To:	Dan Klocke Gorman & Company	**Date:**	September 22, 2025
From:	Shelly Sorensen, PE, PTOE		
Job Number:	24.5678		
RE:	United Methodist Church Residential Development Transportation Impact & Mitigation Analysis – Category I		

INTRODUCTION

Lōkahi, LLC (Lōkahi) has prepared a Transportation Impact & Mitigation Analysis – Category I for the proposed United Methodist Church Residential Development, located at 4140 N. Miller Road in Scottsdale, Arizona. See **Figure 1** for the vicinity map.

The proposed residential site will be comprised of 82 affordable housing dwelling units. See **Attachment A** and **Figure 2** for the site plan.

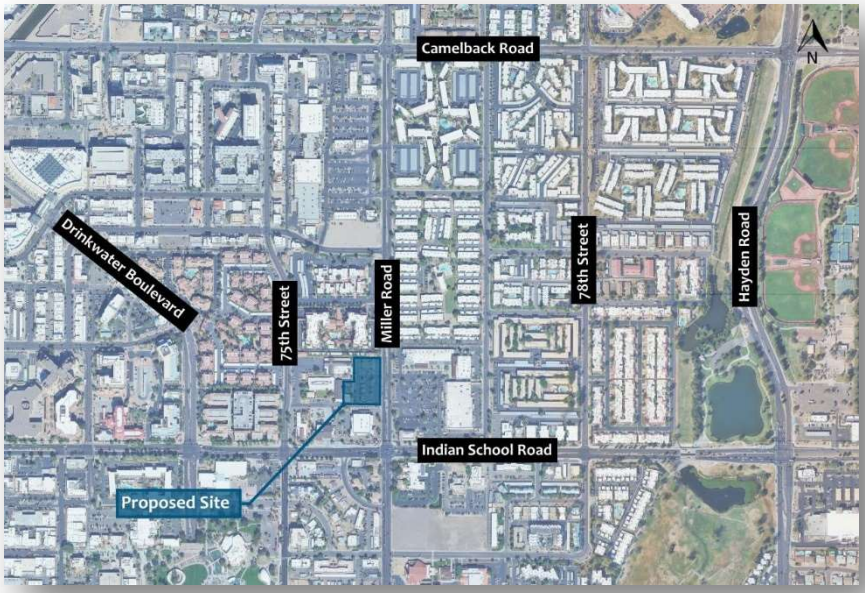


Figure 1 - Vicinity Map

The objective of this Transportation Impact & Mitigation Analysis Category I is to analyze the proposed residential development's traffic related impacts to the adjacent roadway network.

10555 N. 114th Street, Suite 105
Scottsdale, AZ 85259
480.536.7150
www.lokahigroup.com

EXISTING CONDITIONS

The approximately 195,856 square foot (SF) site consists of one (1) parcel, APN 173-52-001A. Currently, United Methodist Church (17,220 SF) and Scottsdale UMC Daycare (9,216 SF) operate within the existing site. See **Attachment B** for Maricopa County Assessor's parcel information.

The proposed residential development will be located on approximately 83,000 square feet of APN 173-52-001A. United Methodist Church and Scottsdale UMC Daycare will remain operational with the buildout of the proposed residential development. The proposed residential development is bordered by Miller Road to the east and United Methodist Church and Scottsdale UMC Daycare to the west. Multifamily residential units border the proposed residential development to the north and a pharmacy borders the proposed residential development to the south.

Miller Road is a north-south roadway that provides two (2) through lanes in each direction of travel, with a center raised median. The City of Scottsdale classifies Miller Road between Indian School Road and Camelback Road as a collector, according to the *City of Scottsdale Transportation Master Plan,* dated July 5, 2016. The City of Scottsdale's *2022 Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 12,800 vehicles per day (vpd) along Miller Road, between Indian School Road and Camelback Road. There is a posted speed limit of 35 miles per hour (mph).

Indian School Road is an east-west roadway that provides two (2) through lanes in each direction of travel with a center raised median. The City of Scottsdale classifies Indian School Road between Goldwater Boulevard and Drinkwater Boulevard as an arterial, according to the *City of Scottsdale Transportation Master Plan,* dated July 5, 2016. The City of Scottsdale's *2022 Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 35,100 vpd along Indian School Road, west of Miller Road. There is a posted speed limit of 35 mph.

75th Street is a north-south roadway that provides one (1) through lane in each direction of travel. There is an unposted speed limit of 25 mph.

PROPOSED DEVELOPMENT

The proposed residential development will be located on approximately 83,000 square feet of APN 173-52-001A, which is zoned Highway Commercial with a Downtown Overlay (C-3 DO).

The proposed development will consist of 82 affordable housing dwelling units. Of the 82 dwelling units, there will be 47 one-bedroom, 18 two-bedroom, and 17 three-bedroom dwelling units. See **Figure 2** for the proposed site plan.

Figure 2 - Site Plan

Existing Access Points

The site is currently accessible by three (3) driveways along Miller Road, located approximately 315 feet (right-in/right-out), 500 feet (full access), and 615 feet (right-in/right-out) north of Indian School Road. In addition, there are two (2) driveways along 75th Street, located approximately 315 feet (full access) and 550 feet (full access) north of Indian School Road.

Proposed Access Points

All existing access points will remain in place except the Miller Road driveway located approximately 615 feet north of Indian School Road, which will be removed.

Note: All distances are measured from centerline to centerline.

TRIP GENERATION

The trip generation for the proposed United Methodist Church Residential Development was calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 11th Edition*. The ITE trip generation rates and fitted curve equations are based on studies that measure trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type. This publication is the standard for the transportation engineering profession.

Existing Development

The trip generation for the existing day care and church was calculated utilizing ITE Land Use 565 – Day Care Center and ITE Land Use 560 – Church. Trip generation calculations are shown in **Table 1**. See **Attachment C** for detailed trip generation calculations.

Table 1 – Trip Generation (Existing Development)

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Day Care Center	565	9.216	1000 SF GFA	439	101	54	47	102	48	54
Church	560	17.72	1000 SF GFA	135	6	4	2	9	4	5
			Total	**574**	**107**	**58**	**49**	**111**	**52**	**59**

The existing development is estimated to generate 574 weekday daily trips, with 107 trips occurring during the AM peak hour and 111 trips occurring during the PM peak hour.

Proposed Development

The trip generation for the proposed development was calculated utilizing ITE Land Use 223 – Affordable Housing (Income Limits). Trip generation calculations are shown in **Table 2**. Trip generation calculations for the entire site is shown in **Table 3**.

Table 2 – Trip Generation (Proposed Development)

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Affordable Housing (Income Limits)	223	82	Dwelling Units	445	41	12	29	38	22	16

The proposed development is anticipated to generate 445 weekday daily trips, with 41 trips occurring during the AM peak hour and 38 trips occurring during the PM peak hour.

Table 3 – Trip Generation (Entire Site)

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Day Care Center	565	9.216	1000 SF GFA	439	101	54	47	102	48	54
Church	560	17.72	1000 SF GFA	135	6	4	2	9	4	5
Affordable Housing (Income Limits)	223	82	Dwelling Units	445	41	12	29	38	22	16
			Total	**1,019**	**148**	**70**	**78**	**149**	**74**	**75**

The entire site (including the existing and proposed developments) is anticipated to generate 1,019 weekday daily trips, with 148 trips occurring during the AM peak hour and 149 trips occurring during the PM peak hour.

Development Permitted Under Existing Zoning

According to the City of Scottsdale *Code of Ordinances*, Section 5.1504, the existing Highway Commercial with Downtown Overlay (C-3 DO) zoning of the site permits a maximum floor-to-area ratio (FAR) of 0.8, allowing for a development of approximately 66,400 square feet. According to the *Code of Ordinances*, Highway Commercial zoning is 'intended to permit most types of commercial activities located along major streets, including shopping and service needs'.

Thus, the trip generation for a development that is permitted under the existing zoning was calculated utilizing ITE Land Use 821 – Shopping Plaza (40-150k) (w/o Supermarket). Trip generation calculations are shown in **Table 4**.

Table 4 – Trip Generation (Development Permitted Under Existing Zoning)

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Shopping Plaza (40-150k) (w/o Supermarket)	821	66.4	1000 Sq Ft GFA	4,483	115	71	44	345	169	176

A development that is permitted under the existing zoning generates 4,483 weekday daily trips, with 115 trips occurring during the AM peak hour and 345 trips occurring during the PM peak hour.

TRIP GENERATION COMPARISON

Proposed Development versus Development Permitted Under Existing Zoning

A trip generation comparison between the proposed development and a development that is permitted under the existing zoning is shown in **Table 5**.

Table 5 – Trip Generation Comparison (Proposed Development vs. Development Permitted Under Existing Zoning)

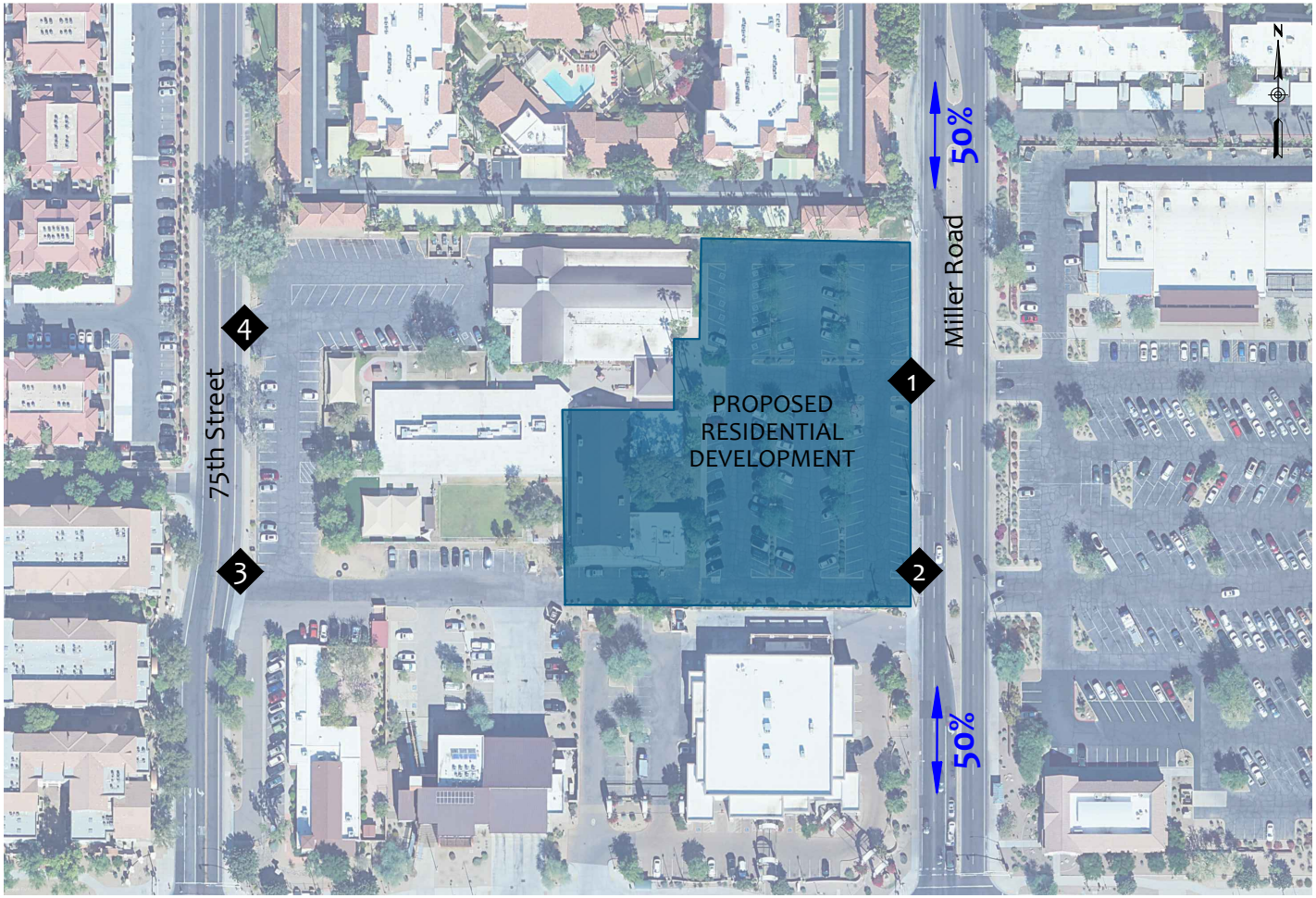
Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Affordable Housing (Income Limits)	223	82	welling Unit	445	41	12	29	38	22	16
Proposed Development Total				445	41	12	29	38	22	16
Shopping Plaza (40-150k) (w/o Supermarket)	821	66.4	1000 Sq Ft GFA	4,483	115	71	44	345	169	176
Existing Zoning (C-3 DO) Total				4,483	115	71	44	345	169	176
Difference				**-4,038**	**-74**	**-59**	**-15**	**-307**	**-147**	**-160**
Percent Difference				**-90%**	**-64%**	**-83%**	**-34%**	**-89%**	**-87%**	**-91%**

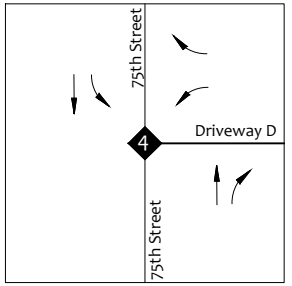
The build-out of the proposed development is anticipated to generate 4,038 (90%) fewer weekday trips, with 74 (64%) fewer AM peak hour trips and 307 (89%) fewer PM peak hour trips than a development that is permitted under the existing zoning.

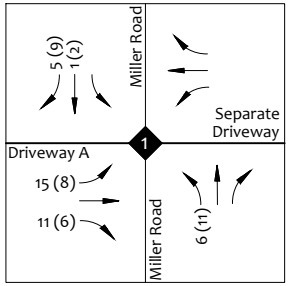
TRIP DISTRIBUTION AND ASSIGNMENT

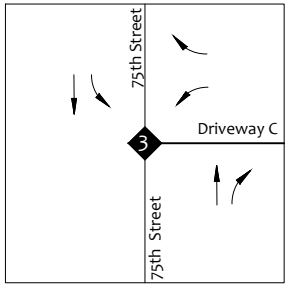
The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the proposed development. The trip distribution and trip assignment for the proposed United Methodist Church Residential Development is generally based on the distribution of existing traffic along the surrounding roadway network, permitted movements at the proposed site driveways, and probable routes. The trip distribution is shown in **Figure 3**.

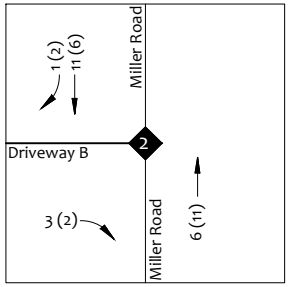
The trip assignment was generally based on proximity of the site driveway to the major roadway network routes, permitted turn movements, as well as ease and probability of use. The site generated traffic volumes are also shown in **Figure 3**.











Legend	
AM(PM)	Peak Hour Traffic Volumes
XX%	Trip Distribution Percentages

FIGURE 3 | SITE DISTRIBUTION AND TRAFFIC VOLUMES

TURN LANE ANALYSIS

Turn lanes or deceleration lanes, allow vehicles exiting a roadway to slow to a reduced speed to execute a turn without impeding the main flow of traffic.

The City of Scottsdale 2018 *Design Standards & Policies Manual* Section 5.3.206 deceleration lane criteria is analyzed below for the study intersections where traffic volumes were available.

Right Turn Lane

Deceleration lanes are required at all new driveways on major arterials and at new commercial/retail driveways on minor arterials. To determine the need for a deceleration lane on streets classified as a minor arterial or collector, use the following criteria:

1. At least 5,000 vehicles per day are expected to be using the street.
2. The roadway's 85th percentile speed limit is at least 35 mph.
3. At least 30 vehicles will make right-turns into the driveway during a 1-hour period.

Using the above criteria, a right turn lane would not be required at the following study intersections:

- Miller Road and Driveway A/Separate Driveway (1)
- Miller Road and Driveway B (2)
- 75th Street and Driveway C (3)
- 75th Street and Driveway D (4)

Left Turn Lane

The primary access of the proposed residential development, Miller Road and Driveway A (1), currently exists with a northbound left turn lane. Vehicles making northbound left turns into the primary access of the proposed residential development will utilize the existing left turn lane.

PEDESTRIAN CROSSING ANALYSIS

Pedestrian crossings are designated facilities that provide a safe and defined location for pedestrians to cross roadways, thereby reducing potential conflicts between vehicles and pedestrians and improving overall traffic safety.

The City of Scottsdale *Guidelines to Identify Pedestrian Crossing Treatments*, effective January 2020, was utilized to evaluate the newly generated pedestrian trips at the existing pedestrian refuge located along Miller Road, approximately 580 feet north of Indian School Road.

The analysis for the pedestrian crossing is shown in **Table 6**. Detailed analysis is provided in **Attachment D**.

Table 6 – Pedestrian Crossing Analysis

Category		Points Awarded
Origin/Destination	150 -185	8
Pedestrian Volume	Less than 10	0
Vehicular Volume	9,000 – 15,000 ADT	4
Distance to Nearest Controlled Crossing	600 – 900 feet	4
Posted Speed	35 mph	4
Crossing Distance	Less than 35 feet	3
Median Type	10 feet or greater (raised)	0
Roadway Illumination	Provided*	0
Collision History	None	0
	Total	23

Street illumination lights are provided on both sides of Miller Road, adjacent to the pedestrian crossing.*

The location does not meet the 30-point threshold for being considered for a rectangular rapid flash beacon, pedestrian hybrid beacon, traffic signal, or separated grade crossing.

SUMMARY

The proposed United Methodist Church Residential Development site is located at 4140 N. Miller Road in Scottsdale, Arizona, and is comprised of a maximum of 82 affordable housing dwelling units.

The proposed development will be accessible via four (4) existing access points, two (2) of which are located along Miller Road and two (2) of which are located along 75th Street.

The existing access point located along Miller Road, approximately 615 feet north of Indian School Road, will be removed.

Trip Generation

The proposed development is anticipated to generate 445 weekday daily trips, with 41 trips occurring during the AM peak hour and 38 trips occurring during the PM peak hour.

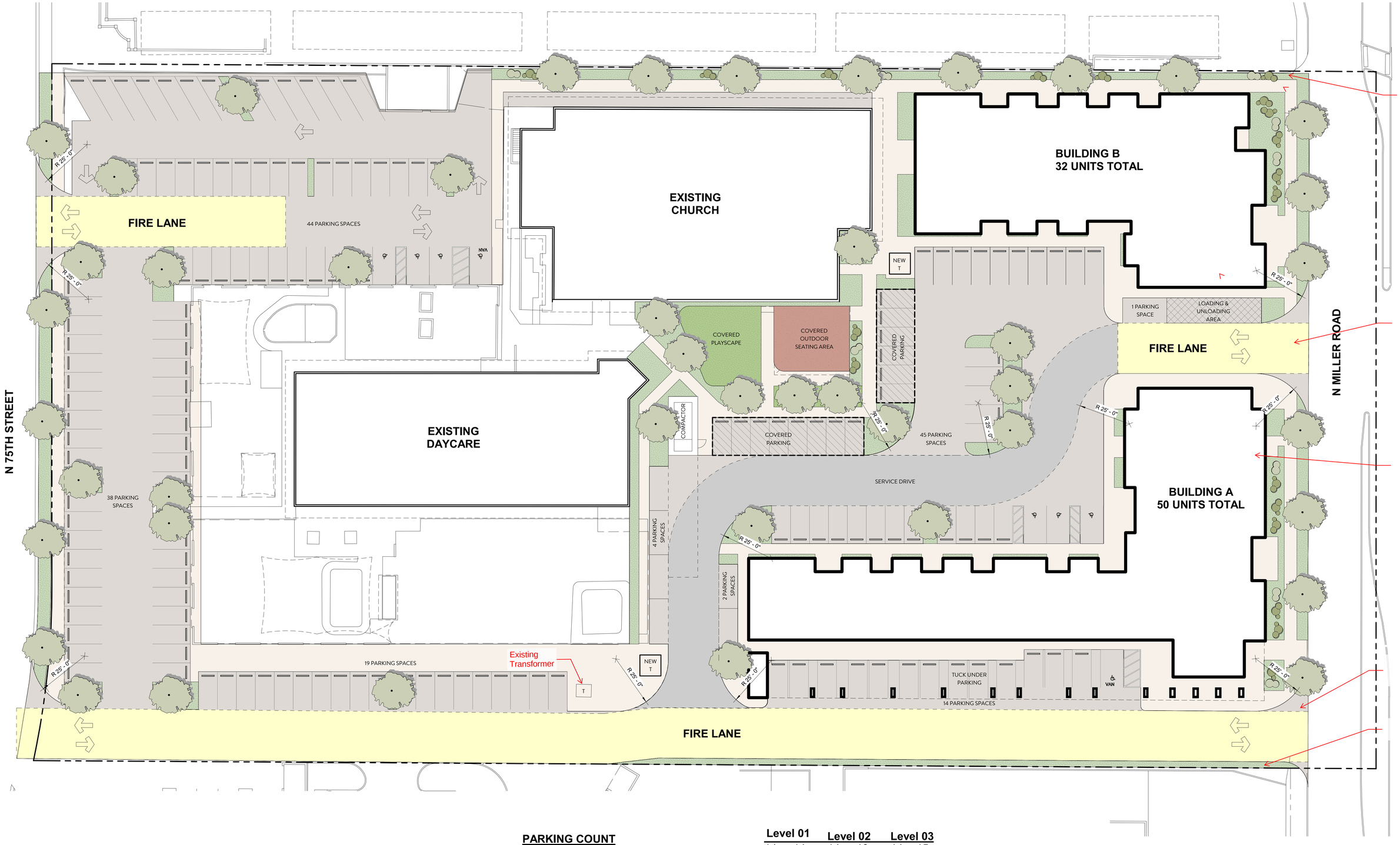
Trip Generation Comparison

The build-out of the proposed residential development is anticipated to generate 4,038 (90%) fewer weekday trips, with 74 (64%) fewer AM peak hour trips and 307 (89%) fewer PM peak hour trips than a development that is permitted under the existing zoning.

As previously mentioned, the recorded daily traffic counts report an ADT of 12,800 vpd along Miller Road, north of Indian School Road. According to the City of Scottsdale 2018 *Design Standards & Policies Manual* Section 5-3.104, a collector roadway has a capacity ranging from 15,000 to 30,000 vpd. Conservatively assuming that a collector roadway has a capacity of 15,000 vpd and that 100% of trips (445 weekday trips) utilize Miller Road north of Indian School Road to access the proposed residential development, the remaining capacity of Miller Road would be approximately 11.7% with the buildout of the proposed residential development.

In conclusion, the traffic generated by the proposed United Methodist Church Residential Development is anticipated to result in minimal traffic impacts to the existing roadway network and the surrounding area.

ATTACHMENT A – PROPOSED SITE PLAN



PARKING COUNT
65 SPOTS (RESIDENTIAL SIDE)
101 SPOTS (CHURCH SIDE)
166 PARKING PROVIDED

164 PARKING REQUIRED

Level 01	Level 02	Level 03
1 br - 14	1 br - 18	1 br -15
2 br - 3	2 br - 9	2 br - 6
3 br - 4	3 br - 5	3 br - 8
Total - 21	**Total - 32**	**Total - 29**

Total Units = 82 units

Unit Percentage
1 br - 57% 2 br - 22% 3 br - 21%

1 PROPOSED SITE PLAN

SCALE: 1" = 20'-0"

REF: 1 / DRB-211

NELSEN PARTNERS
ARCHITECTS & PLANNERS

GORMAN & COMPANY
Integrity. Innovation. Community.

HP+D

Scottsdale, AZ | 24-065 | 10/28/24

DRB-211

ATTACHMENT B – MARICOPA COUNTY ASSESSOR

173-52-001A

Commercial Parcel

This is a Commercial parcel located at 4140 N MILLER RD SCOTTSDALE 85251. The current owner is SCOTTSDALE METHODIST CHURCH. Its current year full cash value is $18,831,848.

MAPS
PICTOMETRY
$ VIEW/PAY TAX BILL
DEED
OWNER
VALUATIONS
ADDITIONAL INFO
MAP FERRET
REGISTER RENTAL
PRINT DETAILS

PROPERTY INFORMATION

4140 N MILLER RD SCOTTSDALE 85251

MCR #
Description
N 331.59F OF S 631.59F OF E2 SE4 SW4 EX E 40F RD EX P/D 10287/551
Lat/Long
I
Lot Size
195,846 sq ft.
Lot #
High School District
SCOTTSDALE UNIFIED #48
Elementary School District
SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction
SCOTTSDALE
S/T/R ?

23 2N 4E
Market Area/Neighborhood
19/006
Subdivision (0 Parcels)

OWNER INFORMATION

SCOTTSDALE METHODIST CHURCH

Mailing Address
4140 MILLER RD, SCOTTSDALE, AZ 85251
Deed Number
NOD-18750
Last Deed Date
12/25/1993
Sale Date
n/a
Sale Price
n/a

VALUATION INFORMATION

We provide valuation information for the past 5 years. For mobile display, we only show 1 year of valuation information. Should you need more data, please look at our data sales.

The Valuation Information displayed below may not reflect the taxable value used on the tax bill due to any special valuation relief program. CLICK HERE TO PAY YOUR TAXES OR VIEW YOUR TAX BILL

Tax Year
2025
Full Cash Value
$18,831,848
Limited Value
$12,742,843
Legal Class
2.R
Description
AG / VACANT LAND / NON-PROFIT R/P
Assessment Ratio
15%
Assessed LPV
$1,911,426
Property Use Code
9270

PU Description
Religious Ownership
Tax Area Code
481400
Valuation Source
Notice

ADDITIONAL PROPERTY INFORMATION

Additional property data.

Description	Imp #	Occupancy	Rank	CCI	Age	Sq Ft.
Church	000101	309	2	C	60	8,337
Church	000201	309	2	C	23	13,545
Church	000202	309	2	C	23	3,999
Elementary School (Entire)	000301	365	2	C	44	9,852
Site Improvements	000401	163	2	D	23	1

Construction Year
1964
Weighted Construction Year
1964
Improvement Quality
C (2)
Pool
No
Living Area
Patio(s)
Covered: 0 | Uncovered: 0
Exterior Wall Type
Concrete Block
Roof Type
Bath Fixtures
0
Garage Stalls
0
Carport Stalls
0

MAP FERRET MAPS

Mapferret maps, also known as MapId maps, pdf maps, or output maps are now available here without having to search.

Parcel Maps (1)

Book/Map Maps (2)

CAUTION! USERS SHOULD INDEPENDENTLY RESEARCH AND VERIFY INFORMATION ON THIS WEBSITE BEFORE RELYING ON IT.

The Assessor's Office has compiled information on this website that it uses to identify, classify, and value real and personal property. Please contact the Maricopa County S.T.A.R. Center at (602) 506-3406 if you believe any information is incomplete, out of date, or incorrect so that appropriate corrections can be addressed. Please note that a statutory process is also available to correct errors pursuant to Arizona Revised Statutes 42-16254.

The Assessor does not guarantee that any information provided on this website is accurate, complete, or current. In many instances, the Assessor has gathered information from independent sources and made it available on this site, and the original information may have contained errors and omissions. Errors and omissions may also have occurred in the process of gathering, interpreting, and reporting the information. Information on the website is not updated in "real time". In addition, users are cautioned that the process used on this site to illustrate the boundaries of the adjacent parcels is not always consistent with the recorded documents for such parcels. The parcel boundaries depicted on this site are for illustrative purposes only, and the exact relationship of adjacent parcels should be independently researched and verified. The information provided on this site is not the equivalent of a title report or a real estate survey. Users should independently research, investigate and verify all information before relying on it or in the preparation of legal documents.

By using this website, you acknowledge having read the above and waive any right you may have to claim against Maricopa County, its officers, employees, and contractors arising out of my reliance on or the use of the information provided on this website.

ATTACHMENT C – TRIP GENERATION

United Methodist Church Residential Development

Exisitng Development

565 Day Care Center

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			M Peak Hour of Generato			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Day Care Center	565	9.216	1000 SF GFA	47.62	50%	50%	11.00	53%	47%	11.12	47%	53%	439	220	219	101	54	47	102	48	54	**Average**
Day Care Center	565	9.216	1000 SF GFA	12.12	50%	50%	1.79	53%	47%	1.56	47%	53%	112	56	56	16	8	8	14	7	7	Minimum
Day Care Center	565	9.216	1000 SF GFA	211.06	50%	50%	57.02	53%	47%	40.85	47%	53%	1,945	973	972	525	278	247	376	177	199	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			M Peak Hour of Generato			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Day Care Center	565	9.216	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

Day Care Center	Standard Deviation	29.78		6.08		6.28
	Number of Studies	27		89		90
	Average Size	5		5		5
	R^2	N/A		N/A		N/A

560 Church

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Church	560	17.72	1000 SF GFA	7.6	50%	50%	0.32	62%	38%	0.49	44%	56%	135	68	67	6	4	2	9	4	5	**Average**
Church	560	17.72	1000 SF GFA	4.53	50%	50%	0.08	62%	38%	0.21	44%	56%	80	40	40	1	1	0	4	2	2	Minimum
Church	560	17.72	1000 SF GFA	13.14	50%	50%	0.94	62%	38%	2.10	44%	56%	233	117	116	17	11	6	37	16	21	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Church	560	17.72	1000 SF GFA	T=5.4(X)+50.83	50%	50%	T=0.37(X)-1.84	62%	38%	T=0.36(X)+4.70	44%	56%	147	73	74	6	4	2	10	4	6	Equation

Church	Standard Deviation	3.01		0.24		0.41
	Number of Studies	5		6		11
	Average Size	23		40		35
	R^2	0.69		0.81		0.64

Lokahi

United Methodist Church Residential Development

Proposoed Development

223	Affordable Housing (Income Limits)	(General Urban/Suburban)																				
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Affordable Housing (Income Limits)	223	82	Dwelling Units	4.81	50%	50%	0.50	29%	71%	0.46	59%	41%	394	197	197	41	12	29	38	22	16	**Average**
Affordable Housing (Income Limits)	223	82	Dwelling Units	4.03	50%	50%	0.25	29%	71%	0.26	59%	41%	330	165	165	21	6	15	21	12	9	Minimum
Affordable Housing (Income Limits)	223	82	Dwelling Units	12.16	50%	50%	1.32	29%	71%	1.22	59%	41%	997	499	498	108	31	77	100	59	41	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Affordable Housing (Income Limits)	223	82	Dwelling Units	T=3.73(X)+139.36	50%	50%	Ln(T)=0.81Ln(X)+0.22	29%	71%	Ln(T)=0.72Ln(X)+0.64	59%	41%	445	222	223	45	13	32	46	27	19	Equation

Affordable Housing (Income Limits)	Standard Deviation	2.03		0.39		0.28
	Number of Studies	5		7		8
	Average Size	128		119		113
	R^2	0.98		0.73		0.67

United Methodist Church Residential Development

Zoning Entitlements

821 Shopping Plaza (40-150k) (w/o Supermarket)

Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Shopping Plaza (40-150k) (w/o Supermarket)	821	66.4	1000 Sq Ft GFA	67.52	50%	50%	1.73	62%	38%	5.19	49%	51%	4,483	2,241	2,242	115	71	44	345	169	176	**Average**
Shopping Plaza (40-150k) (w/o Supermarket)	821	66.4	1000 Sq Ft GFA	43.29	50%	50%	0.29	62%	38%	2.55	49%	51%	2,874	1,437	1,437	19	12	7	169	83	86	Minimum
Shopping Plaza (40-150k) (w/o Supermarket)	821	66.4	1000 Sq Ft GFA	91.06	50%	50%	3.77	62%	38%	15.31	49%	51%	6,046	3,023	3,023	250	155	95	1,017	498	519	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Shopping Plaza (40-150k) (w/o Supermarket)	821	66.4	1000 Sq Ft GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

Shopping Plaza (40-150k) (w/o Supermarket)	Standard Deviation	19.25		1.06		2.28
	Number of Studies	7		13		42
	Average Size	59		67		79
	R^2	N/A		N/A		N/A

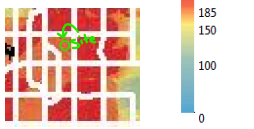
ATTACHMENT D – PEDESTRIAN CROSSING ANALYSIS

Exhibit A: Pedestrian Crossing Evaluation

Location: Miller Road Pedestrian Refuge, ~580' north of Indian School Road **Date:** 9/18/2025

1. Origin/Destination (0–12 points) – Award points based on MAG Gravity Demand Model. Refer to Exhibit B: Up to 5 points may be added or subtracted to the point value to account for special circumstances. Provide Justification for any addition or subtraction in the comments section. **8 pts**

Less than 100	0 points
100 and 150	4 points
150 -185	8 points
185 – 223	12 points



<~185

2. Pedestrian Volume (0-10 points) – Award points based on the number of observed crossing events during a typical pedestrian peak hour: **0 pts**

Less than 10	0 points
Between 10 and 20	5 points
20 or more	10 points

3. Vehicular Volume (0-6 points) – Award Points: **4 pts**

Less than 3,000 ADT	0 points
3,000 – 9,000 ADT	2 points
9,000 – 15,000 ADT	4 points
15,000 ADT or greater	6 points

4. Distance to Nearest Controlled Crossing (0-8 points) – Award points: **4 pts**

Less than 300 feet	0 points
300 – 600 feet	2 points
600 – 900 feet	4 points
900 – 1,500 feet	6 points
Greater than 1,500 feet	8 points

5. Posted Speed (0-6 points) - Award points: **4 pts**

25 mph	0 points
30 mph	2 points
35 mph	4 points
40 mph or Greater	6 points

6. Crossing Distance (0-4 points) – Award points: **3 pts**

Less than 35 feet	0 points
35 - 50 feet	1 points
50 - 60 feet	2 points
60 – 70 feet	3 points
Greater than 70 feet	4 points

7. Median Type (0-5 points) – Award points: **0 pts**

10 feet or greater (raised)	0 points
Between 3 feet and 10 feet (raised)	2 points
Center two-way left turn lane	3 points
Striped median	4 points
No median	5 points

8. Roadway Illumination (0-3 points) – Award points based on presence and/or type of existing roadway illumination within proximity to the crossing area: **0 pts**

9. Collision History – Award 5 points for every correctable pedestrian, bicycle, skateboarder, or scooter related collision that has been reported within the study area in the most recent 5 years of collision data: **0 pts**

0 in 2024
0 in 2023
0 in 2022 ----------> 0 points
0 in 2021
0 in 2020

GRAND TOTAL **23 pts**

Note: A minimum total score of 30 points must be achieved for the location to be considered for a RRFB, PHB, Traffic Signal, or Separated Grade Crossing. Refer to **Exhibit D** for counter measure selection guidance. Scores may be used for prioritization of funds.

Origin/Destination Score Comments:

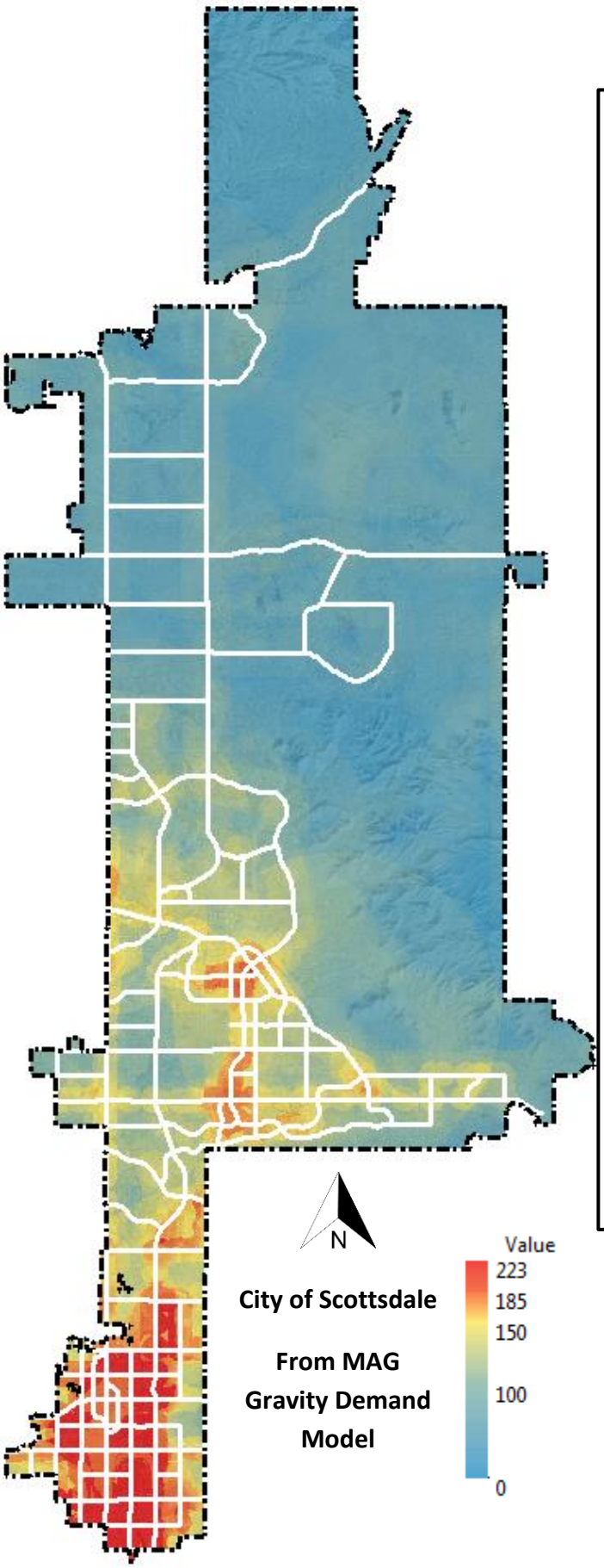
No reductions were taken.

Roadway Illumination Score Comments:

Street illumination lights on both sides of Miller Road, adjacent to the pedestrian crossing.

Other Comments:

Exhibit B: MAG Gravity Demand Model



City of Scottsdale

From MAG Gravity Demand Model

Gravity Analysis Factors and Variables

Factor	Variable	Distance	Weight
Pedestrian and Bicycle Crash History *	Weighted crash kernel density	0.25 mile	10
Employment Density (number of jobs)*	Proximity to employment and number of jobs	2 miles	20
School	Proximity to schools	0.5 mile	10
University	Proximity to Universities	1 mile	15
Existing Transit	Proximity to bus stops	0.25 mile	10
	Proximity to light rail stops	0.50 mile	10
	Proximity to transit stops with high ridership	bus 0.25 miles rail .050 mile	10
Parks	Proximity to parks	.025 mile	10
Demographics*	High population density	NA	20
	High bike mode share	NA	10
	High walk mode share	NA	10
	High transit mode share	NA	10
	High percentage of low-income households	NA	10
	High percentage of older adult population (65+)	NA	10
	High percentage of zero vehicle households	NA	10
	High percentage of school-aged children (<19)	NA	10
Strava Data*	Annual Bicyclist Activity	0.5 mile	20
	Annual Pedestrian Activity	0.5 mile	20

* These factors use a tiered weighting method in which the variables are broken into quintiles and scored using a quintile scale. For example, a variable with a weight of 10 will apply a score of 10 to the highest quintile and the proceeding quintiles receive a score of 8, 6, 4, and the lowest quintile receiving a score of 0.

Contact City of Scottsdale Traffic Engineering staff for locational demand model scores.

Refer to the MAG Active Transportation Plan for more Information regarding demand model scoring and analysis.