



CREATIVITY BEYOND ENGINEERING

## TECHNICAL MEMORANDUM

**DATE:** June 15, 2020  
**TO:** Anne Morrison, Urban Land Interests  
**FR:** Pat Hawley, P.E., PTOE, RSP  
**RE:** Ella Apartments Mixed Used Redevelopment Traffic Study  
2902 East Washington Avenue

### INTRODUCTION

Urban Land Interests is proposing to redevelop three parcels along East Washington Avenue in the City of Madison. The parcels were formerly occupied by Ella's Deli and two office buildings. The future land uses include an apartment building and commercial land uses. The City of Madison requested a traffic study to document the expected change in trips generated between the former and proposed land uses. raSmith was retained to conduct a traffic study for this development. This memorandum documents the procedures and findings of the raSmith traffic impact analysis.

### STUDY AREA

Exhibit 1 shows the general location of the redevelopment site. The site is generally bound by East Washington Avenue to the southeast, East Johnson Street to the south and North Lawn Avenue to the west. The existing study area roadways are described below and shown in Exhibit 2.

East Washington Avenue is a six-lane divided arterial roadway with a 2018 average annual daily traffic volume (AADT) of 35,400 vehicles per day. The speed limit along East Washington Avenue is 35 miles per hour.

East Johnson Street is a two-lane undivided roadway with a 2016 average weekday traffic volume (AWT) of 7,050 vehicles per day west of North Lawn Avenue. The speed limit along East Washington Avenue is 25 miles per hour.

North Lawn Avenue is a two-lane undivided local street with a 25 mile per hour speed limit. On-street parking is present in the vicinity of the site, with restrictions adjacent to the Ella's driveways.

### FORMER DEVELOPMENT

The Ella Apartments Mixed-use redevelopment site is comprised of three parcels, totaling approximately 1.65 acres. The parcels and their land uses are described below:

- Ella's Deli was a 5,600 square foot restaurant with access to East Washington Avenue and North Lawn Avenue via three driveways. In addition to serving food, its outdoor carousel and indoor décor were regional attractions. Badger Bus used Ella's Deli as a bus stop.
- A tri-plex house is located immediately west of Ella's with access to East Washington Avenue via one driveway. It has recently been used as an office. It is approximately 1,500 square feet.
- A 3,200 square foot office building is located along North Lawn Avenue with access to North Lawn Avenue via one driveway.

In total, the three parcels have five driveway access points.

### FUTURE DEVELOPMENT

A preliminary site plan showing the proposed development is shown in Exhibit 3. The Ella Apartments redevelopment will include the following land uses

- 135-unit apartment building. Of the 135 apartments, 108 will be one-bedroom units (80%) and the remaining 27 will be two-bedroom units. 107 underground parking spaces will be provided for resident use only. All access will be via the driveway on North Lawn Avenue.
- 8,000 square-foot retail space. The retail space will not include restaurant uses. 11 surface parking spaces will be provided for the retail uses. All access will be via the driveway on East Washington Avenue.

In total, the redevelopment will have two driveway access points, a reduction of three driveways

### TRIP GENERATION COMPARISON

raSmith compared the trips generated by the former land uses and the trips generated by the proposed redevelopment to assess the relative impact to the adjacent transportation system. The former and proposed trips were estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition and are shown in Table 1. To keep the trip comparison straightforward and uncomplicated, raSmith did not apply linked, pass-by and multimodal reductions to either the former or proposed land uses. Both the former and proposed land uses would be expected to have similar reductions.

**Table 1  
Ella Apartments Redevelopment  
Trip Generation Comparison**

Land Use	ITE Code	Size	Weekday Daily Trips (rate)	Weekday Morning Peak Hour Trips (rate)			Weekday Evening Peak Hour Trips (rate)			Saturday Peak Hour Trips (rate)		
				In	Out	Total	In	Out	Total	In	Out	Total
<b>Former Site</b>												
High-Turnover Sit-Down Restaurant	932	5,600 SF	630 (112.18)	30 (55%)	25 (45%)	55 (9.94)	35 (62%)	20 (38%)	55 (9.77)	35 (51%)	30 (49%)	65 (11.19)
Small Office Building (Tri-Plex House)	712	1,500 SF	25 (16.19)	5 (83%)	0 (17%)	5 (1.92)	0 (32%)	5 (68%)	5 (2.45)	0 (50%)	0 (50%)	0 (0.4)
Small Office Building	712	3,200 SF	50 (16.19)	5 (83%)	0 (17%)	5 (1.92)	5 (32%)	5 (68%)	10 (2.45)	0 (50%)	0 (50%)	0 (0.4)
<i>Former Site Total Trips</i>			<b>705</b>	<b>40</b>	<b>25</b>	<b>65</b>	<b>40</b>	<b>30</b>	<b>70</b>	<b>35</b>	<b>30</b>	<b>65</b>
<b>Proposed Development</b>												
Multifamily Housing (Mid-Rise)	221	135 Units	735 (FCE)	10 (26%)	35 (74%)	45 (FCE)	35 (61%)	25 (39%)	60 (FCE)	30 (49%)	35 (51%)	65 (FCE)
Shopping Center	820	8,000 SF	300 (37.75)	5 (62%)	5 (38%)	10 (0.94)	15 (48%)	15 (52%)	30 (3.81)	20 (52%)	15 (48%)	35 (4.5)
<i>Proposed Development Total Trips</i>			<b>1035</b>	<b>15</b>	<b>40</b>	<b>55</b>	<b>50</b>	<b>40</b>	<b>90</b>	<b>50</b>	<b>50</b>	<b>100</b>
<b>Net Change in Trips</b>			<b>330</b>	<b>-25</b>	<b>15</b>	<b>-10</b>	<b>10</b>	<b>10</b>	<b>20</b>	<b>15</b>	<b>20</b>	<b>35</b>

Note: FCE = Fitted Curve Equation

It needs to be stressed Table 1 does not account for the ancillary trips generated by Ella's Deli. Ella's was a regional attraction that drew atypical patrons beyond those included in the standard ITE restaurant land use category. It was a daily stop for field trip school buses and cultural attraction seekers. Therefore, the trips shown in Table 1 likely underestimate the actual traffic generated by Ella's.

Table 1 shows the former and proposed land uses both generate low traffic volumes, between 55 and 100 trips during the peak hours. Based on the values shown in Table 1, the proposed site is expected to generate fewer trips during the morning peak hour and more trips during the weekday afternoon and Saturday midday peak hour. The highest increase is a relatively minor 35 trips per hour on Saturday, which correlates to one new entering or exiting vehicle about every three to four minutes. However, due to the fact the Ella's trip generation is likely understated as outlined above, the net trip change shown in Table 1 is also likely overstated. raSmith expects the proposed redevelopment site will generate very similar volumes, if not actually less, than the former land uses.

## **CONCLUSIONS**

The proposed Ella Apartments redevelopment will reduce the number of driveway access points from five to two, which will improve vehicular, pedestrian and bicycle safety due to the elimination of the conflict points.

The ITE trip rate comparison shows the redevelopment will generate slightly more trips than the former land uses. However, due to the unique status and operation of Ella's Deli, the redeveloped site is expected to generate similar or fewer trips than the former site land uses.

The proposed driveways are expected to operate safely and efficiently with the redevelopment traffic. The adjacent intersections and roadways are expected to see no to negligible change in operations or safety as well after the redevelopment is open.



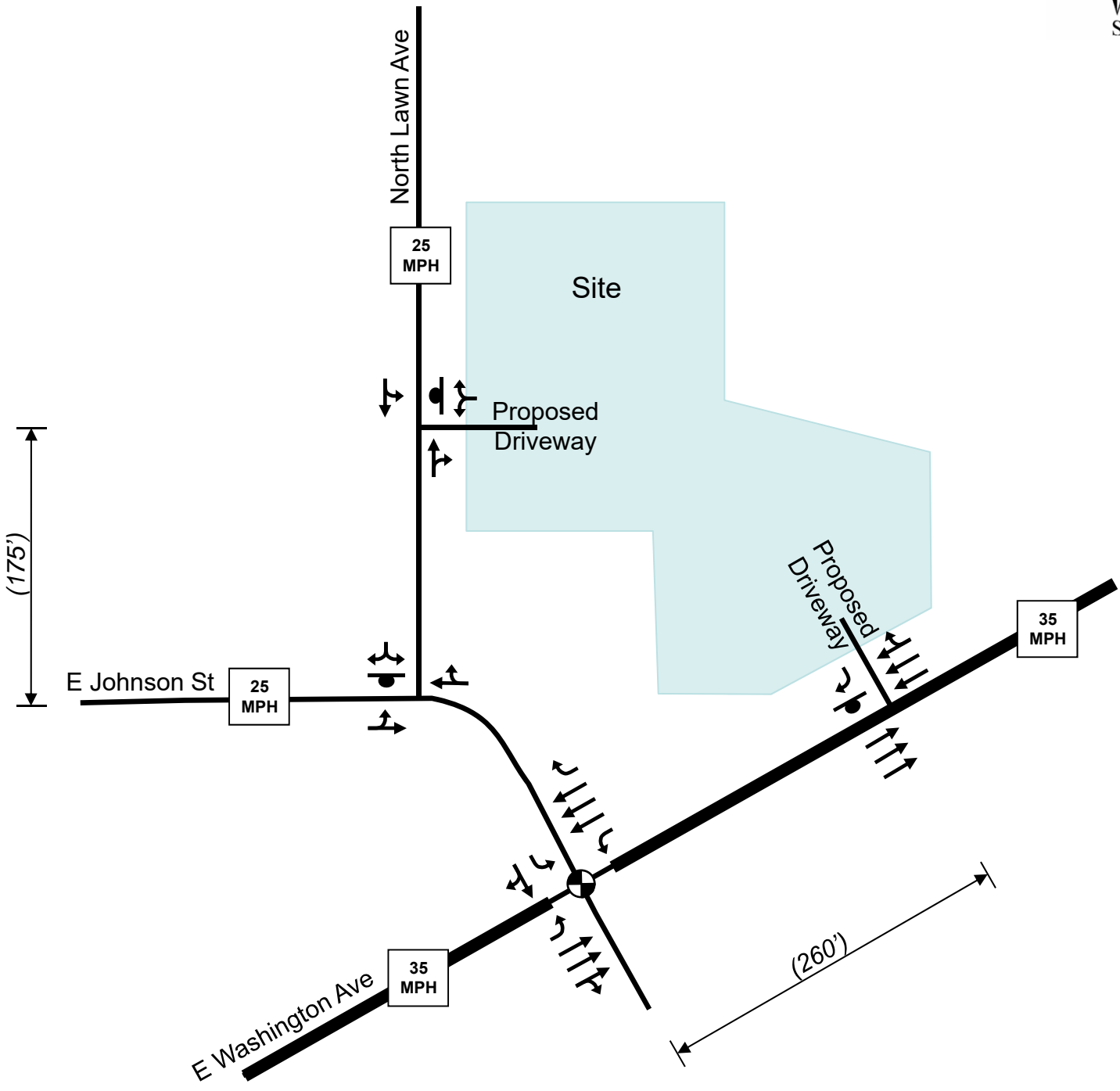


**Legend**

★ = Existing Driveways

**Site Location**

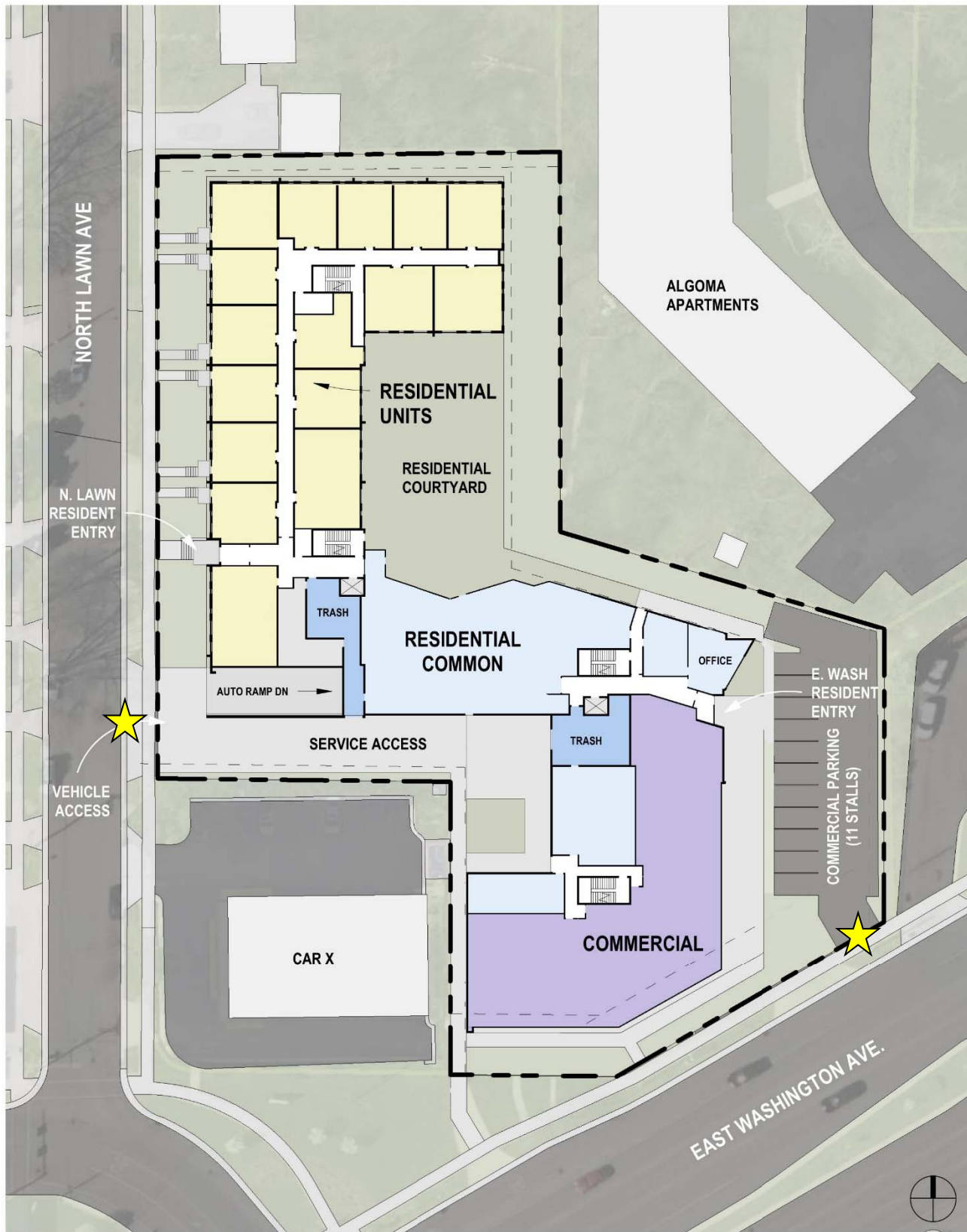
Exhibit  
**1**



**Existing Transportation System  
and  
Proposed Driveway Geometry**

Exhibit  
**2**



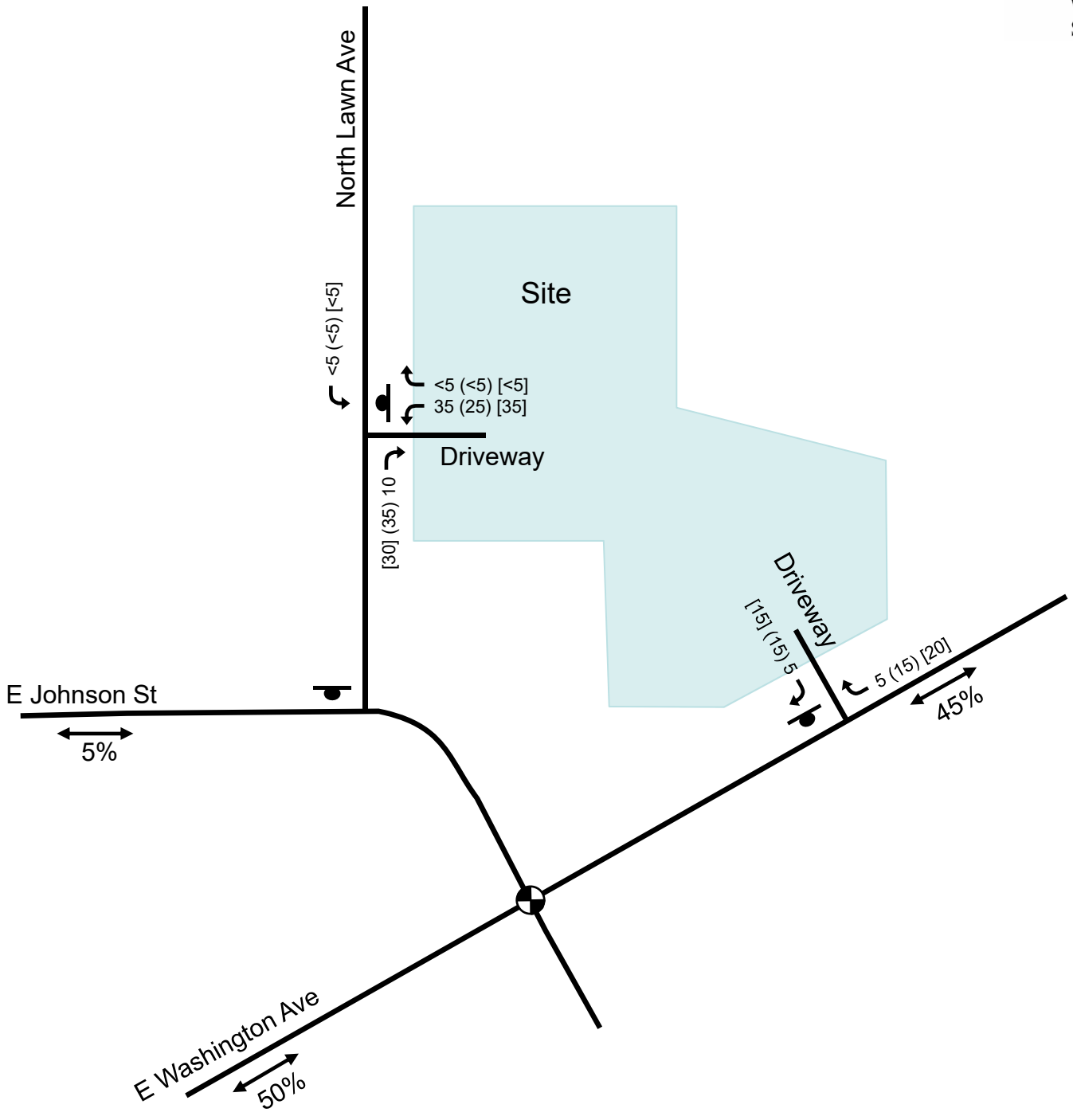


Legend

★ = Proposed Driveways

Proposed Site Plan

Exhibit  
3



**Legend**

- = Traffic Signal
- = Stop Sign
- XX = Weekday Morning Peak Hour Volume
- (XX) = Weekday Evening Peak Hour Volume
- [XX] = Saturday Midday Peak Hour Volume
- = Proposed Trip Distribution