

MEMORANDUM TO: Nate Wynsma  
Lexington Homes

FROM: Andrew Bowen  
Consultant

Luay R. Aboona, P.E., PTOE  
Principal

DATE: March 10, 2023

SUBJECT: Traffic Study Addendum  
Riverwoods Reserve Residential Development  
Riverwoods, Illinois

This memorandum is an addendum to the traffic impact study prepared by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) dated September 12, 2022 for the proposed Riverwoods Reserve residential development in Riverwoods, Illinois. The traffic impact study evaluated the impact of a proposed 69-unit townhome development to be located on the north side of Deerfield Road east of Milwaukee Avenue (Illinois Route 21). Access was planned to be provided via an access road on Deerfield Road that would connect to the Colonial Court commercial development in the future and one additional access drive on Deerfield Road at the eastern end of the site.

The purpose of this addendum is to reevaluate the access system of the proposed townhome development with the following changes:

- The development will consist of 54 townhome units. This is 15 units less than was originally proposed.
- The access drive at the eastern end of the site has been eliminated.
- The access road will connect to the Colonial Court commercial development west of the site upon completion of the proposed development. This connection was mentioned in the original report but was not evaluated as the timing of the connection was unknown.

## Updated Development Plan

As proposed, the site will be developed with Riverwoods Reserve, a townhome development with 54 townhome units in 10 buildings. A copy of the updated site plan is included in the Appendix.

### *Proposed Access Road*

Access to the development will be provided via a proposed access road on the north side of Deerfield Road located approximately 820 feet east of Milwaukee Avenue. The access road will extend north from Deerfield Road and then west towards its proposed connection with the existing Colonial Court commercial development that borders the site to the west. The access road will provide one lane in each direction with on-street parking provided on one side of the road. The access road will replace an existing Federal Life Companies access drive.

On-street parking on the access road should be provided on the north side of the road. In order to ensure adequate sight lines for vehicles turning to and from the townhome development access drive, parking should be prohibited via signage within 30 feet of the access drive.

At its intersection with Deerfield Road, the access road will be aligned opposite the CubeSmart access road. The access road will provide one inbound lane and two outbound lanes striped to provide an exclusive left-turn lane and a shared through/right-turn lane. Outbound movements will be under stop sign control. As part of the recently completed Thorntons fuel center located in the southeast corner of Milwaukee Avenue with Deerfield Road, an exclusive eastbound left-turn lane was built on Deerfield Road that will serve the access road. This turn lane provides 117 feet of storage and a 270-foot taper. It should be noted that the turn lane on Deerfield Road will be maintained with the proposed LCDOT improvements to Deerfield Road.

### *Internal Townhome Access*

Access to the individual townhomes will be provided via a loop roadway that will operate in a one-way counterclockwise direction. The loop road will intersect the proposed access road approximately 270 feet north of Deerfield Road. At this intersection the loop road will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

### *Fire Department Access*

The ability of firetrucks to access the proposed townhomes was evaluated using AutoTurn software. Exhibits prepared by Haeger Engineering illustrating the ability of firetrucks to circulate the site are included in the Appendix. As can be seen, the proposed access road and internal loop road can accommodate firetruck turning movements.

### *On-Site Parking*

Within the site, parking for residents will be provided within individual garages and on individual driveways. Parking for guests will be provided on the inside of the loop road. Signage indicating that the parking spaces on the loop road are for guest use only should be provided. Furthermore, signage prohibiting parking on the segment of the loop roadway that allows two-way traffic should also be posted.

## Peak Hour Traffic Volumes

As with the original study, the number of peak hour trips estimated to be generated by the proposed development was based on vehicle trip generation rates contained in *Trip Generation Manual*, 11<sup>th</sup> Edition, published by the Institute of Transportation Engineers (ITE). The “Single Family Attached Housing” (Land-Use Code 215) rates were used for the proposed development. **Table 1** summarizes the trips projected to be generated by the proposed townhome development.

Table 1

ESTIMATED PEAK HOUR AND DAILY TRIP GENERATION

ITE Land - Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
215	Single Family Attached Housing (54 Units)	6	16	22	17	11	28	181	181	362

The estimated weekday morning and evening peak hour traffic volumes that will be generated by the proposed townhome development were assigned to the intersection of Deerfield Road with the proposed access road in accordance with the directional distribution described in the original traffic study. It should be noted that some townhome traffic may utilize the connection to Colonial Court to access Milwaukee Avenue directly. However, to provide a conservative analysis, all development-generated traffic was assigned to the intersection of Deerfield Road with the proposed access road. **Figure A** illustrates the new assignment of the development trips. All figures are included in the Appendix of the report.

## Colonial Court Connection

As previously mentioned, the proposed access road will provide a connection to the existing Colonial Court commercial development. It is anticipated that some of the existing traffic generated by Colonial Court will utilize the proposed access road to access Deerfield Road. This is particularly true as the existing access drive on Deerfield Road that serves Colonial Court will be restricted to right-turn only movements with the completion of the planned LCDOT improvements to Deerfield Road. **Table 2** summarizes the estimated trips currently generated by Colonial Court during the peak hours based on ITE trip generation rates. **Figure B** illustrates the percentage of the Colonial Court traffic that is expected to turn at the intersection of Deerfield Road with the proposed access road as well as the corresponding reassignment of Colonial Court traffic.

Table 2  
ESTIMATED COLONIAL COURT PEAK HOUR TRIP GENERATION

ITE Land-Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
		In	Out	Total	In	Out	Total
822	Strip Retail Plaza (30,000 s.f.)	42	29	71	85	85	170
912	Drive-In Bank (5 Drive-In Lanes)	26	17	43	66	69	135
932	High-Turnover Sit-Down Restaurant (6,500 s.f.)	34	28	62	36	23	59
<b>Total</b>		<b>102</b>	<b>74</b>	<b>176</b>	<b>187</b>	<b>177</b>	<b>364</b>

### Year 2024 Total Projected Volumes

The development-generated traffic (Figure A) and Colonial Court traffic reassignment (Figure B) were added to the projected Year 2024 no-build traffic volumes, as illustrated in the original traffic study, taking into account the removal of the existing Federal Life Companies buildings and the completion of LCDOT’s planned improvements to Deerfield Road. **Figure C** illustrates the Year 2024 total projected traffic volumes.

### Traffic Analyses

Intersection analyses were performed for the weekday morning and weekday evening peak hours for the Year 2024 total projected traffic volumes at the intersection of Deerfield Road with the proposed access road assuming the completion of LCDOT’s planned improvements to Deerfield Road. The traffic analyses were performed using the same methodologies as the original traffic impact study.

Summaries of the traffic analysis results showing the level of service and overall intersection delay are presented in **Table 3**. Summary sheets for the capacity analyses are included in the Appendix.

Table 3

CAPACITY ANALYSIS RESULTS – YEAR 2024 TOTAL PROJECTED CONDITIONS – DEERFIELD ROAD WITH THE PROPOSED ACCESS ROAD

Movement	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
• Eastbound Left Turn	B	14.6	C	18.9
• Westbound Left Turn	B	12.1	A	9.6
• Northbound Left Turn	E	45.8	D	32.5
• Northbound Right Turn	B	14.6	B	11.9
• Southbound Left Turn	E	35.6	F	61.2
• Southbound Right Turn	B	13.5	C	15.4
Includes LCDOT roadway improvements		LOS = Level of Service		Delay is measured in seconds.

### Proposed Access Road Evaluation

Under Year 2024 total projected conditions, assuming the completion of the planned roadway improvements, outbound left-turn movements from the proposed access road are projected to operate at Level of Service (LOS) E during the weekday morning peak hour and LOS F during the weekday evening peak hour. This delay is typical and expected at the unsignalized intersection of an access road with an arterial roadway such as Deerfield Road. While outbound left-turn vehicles may experience some delay, they will be able to turn onto Deerfield Road given the following:

- The outbound left-turn movement is projected to operate with a volume to capacity (v/c) ratio of less than 1.0 (0.4) and 95<sup>th</sup> percentile queues of one to two vehicles.
- The signalized intersection of Deerfield Road with Milwaukee Avenue will create gaps in the traffic stream, allowing vehicles to exit.

Outbound right-turn movements from the access drive and inbound left-turn movements from Deerfield Road are projected to operate at LOS C or better during both peak hours. Further, eastbound 95<sup>th</sup> percentile queues are not projected to exceed one to two vehicles, which can be accommodated within the existing left-turn lane.

When the projected traffic volumes at this access road are compared to the right-turn lane guidelines in Table 5.4 of Lake County’s *Highway Access and Use Ordinance Technical Reference Manual*, a westbound right-turn lane on Deerfield Road will not be warranted serving this access road during either peak hour. It should be noted that based on Signal Warrant 3 (Peak Hour) included in the Federal Highway Administration’s *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD), 2009, a traffic signal will not be warranted at this intersection.

As indicated earlier, all site traffic was assumed to utilize the proposed access road. However, site traffic will be able to utilize the connection to Colonial Court to access the site. This will reduce the volume of traffic turning to/from the access road and on area roadways in general as vehicles will have access to both developments from both Milwaukee Avenue and Deerfield Road.

As such, the proposed access road will be able to adequately accommodate the development-generated traffic.

## Area Roadway Impact Evaluation

The proposed changes to the development plan will reduce the impact of the proposed development on the area roadway system given the following:

- The elimination of the access drive at the east of the site will reduce the number of access points in close proximity to each other along Deerfield Road.
- The reduced number of townhome units will generate fewer trips.
- The connection of the proposed access road to Colonial Court will reduce the need for traffic generated by Colonial Court and the townhome development to traverse the intersection of Milwaukee Road with Deerfield Road.

## Conclusion

Based on the preceding analyses and recommendations, KLOA, Inc. has concluded as follows:

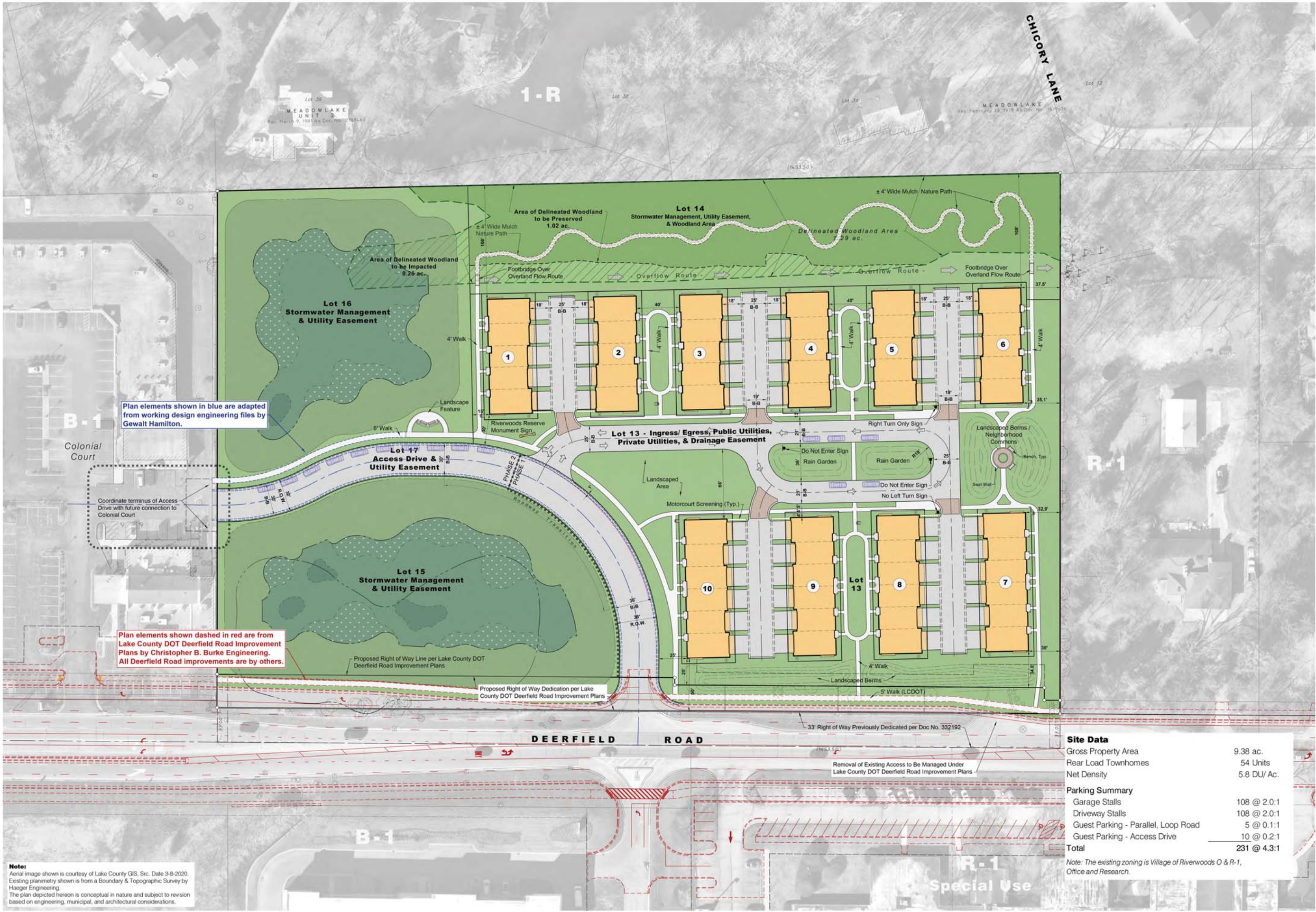
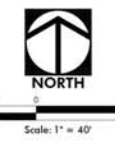
- Access for the proposed Riverwoods Reserve residential development will only be provided via the proposed access road that will connect to Deerfield Road and Colonial Court.
- On-street parking should be provided on the north side of the proposed access road.
- Access to the individual buildings within the site will be provided via a one-way counterclockwise loop road. Guest parking will be provided along the inside of the loop road.
- Firetrucks will be able to access all proposed buildings.
- The proposed access road will adequately accommodate projected traffic volumes.
- The traffic that will be generated by the proposed development can be accommodated by the area roadways.

# Appendix

Preliminary Site Plan  
AutoTurn Exhibits  
Figures A, B, and C  
ITE Trip Generation Worksheets  
Level of Service Criteria  
Capacity Analysis Summary Sheets

# Preliminary Site Plan





Plan elements shown in blue are adapted from working design engineering files by Gewalt Hamilton.

Plan elements shown dashed in red are from Lake County DOT Deerfield Road Improvement Plans by Christopher B. Burke Engineering. All Deerfield Road improvements are by others.

Site Data	
Gross Property Area	9.38 ac.
Rear Load Townhomes	54 Units
Net Density	5.8 DU/ Ac.
Parking Summary	
Garage Stalls	108 @ 2.0:1
Driveway Stalls	108 @ 2.0:1
Guest Parking - Parallel, Loop Road	5 @ 0.1:1
Guest Parking - Access Drive	10 @ 0.2:1
<b>Total</b>	<b>231 @ 4.3:1</b>

Note: The existing zoning is Village of Riverwoods O & R-1, Office and Research.

**Note:**  
Aerial image shown is courtesy of Lake County GIS. Src. Date 3-9-2020.  
Existing planimetry shown is from a Boundary & Topographic Survey by Haeger Engineering.  
The plan depicted herein is conceptual in nature and subject to revision based on engineering, municipal, and architectural considerations.

No.	Date	Revision
1	3-16-2023	Parking and Landscape Revisions
2	3-16-2023	Site Plan Revisions for 54 Units
3	2-15-2023	Final Berms, Mulch Path, and Flood Design Section Added
4	12-19-2022	Miscellaneous Revisions
5	12-8-2022	Revised Landscaping Features Added
6	6-24-2022	Miscellaneous Revisions
7	6-24-2022	Miscellaneous Revisions

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**PRELIMINARY SITE PLAN**  
**54 UNITS**  
**RIVERWOODS RESERVE**  
VILLAGE OF RIVERWOODS, LAKE COUNTY, ILLINOIS

Project Manager: T A S  
Engineer: P A C  
Date: 12-3-2021  
Project No.: 20147  
Sheet: 1

## AutoTurn Exhibits



NORTH

Scale: 1" = 40'

Lot 39  
MEADOWLAKE  
UNIT 2  
Rec. March 9, 1981 As Doc. No. 2103460

Lot 38

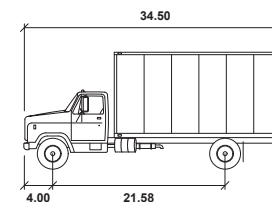
Lot 31

MEADOWLAKE  
Rec. February 23, 1979 As Doc. No. 1979676

Lot 12

CHICORY LANE

DEERFIELD ROAD



26-ft Moving Truck

	feet
Width	: 8.08
Track	: 8.08
Lock to Lock Time	: 3.0
Steering Angle	: 36.0

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www.haegerengineering.com

**26' MOVING TRUCK  
TURNING EXHIBIT**  
RIVERWOODS RESERVE  
VILLAGE OF RIVERWOODS, LAKE COUNTY, ILLINOIS

Project Manager: T A S  
Engineer: P A C  
Date: 03.09.2023  
Project No. 20147  
Sheet 1



NORTH

Scale: 1" = 40'

Lot 39  
MEADOWLAKE  
UNIT 2  
Rec. March 9, 1981 As Doc. No. 2103460

Lot 38

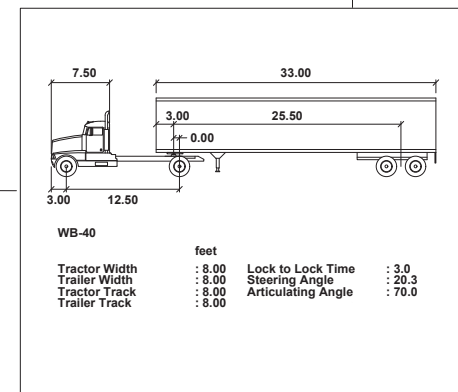
Lot 31

MEADOWLAKE  
Rec. February 23, 1979 As Doc. No. 1979676

Lot 12

CHICORY LANE

DEERFIELD ROAD



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**WB-40**  
**TURNING EXHIBIT**  
**RIVERWOODS RESERVE**  
VILLAGE OF RIVERWOODS, LAKE COUNTY, ILLINOIS

Project Manager: T A S  
Engineer: P A C  
Date: 03.09.2023  
Project No. 20147  
Sheet 1



NORTH

Scale: 1" = 40'

Lot 39  
MEADOWLAKE  
UNIT 2  
Rec. March 9, 1981 As Doc. No. 2103460

Lot 38

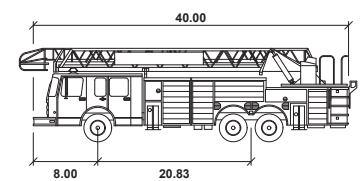
Lot 31

MEADOWLAKE  
Rec. February 23, 1979 As Doc. No. 1979676

Lot 12

CHICORY LANE

DEERFIELD ROAD



feet	
Width	: 9.00
Track	: 9.00
Lock to Lock Time	: 3.0
Steering Angle	: 45.0

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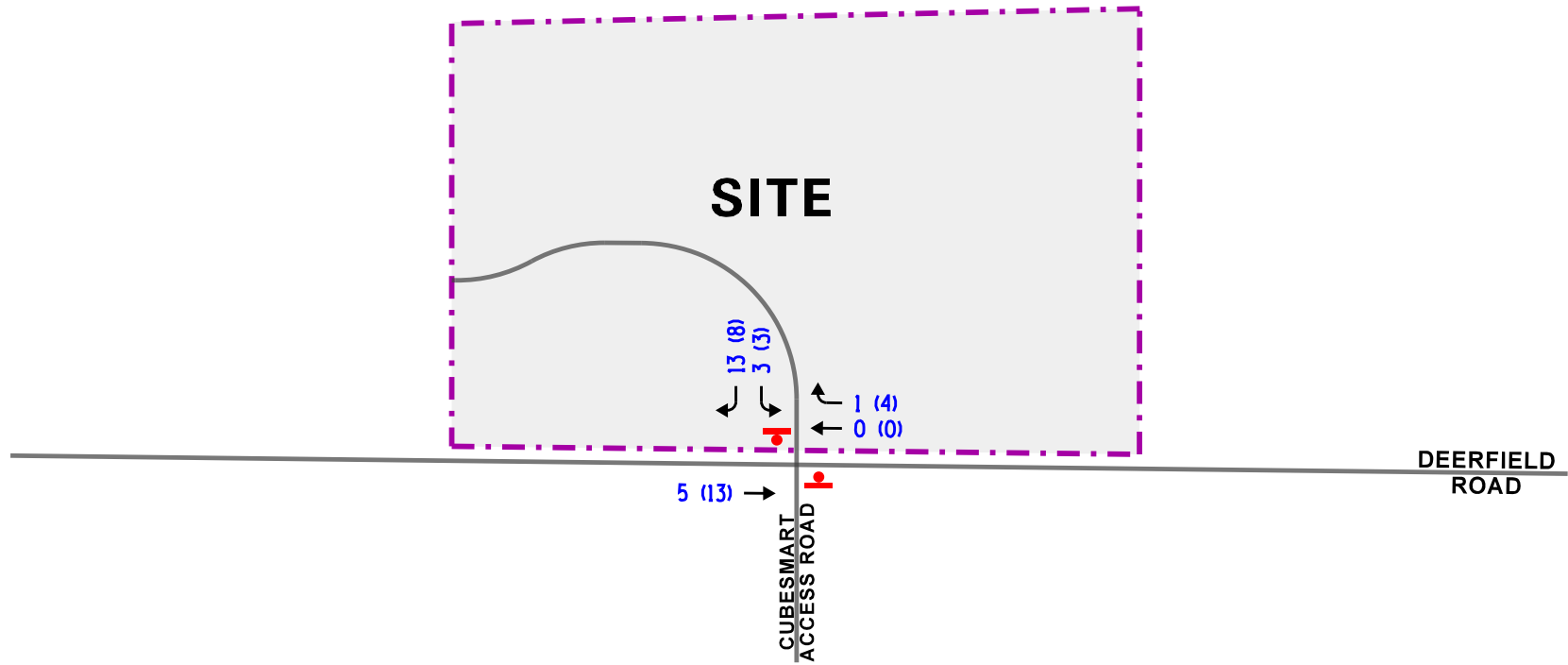
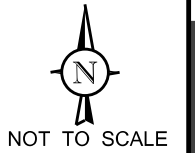
**FIRE TRUCK  
TURNING EXHIBIT**  
**RIVERWOODS RESERVE**  
VILLAGE OF RIVERWOODS, LAKE COUNTY, ILLINOIS

Project Manager: T A S  
Engineer: P A C  
Date: 03.09.2023  
Project No. 20147  
Sheet 1

Figures A, B, and C

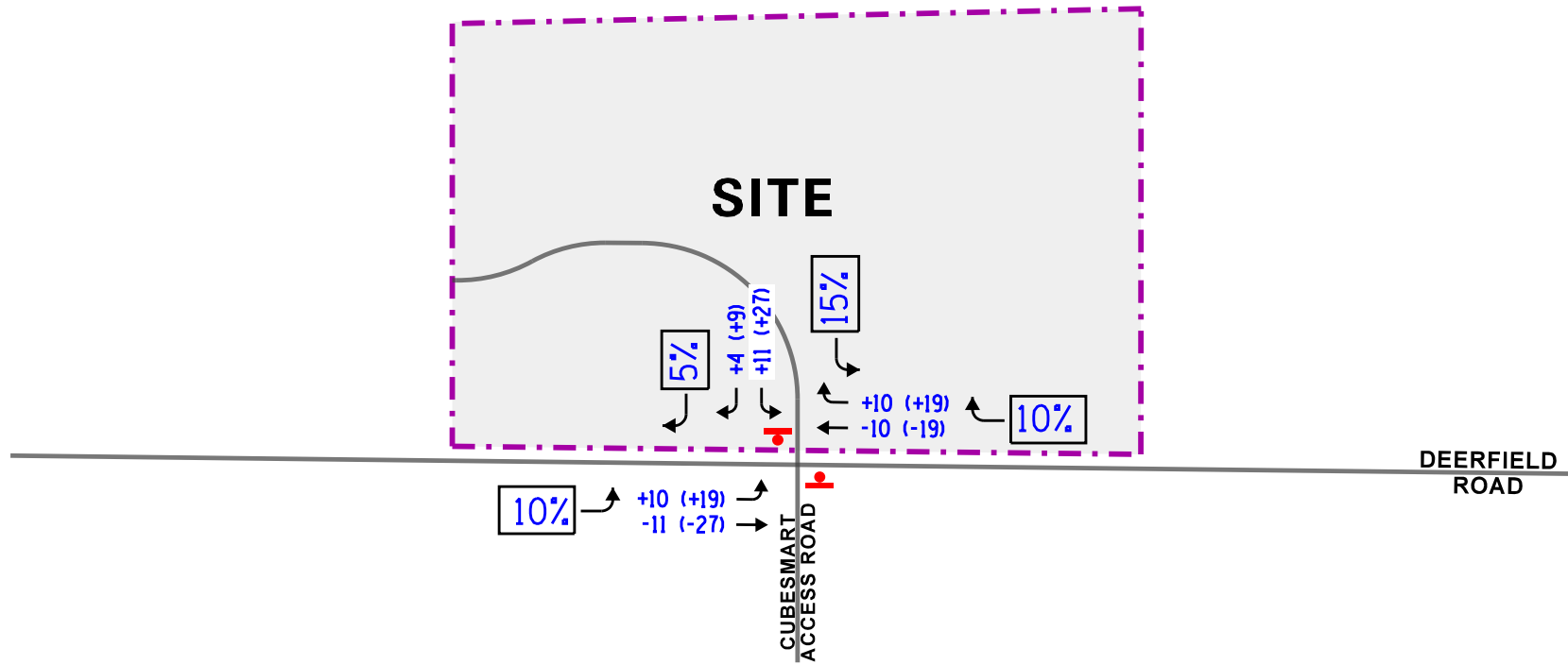
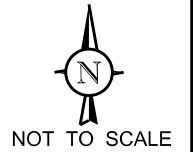
LEGEND

- 00 - AM PEAK HOUR (7:30-8:30 AM)
- (00) - PM PEAK HOUR (4:30-5:30 PM)



LEGEND

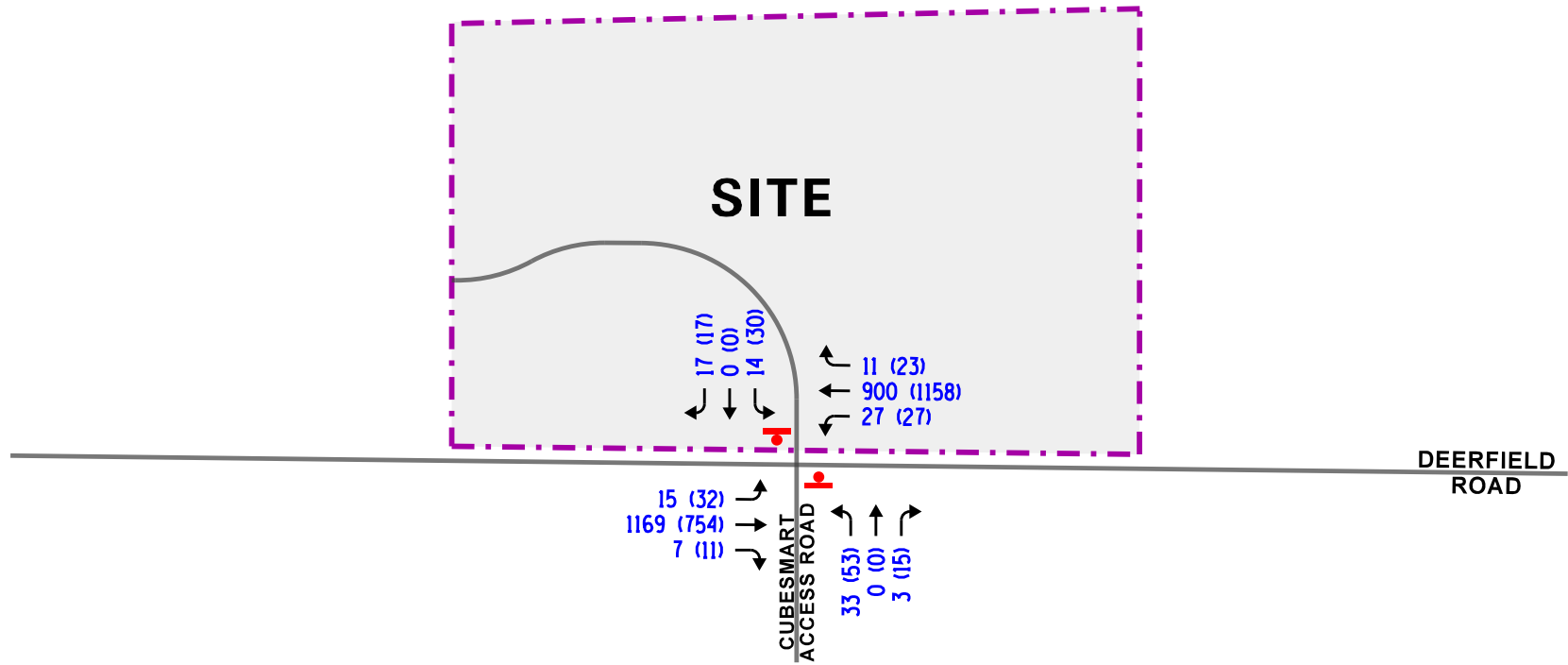
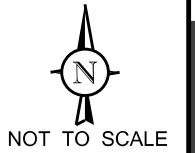
- 00 - AM PEAK HOUR (7:30-8:30 AM)
- (00) - PM PEAK HOUR (4:30-5:30 PM)
- ← XX% - COLONIAL COURT TRAFFIC EXPECTED TO TURN AT THIS INTERSECTION





LEGEND

- 00 - AM PEAK HOUR (7:30-8:30 AM)
- (00) - PM PEAK HOUR (4:30-5:30 PM)



# ITE Trip Generation Worksheets

# Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

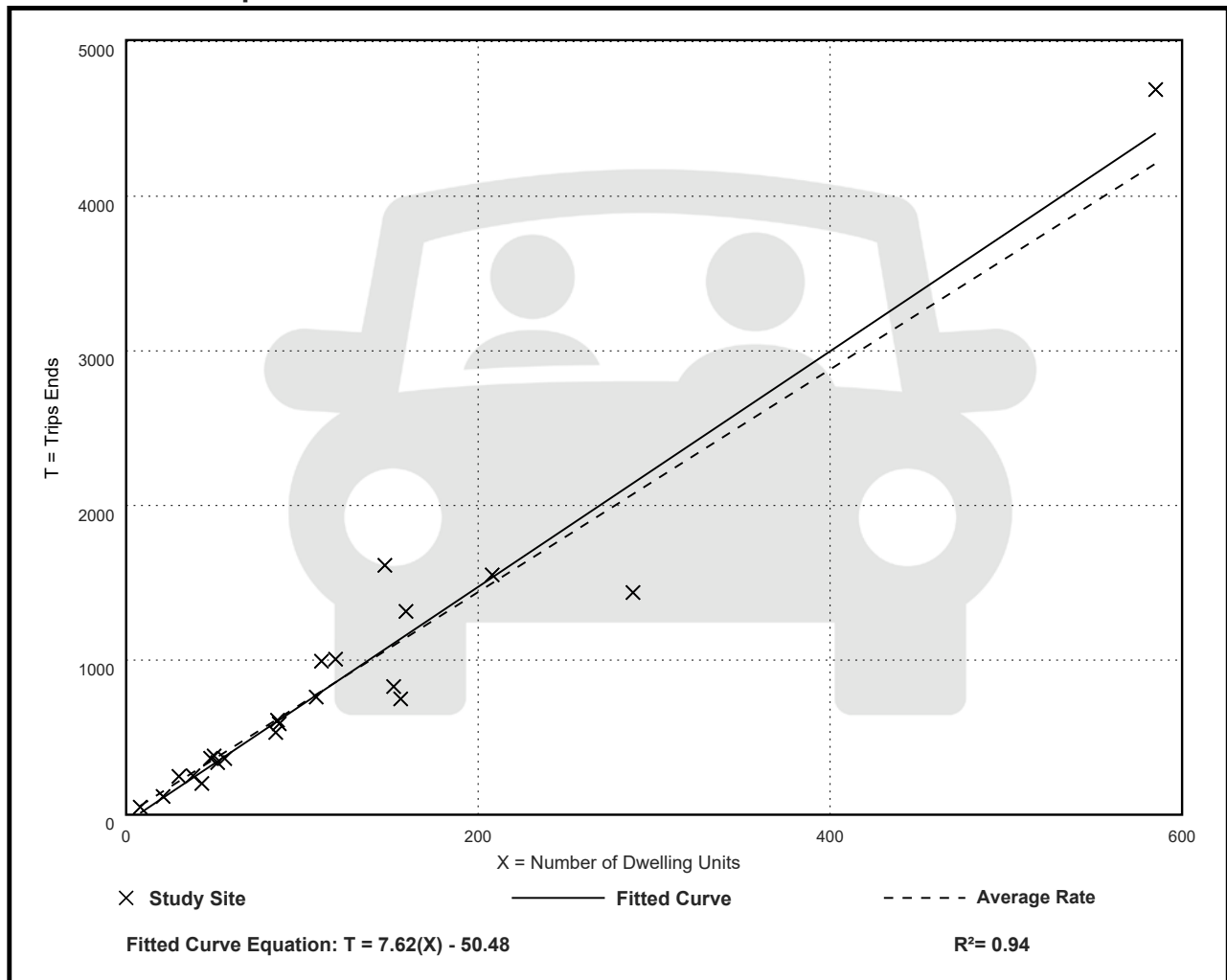
Avg. Num. of Dwelling Units: 120

Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.20	4.70 - 10.97	1.61

## Data Plot and Equation



# Single-Family Attached Housing (215)

## Vehicle Trip Ends vs: Dwelling Units

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: 46

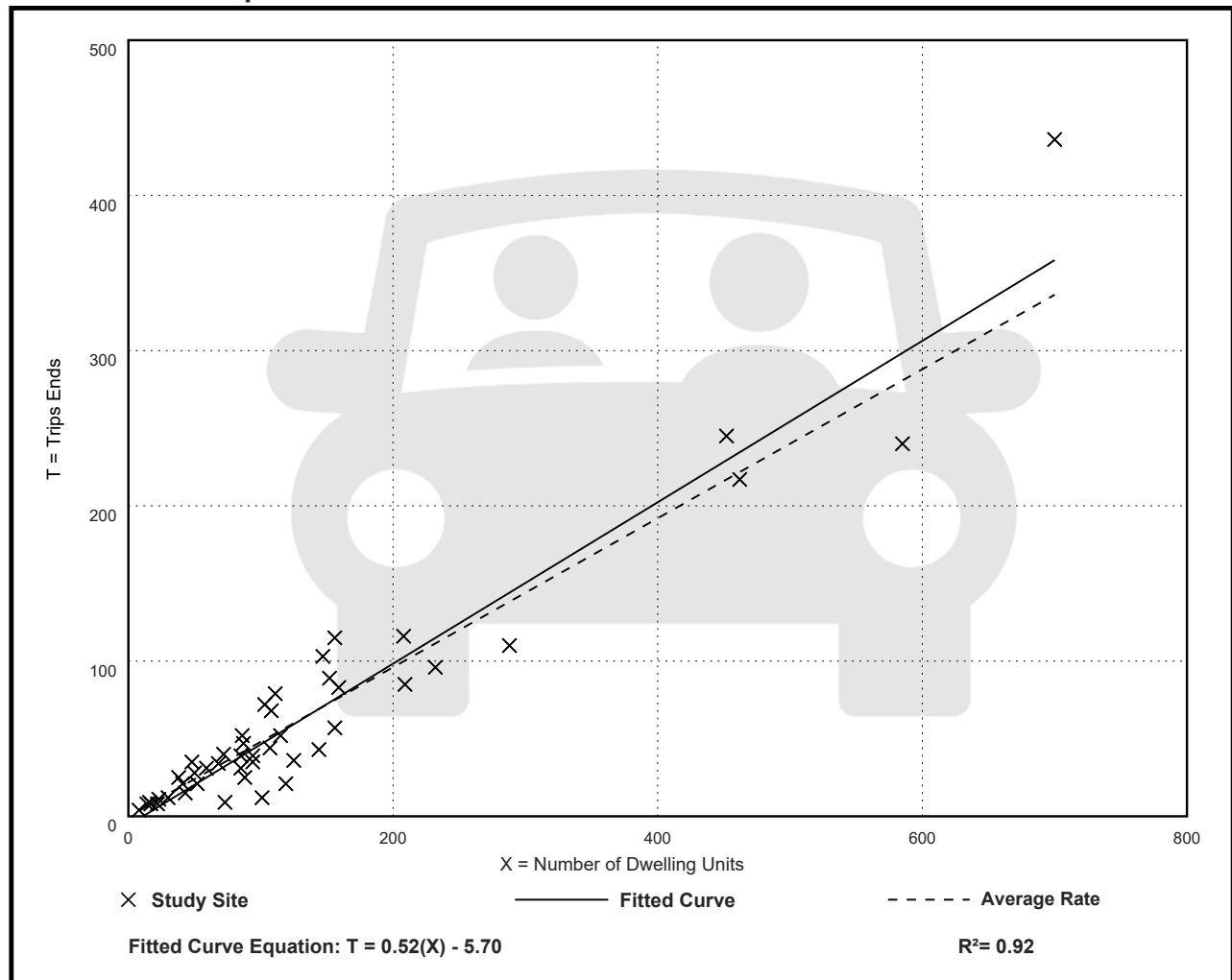
Avg. Num. of Dwelling Units: 135

Directional Distribution: 31% entering, 69% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

## Data Plot and Equation



# Single-Family Attached Housing (215)

## Vehicle Trip Ends vs: Dwelling Units

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: 51

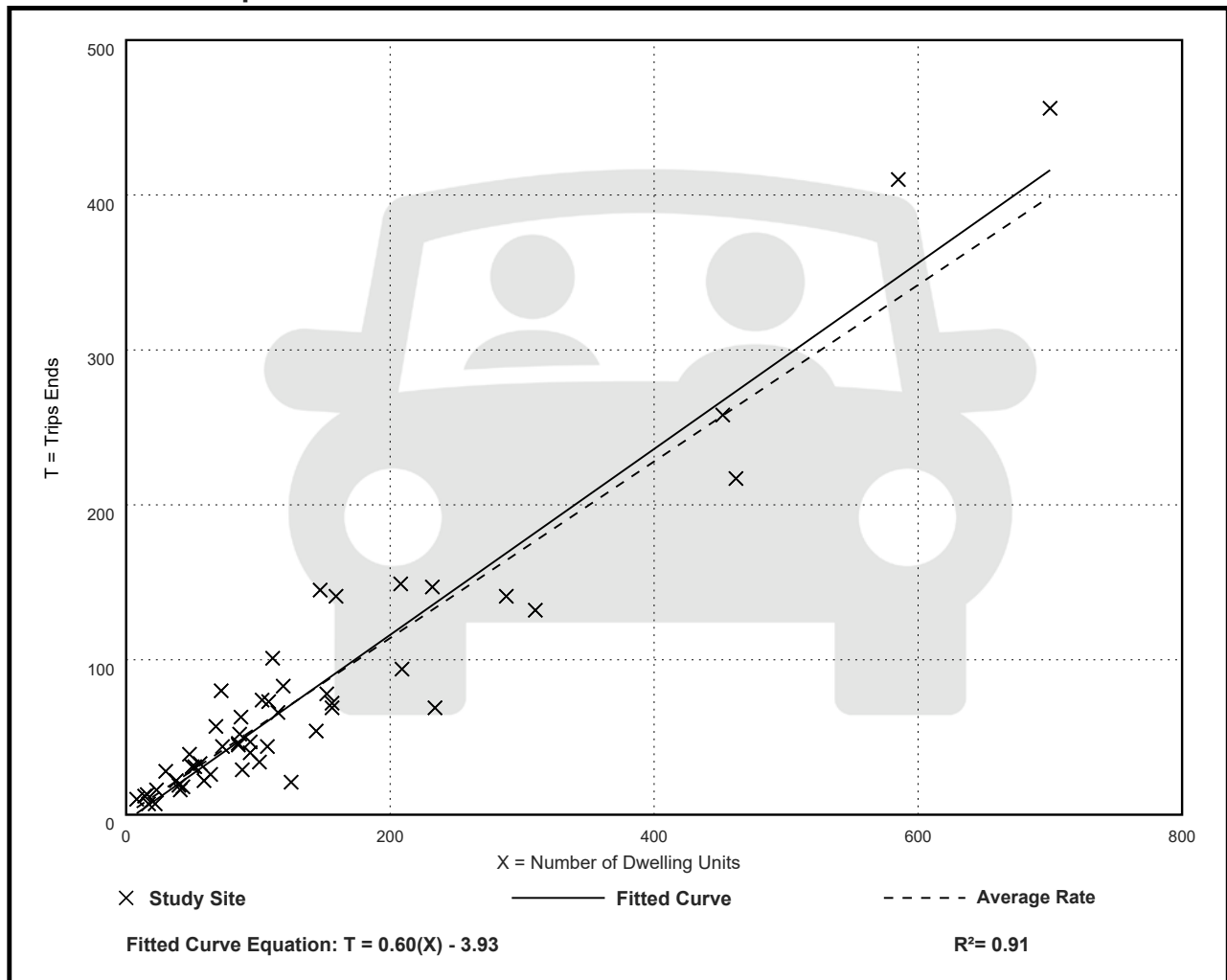
Avg. Num. of Dwelling Units: 136

Directional Distribution: 57% entering, 43% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

## Data Plot and Equation



# Strip Retail Plaza (<40k) (822)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**

**On a: Weekday,**

**Peak Hour of Adjacent Street Traffic,**

**One Hour Between 7 and 9 a.m.**

**Setting/Location: General Urban/Suburban**

Number of Studies: 5

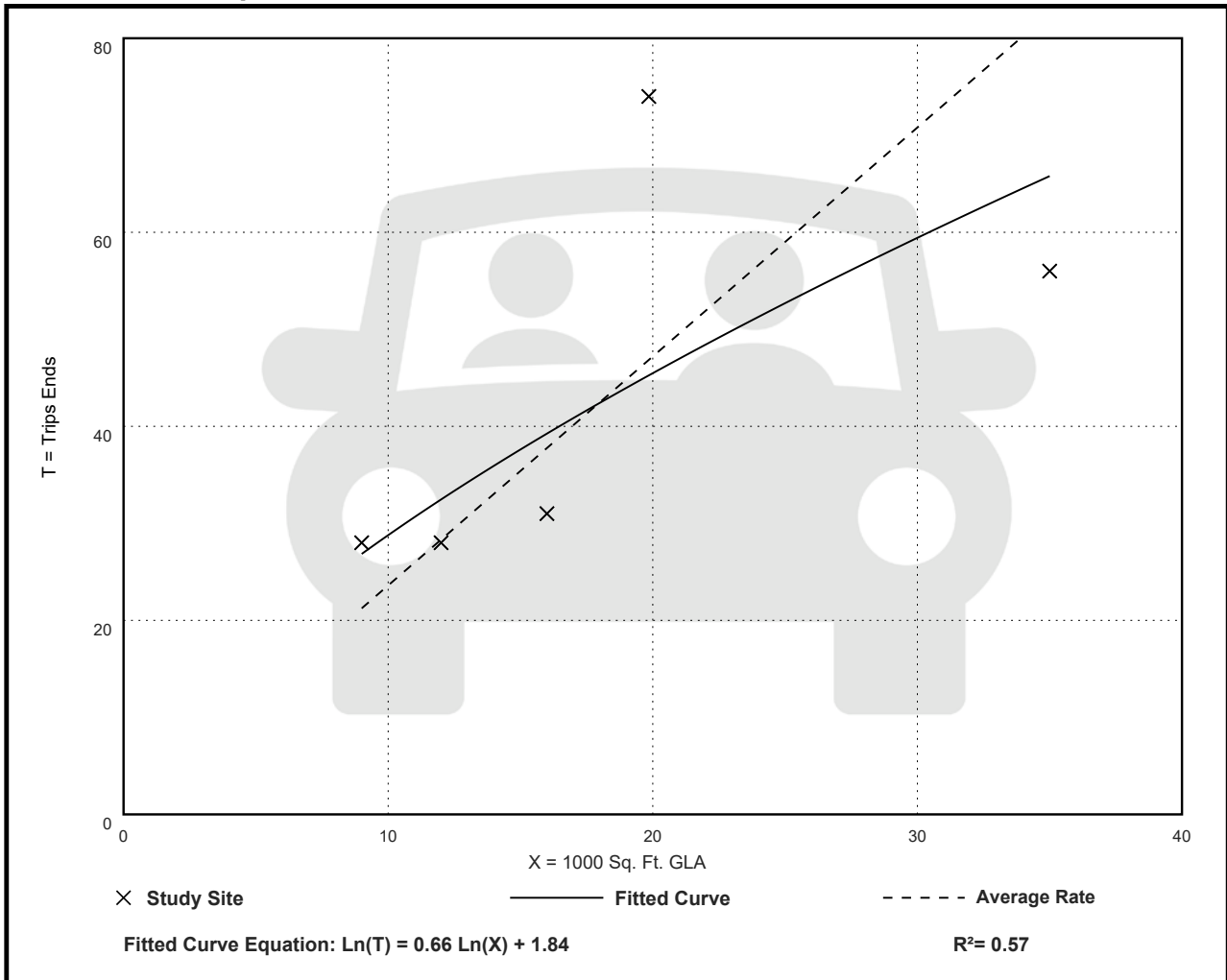
Avg. 1000 Sq. Ft. GLA: 18

Directional Distribution: 60% entering, 40% exiting

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

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

## Data Plot and Equation



# Strip Retail Plaza (<40k) (822)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**

**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: 25

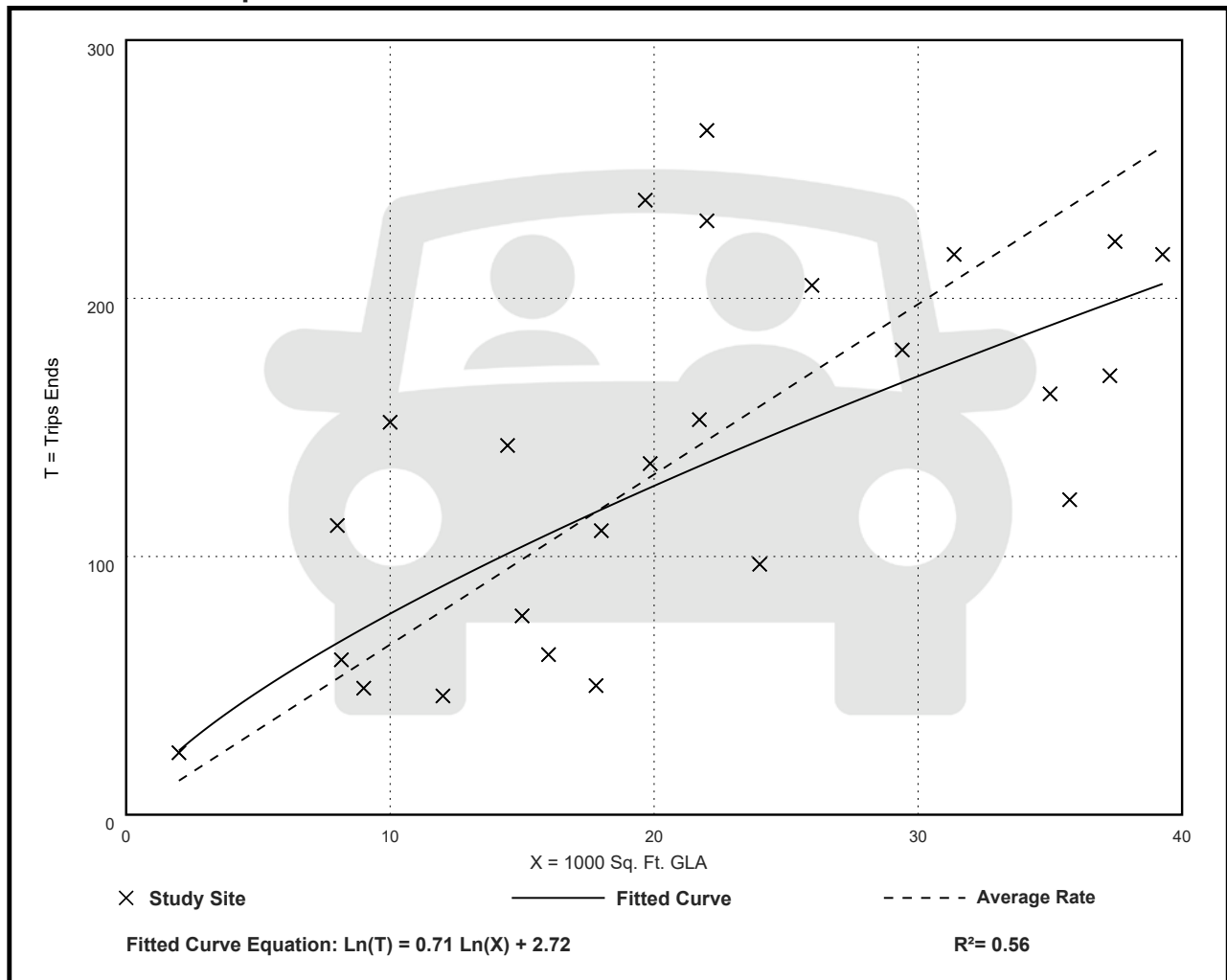
Avg. 1000 Sq. Ft. GLA: 21

Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

## Data Plot and Equation



# Drive-in Bank (912)

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: 44

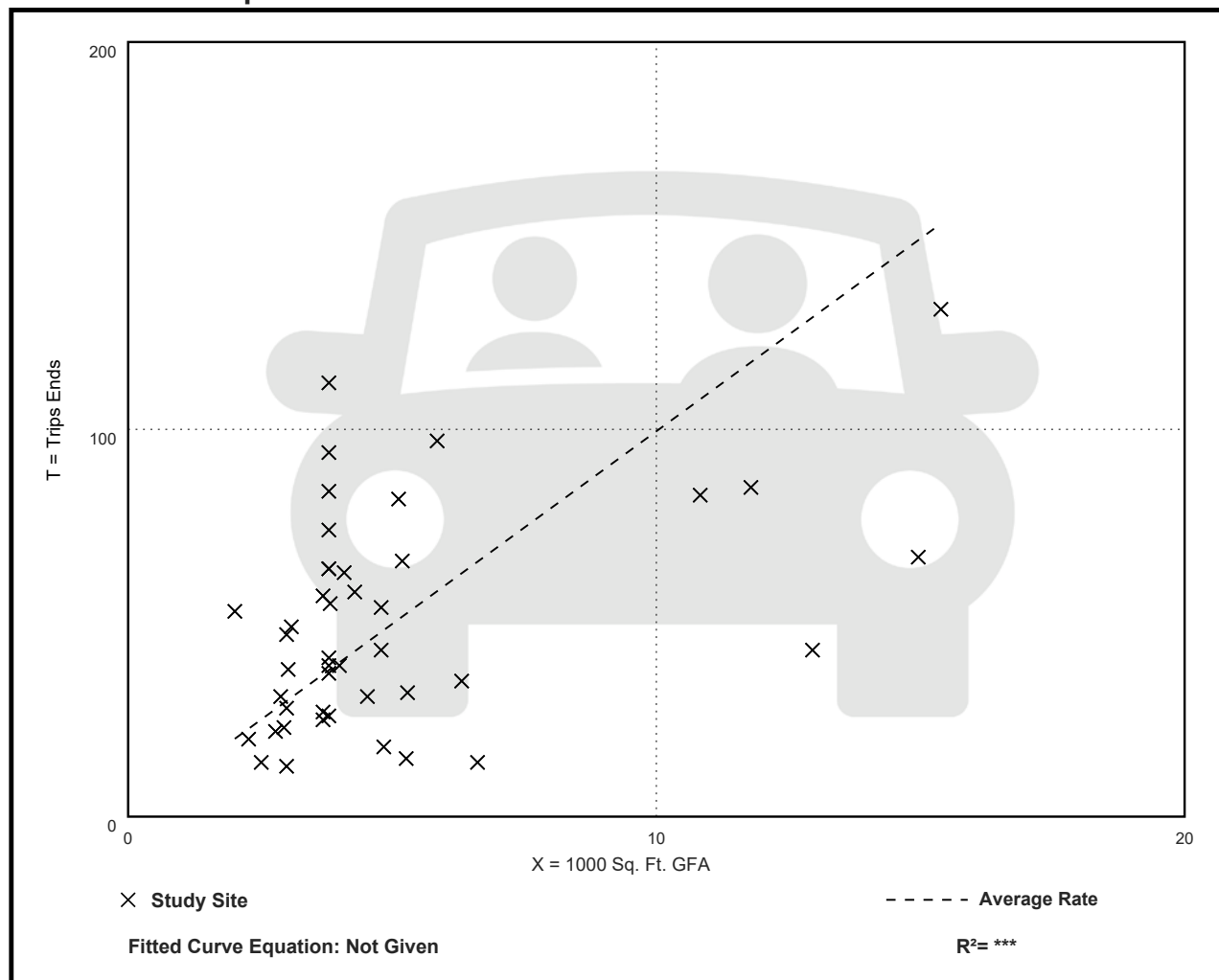
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 58% entering, 42% exiting

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

Average Rate	Range of Rates	Standard Deviation
9.95	2.12 - 29.47	6.00

## Data Plot and Equation





# Drive-in Bank (912)

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: 114

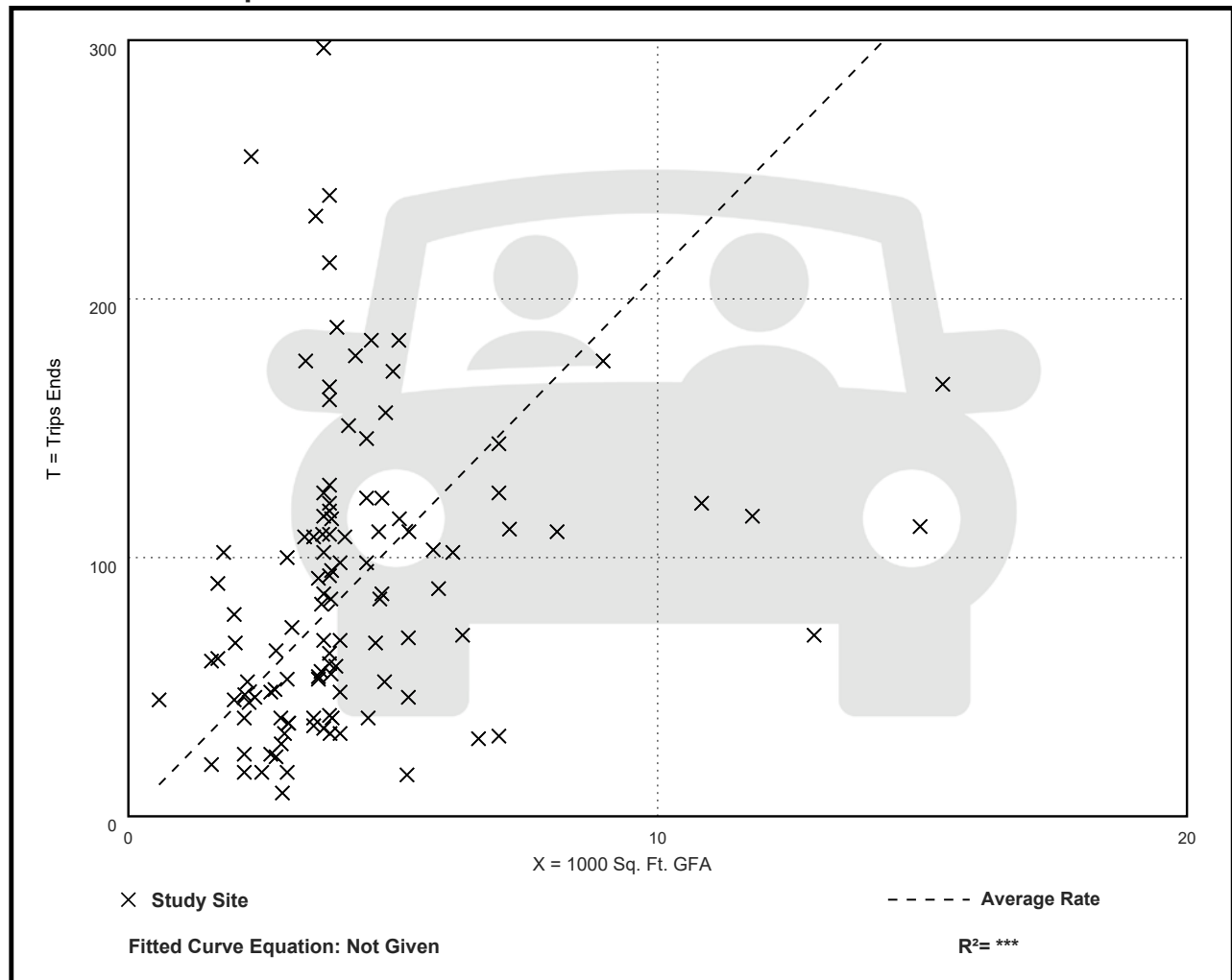
Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
21.01	3.04 - 109.91	15.13

## Data Plot and Equation



# High-Turnover (Sit-Down) Restaurant (932)

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: 37

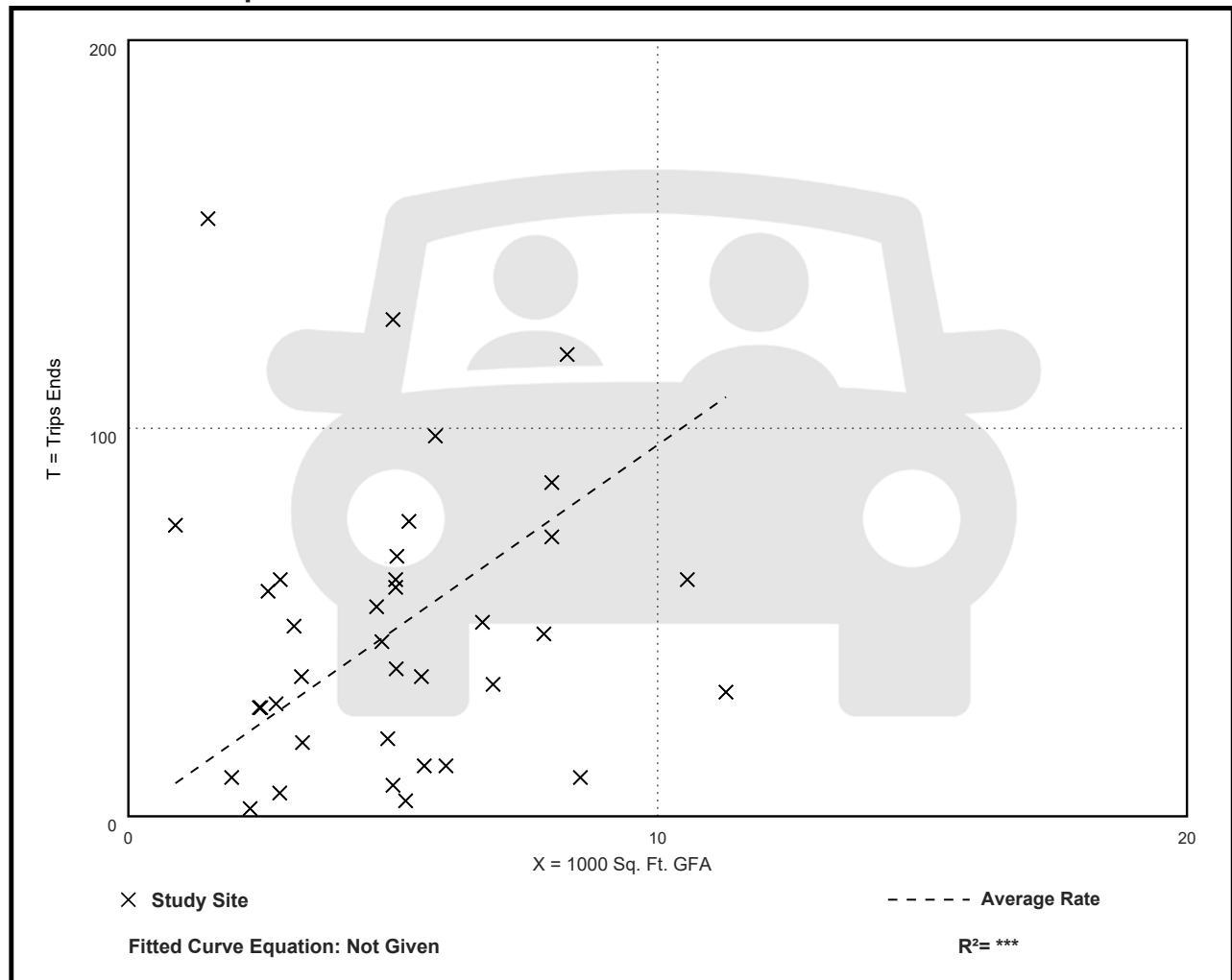
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 55% entering, 45% exiting

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

Average Rate	Range of Rates	Standard Deviation
9.57	0.76 - 102.39	11.61

## Data Plot and Equation



# High-Turnover (Sit-Down) Restaurant (932)

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: 104

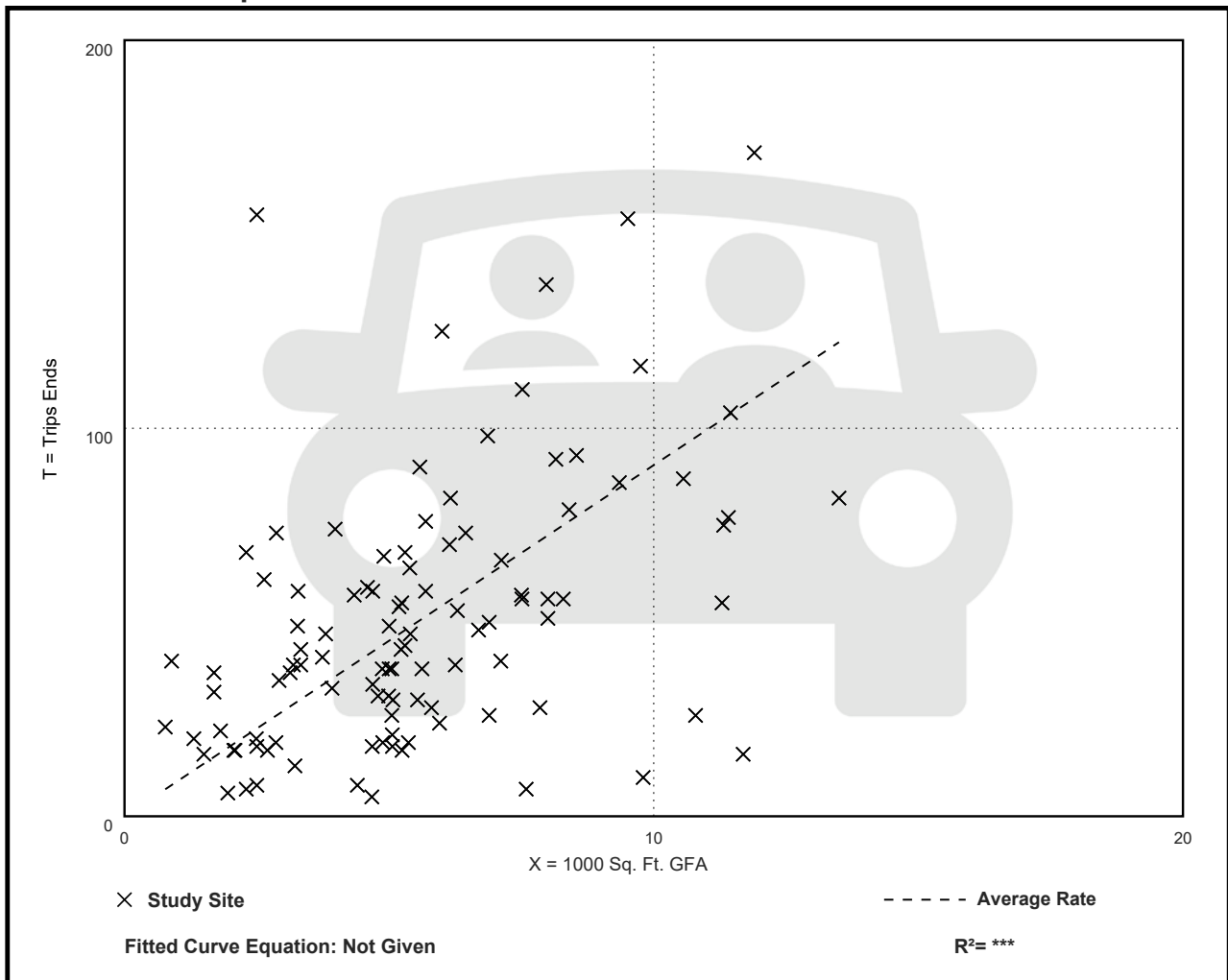
Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 61% entering, 39% exiting

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

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

## Data Plot and Equation



## Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	>35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	>55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80.0
Unsignalized Intersections		
Level of Service	Average Total Delay (SEC/VEH)	
A	0 - 10	
B	> 10 - 15	
C	> 15 - 25	
D	> 25 - 35	
E	> 35 - 50	
F	> 50	

Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets  
Year 2024 Projected Weekday Morning Peak Hour Conditions

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↑↔			↔ ↑↔↔			↔ ↗			↔ ↗		
Traffic Vol, veh/h	15	1169	7	27	900	11	33	0	3	14	0	17
Future Vol, veh/h	15	1169	7	27	900	11	33	0	3	14	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	117	-	-	185	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	17	1299	8	30	1000	12	37	0	3	16	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1012	0	0	1307	0	0	1797	2409	654	1750	2407	506
Stage 1	-	-	-	-	-	-	1337	1337	-	1066	1066	-
Stage 2	-	-	-	-	-	-	460	1072	-	684	1341	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	392	-	-	536	-	-	67	33	414	72	34	442
Stage 1	-	-	-	-	-	-	161	224	-	186	301	-
Stage 2	-	-	-	-	-	-	524	299	-	398	223	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	392	-	-	536	-	-	59	30	414	66	31	442
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	122	-	133	115	-
Stage 1	-	-	-	-	-	-	154	214	-	178	284	-
Stage 2	-	-	-	-	-	-	474	282	-	378	213	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	43.1	23.5
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	124	414	392	-	-	536	-	-	133	442
HCM Lane V/C Ratio	0.296	0.008	0.043	-	-	0.056	-	-	0.117	0.043
HCM Control Delay (s)	45.8	13.8	14.6	-	-	12.1	-	-	35.6	13.5
HCM Lane LOS	E	B	B	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	1.1	0	0.1	-	-	0.2	-	-	0.4	0.1

Capacity Analysis Summary Sheets  
Year 2024 Projected Weekday Evening Peak Hour Conditions



**Intersection**

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↓		↔	↑↑↓		↔	↓		↔	↓	
Traffic Vol, veh/h	32	754	11	27	1158	23	53	0	15	30	0	17
Future Vol, veh/h	32	754	11	27	1158	23	53	0	15	30	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	117	-	-	185	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	22	0	0	0
Mvmt Flow	34	811	12	29	1245	25	57	0	16	32	0	18

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1270	0	0	823
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	5.3	-	-	4.1
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.1	-	-	2.2
Pot Cap-1 Maneuver	294	-	-	816
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	294	-	-	816
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	28	44.6
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	187	536	294	-	-	816	-	-	95	365
HCM Lane V/C Ratio	0.305	0.03	0.117	-	-	0.036	-	-	0.34	0.05
HCM Control Delay (s)	32.5	11.9	18.9	-	-	9.6	-	-	61.2	15.4
HCM Lane LOS	D	B	C	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.2	0.1	0.4	-	-	0.1	-	-	1.3	0.2