

City of Puyallup Traffic Scoping Worksheet

PROJECT INFORMATION

Project Title: Starbucks East Main Puyallup Date: 7/10/2024

Applicant Name: Heidi Kihlman, BCRA Design Telephone Number: 253-627-4367

Project Description: One 2,484 sf Coffee Shop w/ drive-thru Year of Occupancy: 2025

Project Location: 1115 E Main - PN: 7845100032 Parcel Size(s): 0.82

Proposed Number of Access Point(s): 3 Existing Number of Access Point(s): 3

Land Use	Quantity	ITE Land Use Code	Average Daily Trips	AM Peak Hour Trips*	PM Peak Hour Trips*
Existing Use: Taco Time					
LUC 934: Fast-Food Restaurant w/ Drive-Thru (primary trips only)	2.484 ksf	934	-550.7	-55.3	-36.9
Total Existing Primary Trips			-550.7	-55.3	-36.9
Proposed Use(s) – New Starbucks					
LUC 937: Coffee/Donut Shop w/ Drive-Thru (primary trips only)	2.484 ksf	937	661.6	106.5	48.3
Total Proposed Primary Trips			661.6	106.5	48.3
Net New Trips			+110.9	+51.2	+11.5
Traffic Impact Fees: Net New PM Peak Hour Trips x \$4,500 = \$51,750					

- * The project trips shall be rounded to the nearest tenth.
- * The project trips shall be estimated using the ITE's *Trip Generation*, 11th Edition.
- * Trip generation regression equations shall be used when the R² value is 0.70 or greater.
- * For land uses that do not exist within the ITE's *Trip Generation*, actual field data shall be collected from three local facilities that have similar characteristics to the proposal.
- * For single-family units and offices and specialty retail smaller than 30,000 SF, use ITE's *Trip Generation*, 11th Edition, average rate.

Identify all intersections that will be affected by 25 new project peak hour trips or more:

1. E Main & Project Accesses (2) 4. _____
2. _____ 5. _____

Prepared by: Traffic Engineer: Aaron Van Aken Telephone Number: 253-770-1401

Address: 1011 E Main, Suite 453, Puyallup, WA 98371 avanaken@heathtraffic.com

Office Use Only

TIS ☐ TAS ☐ TAIS ☐ No Further Work Required ☐

Checklist (Please make sure you have included the following information):

- ☒ Completed Worksheet ☒ Attach Site Plan ☒ Attach Trip Assignment ☒ Attach Trip Distribution
- ☒ Mail or hand deliver to 333 South Meridian, Puyallup, WA 98371 or e-mail to standle@ci.puyallup.wa.us

HEATH&ASSOCIATES

Transportation Planning & Engineering

Date: July 10, 2024

To: Bryan Roberts, P.E.
Traffic Engineer
City of Puyallup

From: Aaron Van Aken, P.E., PTOE

Subject: Starbucks East Main Puyallup – Scoping Memorandum

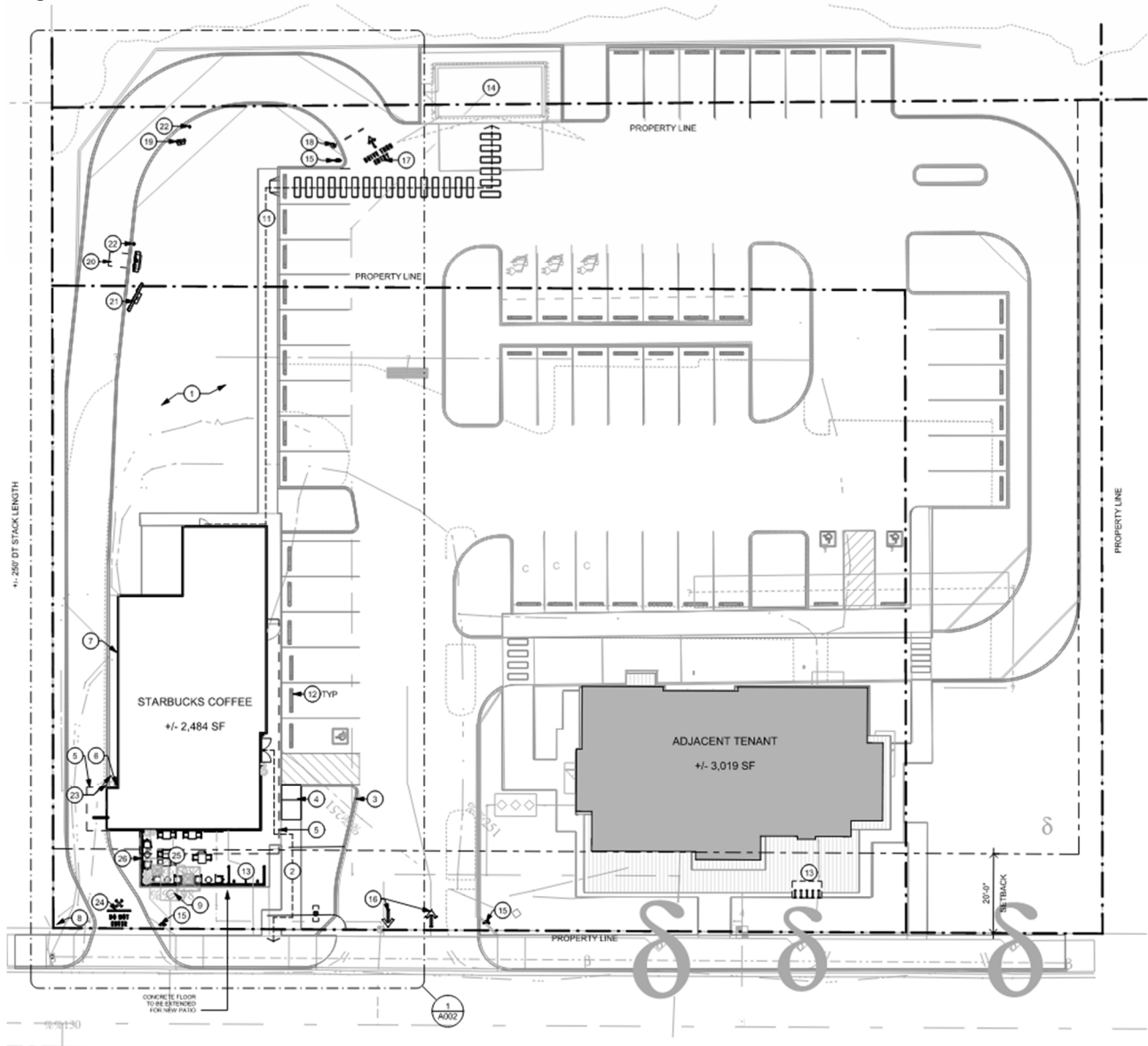
This memo provides the City of Puyallup with the trip generation and proposed scoping for converting an existing fast-food restaurant to a Starbucks facility.

PROJECT SUMMARY

Starbucks proposes renovating and occupying an existing 2,484 square foot (sf) building on the western portion of parcel 7845100032. Access to and from the site would remain as currently configured. The westernmost driveway will remain egress-only, for drivers leaving the drive-through. **Figure 1** shows the site vicinity. **Figure 2** shows the conceptual site plan.



Figure 2: Site Plan, Starbucks East Main



Shown above, the proposed tenant would utilize the existing Taco Time building located within the western portion of the site. Primary access is available via a central driveway and an exit only at the drive-through. An additional eastern driveway would also be available for secondary ingress and egress.



TRIP GENERATION

Trip generation is defined as the number of vehicle movements that enter or exit the prospective project site during a designated time period such as the PM peak hour or an entire day. The anticipated vehicle trip generation for the proposed project was derived from the Institute of Transportation Engineers (ITE) publication, *Trip Generation, 11th Edition*. The land use code used for the proposed project is defined under ITE's Land Use Code (LUC) 937 - Coffee/Donut Shop with Drive-Through. Per 1000 square feet was the input variable and ITE average rates applied to determine trip ends.

For the existing use, LUC 934 - Fast Food with Drive-through square feet as the input variable and ITE average rates to determine trip end. These trips are shown as negative trips in the trip generation table.

A portion of the trips produced by the development are anticipated to be pass-by trips. Pass-by trips are vehicles already traveling along the roadway whose drivers decide to make an intermediary stop before continuing to their primary destination. These trip types are common at coffee shop facilities and are not considered new to the city's system but do impact the site's driveways. **Table 1** below summarizes anticipated vehicular movements for the average weekday daily trips (AWDT) and the AM and PM peak hours. **Figure 3** depicts the estimated PM peak hour trip distribution¹ and assignment to and from the site.

Table 1: Trip Generation Summary

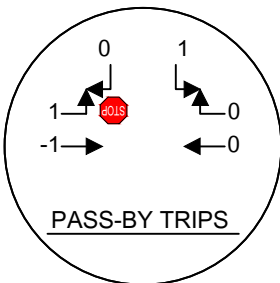
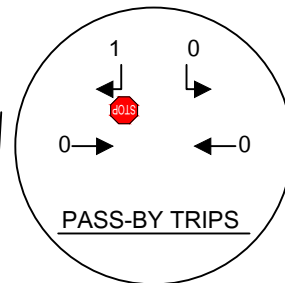
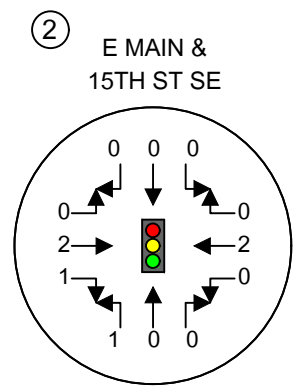
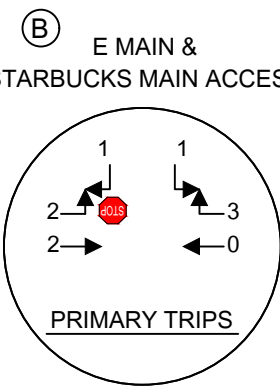
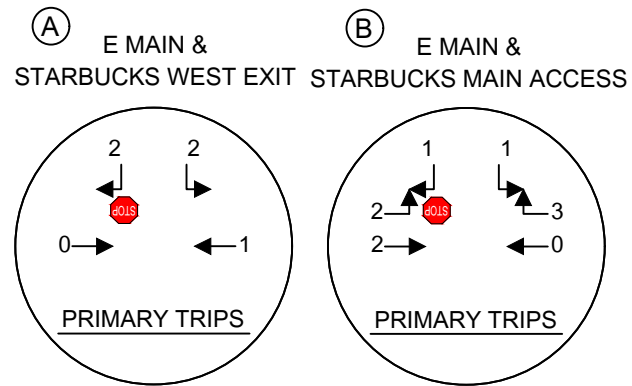
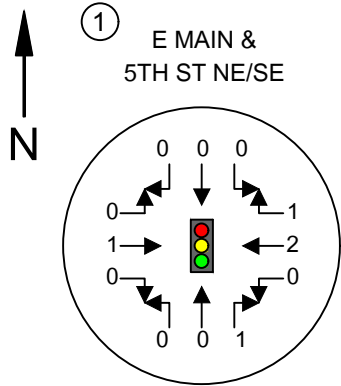
Land Use	Sq. Ft.	Trip Type	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
				In	Out	Total	In	Out	Total
<u>Future</u> Coffee Shop w/ DT (LUC 937)	2,484	Primary	662	54	52	106	24	24	48
		Pass-By ²	662	55	52	107	24	24	48
Total Trips LUC 937			1,324	109	104	213	48	48	96
<u>Existing (removed)</u> Fast-Food Rest w/ Drive Thru (LUC 934)	2,484	Primary	-551	-28	-27	-55	-19	-18	-37
		Pass-By ³	-609	-28	-27	-55	-23	-22	-45
Total Trips LUC 934			-1,160	-56	-54	-110	-42	-40	-82
Net New Primary Trips			111	26	25	51	5	6	11
Net New Pass-By Trips			53	27	25	52	1	2	3
Total Driveway Trips			164	53	50	103	6	8	14

¹ Based on the *Taco Time E Main TIA* (Jan. 2023)

² Per City direction -Pass-by percentage: 50%

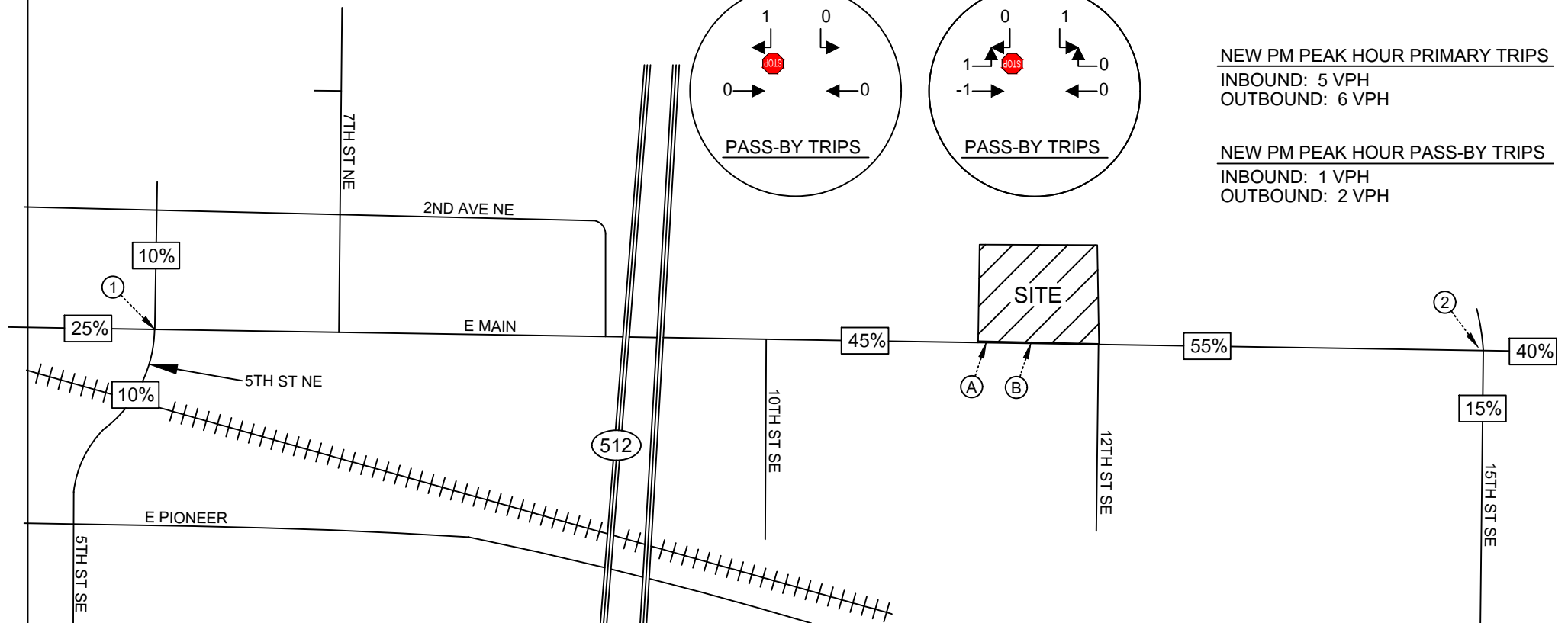
³ Pass-by Percentages are as follows per ITE data. AM - 50%, PM - 55%; AWDT average of 50% and 55% = 52.5%





NEW PM PEAK HOUR PRIMARY TRIPS
INBOUND: 5 VPH
OUTBOUND: 6 VPH

NEW PM PEAK HOUR PASS-BY TRIPS
INBOUND: 1 VPH
OUTBOUND: 2 VPH



CONCLUSION

Starbucks East Main Puyallup is a proposed reuse of an existing 2,484 sf fast-food restaurant building. The site is bordered by East Main Street to the south. The existing Taco Time restaurant will move to a new building co-located on-site. No changes to site access locations are proposed. The westernmost driveway is an exit only for the drive-through.

Based on ITE data and accounting for credit for the existing land use, the proposed project is estimated to generate 164 net new average weekday daily trips with 51 net new primary AM peak hour trips and 11 net new primary PM peak hour trips.

Please call if you require additional information.

Aaron Van Aken, PE, PTOE



STARBUCKS EAST MAIN PUYALLUP SCOPING MEMORANDUM

APPENDIX

ITE TRIP GENERATION - COFFEE/DONUT SHOP WITH DRIVE THROUGH



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

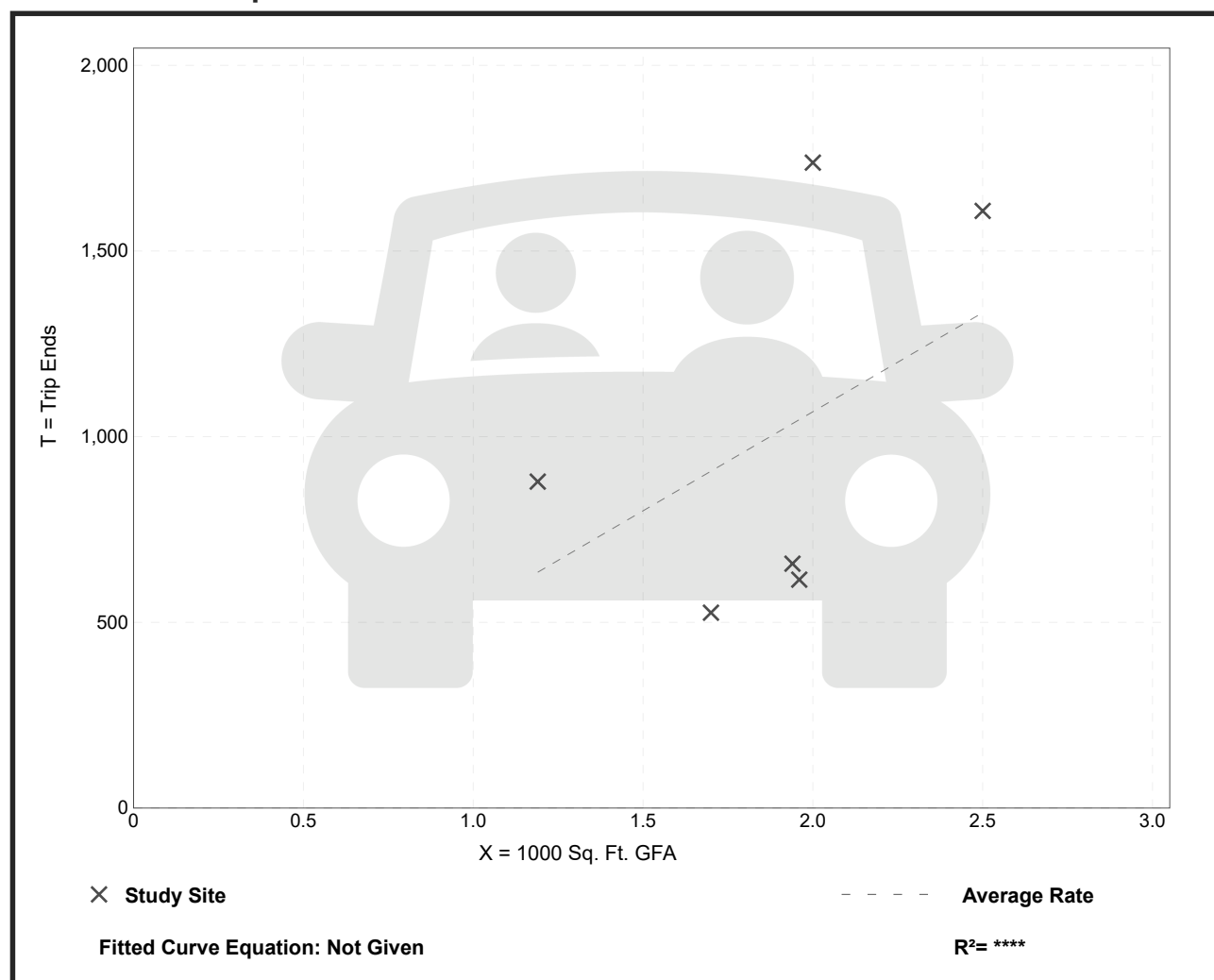
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

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

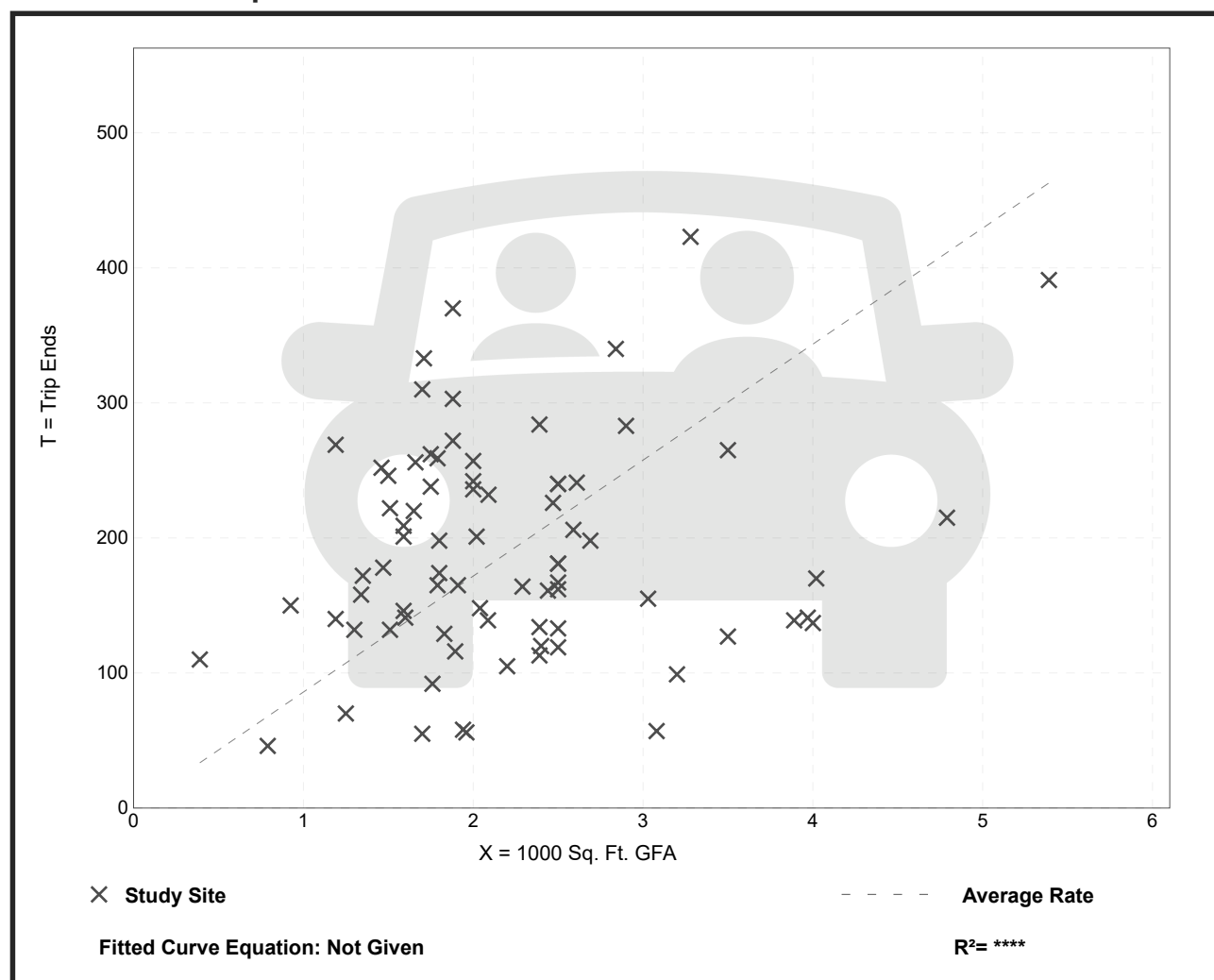
Avg. 1000 Sq. Ft. GFA: 2

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



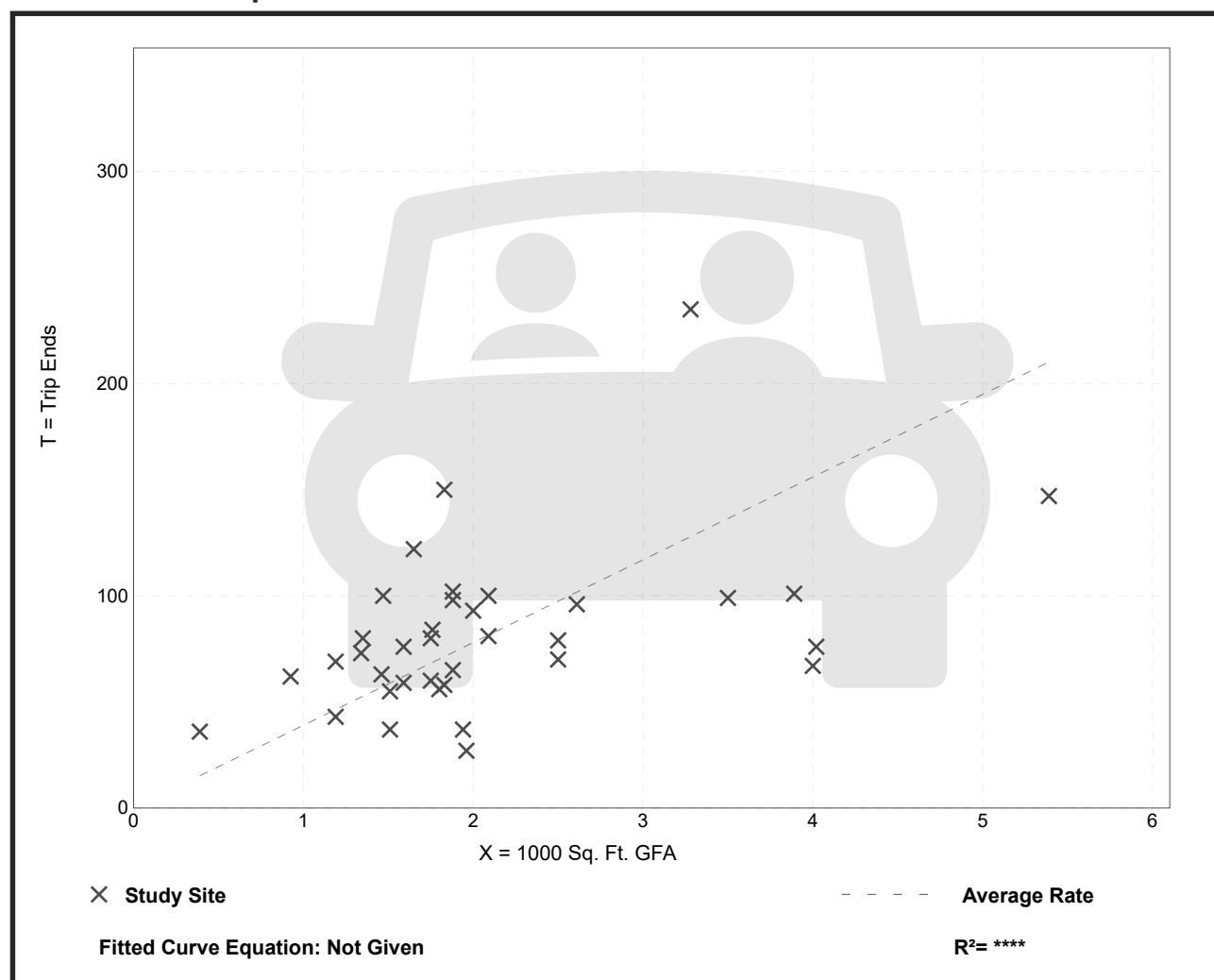
Coffee/Donut Shop with Drive-Through Window (937)

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



STARBUCKS EAST MAIN PUYALLUP SCOPING MEMORANDUM

APPENDIX

ITE TRIP GENERATION - FAST-FOOD RESTAURANT WITH DRIVE THROUGH



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

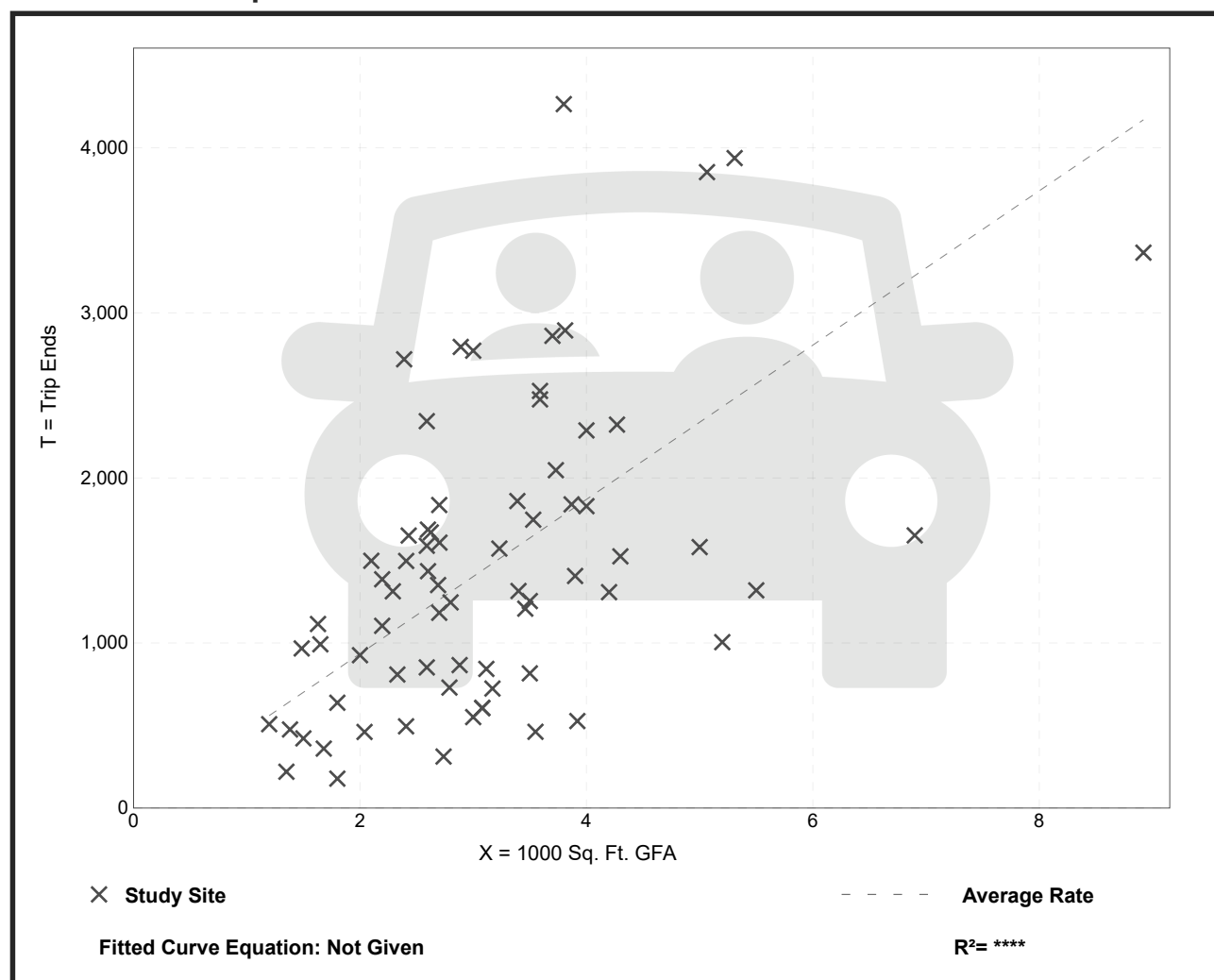
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

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



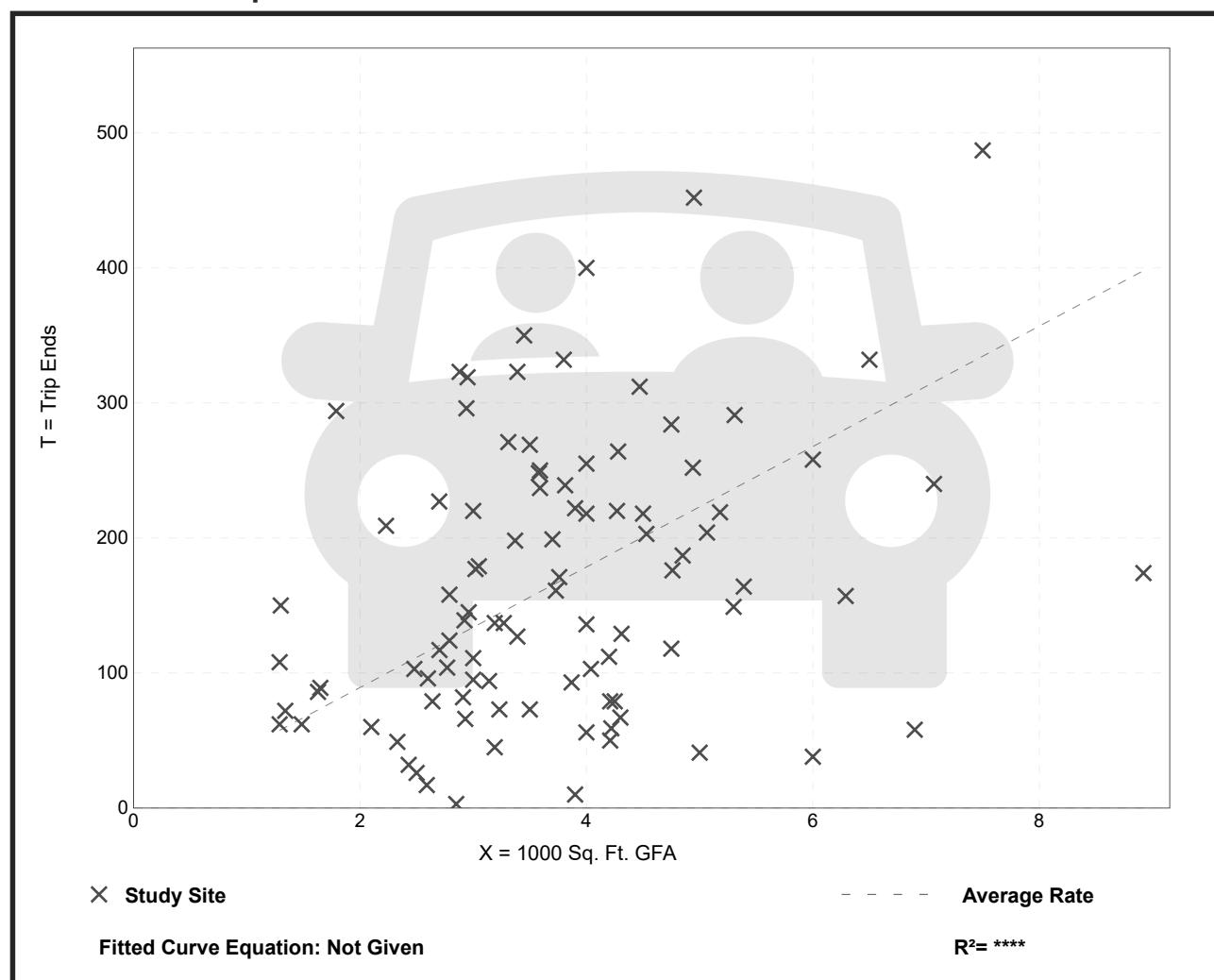
Fast-Food Restaurant with Drive-Through Window (934)

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



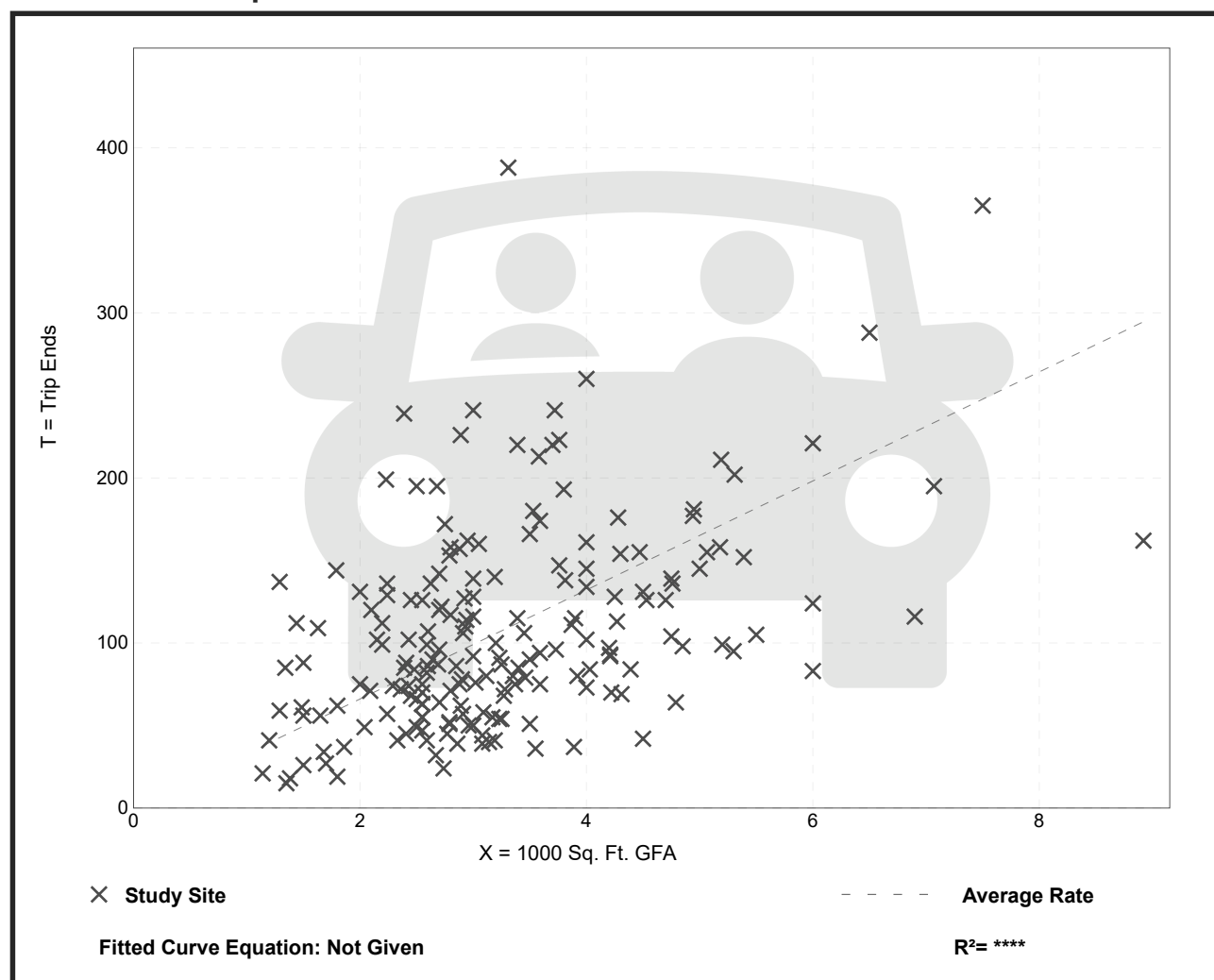
Fast-Food Restaurant with Drive-Through Window (934)

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



STARBUCKS EAST MAIN PUYALLUP SCOPING MEMORANDUM

APPENDIX ITE PASS-BY RATE INFORMATION



Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

[illegible]

Vehicle Pass-By Rates by Land Use									
Source: ITE Trip Generation Manual, 11th Edition									
Land Use Code	934								
Land Use	Fast-Food Restaurant with Drive-Through Window								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	11								
Average Pass-By Rate	55%								
	Pass-By Characteristics for Individual Sites								
GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour	Source
					Primary (%)	Diverted (%)	Total (%)		
1.3	Kentucky	1993	—	68	22	10	32	2055	2
1.9	Kentucky	1993	33	67	24	9	33	2447	2
2.8	Florida	1995	47	66	—	—	34	—	30
2.9	Florida	1996	271	41	41	18	59	—	30
3	Kentucky	1993	—	31	31	38	69	4250	2
3.1	Florida	1995	28	71	—	—	29	—	30
3.1	Florida	1996	29	38	—	—	62	—	30
3.2	Florida	1996	202	40	39	21	60	—	30
3.3	—	1996	—	62	—	—	38	—	21
4.2	Indiana	1993	—	56	25	19	44	1632	2



NOTE - SHOWS NEGATIVES FOR FAST FOOD BECAUSE EXISTING Land use TRIP CREDIT

Average Weekday Daily Trips																
Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Pass-by Trips				Primary Trips		
					In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total
EXISTING - Fast Food with Drive Through	934	1000 SF	2.48	467.48	50%	50%	-579.7	-579.7	-1159.4	52.5%	-304.3	-304.3	-608.7	-275.3	-275.3	-550.7
NEW - Coffee with Drive through	937	1000 sf	2.48	533.57	50%	50%	661.6	661.6	1323.3	50%	330.8	330.8	661.6	330.8	330.8	661.6
Net New							82.0	82.0	163.9		26.5	26.5	53.0	55.5	55.5	110.9

AM Peak Hour Trips																
Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Pass-by Trips				Primary Trips		
					In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total
EXISTING - Fast Food with Drive Through	934	1000 SF	2.48	44.61	51%	49%	-56.4	-54.2	-110.6	50%	-28.2	-27.1	-55.3	-28.2	-27.1	-55.3
NEW - Coffee with Drive through	937	1000 sf	2.48	85.88	51%	49%	108.6	104.4	213.0	50%	54.3	52.2	106.5	54.3	52.2	106.5
Net New							52.2	50.2	102.3		26.1	25.1	51.2	26.1	25.1	51.2

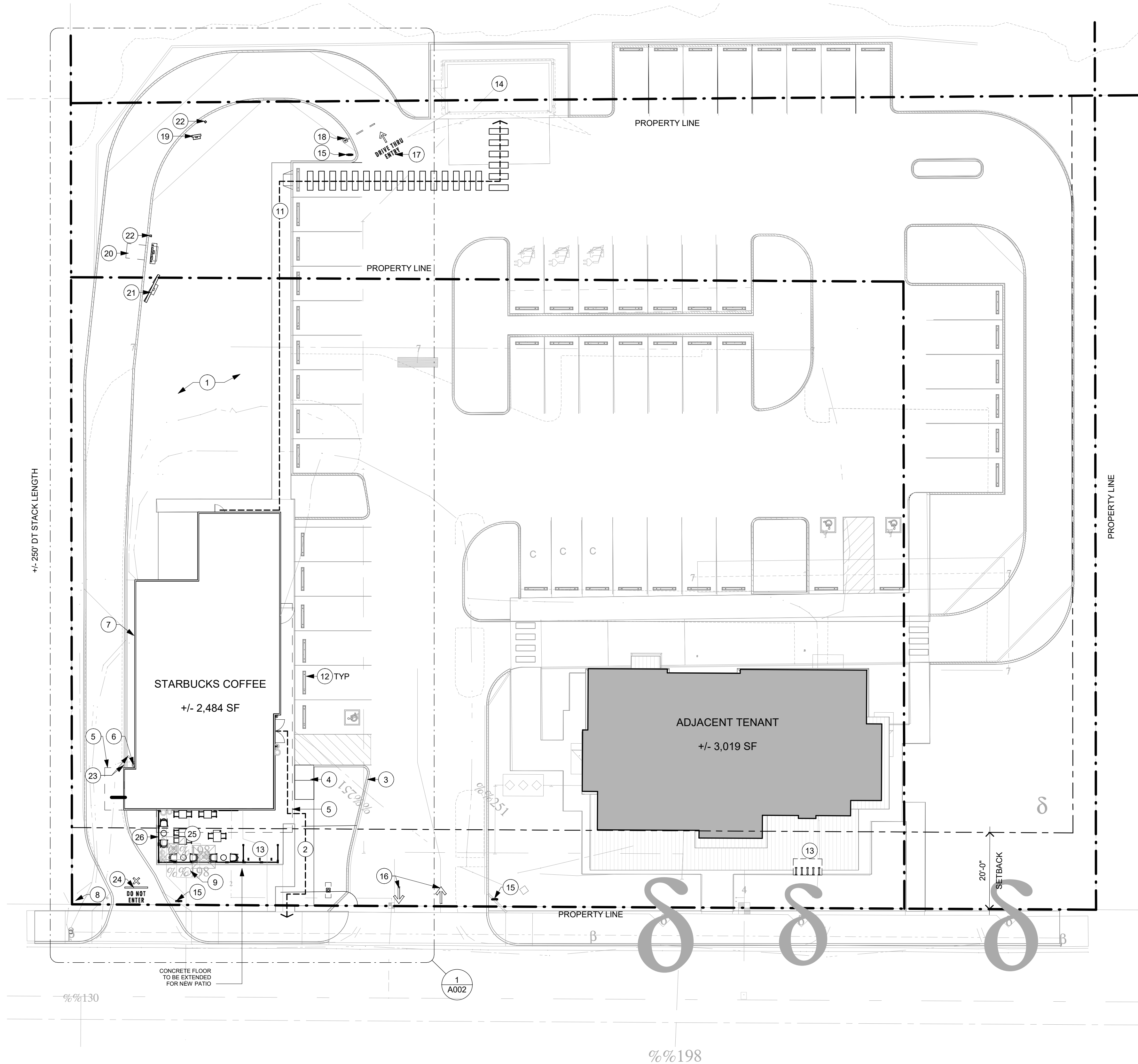
PM Peak Hour Trips																
Land Use	LUC	Variable	Value	Rate	Distribution		Total Trips			Pass-by Trips				Primary Trips		
					In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total
EXISTING - Fast Food with Drive Through	934	1000 SF	2.48	33.03	52%	48%	-42.6	-39.3	-81.9	55%	-23.4	-21.6	-45.1	-19.2	-17.7	-36.9
NEW - Coffee with Drive through	937	1000 sf	2.48	38.99	50%	50%	48.3	48.3	96.7	50%	24.2	24.2	48.3	24.2	24.2	48.3
Net New							5.8	9.0	14.8		0.7	2.5	3.3	5.0	6.5	11.5

Institute of Transportation Engineers, *Trip Generation Manual*, 11th Edition, (2021).
Pass-by rates were derived from the Institute of Transportation Engineers, 2021 Pass-By Tables for ITE Trip Gen Appendices (2021).

STARBUCKS EAST MAIN PUYALLUP SCOPING MEMORANDUM

APPENDIX CONCEPTUAL SITE PLAN





1 SITE PLAN
Scale: 1/16" = 1'-0"

KEYED NOTES

- LANDSCAPE AREA.
- ACCESSIBLE PATH OF TRAVEL.
- EXISTING 6" CONCRETE CURB, TYPICAL.
- EXISTING ACCESSIBLE STALL RAMP.
- NEW CANOPY (ABOVE).
- EXISTING GAS METER LOCATION.
- LOCATION OF EXISTING ELECTRICAL CABINET AND METER.
- LOCATION OF EXISTING POLE-MOUNTED TRANSFORMER. CONFIRM WITH UTILITY COMPANY.
- LOCATION OF EXISTING GREASE INTERCEPTOR.
- EXISTING SITE LIGHT POLE WITH LED LUMINAIRE.
- EXISTING PEDESTRIAN PATH TO TRASH ENCLOSURE.
- EXISTING WHEEL STOPS.
- EXISTING BIKE RACKS.
- EXISTING COVERED TRASH ENCLOSURE.
- NEW DIRECTIONAL DT MONUMENT SIGN.
- NEW DIRECTIONAL ARROW WAYFINDING GROUND GRAPHIC.
- NEW "DRIVE THRU ENTRY" WAYFINDING GROUND GRAPHIC.
- NEW DT CLEARANCE BAR.
- NEW DT PRE-MENU.
- NEW DIGITAL ORDER SCREEN WITH CANOPY.
- NEW MENU BOARD.
- NEW NON-ILLUMINATED BOLLARD. SEE DETAILS ON SHEET A50.
- EXISTING NON-ILLUMINATED BOLLARD.
- NEW "DO NOT ENTER" GROUND GRAPHIC.
- PATIO FURNITURE.
- PATIO RAILING.

GENERAL NOTES

- REFER TO EXTERIOR ELEVATIONS ON SHEET A201 FOR BUILDING SIGNAGE LOCATION AND DESIGN ID. REFER TO ELECTRICAL PLANS FOR ELECTRICAL REQUIREMENTS.
- LANDSCAPING TO BE PROVIDED PER ZONING CODE AND SUSTAINABILITY REQUIREMENTS.
- DRIVE-THRU EQUIPMENT INCLUDING VEHICLE DETECTION LOOP, WIRELESS COMMUNICATION AND MONITORS SHALL BE COORDINATED BY STARBUCKS CONSTRUCTION MANAGER. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE 6" (150MM) THICK CONCRETE PAVING THE LENGTH OF THE DRIVE-THRU LANE, EXTENT TO INCLUDE DRIVE-THRU ENTRY POINT THROUGH WINDOW STANDING PAD.
- GENERAL CONTRACTOR TO APPLY CONCRETE SEALER TO ALL EXTERIOR CONCRETE PATIO AND WALKWAY SURFACES.
- GENERAL CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS AND BUILDING CONDITIONS IN FIELD PRIOR TO START OF CONSTRUCTION.
- PROVIDE DETECTABLE WARNING (IF APPLICABLE PER LOCAL CODE) AT TRANSITION FROM SIDEWALK TO DRIVE AISLE.
- ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL HAVE SURFACE SLOPE NOT TO EXCEED 2% IN ALL DIRECTIONS.
- REFER TO ELECTRICAL DRAWINGS FOR SITE RELATED ELECTRICAL WORK.
- SCRAPE AND REPAINT ALL EXISTING PAINTED SITE FEATURES, INCLUDING, BUT NOT LIMITED TO CURBS, BOLLARDS, RAILINGS AND SITE LIGHTING BASES.
- SEE SHEET A002 FOR ARCHITECTURAL SITE DETAILS.

LEGEND

- LANDSCAPED AREA
- NEW CONCRETE WALKWAY
- NEW 6" (150MM) CONCRETE CURB
- CONCRETE DRIVE THRU LANE
- ACCESSIBLE PATH OF TRAVEL



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PROJECT NAME:
E MAIN AVE - PUYALLUP

PROJECT ADDRESS:
**1115 E MAIN STREET
PUYALLUP WA 98372**

STORE #: 81611
PROJECT #: 101250-001
ISSUE DATE: 05-06-2024
DESIGN MANAGER: N BARKER
PRODUCTION DESIGNER: -
CHECKED BY: -

Revision Schedule			
Rev	Date	By	Description

SHEET TITLE:
ARCHITECTURAL SITE PLAN

SCALE: AS SHOWN

SHEET NUMBER:

A001