

ROCK HILL – FORT MILL AREA TRANSPORTATION STUDY (RFATS)

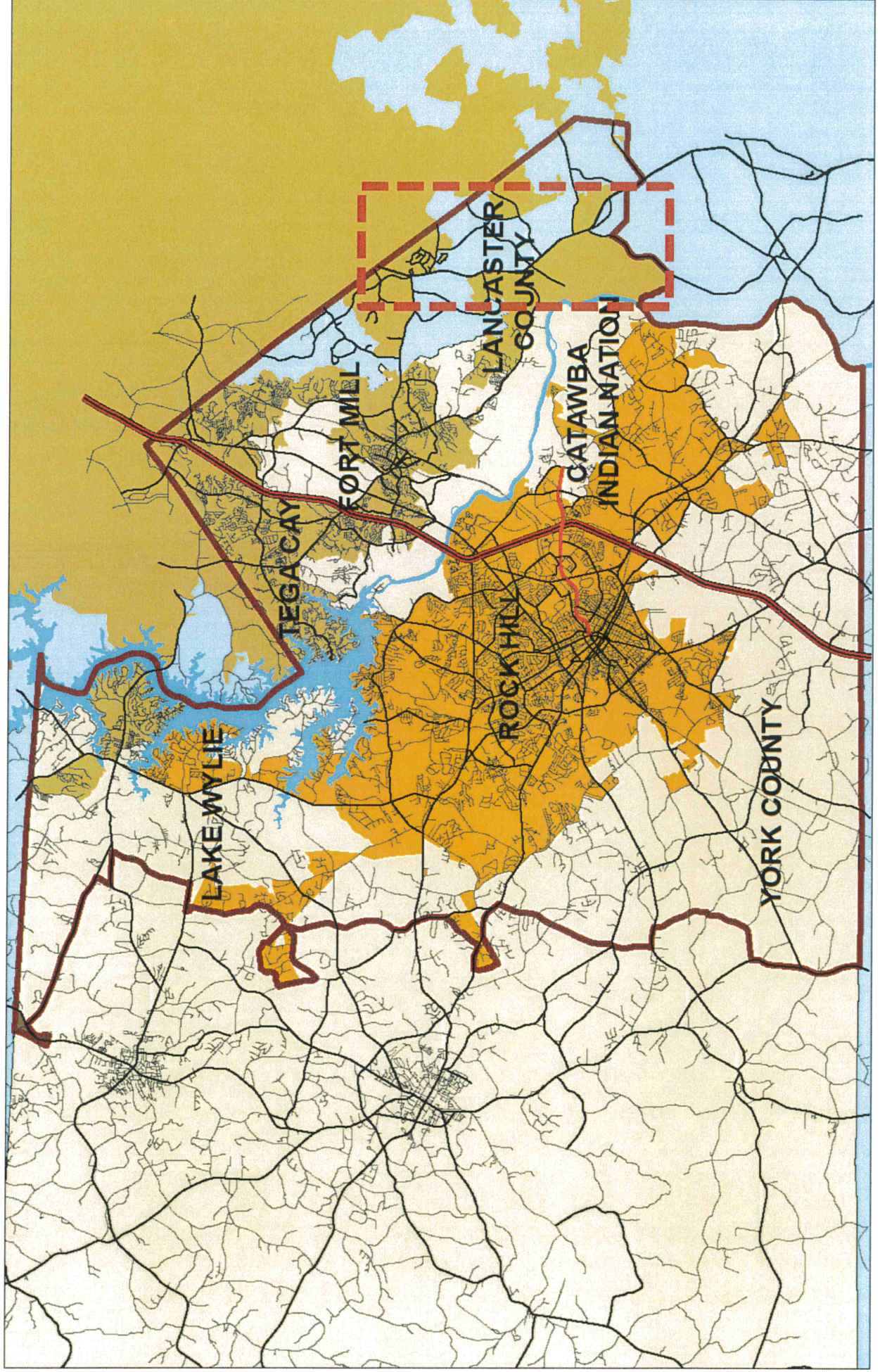
US 521 CORRIDOR EVALUATION

NOVEMBER 18, 2022

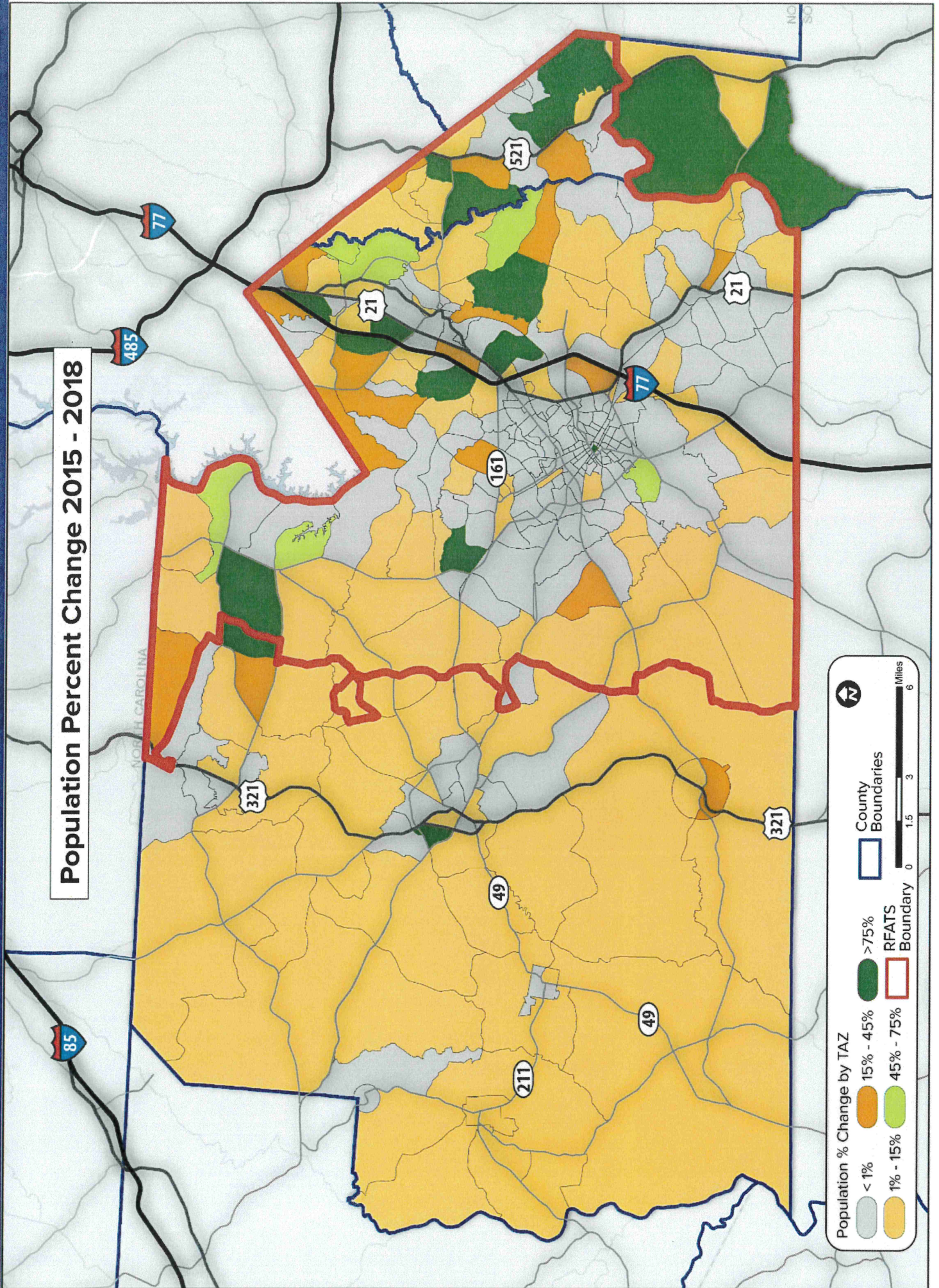
AGENDA

- US 521 Corridor Overview
- Operating Conditions
 - Congestion Management
 - Safety
 - Reliability
- Project Alternatives
- Coordination with Comp Plan Update

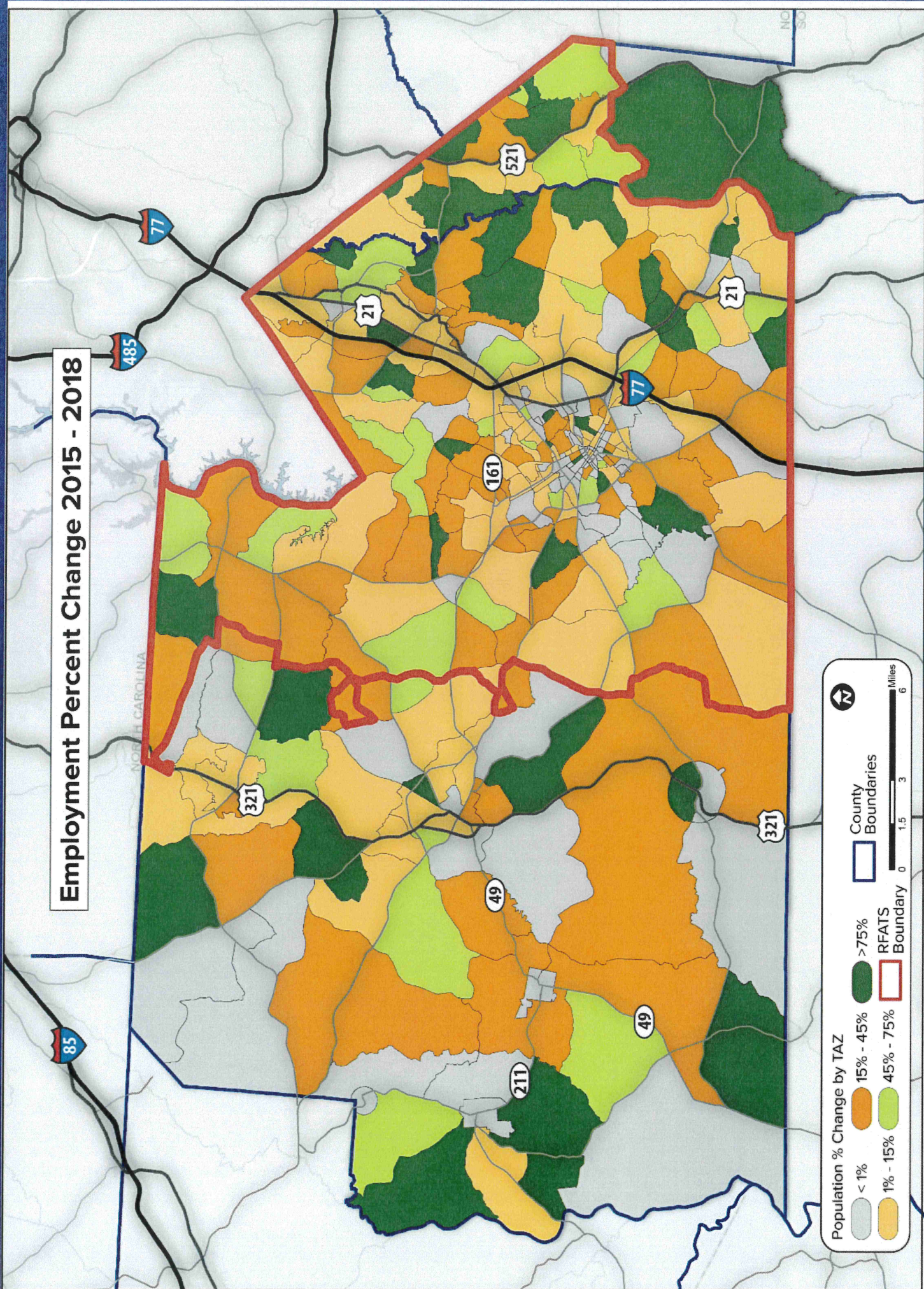
RFATS STUDY AREA



Population Percent Change 2015 - 2018



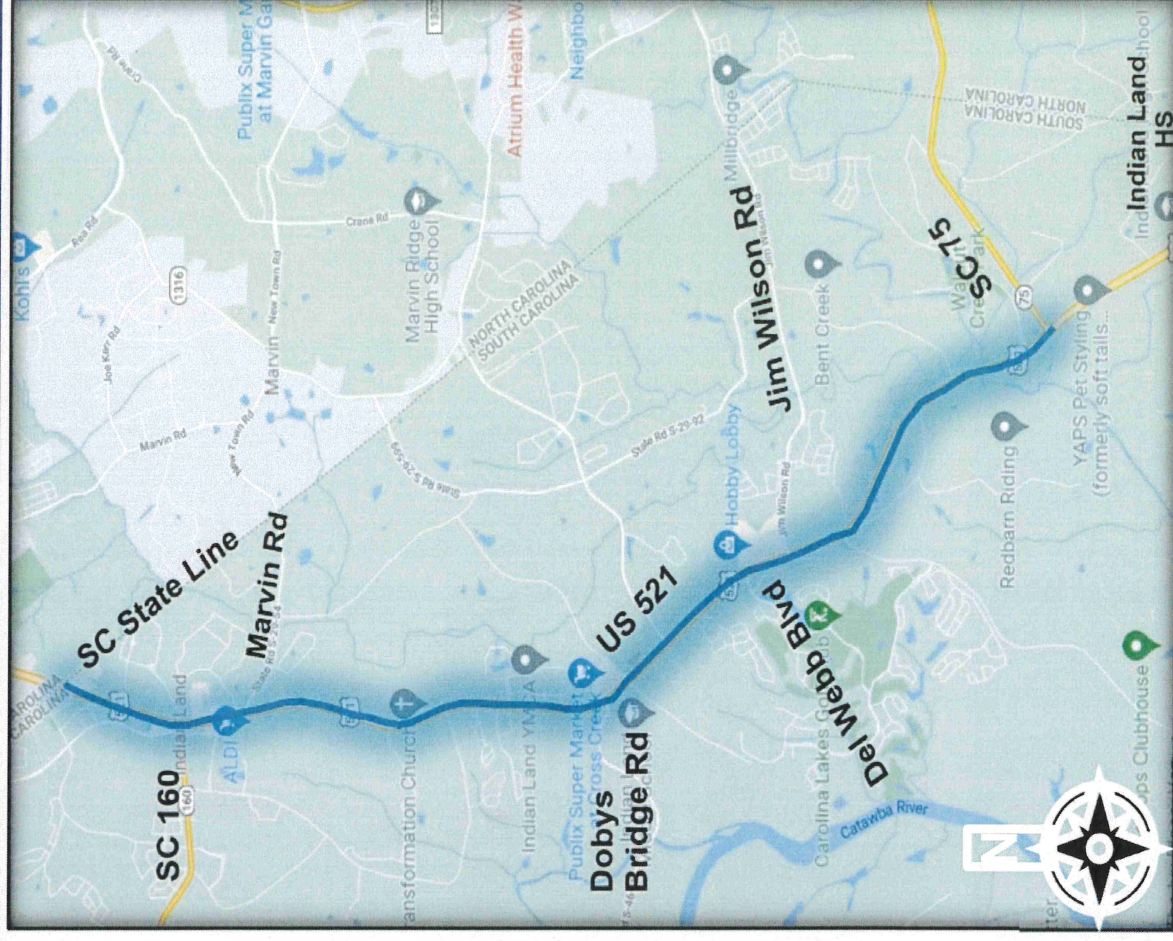
Employment Percent Change 2015 - 2018



US 521 Corridor Study

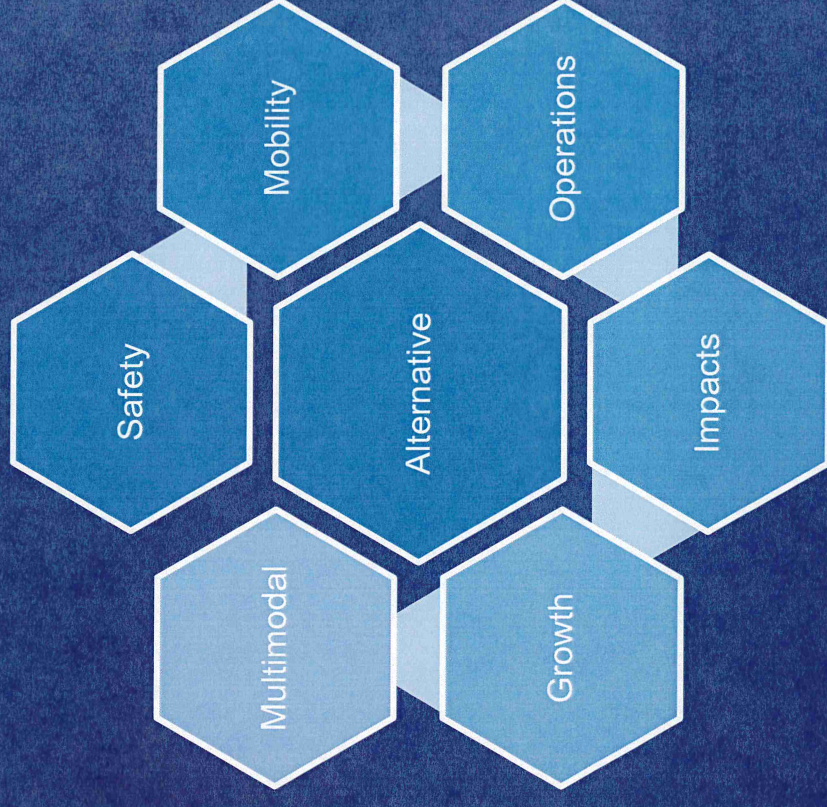
Location: US 521 from the South Carolina state line to the intersection of SC 75 (Waxhaw Highway), ~8.5 miles.

Purpose: To identify alternatives for US 521 that improve safety, mobility, and operations; are feasible considering right-of-way constraints; and are capable of handling anticipated future growth along the corridor.



Evaluation Criteria

- Improve safety
- Balance local access with regional mobility
- Improve operations
- Minimize impacts
- Accommodate future growth
- Accommodate multimodal access
- Impact to parallel/side streets



US 521 CORRIDOR STUDY

■ Capacity Alternatives

- 6 Lane (MD) – Traditional Widening
- 6 Lane (MD) – RCI Widening
- 6 Lane (MD) – Hybrid Configuration

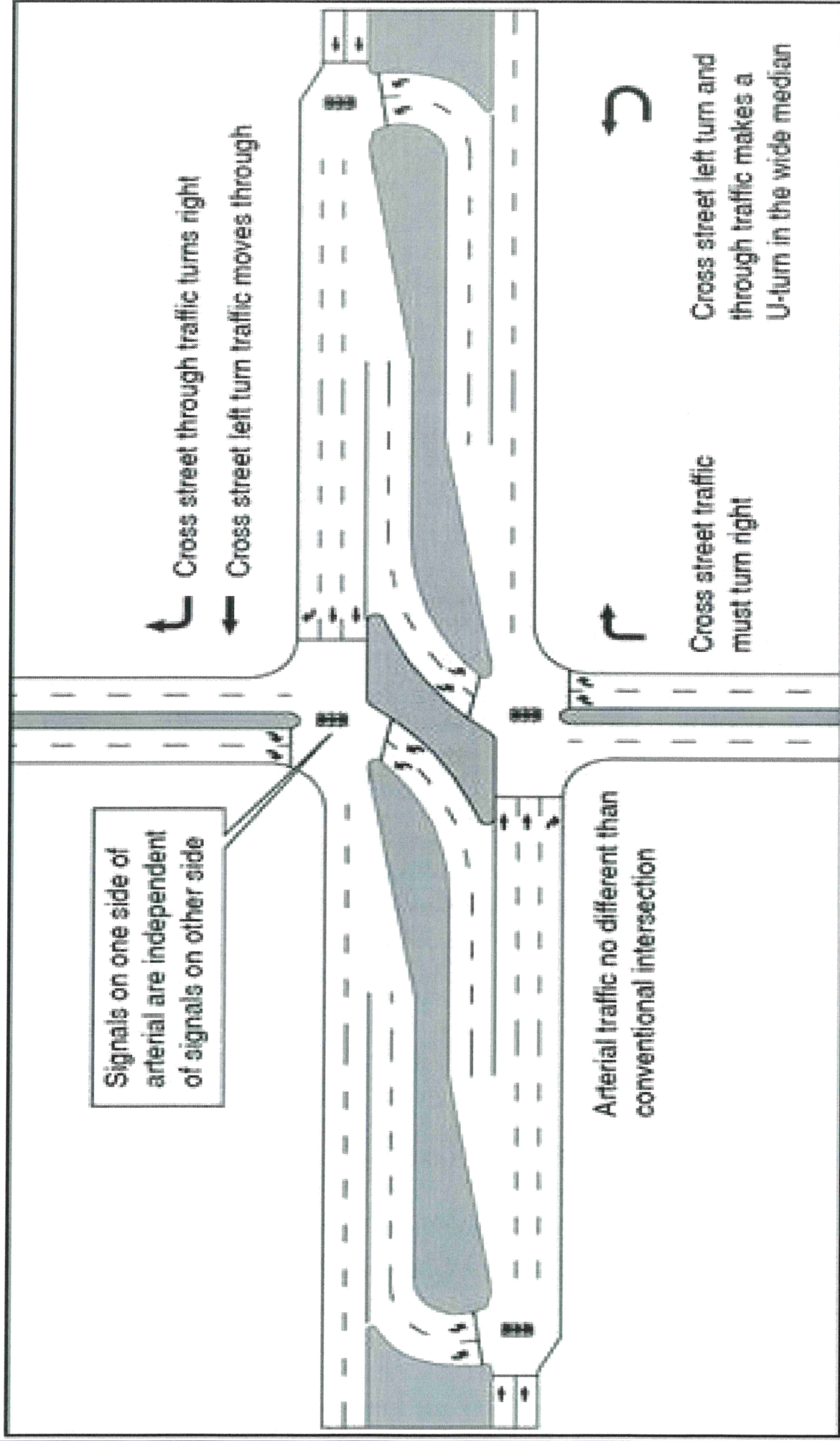
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US 521 CORRIDOR ACCESS MANAGEMENT STUDY

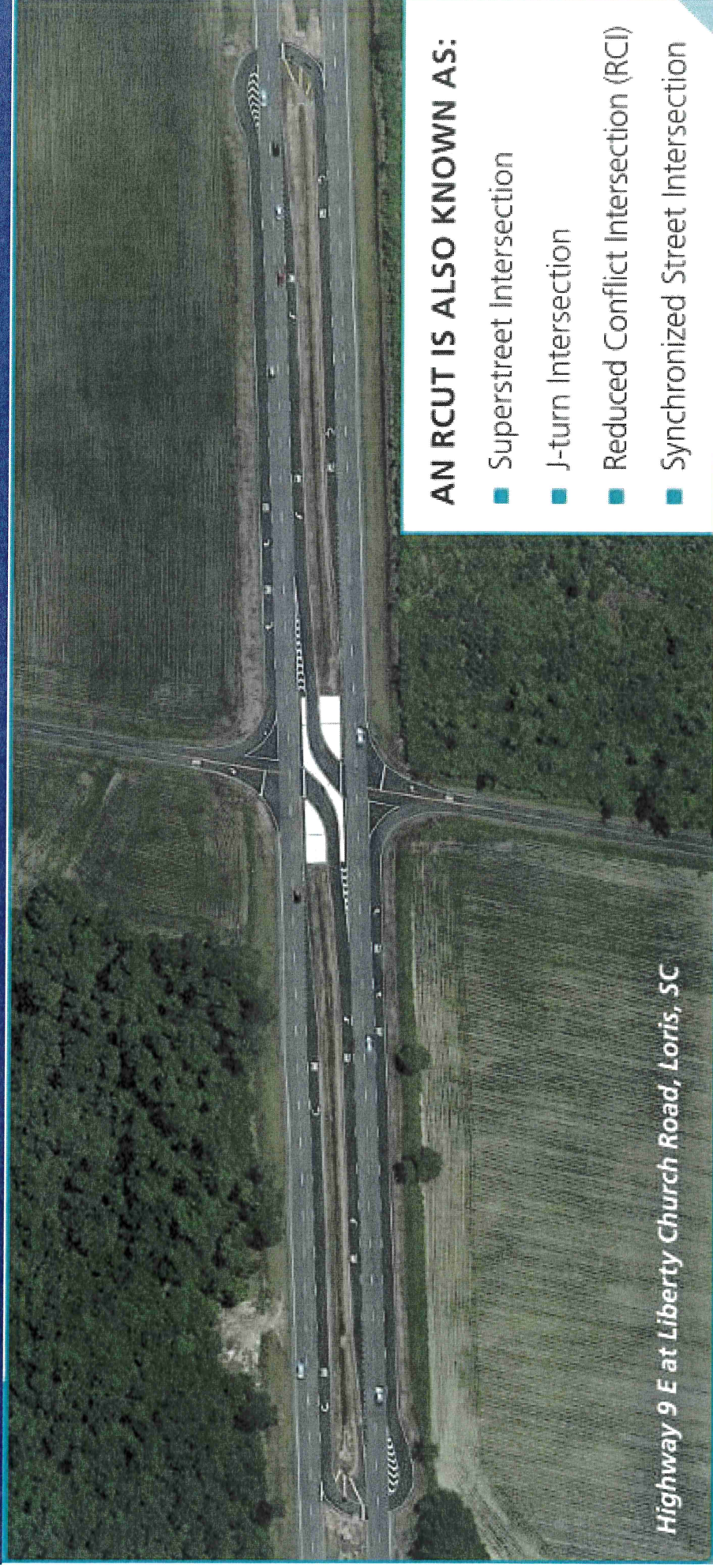
TRADITIONAL WIDENING AND REDUCED CONFLICT INTERSECTION IMPROVEMENT TYPICAL SECTIONS

REDUCED CONFLICT INTERSECTION



REDUCED CONFLICT INTERSECTION ALTERNATIVE

Benefits: Improved Safety, Increased Efficiency, Shorter Wait Times,
Cost-Effective



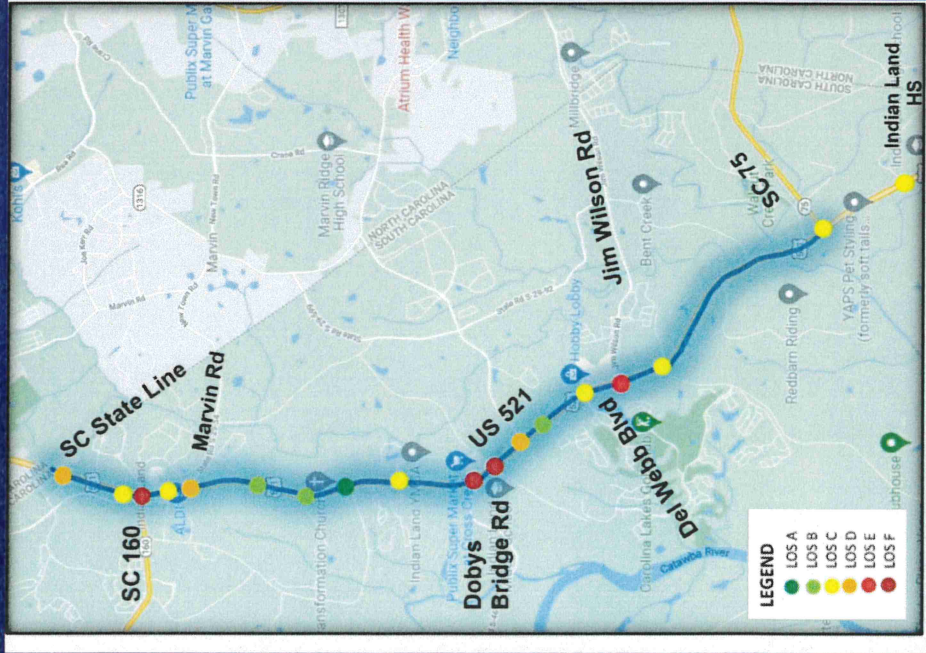
Highway 9 E at Liberty Church Road, Loris, SC

AN RCUT IS ALSO KNOWN AS:

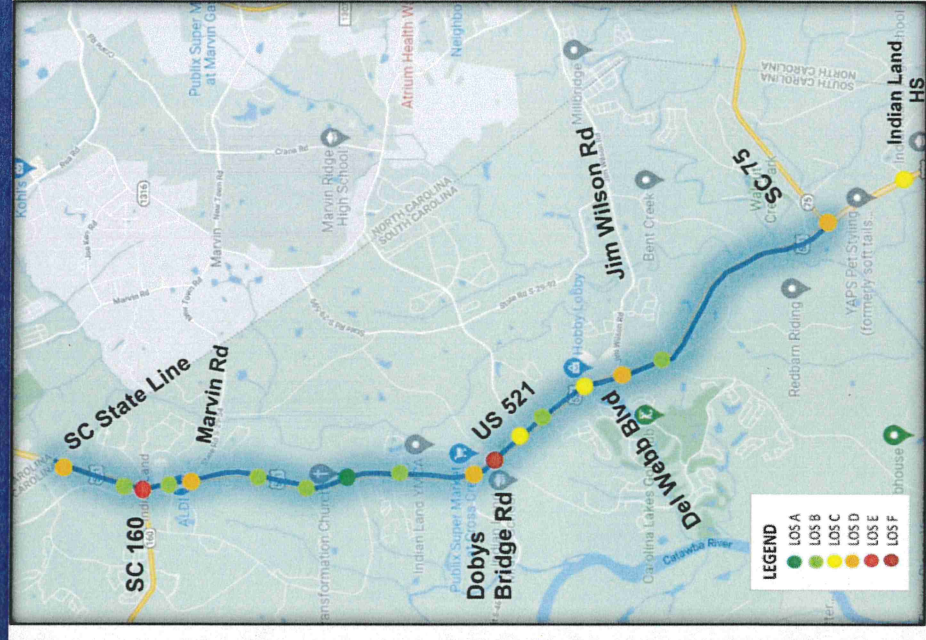
- Superstreet Intersection
- J-turn Intersection
- Reduced Conflict Intersection (RCI)
- Synchronized Street Intersection

2045 CAPACITY ANALYSIS

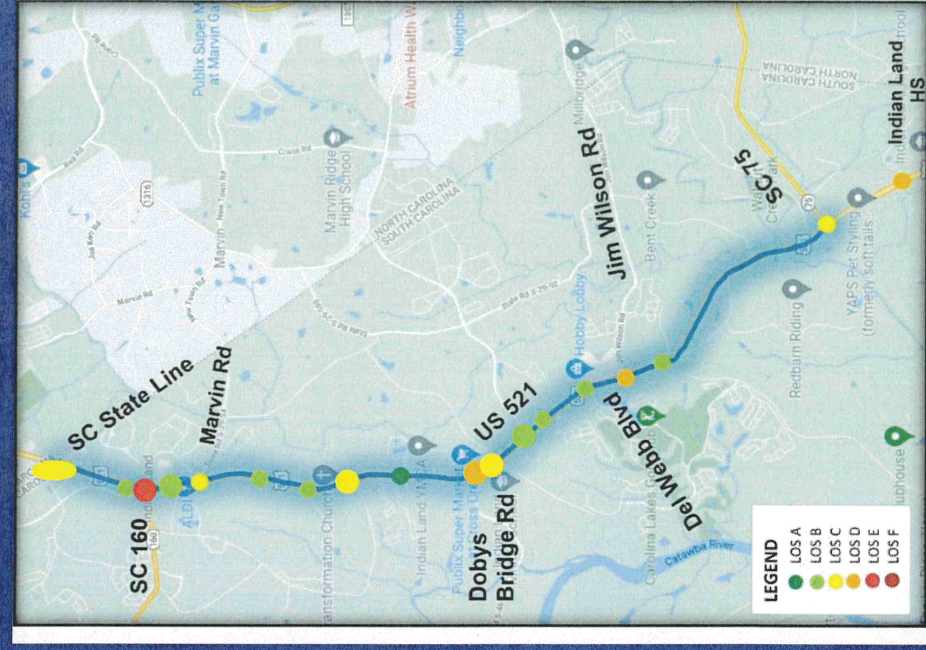
No Build



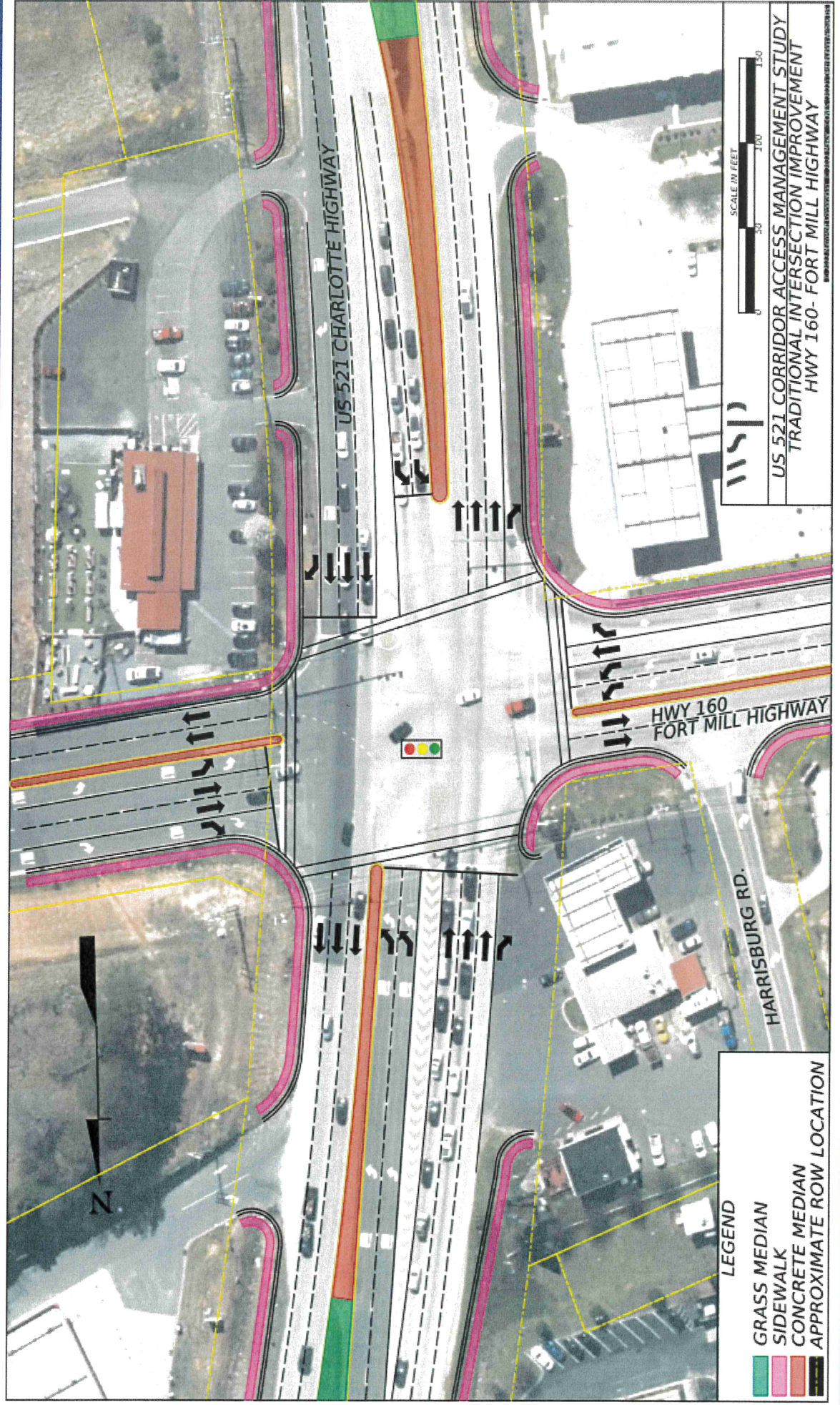
Alt 1 – Traditional



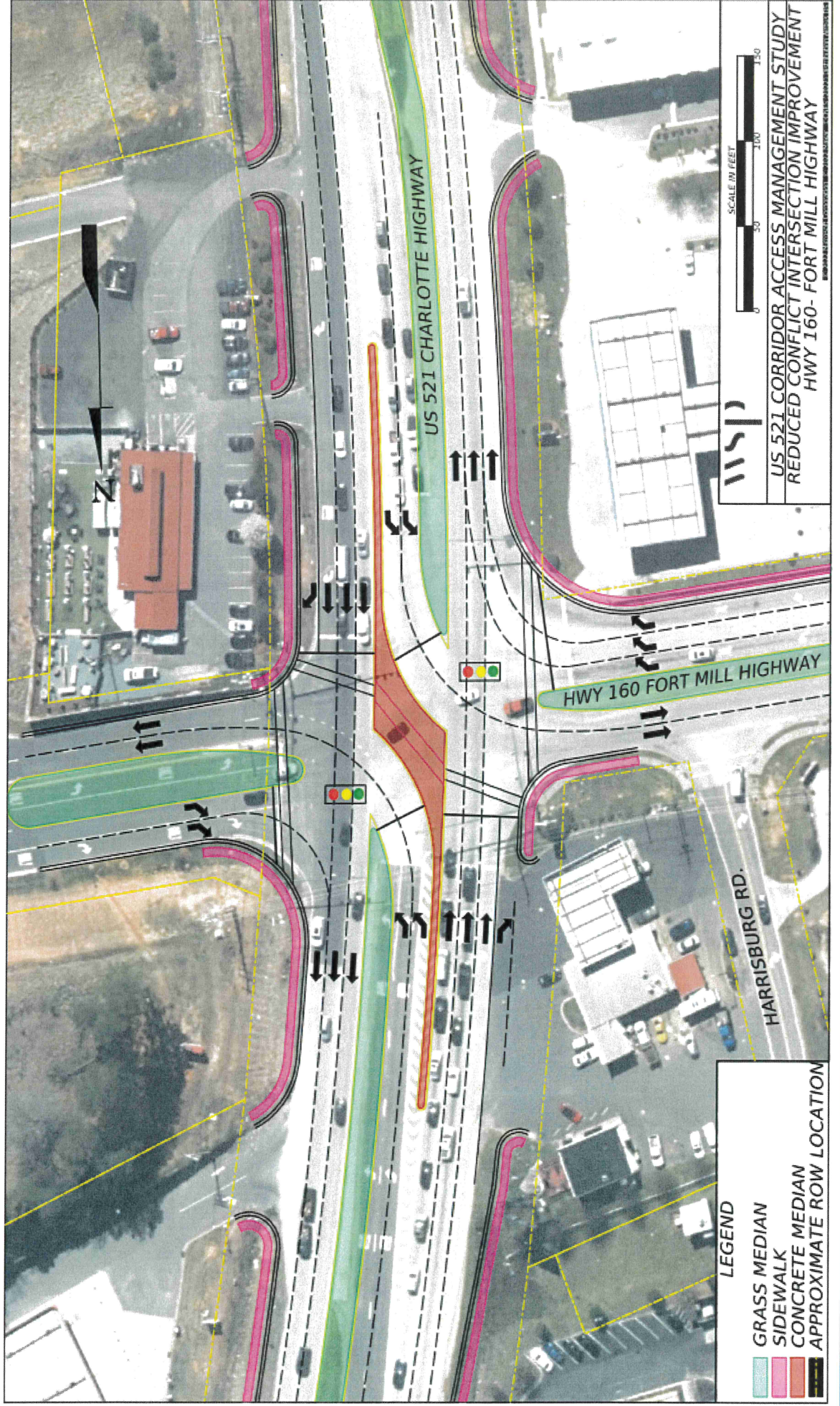
Alt 2 – RCI



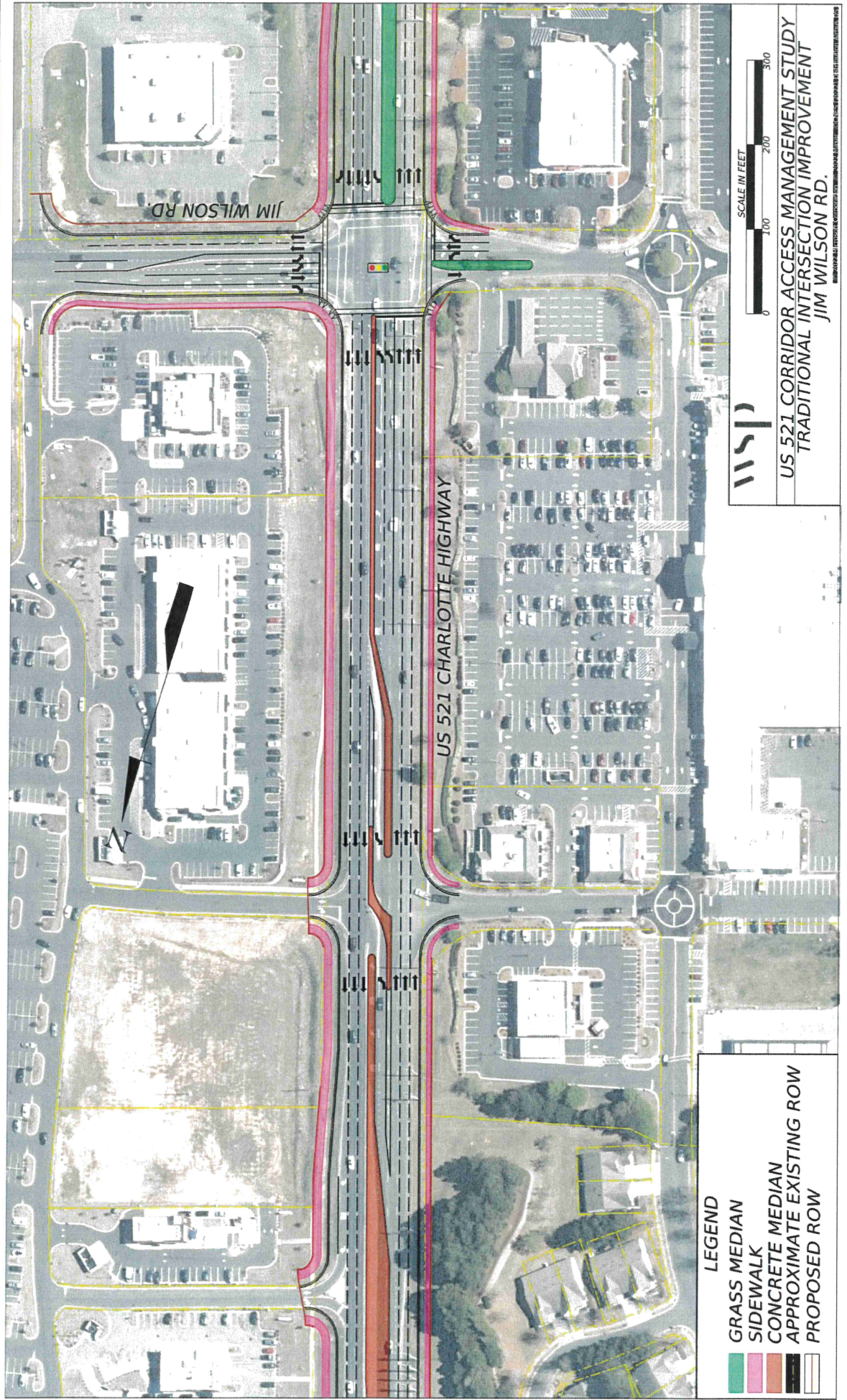
US 521 / SC 160: TRADITIONAL WIDENING



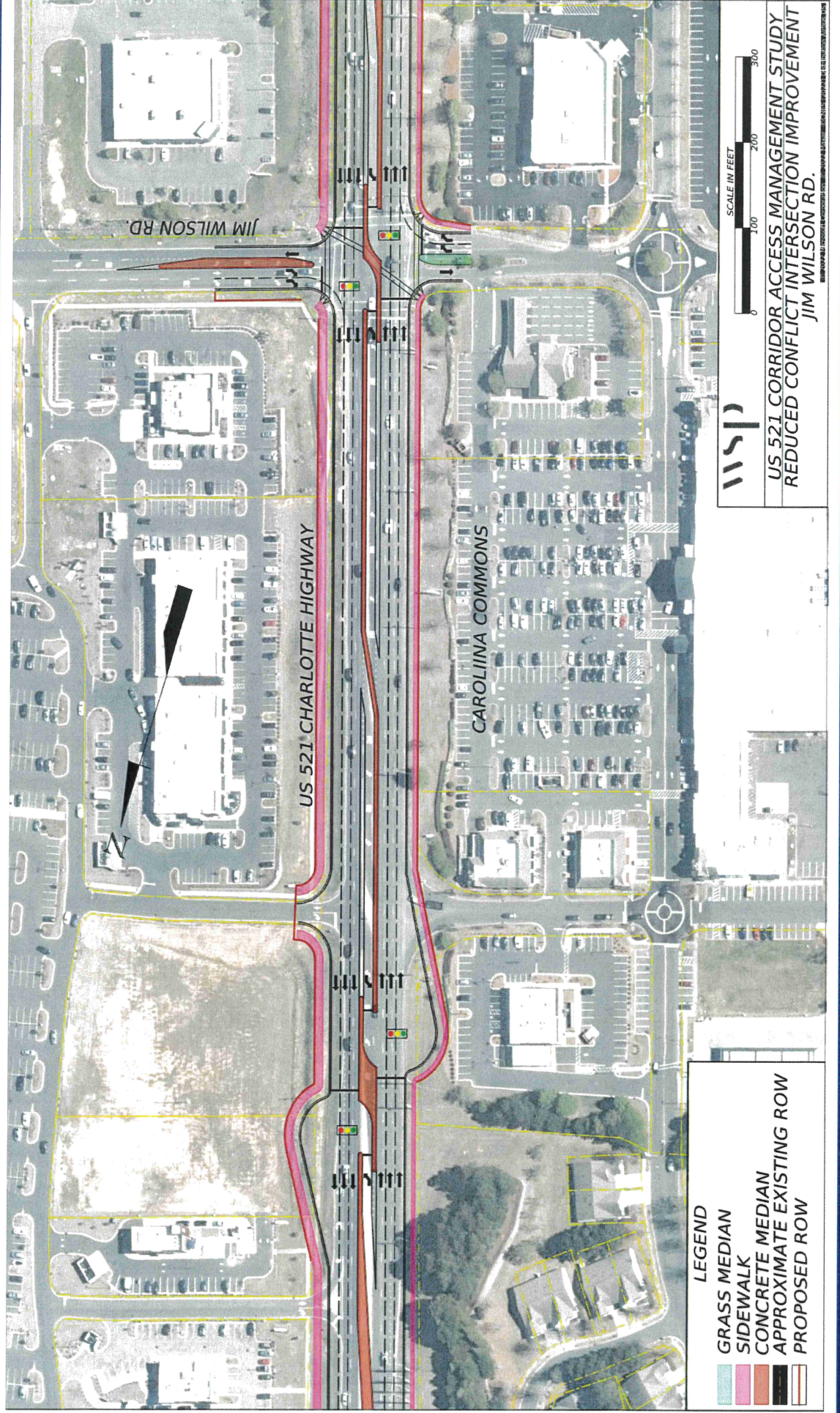
US 521 / SC 160: RCI WIDENING



US 521 / JIM WILSON: TRADITIONAL WIDENING



US 521 / JIM WILSON: RCI WIDENING



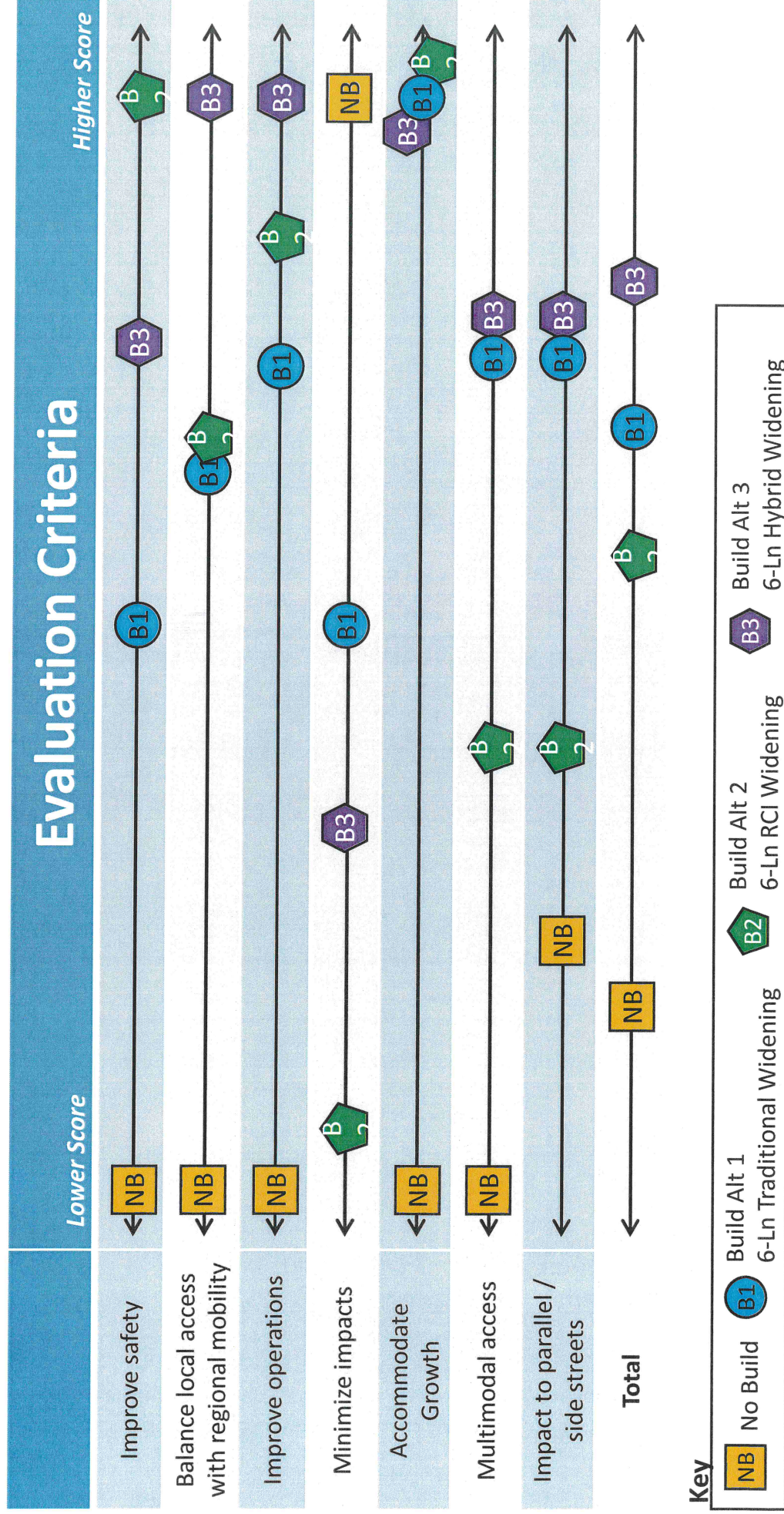
US 521 CORRIDOR STUDY

- **Capacity Alternatives**

- 6 Lane (MD) – Traditional Widening

- 6 Lane (MD) – RCI Widening

- 6 Lane (MD) – Hybrid Configuration



US 521 CORRIDOR ALTERNATIVES: PLANNING LEVEL COST BANDS

Item	Value / Unit	6-Lane Traditional Widening	6-Lane RCI Widening
6 Lane Cross-Section	\$3,660,000 / Mile	\$31,110,000	
6 Lane Cross-Section with RCI's	\$4,350,000 / Mile		\$44,370,000
Construction – Misc. & Mob. - Structures	25%	\$7,777,500	\$7,777,500
Construction – Misc. & Mob. - Roadway	55%	\$17,110,500	\$17,110,500
Construction – Misc. & Mob. - Intersection	40%	\$12,444,000	\$12,444,000
Construction – Eng. & Constr.	15%	\$4,666,500	\$4,666,500
Construction – Remove Bridge; New Bridge Structure	\$30 / SqFt; \$150 / SqFt	\$9,361,470	\$9,538,770
Right-of-Way – Parcel, Partial/No Access Control	50%	\$15,555,000	\$22,185,000
Utilities	15%	\$4,666,500	\$6,655,500
Total Cost Estimate (2022 Year of Expenditure Dollars)		\$102,691,470	\$124,747,770

NEXT STEPS

- Completion of Alternative(s) Configuration
- Cost Estimation & Timeline
- Planning Requirements

DISCUSSION & QUESTIONS?