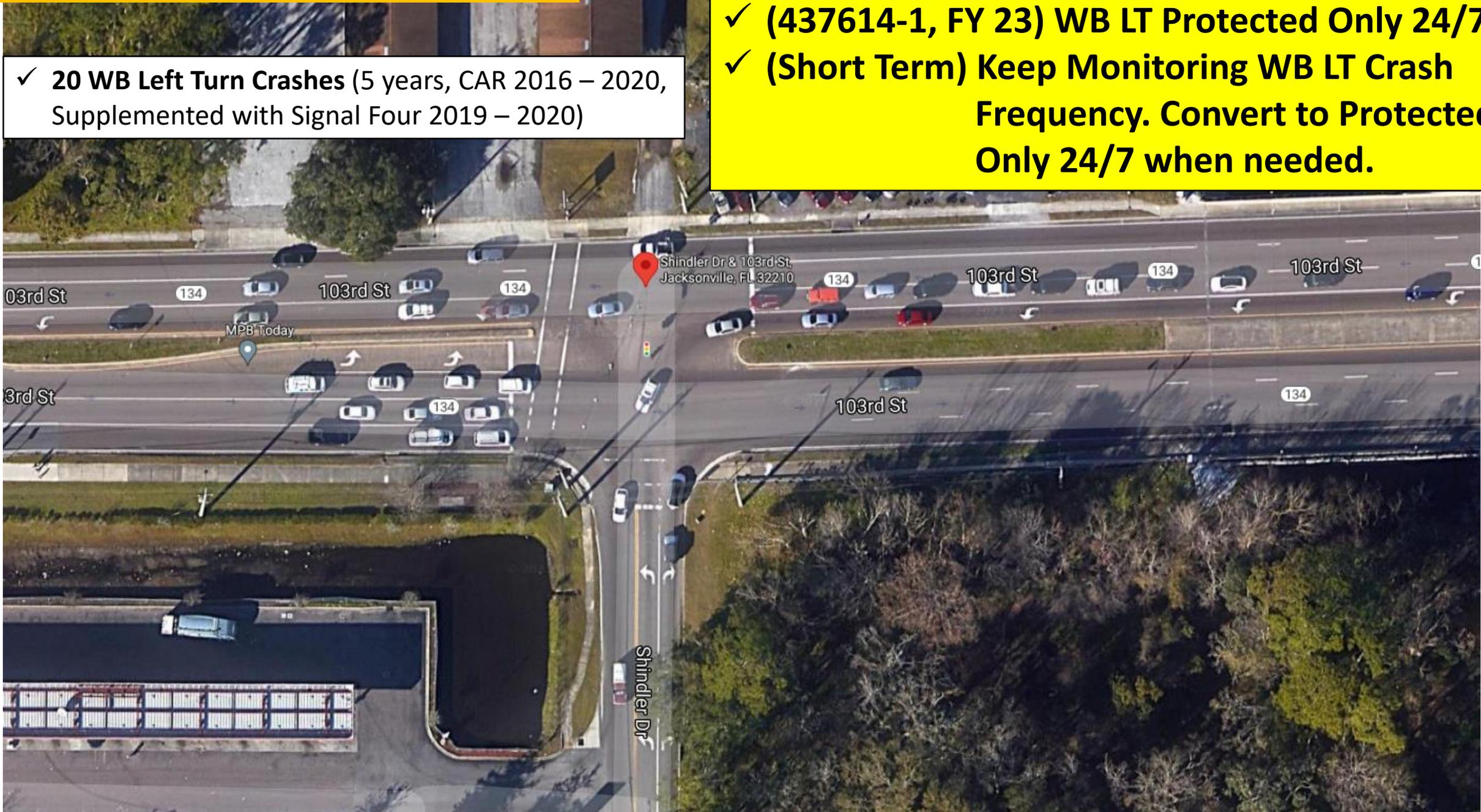


SR 134 and Shindler Dr, Duval County

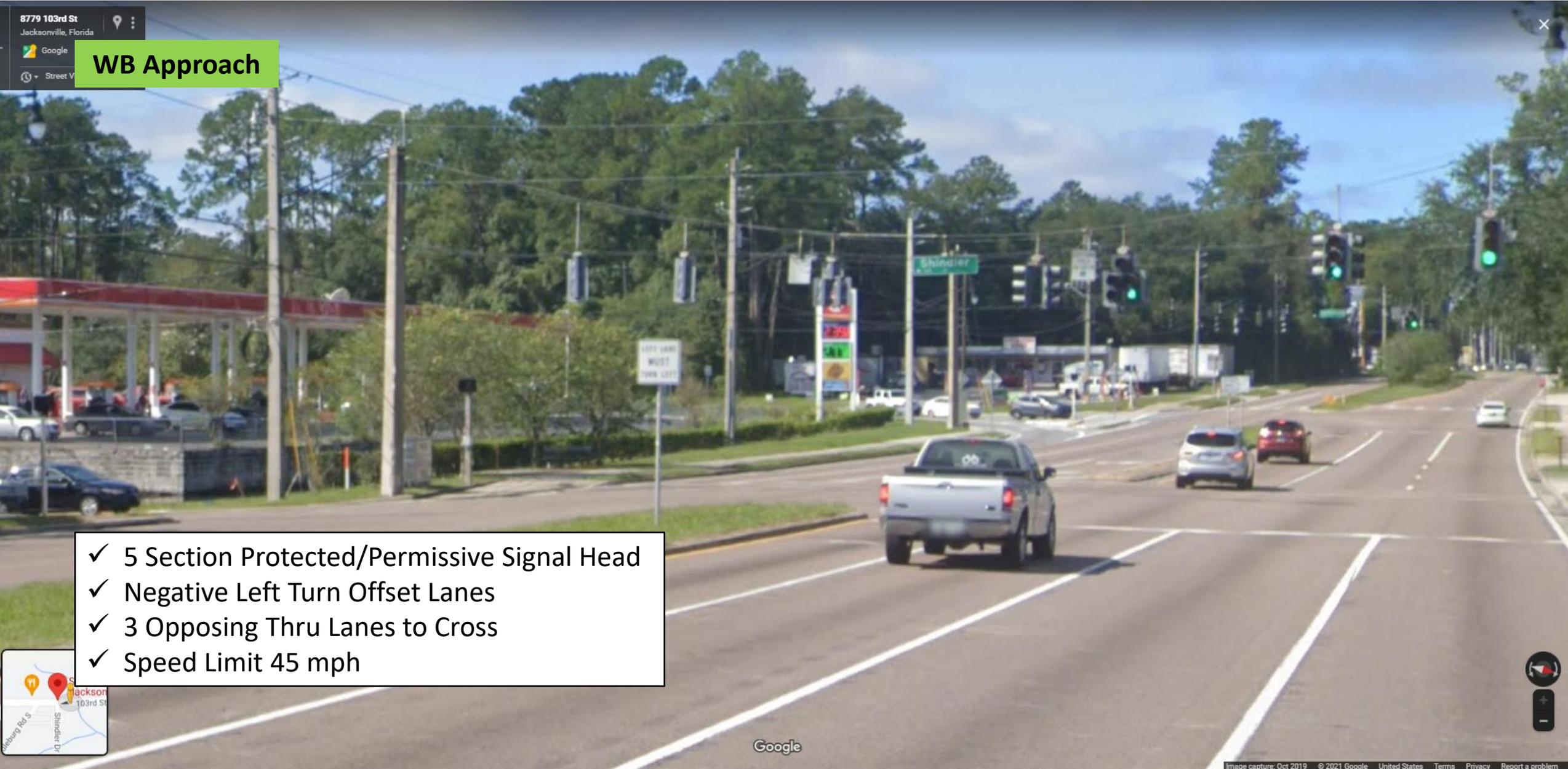
✓ **20 WB Left Turn Crashes** (5 years, CAR 2016 – 2020, Supplemented with Signal Four 2019 – 2020)

Recommendation

- ✓ **(437614-1, FY 23) WB LT Protected Only 24/7**
- ✓ **(Short Term) Keep Monitoring WB LT Crash Frequency. Convert to Protected Only 24/7 when needed.**

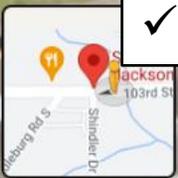


SR 134 and Shindler Dr, Duval County



WB Approach

- ✓ 5 Section Protected/Permissive Signal Head
- ✓ Negative Left Turn Offset Lanes
- ✓ 3 Opposing Thru Lanes to Cross
- ✓ Speed Limit 45 mph



Time of Left Turn Crash Occurrence (May 3rd, 2018)

(SR 134 & Shindler Drive, Duval, WB Left Turn)

Weekday Volume
(May 2018)

Protected Only
24/7 is Not
justified with
annual Left Turn
Crash Frequency
Guideline I.1.(1)
(≥ 7)

3 opposing lanes,
negative offset
left turns



	Hour	2016 (CAR)		2017 (CAR)		2018		2019 (S4)		2020 (S4)		Sum		Volumes	
			WB		WB		WB		WB		WB	WB	Fatal	Injury	WB Left Turn
Weekday	12-1													11	291
	1-2													0	10
	2-3													0	5
	3-4													0	7
	4-5													11	62
	5-6													11	3,096
	6-7		1									1		83	116,283
	7-8								1			1		197	318,943
	8-9				1						1	2	1	184	268,088
	9-10													240	232,329
	10-11		1				1					2		228	189,478
	11-12													274	263,026
	12-1									1		1	1	194	217,568
	1-2													194	196,906
	2-3		1							1	1	3	1	235	250,980
3-4													362	509,696	
4-5		1		1,1							1,2		461	515,398	
5-6													478	550,178	
6-7								2			2	1	398	399,990	
7-8								1	1		2	1	263	148,134	
8-9		1				1					1,1	1	206	91,997	
9-10													80	30,105	
10-11						1					1		80	21,888	
11-12													34	1,091	
	Total		5		3		3		6		3	20	7	4,226	4,325,547

Monthly Crashes and Maximum 12-month Period

Month of Left Turn Crash Occurrence

(SR 134 & Shindler Drive, Duval, WB Left Turn)

Month	2016 (CAR)		2017 (CAR)		2018 (CAR)		2019 (CAR + S4)		2020 (CAR + S4)		Sum	
		WB		WB		WB		WB		WB	Fatal	Injury
January								1			1	
February								2,1		1	3,1	2
March		1									1	
April				6								
May				1							1	
June									1		1	1
July		1		1		1		8		1	2,2	1
August				1							1	
September		2									2	
October									1		1	
November		1							1		2	2
December						2					2	1
Total		5		3		3		6		3	20	7

Protected Only 24/7 is justified with 12-month Left Turn Crash Frequency
 ✓ 8 Crashes (December 2018 through November 2019)

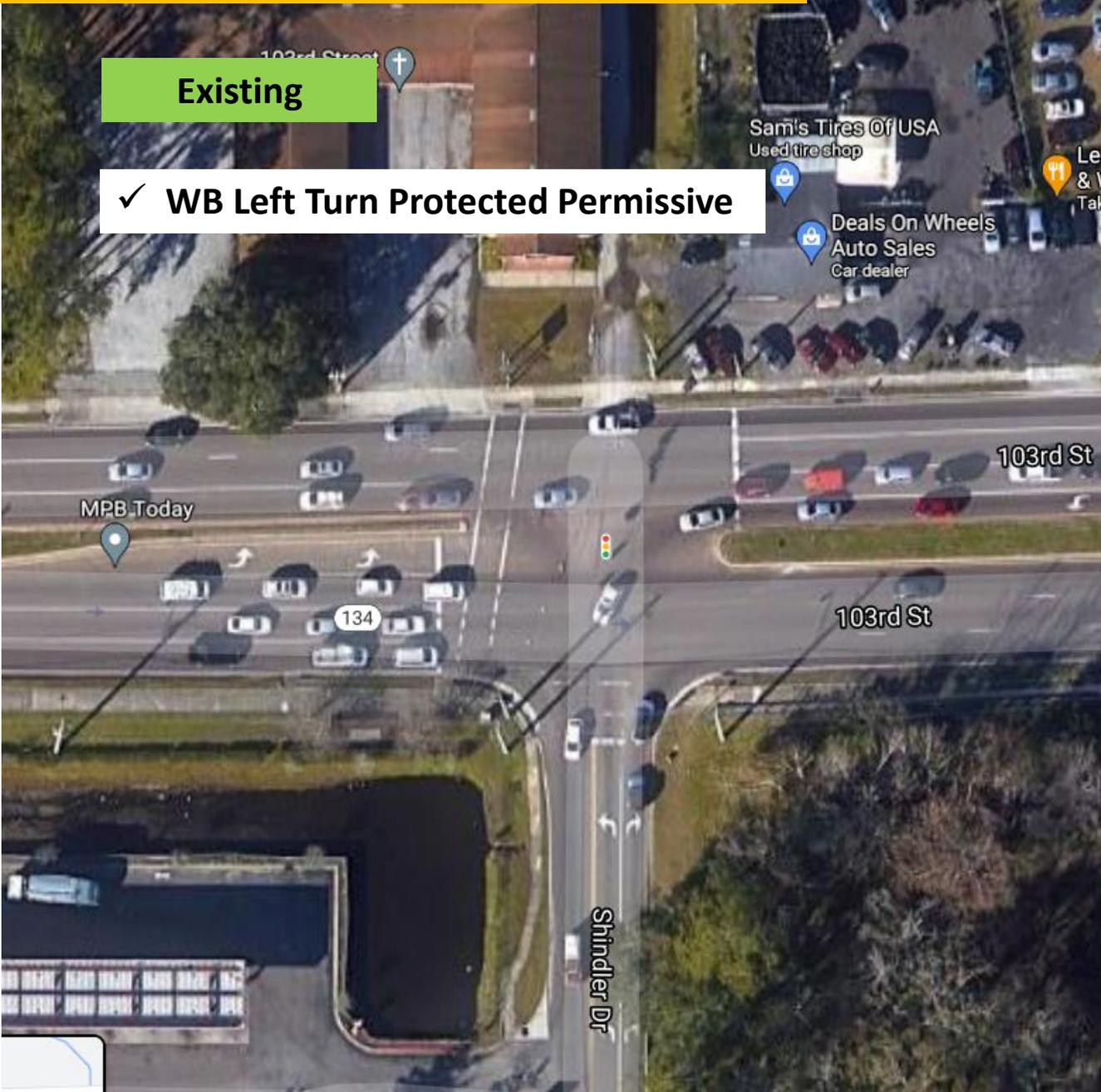
Existing / Future Projects

(437614-1) **Arterial Resurfacing**, SR 134 from Shindler Dr to Firestone Rd, Median Directionalizations at 3 intersections along the corridor (FY 23)
(City Project) SR 134 from Old Colony Dr to Old Middleburg Road, **Construction of a New Roadway**, Lane Repurposing at 2 signalized intersecitons

City Project



SR 134 and Shindler Dr, Duval County



Existing

✓ **WB Left Turn Protected Permissive**

1. Existing WB Protected Permissive							
Time	Approach	Delay	LOS	Turn bay length	Avg Queue	Max Queue	Spillover %
AM	WB LT	60.7	E	370	166	#361	5%
	NB RT	45	D	200	230	321	>50%
	EB Thru	43.1	D	NA	532	#667	NA
	Overall	33.9	C				
PM	WB LT	58.3	E	370	399	#595	>50%
	NB RT	15.1	B	200	0	87	0%
	EB Thru	16.9	B	NA	91	143	NA
	Overall	19.4	B				

✓ **Currently, WB Left Turn bay is not long enough and conversion to LT Protected only will worsen the queue spillover and spillback condition**

✓ **Given that there were 3 WB LT crashes in 2020, keep monitoring the crash trend and convert to Protected only when needed (crash frequency or severity goes up)**

2. Existing _WB Protected Only							
Time	Approach	Delay	LOS	Turn bay length	Avg Queue	Max Queue	Spillover %
AM	WB LT	63.2	E	370	177	#380	>5%
	NB RT	45	D	200	230	321	>50%
	EB Thru	56.7	E	NA	543	667	NA
	Overall	40.1	D				
PM	WB LT	59.8	E	370	409	#614	>50%
	NB RT	15.1	B	200	0	87	0%
	EB Thru	17.3	B	NA	92	143	NA
	Overall	19.8	B				

SR 134 and Shindler Dr, Duval County

Delay and LOS (Existing, May 2018)

SR 134 and Old Middleburg

Peak Period and Approach	Existing	
	Delay	LOS
AM Westbound Left-Turn	81.5	F
AM Northbound Right-Turn	47.0	D
AM Eastbound Through	24.7	C
AM Overall	24.3	C
PM Westbound Left-Turn	93.7	F
PM Northbound Right-Turn	15.9	B
PM Eastbound Through	43.6	D
PM Overall	35.3	D

SR 134 and Shindler

Peak Period and Approach	Existing	
	Delay	LOS
AM Westbound Left-Turn	60.7	E
AM Northbound Right-Turn	45.0	D
AM Eastbound Through	43.1	D
AM Overall	33.9	C
PM Westbound Left-Turn	58.3	E
AM Northbound Right-Turn	15.1	B
AM Eastbound Through	16.9	B
PM Overall	19.4	B

AM Peak is more Critical than PM Peak

SR 134 and Shindler Dr, Duval County

AM Peak
(PM Peak)

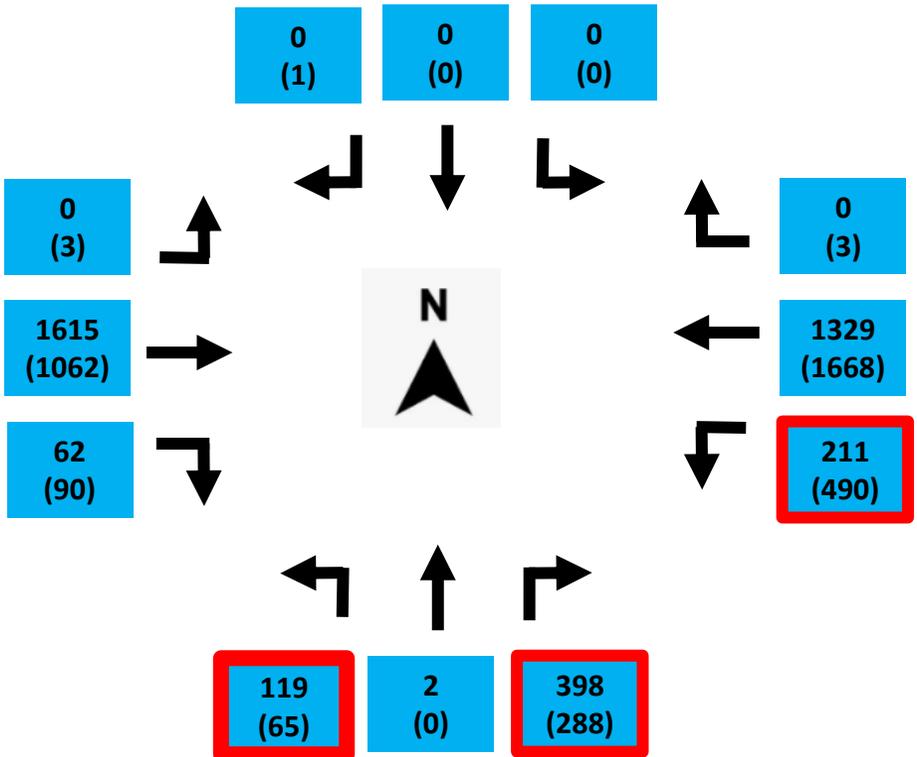
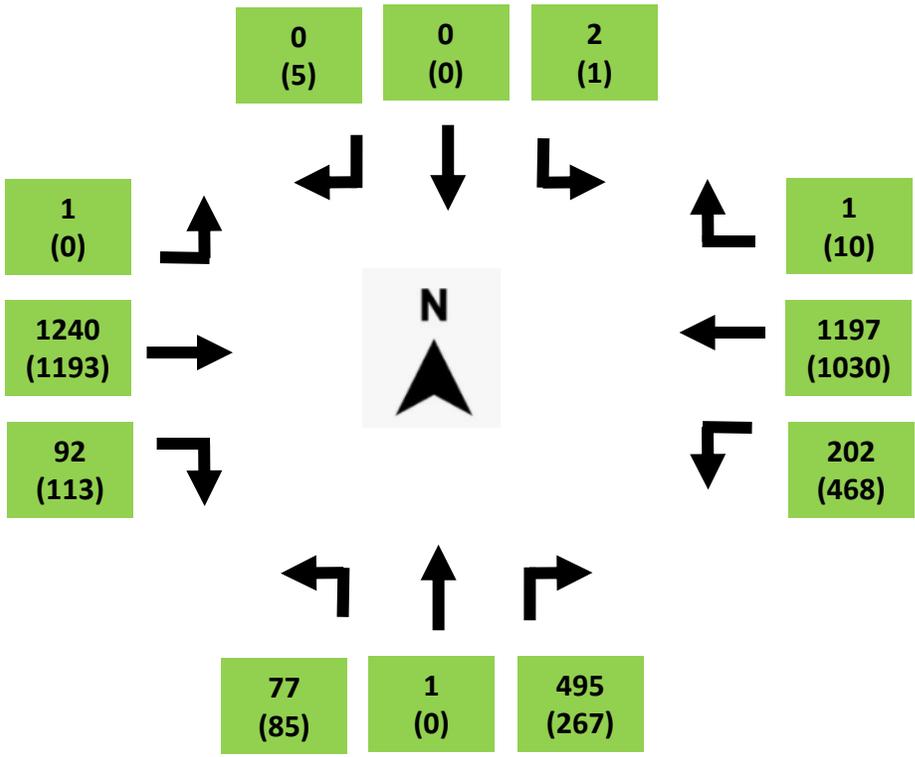
TMC (Existing, May 2018)

500
(350)

211
(490)

SR 134 and Old Middleburg

SR 134 and Shindler



SR 134 and Shindler Dr, Duval County



Sign in

008

103rd Street +

437614-1, FY23

✓ (ALT 1) WB Left turn Lane Offset



Sam's Tires Of USA
Used tire shop

Lewey's Seafood
& Wings #2
Takeout

Deals On Wheels
Auto Sales
Car dealer

MPB Today

134

103rd St

103rd St

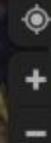
134

103rd St

Ortega River

Ortega River

Shindler Dr



SR 134 and Shindler Dr, Duval County



Sign in

008

103rd Street +

437614-1, FY23

✓ (ALT 2) WB Left Turn Protected Only

Sam's Tires Of USA
Used tire shop

Lewey's Seafood
& Wings #2
Takeout

Deals On Wheels
Auto Sales
Car dealer

Ortega River

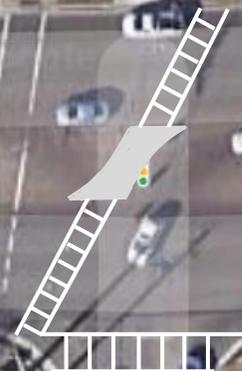
MPB Today

103rd St

103rd St

134

103rd St



Shindler Dr

Ortega River



SR 134 and Shindler Dr, Duval County



Sign in

008

103rd Street +

437614-1, FY23

- ✓ (ALT 3) WB Double Left Turn Lanes
- ✓ WB Left Turn Protected Only

Sam's Tires Of USA
Used tire shop

Lewey's Seafood
& Wings #2
Takeout

Deals On Wheels
Auto Sales
Car dealer

MPB Today

Ortega River

103rd St

103rd St

134

103rd St

Ortega River



SR 134 and Shindler Dr, Duval County

ALT 1

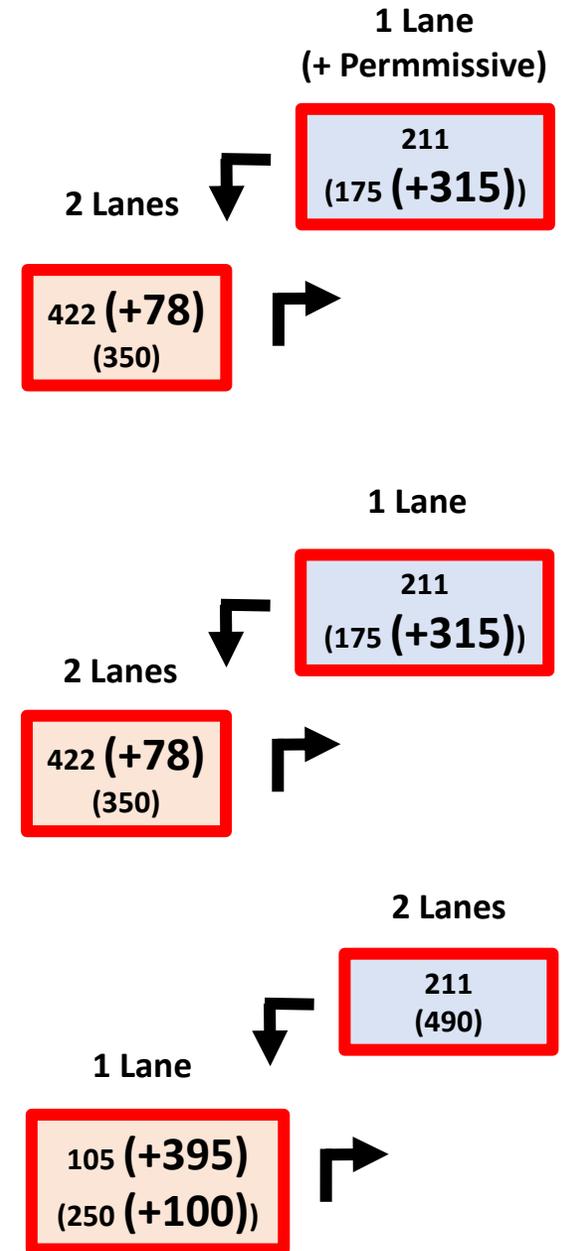
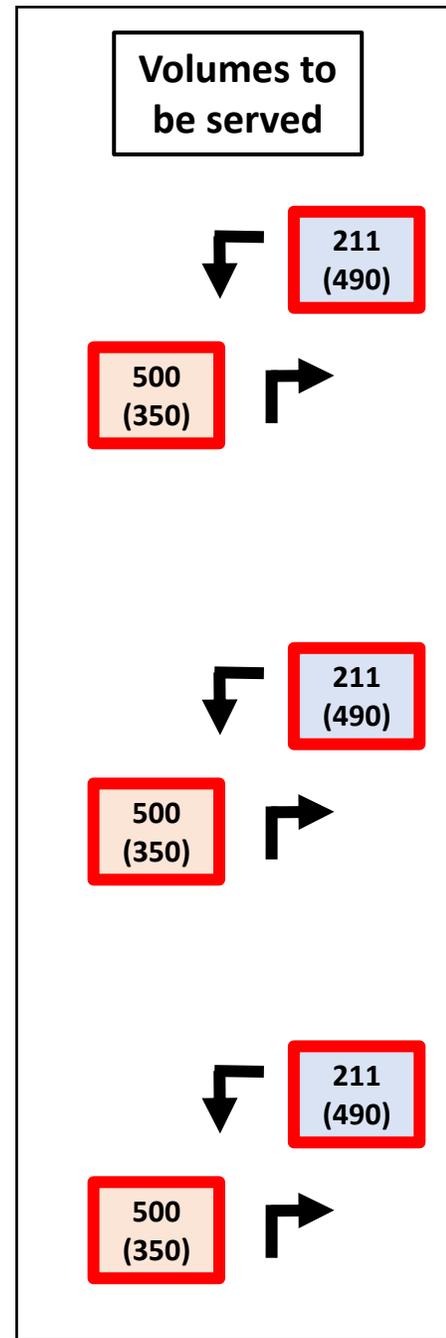
3. Future_WB Protected Permissive_2 Phase_2 NB RT Lanes							
Time	Approach	Delay	LOS	Turn bay length	Avg Queue	Max Queue	Spillover %
AM	WB LT	47.6	D	370	155	225	0%
	NB RT	54.7	D	200	194	243	50%
	EB Thru	14.6	B	NA	420	473	NA
	Overall	16	B				
PM	WB LT	46.9	D	370	383	454	>50%
	NB RT	26.2	C	200	97	120	0%
	EB Thru	11.2	B	NA	74	128	NA
	Overall	12.7	B				

ALT 2

4. Future_WB Protected Only_2 Phase_2 NB RT Lanes							
Time	Approach	Delay	LOS	Turn bay length	Avg Queue	Max Queue	Spillover %
AM	WB LT	55.6	E	370	177	246	0%
	NB RT	54.7	D	200	194	243	50%
	EB Thru	14.6	B	NA	420	473	NA
	Overall	16.5	B				
PM	WB LT	47.8	D	370	396	468	>50%
	NB RT	25.2	C	200	96	118	0%
	EB Thru	11.5	B	NA	75	128	NA
	Overall	12.8	B				

ALT 3

5. Future_2 WB LT Lanes_2 Phase_1 NB RT Lane							
Time	Approach	Delay	LOS	Turn bay length	Avg Queue	Max Queue	Spillover %
AM	WB LT	36	D	370	74	108	0%
	NB RT	73.8	E	200	354	#565	>50
	EB Thru	64.7	E	NA	509	583	NA
	Overall	40.6	D				
PM	WB LT	45.9	D	370	203	230	0%
	NB RT	52.5	D	200	233	305	>50%
	EB Thru	8.3	A	NA	66	121	NA
	Overall	13.8	B				



Recommendations

Operate WB Left Turn Protected only Phase 24/7 (43761401, FY 23)

Keep monitoring WB LT Crash Trend and Operate WB Left Turn Protected only Phase 24/7 when needed

- ✓ There is a significant WB Permissive Left Turn Crash problem at the intersection (20 crashes per 5 years)
- ✓ WB Left Turn Protected Only phase 24/7 is justified with 12-month Permissive Left Turn Crash History
- ✓ Conversion to WB Left Turn Protected Only operations with existing configuration will bring up too much delay with more frequent spillback and spillover. (Current WB Left Turn LOS is E for both AM and PM Peak)
- ✓ Conversion to WB Left Turn Protected Only operations with future 2 phase condition provide LOS B in both am and pm.