

**From:** [Jennifer Danziger](#)  
**To:** [Jack Niedermeyer](#)  
**Cc:** [Matt Treat](#)  
**Subject:** Revised Trip Generation - 57244 Hazen Road  
**Date:** Monday, January 27, 2025 5:46:18 PM  
**Attachments:** [57244 Hazen Rd Trip Generation Revised\\_250127.pdf](#)

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Good Evening Jack,

We recognize timing is awkward for this revised memorandum but thought it was worthwhile sharing it with you anyway. In response to some of your comments, we have made revisions to the following sections:

- The trip generation estimate for the prior use remains in the memo for comparison with estimates for frisbee golf.
- New trip generation estimates were prepared for peak season and off-peak weekdays based on consultations with professionals who run courses and tournaments. These estimates are found in the section titled *Proposed Frisbee Golf - Weekdays*
- Criterion B is re-evaluated with the new trip generation estimates. It does not include any discount for the existing golf course.
- Additional considerations are presented with Criterion D.
- As before, we recommend that sight distance at the site access be confirmed for safety.
- The conclusions note that a TIA is anticipated when the property is redeveloped "back" into a functioning golf course with other sports-related activities.

We appreciate any consideration that you can give to this new information. I'm available to answer questions, if you have any.

Regards,  
Jennifer

**Jennifer Danziger, PE**  
Senior Transportation Engineer



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## Memorandum

To: Jack Niedermeyer, Columbia County  
Copy: Matt Treat, Columbia County Sports, LLC  
From: Jennifer Danziger, PE  
Date: Revised January 27, 2025  
Subject: Trip Generation Estimate for Frisbee Golf Course  
57244 Hazen Road, DR 25-01 & DSU 25-04



RENEWS: 12/31/2025

## Introduction

Columbia County Sports, LLC is proposing to utilize the site of the former St. Helens Golf Course, located at 57244 Hazen Road, as a frisbee golf course with 18 holes in a "temporary" manner as they continue the process of developing the property "back" into a functioning golf course with other sports-related activities. This memorandum provides trip generation estimates for typical operating conditions under the proposal as well as two tournament scenarios for the temporary use.

## Description

The site is located on Tax Map 4213-D0 Lot 103. The project site is shown in blue in Figure 1.

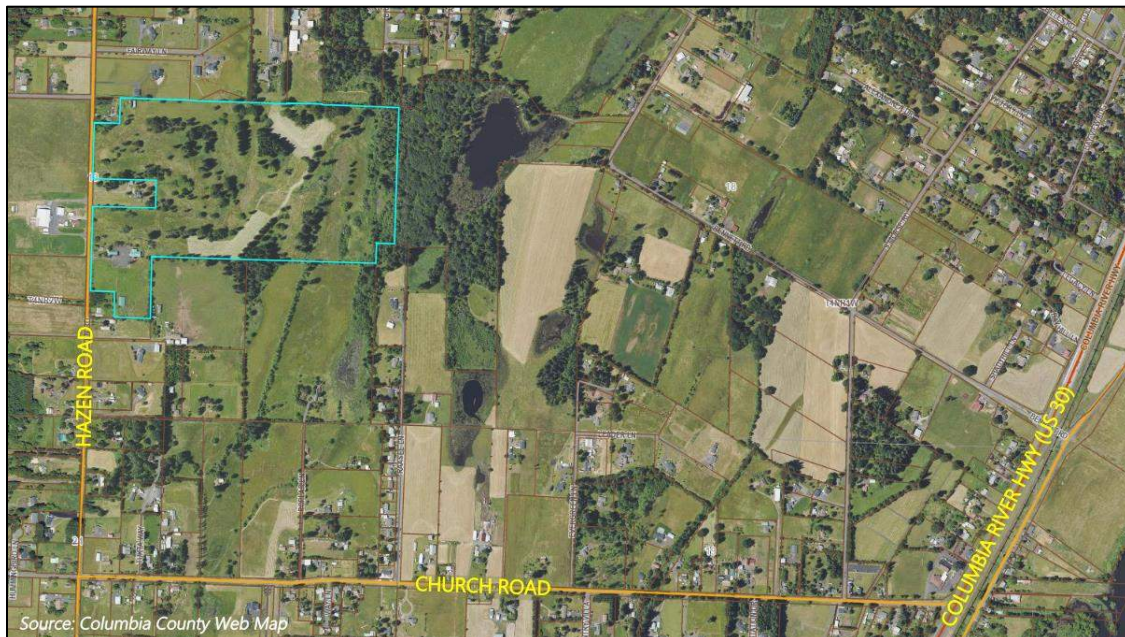


Figure 1: Vicinity Map

The St. Helens Golf Course was opened on the site in 1959 and operated until 2018. The course included 9 holes with dual tees that allowed it to be played as an 18-hole course; however, only 9 holes could actively be played at a time. According to the 2024 Columbia County Real Property Assessment Report, the site includes a 1,468-square foot (SF) home built in 1934. A 6,088-SF clubhouse and two commercial/industrial farm-type buildings totaling 4,896 SF were added in 1970. Even though operations have ceased, the property is still valued as a golf course.

The proposed project will temporarily repurpose the existing 9-hole traditional golf course, which closed in 2018/2019, as an 18-hole frisbee golf course. In general, it will operate similarly to a traditional golf course with groups of up to 4 players with scheduled tee times. However, the site may also host some tournaments with between 72 and 144 players in attendance, depending on the tournament format.

## Trip Generation

While *Trip Generation Manual*<sup>1</sup> has standard rates for a golf course (land use code 430) based on the number of holes, frisbee golf courses typically generate fewer trips than a traditional public golf course; therefore, the manual rates are not applicable to this type of facility.

### Existing Golf Course

Although the existing golf course has been closed for several years, an estimate of trip generation has been prepared for comparison with the proposed frisbee golf course. A review of the trip generation studies shows the trip rates for peak hours differ depending on the size of the course (9 holes, 18 holes, or 36 holes). To better reflect behavior specific to the course size, data was filtered to estimate average rates for a 9-hole course. Table 1 summarizes the trip generation estimates for a typical weekday.

**Table 1: Existing Golf Course - Trip Generation Estimates**

Use	Intensity	AM Peak Hour			PM Peak Hour			Daily Trips
		In	Out	Total	In	Out	Total	
Traditional Golf Course (LUC 430)	9 Holes	12	3	15	23	14	37	264

*\* No daily surveys were conducted at 9-hole courses; therefore, the average rate for 18-hole courses was applied to estimate weekday trips.*

The traditional 9-hole golf course that historically operated on this site is estimated to generate a 15 AM peak hour trips, 37 PM peak hour trips, and 264 daily trips on a weekday.

<sup>1</sup> Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.



## Proposed Frisbee Golf

### Weekdays

As noted earlier, frisbee golf courses typically generate fewer trips than a traditional public golf course. To estimate trip generation, professionals in the field were consulted to understand how they operate. Based on these discussions the following assumptions about trip generation were developed:

- The proposed frisbee golf course is anticipated to attract up to 20 players on most weekdays during the peak summer and shoulder seasons and fewer players (estimated at 10 to 12) during the off season.
- It is unusual for players to arrive on site during the morning. Play typically begins mid-morning and extends to dusk. During the peak season, when there is more daylight, approximately one third of the players may travel to a course during the evening peak commute. Some players will be leaving the course during the evening peak hour; this is estimated at about 15 percent of the daily play.
- As dusk comes earlier during the off season, all play must begin before the evening peak commute although up to one third of players may finish and depart during peak hours.
- Most players can complete the course in under 2 hours.
- When traveling to a more distant course, players will frequently carpool. Average vehicle occupancy is estimated at 1.25 players on a typical weekday.
- One (1) staff member may be on site on at some point during a typical weekday. Their travel may not coincide with peak hours but is assumed to do so for trip estimates.

Table 2 presents the weekday trip generation estimates based on these assumptions.

**Table 2: Frisbee Golf Course - Trip Generation Estimates**

Season	AM Peak Hour			PM Peak Hour			Daily Trips
	In	Out	Total	In	Out	Total	
Peak Season	1	0	1	5	3	8	34
Off-Season	1	0	1	0	4	4	22

A frisbee golf course is estimated to generate approximately 1 AM peak hour trip, 8 PM peak hour trips, and 34 daily trips on a weekday during the peak season. During the off-season, trip generation is estimated at 1 AM peak hour trip, 4 PM peak hour trips, and 22 daily trips on a weekday. These estimates are all lower than the historical activity when the site was operated as a traditional 9-hole golf course.

### Weekend Tournaments

Columbia County Sports, LLC also intends to operate occasional frisbee golf tournaments. These would happen on weekends. Two tournament styles may occur. One option is a shotgun-style event with as many as 72 participants playing the course twice in a single day. The other option is to schedule tee times with groups of players (4 per group) starting at the first hole and playing through the course. These events generally occur over two days with as many as 144 participants.



To estimate the trip generation for these tournaments, the following assumptions were made:

- Shotgun Start
  - Tournament has a maximum of 72 players.
  - All players start at the same time in the morning.
  - Two rounds of play are scheduled.
  - Each round of play takes approximately 3.5 hours with a break in between.
  - Awards are distributed at the end of play.
  - Total time on site for each player is 8 to 9 hours
- Staggered Tee Times
  - Tee times will be staggered in 10-minute intervals allowing 6 groups of players to begin play in one hour.
  - Groups will typically consist of 4 players; 24 players will begin play in one hour.
  - The 18-hole course can be played in approximately 3.5 hours.
  - Players will remain on site for 30 minutes to 1 hour after completing their round of golf.
  - Total time on site for each player is 4 to 4.5 hours.
- Common Assumptions
  - Up to 5 staff members will be on site during the tournament but they will arrive before and stay after tournament players.
  - Players frequently carpool; average vehicle occupancy is estimated at 1.5 players.
  - Staff are more likely to travel alone.

Table 3 presents the tournament trip generation estimates based on these assumptions.



**Table 3: Tournament Trip Generation Estimates**

Hour	Shotgun Style (72 players)			Staggered Tee Times (144 players)		
	Arriving	Departing	Total	Arriving	Departing	Total
Setup	5	0	5	5	0	5
1	48	0	48	16	0	16
2	0	0	0	16	0	16
3	0	0	0	16	0	16
4	0	0	0	16	8	24
5	0	0	0	16	16	32
6	0	0	0	16	16	32
7	0	0	0	0	16	16
8	0	24	24	0	16	16
9	0	24	24	0	16	16
Breakdown	0	5	5	0	13	13
Total	53	53	106	101	101	202

As shown in Table 3, the most conservative estimate of daily trip generation for a tournament is 202 trips for the scheduled tee times. With the shotgun style tournament, an estimated 48 inbound trips would occur in the morning peak hour and 24 outbound trips would occur in the evening peak hour. With staggered tee times, demand would be spread throughout the day with the highest volumes anticipated to occur midday with 32 peak hour trips.

## Transportation Impact Analysis Requirements

Section 1450 of the Columbia County Zoning Ordinance (CCZO) outlines the criteria for when a transportation impact analysis (TIA) shall be required to be submitted to the County with a land use application. The criteria are listed below along with responses.

- A. Changes in land use designation, or zoning designation that will generate more vehicle trip ends.

*The proposed temporary use does not require a change in land use or zoning designation. This criterion is not met.*

- B. Projected increase in trip generation of 25 or more trips during either the AM or PM peak hour, or more than 400 daily trips.

*The frisbee golf course is estimated to generate approximately 1 AM peak hour trip, 8 PM peak hour trips, and 34 daily trips on a weekday during the peak season and fewer trips during the off season. This criterion is not met.*

*The proposal may also include occasional tournaments with up to 144 players. The daily trip generation for the tournaments is estimated at a maximum of 202 trips. Peak hour trip generation will vary*



*depending on the type of tournament with a maximum of 48 trips added in any hour. Although the code does not specifically state that the threshold applies to a weekday, the AM or PM peak hours reflect peak commuter hour conditions during midweek. Tournaments would occur on occasional weekends. The daily volumes are well below the weekday threshold and these trips would occur on occasional weekends rather than repeatable daily occurrences. Furthermore, they do not correspond with the peak commute times that are the basis of the thresholds. Therefore, this criterion is not met.*

C. Potential impacts to intersection operations.

*Volumes on the area roadways are generally very low. The Oregon Traffic Monitoring System (OTMS) has a count on Church Road west of US 30 that shows an estimated 1,980 vehicles per day for the year 2023. Volumes further to the west on Church Road and on Hazen Road are likely to be lower than the volumes close to the highway. The intersection of these roadways is all-way stop-controlled. With these low volumes, the roadway network surrounding the golf course should not have operational concerns at this intersection. The resumption of traditional golf or the proposal for frisbee golf will not change this conclusion. Added traffic on the state highway is anticipated to fall below the ODOT thresholds for a traffic study. Therefore, this criterion is not met.*

D. Potential impacts to residential areas or local roadways, including any non-residential development that will generate traffic through a residential zone.

*Hazen Road and Church Road are both classified as Major Collector roadways in the Columbia County Transportation System Plan (TSP). According to the TSP, "major Collectors are intended to serve local traffic traveling to and from principal arterial or minor arterial roadways. These roadways provide greater accessibility to neighborhoods, often connecting to major activity generators and providing efficient through movement for local traffic." Since these roadways are the appropriate classification to serve the site, the first part of this criterion regarding local roadways is not met.*

*The site is zoned Community Service – Recreational (CS-R), which includes public and private recreation facilities such as parks, boat ramps, campgrounds, and other similar uses. It is surrounded by rural residential lands. The site traffic has no choice but to travel through these residential areas. However, as noted above, the roads accessing the site are designated as major collectors which are intended to carry traffic through the area to more major roadways. The existing golf course, when it was in operation, was served by these roadways that travel through residential areas. Residents along these roadways have experienced traffic demand from this site before at more intensive levels than the proposed temporary use; thus, the impact to the residential uses could be considered minimal and this criterion would not be met.*

E. Potential impacts to pedestrian and bicycle routes, including, but not limited to school routes and multimodal roadway improvements identified in the TSP.

*The street standard in the TSP for Major Collector roads includes 5-foot shoulders. Currently, neither of the routes have consistent shoulders at all. Walking and bicycle ridership along these rural routes is minimal and school buses stop at individual homes rather than requiring children to walk to aggregated bus stops. The resumption of traditional golf or the proposal for frisbee golf will not change these conditions. Therefore, this criterion is not met.*



- F. The location of an existing or proposed access driveway does not meet minimum spacing or sight distance requirements or is located where vehicles entering or leaving the property are restricted, or such vehicles are likely to queue or hesitate at an approach or access connection, thereby creating a safety hazard.

*The existing site driveway meets the 130-foot access spacing standard for a Major Collector Roadway. Hazen Road is straight and a preliminary review of available sight distance based on aerial photos shows that standards can likely be met with trimming of landscaping along the roadway on the site property. This should be confirmed in the field. Adequate sight distance would need to be provided with the resumption of traditional golf and the proposal for frisbee golf will not change this need. Therefore, this criterion is not met.*

- G. A change in internal traffic patterns may cause safety concerns.

*The proposed use will not change internal traffic patterns that would give rise to safety concerns; therefore, this criterion is not met.*

- H. A TIA is required by ODOT pursuant with OAR 734-051.

*The site will not have direct access to a state highway; therefore, ODOT will not require a TIA. Furthermore, the trips generated by the historic and proposed uses fall below the ODOT criteria for a TIA. Therefore, this criterion is not met.*

- I. Projected increase of five trips by vehicles exceeding 26,000-pound gross vehicle weight (13 tons) per day, or an increase in use of adjacent roadways by vehicles exceeding 26,000-pound gross vehicle weight (13 tons) by 10 percent.

*The proposal will not generate heavy vehicle traffic; therefore, this criterion is not met.*

Our assessment finds that none of the nine criteria above are met and recommends that a TIA should not be required for the proposed temporary use. However, should more intensive uses be added to the site, the criteria should be re-evaluated to determine if a TIA is required. A TIA is anticipated to be necessary when the property is redeveloped "back" into a functioning golf course with other sports-related activities

## Conclusion

A frisbee golf course is estimated to generate approximately 1 AM peak hour trip, 8 PM peak hour trips, and 34 daily trips on a weekday during the peak season. During the off-season, trip generation is estimated at 1 AM peak hour trip, 4 PM peak hour trips, and 22 daily trips on a weekday. These estimates are all substantially lower than the historical activity when the site was operated as a traditional 9-hole golf course. These trip estimates also fall well below the weekday thresholds for a full TIA.

The proposal may also include occasional tournaments with up to 144 players. The daily trip generation for the tournaments is estimated at a maximum of 202 trips. Peak hour trip generation will vary depending on the type of tournament with a maximum of 32 to 48 trips added in any hour. While this traffic volume would exceed the weekday AM or PM peak hour commuter threshold, these trips would occur on occasional weekends rather than repeatable daily occurrences. Furthermore, they do not correspond with the peak commute times that are the basis of the thresholds.





CCZO Section 1450 outlines the criteria for when a TIA shall be required to be submitted to the County with a land use application. Our assessment finds that none of the nine criteria above are met and recommends that a TIA should not be required for the proposed temporary use. However, for safety, sight distance at the site driveway should be field-checked and landscaping should be trimmed to provide adequate sight lines.

When more intensive uses are proposed for the site, the criteria should be re-evaluated. A full TIA is anticipated to be necessary when the property is redeveloped "back" into a functioning golf course with other sports-related activities.

*Attachment:*

*Trip Generation Rates and Estimates*



# Golf Course (430)

**Vehicle Trip Ends vs: Holes**  
**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: 4 out of 15  
 Avg. Num. of Holes: 9  
 Directional Distribution: 79% entering , 21% exiting

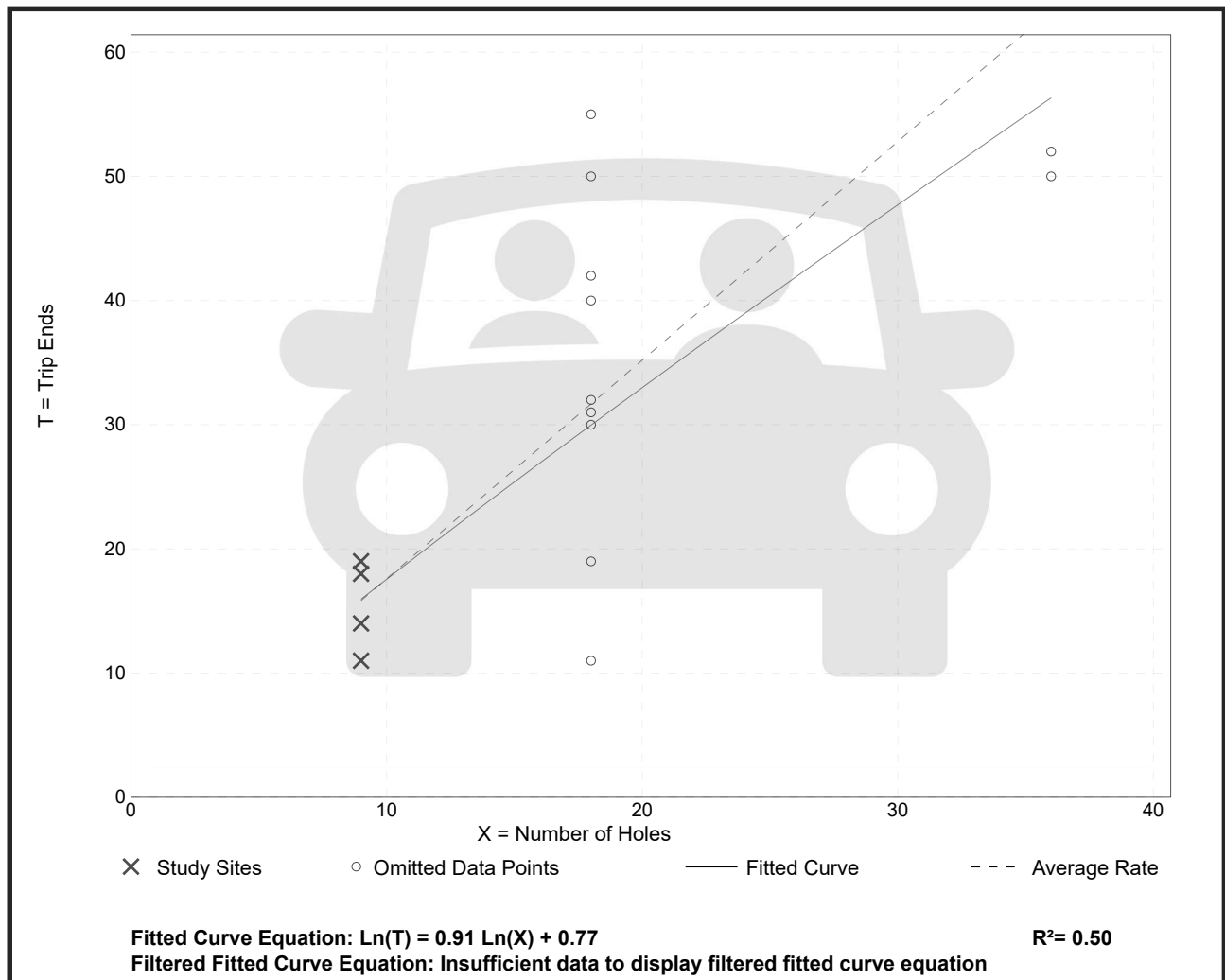
## Vehicle Trip Generation per Hole

Average Rate	Range of Rates	Standard Deviation
1.72	1.22 - 2.11	0.41

Data Filtered By: [IV Value: 9-9]

## Data Plot and Equation

*Caution – Filtered Data Set*



# Golf Course (430)

**Vehicle Trip Ends vs: Holes**  
**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: 3 out of 14  
 Avg. Num. of Holes: 9  
 Directional Distribution: 63% entering , 37% exiting

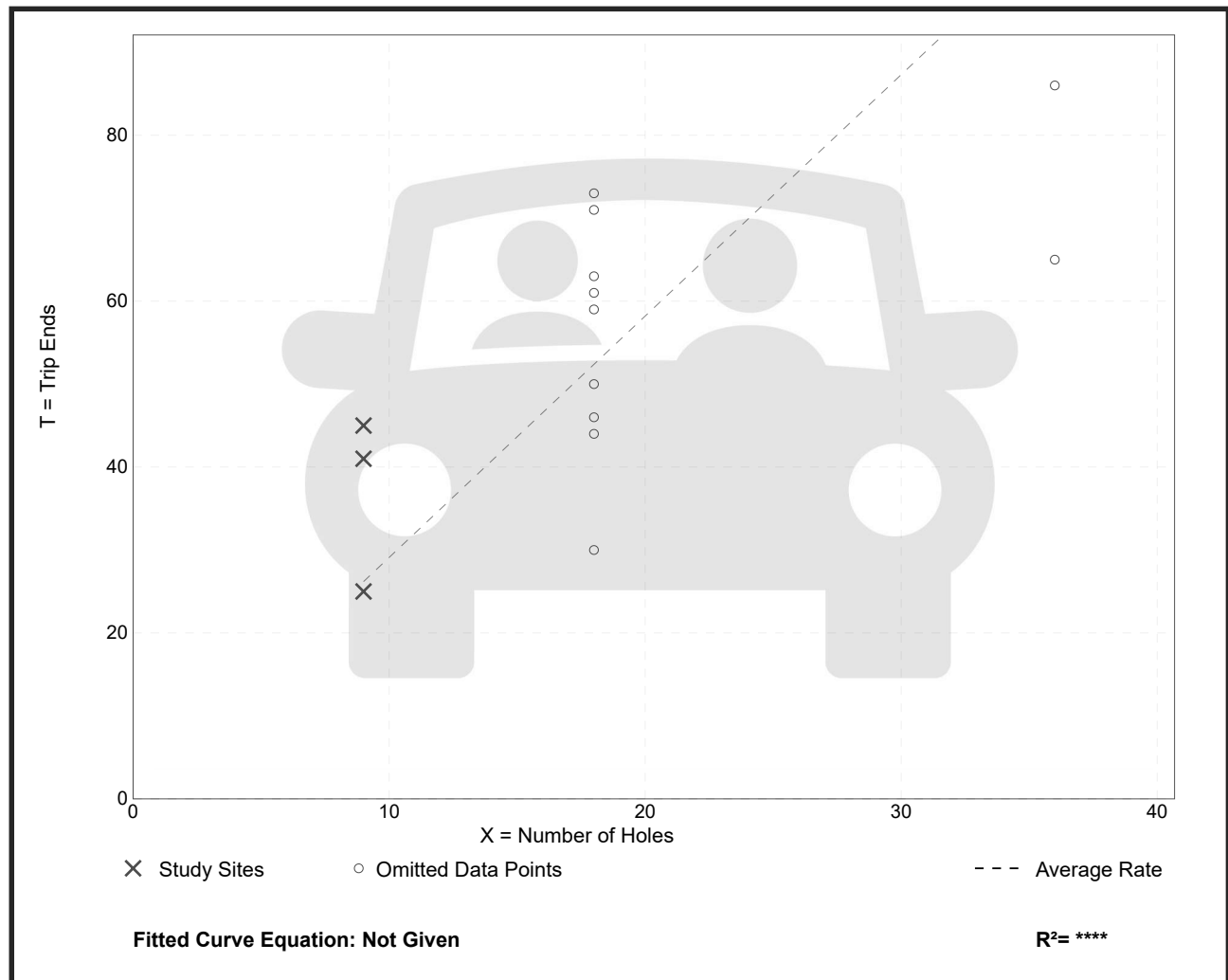
## Vehicle Trip Generation per Hole

Average Rate	Range of Rates	Standard Deviation
4.11	2.78 - 5.00	1.18

Data Filtered By: [IV Value: 9-9]

## Data Plot and Equation

*Caution – Filtered Data Set*



# Golf Course (430)

**Vehicle Trip Ends vs: Holes**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 3 out of 4  
Avg. Num. of Holes: 18  
Directional Distribution: 50% entering , 50% exiting

## Vehicle Trip Generation per Hole

Average Rate	Range of Rates	Standard Deviation
29.24	14.50 - 40.50	13.35

Data Filtered By: [IV Value: 18-18]

## Data Plot and Equation

*Caution – Filtered Data Set*  
*Caution – Small Sample Size*

