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November 2, 2018

City of Hilliard, Engineering Division
3800 Municipal Way
Hilliard, OH 43026

ATTN: Letty Schamp, PE
Deputy City Engineer

RE: Jerry Spears Funeral Home – 5505 Hyde Park Drive
Vehicular Site Trip Generation

Dear Letty:

As requested, this trip generation report has been prepared to estimate the vehicular site-generated trips for the proposed funeral home at 5505 Hyde Park Drive. According to the City's Guidelines for the preparation of Traffic Impact Studies, a traffic impact study may be required based on a number of factors, the most applicable of which for this development is whether the site generates more than 100 vehicle trips per hour of an average day.

The funeral home is to be in the existing building on site that has previously served as a church. According to the Franklin County auditor's website, the existing building is listed at 4,560 square feet. The Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition was used to estimate the site-generated trips related to the previous church land use. Because of the small size of the existing building, the square footage falls outside the low end of the range of data for the majority of the time periods in the ITE manual. However, in referencing the data, it appears that a church of this size would have less than ten (10) peak hour trips on weekdays and Saturdays. On Sundays, ITE data suggests that a church of this size would generate between 46 and 101 peak hour trips, depending on whether the average rate equation or the fitted curve equation is used. It should be noted that the ITE Trip Generation Handbook 3rd Edition indicates that because the R² value is less than 0.75 and the standard deviation is greater than 55 percent of the weighted average rate, the collection of local data is recommended to estimate site-generated trips for the church land use. For reference, data sheets from the ITE manual for the Church land use (LUC 560) are attached.

For the funeral home land use, the ITE manual does not have data to predict site-generated trips. This funeral home is intended to accommodate visitations and funerals. The building is limited to accommodating one funeral or visitation at a time. According to the project owner, the number of people that attend visitations and funerals varies significantly from occasion to occasion. As a result, estimating site-generated trips for this funeral home is not straight-forward, but may be best estimated based on experience of the project owner at their existing 10,000 square foot facility, which is outlined below.

Most funeral services are held at 10:00 am and 1:00 pm, both of which are outside the typical roadway peak traffic periods. Funeral services last for approximately ½ hour. Processions from the funeral home to the cemetery are typically assisted by a police escort. Based on this information, funeral services are not expected to have a significant impact on traffic operations.

While some visitations begin between the hours of 2:00 and 4:00 pm, peak times for visitations are between 6:00 and 8:00 pm. Typically, attendance at Spears' visitations has ranged between 30 and 100 visitors over a three-

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Spears Funeral Home – 5505 Hyde Park Drive



hour period. Assuming an average vehicle occupancy of two people per vehicle, approximately 50 vehicles would be expected to enter and exit the site over the three-hour period, or about 20 vehicles per hour. This translates into 40 total trips per hour; 20 entering and 20 exiting. This number of trips is near the low end of the Sunday site-generated trips for the church, indicating that the number of trips expected to be generated by the proposed funeral home is likely similar to that of the previous land use. Also, this number of trips is below the number that would require a traffic impact study.

For reference, an online search revealed a trip generation study performed at another funeral home in Worthington, Ohio that is 11,734 square feet in size. The study was performed for a new site in Grove City, Ohio. The Worthington Study is attached as background information. That study found that over a nine day period, the peak weekday trip generation of 31 total trips occurred during the Friday afternoon peak hour and the peak weekend trip generation of 71 total trips occurred on a Sunday. Considering the difference in square footage, the findings from the Worthington study are in line with the number of trips expected for this site.

I hope this report adequately addresses your concerns for this site. If you have any questions or if there is any additional information you need, please don't hesitate to contact me.

Sincerely,

THE KLEINGERS GROUP

Mark W. Nolt, PE, PTOE
Traffic Engineer

Enclosures: ITE Trip Generation Charts for Church Land Use (LUC 560) – 8 pages
Smart Services 7/27/18 Funeral Home Trip Generation Study – 3 pages

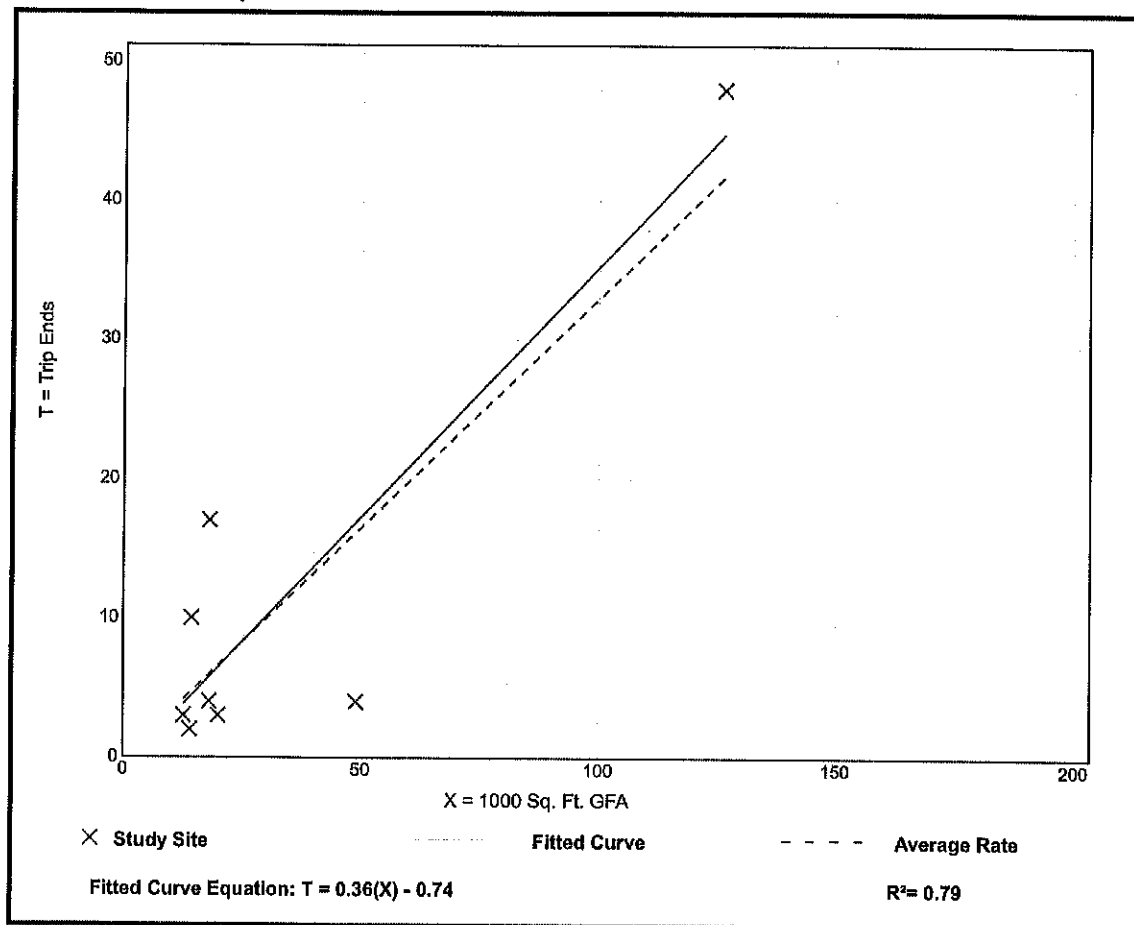
Church (560)

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: 8
1000 Sq. Ft. GFA: 34
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.33	0.08 - 0.94	0.24

Data Plot and Equation



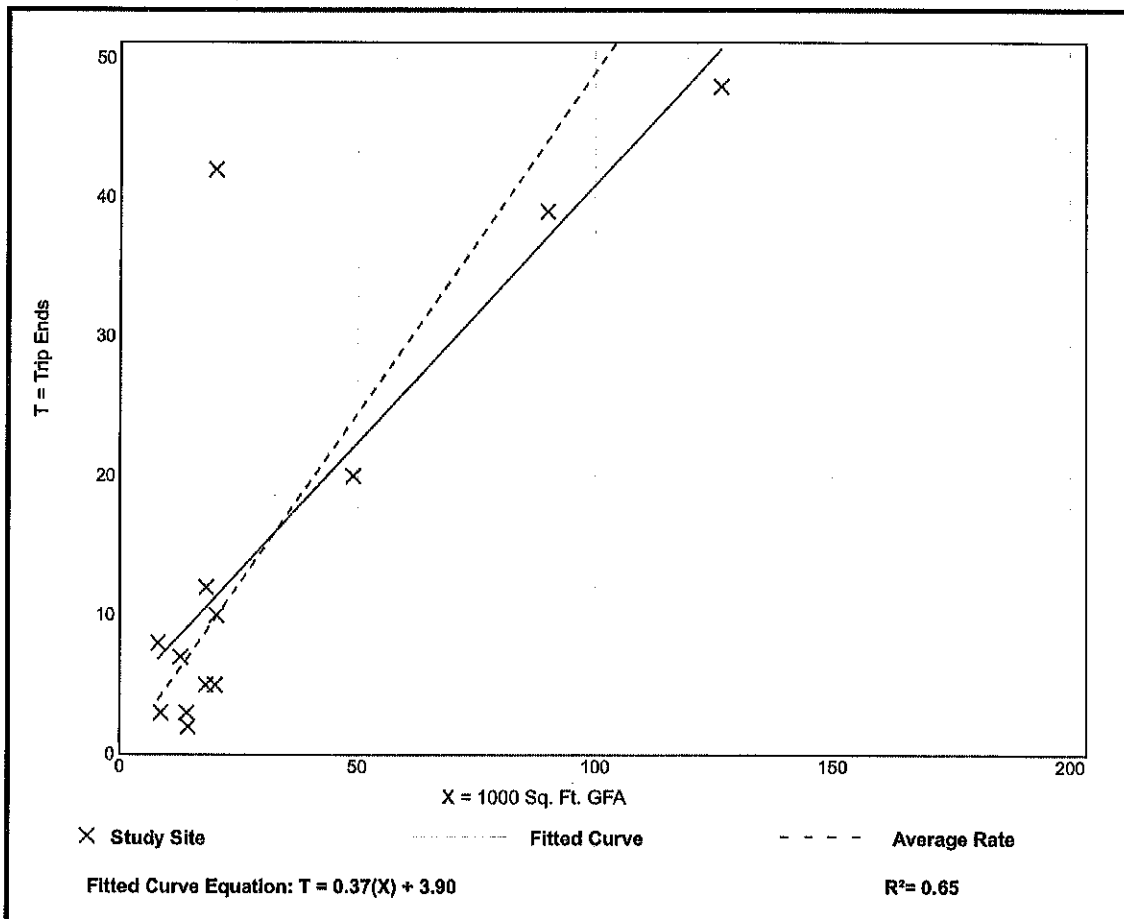
Church (560)

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: 13
 1000 Sq. Ft. GFA: 32
 Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.49	0.14 - 2.10	0.40

Data Plot and Equation



Church (560)

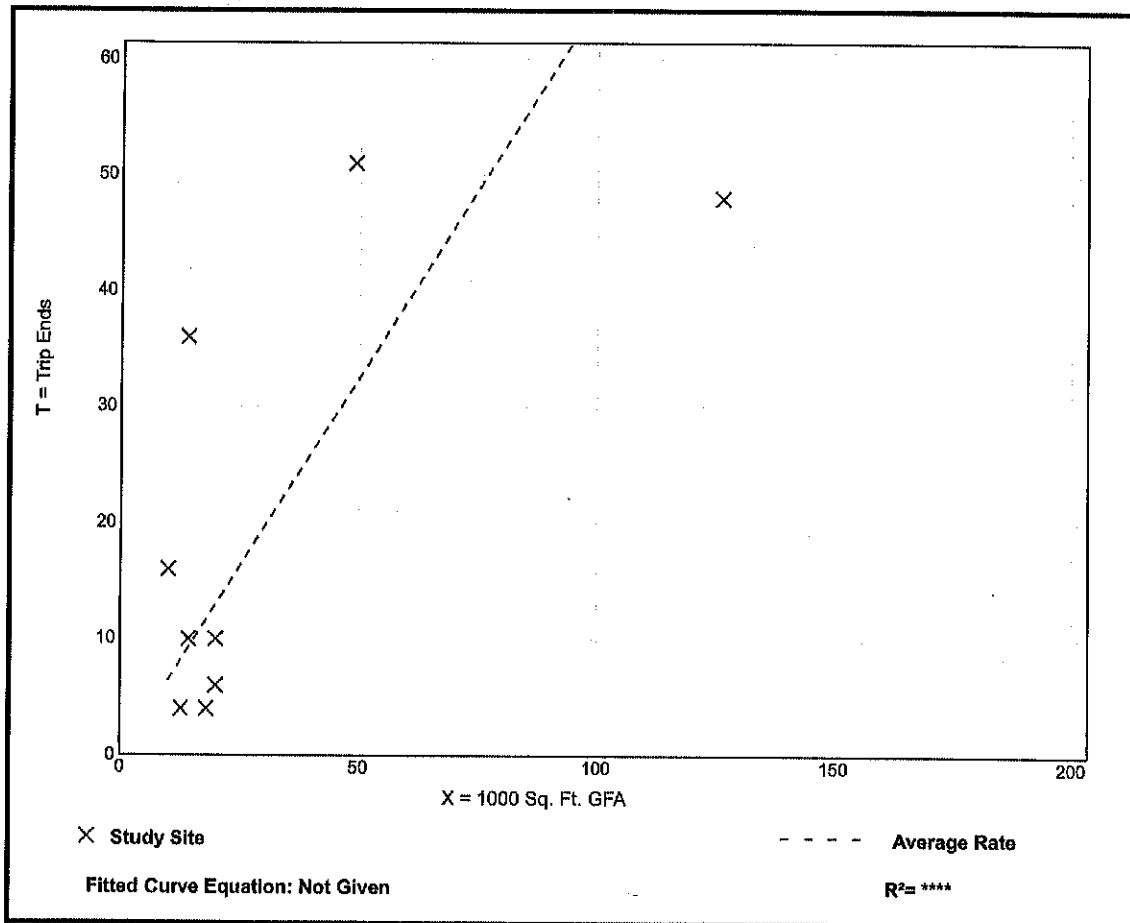
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 9
1000 Sq. Ft. GFA: 32
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.65	0.22 - 2.57	0.58

Data Plot and Equation



Church (560)

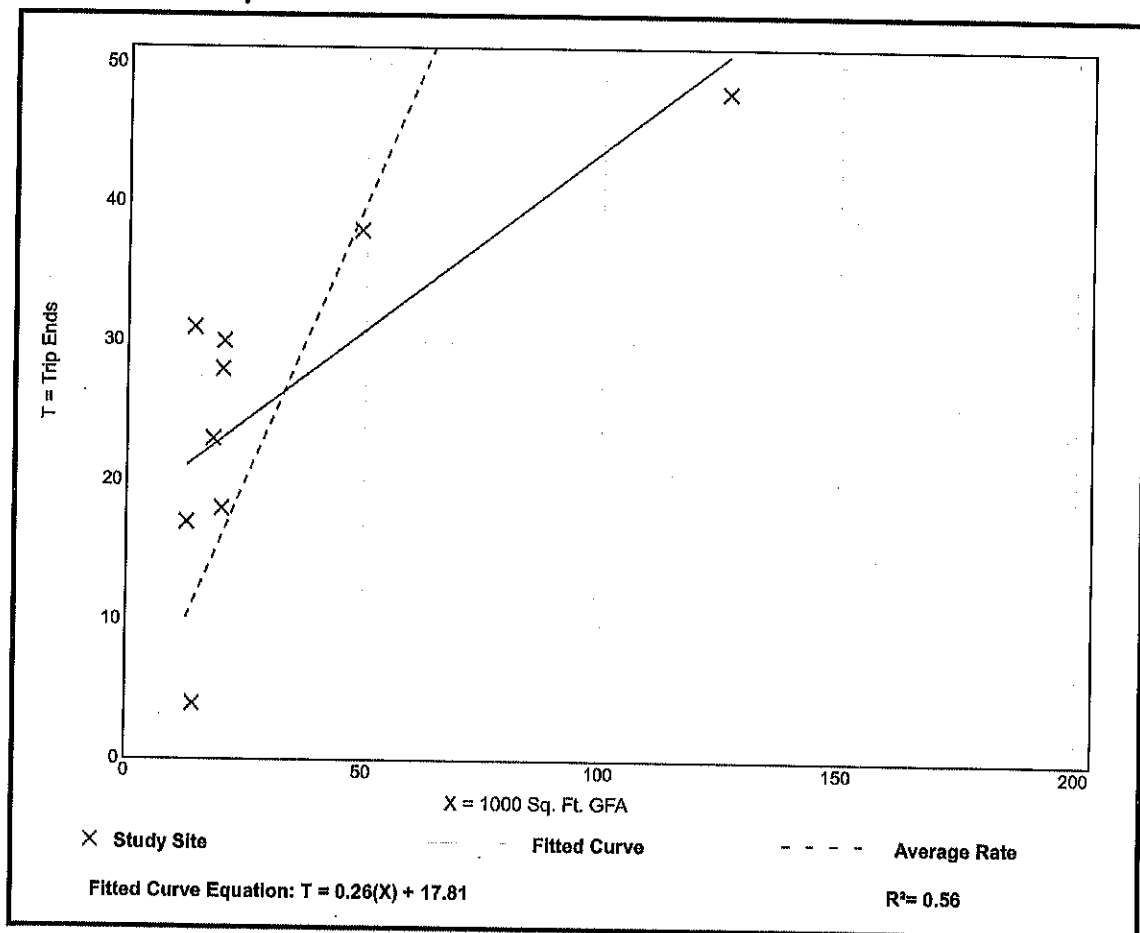
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 9
1000 Sq. Ft. GFA: 33
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.28 - 2.21	0.55

Data Plot and Equation



Church (560)

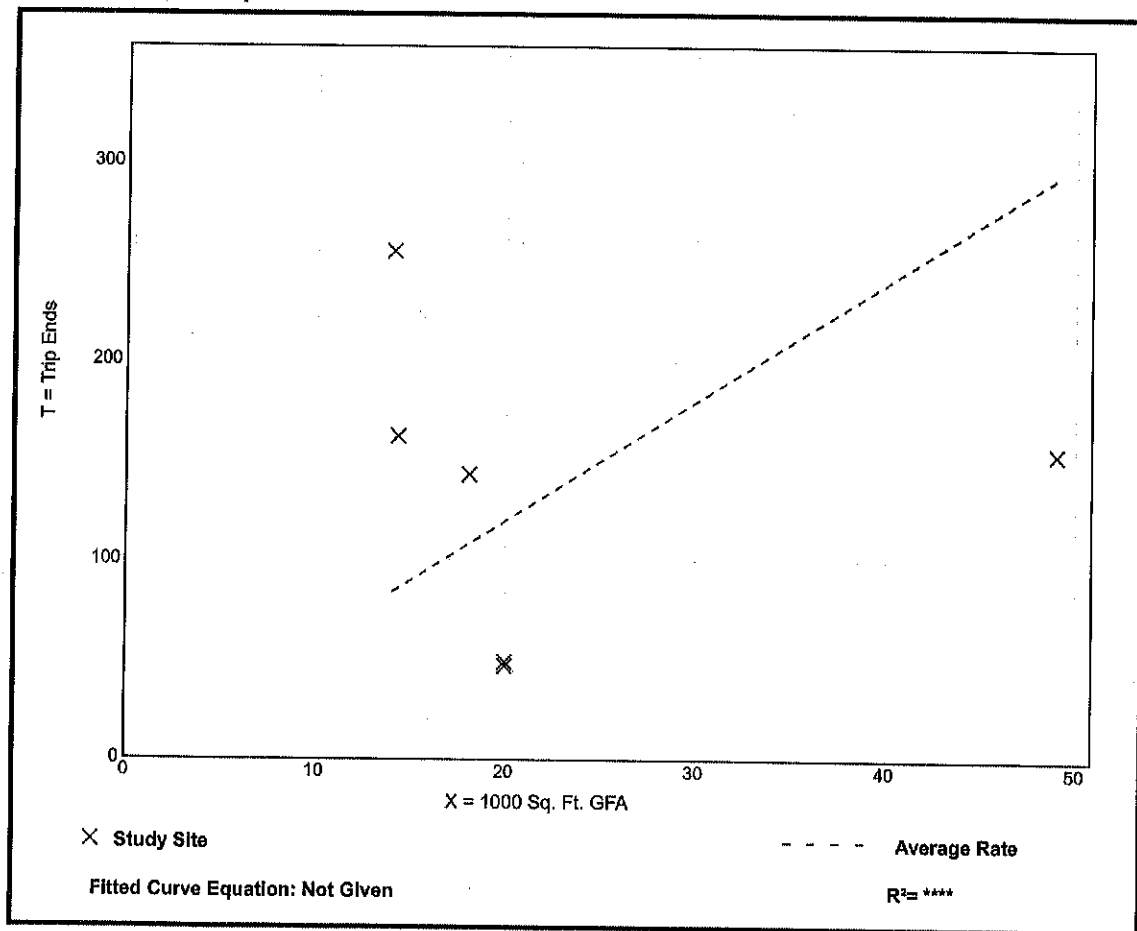
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 6
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
5.99	2.35 - 18.21	5.56

Data Plot and Equation



Church (560)

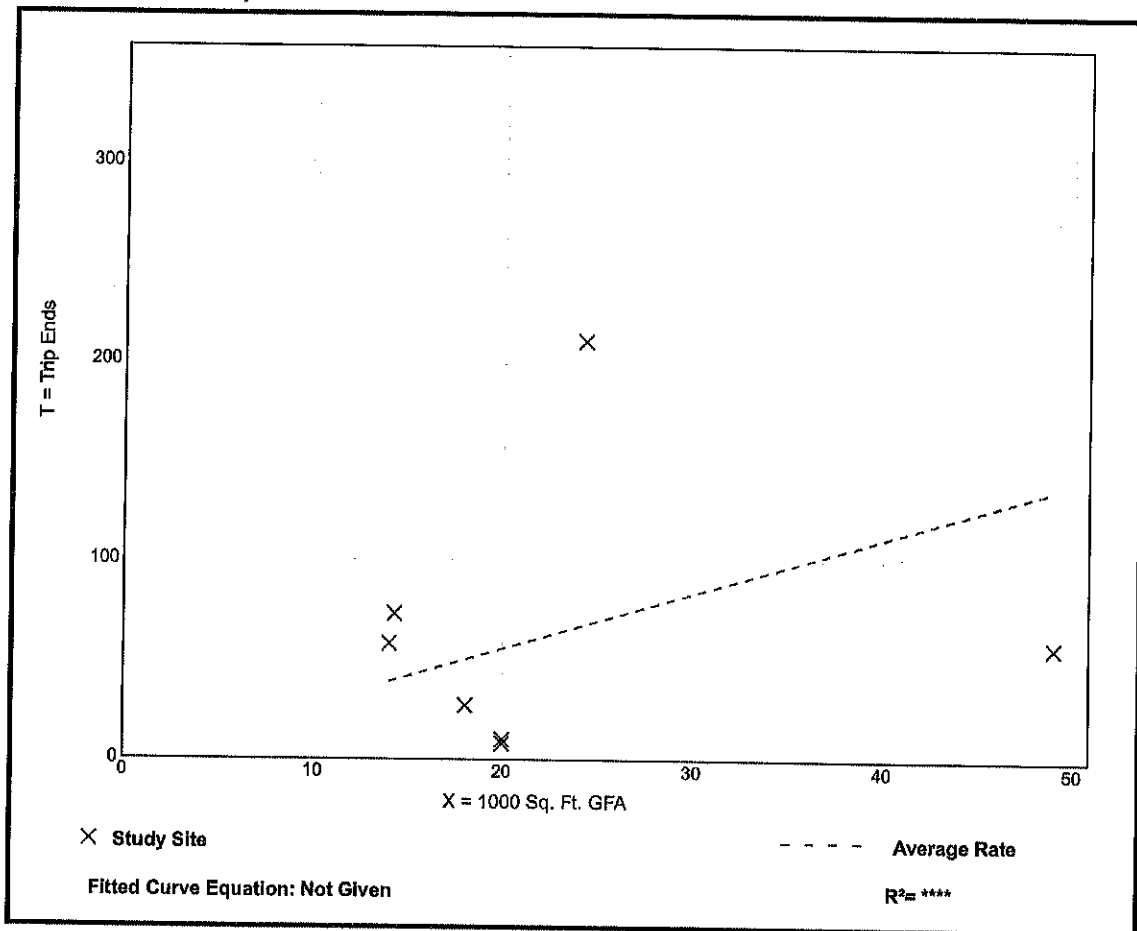
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 7
1000 Sq. Ft. GFA: 23
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	0.40 - 8.65	3.10

Data Plot and Equation



Church (560)

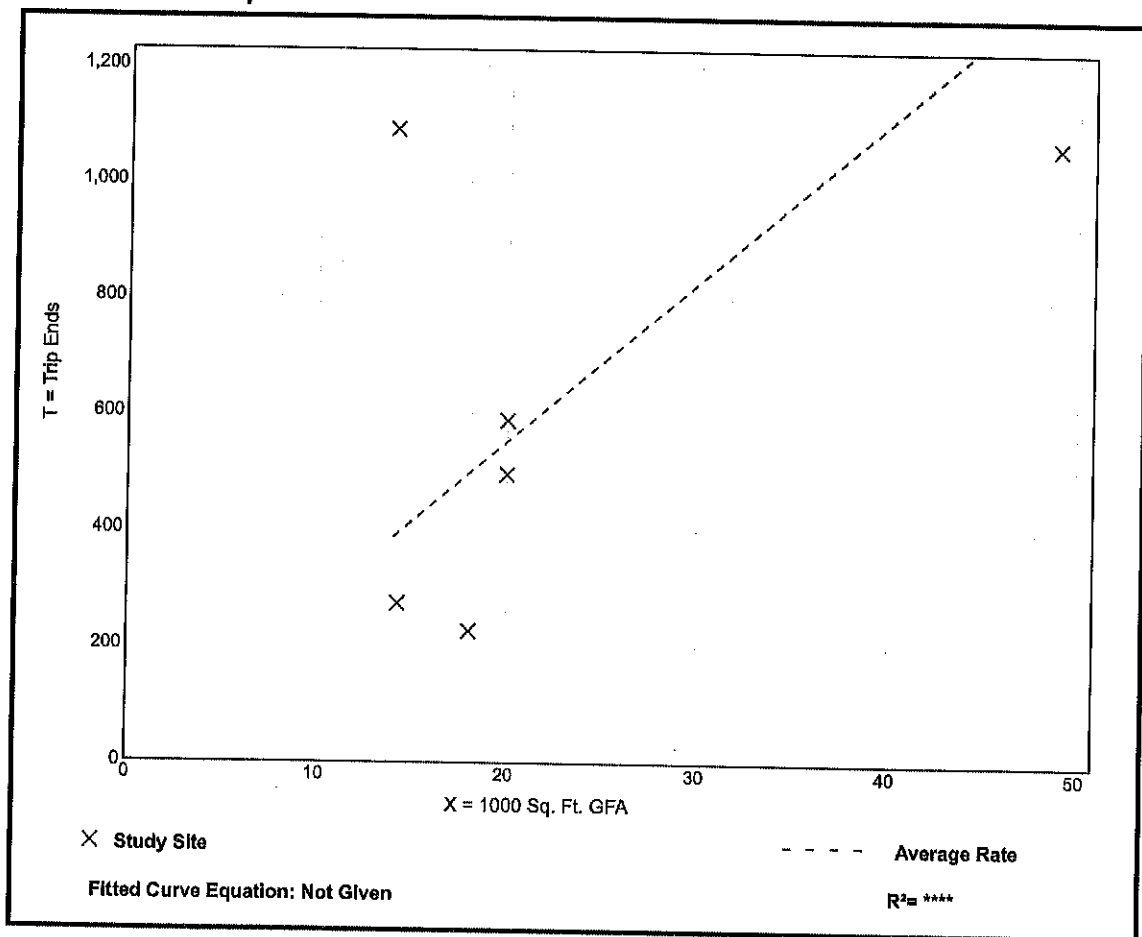
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Sunday

Setting/Location: General Urban/Suburban
Number of Studies: 6
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
27.63	12.51 - 77.86	19.39

Data Plot and Equation



Church (560)

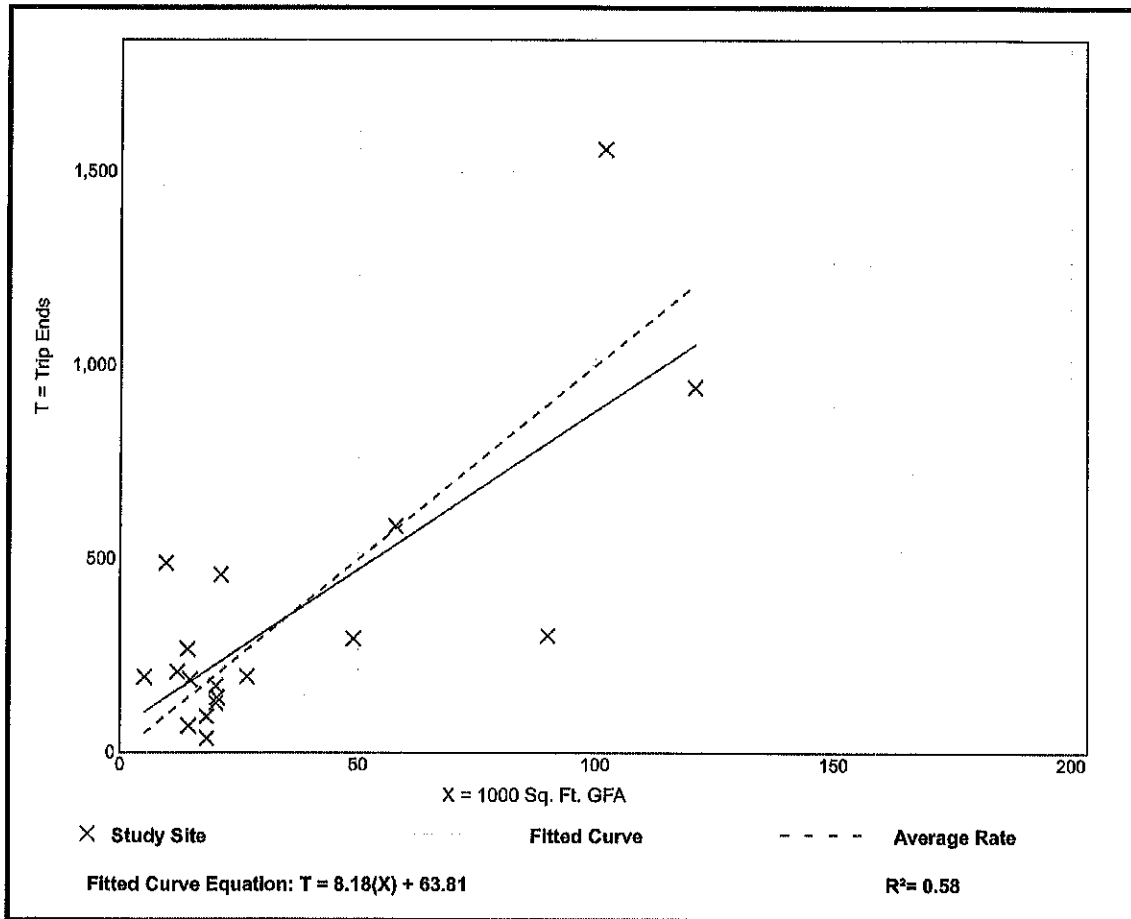
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Sunday, Peak Hour of Generator

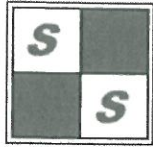
Setting/Location: General Urban/Suburban
Number of Studies: 18
1000 Sq. Ft. GFA: 35
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.99	2.05 - 51.31	7.77

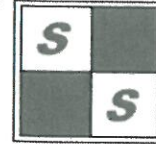
Data Plot and Equation





SMART SERVICES, INC.

Surveying ♦ Environmental ♦ Traffic ♦ CA/CM
An Ohio DBE/EDGE Certified Firm



July 27, 2018

Ms. Jennifer Stachler, P.E.
City of Grove City
3262 Ventura Boulevard
Grove City, OH 43123

Re: Schoedinger Funeral and Cremation Services – Hoover Road Site
City of Grove City, Franklin County, Ohio



Dear Jennifer:

Please consider this letter a response to a request for trip generation for the subject site

BACKGROUND

The subject site is proposed to be developed with a 13,040 SF funeral home. The owner reported that their highest weekend operations typically occur between 9:30 AM and 1:30 PM on Saturday. Services occur in the morning because cemeteries close around midday on Saturday. A secondary potential peak would be 2-5 PM on Sunday afternoons for viewings. It is also our understanding that other than a few employees, there is no activity on weekdays before 10 AM so the AM Peak is not considered in the analysis. Therefore, the calculations include weekend peaks in addition to the PM Peak hour of the adjacent street (4-6 PM).

TRIP GENERATION FOR FUNERAL HOME

The proposed land use is not specifically represented in the *Trip Generation Manual, 10th Edition* published by ITE. For a traffic study of another site, traffic counts were taken at an existing Schoedinger Funeral and Cremation Services located at 6699 North High Street, Worthington, Ohio so the those trips could be the basis of projected trip rates. Because the activity at a funeral home is variable through the week, counts were taken for nine days from February 10, 2018 to February 18, 2018. The hours of 4:00-6:00 PM were counted on weekdays, 9:30 AM-1:30 PM on Saturdays and 2:00-5:00 PM on Sundays. This provided a sample of five weekdays and four weekend days. The highest traffic generating activities at funeral homes are typically visitations and services. During the duration of the counts, there were four visitations and/or services. The following is a summary of these activities based on information from Schoedinger Funeral and Cremation Services:

- Saturday, February 10, 2018 12-2 PM - Visitation/Service
- Monday, February 12, 2018 11 AM-1 PM - Visitation/Service
- Friday, February 16, 2018 4-7 PM – Visitation
- Sunday, February 18, 2018 1-3 PM - Visitation/Service*

*=200+: this size averages twice a month occurrence.

The goal was to find some peaks as representative of funeral home trip generation. The peaks in

traffic counted were consistent with the schedule that was provided. The weekday peak occurred on Friday, February 16 when the activity occurred during the PM Peak Hour of the street. The weekend peak occurred during the large visitation on Sunday, February 18. Summaries of the weekday and weekend counts are attached. The actual count reports are also attached. A summary of the trips is attached.

<u>Description</u>	<u>Adj. Street</u>	<u>Site</u>
	<u>PM Peak Hour</u>	<u>Weekend Peak Hour</u>
6699 North High Street (Funeral Home)	31	71

Per the Franklin County Auditor's website (Parcel # 100-005056-00), the size of the existing building at 6699 North High Street, Worthington, Ohio is 11,734 SF. The report from the auditor's website is attached. The proposed building is currently proposed to be 13,040 SF. Therefore, the counted traffic was adjusted proportionally to account for the larger building. Table 1, which is attached, shows the calculations.

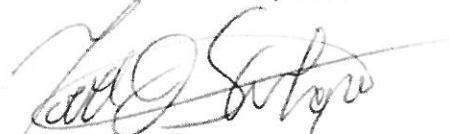
CONCLUSIONS

The following is a summary of the trip generation for total trips to and from the subject site:

<u>Description</u>	<u>Adj. Street</u>	<u>Site</u>
	<u>PM Peak Hour</u>	<u>Weekend Peak Hour</u>
Prop. 13,040 SF Funeral Home	34	79

If you have any questions, please contact me. Thank you!

Sincerely,
SMART SERVICES, INC.



Registered Engineer No. E-64507, Ohio
Todd J. Stanhope, PE, PTOE
Director of Traffic Engineering

7-27-2018
Date



Submitted: One electronic copy (PDF format) via e-mail

Cc: R. Schoedinger – Schoedinger Funeral and Cremation Services



Traffic Study Subarea	Land Use	Data Set from: <i>Trip Generation Manual, 10th Edition</i> (Unless noted Otherwise)	Total Trips	Entering		Exiting	
				%	Total Trips	%	Total Trips
2	Schoedinger Worthington Chapel (Non ITE Source)	Saturday, Peak Hour of Generator	Average Rate= 36.00	72%	29	28%	11
		Peak Hour of Adj. Street Traffic, One Hour between 4 & 6 PM	Average Rate= 31.00	71%	24	29%	10
		Sunday, Peak Hour of Generator	Average Rate= 71.00	27%	21	73%	58

Schoedinger Funeral and Cremation Services - Hoover Road Site Traffic Analysis - 3/2018

TABLE 1 - TRIP GENERATION SUMMARY