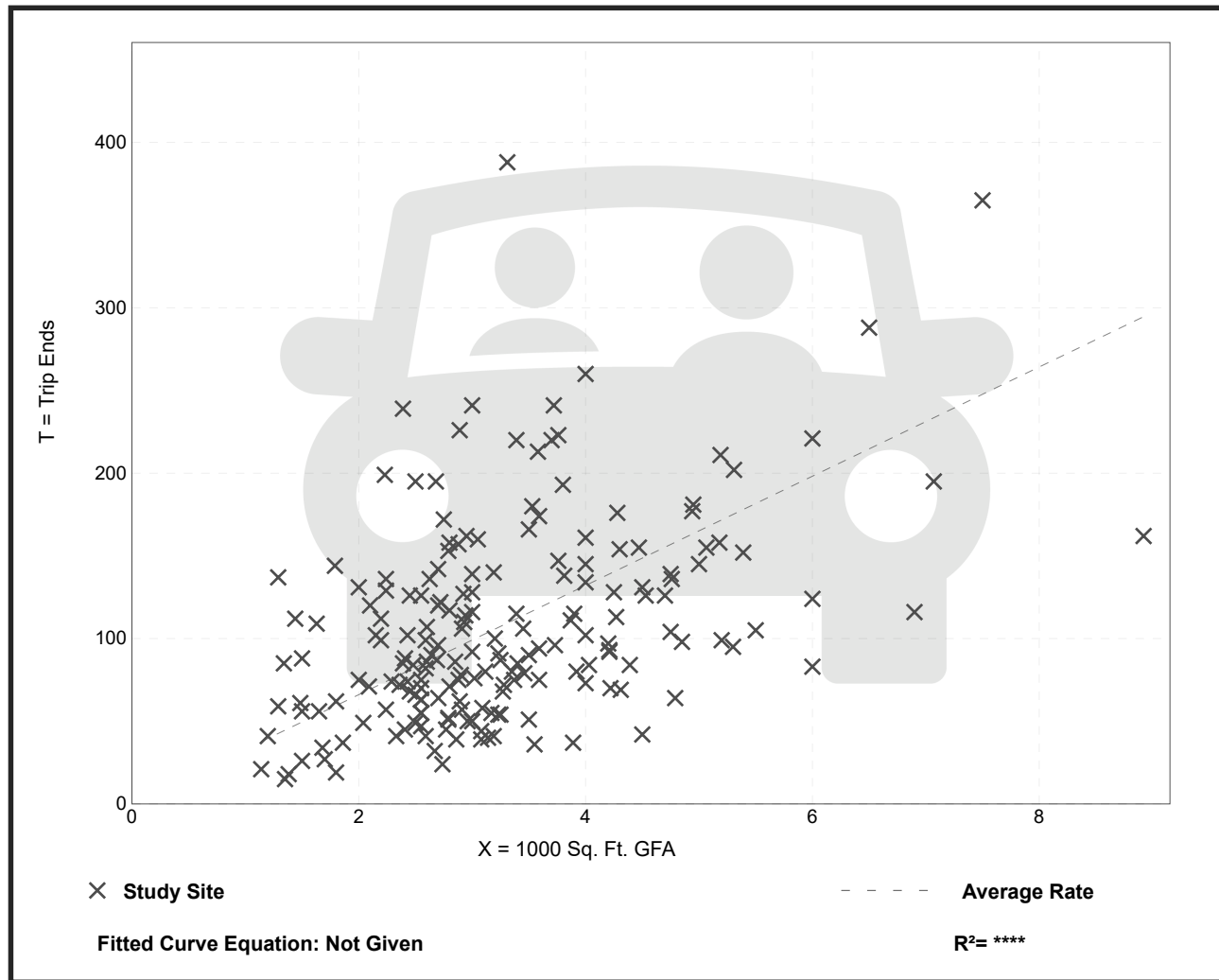
# Fast-Food Restaurant with Drive-Through Window (934)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 190  
 Avg. 1000 Sq. Ft. GFA: 3  
 Directional Distribution: 52% entering, 48% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

## Data Plot and Equation



# Coffee/Donut Shop with Drive-Through Window (937)

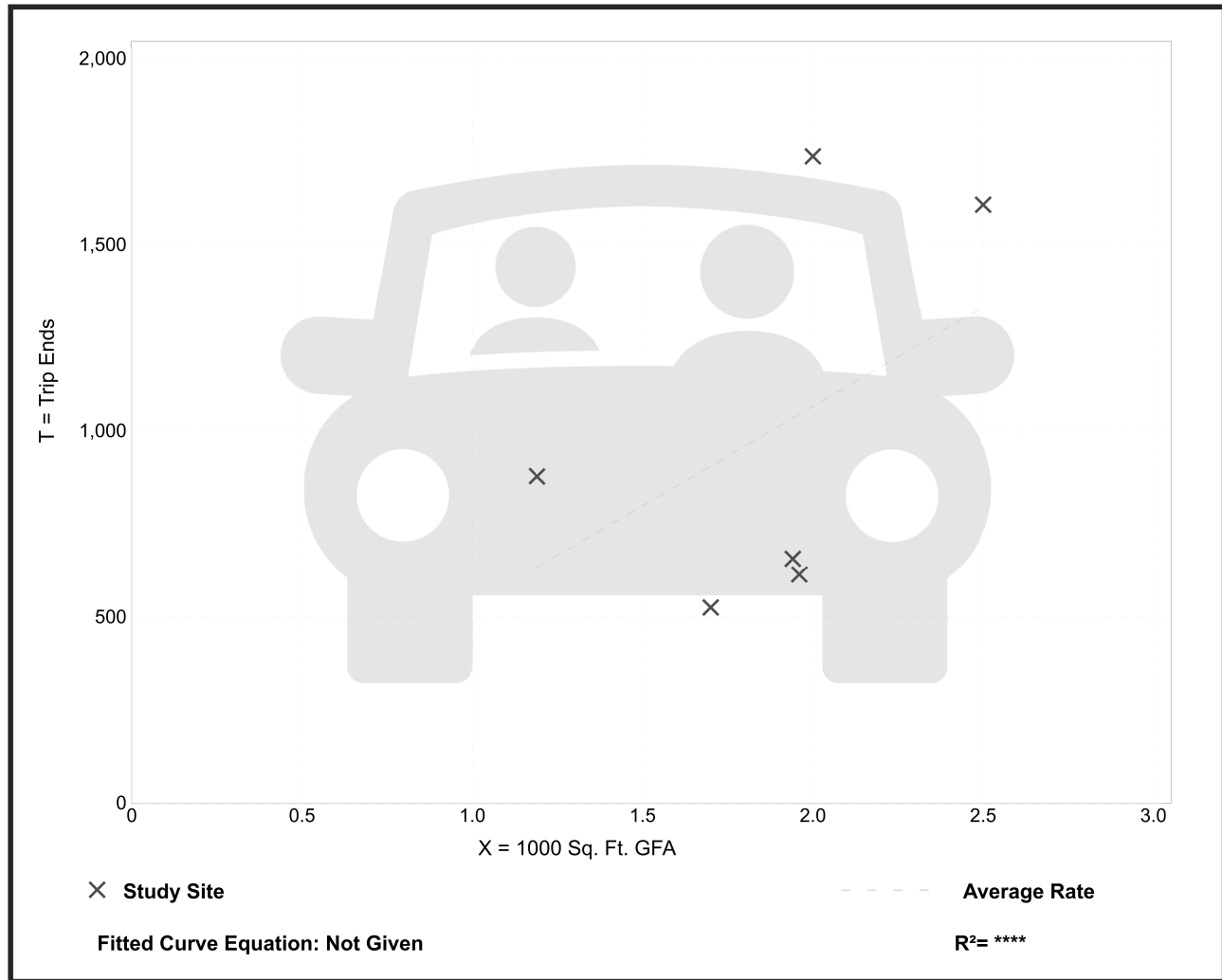
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 6  
Avg. 1000 Sq. Ft. GFA: 2  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
533.57	309.41 - 869.00	243.65

## Data Plot and Equation



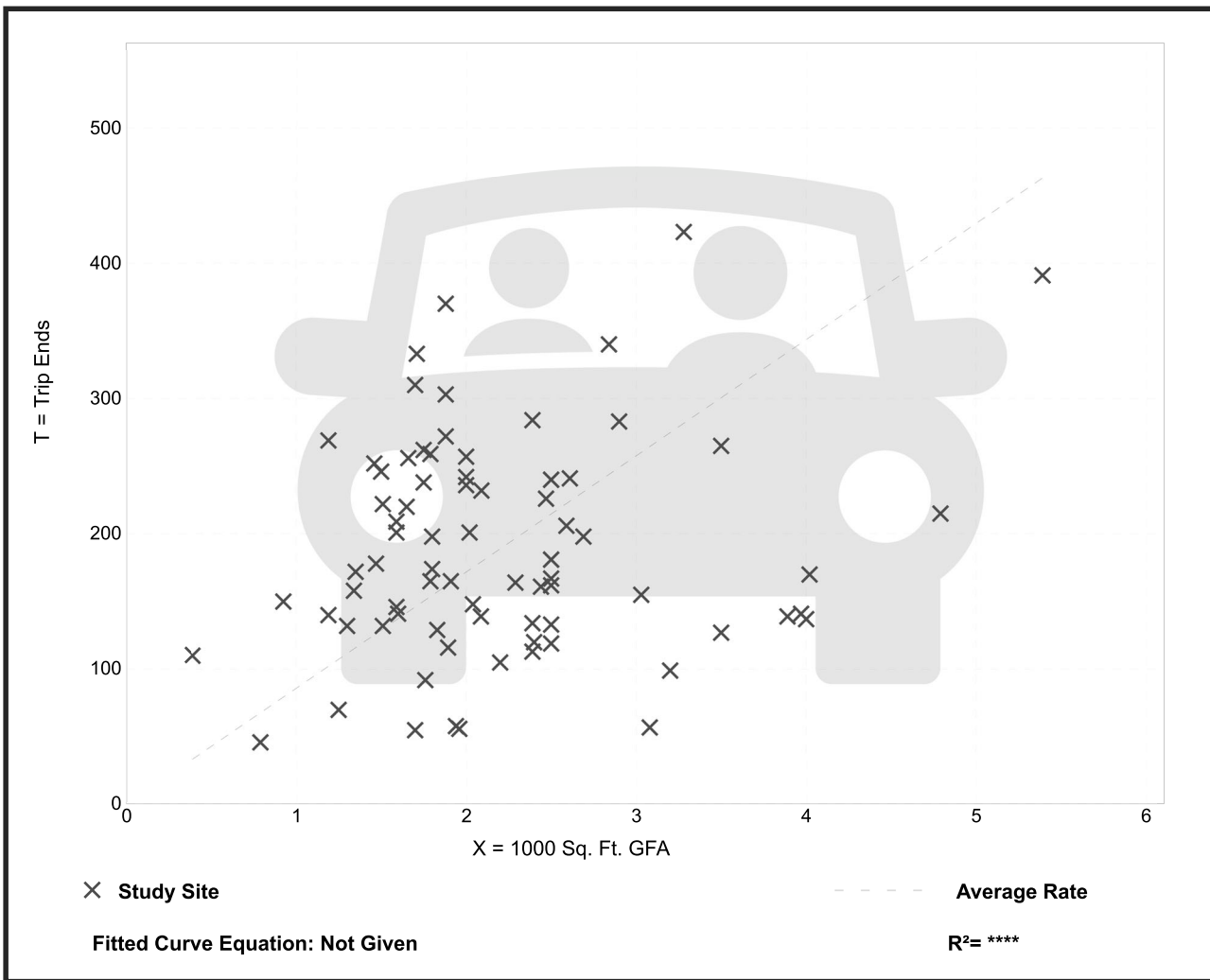
# Coffee/Donut Shop with Drive-Through Window (937)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
Number of Studies: 78  
Avg. 1000 Sq. Ft. GFA: 2  
Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
85.88	18.51 - 282.05	44.92

## Data Plot and Equation



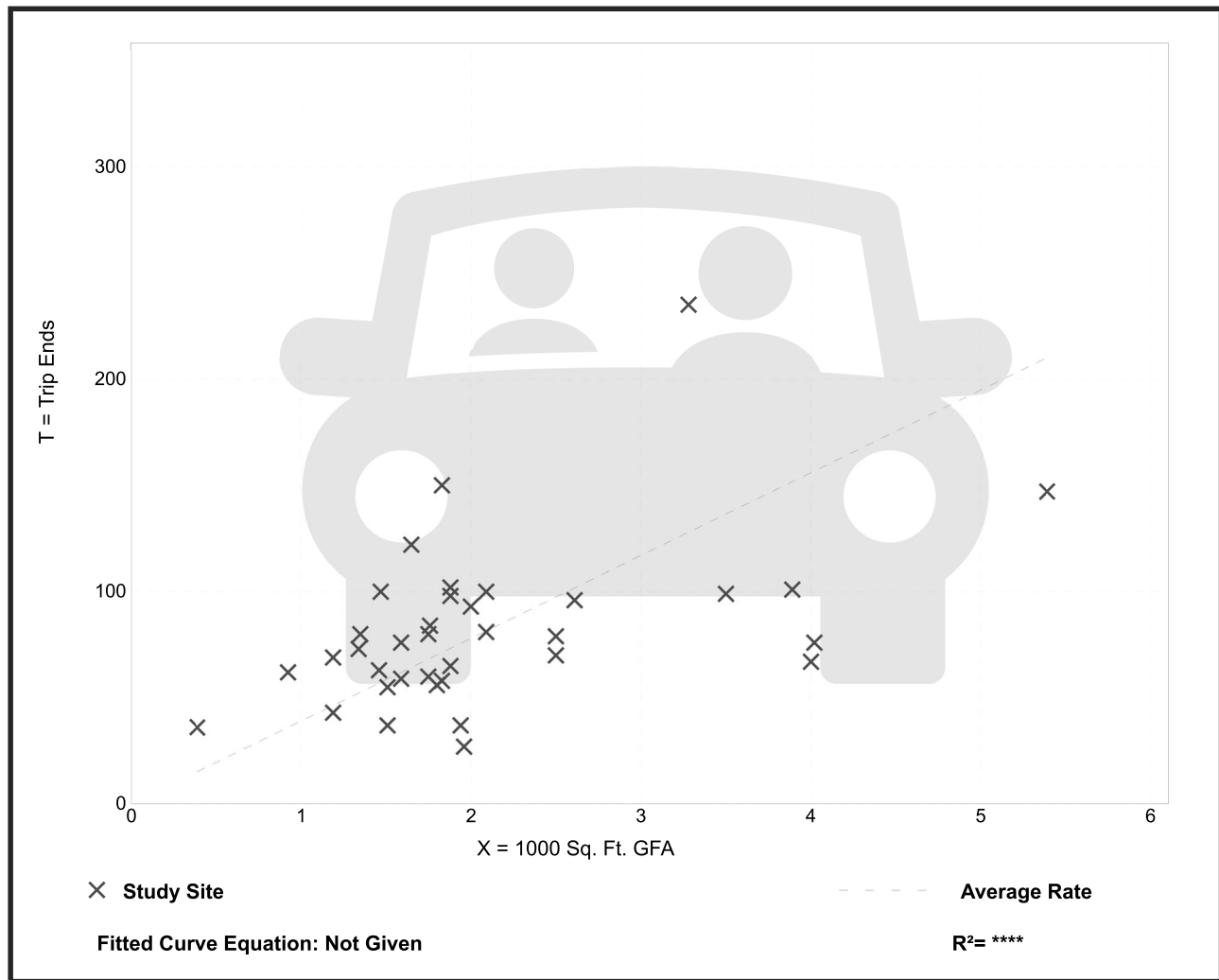
# Coffee/Donut Shop with Drive-Through Window (937)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 36  
 Avg. 1000 Sq. Ft. GFA: 2  
 Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.99	13.78 - 92.31	17.79

## Data Plot and Equation



**Peak Hour Forecast Intersection Volumes**

Annual Growth Rate: 3 % 2026  
# of Years to Horizon: 3

PM

**1. E Main & 5th St SE**

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022	31	420	207	93	491	176	81	184	19	35	231	13
Project Trips	0	0	3	3	7	3	3	0	0	0	7	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	34	459	226	102	537	192	89	201	21	38	252	14
With	34	459	229	105	544	195	92	201	21	38	259	14

Without Project

**2. E Main & Taco Time West Exit**

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022	19	0	25	0	760	0	0	0	0	0	544	0
Project Trips	5	0	4	0	9	0	0	0	0	0	13	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	19	0	25	0	831	0	0	0	0	0	607	0
With	24	0	29	0	839	0	0	0	0	0	620	0

**2. E Main & Taco Time Central Access**

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022	3	0	7	2	757	0	0	0	0	0	554	15
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	3	0	7	2	827	0	0	0	0	0	605	15
With	3	0	7	2	827	0	0	0	0	0	605	15

**3. E Main & Taco Time Central/East Access**

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022	4	0	9	30	757	0	0	0	0	0	554	27
Project Trips	24	0	23	31	-16	0	0	0	0	0	-9	26
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	4	0	9	30	827	0	0	0	0	0	605	27
With	28	0	32	61	811	0	0	0	0	0	596	53

**3. E Main & Taco Time East Access**

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022	1	0	2	28	758	0	0	0	0	0	549	12
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	1	0	2	28	828	0	0	0	0	0	600	12
With	1	0	2	28	828	0	0	0	0	0	600	12

**4. E Main & 15th St SE**

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022	6	49	23	49	588	245	106	28	78	172	389	2
Project Trips	0	0	0	0	10	0	0	0	5	4	11	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	7	54	25	54	643	268	116	31	85	188	425	2
With	7	54	25	54	653	268	116	31	90	192	436	2

HCM 6th Signalized Intersection Summary  
 1: 5th Street SE/5th Street NE & E Main

Existing PM Peak Hour  
 01/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	13	231	35	176	491	93	19	184	81	207	420	31
Future Volume (veh/h)	13	231	35	176	491	93	19	184	81	207	420	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	2	5	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1811	1885	1885	1885	1870	1885	1856	1885	1885	1870	1885
Adj Flow Rate, veh/h	14	241	36	183	511	97	20	192	84	216	438	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	6	1	1	1	2	1	3	1	1	2	1
Cap, veh/h	230	364	54	416	644	122	326	280	122	433	736	52
Arrive On Green	0.24	0.24	0.24	0.10	0.42	0.42	0.22	0.22	0.22	0.12	0.42	0.42
Sat Flow, veh/h	817	1538	230	1795	1539	292	931	1221	534	1795	1722	126
Grp Volume(v), veh/h	14	0	277	183	0	608	20	0	276	216	0	470
Grp Sat Flow(s),veh/h/ln	817	0	1768	1795	0	1831	931	0	1755	1795	0	1848
Q Serve(g_s), s	0.9	0.0	8.1	4.0	0.0	16.5	1.0	0.0	8.3	4.9	0.0	11.2
Cycle Q Clear(g_c), s	6.9	0.0	8.1	4.0	0.0	16.5	1.0	0.0	8.3	4.9	0.0	11.2
Prop In Lane	1.00		0.13	1.00		0.16	1.00		0.30	1.00		0.07
Lane Grp Cap(c), veh/h	230	0	419	416	0	766	326	0	402	433	0	790
V/C Ratio(X)	0.06	0.00	0.66	0.44	0.00	0.79	0.06	0.00	0.69	0.50	0.00	0.60
Avail Cap(c_a), veh/h	691	0	1409	562	0	1459	868	0	1398	543	0	1472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	20.3	13.9	0.0	14.9	18.7	0.0	20.5	14.0	0.0	13.2
Incr Delay (d2), s/veh	0.1	0.0	2.2	0.9	0.0	2.3	0.1	0.0	2.5	1.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.7
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.4	1.6	0.0	6.5	0.2	0.0	3.4	2.1	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	22.4	14.8	0.0	17.2	18.8	0.0	23.0	15.4	0.0	14.8
LnGrp LOS	C	A	C	B	A	B	B	A	C	B	A	B
Approach Vol, veh/h		291			791			296			686	
Approach Delay, s/veh		22.4			16.7			22.7			15.0	
Approach LOS		C			B			C			B	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	10.4	18.0		28.6		28.5	11.4	17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5		45.5		45.5	10.5	45.5				
Max Q Clear Time (g_c+I1), s	6.0	10.1		13.2		18.5	6.9	10.3				
Green Ext Time (p_c), s	0.2	2.3		4.0		5.5	0.3	2.4				

Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	544	760	0	25	19
Future Vol, veh/h	0	544	760	0	25	19
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	0	591	826	0	27	21

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	1419 828
Stage 1	-	-	-	-	826 -
Stage 2	-	-	-	-	593 -
Critical Hdwy	-	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	0	-	-	0	151 373
Stage 1	0	-	-	0	432 -
Stage 2	0	-	-	0	554 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	151 372
Mov Cap-2 Maneuver	-	-	-	-	289 -
Stage 1	-	-	-	-	432 -
Stage 2	-	-	-	-	554 -

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

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	320
HCM Lane V/C Ratio	-	-	0.149
HCM Control Delay (s)	-	-	18.2
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.5

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	554	757	2	7	3
Future Vol, veh/h	15	554	757	2	7	3
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	16	583	797	2	7	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	801	0	-	0	1417 802
Stage 1	-	-	-	-	800 -
Stage 2	-	-	-	-	617 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	827	-	-	-	152 386
Stage 1	-	-	-	-	444 -
Stage 2	-	-	-	-	540 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	825	-	-	-	149 385
Mov Cap-2 Maneuver	-	-	-	-	287 -
Stage 1	-	-	-	-	435 -
Stage 2	-	-	-	-	539 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	17
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	825	-	-	-	311
HCM Lane V/C Ratio	0.019	-	-	-	0.034
HCM Control Delay (s)	9.4	-	-	-	17
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1



Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	549	758	28	2	1
Future Vol, veh/h	12	549	758	28	2	1
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	13	597	824	30	2	1

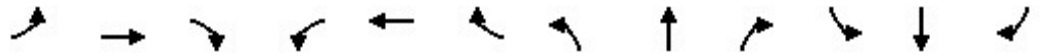
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	856	0	-	0	1466 843
Stage 1	-	-	-	-	841 -
Stage 2	-	-	-	-	625 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	788	-	-	-	142 365
Stage 1	-	-	-	-	425 -
Stage 2	-	-	-	-	536 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	786	-	-	-	139 364
Mov Cap-2 Maneuver	-	-	-	-	276 -
Stage 1	-	-	-	-	417 -
Stage 2	-	-	-	-	535 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	786	-	-	-	300
HCM Lane V/C Ratio	0.017	-	-	-	0.011
HCM Control Delay (s)	9.7	-	-	-	17.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0

HCM 6th Signalized Intersection Summary  
 5: 15th Street SE/Shopping Center & E Main

Existing PM Peak Hour  
 01/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	389	172	245	588	49	78	28	106	23	49	6
Future Volume (veh/h)	2	389	172	245	588	49	78	28	106	23	49	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		1.00	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1841	1885	1870	1870	1870	1856	1885	1856	1961	1961	1961
Adj Flow Rate, veh/h	2	418	185	263	632	0	84	30	0	25	53	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	4	1	2	2	2	3	1	3	1	1	1
Cap, veh/h	436	594	515	527	1123		292	55		163	162	16
Arrive On Green	0.32	0.32	0.32	0.14	0.60	0.00	0.12	0.12	0.00	0.12	0.12	0.12
Sat Flow, veh/h	800	1841	1595	1781	1870	1585	1124	449	1572	390	1322	132
Grp Volume(v), veh/h	2	418	185	263	632	0	114	0	0	84	0	0
Grp Sat Flow(s),veh/h/ln	800	1841	1595	1781	1870	1585	1573	0	1572	1844	0	0
Q Serve(g_s), s	0.1	8.0	3.6	3.4	8.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	8.0	3.6	3.4	8.2	0.0	2.6	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.74		1.00	0.30		0.07
Lane Grp Cap(c), veh/h	436	594	515	527	1123		347	0		341	0	0
V/C Ratio(X)	0.00	0.70	0.36	0.50	0.56		0.33	0.00		0.25	0.00	0.00
Avail Cap(c_a), veh/h	661	1111	963	914	1129		1048	0		1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	12.0	10.5	7.5	4.9	0.0	16.6	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.4	0.7	0.6	0.0	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	1.0	0.9	1.7	0.0	0.9	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	13.5	10.9	8.2	5.5	0.0	17.2	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	A	B	B	A	A		B	A		B	A	A
Approach Vol, veh/h		605			895			114			84	
Approach Delay, s/veh		12.7			6.3			17.2			16.6	
Approach LOS		B			A			B			B	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.2	18.6		10.5		29.9		10.5				
Change Period (Y+Rc), s	5.6	5.6		5.6		5.6		5.6				
Max Green Setting (Gmax), s	14.4	24.4		24.4		24.4		24.4				
Max Q Clear Time (g_c+I1), s	5.4	10.0		3.6		10.2		4.6				
Green Ext Time (p_c), s	0.5	2.8		0.4		3.7		0.5				

Intersection Summary

HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A






















Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
1: 5th Street SE/5th Street NE & E Main

ForecasY 2026 PM Peak Hour Without Project

01/11/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	252	38	192	537	102	21	201	89	226	459	34
Future Volume (veh/h)	14	252	38	192	537	102	21	201	89	226	459	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	2	5	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1811	1885	1885	1885	1870	1885	1856	1885	1885	1870	1885
Adj Flow Rate, veh/h	15	274	41	209	584	111	23	218	97	246	499	37
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
Percent Heavy Veh, %	1	6	1	1	1	2	1	3	1	1	2	1
Cap, veh/h	182	428	64	421	688	131	259	292	130	403	738	52
Arrive On Green	0.28	0.28	0.28	0.11	0.45	0.45	0.23	0.23	0.23	0.13	0.42	0.42
Sat Flow, veh/h	755	1538	230	1795	1539	292	876	1214	540	1795	1720	128
Grp Volume(v), veh/h	15	0	315	209	0	695	23	0	315	246	0	536
Grp Sat Flow(s),veh/h/ln	755	0	1768	1795	0	1831	876	0	1754	1795	0	1847
Q Serve(g_s), s	1.3	0.0	11.1	5.5	0.0	23.9	1.5	0.0	11.9	6.9	0.0	16.7
Cycle Q Clear(g_c), s	13.1	0.0	11.1	5.5	0.0	23.9	4.8	0.0	11.9	6.9	0.0	16.7
Prop In Lane	1.00		0.13	1.00		0.16	1.00		0.31	1.00		0.07
Lane Grp Cap(c), veh/h	182	0	492	421	0	818	259	0	422	403	0	792
V/C Ratio(X)	0.08	0.00	0.64	0.50	0.00	0.85	0.09	0.00	0.75	0.61	0.00	0.68
Avail Cap(c_a), veh/h	460	0	1136	498	0	1176	624	0	1127	440	0	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	23.0	15.8	0.0	18.0	25.3	0.0	25.4	17.6	0.0	17.1
Incr Delay (d2), s/veh	0.2	0.0	1.7	1.1	0.0	4.6	0.2	0.0	3.2	2.4	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.9
%ile BackOfQ(50%),veh/ln	0.2	0.0	4.7	2.2	0.0	10.3	0.3	0.0	5.1	3.1	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	0.0	24.7	16.9	0.0	22.6	25.5	0.0	28.5	20.5	0.0	19.2
LnGrp LOS	C	A	C	B	A	C	C	A	C	C	A	B
Approach Vol, veh/h		330			904			338			782	
Approach Delay, s/veh		24.9			21.3			28.3			19.6	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.1	24.2		34.6		36.3	13.5	21.1				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5		45.5		45.5	10.5	45.5				
Max Q Clear Time (g_c+I1), s	7.5	15.1		18.7		25.9	8.9	13.9				
Green Ext Time (p_c), s	0.2	2.6		4.6		5.9	0.2	2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				22.2								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	595	830	0	25	19
Future Vol, veh/h	0	595	830	0	25	19
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	0	647	902	0	27	21

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	1551 904
Stage 1	-	-	-	-	902 -
Stage 2	-	-	-	-	649 -
Critical Hdwy	-	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	0	-	-	0	126 337
Stage 1	0	-	-	0	398 -
Stage 2	0	-	-	0	522 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	126 336
Mov Cap-2 Maneuver	-	-	-	-	262 -
Stage 1	-	-	-	-	398 -
Stage 2	-	-	-	-	522 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	290
HCM Lane V/C Ratio	-	-	0.165
HCM Control Delay (s)	-	-	19.9
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.6

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	605	827	2	7	3
Future Vol, veh/h	15	605	827	2	7	3
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	16	637	871	2	7	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	875	0	-	0	1545 876
Stage 1	-	-	-	-	874 -
Stage 2	-	-	-	-	671 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	776	-	-	-	127 350
Stage 1	-	-	-	-	410 -
Stage 2	-	-	-	-	510 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	775	-	-	-	124 349
Mov Cap-2 Maneuver	-	-	-	-	260 -
Stage 1	-	-	-	-	401 -
Stage 2	-	-	-	-	509 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	775	-	-	-	282
HCM Lane V/C Ratio	0.02	-	-	-	0.037
HCM Control Delay (s)	9.7	-	-	-	18.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	600	828	28	2	1
Future Vol, veh/h	12	600	828	28	2	1
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	13	652	900	30	2	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	932	0	-	0	1597 919
Stage 1	-	-	-	-	917 -
Stage 2	-	-	-	-	680 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	738	-	-	-	118 330
Stage 1	-	-	-	-	391 -
Stage 2	-	-	-	-	505 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	737	-	-	-	115 329
Mov Cap-2 Maneuver	-	-	-	-	250 -
Stage 1	-	-	-	-	383 -
Stage 2	-	-	-	-	504 -

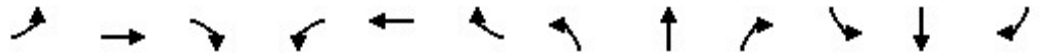
Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	737	-	-	-	272
HCM Lane V/C Ratio	0.018	-	-	-	0.012
HCM Control Delay (s)	10	-	-	-	18.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0

HCM 6th Signalized Intersection Summary  
5: 15th Street SE/Shopping Center & E Main

ForecasY 2026 PM Peak Hour Without Project

01/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	425	188	268	643	54	85	31	116	25	54	7
Future Volume (veh/h)	2	425	188	268	643	54	85	31	116	25	54	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		1.00	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1841	1885	1870	1870	1870	1856	1885	1856	1961	1961	1961
Adj Flow Rate, veh/h	2	462	204	291	699	0	92	34	0	27	59	8
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
Percent Heavy Veh, %	1	4	1	2	2	2	3	1	3	1	1	1
Cap, veh/h	420	625	542	516	1148		286	61		153	172	20
Arrive On Green	0.34	0.34	0.34	0.15	0.61	0.00	0.13	0.13	0.00	0.13	0.13	0.13
Sat Flow, veh/h	752	1841	1595	1781	1870	1585	1106	471	1572	364	1326	157
Grp Volume(v), veh/h	2	462	204	291	699	0	126	0	0	94	0	0
Grp Sat Flow(s),veh/h/ln	752	1841	1595	1781	1870	1585	1577	0	1572	1846	0	0
Q Serve(g_s), s	0.1	9.7	4.2	4.0	10.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	9.7	4.2	4.0	10.1	0.0	3.1	0.0	0.0	1.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.73		1.00	0.29		0.09
Lane Grp Cap(c), veh/h	420	625	542	516	1148		348	0		346	0	0
V/C Ratio(X)	0.00	0.74	0.38	0.56	0.61		0.36	0.00		0.27	0.00	0.00
Avail Cap(c_a), veh/h	585	1028	891	843	1148		969	0		1095	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.6	12.7	10.9	8.2	5.2	0.0	17.8	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.4	1.0	0.9	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	1.3	1.1	2.3	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	14.5	11.4	9.1	6.1	0.0	18.4	0.0	0.0	17.8	0.0	0.0
LnGrp LOS	A	B	B	A	A		B	A		B	A	A
Approach Vol, veh/h		668			990			126			94	
Approach Delay, s/veh		13.5			7.0			18.4			17.8	
Approach LOS		B			A			B			B	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.0	20.4		11.3		32.4		11.3				
Change Period (Y+Rc), s	5.6	5.6		5.6		5.6		5.6				
Max Green Setting (Gmax), s	14.4	24.4		24.4		24.4		24.4				
Max Q Clear Time (g_c+I1), s	6.0	11.7		3.9		12.1		5.1				
Green Ext Time (p_c), s	0.6	3.0		0.4		3.9		0.6				

Intersection Summary

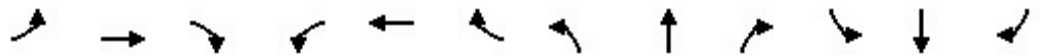
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
1: 5th Street SE/5th Street NE & E Main

ForecasY 2026 PM Peak Hour With Project  
01/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	259	38	195	544	105	21	201	92	229	459	34
Future Volume (veh/h)	14	259	38	195	544	105	21	201	92	229	459	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	2	5	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1811	1885	1885	1885	1870	1885	1856	1885	1885	1870	1885
Adj Flow Rate, veh/h	15	282	41	212	591	114	23	218	100	249	499	37
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
Percent Heavy Veh, %	1	6	1	1	1	2	1	3	1	1	2	1
Cap, veh/h	177	437	64	419	691	133	256	290	133	400	738	52
Arrive On Green	0.28	0.28	0.28	0.11	0.45	0.45	0.24	0.24	0.24	0.13	0.42	0.42
Sat Flow, veh/h	748	1545	225	1795	1535	296	876	1201	551	1795	1720	128
Grp Volume(v), veh/h	15	0	323	212	0	705	23	0	318	249	0	536
Grp Sat Flow(s),veh/h/ln	748	0	1769	1795	0	1831	876	0	1752	1795	0	1847
Q Serve(g_s), s	1.3	0.0	11.6	5.7	0.0	24.9	1.6	0.0	12.3	7.1	0.0	17.1
Cycle Q Clear(g_c), s	14.0	0.0	11.6	5.7	0.0	24.9	4.9	0.0	12.3	7.1	0.0	17.1
Prop In Lane	1.00		0.13	1.00		0.16	1.00		0.31	1.00		0.07
Lane Grp Cap(c), veh/h	177	0	501	419	0	824	256	0	423	400	0	792
V/C Ratio(X)	0.08	0.00	0.65	0.51	0.00	0.86	0.09	0.00	0.75	0.62	0.00	0.68
Avail Cap(c_a), veh/h	438	0	1110	490	0	1149	608	0	1100	430	0	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	23.4	16.0	0.0	18.4	26.0	0.0	26.0	18.1	0.0	17.5
Incr Delay (d2), s/veh	0.2	0.0	1.7	1.1	0.0	5.1	0.2	0.0	3.3	2.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.9
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.0	2.3	0.0	10.9	0.3	0.0	5.3	3.3	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	0.0	25.1	17.2	0.0	23.5	26.1	0.0	29.2	21.3	0.0	19.7
LnGrp LOS	C	A	C	B	A	C	C	A	C	C	A	B
Approach Vol, veh/h		338			917			341				785
Approach Delay, s/veh		25.3			22.0			29.0				20.2
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.3	25.0		35.3		37.2	13.7	21.6				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5		45.5		45.5	10.5	45.5				
Max Q Clear Time (g_c+I1), s	7.7	16.0		19.1		26.9	9.1	14.3				
Green Ext Time (p_c), s	0.2	2.7		4.6		5.8	0.1	2.7				

Intersection Summary

HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C



Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	620	839	0	29	24
Future Vol, veh/h	0	620	839	0	29	24
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	0	674	912	0	32	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	1588 914
Stage 1	-	-	-	-	912 -
Stage 2	-	-	-	-	676 -
Critical Hdwy	-	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	0	-	-	0	119 332
Stage 1	0	-	-	0	393 -
Stage 2	0	-	-	0	507 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	119 331
Mov Cap-2 Maneuver	-	-	-	-	255 -
Stage 1	-	-	-	-	393 -
Stage 2	-	-	-	-	507 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	285
HCM Lane V/C Ratio	-	-	0.202
HCM Control Delay (s)	-	-	20.8
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.7

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	53	596	811	61	32	28
Future Vol, veh/h	53	596	811	61	32	28
Conflicting Peds, #/hr	2	0	0	2	2	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	20	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	3	2	1	1	1
Mvmt Flow	58	648	882	66	35	30

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	950	0	-	0	1683 919
Stage 1	-	-	-	-	917 -
Stage 2	-	-	-	-	766 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	727	-	-	-	104 330
Stage 1	-	-	-	-	391 -
Stage 2	-	-	-	-	461 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	726	-	-	-	95 329
Mov Cap-2 Maneuver	-	-	-	-	227 -
Stage 1	-	-	-	-	359 -
Stage 2	-	-	-	-	460 -

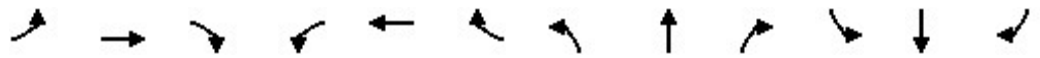
Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	726	-	-	-	227	329
HCM Lane V/C Ratio	0.079	-	-	-	0.153	0.093
HCM Control Delay (s)	10.4	-	-	-	23.7	17.1
HCM Lane LOS	B	-	-	-	C	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5	0.3

HCM 6th Signalized Intersection Summary  
5: 15th Street SE/Shopping Center & E Main

ForecasY 2026 PM Peak Hour With Project

01/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	436	192	268	653	54	90	31	116	25	54	7
Future Volume (veh/h)	2	436	192	268	653	54	90	31	116	25	54	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		1.00	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1841	1885	1870	1870	1870	1856	1885	1856	1961	1961	1961
Adj Flow Rate, veh/h	2	474	209	291	710	0	98	34	0	27	59	8
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
Percent Heavy Veh, %	1	4	1	2	2	2	3	1	3	1	1	1
Cap, veh/h	418	633	549	507	1149		292	60		152	179	21
Arrive On Green	0.34	0.34	0.34	0.14	0.61	0.00	0.13	0.13	0.00	0.13	0.13	0.13
Sat Flow, veh/h	744	1841	1595	1781	1870	1585	1123	445	1572	356	1335	157
Grp Volume(v), veh/h	2	474	209	291	710	0	132	0	0	94	0	0
Grp Sat Flow(s),veh/h/ln	744	1841	1595	1781	1870	1585	1568	0	1572	1849	0	0
Q Serve(g_s), s	0.1	10.1	4.4	4.1	10.5	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	10.1	4.4	4.1	10.5	0.0	3.3	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.74		1.00	0.29		0.09
Lane Grp Cap(c), veh/h	418	633	549	507	1149		351	0		352	0	0
V/C Ratio(X)	0.00	0.75	0.38	0.57	0.62		0.38	0.00		0.27	0.00	0.00
Avail Cap(c_a), veh/h	569	1008	873	825	1149		949	0		1075	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.6	12.9	11.0	8.4	5.3	0.0	18.0	0.0	0.0	17.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.4	1.0	1.0	0.0	0.7	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.7	1.3	1.1	2.5	0.0	1.2	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	14.7	11.5	9.4	6.4	0.0	18.7	0.0	0.0	18.0	0.0	0.0
LnGrp LOS	A	B	B	A	A		B	A		B	A	A
Approach Vol, veh/h		685			1001			132				94
Approach Delay, s/veh		13.7			7.2			18.7				18.0
Approach LOS		B			A			B				B
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.0	20.9		11.6		33.0		11.6				
Change Period (Y+Rc), s	5.6	5.6		5.6		5.6		5.6				
Max Green Setting (Gmax), s	14.4	24.4		24.4		24.4		24.4				
Max Q Clear Time (g_c+I1), s	6.1	12.1		4.0		12.5		5.3				
Green Ext Time (p_c), s	0.6	3.1		0.4		3.9		0.6				

Intersection Summary

HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection: 5: E Main & Central/East Access

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	57	51	51	49	79
Average Queue (ft)	23	3	3	25	28
95th Queue (ft)	51	29	23	52	66
Link Distance (ft)		106	540		202
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)	50			25	
Storage Blk Time (%)	1	0		22	5
Queuing Penalty (veh)	7	0		6	2

# TACO TIME PUYALLUP

## EAST MAIN STREET PUYALLUP, WA 98372

### PERMIT SET - 2.11.2022

#### PROJECT TEAM

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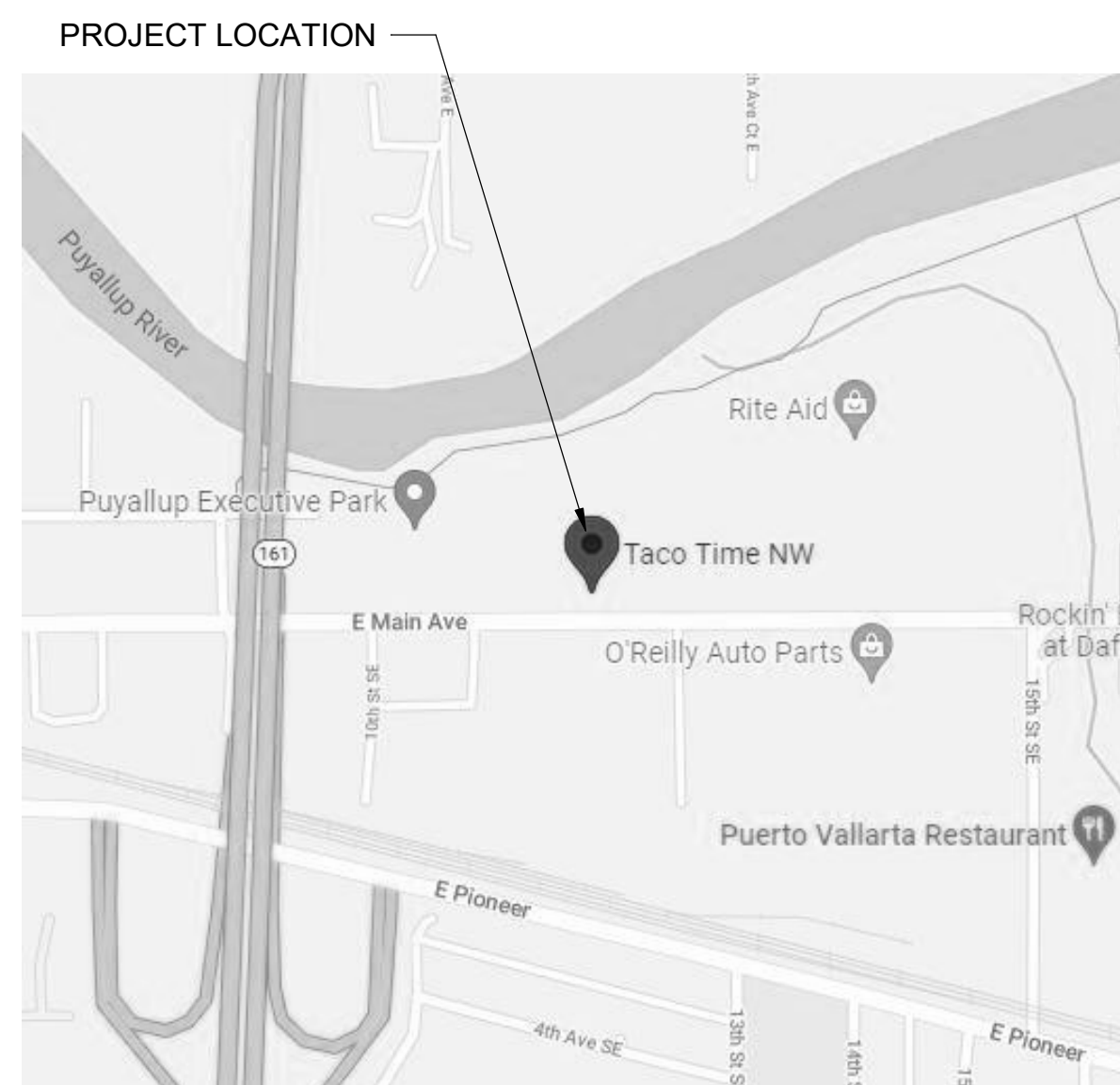
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#### VICINITY MAP



#### PROJECT INFORMATION

DESCRIPTION	CONSTRUCTION OF NEW TACO TIME WITH DRIVE THRU ON EXISTING SITE.
SITE ADDRESS	EAST MAIN STREET PUYALLUP, WA 98372
LEGAL DESCRIPTION	Section 27 Township 20 Range 04 Quarter 13 SPINNINGS FRANK R REPLAT PARCEL '2' OF DBLR 2003-05-28-5004 DESC AS FOLL S 163.57 FT OF E 124.06 FT OF L 4 & S 163.57 FT OF W 93.01 FT OF L 5 SUBJ TO TOG/W EASE, RESTRICT & RESERV OF REC OUT OF 003-1, 0 RTSQQ.
PARCEL NUMBERS	7845100032
ZONING	CG
JURISDICTION	CITY OF PUYALLUP
PROJECT SITE AREA	0.82 ACRES
UTILITY PURVEYORS	SEWER: WATER: ELECTRIC: GAS:
CODES UTILIZED	2018 INTERNATIONAL EXISTING BUILDING CODE W WAC AMMENDMENTS 2018 UNIFORM PLUMBING CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FUEL GAS CODE 2018 NATIONAL ELECTRIC CODE 2018 INTERNATIONAL ENERGY CONSERVATION CODE W/ WAC AMMENDMENTS CITY OF PUYALLUP
USE	COMMERCIAL
OCCUPANCY TYPE	A-2 ASSEMBLY
CONSTRUCTION TYPE	VB
SPRINKLERED	NO
NUMBER OF STORIES	1
BUILDING HEIGHT	23'-0" HEIGHT (40'-0" ALLOWED)
BUILDING AREA	2,975 SF (6,000 SF ALLOWED)

#### AIR BARRIER COMPLIANCE

- PERFORMANCE OF BUILDING AIR BARRIER COMPONENTS SHALL MEET THE AIR LEAKAGE REQUIREMENTS OF THE 2018 WSEC SECTION C402.4. THE BUILDING ENVELOPE SHALL BE TESTED ACCORDING TO THE REQUIREMENTS OF WSEC C402.5.1.2 AND AIR LEAKAGE SHALL NOT EXCEED 0.25 CFM/FT AT A PRESSURE DIFFERENTIAL OF 0.3" WATER GAUGE. A REPORT INCLUDING TESTED SURFACE AREA, FLOOR AREA, AIR BY VOLUME, STORIES ABOVE GRADE, AND AIR LEAKAGE RATES SHALL BE SUBMITTED TO THE BUILDING OWNER AND TO THE BUILDING OFFICIAL.
- INSTALL CONTINUOUS AIR BARRIER SYSTEM OVER THE ENTIRE EXTERIOR ENVELOPE (ROOFS, WALLS, AND FLOOR) SEPARATING THE INTERIOR CONDITIONED AIR FROM THE EXTERIOR UNCONDITIONED AIR WITH AN AIR LEAKAGE RATE NOT EXCEEDING 0.25 CFM/SF TO EXTERIOR ENVELOPE AREA AT 75 PA OR 0.3 WG. THE CONTINUOUS BUILDING AIR BARRIER SYSTEM INCLUDES AIR TIGHT CONNECTIONS TO ANY PENETRATIONS, WINDOWS, DOORS, LOUVERS, AND BETWEEN ADJACENT DIFFERENT TYPES OF AIR BARRIER FENESTRATIONS SHALL COMPLY WITH C402.5.1.

#### ARCHITECTURAL SYMBOLS

	PLAN NORTH		DETAIL CALLOUT - SECTION		CENTER LINE
	TRUE NORTH		DETAIL CALLOUT - PLAN		CUT LINE
	GRAPHIC SCALE SCALE: 1/8" = 1'-0"		DOOR NUMBER CALLOUT		SLOPE INDICATOR
	BUILDING SECTION		ROOM NAME/NUMBER		WALL TYPE CALLOUT
	WALL SECTION		CEILING HEIGHT		ROOF TYPE CALLOUT
	EXTERIOR ELEVATION		DATUM POINT		STOREFRONT TYPE CALLOUT
			ELEVATION MARKER		SHEET NOTE - DEMOLITION
					SHEET NOTE
					REVISION

#### PROJECT GENERAL NOTES

- ALL CONSTRUCTION SHALL COMPLY WITH THE 2017 INTERNATIONAL BUILDING CODE, THE AMERICANS WITH DISABILITIES ACT, AND ALL APPLICABLE LOCAL CODES, ORDINANCES, AND STANDARDS.
- DO NOT SCALE DRAWINGS. DIMENSIONS GOVERN. THE CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.
- WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK. IF QUESTIONS CANNOT BE RESOLVED IN THIS MANNER, CONTACT THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- AN APPROVED PUBLIC SAFETY KEY BOX SHALL BE INSTALLED ADJACENT THE MAIN ENTRANCE AND SHALL BE CLEARLY VISIBLE, MOUNTED WITHIN SIX FEET OF THE GRADE, AND APPROVED BY THE LOCAL JURISDICTION. THE KEY BOX SHALL CONTAIN KEYS THAT OPERATE THE ELEVATOR RECALL AND EMERGENCY OVERRIDE SYSTEMS. KEYS SHALL BE CLEARLY MARKED AS FOR WHAT DOOR, ROOM, AREA OR LOCK THEY SERVE. THE KEY BOX SHALL CONTAIN KEYS TO OPEN DOORS OR OTHER ACCESS MEANS AT THE FOLLOWING LOCATIONS:
  - THE MAIN ENTRANCE
  - ROOMS CONTAINING CONTROL VALVES FOR AUTOMATIC SPRINKLER SYSTEMS
  - ROOMS CONTAINING FIRE ALARM SYSTEM CONTROL PANELS
  - ROOMS CONTAINING ELEVATOR EQUIPMENT
  - ROOMS CONTAINING MAIN ELECTRICAL SERVICES PANELS
- WHERE DEVICES OR ITEMS OR PARTS THEREOF ARE REFERRED TO IN SINGULAR IT IS INTENDED THAT SUCH SHALL APPLY TO AS MANY SUCH DEVICES, ITEMS OR PARTS AS ARE REQUIRED TO PROPERLY COMPLETE THE WORK.
- FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.
- PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF GRAB BARS, DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.
- COORDINATE AND PROVIDE ALL BASE AND HOUSEKEEPING PADS FOR MECHANICAL PLUMBING AND ELECTRICAL EQUIPMENT.
- LOCATE ACCESS DOORS IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT PROPOSED LOCATIONS TO THE ARCHITECT FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.
- FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE AND TOPPING SLAB UNLESS OTHERWISE NOTED.
- COORDINATE EXACT SIZE AND PLACEMENT OF EQUIPMENT BEING PROVIDED.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE BUILDING STRUCTURE AND STRUCTURAL COMPONENTS UNTIL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
- FIRE BLOCKING AND SMOKE BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH 2017 INTERNATIONAL BUILDING CODE.

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#### SEPARATE / DEFERRED SUBMITTALS

<b>SEPARATE:</b>	<b>DEFERRED:</b>
CIVIL	
LANDSCAPE	
SIGNAGE	

#### ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	LL	LANDLORD
B.O.	BOTTOM OF	MAX	MAXIMUM
CG	CORNER GUARD	MDF	MEDIUM DENSITY FIBERBOARD
DS	DOWNSPOUT	MIN	MINIMUM
EQ	EQUAL	O.C.	ON CENTER
FV	FIELD VERIFY	OCC	OCCUPANT / OCCUPANCY
GA	GAUGE	SF	SQUARE FOOT / STOREFRONT
GWB	GYPSUM BOARD	T.O.	TOP OF

PROJECT:  
NEW CONSTRUCTION  
**TACO TIME**  
EAST MAIN STREET  
PUYALLUP, WA 98372

DATE	1.3.2022
BCRA NO.	19110.00.00
DRAWN BY:	
REVIEWED BY:	
SHEET TITLE	COVER

# CODE SUMMARY

**CURRENT ADOPTED CODES:**  
2018 INTERNATIONAL BUILDING CODE (IBC) WITH WAC AMMENDMENTS

**303.3 ASSEMBLY GROUP A-2.**  
GROUP A-2 OCCUPANCY INCLUDES ASSEMBLY USES INTENDED FOR FOOD AND/OR DRINK CONSUMPTION INCLUDING, BUT NOT LIMITED TO:  
• BANQUET HALLS  
• CASINOS (GAMING AREAS)  
• NIGHTCLUBS  
• RESTAURANTS, CAFETERIAS AND SIMILAR DINING FACILITIES (INCLUDING ASSOCIATED COMMERCIAL KITCHENS)  
• TAVERNS AND BARS

**MEANS OF EGRESS**  
**1004.5 AREAS WITHOUT FIXED SEATING.**  
THE NUMBER OF OCCUPANTS SHALL BE COMPUTED AT THE RATE OF ONE OCCUPANT PER UNIT OF AREA AS PRESCRIBED IN TABLE 1004.5. FOR AREAS WITHOUT FIXED SEATING, THE OCCUPANT LOAD SHALL BE NOT LESS THAN THAT NUMBER DETERMINED BY DIVIDING THE FLOOR AREA UNDER CONSIDERATION BY THE OCCUPANT LOAD FACTOR ASSIGNED TO THE FUNCTION OF THE SPACE AS SET FORTH IN TABLE 1004.5. WHERE AN INTENDED FUNCTION IS NOT LISTED IN TABLE 1004.5, THE BUILDING OFFICIAL SHALL ESTABLISH A FUNCTION BASED ON A LISTED FUNCTION THAT MOST NEARLY RESEMBLES THE INTENDED FUNCTION.

**1004.6 FIXED SEATING.**  
FOR AREAS HAVING FIXED SEATS AND AISLES, THE OCCUPANT LOAD SHALL BE DETERMINED BY THE NUMBER OF FIXED SEATS INSTALLED THEREIN. THE OCCUPANT LOAD FOR AREAS IN WHICH FIXED SEATING IS NOT INSTALLED, SUCH AS WAITING SPACES, SHALL BE DETERMINED IN ACCORDANCE WITH SECTION 1004.5 AND ADDED TO THE NUMBER OF FIXED SEATS.  
THE OCCUPANT LOAD OF WHEELCHAIR SPACES AND THE ASSOCIATED COMPANION SEAT SHALL BE BASED ON ONE OCCUPANT FOR EACH WHEELCHAIR SPACE AND ONE OCCUPANT FOR THE ASSOCIATED COMPANION SEAT PROVIDED IN ACCORDANCE WITH SECTION 1108.2.3.  
THE OCCUPANT LOAD OF SEATING BOOTHS SHALL BE BASED ON ONE PERSON FOR EACH 24 INCHES (610 MM) OF BOOTH SEAT LENGTH MEASURED AT THE BACKREST OF THE SEATING BOOTH.

**1004.9 POSTING OF OCCUPANT LOAD.**  
EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE, FOR THE INTENDED CONFIGURATIONS. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT.

**1005.3.2 OTHER EGRESS COMPONENTS.**  
THE CAPACITY, IN INCHES, OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH (5.1 MM) PER OCCUPANT.

**1005.5 DISTRIBUTION OF MINIMUM WIDTH AND REQUIRED CAPACITY.**  
WHERE MORE THAN ONE EXIT, OR ACCESS TO MORE THAN ONE EXIT, IS REQUIRED, THE MEANS OF EGRESS SHALL BE CONFIGURED SUCH THAT THE LOSS OF ANY ONE EXIT, OR ACCESS TO ONE EXIT, SHALL NOT REDUCE THE AVAILABLE CAPACITY OR WIDTH TO LESS THAN 50 PERCENT OF THE REQUIRED CAPACITY OR WIDTH.

**1006.2.1 EGRESS BASED ON OCCUPANT LOAD AND COMMON PATH OF EGRESS TRAVEL DISTANCE.**  
TWO EXITS OR EXIT ACCESS DOORWAYS FROM ANY SPACE SHALL BE PROVIDED WHERE THE DESIGN OCCUPANT LOAD OR THE COMMON PATH OF EGRESS TRAVEL DISTANCE EXCEEDS THE VALUES LISTED IN TABLE 1006.2.1. THE CUMULATIVE OCCUPANT LOAD FROM ADJACENT ROOMS, AREAS OR SPACES SHALL BE DETERMINED IN ACCORDANCE WITH SECTION 1004.2

**1007.1.1 TWO EXITS OR EXIT ACCESS DOORWAYS.**  
WHERE TWO EXITS, EXIT ACCESS DOORWAYS, EXIT ACCESS STAIRWAYS OR RAMPS, OR ANY COMBINATION THEREOF, ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS, THEY SHALL BE PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE-HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURED IN A STRAIGHT LINE BETWEEN THEM. INTERLOCKING OR SCISSOR STAIRWAYS SHALL BE COUNTED AS ONE EXIT STAIRWAY.  
**EXCEPTIONS:**  
2. WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE SEPARATION DISTANCE SHALL BE NOT LESS THAN ONE-THIRD OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED.

**1007.1.1.1 MEASUREMENT POINT.**  
THE SEPARATION DISTANCE REQUIRED IN SECTION 1007.1.1 SHALL BE MEASURED IN ACCORDANCE WITH THE FOLLOWING:  
1. THE SEPARATION DISTANCE TO EXIT OR EXIT ACCESS DOORWAYS SHALL BE MEASURED TO ANY POINT ALONG THE WIDTH OF THE DOORWAY.  
2. THE SEPARATION DISTANCE TO EXIT ACCESS STAIRWAYS SHALL BE MEASURED TO THE CLOSEST RISER.  
3. THE SEPARATION DISTANCE TO EXIT ACCESS RAMPS SHALL BE MEASURED TO THE START OF THE RAMP RUN.

**DOORS, GATES, AND TURNSTILES**  
**1010.1.9 DOOR OPERATIONS.**  
EXCEPT AS SPECIFICALLY PERMITTED BY THIS SECTION, EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.

**1010.1.9.1 HARDWARE.**  
DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE BY CHAPTER 11 SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE.

**1010.1.9.2 HARDWARE HEIGHT.**  
DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISHED FLOOR. LOCKS USED ONLY FOR SECURITY PURPOSES AND NOT USED FOR NORMAL OPERATION ARE PERMITTED AT ANY HEIGHT.

**1010.1.9.4 LOCKS AND LATCHES**  
LOCKS AND LATCHES SHALL BE PERMITTED TO PREVENT OPERATION OF DOORS WHERE ANY OF THE FOLLOWING EXIST:  
2. IN BUILDINGS IN OCCUPANCY GROUP A HAVING AN OCCUPANT LOAD OF 300 OR LESS, GROUPS B, F, M AND S, AND IN PLACES OF RELIGIOUS WORSHIP, THE MAIN DOOR OR DOORS ARE PERMITTED TO BE EQUIPPED WITH KEY-OPERATED LOCKING DEVICES FROM THE EGRESS SIDE PROVIDED:  
2.1. THE LOCKING DEVICE IS READILY DISTINGUISHABLE AS LOCKED.  
2.2. A READILY VISIBLY DURABLE SIGN IS POSTED ON THE EGRESS SIDE ON OR ADJACENT TO THE DOOR STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED". THIS SIGN SHALL BE IN LETTERS 1 INCH HIGH ON A CONTRASTING BACKGROUND.  
2.3. THE USE OF THE KEY-OPERATED LOCKING DEVICE IS REVOCABLE BY THE BUILDING OFFICIAL FOR DUE CAUSE.  
3. WHERE EGRESS DOORS ARE USED IN PAIRS, APPROVED AUTOMATIC FLUSH BOLTS SHALL BE PERMITTED TO BE USED, PROVIDED THAT THE DOOR LEAF HAVING THE AUTOMATIC FLUSH BOLTS DOES NOT HAVE A DOORKNOB OR SURFACE-MOUNTED HARDWARE.

**EXIT SIGNS**  
**1013.1 WHERE REQUIRED.**  
EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. THE PATH OF EGRESS TRAVEL TO EXITS AND WITHIN EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. INTERVENING MEANS OF EGRESS DOORS WITHIN EXITS SHALL BE MARKED BY EXIT SIGNS. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100 FEET OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN.  
**EXCEPTIONS:**  
2. MAIN EXTERIOR EXIT DOORS OR GATES THAT ARE OBVIOUSLY AND CLEARLY IDENTIFIABLE AS EXITS NEED NOT HAVE EXIT SIGNS WHERE APPROVED BY THE BUILDING OFFICIAL.

**1013.3 ILLUMINATION.**  
EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED  
**EXCEPTION:**  
1. TACTILE SIGNS REQUIRED BY SECTION 1013.4 NEED NOT BE PROVIDED WITH ILLUMINATION.

**1013.4 RAISED CHARACTER AND BRAILLE EXIT SIGNS.**  
A SIGN STATING EXIT IN VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE AND COMPLYING WITH ICC A117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, PROVIDING DIRECT ACCESS TO A STAIRWAY, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIT STAIRWAY OR RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE.

**1017.2 LIMITATIONS.**  
EXIT ACCESS TRAVEL DISTANCE SHALL NOT EXCEED THE VALUES GIVEN IN TABLE 1017.2.

**1017.3 MEASUREMENT.**  
EXIT ACCESS TRAVEL DISTANCE SHALL BE MEASURED FROM THE MOST REMOTE POINT OF EACH ROOM, AREA OR SPACE ALONG THE NATURAL AND UNOBSTRUCTED PATH OF HORIZONTAL AND VERTICAL EGRESS TRAVEL TO THE ENTRANCE TO AN EXIT.

**1029.7 TRAVEL DISTANCE.**  
THE EXIT ACCESS TRAVEL DISTANCE SHALL COMPLY WITH SECTION 1017. WHERE AISLES ARE PROVIDED FOR SEATING, THE DISTANCE SHALL BE MEASURED ALONG THE AISLES AND AISLE ACCESSWAYS WITHOUT TRAVEL OVER OR ON THE SEATS.

**1029.13.1 SEATING AT TABLES.**  
WHERE SEATING IS LOCATED AT A TABLE OR COUNTER AND IS ADJACENT TO AN AISLE OR AISLE ACCESSWAY, THE MEASUREMENT OF REQUIRED CLEAR WIDTH OF THE AISLE OR AISLE ACCESSWAY SHALL BE MADE TO A LINE 19 INCHES (483 MM) AWAY FROM AND PARALLEL TO THE EDGE OF THE TABLE OR COUNTER. THE 19-INCH (483 MM) DISTANCE SHALL BE MEASURED PERPENDICULAR TO THE SIDE OF THE TABLE OR COUNTER. IN THE CASE OF OTHER BOUNDARIES FOR AISLES OR AISLE ACCESSWAYS, THE CLEAR WIDTH SHALL BE MEASURED TO WALLS, EDGES OF SEATING AND TREAD EDGES.  
**EXCEPTION:**  
WHERE TABLES OR COUNTERS ARE SERVED BY FIXED SEATS, THE WIDTH OF THE AISLE OR AISLE ACCESSWAY SHALL BE MEASURED FROM THE BACK OF THE SEAT.

**1029.13.1.1 AISLE ACCESSWAY CAPACITY AND WIDTH FOR SEATING AT TABLES.**  
AISLE ACCESSWAYS SERVING ARRANGEMENTS OF SEATING AT TABLES OR COUNTERS SHALL COMPLY WITH THE CAPACITY REQUIREMENTS OF SECTION 1005.1 BUT SHALL NOT HAVE LESS THAN 12 INCHES (305 MM) OF WIDTH PLUS 1/2 INCH (12.7 MM) OF WIDTH FOR EACH ADDITIONAL 1 FOOT (305 MM), OR FRACTION THEREOF, BEYOND 12 FEET (3685 MM) OF AISLE ACCESSWAY LENGTH MEASURED FROM THE CENTER OF THE SEAT FARTHEST FROM AN AISLE.  
**EXCEPTION:**  
PORTIONS OF AN AISLE ACCESSWAY HAVING A LENGTH NOT EXCEEDING 6 FEET (1829 MM) AND USED BY A TOTAL OF NOT MORE THAN FOUR PERSONS.

**1103.2.2 EMPLOYEE WORK AREAS.**  
SPACES AND ELEMENTS WITHIN EMPLOYEE WORK AREAS SHALL ONLY BE REQUIRED TO COMPLY WITH SECTIONS 907.5.2.3.2, 1007 AND 1104.3.1 AND SHALL BE DESIGNED AND CONSTRUCTED SO THAT INDIVIDUALS WITH DISABILITIES CAN APPROACH, ENTER AND EXIT THE WORK AREA. WORK AREAS, OR PORTIONS OF WORK AREAS, OTHER THAN RAISED COURTROOM STATIONS IN ACCORDANCE WITH SECTION 1108.4.1.4, THAT ARE LESS THAN 300 SQUARE FEET (30 M<sup>2</sup>) IN AREA AND LOCATED 7 INCHES (178 MM) OR MORE ABOVE OR BELOW THE GROUND OR FINISHED FLOOR WHERE THE CHANGE IN ELEVATION IS ESSENTIAL TO THE FUNCTION OF THE SPACE SHALL BE EXEMPT FROM ALL REQUIREMENTS.

**1108.2.1 SERVICES.**  
IF A SERVICE OR FACILITY IS PROVIDED IN AN AREA THAT IS NOT ACCESSIBLE, THE SAME SERVICE OR FACILITY SHALL BE PROVIDED ON AN ACCESSIBLE LEVEL AND SHALL BE ACCESSIBLE.

**1108.2.2.1 GENERAL SEATING.**  
WHEELCHAIR SPACES SHALL BE PROVIDED IN ACCORDANCE WITH TABLE 1108.2.2.1.

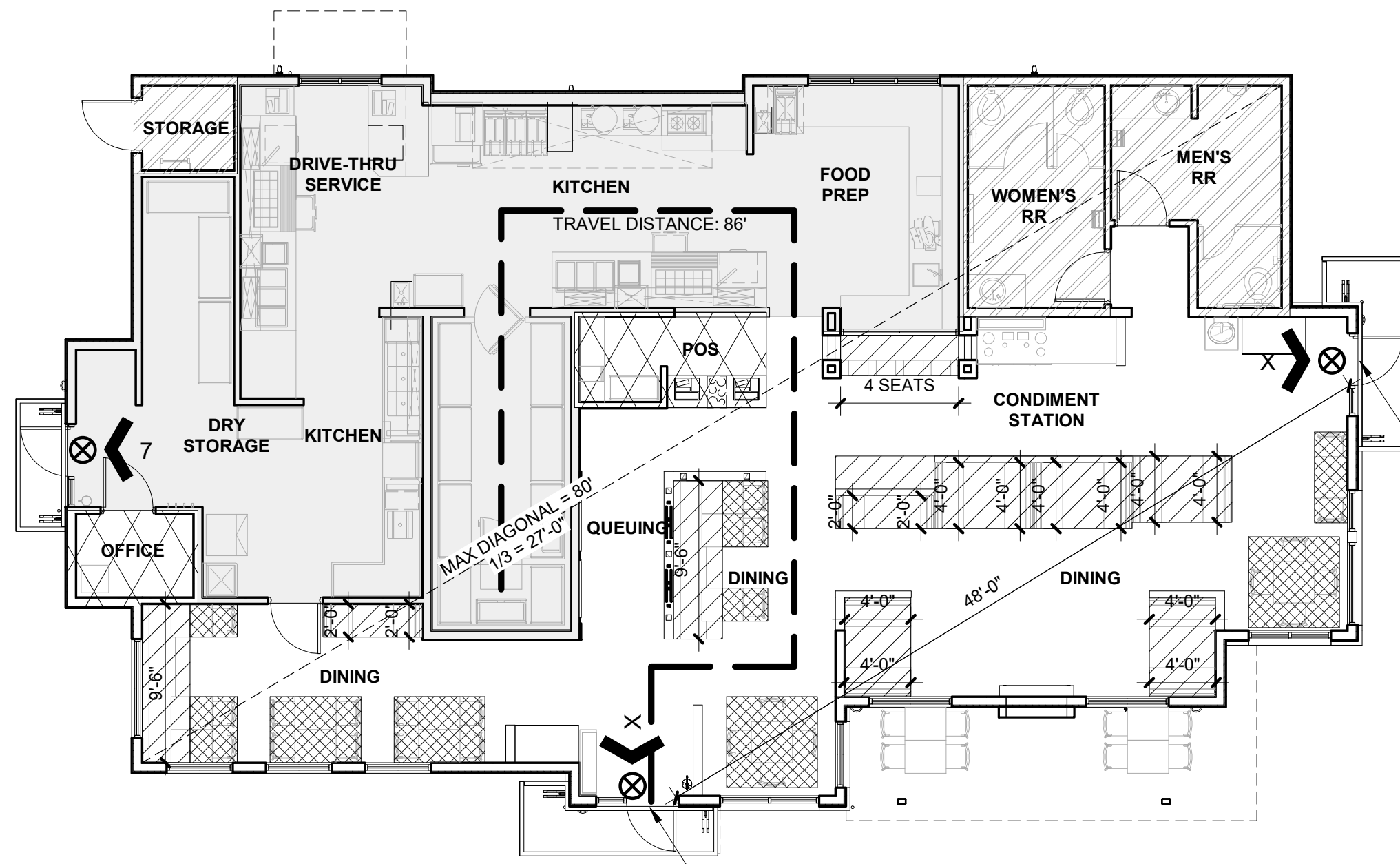
**1108.2.3 COMPANION SEATS.**  
AT LEAST ONE COMPANION SEAT SHALL BE PROVIDED FOR EACH WHEELCHAIR SPACE REQUIRED BY SECTIONS 1108.2.2.1 THROUGH 1108.2.2.3.

**1108.2.9 DINING AND DRINKING AREAS.**  
IN DINING AND DRINKING AREAS, ALL INTERIOR AND EXTERIOR FLOOR AREAS SHALL BE ACCESSIBLE AND BE ON AN ACCESSIBLE ROUTE.

**1108.2.9.1 DINING SURFACES.**  
WHERE DINING SURFACES FOR THE CONSUMPTION OF FOOD OR DRINK ARE PROVIDED, AT LEAST 5 PERCENT, BUT NOT LESS THAN ONE, OF THE DINING SURFACES FOR THE SEATING AND STANDING SPACES SHALL BE ACCESSIBLE AND BE DISTRIBUTED THROUGHOUT THE FACILITY AND LOCATED ON A LEVEL ACCESSED BY AN ACCESSIBLE ROUTE.

**[P] 2902.1 MINIMUM NUMBER OF FIXTURES.**  
PLUMBING FIXTURES SHALL BE PROVIDED IN THE MINIMUM NUMBER AS SHOWN IN TABLE 2902.1 BASED ON THE ACTUAL USE OF THE BUILDING OR SPACE. USES NOT SHOWN IN TABLE 2902.1 SHALL BE CONSIDERED INDIVIDUALLY BY THE CODE OFFICIAL. THE NUMBER OF OCCUPANTS SHALL BE DETERMINED BY THIS CODE.

**[P] 2902.1.1 FIXTURE CALCULATIONS.**  
TO DETERMINE THE OCCUPANT LOAD OF EACH SEX, THE TOTAL OCCUPANT LOAD SHALL BE DIVIDED IN HALF. TO DETERMINE THE REQUIRED NUMBER OF FIXTURES, THE FIXTURE RATIO OR RATIOS FOR EACH FIXTURE TYPE SHALL BE APPLIED TO THE OCCUPANT LOAD OF EACH SEX IN ACCORDANCE WITH TABLE 2902.1 FRACTIONAL NUMBERS RESULTING FROM APPLYING THE FIXTURE RATIOS OF TABLE 2902.1 SHALL BE ROUNDED UP TO THE NEXT WHOLE NUMBER. FOR CALCULATIONS INVOLVING MULTIPLE OCCUPANCIES, SUCH FRACTIONAL NUMBERS FOR EACH OCCUPANCY SHALL FIRST BE SUMMED AND THEN ROUNDED UP TO THE NEXT WHOLE NUMBER.



**MAXIMUM EXIT WIDTH REQUIRED**  
30 OCCUPANTS X 0.2' = 6"  
**EXIT WIDTH PROVIDED**  
32'

**MAXIMUM EXIT WIDTH REQUIRED**  
30 OCCUPANTS X 0.2' = 6"  
**EXIT WIDTH PROVIDED**  
32'

## LIFE SAFETY LEGEND

- BUSINESS  
150 GROSS
- COMMERCIAL KITCHEN  
200 GROSS
- NON-FIXED SEATING (UNCONCENTRATED)  
15 NET
- FIXED SEATING (BOOTH/COUNTER SEATING)  
1 OCC/24' LF (BOOTH) 1 OCC/SEAT (COUNTER)
- STORAGE OR ACCESSORY  
300 GROSS
- XX  
EXIT OCCUPANT LOAD - BUILDING
- ⊗  
EXIT LIGHT  
- REFER ALSO TO ELECTRICAL
- TRAVEL DISTANCE PATH
- ↗  
TRAVEL DISTANCE
- 30"x48" ADA CLEARANCE

## BUILDING CODE OCCUPANCY

BUILDING SQUARE FOOTAGE:	2,975 SF
OCCUPANCY CALC (PER IBC TABLE 1004.5)	
BUSINESS	112 SF / 150 = 1 OCC
COMMERCIAL KITCHEN	1,182 SF / 200 = 6 OCC
INTERIOR DINING (NON-FIXED SEATING)	149 SF / 15 = 10 OCC
INTERIOR DINING - BOOTH (FIXED SEATING)	73 LF / 2 = 37 OCC
INTERIOR DINING - COUNTER (SEAT COUNT)	= 4 OCC
RESTROOMS + STORAGE	296 SF / 300 = 2 OCC
<b>TOTAL INTERIOR OCCUPANT LOAD</b>	<b>= 60 OCC</b>
<b>PLUMBING FIXTURE OCCUPANT LOAD</b>	<b>60 BUILDING OCC</b>
<b>PLUMBING REQUIRED PER 2902.1:</b>	<b>PROVIDED:</b>
30 MALE OCC = 1 WATER CLOSET	1 WATER CLOSET
	1 URINAL
	= 1 LAVATORY
	1 LAVATORY
30 FEMALE OCC = 1 WATER CLOSET	2 WATER CLOSETS
	= 1 LAVATORY
	1 LAVATORY

## 1 LIFE SAFETY PLAN

1/8" = 1'-0"

**SITE PLAN GENERAL NOTES**

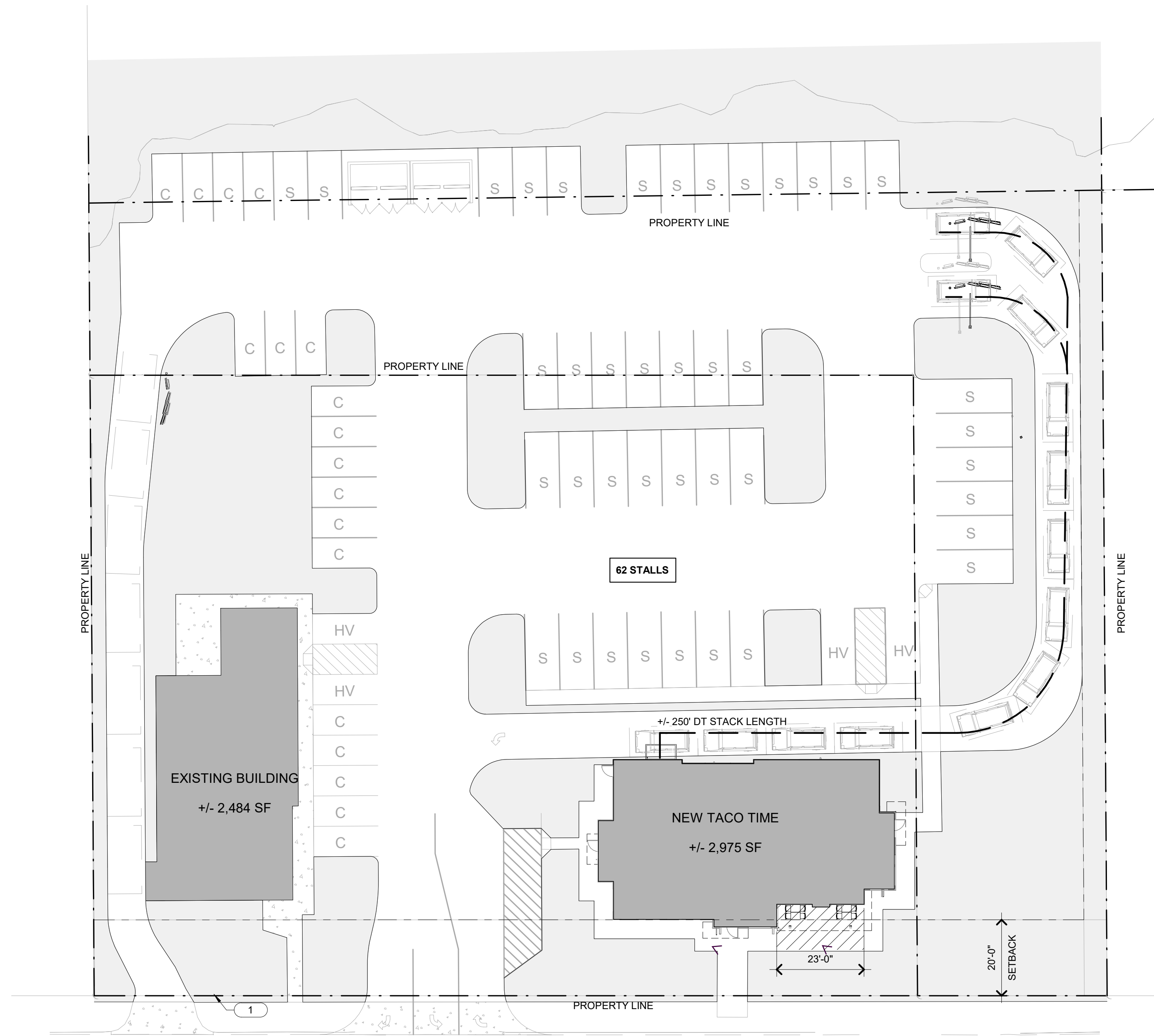
1. REFER TO CIVIL DRAWINGS FOR DEMOLITION OF EXISTING STRUCTURES AND SITE FEATURES.
2. REFER TO CIVIL DRAWINGS FOR ASPHALT PAVING AND CONCRETE SIDEWALK SECTIONS.
3. REFER TO CIVIL DRAWINGS FOR ALL SURFACING FEATURES, UTILITIES, GRADING, STORMWATER AND ELEVATIONS. ELEMENTS SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY.
4. REFER TO LANDSCAPE DRAWINGS FOR PLANTING AND IRRIGATION DESIGN.
5. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING AND EQUIPMENT DESIGN.

**SITE PLAN LEGEND**

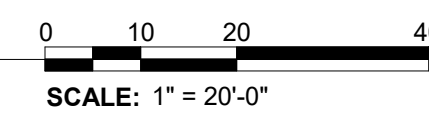
- OUTLINE OF STRUCTURE/OVERHANG ABOVE
- - - - - PROPERTY LINE
- █ LANDSCAPE AREA

**SITE PLAN SHEET NOTES**

- 1 PROPERTY LINE



1 SITE PLAN  
1" = 20'-0"



PROJECT:  
NEW CONSTRUCTION  
**TACO TIME**  
1115 EAST MAIN STREET  
PUYALLUP, WA 98372

REVISIONS

NO.	DATE	DESCRIPTION

DATE

7.1.2022

BCRA NO.

19110.00.00

DRAWN BY:

REVIEWED BY: Reviewer

SHEET TITLE

SITE PLAN