McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

McMAHON ASSOCIATES, INC.
2090 Palm Beach Lakes Boulevard, Suite 400
West Palm Beach, FL 33409
p 561-840-8650 | f 561-840-8590

PRINCIPALS
Joseph J. DeSantis, P.E., PTOE
John S. DePalma
William T. Steffens
Casey A. Moore, P.E.
Gary R. McNaughton, P.E., PTOE

ASSOCIATES
John J. Mitchell, P.E.
Christopher J. Williams, P.E.
R. Trent Ebersole, P.E.
Matthew M. Kozsuch, P.E.
Maureen Chlebek, P.E., PTOE
Dean A. Carr, P.E.

FOUNDER
Joseph W. McMahon, P.E.

January 18, 2019

VIA E-MAIL

Jacques J. Morisset
Bethel Church of God Ministries
5300 W. Atlantic Blvd.
Margate, FL 33063

RE: Bethel Church Traffic Analysis
McMahon Project No. L18920.01

Dear Mr. Morisset:

McMahon Associates, Inc. (McMahon) has completed the traffic analysis of the proposed addition to the Bethel Church of God Ministries, located at 5300 W. Atlantic Boulevard, in the City of Margate, Florida. The site currently includes 10,639 square feet of building. The proposed plan includes an additional 12,900 square feet of building. The site location is graphically depicted on **Figure 1**.

Trip Generation Analysis

Using trip generation information obtained from the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, trip generation estimates were developed based on Church (ITE Land Use Code 560). **Table 1** summarizes the trips associated with the daily, AM peak hour and PM peak hour traffic conditions. Results of the analysis indicate that the proposed additional development is expected to generate an increase of 90 daily net new trips, five (5) AM peak hour net new trips, and five (5) PM peak hour net new trips. Excerpts from ITE are attached in **Appendix A**.

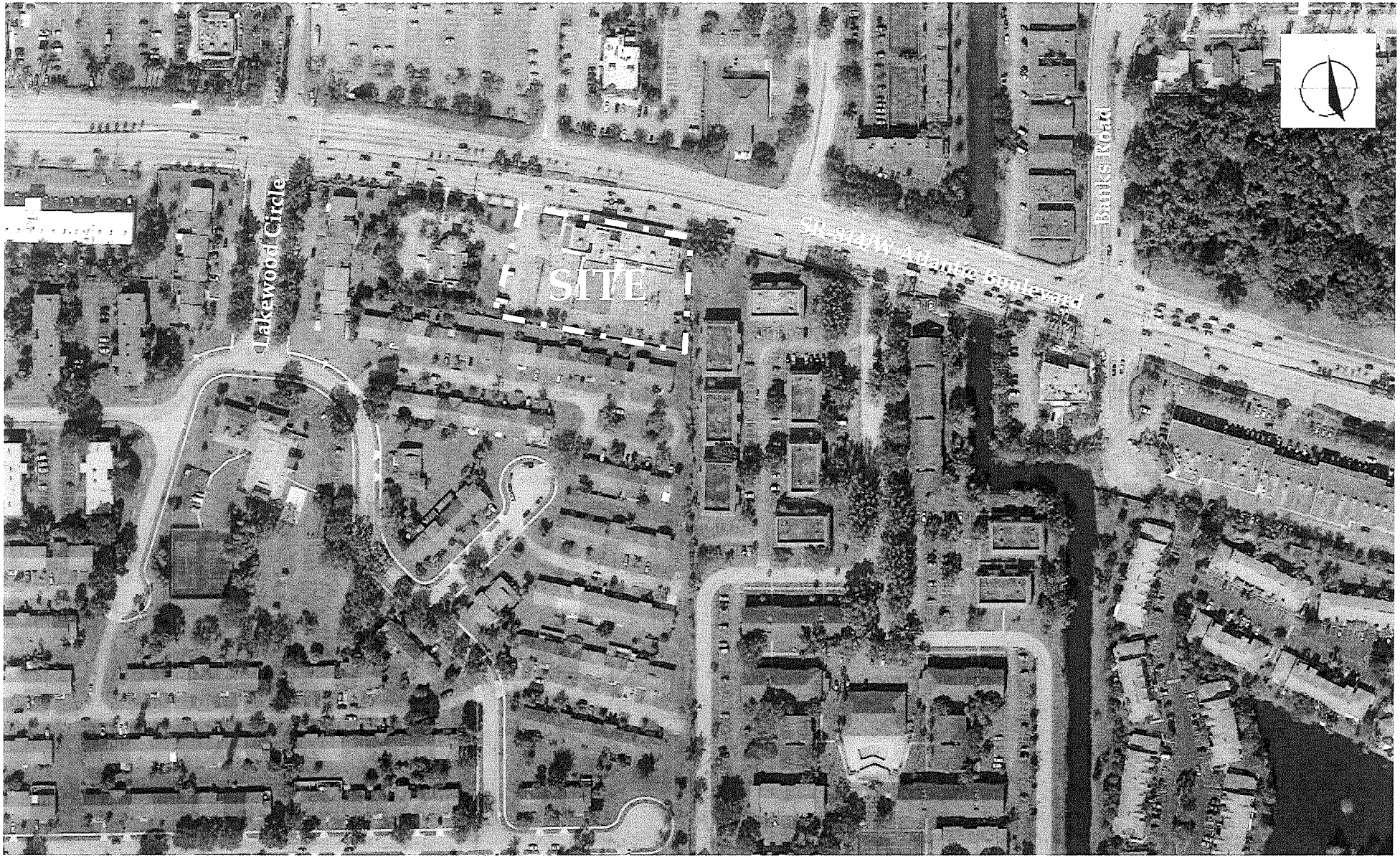


Figure 1
Site Location Map
Bethel Church Traffic Analysis
Margate, Florida

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

TABLE 1
TRIP GENERATION ANALYSIS
BETHEL CHURCH TRAFFIC ANALYSIS

DAILY

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE (1)	IN	OUT	TOTAL TRIPS IN	TOTAL TRIPS OUT	TOTAL TRIPS TOTAL	PASS-BY (1)		NEW TRIPS IN	NEW TRIPS OUT	NEW TRIPS TOTAL
EXISTING LAND USE													
Church	560	10,639 SF	T= 6.95 *(X)	50%	50%	37	37	74	0	0.00%	37	37	74
SUBTOTAL						37	37	74	0		37	37	74
PROPOSED LAND USE													
Church	560	23,539 SF	T= 6.95 *(X)	50%	50%	82	82	164	0	0.00%	82	82	164
SUBTOTAL						82	82	164	0		82	82	164
NET DIFFERENCE						**45**	**45**	**90**	**0**		**45**	**45**	**90**

AM PEAK HOUR

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE (1)	IN	OUT	TOTAL TRIPS IN	TOTAL TRIPS OUT	TOTAL TRIPS TOTAL	PASS-BY (1)		NEW TRIPS IN	NEW TRIPS OUT	NEW TRIPS TOTAL
EXISTING LAND USE													
Church	560	10,639 SF	T= 0.36 *(X) - 0.74	60%	40%	2	1	3	0	0.00%	2	1	3
SUBTOTAL						2	1	3	0		2	1	3
PROPOSED LAND USE													
Church	560	23,539 SF	T= 0.36 *(X) - 0.74	60%	40%	5	3	8	0	0.00%	5	3	8
SUBTOTAL						5	3	8	0		5	3	8
NET DIFFERENCE						**3**	**2**	**5**	**0**		**3**	**2**	**5**

PM PEAK HOUR

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE (1)	IN	OUT	TOTAL TRIPS IN	TOTAL TRIPS OUT	TOTAL TRIPS TOTAL	PASS-BY (1)		NEW TRIPS IN	NEW TRIPS OUT	NEW TRIPS TOTAL
EXISTING LAND USE													
Church	560	10,639 SF	T= 0.37 *(X)+ 3.90	45%	55%	4	4	8	0	0.00%	4	4	8
SUBTOTAL						4	4	8	0		4	4	8
PROPOSED LAND USE													
Church	560	23,539 SF	T= 0.37 *(X)+ 3.90	45%	55%	6	7	13	0	0.00%	6	7	13
SUBTOTAL						6	7	13	0		6	7	13
NET DIFFERENCE						**2**	**3**	**5**	**0**		**2**	**3**	**5**

(1) Source: Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition.

McMAHON TRANSPORTATION ENGINEERS & PLANNERS

Conclusion

Based on the analysis contained herein, the proposed additional development is not expected to have a significant impact on the surrounding roadway network.

Should you have any questions or comments regarding these findings, please do not hesitate to call me.

Sincerely,

NATALIA THAIS LERCARI
LICENSE
No. 68205
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Natalia Thais Lercari, P.E.
Professional Engineer
License No. 68205
State of Florida, Board of Professional Engineers
Certificate of Authorization No. 4908

NTL/cc
Enclosure

APPENDIX A

TRIP GENERATION INFORMATION

Church
(560)

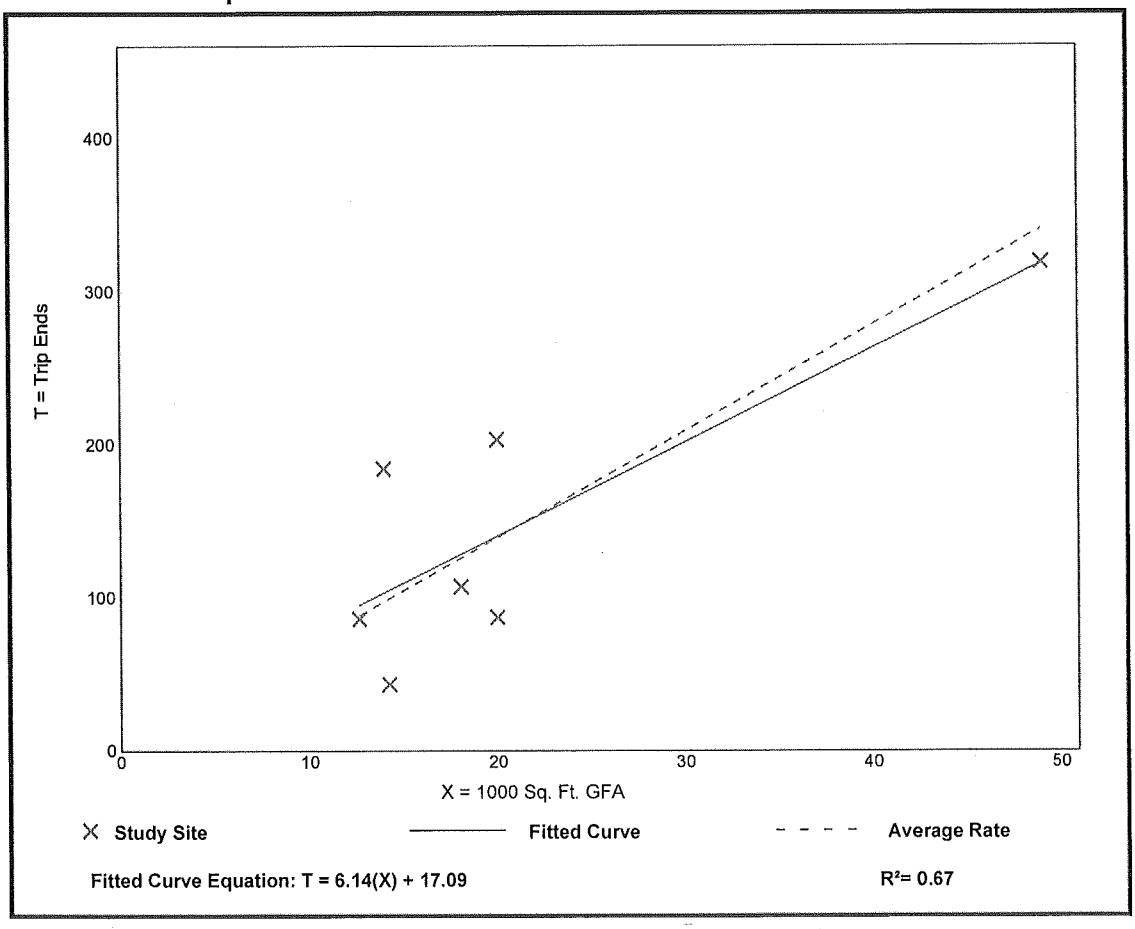
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. 1000 Sq. Ft. GFA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.95	3.01 - 13.14	2.98

Data Plot and Equation



Fitted Curve Equation: T = 6.14(X) + 17.09

R^2= 0.67

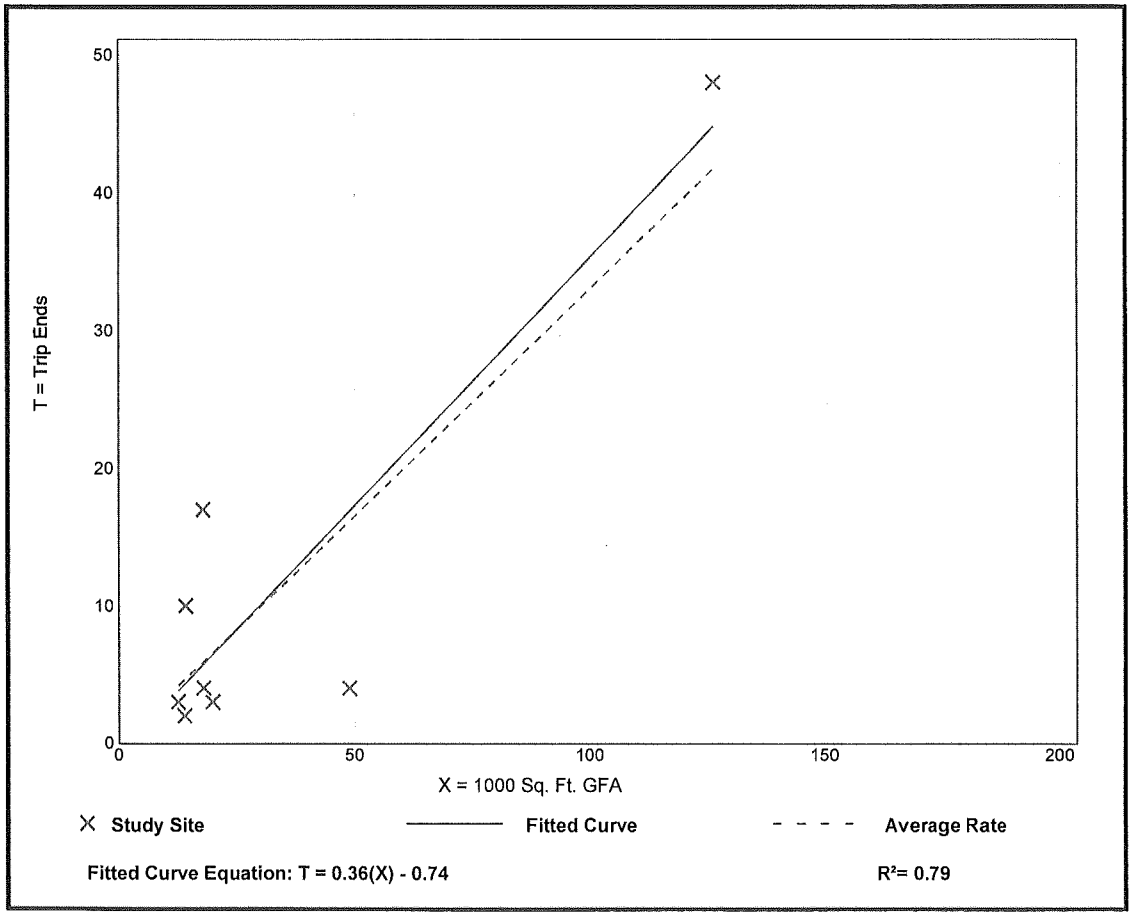
Church
(560)

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
Avg. 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
Avg. 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