E.L. ROBINSON ENGINEERING

T: 614.586.0642
F: 614.586.0648

950 Goodale Boulevard, Suite 180
Grandview Heights, OH 43212

elrobinsonengineering.com

February 7, 2025

Brian Herrera
Executive Pastor
Radiant Life Church
7100 Post Road
Dublin, OH, 43016

Re: Radiant Life Church – Soccer Fields
7100 Post Road, Dublin, OH 43016
Traffic Memo

Mr. Herrera:

E.L. Robinson Engineering (ELR) has been tasked by Radiant Life Church to perform a Trip Generation Study for the addition of soccer fields to the existing church property at 7100 Post Road Dublin, Ohio.

The property is located east of the US-33/Post Road interchange where Post Road is classified as a Collector with a 35 MPH Speed Limit and 40 MPH Design Speed. Existing pedestrian facilities exist along Perimeter Dr which connects to the church entrance via a sidewalk along Post Rd. The proposed fields will be located on vacant land north of the current church building and will utilize the current parking lot and driveway. It is understood that the development will consist of up to five soccer fields of varying configurations. The fields will primarily be used as a practice facility for a small Dublin based soccer group for weekday and Saturday practices. The league organizer may use the facility for a maximum of two times annually beginning in 2027 for tournaments on Saturdays, but this is not intended to be a large multiuse sports park. The plans do not call for any seating, lighting, or concessions that would typically be seen at larger facilities. Expectations are that participants will utilize the church parking area. This commitment will be communicated to parents and visitors. Additional measures will be required for tournaments to include posting parking signs at the church, no parking signs along neighborhood streets, and hiring off duty police officers to manage traffic as situations dictate. The fields will not be used during church services.

To determine the impacts of this change in use on the existing roadway network, the estimated trips were determined for the anticipated fields based on the methodologies contained in the Institute of Transportation Engineer's (ITE's) Trip Generation Manual, 11th Edition. The Soccer Complex (488) land use code was used based on the maximum five possible fields. It should be noted that many of the available projections are based on a very small sample size.

Further, ITE's Soccer Complex projections appear to be based on large multifield game facilities which according to ITE may include amenities such as stadium seating, fitness trail, activities

shelter, aquatic center, picnic grounds, basketball and tennis courts, and playgrounds. The proposed change of use does not include any of these features; therefore, trip generation is expected to be on the low end of these values.

Only the Saturday Peak Hour volume was based on a reasonable number of study sites. The resulting projection for the five potential fields was 287 trips (total entering and exiting) during the peak (busiest) hour of the site. Each trip utilizes 48% entering and 52% exiting distribution. This results in about 137 vehicles entering and 149 vehicles exiting in the peak hour. This estimation appears to be reasonable for a game situation occurring on the weekends. Experience from the soccer organizer's perspective suggests that in a five-field game scenario, roughly 150 vehicles may be present at a given time. Other ITE data available is shown in the attached documentation; however, the small sample size makes this data less reliable and has not been used for projection purposes. To compare the volume associated with the soccer fields, Post Road has an Average Daily Traffic (ADT) of 4,356 vehicles per day according to the Ohio Department of Transportation data.

Given the primary use of the fields as a practice facility, an estimated trip generation can be more reasonably obtained by using the likely number of participants. Practice is planned to be weekdays, in the late afternoon to evening, and on Saturdays between 9:00 A.M. and 2:00 P.M. No practices will be permitted ion Sundays.. It can be assumed that each soccer player will be driven to the facility, dropped off, and picked up following practice. This results in four trip ends (50% entering and 50% exiting) per player for the weekday peak usage. With up to five fields, it is assumed that up to five teams could practice at one time. It is assumed each team could include up to 15 to 20 players which results in 300 to 400 peak trip ends per practice session without accounting for shared trip or multimodal aspect which would further reduce vehicular trips. Half of the trips would occur at the start of practice in late afternoon to evening while the other half would occur at the end of practice likely in early evening. Specific times will be determined by coaches.

The current church facility has 288 parking spaces. Based on the projected game scenario, the available parking at the church exceeds the projected 149 peak hour trips. Some research suggests that 50 to 100 spaces per field be provided for a sports park. While this facility does not have many of the features associated with a sports park, the 288 parking spaces available on the church property exceed this recommendation. The current parking is ample enough to even meet this recommendation for a five-field game scenario.

Based on discussion with the church, the parking lot is generally full during Sunday church services. As church service begins or ends the 288 vehicles will enter or exit the parking lot. These 288 vehicles likely exceed that of the planned soccer facility usage. As such, the planned soccer facility is expected to have less impact than the current church usage.

Respectfully,

Matt Cornett, PE, PTOE
Transportation Group Manager

enclosure (1)

c: file (24053)

Soccer Complex
(488)

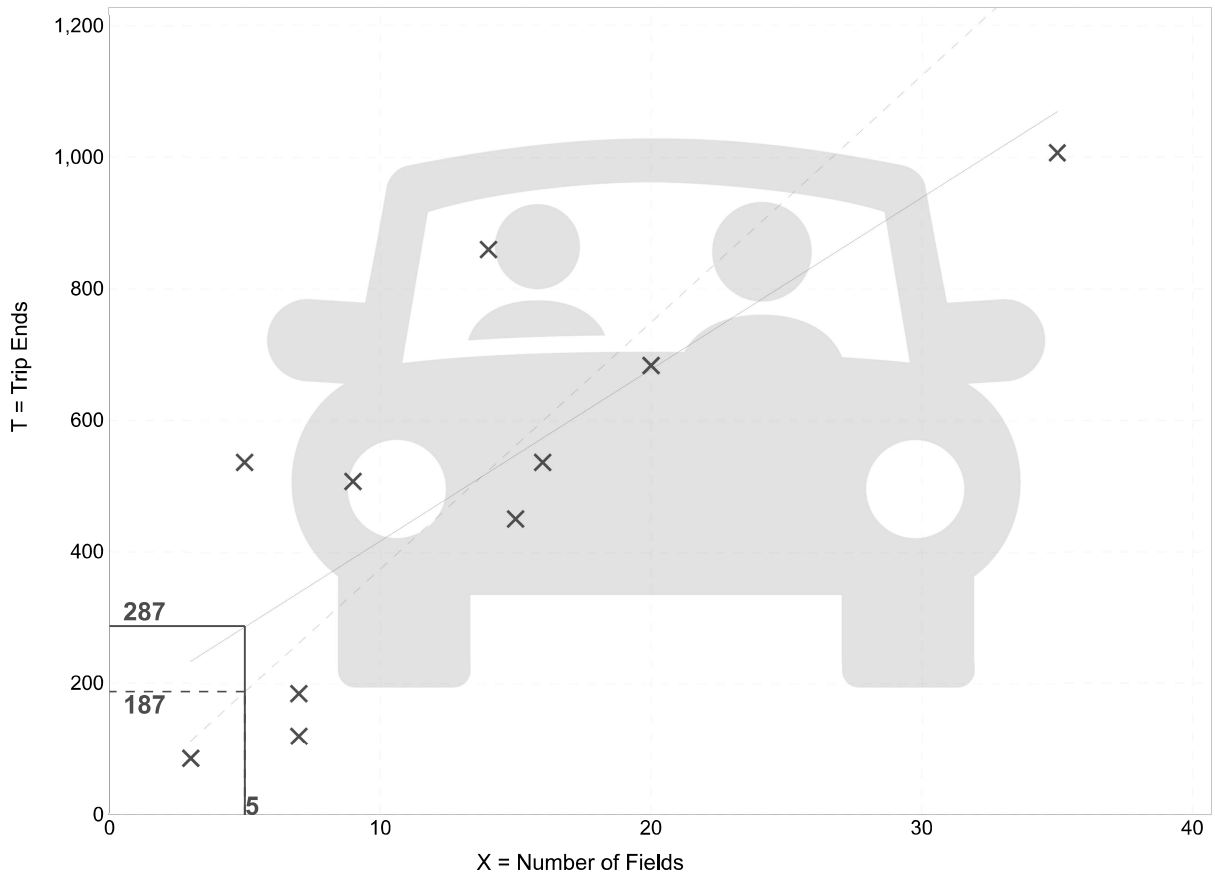
Vehicle Trip Ends vs: **Fields**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. Num. of Fields: 14
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
37.48	17.14 - 107.40	17.87

Data Plot and Equation



Fitted Curve Equation: T = 26.09(X) + 156.36

R^2= 0.66

Soccer Complex
(488)

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

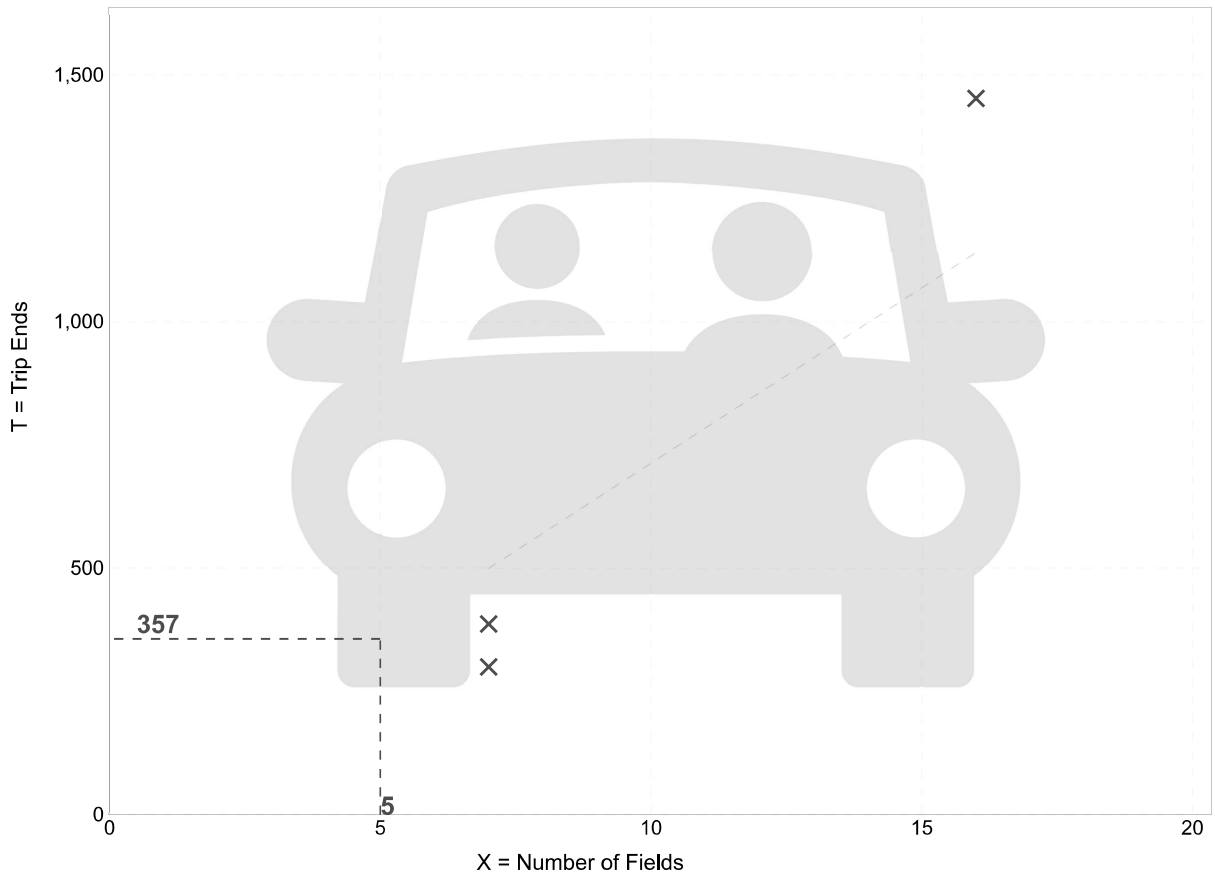
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. Num. of Fields: 10
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
71.33	42.86 - 90.81	26.03

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

Soccer Complex
(488)

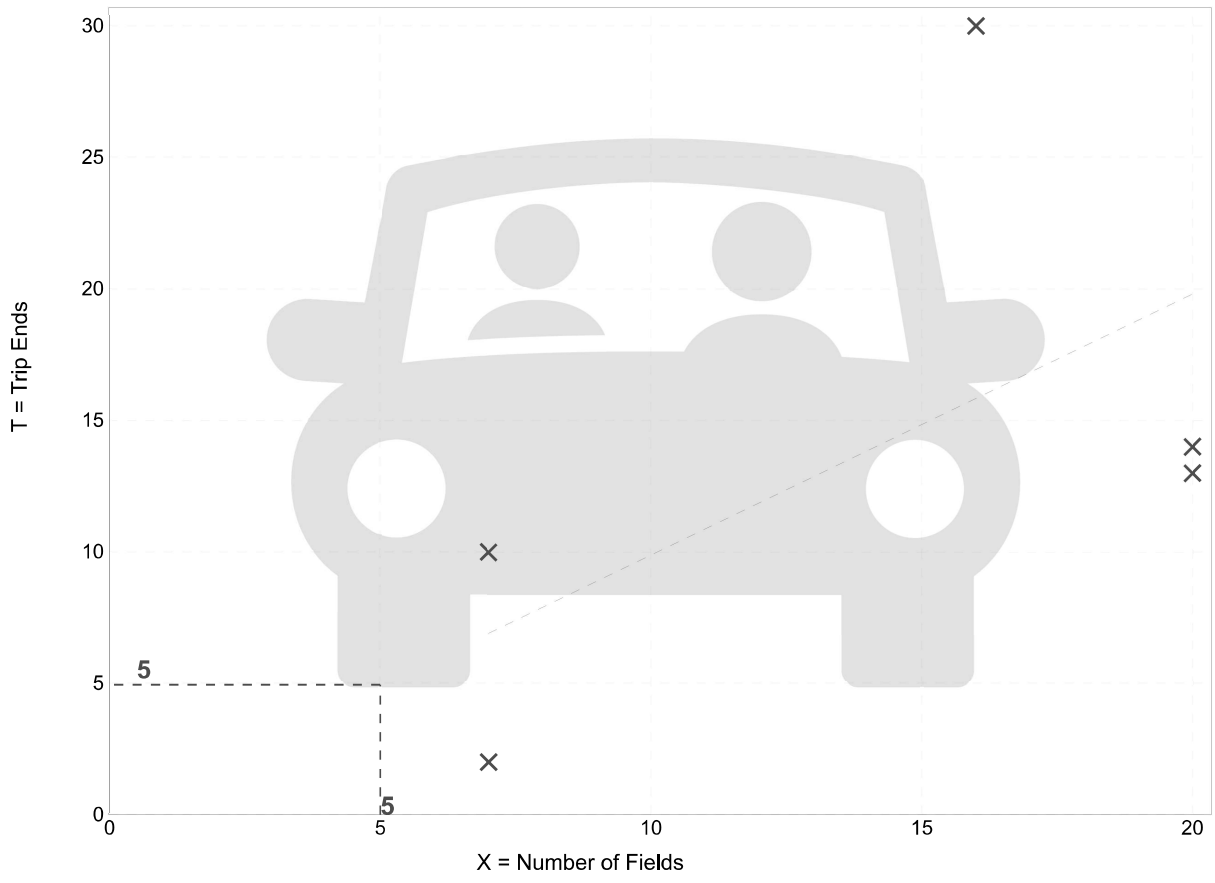
Vehicle Trip Ends vs:	**Fields**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	5
Avg. Num. of Fields:	14
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
0.99	0.29 - 1.88	0.62

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

Soccer Complex
(488)

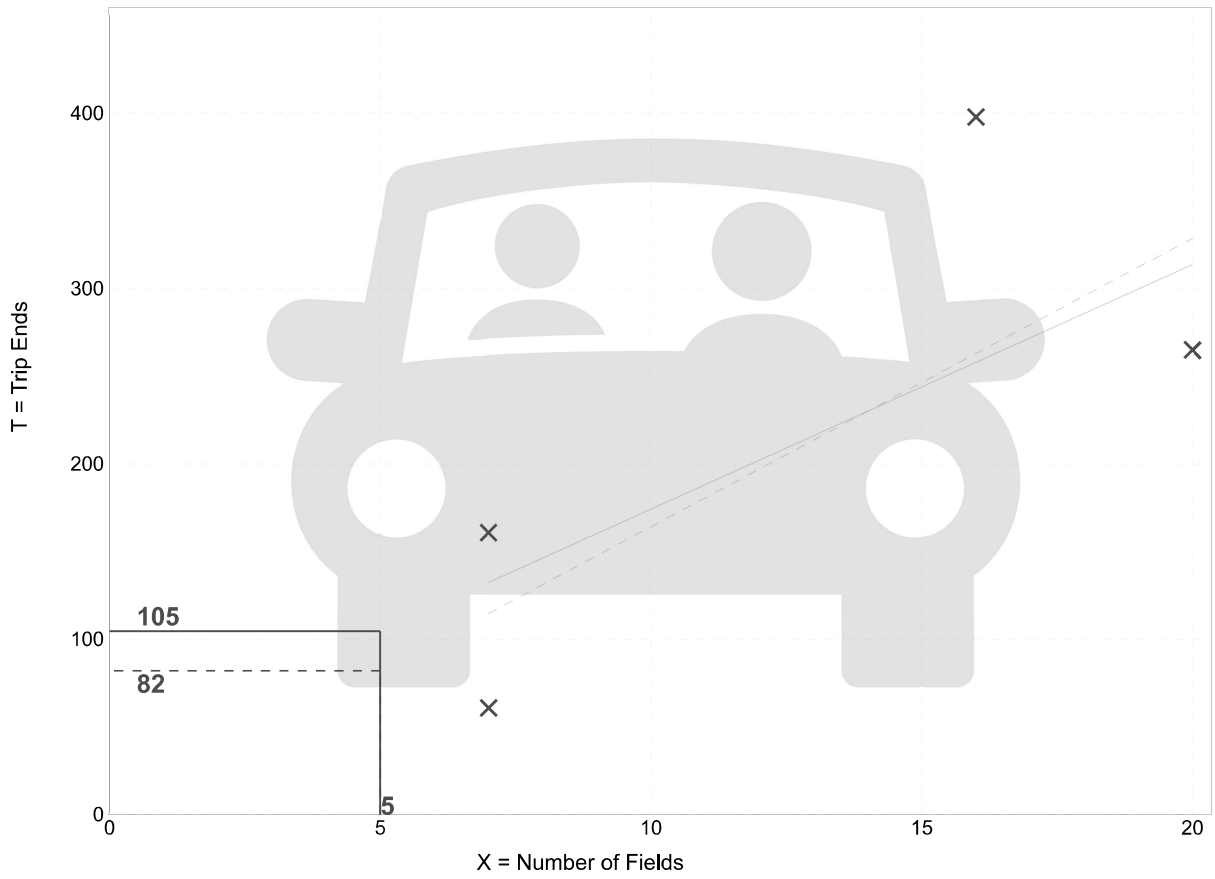
Vehicle Trip Ends vs:	**Fields**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	5
Avg. Num. of Fields:	14
Directional Distribution:	66% entering, 34% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
16.43	8.71 - 24.88	6.36

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 13.92(X) + 35.13

R^2= 0.53

Soccer Complex
(488)

Vehicle Trip Ends vs: **Fields**
On a: **Weekday,**
AM Peak Hour of Generator

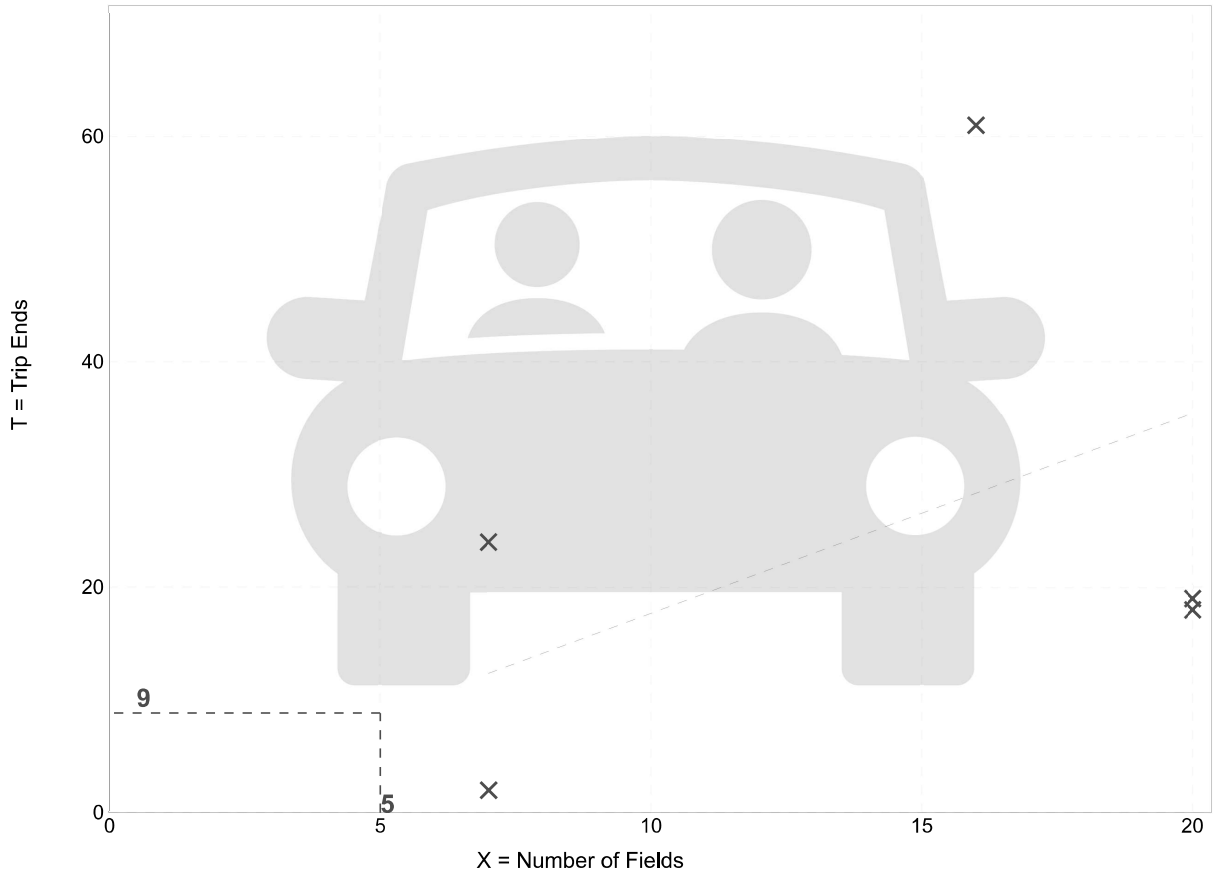
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Fields: 14
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
1.77	0.29 - 3.81	1.52

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

Soccer Complex
(488)

Vehicle Trip Ends vs: **Fields**
On a: **Weekday,**
PM Peak Hour of Generator

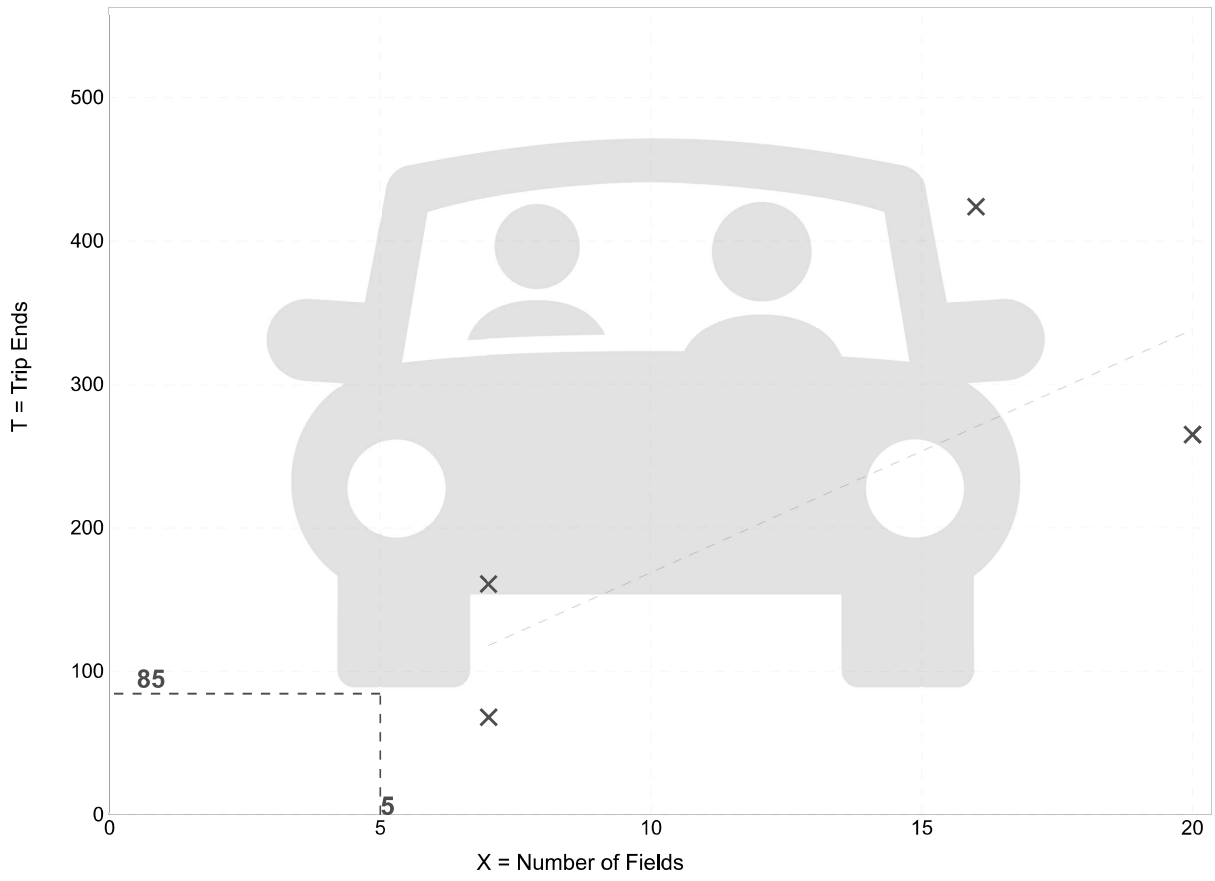
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Fields: 14
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
16.90	9.71 - 26.50	6.85

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

Soccer Complex
(488)

Vehicle Trip Ends vs: **Fields**
On a: **Saturday**

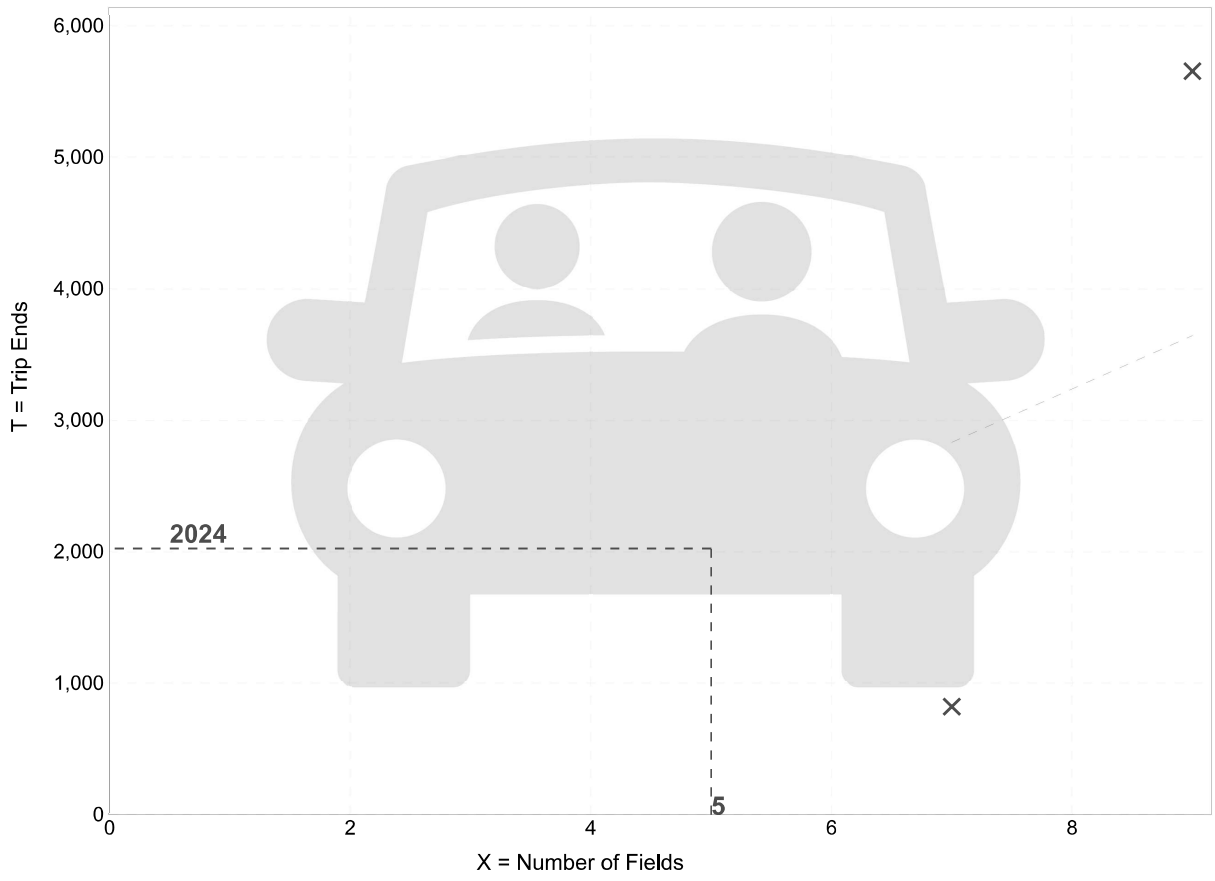
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. Num. of Fields: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
404.88	117.43 - 628.44	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

Soccer Complex
(488)

Vehicle Trip Ends vs: **Fields**
On a: **Sunday, Peak Hour of Generator**

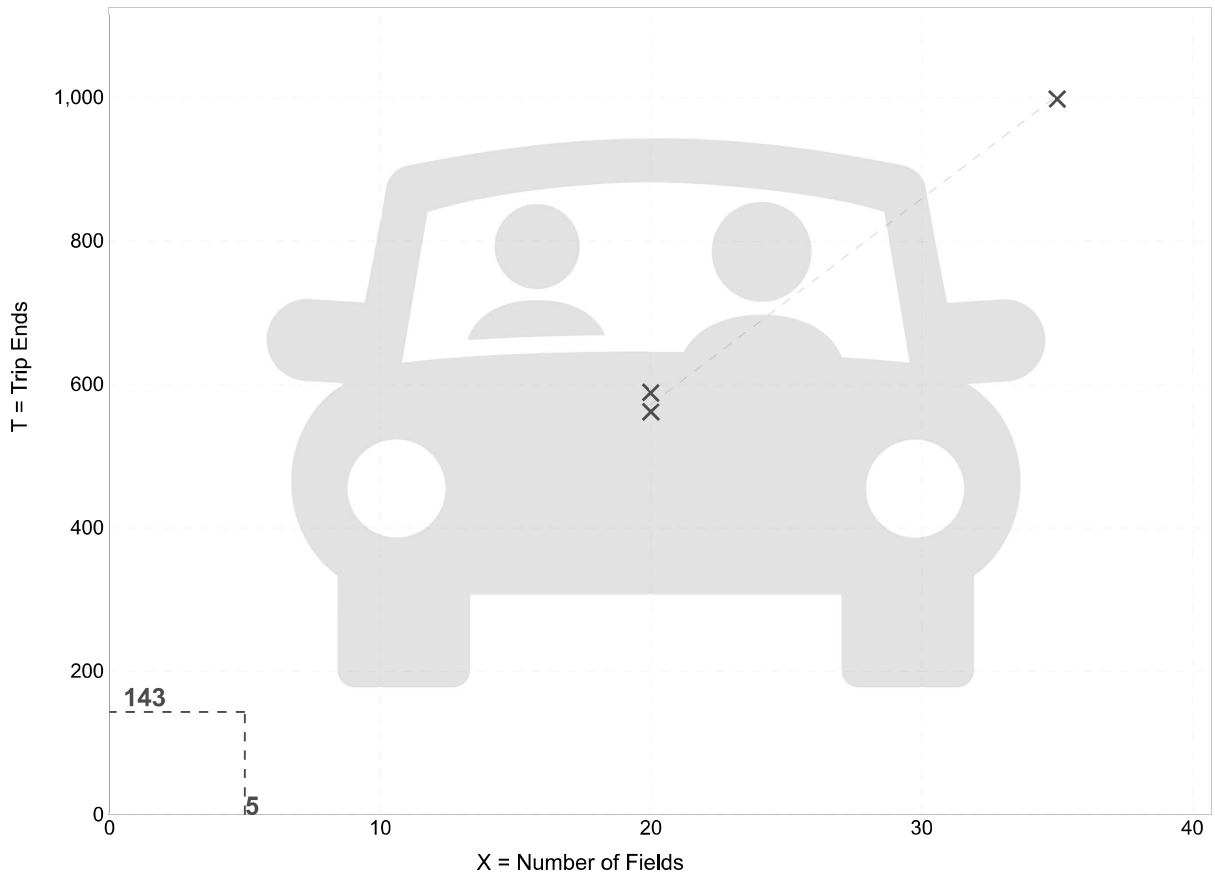
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. Num. of Fields: 25
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
28.65	28.10 - 29.45	0.62

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****