



Engineering & Planning, Inc.

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(772) 286-8030 • www.mackenzieengineeringinc.com

To: City of Port St. Lucie Planning and Zoning Development

From: Shaun G. MacKenzie, P.E.

Date: Revised December 12, 2023

Re: Tradition Town Center – Mobility Hub
Traffic Statement (P21 - 213)

MacKenzie Engineering and Planning, Inc. performed an analysis of the traffic impacts resulting from Tradition Town Center – Mobility Hub. The project is located at the Tradition Town Center and proposes 29,622 SF of commercial use in addition to the existing 9,966 SF Tradition Town Hall and 750 SF adjacent commercial building. The existing and proposed use is shown in Table 1.

Table 1. Existing and Proposed Mobility Hub Use

Use	Existing (SF)	Proposed (SF)	Change (SF)
Town Hall	9,966	9,966	0
Commercial	750	30,372	29,622
Total	10,716	40,338	29,622

TRAFFIC GENERATION

Traffic Generation

The proposed buildout uses trip generation rates for Church (ITE Land Use 560) and Strip Retail Plaza (<40k) (ITE Land Use 822) published in the Institute of Transportation Engineers' (ITE) report, *Trip Generation (11th Edition)*. Table 2 presents the proposed project's peak hour of trip generation. The peak hour of each use likely peaks at different times but is conservatively totaled to show the peak hour of generation.

Existing Use

- 9,966 SF Town Hall (ITE Land Use 560 – Church)
- 750 SF Commercial Building (ITE Land Use 822 – Strip Retail)

The existing land use will generate the following net new external trips:

- 262 daily, 11 AM peak hour (6 in/5 out), and 14 PM peak hour (8 in/6 out) trips.

The existing land use will generate the following cumulative driveway trips:

- 366 daily, 13 AM peak hour (7 in/6 out), and 18 PM peak hour (10 in/8 out) trips.

Proposed Use

- 9,966 SF Town Hall (ITE Land Use 560 – Church)
- 30,372 SF Retail (ITE Land Use 822 – Strip Retail Plaza (<40k))

The proposed land use will generate the following net new external trips:

- 1,012 daily, 146 AM peak hour (74 in/72 out), and 249 PM peak hour (135 in/114 out)

The proposed land use will generate the following cumulative driveway trips:

- 1,616 daily, 238 AM peak hour (120 in/118 out), and 410 PM peak hour (222 in/188 out)

Net Impact

The difference between the maximum trip generation potential of the existing land use and the proposed land use was examined to determine the maximum (worst case/conservative) impact to the existing and future roadway network.

The resulting net external trips change is:

- 750 daily, 135 AM peak hour (68 in/67 out), and 235 PM peak hour (127 in/108 out)

Internal Capture

The internal trip capture rate is conservatively set at 0.

Pass-by Trip Capture

The study conservatively uses a pass-by trip capture rate of 40 percent consistent with shopping center land use in ITE's report *Trip Generation, 11th Edition*.

Table 2. Trip Generation

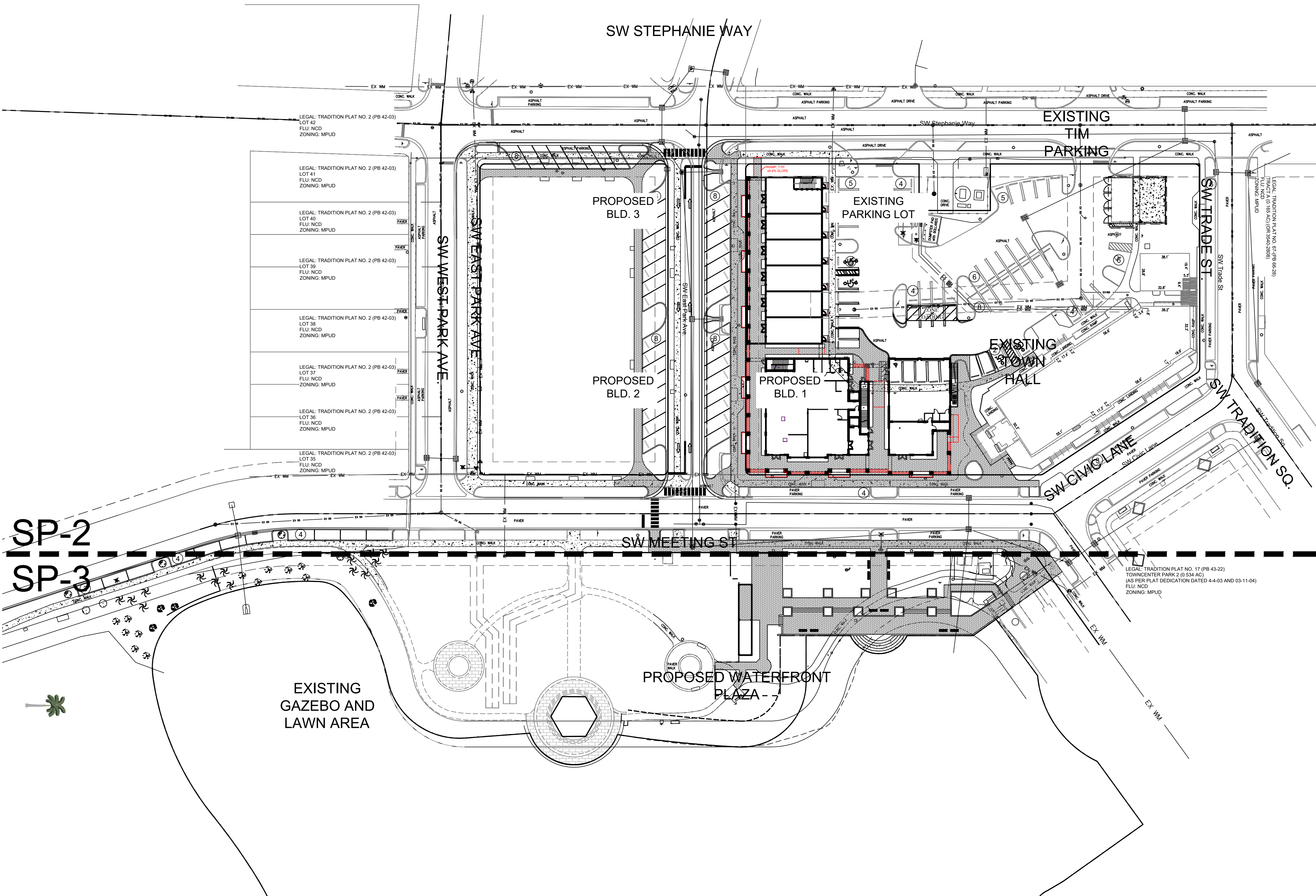
Tradition Town Center - Mobility Hub									
Trip Generation - Peak Hour of Generator									
Land Use	Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing Site Traffic									
Town Hall	9.966	1000 SF	105	7	4	3	8	5	3
Retail/Office	0.750	1000 SF	261	6	3	3	10	5	5
Subtotal	10.716		366	13	7	6	18	10	8
Pass-By Traffic									
Strip Retail Plaza (<40k)	40%		104	2	1	1	4	2	2
NET EXISTING TRIPS			262	11	6	5	14	8	6
Total Existing Driveway Volumes			366	13	7	6	18	10	8
Proposed Site Traffic									
Town Hall	9.966	1000 SF	105	7	4	3	8	5	3
Strip Retail Plaza (<40k)	30.372	1000 SF	1,511	231	116	115	402	217	185
Subtotal			1,616	238	120	118	410	222	188
Pass-By Traffic									
Strip Retail Plaza (<40k)	40.0%		604	92	46	46	161	87	74
NET PROPOSED TRIPS			1,012	146	74	72	249	135	114
Total Proposed Driveway Volumes			1,616	238	120	118	410	222	188
NET CHANGE IN TRIPS (FOR THE PURPOSES OF CONCURRENCY)			750	135	68	67	235	127	108
NET CHANGE IN DRIVEWAY VOLUMES			1,250	225	113	112	392	212	180
Note: Trip generation was calculated using the following data:									
Land Use	ITE Code	Unit	Daily Rate	Pass-by Rate	AM Peak Hour		PM Peak Hour		
					in/out	Rate	in/out	Equation	
Church	560	1000 SF	T = 5.40 (X) + 50.83	0%	55/45	0.68	59/41	0.8	
Strip Retail Plaza (<40k)	822	1000 SF	T = 42.20 (X) + 229.68	40%	50/50	7.60	54/46	13.24	
<i>ITE 11th Edition</i>									
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Shaun G. MacKenzie
Florida P.E. 61751
CA#29013

LEGAL: TRADITION PLAT NO. 2 (PB 42-03)
LOT 49
FLU: NCD
ZONING: MPUD

LEGAL: TRADITION PLAT NO. 2 (PB 42-03)
TRACT P-6 (0.80 AC) (AS PER PLAT DEDICATION DATED 4-4-03)
FLU: NCD
ZONING: MPUD

LEGAL: TRADITION PLAT NO. 13 (PB 43-20)
PARCELS 4 & 5 (LESS BLDGS 1 THRU 8 OF PROMENADE AT TRADITION NO. 1 THRU 4 (0.099 AC - 134,992 SF))
FLU: NCD
ZONING: MPUD



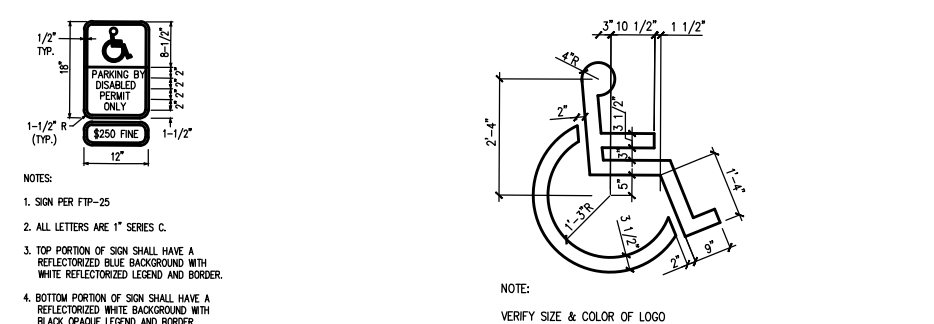
SP-2
SP-3

Water and Sewer Statement

POTABLE WATER AND FIRE PROTECTION SHALL BE PROVIDED VIA PROPOSED CONNECTION TO THE EXISTING WATER MAIN FACILITIES AVAILABLE TO THE SITE. THE WASTEWATER COLLECTION SYSTEM SHALL BE A GRAVITY SYSTEM, CONNECTED TO AN EXISTING REGIONAL LIFT STATION. THE UTILITY PROVIDED IS THE CITY OF PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT.

Drainage Statement

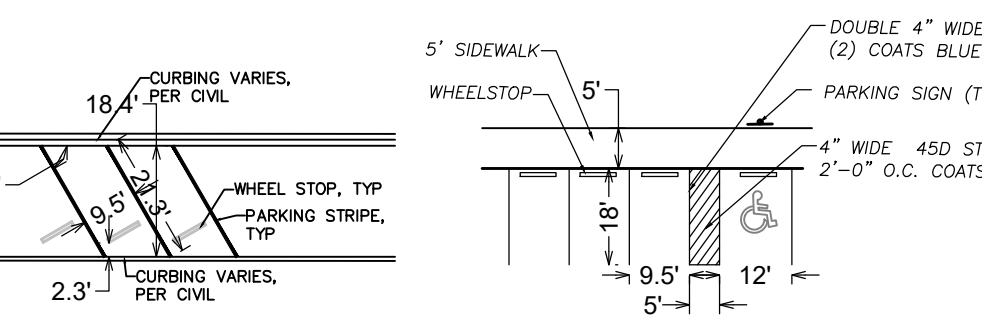
THE PROPOSED SURFACE WATER MANAGEMENT SYSTEM FOR THE FACILITY WILL BE A SERIES OF INLETS AND CULVERTS WITH EXFILTRATION TRENCH, PROVIDING A 3" OF WATER PRE-TREATMENT WHICH WILL THEN DISCHARGE INTO THE MASTER SURFACE WATER MANAGEMENT SYSTEM FOR THE TRADITION DEVELOPMENT.



ACCESSIBLE SIGN Scale: nts
HANDICAP LOGO Scale: nts

Legal Description

TRADITION PLAT NO. 17 (PB 43-22) PARCEL 1.
TRADITION PLAT NO. 2 (PB 42-03) TRACT P-6 (0.80 AC) (AS PER PLAT DEDICATION DATED 4-4-03)
TRADITION PLAT NO. 17 (PB 43-22) TOWNCENTER PARK 1 (1.371 AC) (AS PER PLAT DEDICATION DATED 4-4-03 AND 3-11-04)



TYPICAL PARKING AND HANDICAP SPACE DETAILS Scale: nts

Traffic Statement

Traffic Generation
The proposed buildout uses trip generation rates for Church (ITE Land Use 560) and Strip Retail Plaza (+40k) (ITE Land Use 822) published in the Institute of Transportation Engineers (ITE) report, Trip Generation (11th Edition). Table 2 presents the proposed project's peak hour of trip generation. The peak hour of each use likely peaks at different times but is conservatively detailed to show the peak hour of generation.

- Existing Use**
- 10,716 SF Town Hall (ITE Land Use 560 - Church)
 - 750 SF Commercial Building (ITE Land Use 822 - Strip Retail)
- The existing land use will generate the following net new external trips:
- 262 daily, 11 AM peak hour (6 in/5 out), and 14 PM peak hour (8 in/6 out) trips.
- The existing land use will generate the following cumulative driveway trips:
- 366 daily, 13 AM peak hour (7 in/6 out), and 18 PM peak hour (10 in/8 out) trips.
- Proposed Use**
- 9,966 SF Town Hall (ITE Land Use 560 - Church)
 - 15,382 SF Retail (ITE Land Use 822 - Strip Retail Plaza (+40k))
- The proposed land use will generate the following net new external trips:
- 370 daily, (6) AM peak hour (33 in/33 out), and 115 PM peak hour (63 in/53 out)
- The proposed land use will generate the following cumulative driveway trips:
- 984 daily, 12 AM peak hour (83 in/81 out), and 212 PM peak hour (115 in/97 out)

General Notes

- HAZARDOUS WASTE DISPOSAL SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- ALL LANDSCAPE AREAS ABUTTING VEHICULAR USE AREAS SHALL BE CURBED OR PROTECTED BY CURB STOPS.
- ALL BUILDING, PARKING AND ACCESS AREAS SHALL DOCUMENT COMPLIANCE WITH THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
- SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- LANDSCAPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 193 OF THE LANDSCAPE CODE OF THE CITY OF PORT ST. LUCIE.
- NO LANDSCAPING OTHER THAN GRASSES SHALL BE LOCATED WITHIN 10' OF A CITY UTILITY LINE OR APPURTENANCE. ALL OTHER UTILITIES SHALL BE A MINIMUM OF 5' HORIZONTAL SEPARATION FROM CITY UTILITY MAINS FOR PARALLEL INSTALLATIONS AND A MINIMUM 18" BELOW CITY MAINS. ALL MEASUREMENTS ARE TAKEN FROM OUTSIDE TO OUTSIDE.
- NO LANDSCAPING SHALL BE PLACED IN A MANNER THAT WOULD CREATE CONFLICTS WITH THE INTENDED OPERATION AND MAINTENANCE OF ANY EXISTING UTILITY.
- THIS APPLICATION IS NOT VESTED FOR ANY MUNICIPAL FEES. ALL FEES ARE CALCULATED AT TIME OF PAYMENT. THIS INCLUDES SPECIFICALLY IMPACT FEES, UPLAND PRESERVE FEES AND ANY ADMINISTRATIVE REVIEW FEES FOR CITY DEPARTMENTS. NO FEES ARE VESTED BASED ON DATE OF CITY COUNCIL APPROVAL.
- SIGNS ARE NOT PART OF THIS REVIEW AND SHALL BE PERMITTED SEPARATELY FROM THIS APPLICATION. (SEE CHAPTER 195 (SIGN CODE) CITY OF PORT ST. LUCIE LAND DEVELOPMENT REGULATIONS).
- THE PROPERTY OWNER, CONTRACTOR AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICKUP, REMOVAL AND DISPOSAL OF LITTER WITHIN THE PROJECT LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE WITHIN THE CITY'S RIGHT-OF-WAY IN ACCORDANCE WITH CITY CODE, SECTION 41.08 (G).

Environmental Assessment

Description	Found (Yes/No)	Agency Contact Information	Management Plan (Yes/No)	Relocation Plan (Yes/No)
Wetlands	NO	N/A	NO	N/A
Rare Habitat	NO	N/A	NO	N/A
Threatened Species	NO	N/A	NO	N/A
Endangered Species	NO	N/A	NO	N/A
Species of Special Concern	NO	N/A	NO	N/A
Invasive Exotic Vegetation	NO	N/A	NO	N/A

Site Data

Total Area:	77,220 sf	1.77 ac.
Impervious Area:	67,588 sf	1.55 ac. (87.6%)
Proposed Building:	13,076 sf	0.30 ac.
Existing Building:	10,716 sf	0.25 ac.
Vehicular Use Area:	25,562 sf	0.59 ac.
Sidewalks & Pedestrian Access:	16,315 sf	0.37 ac.
Pervious Area:	9,632 sf	0.22 ac. (12.4%)
Landscape Area:	9,632 sf	0.22 ac.

Existing Zoning:	MPUD
Future Land Use Designation:	NCD
Existing Use:	Town Center
Open Space:	12.4%

Building Data

Existing Building SF:	10,716 SF
Town Hall	9,966 SF
Ancillary Building adjacent to Town Hall	750 SF
Proposed Buildings:	29,622 SF GFA
Building 1- First Floor	3,348 SF GFA
Building 1- Second Floor	3,453 SF GFA
Building 2- First Floor	5,728 SF GFA
Building 2- Second Floor	7,843 SF GFA
Building 3- First Floor	4,000 SF GFA
Building 3- Second Floor	5,250 SF GFA

Maximum Allowable Height:	50'
Proposed Height:	36'
Building Coverage:	33%

Building Setback

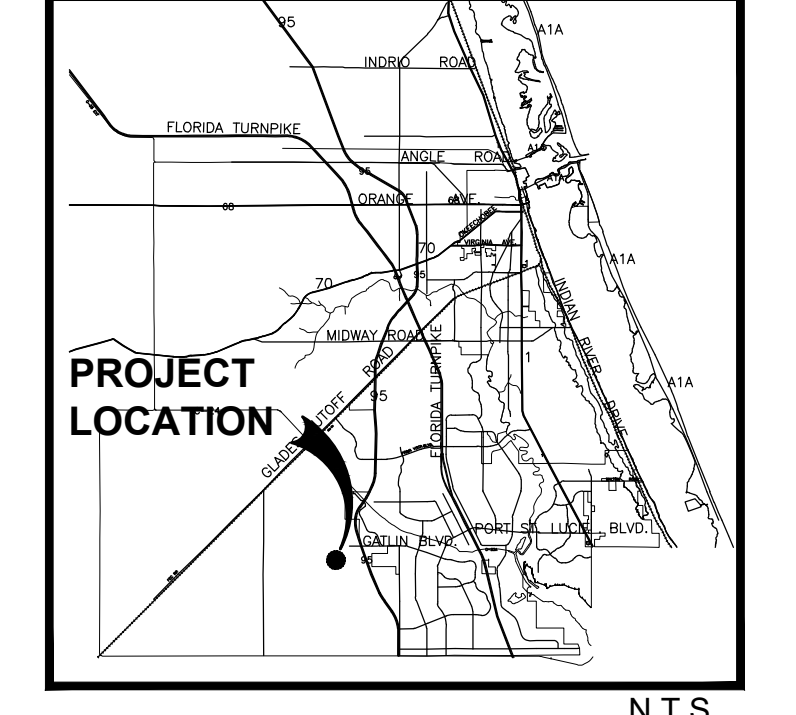
	Established*	Provided
Front:	0'	0'
Side:	0'	0'
Corner Side:	0'	0'
Rear:	0'	150'

*Per the Tradition MPUD, setbacks are established as part of the site plan review process.

Parking Data



Key / Location:



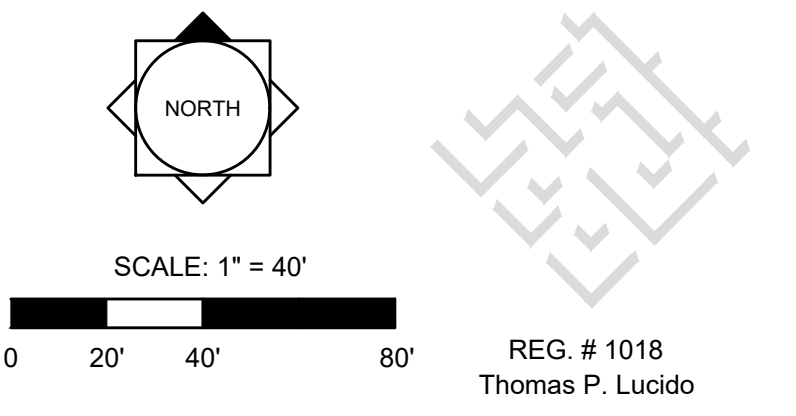
Project Team:

Property Owner:	Tradition Community Association 10807 SW Tradition Square Port St. Lucie, FL 34987
Developer:	Mattamy Homes, LLC. 2500 Quantum Lakes Drive, Suite 215 Boynton Beach, FL 33426
Land Planner / Landscape Architect:	Lucido & Associates 701 E Ocean Boulevard Stuart, FL 34994
Engineer:	Caulfield & Wheeler, Inc. 7900 Glades Road, Suite 100 Boca Raton, FL 33434
Surveyor:	Culpepper and Terpening, Inc. 2980 South 25th Street Fort Pierce, FL 34981
Architect:	Brent A Wood Architecture 20 SE Ocean Blvd Stuart, FL 34994

**Tradition Town Center
Mobility Hub
Site Plan**

Tradition, Port St. Lucie, FL
PSLUSD Number: 11-342-21A

Date	By	Description
09.01.2021	KV	Initial Submittal
10.06.2021	KV	Resubmittal
07.06.2022	KV	Resubmittal
09.21.2022	KV	Resubmittal
05.03.2023	KV	Resubmittal
07.19.2023	KV	Resubmittal
11.01.2023	KV	Resubmittal



Designer	KV	Sheet
Manager	SG	
Project Number	20-276	
Municipal Number	P21-213	
Computer File		

SP-1

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Land Use: 560 Church

Description

A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary. It may also house meeting rooms, classrooms, and, occasionally, dining, catering, or event facilities. Synagogue (Land Use 561) and mosque (Land Use 562) are related uses.

Additional Data

Worship services are typically held on Sundays. Some of the surveyed churches offered day care or extended care programs during the week.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Colorado, Florida, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Texas, and Virginia.

Source Numbers

169, 170, 423, 428, 436, 554, 571, 583, 629, 631, 704, 903, 904, 957, 971, 981, 1080

Church (560)

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

Setting/Location: General Urban/Suburban

Number of Studies: 5

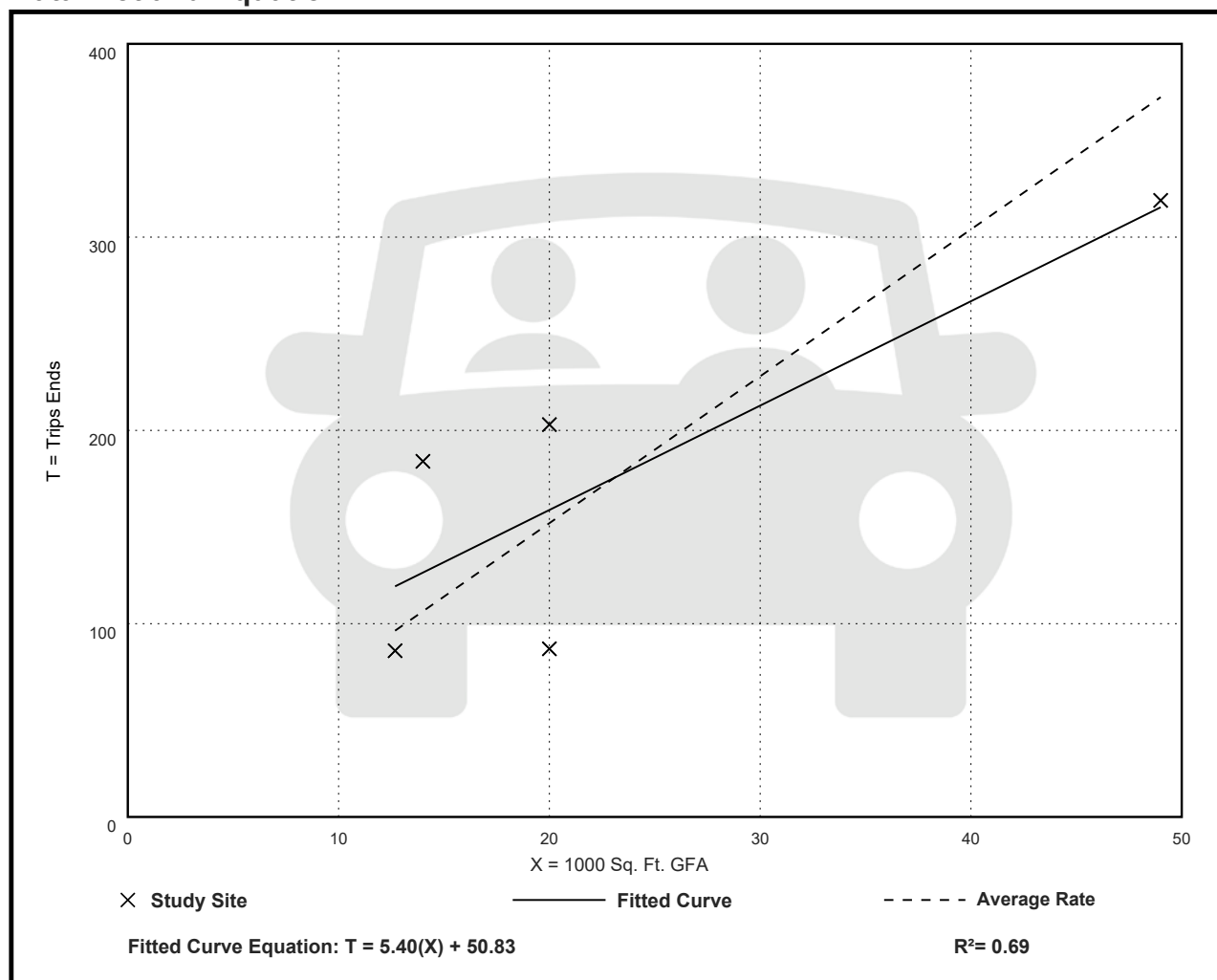
Avg. 1000 Sq. Ft. GFA: 23

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.60	4.35 - 13.14	3.01

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 7

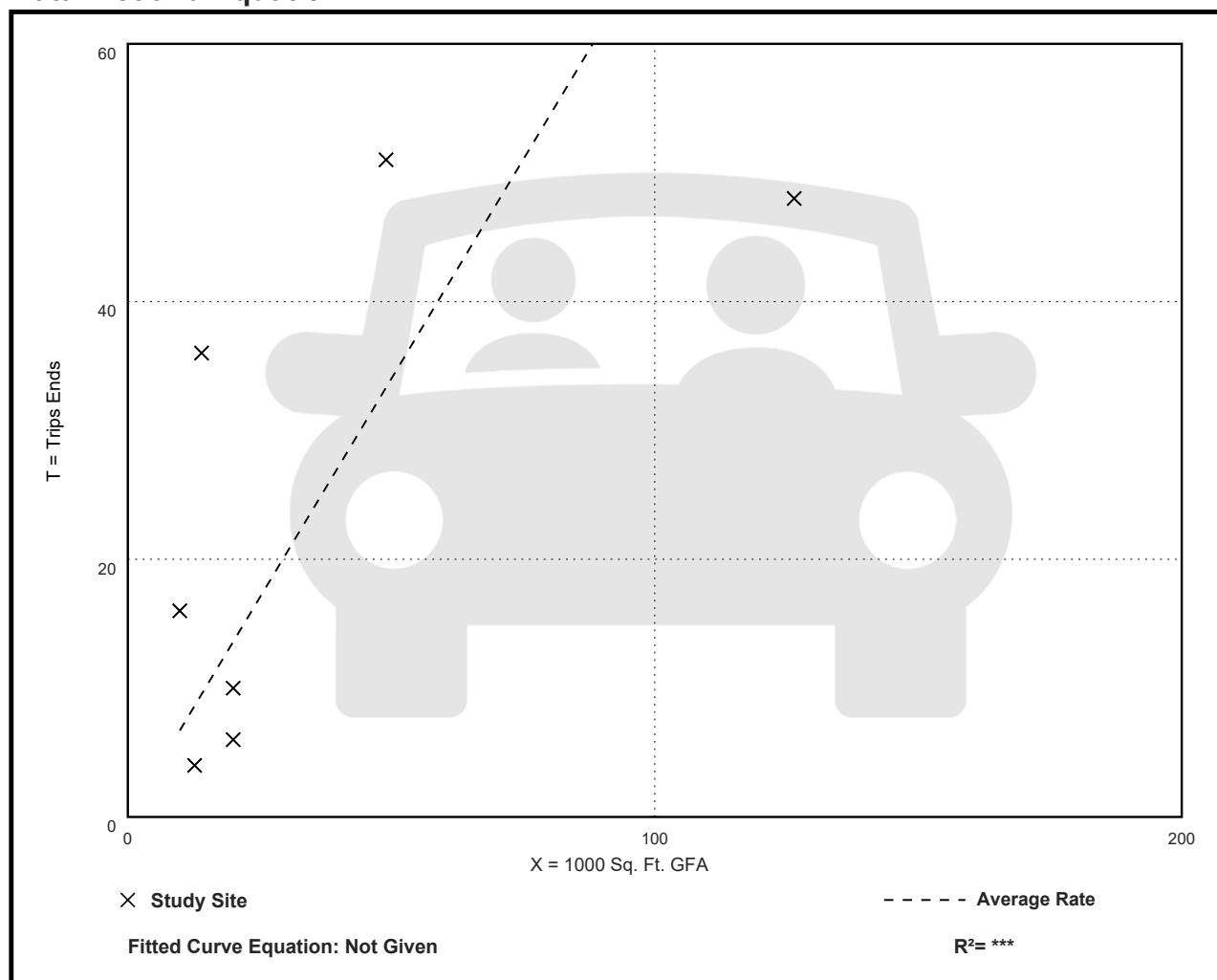
Avg. 1000 Sq. Ft. GFA: 36

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.68	0.30 - 2.57	0.62

Data Plot and Equation



Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 7

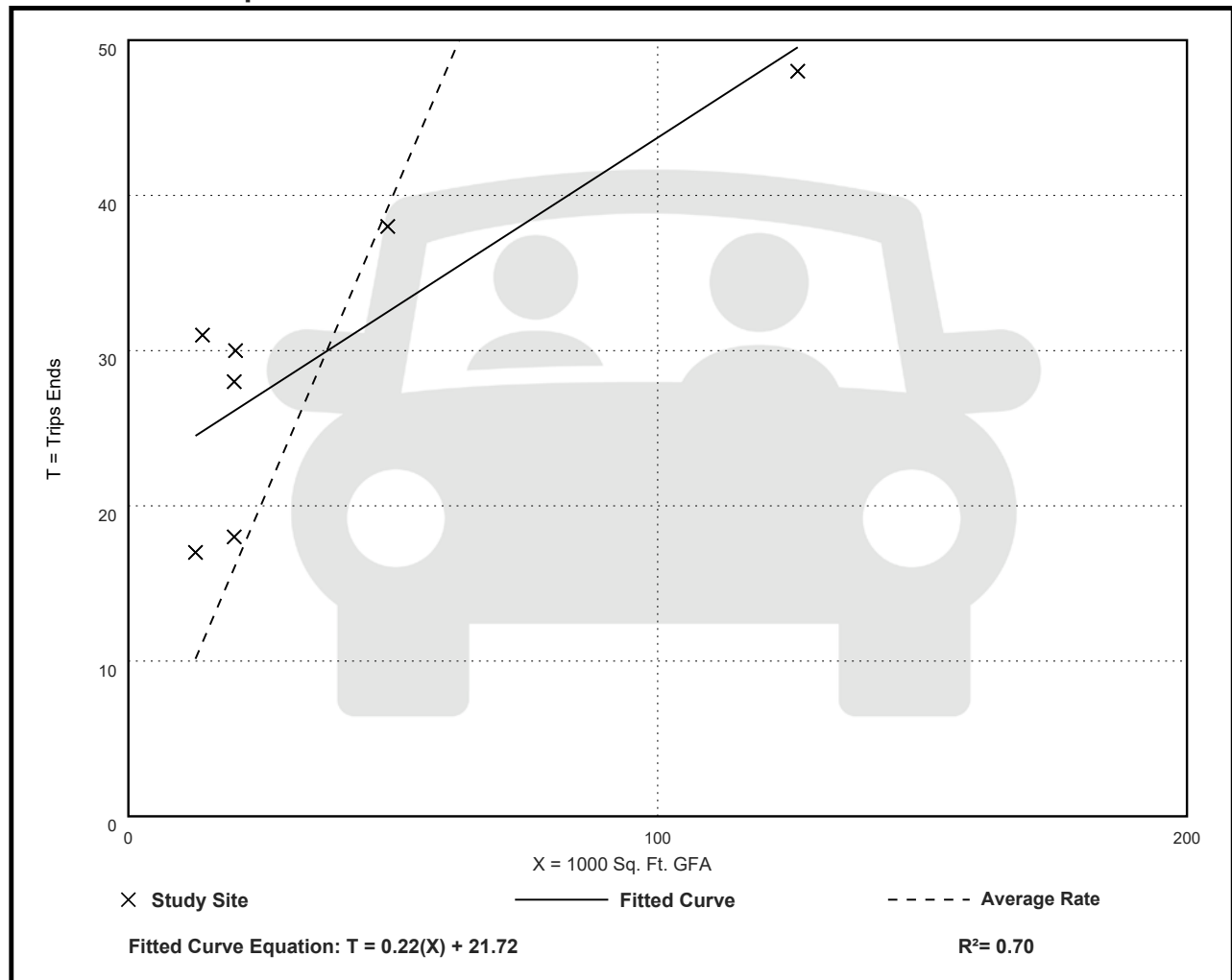
Avg. 1000 Sq. Ft. GFA: 37

Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.38 - 2.21	0.56

Data Plot and Equation



Land Use: 822

Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k) (822)

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

Setting/Location: General Urban/Suburban

Number of Studies: 4

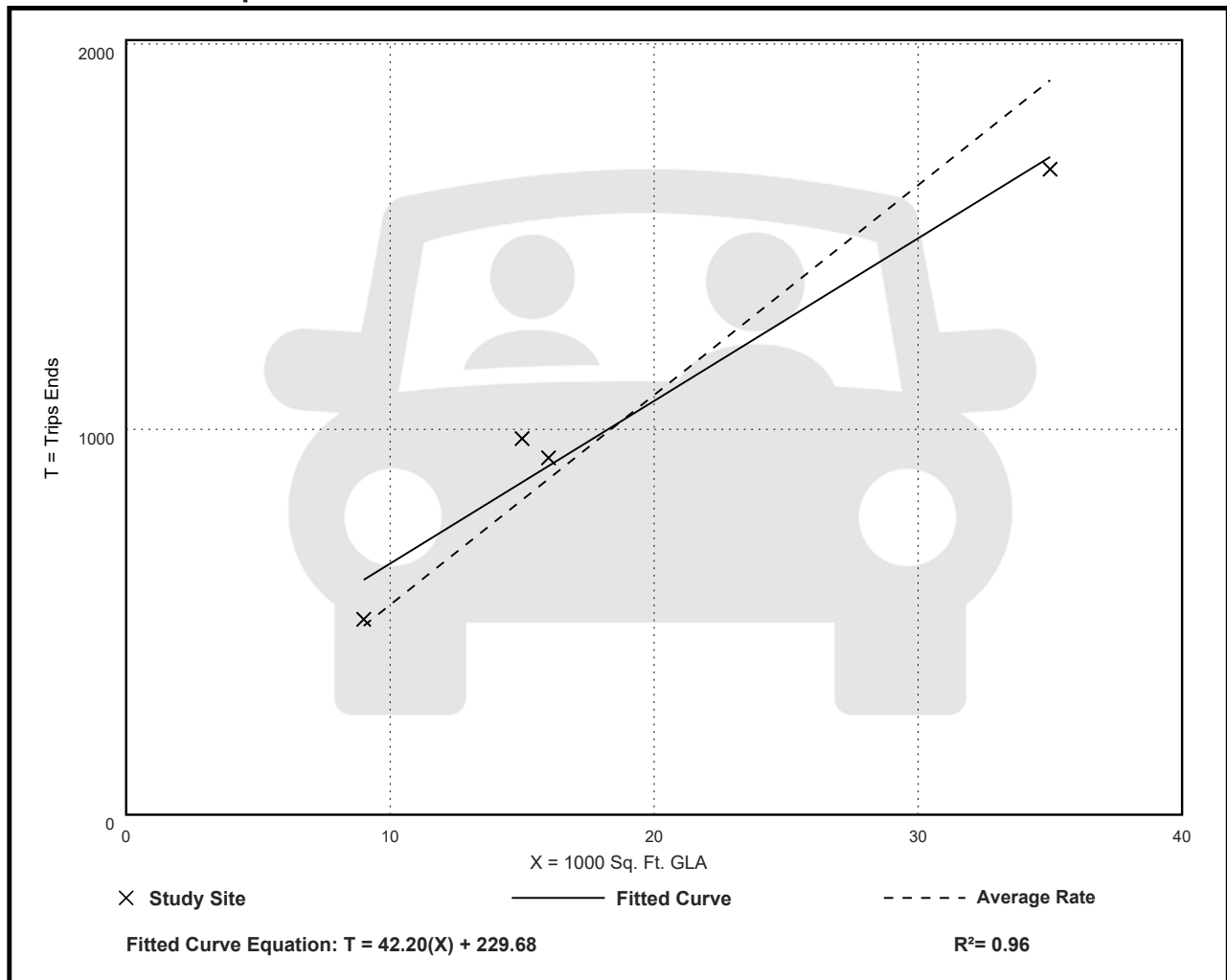
Avg. 1000 Sq. Ft. GLA: 19

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 6

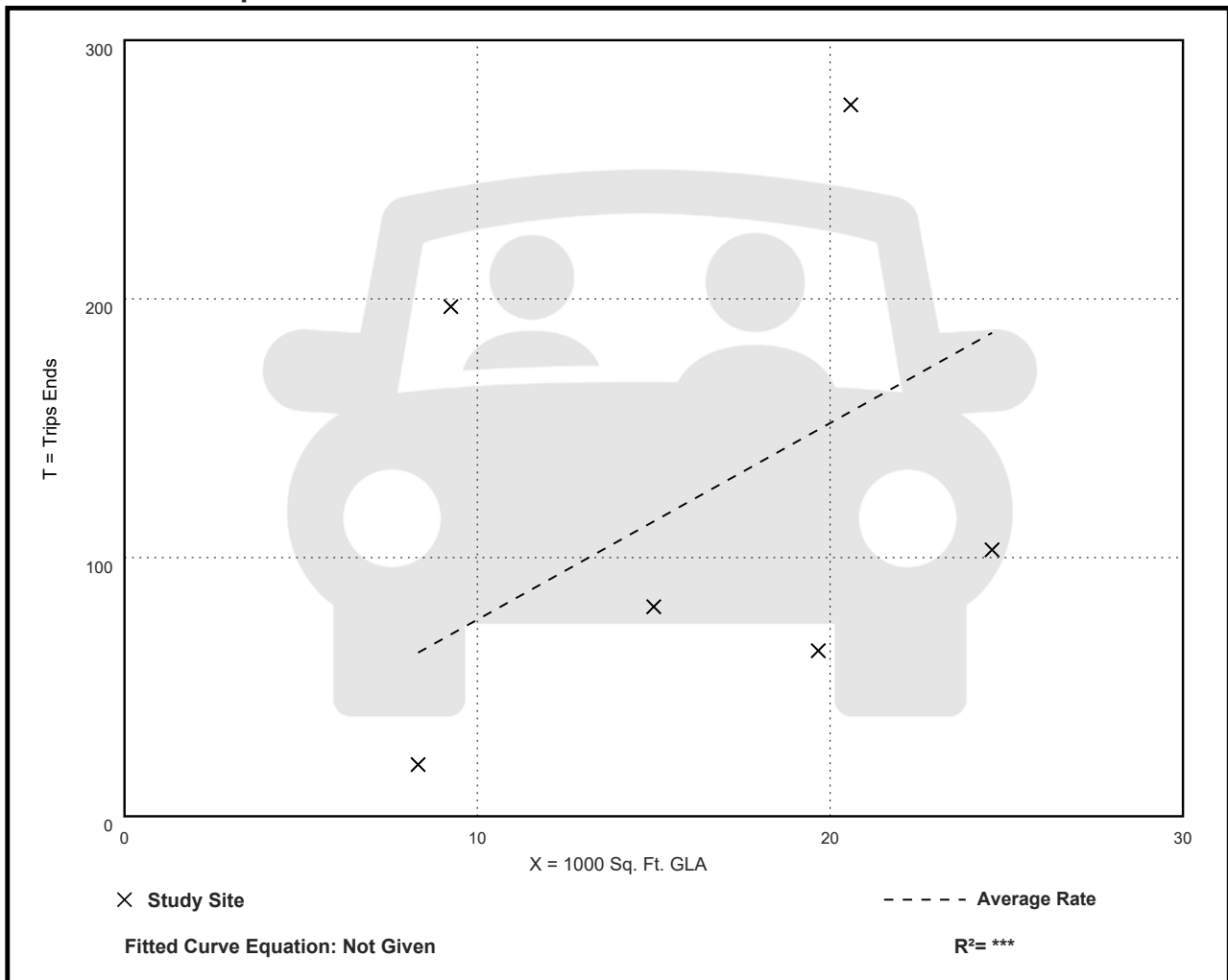
Avg. 1000 Sq. Ft. GLA: 16

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
7.60	2.40 - 21.30	6.45

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 16
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
13.24	6.27 - 24.11	7.40

Data Plot and Equation

