



August 31, 2022

Austin Haag  
Milhaus  
460 Virginia Avenue  
Indianapolis, IN 46203

**RE: Fitzsimons Village Apartments / Traffic Generation Analysis  
Aurora, Colorado**

Dear Austin,

SM ROCHA, LLC is pleased to provide traffic generation information for the development entitled Fitzsimons Village Apartments. This development is located to the southwest of the intersection of 14<sup>th</sup> Avenue with N Uvalda Street in Aurora, Colorado.

This information has been revised to address City review comments dated July 14, 2022 regarding additional analysis of pedestrian circulation and connectivity, comparison to the latest available master traffic analysis, and associated revisions throughout.

The intent of this analysis is to present traffic volumes likely generated by the proposed development, provide a traffic volume comparison to previous land use assumptions approved for the development site, and consider potential impacts to the adjacent roadway network.

The following is a summary of analysis results.

### **Site Description and Access**

Land for the development is currently vacant and surrounded by a mix of residential, commercial, hotel, and medical land uses. The proposed development is understood to entail the new construction of a mid-rise apartment building supporting 296 dwelling units.

Existing access to the overall Fitzsimons Village development area is provided at the following locations: three-quarter movement access at E Colfax Avenue and N Uvalda Street, full-movement access at E 14<sup>th</sup> Avenue and N Victor Street, full-movement access at E 13<sup>th</sup> Place and N Uvalda Court, full-movement access at E 14<sup>th</sup> Place and Ursula Street, and full-movement access at E 14<sup>th</sup> Avenue and Ursula Street.

General site and access locations are shown on Figure 1. A site plan, as prepared by S.A. Miro Inc., is shown on Figure 2. This plan is provided for illustrative purposes only.

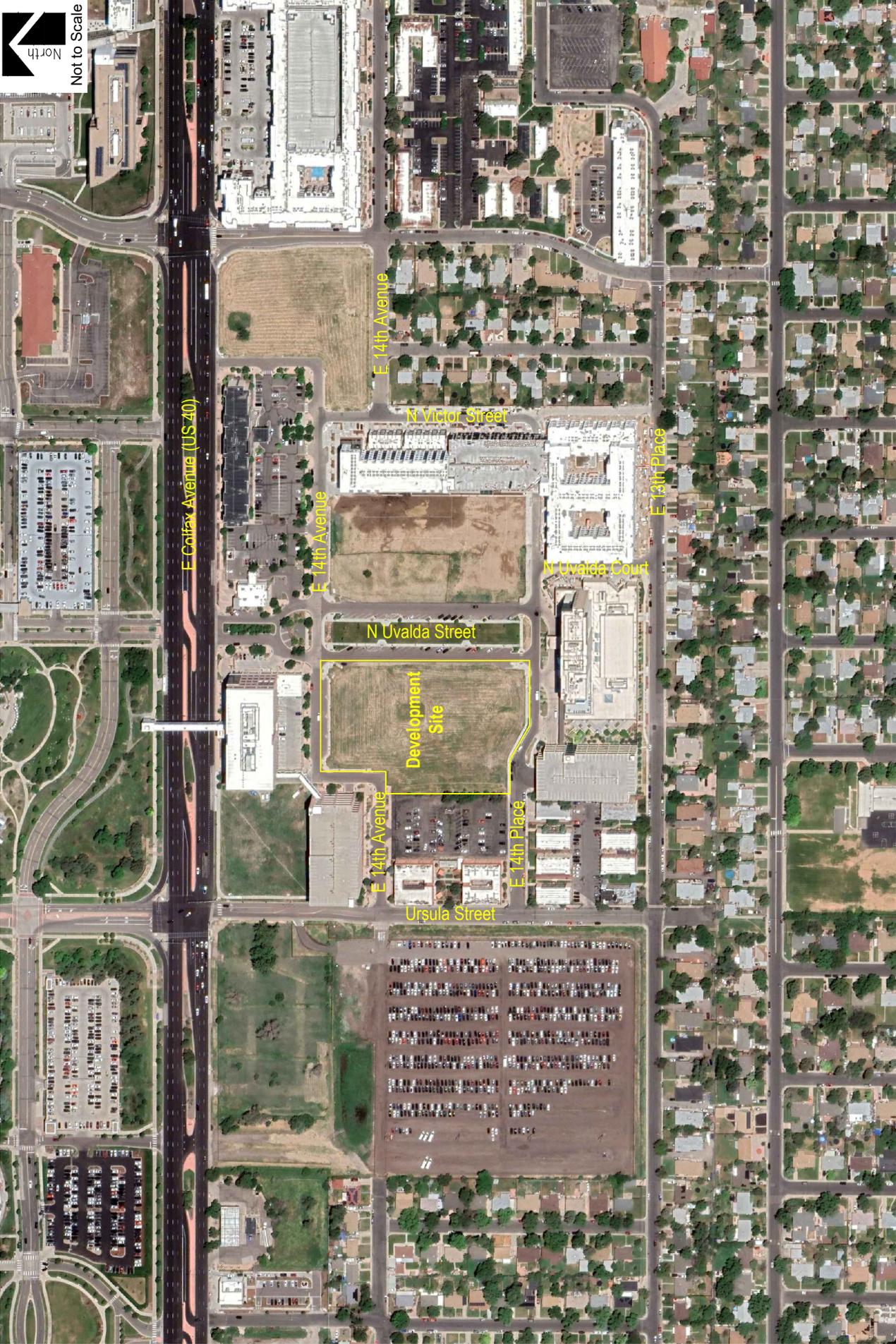


Figure 1  
SITE LOCATION

**FITZSIMONS VILLAGE APARTMENTS**  
Traffic Generation Analysis

**SM ROCHA, LLC**  
Traffic and Transportation Consultants





Not to Scale

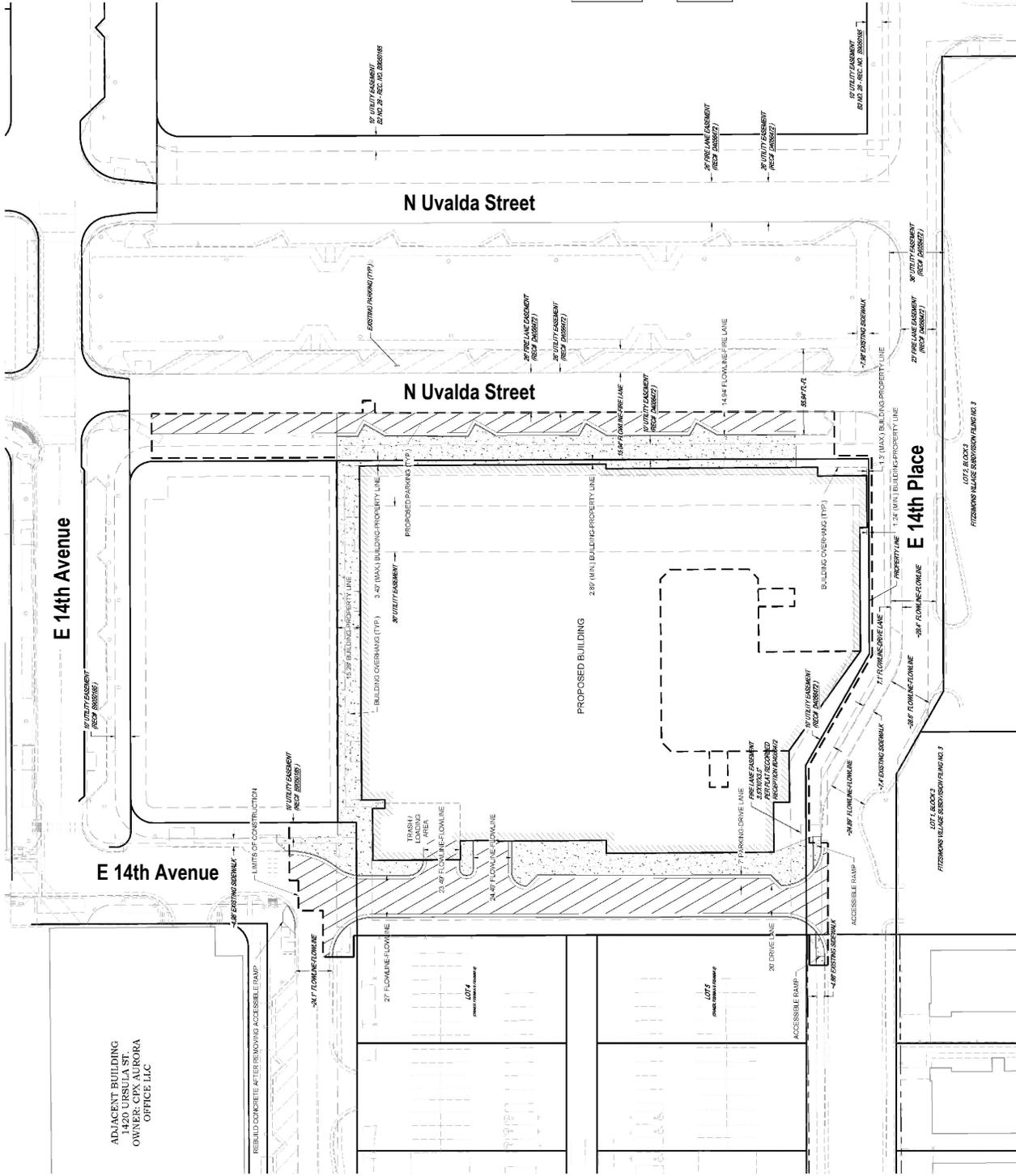


Figure 2  
SITE PLAN  
August 2022  
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## Vehicle Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11<sup>th</sup> Edition, were applied to the proposed land use in order to estimate the average daily traffic (ADT) and peak hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from point of origin to point of destination.

The approved traffic study for overall Fitzsimons Village<sup>1</sup> (Phase 2) development used trip generation rates from ITE’s Trip Generation Manual, 9<sup>th</sup> Edition and included an “Apartment” and “Retail” land use in the same development area as currently proposed with this project.

Table 1 presents average trip generation rates for the proposed development area in addition to the adjacent Phase 2 development on the east side of N Uvalda Street. Use of average trip generation rates presents a conservative analysis. ITE land use codes 221 (Multifamily Housing (Mid-Rise)) and 822 (Strip Retail Plaza) were used for analysis because of their best fit to the proposed and adjacent land uses.

**Table 1 – Trip Generation Rates**

ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
221	Multifamily Housing (Mid-Rise)	DU	4.54	0.09	0.28	0.37	0.24	0.15	0.39
822	Strip Retail Plaza	KSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59

Key: DU = Dwelling Units. KSF = Thousand Square Feet Gross Floor Area.  
 Note: All data and calculations above are subject to being rounded to nearest value.

Table 2 summarizes the projected ADT and peak hour traffic volumes likely generated by the land use area proposed and provides comparison to traffic volume estimates for the adjacent development site, and the previously approved land uses. It is noted that land use densities for the adjacent Phase 2 development area were assumed based on available public data on active development within the City.

<sup>1</sup> Fitzsimons Village Traffic Impact Study, Felsburg Holt & Ullevig, February 2014.

**Table 2 – Trip Generation Summary**

ITE CODE	LAND USE	SIZE	TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
<u>Site Development - Previously Assumed<sup>1</sup></u>									
220	Apartment	492 DU	3,270	50	200	250	200	105	305
820	Retail (Shopping Center)	30 KSF	1,280	20	10	30	55	55	110
<i>Previously Assumed Total:</i>			<i>4,550</i>	<i>70</i>	<i>210</i>	<i>280</i>	<i>255</i>	<i>160</i>	<i>415</i>
<u>Site Development - Adjacent Development</u>									
221	Multifamily Housing (Mid-Rise)	370 DU	1,680	31	105	137	88	56	144
822	Strip Retail Plaza	30 KSF	1,634	42	28	71	99	99	198
<i>Adjacent Development Total:</i>			<i>3,313</i>	<i>74</i>	<i>134</i>	<i>208</i>	<i>187</i>	<i>155</i>	<i>342</i>
<u>Site Development - Proposed</u>									
221	Multifamily Housing (Mid-Rise)	296 DU	1,344	25	84	110	70	45	115
<i>Proposed Total:</i>			<i>1,344</i>	<i>25</i>	<i>84</i>	<i>110</i>	<i>70</i>	<i>45</i>	<i>115</i>
<b><i>Difference Total:</i></b>			<b><i>107</i></b>	<b><i>29</i></b>	<b><i>8</i></b>	<b><i>37</i></b>	<b><i>2</i></b>	<b><i>40</i></b>	<b><i>42</i></b>

Key: DU = Dwelling Units. KSF = Thousand Square Feet Gross Floor Area.

<sup>1</sup> = Trip generation rates referenced from Fitzsimons Village TIS pursuant to ITE's *Trip Generation Manual* 9th Ed.

Note: All data and calculations above are subject to being rounded to nearest value.

As Table 2 shows, the proposed development area has the potential to generate approximately 1,344 daily trips with 110 of those occurring during the morning peak hour and 115 during the afternoon peak hour. Table 2 further shows how proposed development traffic volumes, in addition to the adjacent development area, may result in an increase compared to volumes approved in the Fitzsimons Village master traffic study (Phase 2).

### Adjustments to Trip Generation Rates

It is probable that the proximity of regional pedestrian and bike trails, City transit corridor, and the proposed combination of adjacent commercial and residential land uses, could provide a reduction in vehicle trip generation for the proposed multifamily development. An exact vehicle trip reduction cannot be determined at this time, however pursuant to assumptions made within the Fitzsimons master traffic study, an internal capture rate of less than 10 percent may be applicable. As such, no trip reduction was taken in this study.

## **Pedestrian Circulation & Connectivity Analysis**

In accordance with Section 3.5.4 of the City's Traffic Impact Study Guidelines<sup>2</sup>, an assessment to pedestrian connectivity was considered.

The proposed development would accommodate pedestrians and bicyclists with the following improvements:

- Attached sidewalk along the west side of N Uvalda Street and into the site along the borders of the proposed building, as well as connection to existing sidewalks along E 14<sup>th</sup> Avenue and E 14<sup>th</sup> Place.
- Building entrances on all four sides of the proposed building.
- ADA parking spaces adjacent to the attached sidewalks and building entrances.
- Designated bicycle parking areas.

A typical full-movement, T-intersection is calculated to have nine vehicle-to-vehicle points of conflict and ten vehicle-to-person conflict points. However, with the assumption that the development's site plan was designed per the City's Specifications, and pursuant to the Federal Highway Administration's (FHWA) Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations<sup>3</sup>, pedestrian safety is not expected to be of concern. Moreover, traffic calming and pedestrian crossing treatments are not applicable, and traffic calming is not recommended for the proposed conditions.

## **Vehicle Trip Generation Comparison & Development Impacts**

As Table 2 shows, there is an increase in peak hour traffic volumes anticipated for the proposed development area. However, considering the high potential for reductions due to available multi-modal transportation methods, these additional volumes are considered minor and are not likely to negatively impact operations of N Uvalda Street or other adjacent roadways or intersections.

## **Conclusion**

This analysis assessed traffic generation for the Fitzsimons Village Apartments development, provided a traffic volume comparison to previous land use assumptions approved for the development site, and considered potential impacts to the adjacent roadway network.

It is our professional opinion that the proposed site-generated traffic is expected to create no negative impact to traffic operations for the surrounding roadway network and proposed site access. All analysis results and recommendations made within the Fitzsimons Village traffic impact study remain valid.

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<sup>2</sup> Traffic Impact Study Guidelines, City of Aurora, Public Works Department, June 2015.

<sup>3</sup> Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, Federal Highway Administration, July 2018.

We trust that our findings will assist in the planning and approval of the Fitzsimons Village Apartments development. Please contact us should further assistance be needed.

Sincerely,

**SM ROCHA, LLC**  
*Traffic and Transportation Consultants*



Stephen Simon, EIT  
Traffic Engineer



Fred Lantz, PE  
Traffic Engineer