

# Executive Summary

**513 NE 6 Street**

*Fort Lauderdale, Florida*

*July, 2022*

Prepared for:

**Barron Commercial Development/Amera**

## EXECUTIVE SUMMARY

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Barron Commercial Development/Amera proposes to construct 320 multifamily dwelling units, a 2,500 square foot restaurant and 27,200 square feet of retail space along the north side of NE 6 Street east of NE 5 Avenue within municipal limits of the City of Fort Lauderdale. Figure 1, attached, shows the location of the project site as well as the transportation network in the immediate vicinity.

Danielsen Consulting Engineers, Inc. has been retained by Barron Commercial Development/Amera to conduct a traffic study in connection with the proposed development. This study addresses trip generation, site access, expected impacts to the adjacent roadway network, and potential improvements intended to mitigate new trips generated by the project as appropriate.

### Existing Land Use and Access

The subject 1.53-acre site is currently occupied by one (1), one (1)-story building (2,533 square feet) used as office space. Vehicular access to the site is provided at one (1) location along NE 5 Terrace and one (1) location along NE 6 Street. Both existing access locations are gated.

### Proposed Land Uses and Access

The project site is proposed to be redeveloped with the following:

- 320 multifamily dwelling units,
- a 2,500 square foot restaurant, and
- 27,200 square feet of retail space.

Access to the mixed-used development is proposed as follows:

- one (1) two-way, two-lane driveway along NE 5 Avenue, and
- one (1) service-only driveway along NE 5 Avenue.

Project driveway locations and proposed site circulation have been carefully considered, as the project's retail uses are concentrated along NE 5<sup>th</sup> Terrace, NE 6<sup>th</sup> Street, and a to-be-created paseo between Flagler South and Flagler North (the principal north and south structures). These are pedestrian priority corridors with substantial sidewalks and streetscaping without any curb cuts to avoid potential vehicular/pedestrian conflicts. In turn, the vehicular access and service to the building will occur on NE 5<sup>th</sup> Avenue, which is consistent with the development pattern along NE 5<sup>th</sup> Avenue throughout Flagler Village (see vehicular access to ION at 611 NE 5<sup>th</sup> Street, Quantum Apartments at 525 NE 7<sup>th</sup> Street, the Manor at Flagler Village at 501 NE 5<sup>th</sup> Street, the Edge at Flagler Village at 475 N Federal Hwy). The onsite parking garage, providing spaces for all proposed uses, will not be gated.

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The project is expected to be built and occupied by 2025.

### **Roadway System**

The transportation network within the study area includes one (1) state principal arterial (N. Federal Highway (US 1/SR 5)), one (1) county minor arterial (NE 3 Avenue), one (1) city minor collector (NE 6 Street) and local roadways NE 7 Street and NE 5 Avenue.

N. Federal Highway (US 1/SR 5) is a six (6) lane facility north of the Henry E. Kinney tunnel. This arterial has a posted speed limit of 35 miles per hour (mph) and a current (2019) Average Annual Daily Traffic (AADT) volume of 39,500 vehicles per day (vpd) near the project site.

NE 3 Avenue is a four (4) lane facility with a two (2)-way center left turn lane. This arterial has a posted speed limit of 30 miles per hour (mph) and a current (2019) AADT of 13,900 vpd.

NE 6 Street is a two (2) lane facility east of Andrews Avenue. The collector has a posted speed limit of 30 miles per hour (mph) and a current (2019) AADT of 10,100 vpd.

Due to abnormal conditions 2019 (rather than 2020) volumes are referenced. The Florida Department of Transportation (FDOT) is the source of all AADT volumes.

### **Study Intersections**

The following four (4) intersections were selected for detailed analysis.

- NE 6 Street at NE 3 Avenue,
- NE 6 Street at NE 5 Avenue (unsignalized),
- NE 6 Street at N. Federal Highway (US 1/SR 5), and
- NE 7 Street at NE 5 Avenue (unsignalized).

### **Transit Service and Facilities**

Three (3) traditional Broward County Transit routes serve the project site as follows:

- **Route 50** traverses NE 3 Avenue, NE 4 Avenue and Dixie Highway between the Broward Central Terminal (Broward Boulevard) and Hillsboro Boulevard.
- **Route 20** traverses eastern Broward County (US 1 (N. Federal Highway), NE 15 Avenue, Cypress Road, NW 6 Avenue and NW 3 Avenue) between the Broward Central Terminal (Broward Boulevard) and Broward Health North (Sample Road).
- **Route 10** traverses Broward Boulevard, US 1 (N. Federal Highway), and Sunrise Boulevard between the Broward Central Terminal (Broward Boulevard) and Mizner Park (NE 2 Street) in Boca Raton.

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Broward County Transit's community shuttle service (LauderGO!) increases the number of destinations accessible to residents through public transit. The Downtown Link trolley traverses SE 17 Street, Andrews Avenue, SE 2 Street, NW 1 Avenue, NE 6 Street, and NE/SE 3 Avenue on a continuous loop and is active Monday through Friday between 9:00 AM and 5:00 PM. The Downtown Link trolley provides convenient connection to the Las Olas Link, the Beach Link, the Neighborhood Link and the NW Community Link.

### **Trip Generation**

Trip generation for the proposed development is based upon rates and formulae published in the Institute of Transportation Engineer's (ITE) report *Trip Generation* (11<sup>th</sup> Edition). According to ITE, the most appropriate land use categories for the proposed residential units, restaurant and retail space are Land Use Code (LUC) 222 'Multifamily Housing (High-Rise)', LUC 822 'Strip Retail Plaza (<40k)' and LUC 932 'High-Turnover (Sit-Down) Restaurant'.

### **Net New Project Trips**

As shown in Table 1, the proposed development is expected to produce 3,226 gross vehicle trips per day, approximately 169 gross AM peak hour trips (76 inbound and 93 outbound), and approximately 287 gross PM peak hour trips (152 inbound and 135 outbound). Acknowledging the effect of internalization, pass-by capture and the use of alternative modes of travel as described within the report text, yields 2,279 net new vehicle trips per day, approximately 136 net new AM peak hour trips (60 inbound and 76 outbound), and approximately 179 net new PM peak hour trips (97 inbound and 82 outbound).

### **Trip Distribution and Traffic Assignment**

For purposes of this study, the distribution and assignment of project-related vehicle trips are based on current travel patterns and knowledge of the immediate area. A global distribution of 39.0 percent (39.0%) to and from the north, 48.0 percent (48.0%) to and from the south, 8.0 percent (8.0%) to and from the west and 5.0 percent (5.0%) to and from the east was utilized.

### **Detailed Intersection and Driveway Level of Service Analyses**

Intersection capacity analyses were performed for all study intersections and the project driveway. The analyses were undertaken following the capacity/level of service procedures outlined in the current (6th) edition of the Highway Capacity Manual using the SYNCHRO 11 software. The results of the intersection analyses are summarized in report Table 2.

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According to the City of Fort Lauderdale Comprehensive Plan (Transportation Element), LOS 'D' is acceptable within the Near Downtown area and is thus applicable to the analysis contained herein. As shown in Table 2 all study intersections are expected to operate within this acceptable level of service in future year 2025 with traffic from the project as proposed.

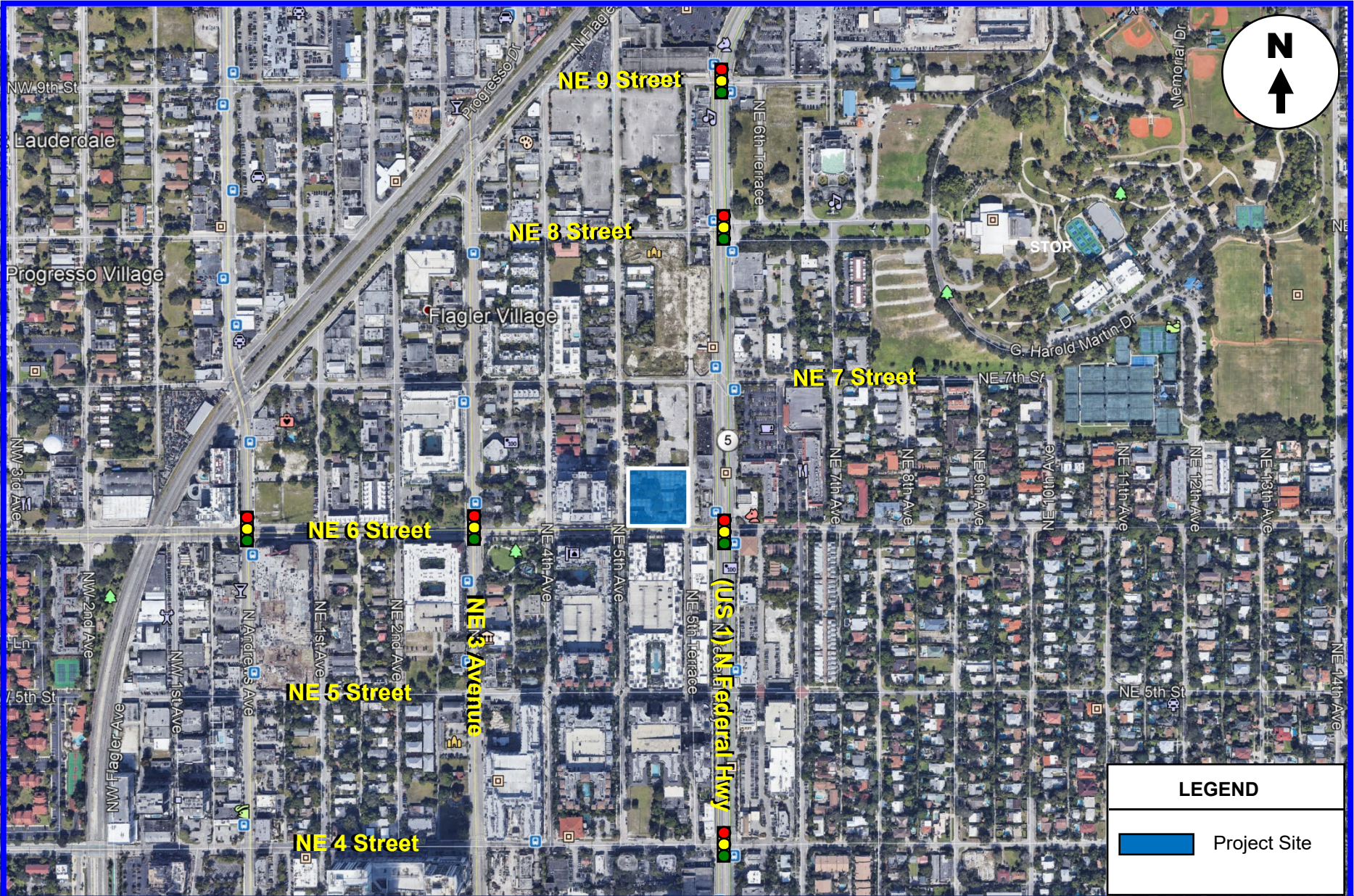
### **Detailed Roadway Level of Service Analysis**

A roadway segment analysis has been conducted for US 1 (N. Federal Highway) and NE 6 Street adjacent to the project site during both AM and PM peak hours. Similar to the intersection analyses, these evaluations were conducted for existing, future background and future total conditions. Baseline volumes for the analyses have been developed from adjacent intersection approach and departure volumes. The volumes were then compared to level of service “D” service volume thresholds developed in the latest edition of the *QLOS Handbook* published by FDOT. Tables 3, 4 and 5 show the adopted Level of Service criteria are expected to be maintained.

### **Conclusions and Recommendations**

Conclusions and recommendations of the traffic study are as follows:

- As shown in Table 1, the project as proposed is expected to produce 2,279 net new vehicle trips per day, approximately 136 net new AM peak hour trips (60 inbound and 76 outbound), and approximately 179 net new PM peak hour trips (97 inbound and 82 outbound).
- Signalized and unsignalized intersections within the study area currently operate within acceptable levels of service and are expected to continue operating within acceptable levels upon buildout of the project as proposed.
- The unsignalized project driveway is expected operate within acceptable levels of service upon buildout of the project as proposed.
- Report Tables 3, 4 and 5 show US 1 (N. Federal Highway) and NE 6 Street near the project site are currently operating within acceptable parameters and are expected to continue to do so with traffic from the proposed project.
- It is recommended that after the project is built and occupied, the development team contact BCTED to request the signal timing of area wide traffic signals be reviewed and optimized.



**DC Engineers, Inc.**

**Project Location Map**

**FIGURE 1**  
 513 NE 6 Street  
 Fort Lauderdale, Florida

**Table 1: Trip Generation Summary Proposed Uses**

Land Use	Scale	Units	AM Peak Hour			PM Peak Hour			Daily
			Total Trips	Inbound	Outbound	Total Trips	Inbound	Outbound	Total Trips
Multi-Family Housing, High Rise (LUC 222)	320	du	89	30	59	106	59	47	1,580
High-Turnover (Sit-Down) Restaurant (LUC 932)	2.500	ksf	24	13	11	23	14	9	268
Retail (< 40k) (LUC 822)	27.200	ksf	56	33	23	158	79	79	1,378
<b>Subtotal</b>			<b>169</b>	<b>76</b>	<b>93</b>	<b>287</b>	<b>152</b>	<b>135</b>	<b>3,226</b>
Internal (11%, 29%)			(18)	(9)	(9)	(82)	(41)	(41)	(633)
<b>Subtotal</b>			<b>151</b>	<b>67</b>	<b>84</b>	<b>205</b>	<b>111</b>	<b>94</b>	<b>2,593</b>
Pass-by Capture Restaurant (43%)						(5)	(3)	(2)	(55)
<b>Subtotal</b>			<b>151</b>	<b>67</b>	<b>84</b>	<b>200</b>	<b>108</b>	<b>92</b>	<b>2,538</b>
Multi-Modal Reduction (10%)			(15)	(7)	(8)	(21)	(11)	(10)	(259)
<b>Total</b>			<b>136</b>	<b>60</b>	<b>76</b>	<b>179</b>	<b>97</b>	<b>82</b>	<b>2,279</b>

Source: ITE Trip Generation Manual (11th Edition)

\* obtained from 2019 Census, Tract 425

**Table 2: Intersection Levels of Service**

Intersection/Approaches	Existing (2022)	Future Traffic Conditions		
		Year 2025 Without Project	Year 2025 With Project	Year 2025 With Project Improvement
<i>NE 6 Street at NE 3 Avenue</i>	B\16.4 (B\17.5)	B\16.4 (B\19.2)	B\16.6 (B\19.6)	
- NB Approach	A (B)	A (B)	A (B)	
- SB Approach	A (B)	A (B)	A (B)	
- EB Approach	C (C)	C (C)	C (C)	
- WB Approach	C (C)	C (C)	C (C)	
<i>NE 6 Street at NE 5 Avenue (unsig.)</i>				
- NB Approach	B (B)	B (B)	B (C)	
- SB Approach	B (B)	B (B)	B (C)	
<i>NE 6 Street at N. Federal Highway</i>	C\21.1 (C\23.9)	C\22.2 (C\25.8)	C\22.8 (C\26.4)	
- NB Approach	A (B)	B (B)	B (B)	
- SB Approach	B (B)	B (C)	B (C)	
- EB Approach	E (D)	E (D)	E (D)	
- WB Approach	E (E)	E (E)	E (E)	
<i>NE 7 Street at NE 5 Avenue (unsig.)</i>				
- EB Approach	A (A)	A (A)	A (B)	
- WB Approach	A (A)	A (A)	A (B)	
<i>Project Dwy at NW 5 AV</i>				
- WB Approach	NA	NA	A (A)	

Source: HCM 6. LEGEND: AM Peak Hour (PM Peak Hour); vehicular delay (sec\veh)



**Table 3: Existing (2022) Level of Service Analysis**

Roadway	Segment	Number of Lanes	LOS D Capacity (vph)	Two-Way Volume AM		Two-Way Volume PM	
N. Federal Hwy	N of NE 5 St	6LD	4,500	2,678	Under	2,975	Under
	N of NE 6 St	6LD	4,500	2,631	Under	2,933	Under
NE 6 Street	E of NE 3 Av	2LD	1,197	580	Under	827	Under
	E of NE 5 Av	2LD	1,197	554	Under	850	Under

\*vph - vehicles per hour

\*'over' or 'under' denotes the roadway segment status of over or under capacity.

**Table 4: Future (2025) Level of Service Analysis**

Roadway	Segment	Number of Lanes	LOS D Capacity (vph)	Two-Way Volume AM		Two-Way Volume PM	
N. Federal Hwy	N of NE 5 St	6LD	4,500	3,021	Under	3,317	Under
	N of NE 6 St	6LD	4,500	2,961	Under	3,264	Under
NE 6 Street	E of NE 3 Av	2LD	1,197	676	Under	948	Under
	E of NE 5 Av	2LD	1,197	630	Under	949	Under

\*vph - vehicles per hour

\*'over' or 'under' denotes the roadway segment status of over or under capacity.

**Table 5: Future (2025) With Project Traffic Level of Service Analysis**

Roadway	Segment	Number of Lanes	LOS D Capacity (vph)	Two-Way Volume AM		Two-Way Volume PM	
N. Federal Hwy	N of NE 5 St	6LD	4,500	3,056	Under	3,354	Under
	N of NE 6 St	6LD	4,500	2,961	Under	3,264	Under
NE 6 Street	E of NE 3 Av	2LD	1,197	712	Under	994	Under
	E of NE 5 Av	2LD	1,197	672	Under	1,009	Under

\*vph - vehicles per hour

\*'over' or 'under' denotes the roadway segment status of over or under capacity.