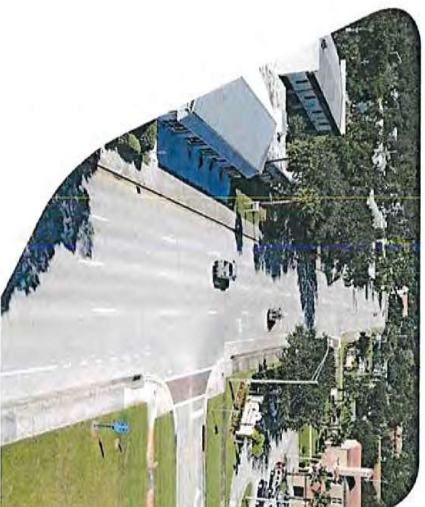


State Road 60 Lane Repurposing STUDY



Kimley»Horn
Expect More. Experience Better.



Background and Objectives

- 2005 Vision Plan, “addressing the Twin Pair arterials that bisect downtown is a key strategy to enhance the pedestrian nature of the district”
- 2008 Downtown Action Plan, “the SR 60 Twin Pairs that passes through the downtown negatively impacts pedestrian safety, community appearance and aesthetics and small business vitality”
- 2010 Evaluation and Appraisal Report, “reaffirmed the need for developing measures to mitigate the adverse impacts of SR 60 Twin Pairs on pedestrian-oriented mixed-use development in the Downtown”
- June 2023 City Council directed staff to proceed with the SR 60 Repurposing Study

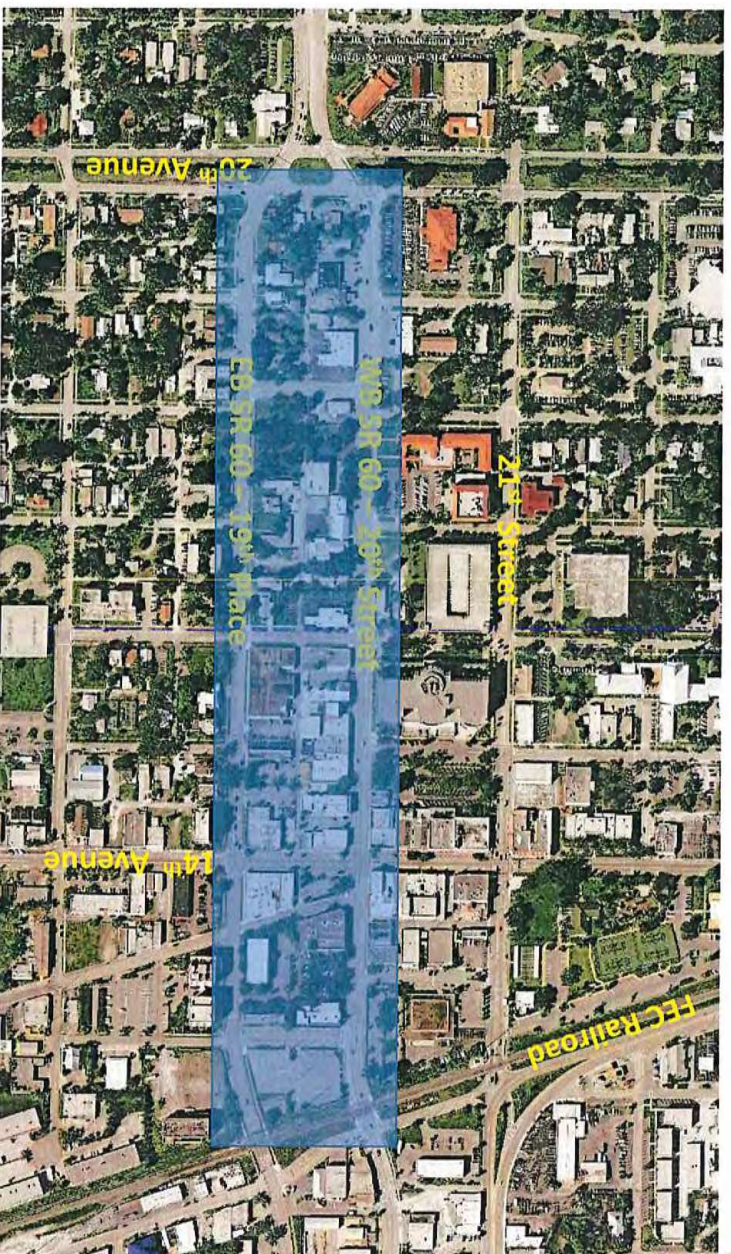
Study Purpose and Objectives

Purpose – to evaluate the feasibility of implementing vehicular, pedestrian and bicycle safety measures

Objectives – conduct a technical engineering analysis regarding the function, capacity and performance of SR 60

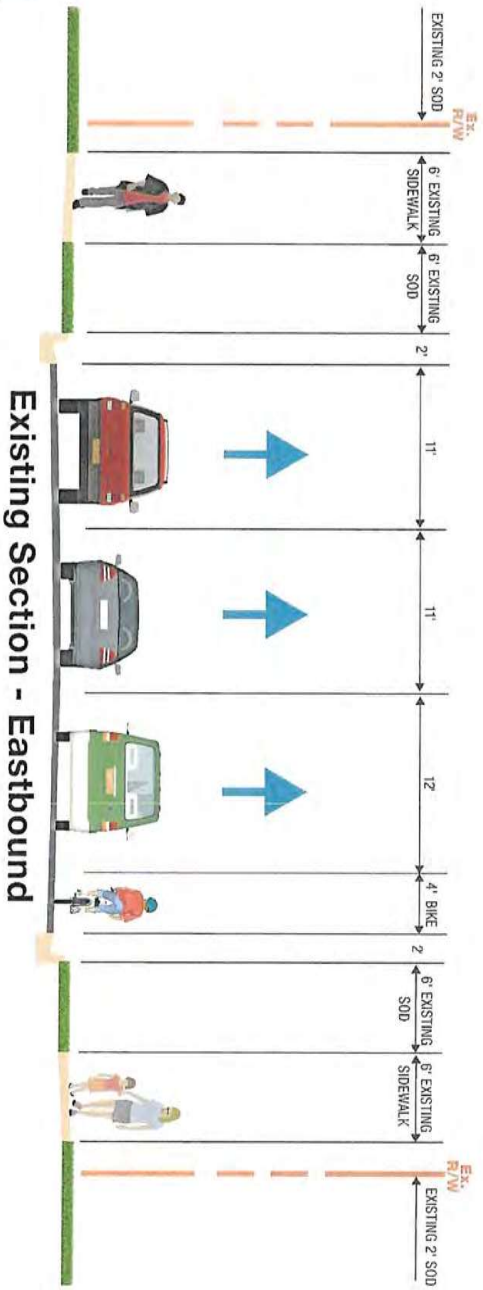


Study Limits – 20th Avenue to FEC Railroad



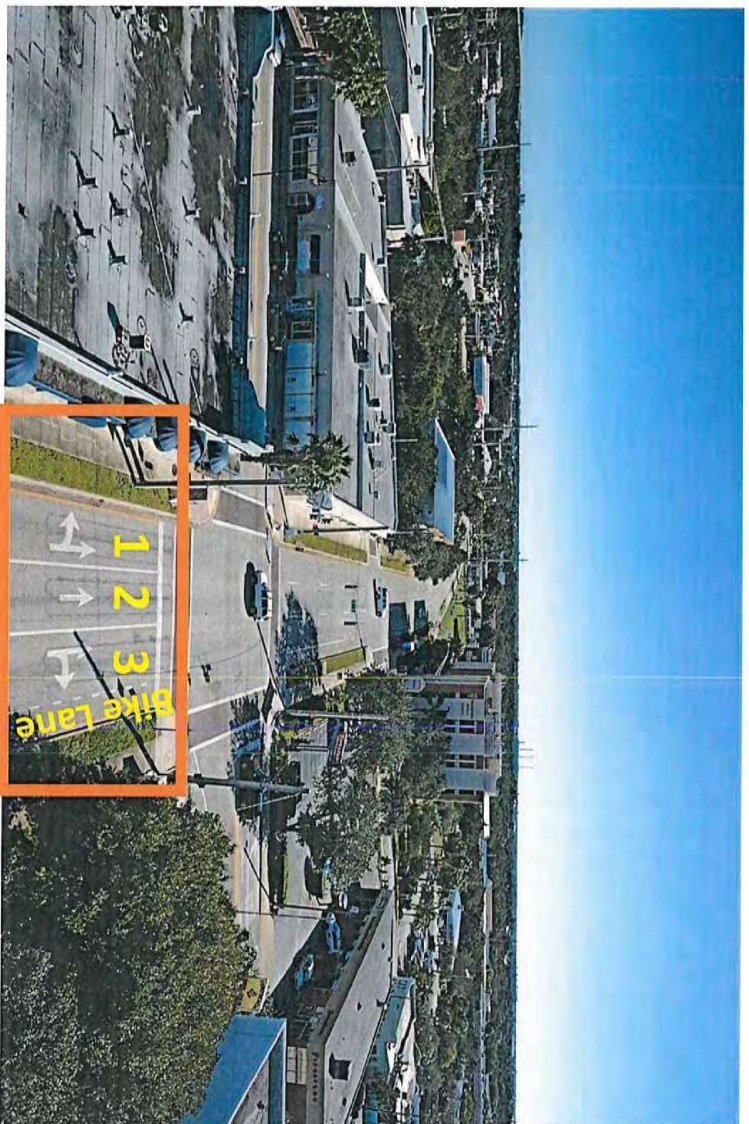
Approximately
2,750 linear feet

Existing SR 60 Eastbound – 19th Place

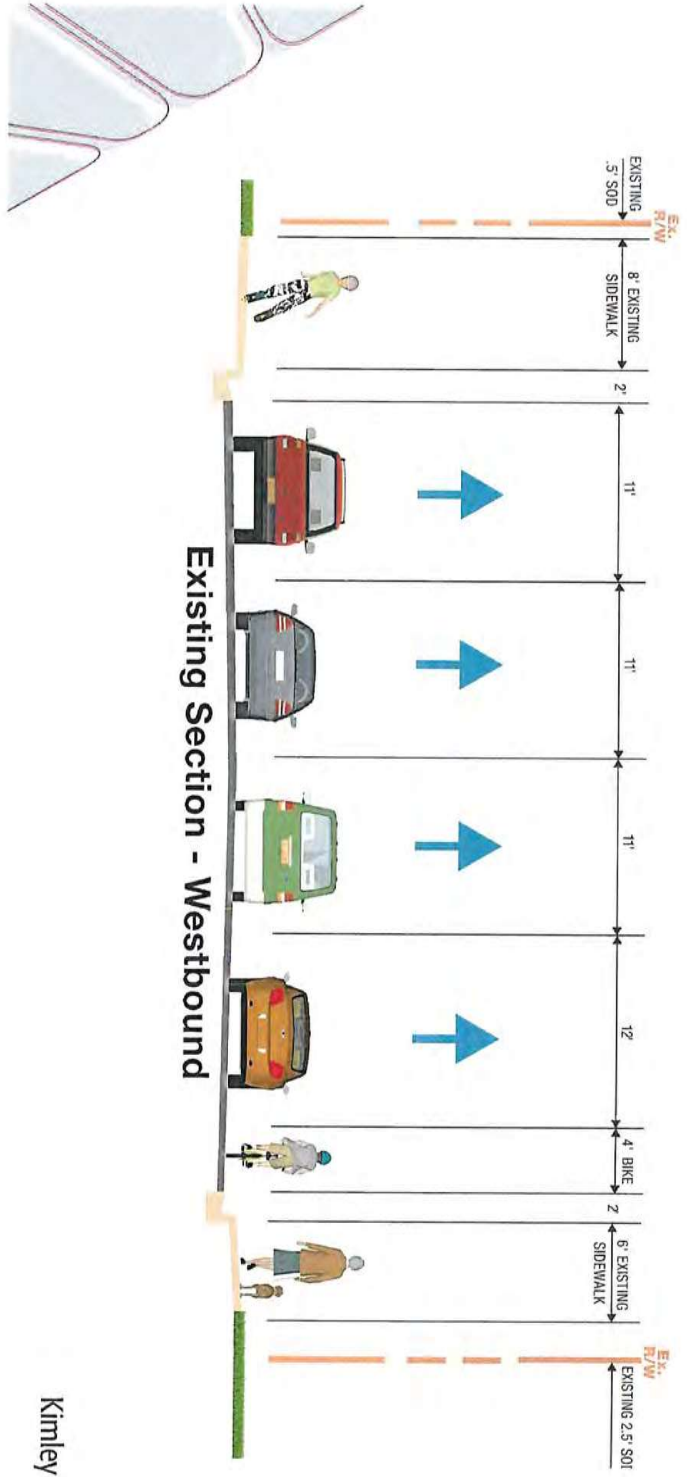


Existing Section - Eastbound

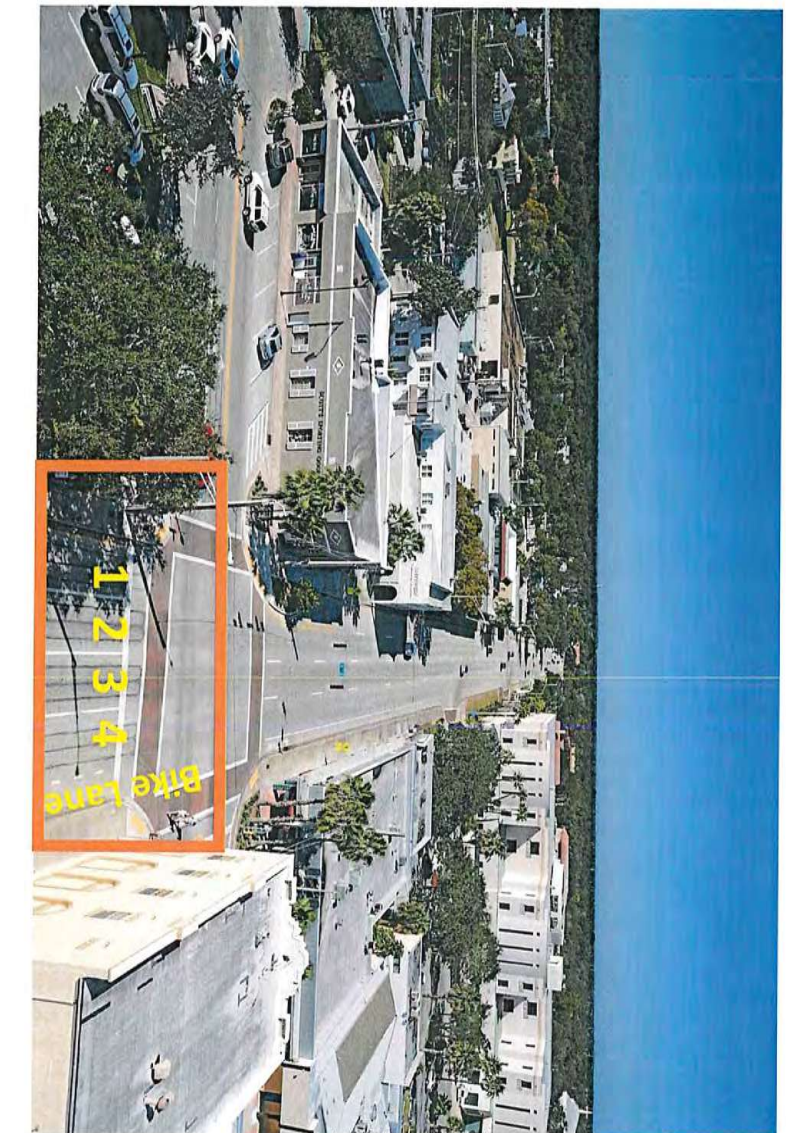
Existing SR 60 Eastbound - 19th Place



Existing SR 60 Westbound – 20th Street



Existing SR 60 Westbound – 20th Street

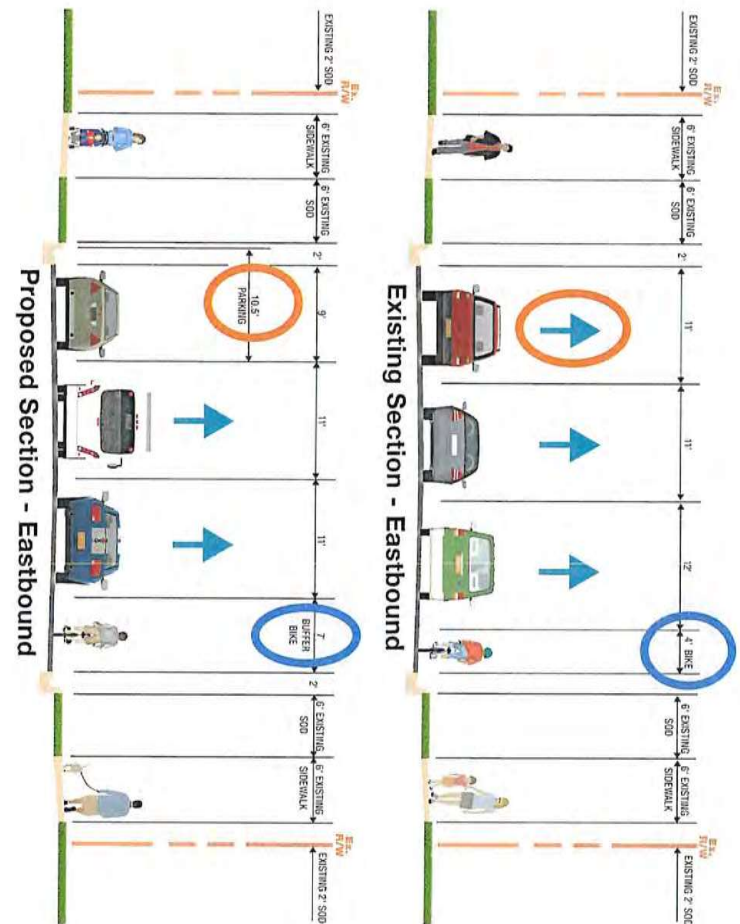




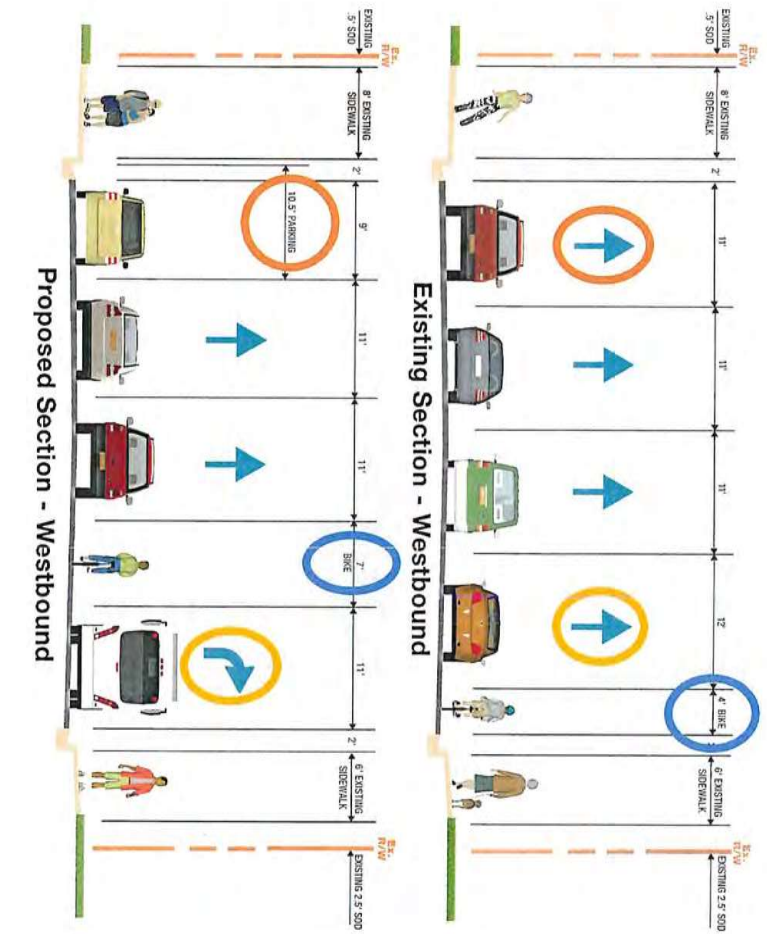
SR 60 Lane Repurposing Evaluated Improvements

- SR 60 travel lane reductions
- Improved bike lanes
- On-street parking
- Posted speed limit reduction
- Improved pedestrian safety
- Aesthetic enhancements

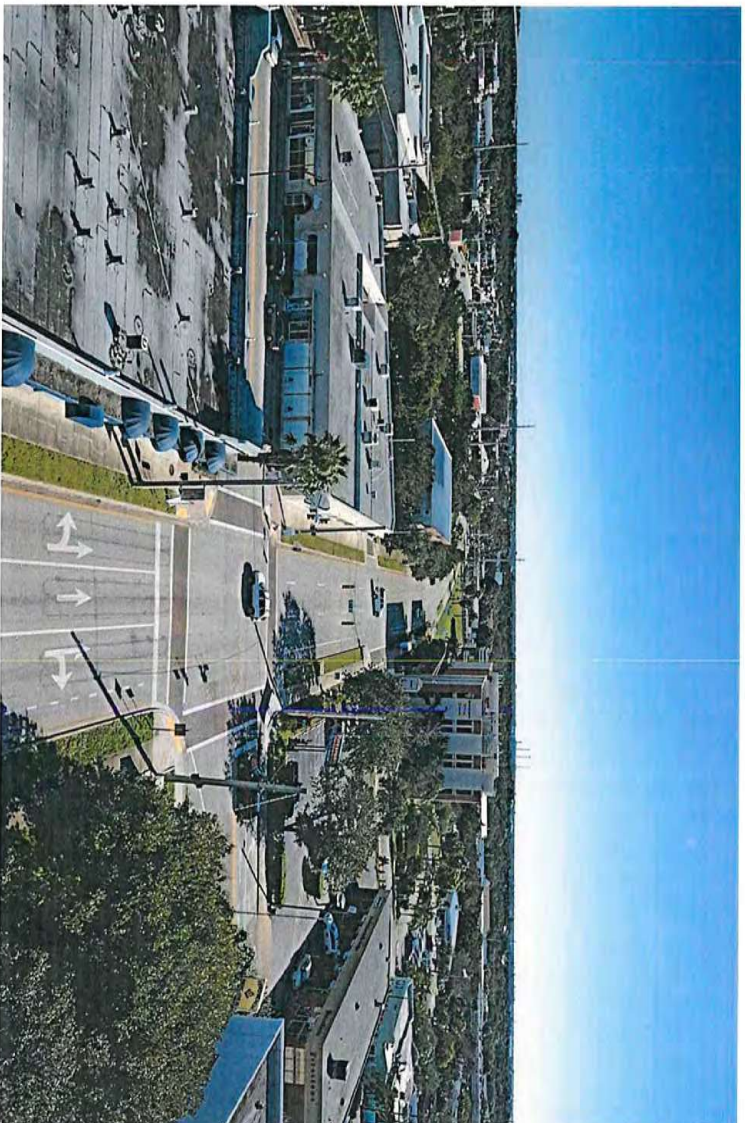
Proposed SR 60 Eastbound – 19th Place



Proposed SR 60 Westbound – 20th Street



Perspective SR 60 Eastbound – 19th Place



Perspective SR 60 Eastbound – 19th Place

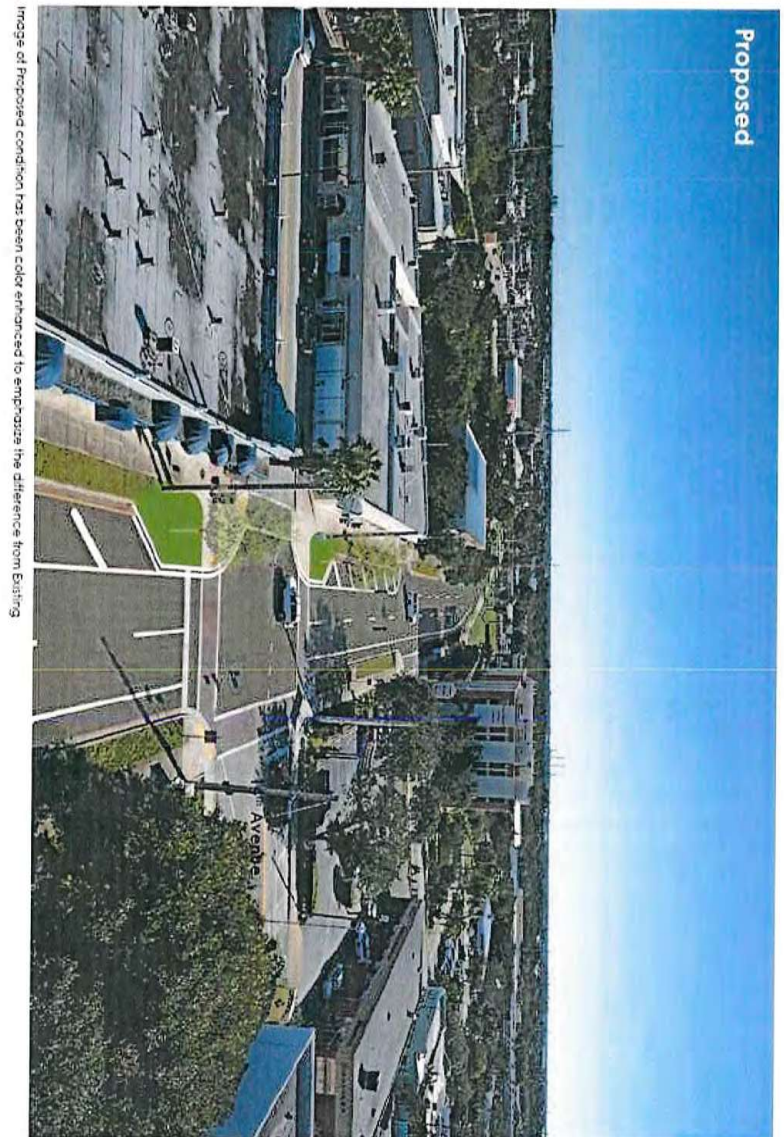
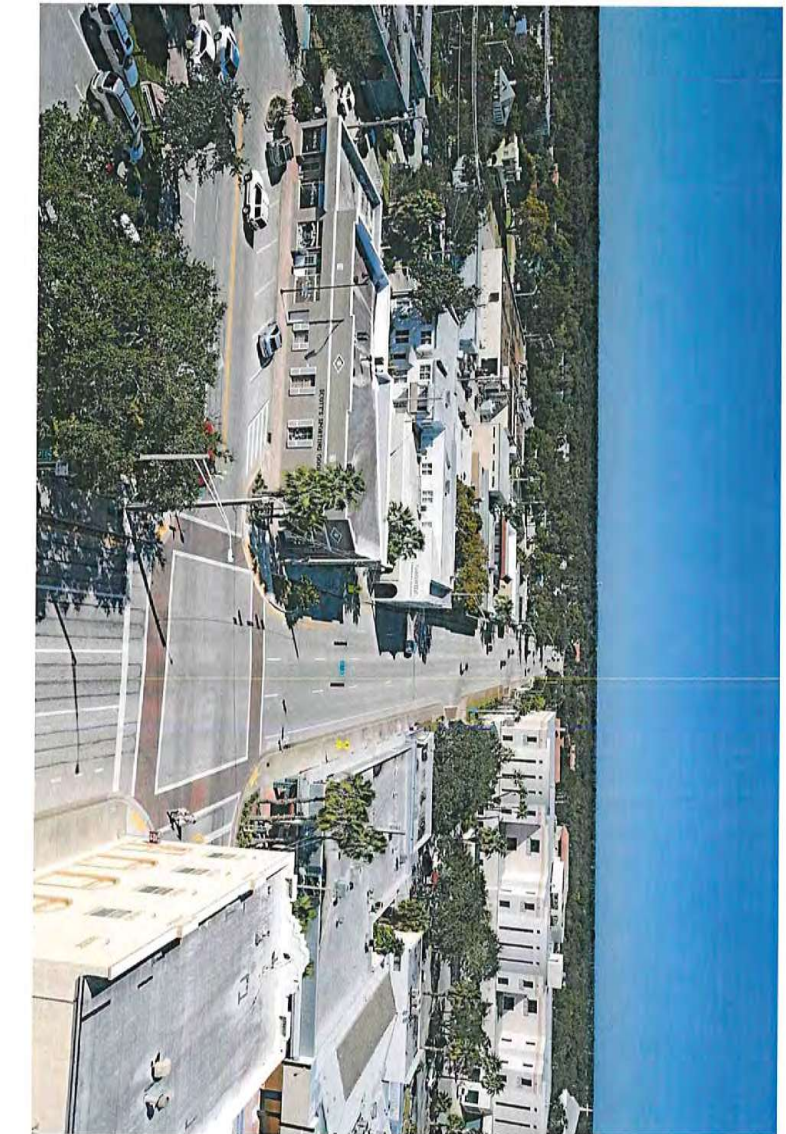


Image of Proposed condition has been color enhanced to emphasize the difference from Existing

Perspective SR 60 Westbound – 20th Street



Perspective SR 60 Westbound – 20th Street

Proposed

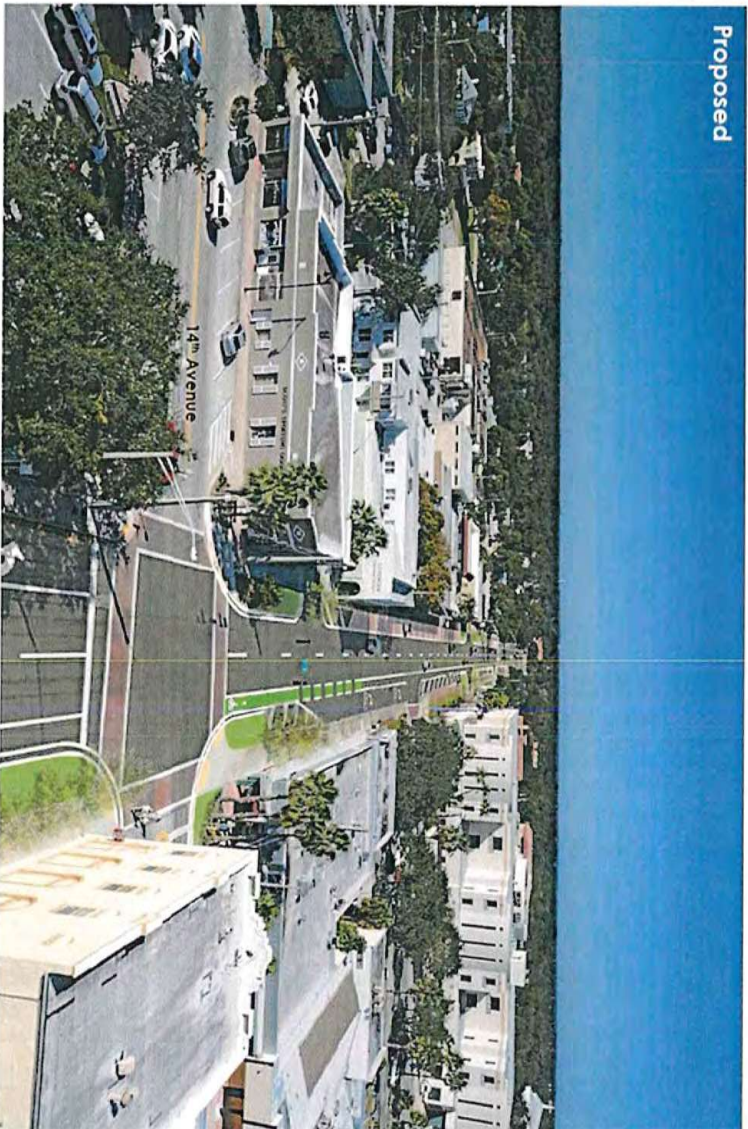
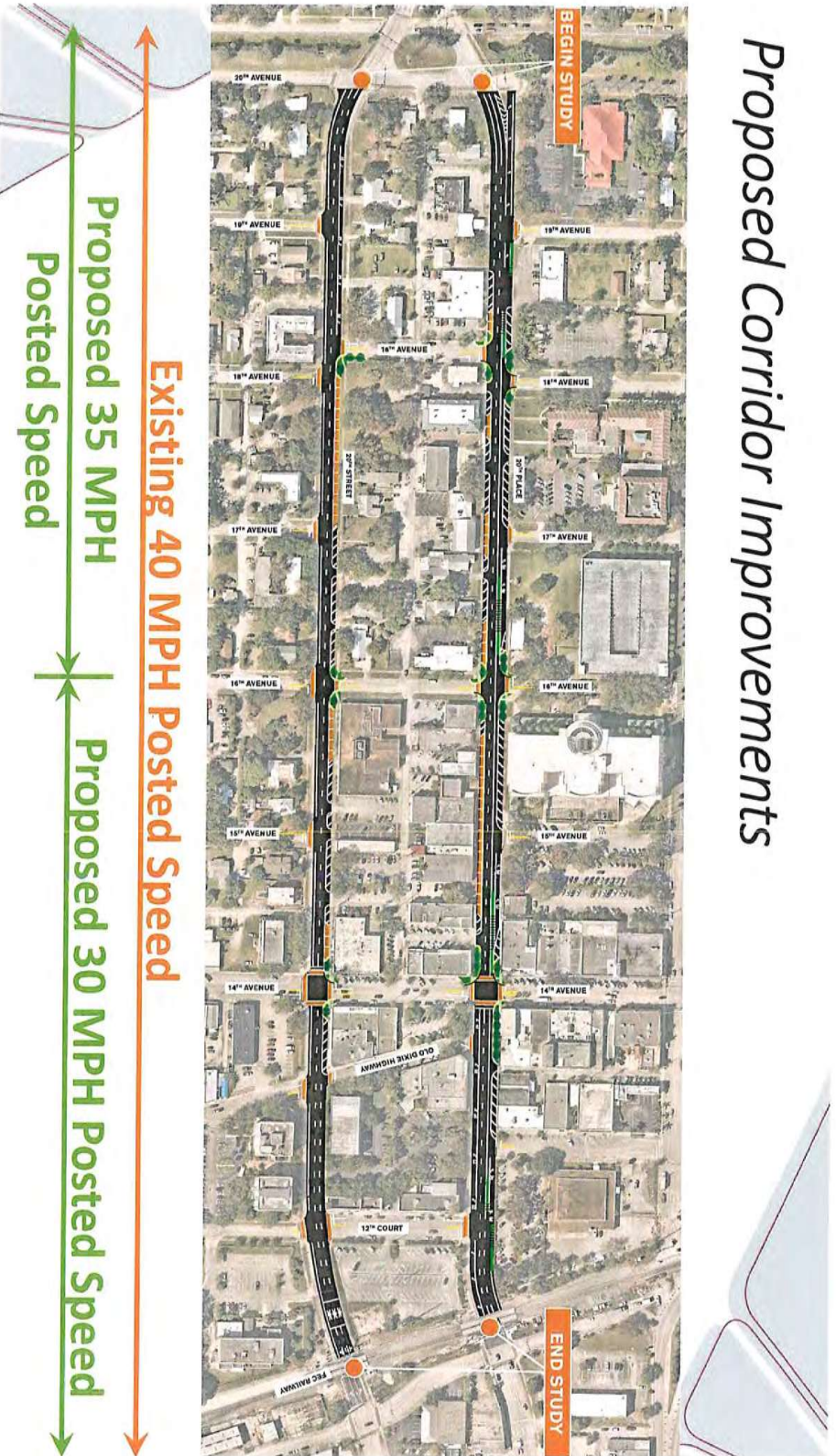
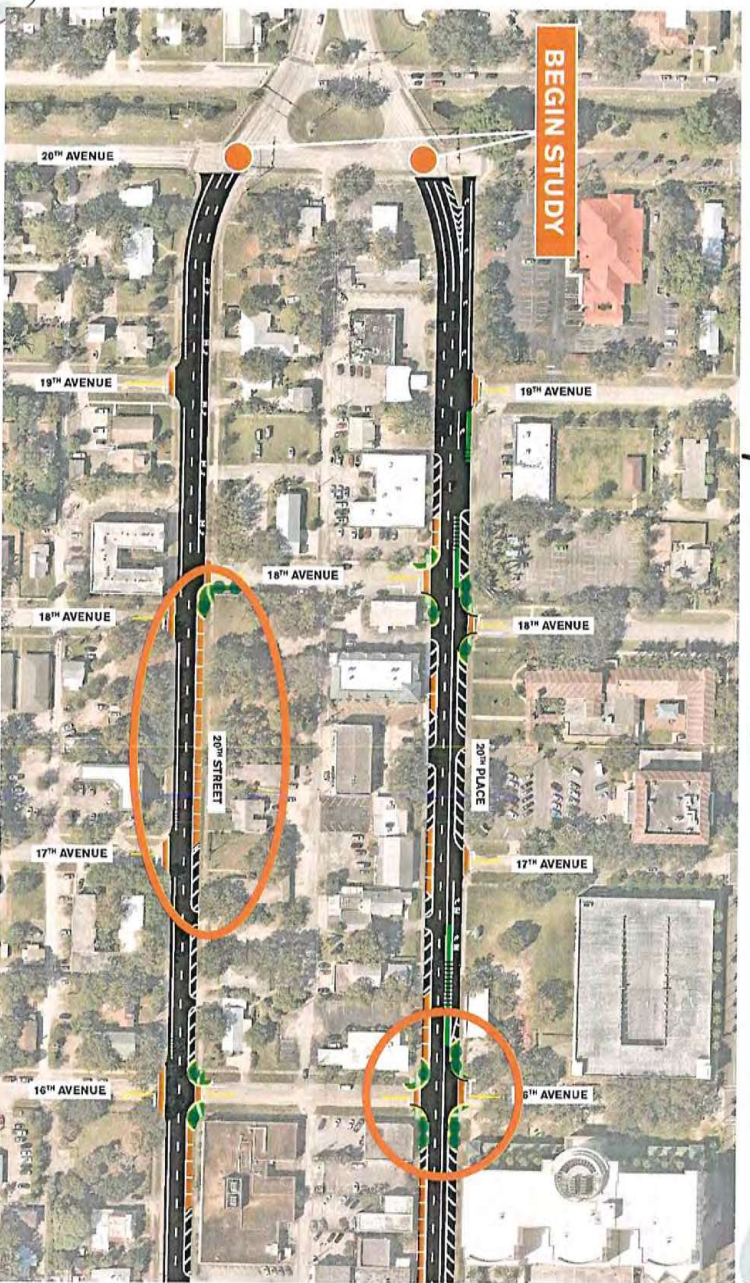


Image of Proposed condition has been color enhanced to emphasize the difference from Existing

Proposed Corridor Improvements

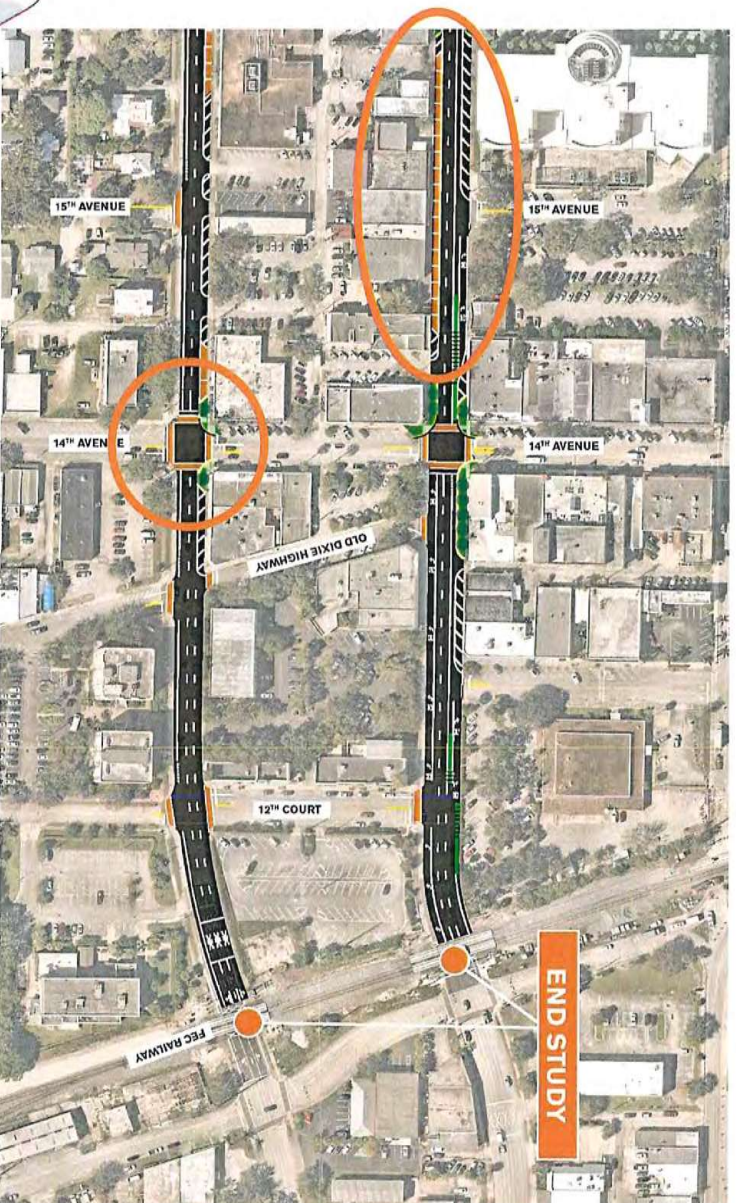


Proposed Corridor Improvements



22 Parking Stalls on SR 60 Eastbound

Proposed Corridor Improvements

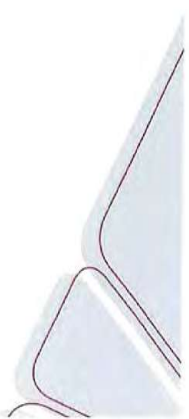


29 Parking Stalls on SR 60 Westbound



Evaluation Variables

- **Traffic Capacity**
- **Evacuation Route**
- **Safety Analysis**
- **Public Outreach**
- **Funding/ Implementation Options**

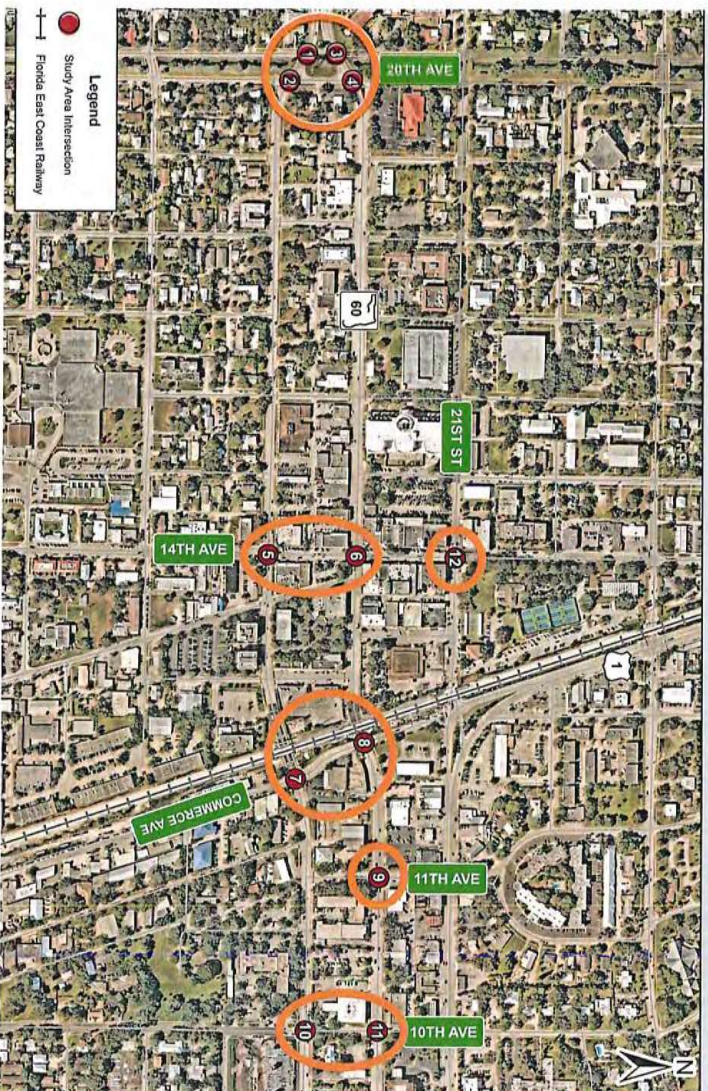


Traffic Capacity – Studied Roadway Segments



- SR 60 – West of 20th Avenue
- SR 60 EB – 20th Avenue to 14th Avenue
- SR 60 WB – 20th Avenue to 14th Avenue
- SR 60 EB – 14th Ave. to Commerce Ave.
- SR 60 WB – 14th Ave. to Commerce Ave.
- SR 60 EB – Commerce Avenue to US 1
- SR 60 WB – Commerce Avenue to US 1
- 20th Avenue – North of SR 60
- 20th Avenue – South of SR 60
- 14th Avenue – North of SR 60
- 14th Avenue – South of SR 60
- 10th Avenue – North of SR 60
- 10th Avenue – South of SR 60
- 21st Street – West of 20th Avenue
- 21st Street – 20th Avenue to 14th Avenue
- 21st Street – 14th Ave. to Commerce Ave
- US 1 – Commerce Ave. to 10th Ave.
- US 1 – North of SR 60
- US 1 – South of SR 60

Traffic Capacity – Studied Intersections



- 1) SR 60 EB & 20th Avenue SB
- 2) SR 60 EB & 20th Avenue NB
- 3) SR 60 WB & 20th Avenue SB
- 4) SR 60 WB & 20th Avenue NB
- 5) SR 60 EB & 14th Avenue
- 6) SR 60 WB & 14th Avenue
- 7) SR 60 EB & Commerce Avenue
- 8) SR 60 WB & Commerce Avenue
- 9) SR 60 WB & 11th Avenue
- 10) SR 60 EB & 10th Avenue
- 11) SR 60 WB & 10th Avenue
- 12) 21st Street & 14th Avenue

All intersections evaluated during AM & PM Peak-Hour operations.





2015 Roadway Capacities

Roadway Segment	2015 Capacities			
	Lanes	Daily Volume	Level of Service	% Capacity
SR 60 – west of 20 th Avenue	6	31,200	56,800	55%
SR 60 EB – 20 th Avenue to 14 th Avenue	3	12,400	34,080	36%
SR 60 WB – 20 th Avenue to 14 th Avenue	4	13,900	40,140	35%
SR 60 EB – 14 th Avenue to Commerce Avenue	3	11,200	34,080	33%
SR 60 WB – 14 th Avenue to Commerce Avenue	4	14,300	40,140	36%
SR 60 EB – Commerce Ave to US 1	3	8,600	34,080	25%
SR 60 WB – Commerce Ave to US 1	4	7,500	40,140	19%
20 th Avenue – south of SR 60	4	6,800	26,352	26%
20 th Avenue – north of SR 60	2	5,700	11,520	49%
14 th Avenue – south of SR 60	2	1,900	12,672	15%
14 th Avenue – north of SR 60	2	3,300	11,520	29%
10 th Avenue – south of SR 60	2	1,900	15,840	12%
10 th Avenue – north of SR 60	2	7,200	15,840	45%
21 st Street – west of 20 th Avenue	2	1,700	15,840	11%
21 st Street – 20 th Avenue to 14 th Avenue	2	3,400	15,840	21%
21 st Street – 14 th Avenue to Commerce Avenue	2	2,900	15,840	18%
US 1 – Commerce Avenue to 10 th Avenue	4	10,300	34,295	30%
US 1 – south of SR 60	4	18,300	34,295	53%
US 1 – north of SR 60	4	11,700	34,295	34%

No roadway corridor projected to be operating over 55% of identified capacity.



2045 Roadway Capacities without SR 60 Lane Repurposing

Roadway Segment	2045 Capacities without SR 60 Lane Reduction			
	Lanes	Daily Volume	Level of Service	% Capacity
SR 60 – west of 20 th Avenue	6	36,100	56,800	64%
SR 60 EB – 20 th Avenue to 14 th Avenue	3	14,300	34,080	42%
SR 60 WB – 20 th Avenue to 14 th Avenue	4	16,300	40,140	41%
SR 60 EB – 14 th Avenue to Commerce Avenue	3	13,200	34,080	39%
SR 60 WB – 14 th Avenue to Commerce Avenue	4	16,600	40,140	41%
SR 60 EB – Commerce Ave to US 1	3	11,100	34,080	33%
SR 60 WB – Commerce Ave to US 1	4	9,700	40,140	24%
20 th Avenue – south of SR 60	4	10,400	26,352	39%
20 th Avenue – north of SR 60	2	7,700	11,520	67%
14 th Avenue – south of SR 60	2	3,100	12,672	24%
14 th Avenue – north of SR 60	2	5,600	11,520	49%
10 th Avenue – south of SR 60	2	2,400	15,840	15%
10 th Avenue – north of SR 60	2	7,900	15,840	50%
21 st Street – west of 20 th Avenue	2	2,000	15,840	13%
21 st Street – 20 th Avenue to 14 th Avenue	2	4,100	15,840	26%
21 st Street – 14 th Avenue to Commerce Avenue	2	4,800	15,840	30%
US 1 – Commerce Avenue to 10 th Avenue	4	14,800	34,295	43%
US 1 – south of SR 60	4	23,100	34,295	67%
US 1 – north of SR 60	4	16,000	34,295	47%

No roadway corridor projected to be operating over 67% of identified capacity.



2045 Roadway Capacities with SR 60 Lane Repurposing and with Projected Trip Diversions

Roadway Segment	2045 Capacities with SR 60 Lane Reduction and with Projected Trip Diversions				
	Lanes	Context Classification	Daily Volume	Level of Service	% Capacity
SR 60 – west of 20 th Avenue	6	C4	34,607	56,800	61%
SR 60 EB – 20 th Avenue to 14 th Avenue	2	C4	12,199	21,660	56%
SR 60 WB – 20 th Avenue to 14 th Avenue	2	C4	12,887	22,743	57%
SR 60 EB – 14 th Avenue to Commerce Avenue	2	C4	11,283	21,660	52%
SR 60 WB – 14 th Avenue to Commerce Avenue	2	C4	13,424	22,743	59%
SR 60 EB – Commerce Ave to US 1	3	C4	10,329	34,080	30%
SR 60 WB – Commerce Ave to US 1	4	C4	8,190	40,140	20%
20 th Avenue – south of SR 60	4	C3C	11,417	26,352	43%
20 th Avenue – north of SR 60	2	C6 ⁽¹⁾	8,360	11,520	73%
14 th Avenue – south of SR 60	2	C4	3,346	12,672	26%
14 th Avenue – north of SR 60	2	C6 ⁽¹⁾	5,689	11,520	49%
10 th Avenue – south of SR 60	2	C4	2,044	15,840	13%
10 th Avenue – north of SR 60	2	C4	7,521	15,840	47%
21 st Street – west of 20 th Avenue	2	C4	2,203	15,840	14%
21 st Street – 20 th Avenue to 14 th Avenue	2	C4	5,927	15,840	37%
21 st Street – 14 th Avenue to Commerce Avenue	2	C4	6,484	15,840	41%
US 1 – south of SR 60	4	C4	15,561	34,295	45%
US 1 – north of SR 60	4	C4	22,396	34,295	65%
US 1 – north of SR 60	4	C4	16,536	34,295	48%

No roadway corridor projected to be operating over **73%** of identified capacity.



2045 Roadway Capacities with SR 60 Lane Repurposing and without Projected Trip Diversions

Roadway Segment	2045 Capacities with SR 60 Lane Reduction and without Projected Trip Diversions					
	Lanes	Context Classification	Daily Volume	Level of Service	% Capacity	
SR 60 – west of 20 th Avenue	6	C4	36,100	56,800	64%	
SR 60 EB – 20 th Avenue to 14 th Avenue	2	C4	14,300	21,660	66%	
SR 60 WB – 20 th Avenue to 14 th Avenue	2	C4	16,300	22,743	72%	
SR 60 EB – 14 th Avenue to Commerce Avenue	2	C4	13,200	21,660	61%	
SR 60 WB – 14 th Avenue to Commerce Avenue	2	C4	16,600	22,743	73%	
SR 60 EB – Commerce Ave to US 1	3	C4	11,100	34,080	33%	
SR 60 WB – Commerce Ave to US 1	4	C4	9,700	40,140	24%	
20 th Avenue – south of SR 60	4	C3C	10,400	26,352	39%	
20 th Avenue – north of SR 60	2	C6 ⁽¹⁾	7,700	11,520	67%	
14 th Avenue – south of SR 60	2	C4	3,100	12,672	24%	
14 th Avenue – north of SR 60	2	C6 ⁽¹⁾	5,600	11,520	49%	
10 th Avenue – south of SR 60	2	C4	2,400	15,840	15%	
10 th Avenue – north of SR 60	2	C4	7,900	15,840	50%	
21 st Street – west of 20 th Avenue	2	C4	2,000	15,840	13%	
21 st Street – 20 th Avenue to 14 th Avenue	2	C4	4,100	15,840	26%	
21 st Street – 14 th Avenue to Commerce Avenue	2	C4	4,800	15,840	30%	
US 1 – Commerce Avenue to 10 th Avenue	4	C4	14,800	34,295	43%	
US 1 – south of SR 60	4	C4	23,100	34,295	67%	
US 1 – north of SR 60	4	C4	16,000	34,295	47%	

No roadway corridor projected to be operating over 73% of identified capacity



Intersection Capacities

Signalized Intersections	2023 Peak-Hour Traffic Volumes		2045 Peak-Hour Traffic Volumes		2045 Peak-Hour Traffic Volumes with SR 60 Lane Reduction	
	LOS (AM/PM)	Delay ¹ (AM/PM)	LOS (AM/PM)	Delay ¹ (AM/PM)	LOS (AM/PM)	Delay ¹ (AM/PM)
1	SR 60 EB & 20 th Avenue SB	A/B 7.0/15.0	A/B 8.1/16.6	A/B 8.5/17.5	A/B 8.5/17.5	
2	SR 60 EB & 20 th Avenue NB	B/B 16.3/13.8	B/B 18.1/15.1	B/B 18.9/16.0	B/B 18.9/16.0	
3	SR 60 WB & 20 th Avenue SB	B/B 11.3/11.6	B/B 12.6/13.3	B/B 13.4/13.6	B/B 13.4/13.6	
4	SR 60 WB & 20 th Avenue NB	B/A 19.1/8.8	C/B 20.7/10.5	C/B 21.9/11.0	B/B 21.9/11.0	
5	SR 60 EB & 14 th Avenue	B/B 13.9/14.1	B/B 15.1/15.3	B/B 16.8/17.0	B/B 16.8/17.0	
6	SR 60 WB & 14 th Avenue	C/C 21.6/26.8	C/D 23.2/27.5	B/D 21.0/29.4	B/D 21.0/29.4	
7	SR 60 EB & Commerce Avenue	B/B 10.8/13.1	B/B 11.7/14.3	B/B 11.3/14.1	B/B 11.3/14.1	
8	SR 60 WB & Commerce Avenue	A/B 8.7/10.9	A/B 9.3/11.8	A/B 9.3/11.5	A/B 9.3/11.5	
9	SR 60 WB & 11 th Avenue	B/B 16.8/19.0	B/C 17.7/20.7	B/C 18.0/20.7	B/C 18.0/20.7	
10	SR 60 EB & 10 th Avenue	B/B 15.5/17.0	B/B 17.0/18.0	B/B 17.2/17.9	B/B 17.2/17.9	
11	SR 60 WB & 10 th Avenue	B/B 16.5/12.5	B/B 17.2/13.2	B/B 17.9/13.3	B/B 17.9/13.3	
12	21 st Street & 14 th Avenue	B/B 14.7/15.0	B/B 14.7/15.2	B/B 15.4/15.9	B/B 15.4/15.9	

The City's LOS standard for a Signalized Intersection is LOS 'D' which permits up to 55 seconds of delay.

The maximum intersection delay in 2045 with the SR 60 Lane Reductions is SR 60 WB & 14th Avenue at 40 seconds.

Safety Analysis

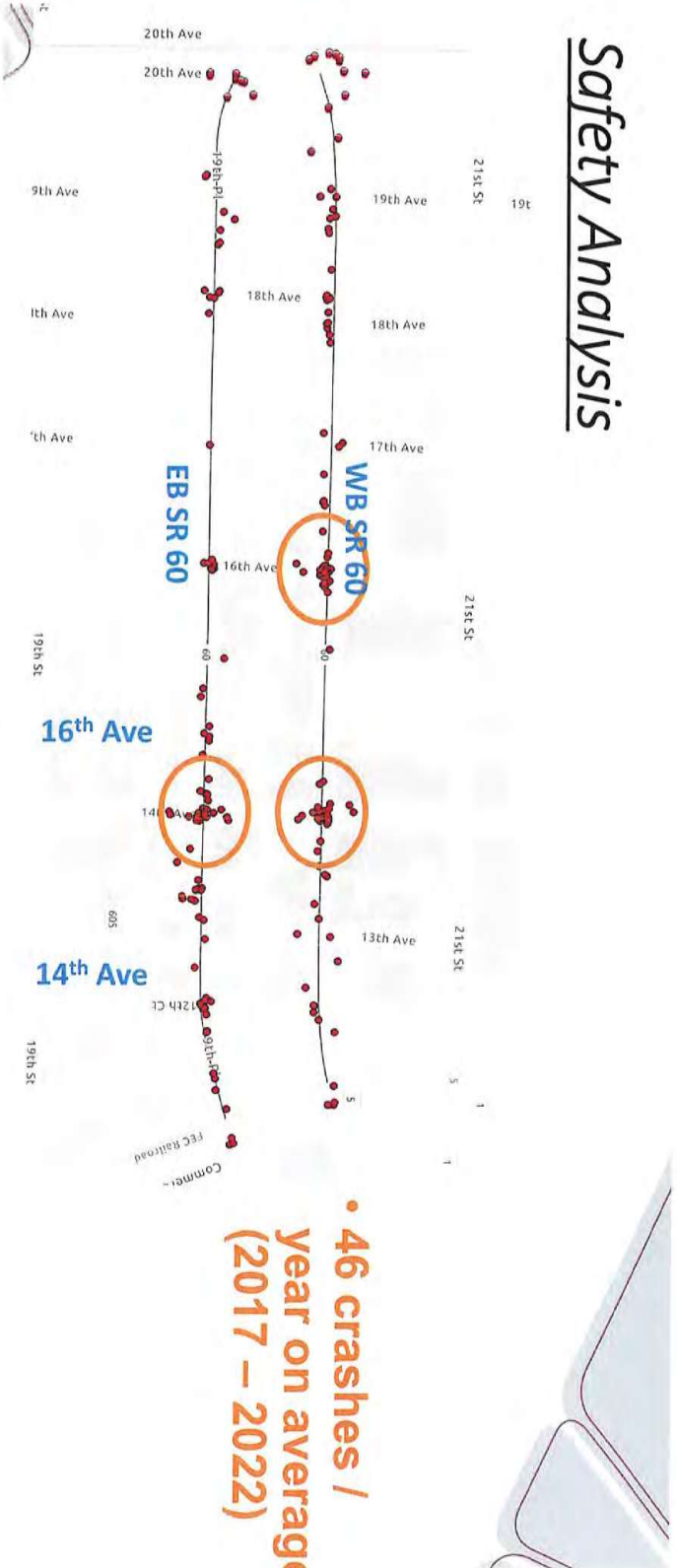


Table 1. Five-Year Crash Data by Severity of Injury

Severity of Injury	Total	Share of Total
No Injury	175	76%
Injury	46	20%
Serious Injury	8	3%
Fatal	2	1%
Total	231	100%

Table 2. Five-Year Crash Data by Type of Crash

Type of Crash	Total	Share of Total
Read end	32	14%
Head on	2	1%
Angle	42	18%
Sideswipe	74	32%
Other	81	35%
Total	231	100%

Safety Analysis

Contributing Crash Modification Factors

- Travel Lane Reductions
- Separation Distance between travel lane and curb line (WB)
- Expanded Bike Lane Facilities (4 ft to 7 ft)
- Reduction in Posted Speed (40 mph to 30/35 mph)

**Based upon the AASHTO Highway Safety Manual
Predicted Crash Reduction is 54%**

Table 3. Existing and Predicted Annual Crashes

Severity of Injury	Annual Five-Year Average	Predicted Annual Crashes	Percent Change
No Injury	35	15	-57%
Injury	11	6	-46%
Total	46	21	-54%

Public Outreach/Coordination

Completed

- FDOT Kick-off Meeting (March 22, 2023)
- Traffic Presentation to City Council (June 20, 2023)



Today

- 1st Public Workshop (October 5, 2023)

Upcoming

- Metropolitan Planning Organization Board (October 25, 2023)
- 2nd Public Workshop (November 17, 2023)
- City Council (December 17, 2023)

Funding/ Implementation Options

Option 1 – City moves forward in conjunction with FDOT 3R project
(Est. \$1,930,000)

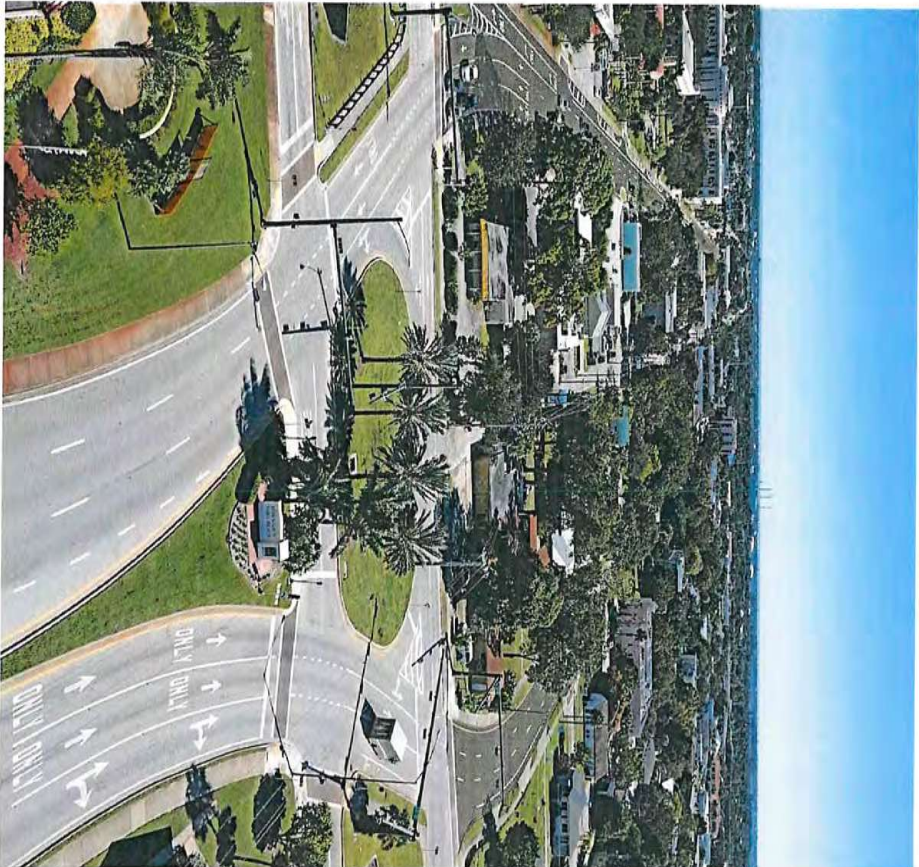
- FDOT will not pay for bulb-outs, landscaping, and decorative improvements
- Next resurfacing project is expected in FY27, FDOT is requiring that the Lane Repurposing be approved by June 2024 to incorporate

Option 2 – City moves forward independent of FDOT using local funds and/ or potential grant funding (Est. \$3,900,000)

Summary

- FDOT has previously reviewed and approved applications to repurpose SR 60 lanes within downtown (2012)
- Minimal traffic diversion due to lane reduction
- SR 60, adjacent roads and intersections are shown to maintain satisfactory level of service with lane reduction with and without traffic diversion
- Adverse impacts on evacuation not expected
- Estimated cost of improvements is between \$1,930,000 and \$3,900,000

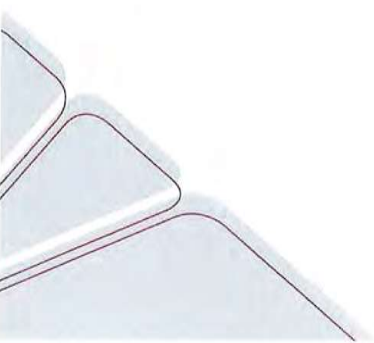


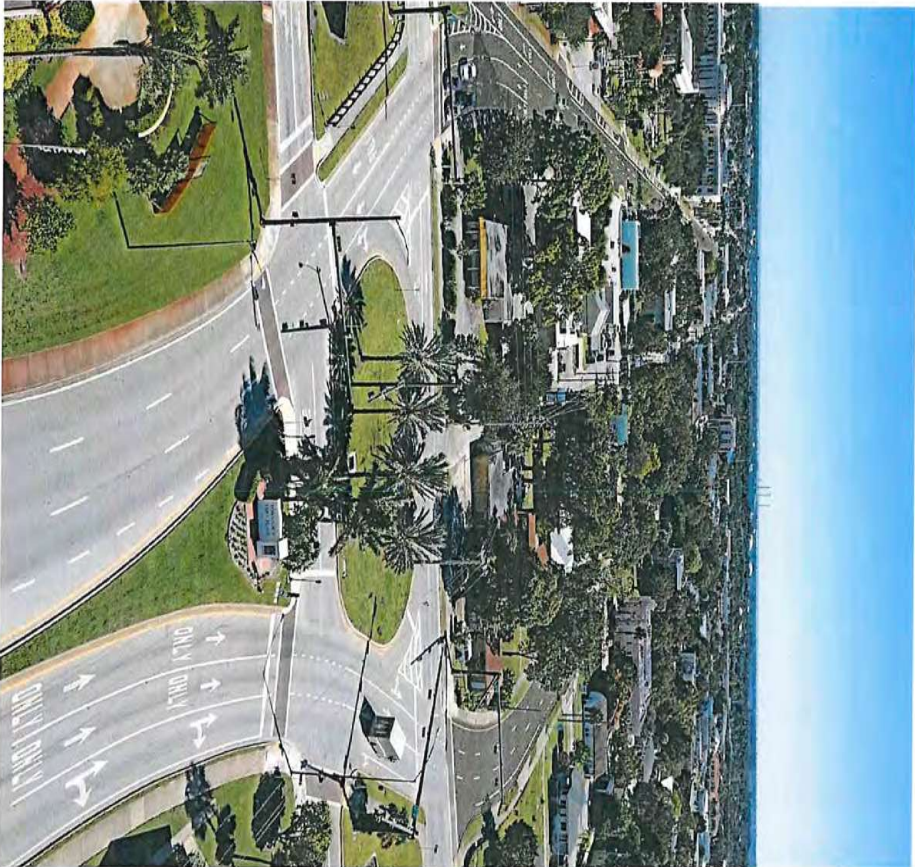


State Road 60 Lane Repurposing Study

Q & A

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State Road 60 Lane Repurposing Study

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