

Initial Study/Mitigated Negative Declaration

Kindred Church Expansion Project

Development Project Number: DEV2020-00016

Appendix H – Trip Generation Memorandum

Prepared for | Planning Services Division
City of Anaheim
200 South Anaheim Boulevard
Anaheim, California 92805

Prepared by | Psomas
5 Hutton Centre Drive, Suite 300
Santa Ana, California 92707-8794

March 2022



February 11, 2021

Steven Camp, AIA
Elements Architecture
6B Liberty, #100
Aliso Viejo, CA 92656

RE: Trip Generation Evaluation for the Kindred Community Church Improvement Project

Dear Mr. Camp:

AGA Engineers, Inc. (AGA) is pleased to present to you the summary of the trip generation evaluation regarding the proposed improvement project for the Kindred Community Church, located at 8712 E. Santa Ana Canyon Road in the City of Anaheim. This analysis is based on the proposed improvements which involve four additional modular structures and improvements to the main church building. The proposed total additional square footage is 9,813 square feet and the seating capacity will be increased by 180 seats. The project is expected to be completed in Year 2022. The analysis evaluated how many new trips are expected based on the proposed improvements utilizing both the additional square footage and number of new seats. Although the proposed project is providing an increase in building size and parking, the weekday operations will be moved offsite and therefore there will be significantly less weekday church traffic. Attached are the proposed site plans.

Trip Generation

The Institute of Transportation Engineers (ITE) *Trip Generation Manual 10th Edition* uses thousands of studies across the nation to determine common trip generation characteristics by land use, assigning both inbound and outbound trips throughout the weekday AM and PM peak hours and Saturday/Sunday peak periods by proportion. Each vehicle accessing the project site would therefore be considered to generate two trips: one inbound trip when arriving and one outbound trip when departing. Using the *Manual*, the anticipated project trip generation was determined using parameters given by ITE Land Use Code #560, *Church*.

The project's trip generation was analyzed based on both the proposed additional square footage and number of new seats for both weekday and Sunday peak periods. Although the weekday operations will be moved offsite, the weekday trip generation was still evaluated. The trip generation calculation per square footage showed that there will be an additional three weekday AM peak hour trips, six weekday PM peak hour trips, and 99 Sunday peak hour trips. **Tables 1a/1b** show the trip generation analyses utilizing the additional square footage.

AGA Engineers, Inc.

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Table 1a – Weekday Project Trip Generation
 (per 1,000 square feet)

| ITE Trip Generation Rates ¹ - Weekday | | | | | | | | |
|--|---------------------------|--------------|--------------|----------|--------------|--------------|----------|----------|
| ITE Code 560: Church | Daily | AM Peak Hour | | | PM Peak Hour | | | |
| | | In | Out | Total | In | Out | Total | |
| <i>Trip rates per 1,000 square feet</i> | 6.95 | 0.198 | 0.132 | 0.330 | 0.221 | 0.270 | 0.490 | |
| <i>Percentages</i> | 100% | 60% | 40% | 100% | 45% | 55% | 100% | |
| Project Trip Generation - Weekday | | | | | | | | |
| ITE Code 560: Church | Additional Square Footage | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | In | Out | Total | In | Out | Total |
| Trip Generation | 9,813 | 69 | 2 | 1 | 3 | 3 | 3 | 6 |
| New Project Trips | | 69 | 2 | 1 | 3 | 3 | 3 | 6 |

¹ Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Ed. (2017)

Table 1b – Sunday Project Trip Generation
 (per 1,000 square feet)

| ITE Trip Generation Rates ¹ - Sunday | | | | | |
|---|---------------------------|--------------------|--------------------|-----------|-----------|
| ITE Code 560: Church | Daily | Sunday Peak Period | | | |
| | | In | Out | Total | |
| <i>Trip rates per 1,000 square feet</i> | 27.63 | 4.80 | 5.19 | 9.99 | |
| <i>Percentages</i> | 100% | 48% | 52% | 100% | |
| Project Trip Generation - Sunday | | | | | |
| ITE Code 560: Church | Additional Square Footage | Daily | Sunday Peak Period | | |
| | | | In | Out | Total |
| Trip Generation | 9,813 | 272 | 48 | 51 | 99 |
| New Project Trips | | 272 | 48 | 51 | 99 |

¹ Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Ed. (2017)

The trip generation calculation per seat showed that there will be an additional two weekday AM peak hour trips, six weekday PM peak hour trips, and 98 Sunday peak hour trips. **Tables 2a/2b** show the trip generation analyses utilizing the additional number of seats.

Table 2a – Weekday Project Trip Generation
 (per seats)

| ITE Trip Generation Rates ¹ - Weekday | | | | | | | | |
|--|-----------|--------------|--------------|----------|--------------|--------------|----------|----------|
| ITE Code 560: Church | Daily | AM Peak Hour | | | PM Peak Hour | | | |
| | | In | Out | Total | In | Out | Total | |
| <i>Trip rates per seat</i> | 0.44 | 0.005 | 0.005 | 0.010 | 0.012 | 0.018 | 0.030 | |
| <i>Percentages</i> | 100% | 50% | 50% | 100% | 40% | 60% | 100% | |
| Project Trip Generation - Weekday | | | | | | | | |
| ITE Code 560: Church | New Seats | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | In | Out | Total | In | Out | Total |
| Trip Generation | 180 | 80 | 1 | 1 | 2 | 3 | 3 | 6 |
| New Project Trips | | 80 | 1 | 1 | 2 | 3 | 3 | 6 |

¹ Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Ed. (2017)

Table 2b – Sunday Project Trip Generation
 (per seat)

| ITE Trip Generation Rates ¹ - Sunday | | | | | |
|---|-----------|--------------------|--------------------|-----------|-----------|
| ITE Code 560: Church | Daily | Sunday Peak Period | | | |
| | | In | Out | Total | |
| <i>Trip rates per seat</i> | 1.21 | 0.265 | 0.275 | 0.540 | |
| <i>Percentages</i> | 100% | 49% | 51% | 100% | |
| Project Trip Generation - Sunday | | | | | |
| ITE Code 560: Church | New Seats | Daily | Sunday Peak Period | | |
| | | | In | Out | Total |
| Trip Generation | 180 | 218 | 48 | 50 | 98 |
| New Project Trips | | 218 | 48 | 50 | 98 |

¹ Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Ed. (2017)

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The project's maximum Sunday peak hour trip generation based on the additional square footage is expected to be 99 trips, which is just less than the City of Anaheim's threshold of 100 AM or PM peak hour trips. It should be noted that the City's threshold typically accounts for weekday AM or PM peak hour where traffic conditions are significantly higher along the City's arterials. This project is expected to actually generate less weekday traffic as the weekday operations will be moved offsite. City of Anaheim engineering staff have already evaluated the estimated trip generation analysis and stated that a traffic study will not be required. Per City staff, if any street improvements are conducted as part of this project and/or the project size will increase, then a traffic study may be required. The email from the City stating that a traffic study is not required is attached.

Should you have any questions, please me or at the following email address.

Greg@agaengineersinc.com,

Respectfully submitted,

ALBERT GROVER & ASSOCIATES



Greg Wong, P.E.
Vice President

ATTACHMENTS – Proposed Site Plans and City Email
Kindred Community Church - Trip Generation Evalation (2-11-21).docx