



Northwest Harnett Volunteer Fire Department





U.S. 401 CORRIDOR STUDY

Wake County / Fuquay-Varina
Harnett County / Lillington



Public Meeting September 30, 2021



Stewart
HR&A Advisors
Spanish Speaking



Meeting Ground Rules



Acknowledge Guest/Dignitaries

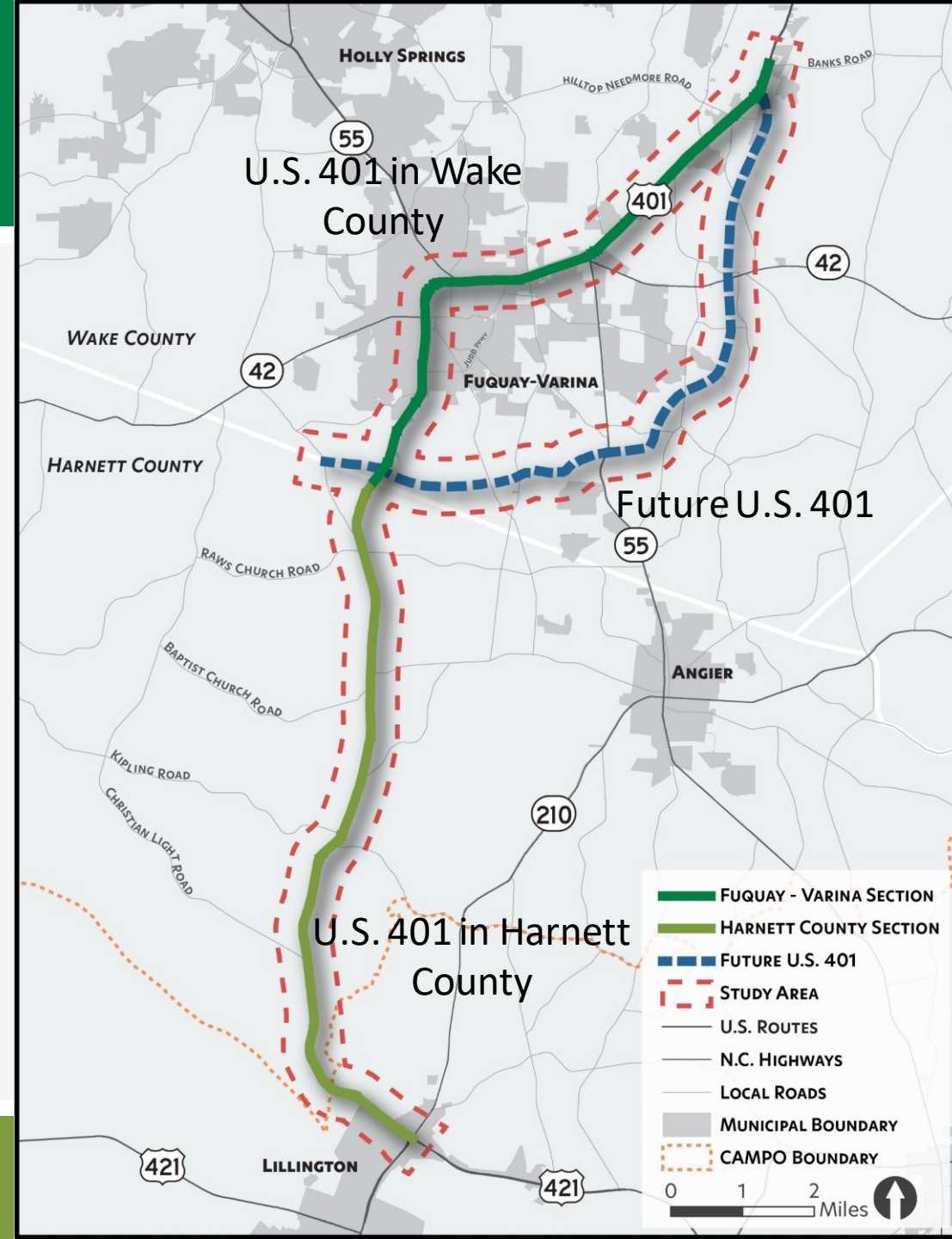


**Q&A session to follow the
presentation**



Overview

- Approximately 19 miles from Banks Road in Wake County through the Town of Fuquay-Varina to the N.C. 210 and U.S. 421 intersection near the Town of Lillington in Harnett County;
- About seven miles for the proposed Future U.S. 401.



Overview



PLANNING AND
DESIGN



VISION



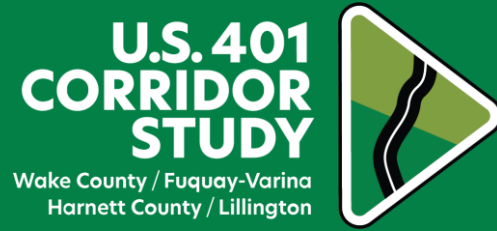
SHORT- AND LONG-
TERM SOLUTIONS



IMPLEMENTABLE
PROJECTS



Study Background



- Initial alignment of the Future U.S. 401 was adopted by Board of Transportation on March 10, 1997. Revised alignment approved on May 7, 1999.
- Project included in MTPs since 2002 (MTP 2025) up until most recent MTP 2045 (adopted 2017).
- This study focuses on improving existing U.S. 401 and exploring alternative alignments for Future U.S. 401.
- Three (3) meetings and review with Core Technical Team (CTT) comprised of CAMPO, Towns of Fuquay-Varina, Angier, and Lillington, Wake and Harnett Counties, NCDOT and others.
- Two (2) meetings and review with Study Oversight Team (SOT) comprising of CTT, local elected officials, community leaders, local organizations and others.



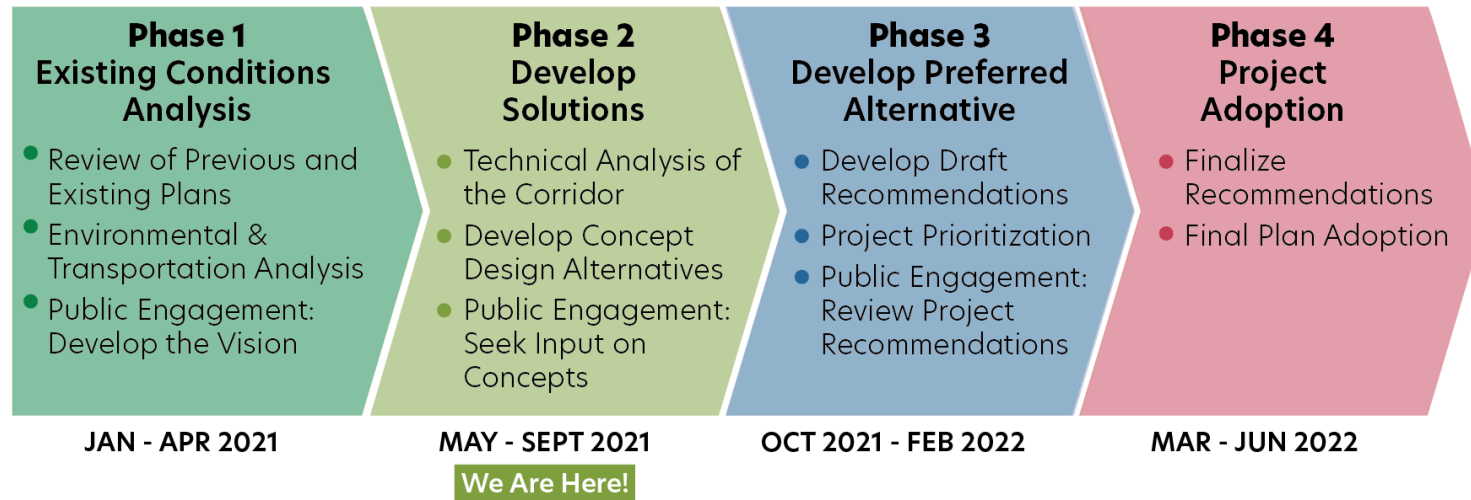
Study Schedule



“Anticipated” U.S. 401 Corridor Improvements Timeline



U.S. 401 Corridor Study Schedule



Study Goals



Reduce congestion and
increase transportation
capacity and safety



Incorporate public and
stakeholder input



Encourage economic
development



Accommodate appropriate
modes of travel (transit,
bicycle, pedestrian, freight)



Updated Vision



THANK YOU for your feedback!

During Phase I of Engagement:

- Over 60 virtual public meeting participants
- Over 1,100 online survey participants

The U.S. 401 Corridor study will provide a multi-modal framework to accommodate growth and development through improved travel conditions that are safe and accessible, while supporting economic development and maintaining the character and livability of the area.



Design Concepts & Technical Analysis

Constraints



Historic
Properties

Cemeteries

Schools

Voluntary
Agricultural
Districts

Airports

Places of
Worship

Property Lines

Existing
Developments

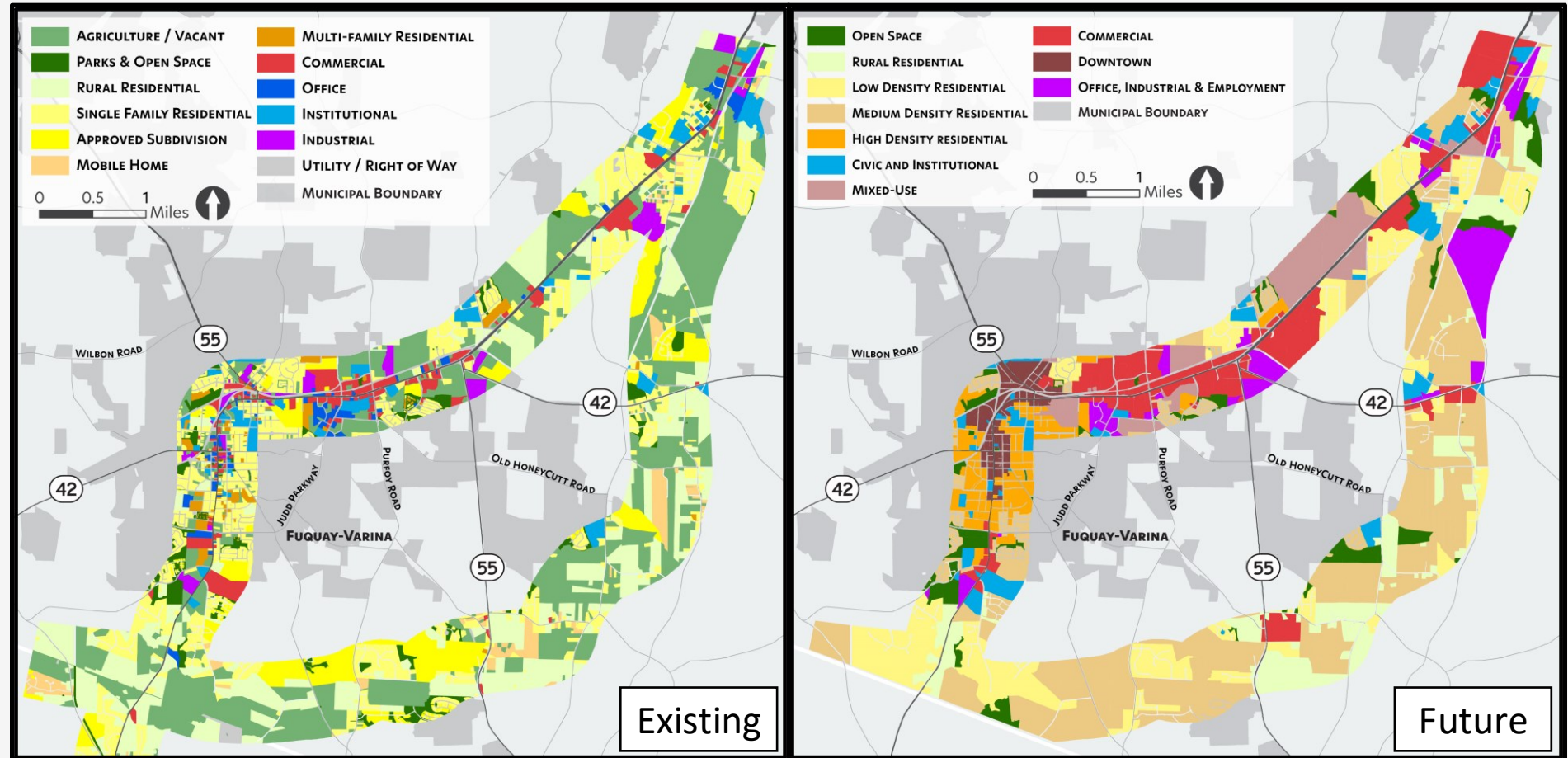
Planned
Developments

Environmental

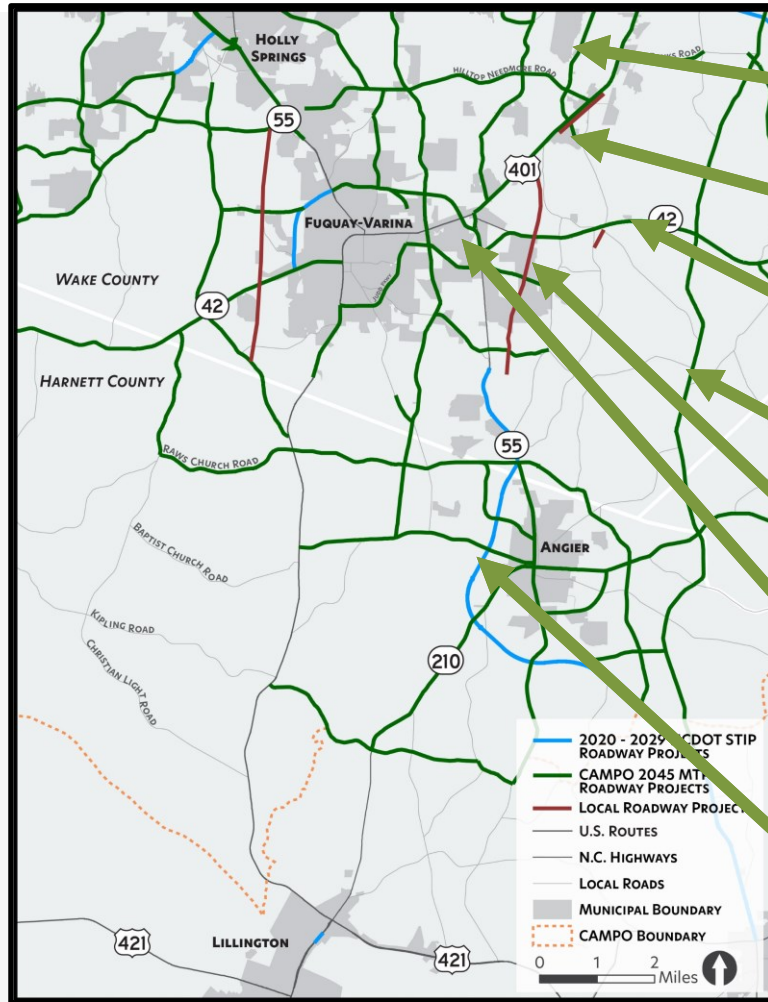


Land Use

Vacant /
Agricultural land
south and east of
Fuquay-Varina is
zoned as low to
medium density
residential in the
future land use
plan.



Planned Projects in the area

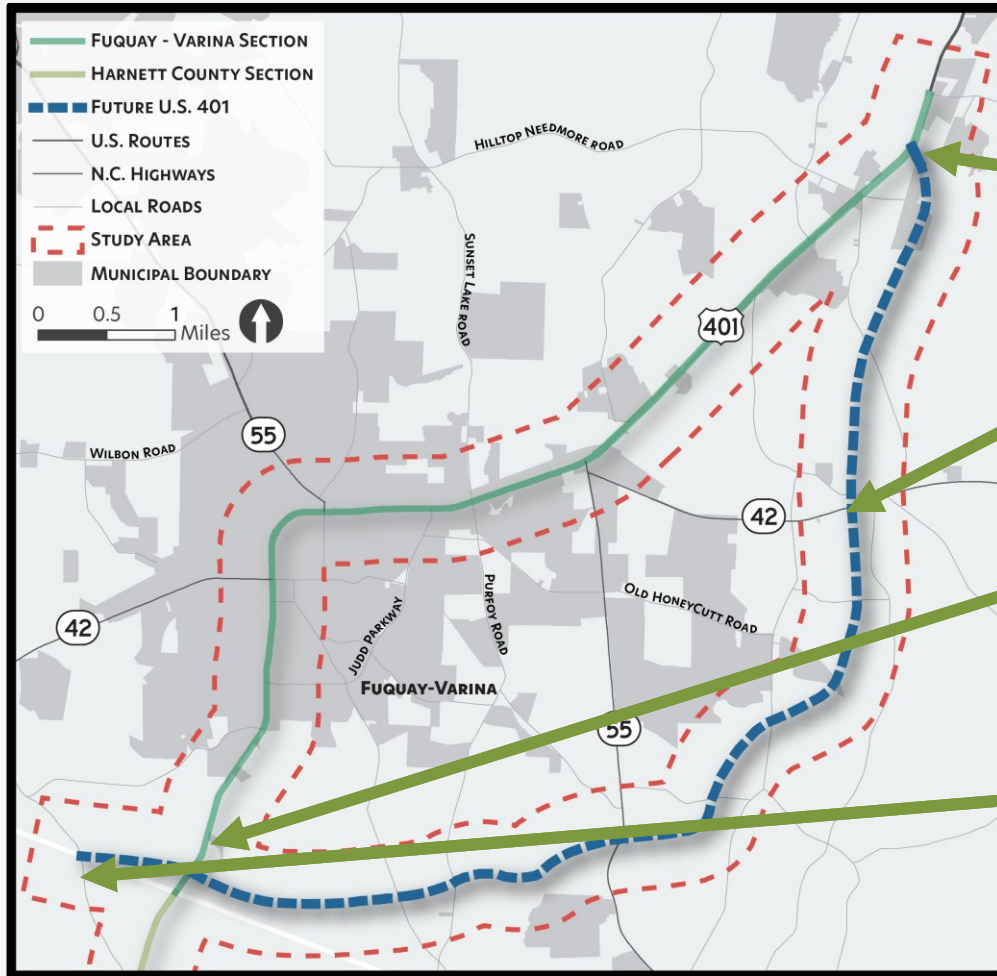


- Widening Lake Wheeler Rd to 4 lanes
- Hilltop Road Relocation
- Widening N.C. 42 to 4 lanes
- Widening Old Stage Rd to 4 lanes
- Fuquay-Varina Eastern Parkway
- U-5751 N.C. 55 and N.C. 42 grade separation over U.S. 401
- Western Angier Bypass



Future U.S. 401

Future U.S. 401 - Overview



New alignment starting at U.S 401 south of Banks Rd

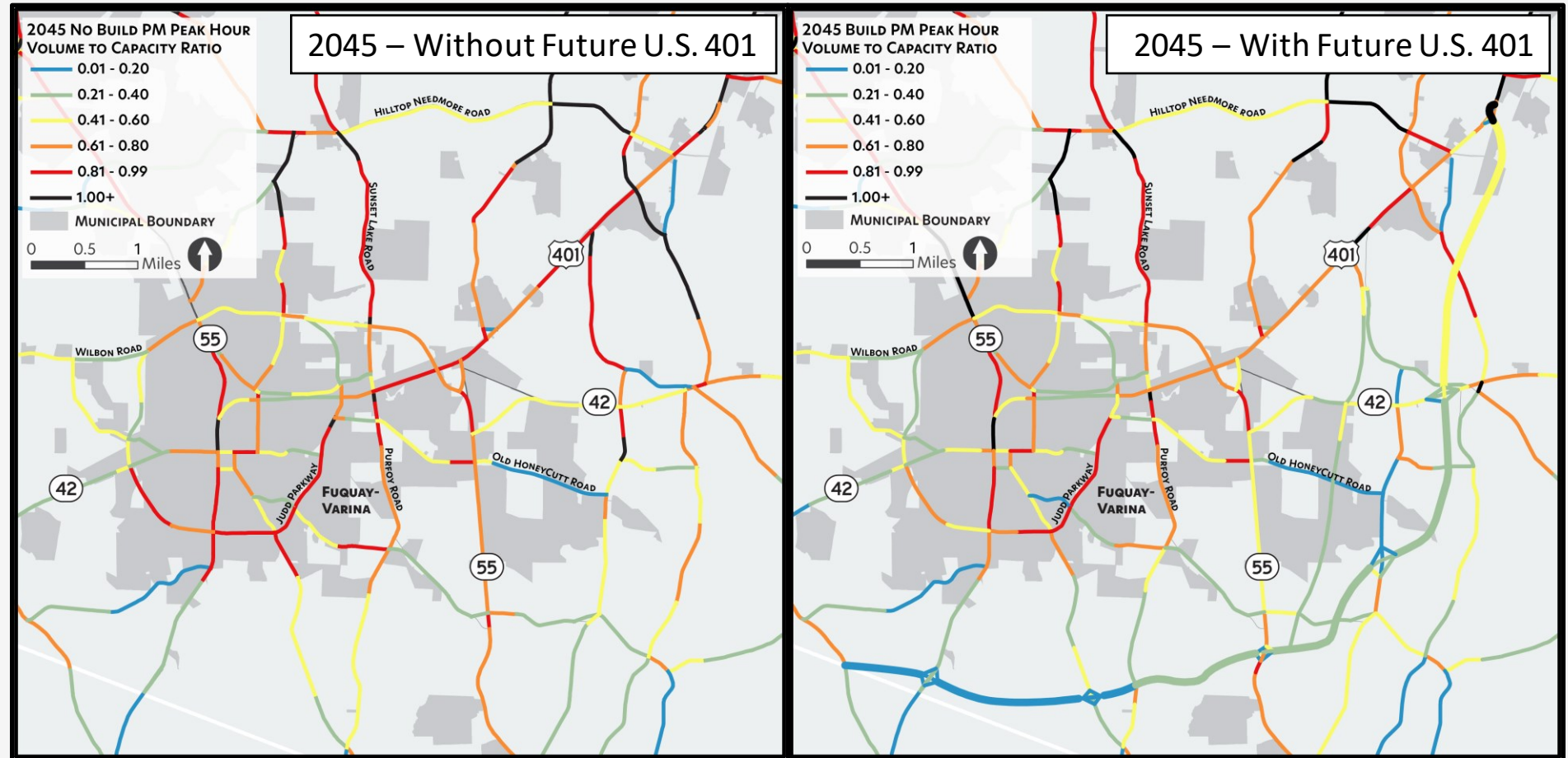
Crossing N.C. 42 and N.C. 55

Terminating at U.S. 401 at Wake/Harnett County line

With a potential extension to Piney-Grove Rawls Rd.

Future U.S. 401 - Traffic

Future U.S. 401 decreases travel time in the network with an increased growth forecast in this area.



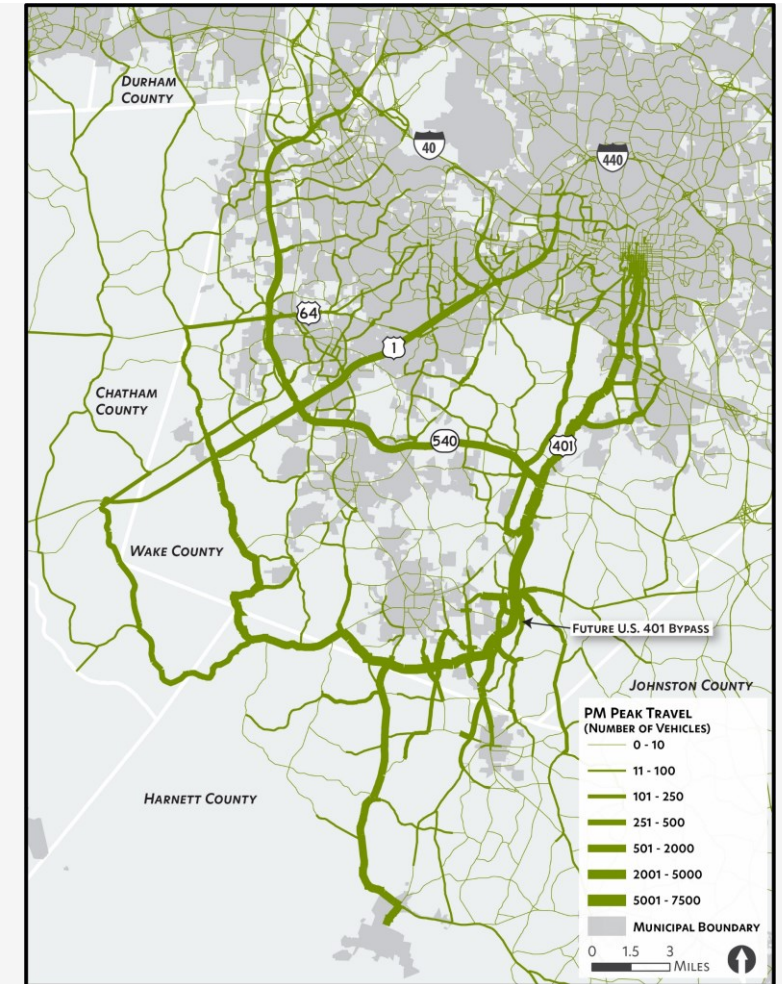
Future U.S. 401 - Traffic Dispersion

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The road facilitates traffic flow from southern and eastern portions of Fuquay-Varina to Garner, Raleigh, and other parts of Western Wake County.



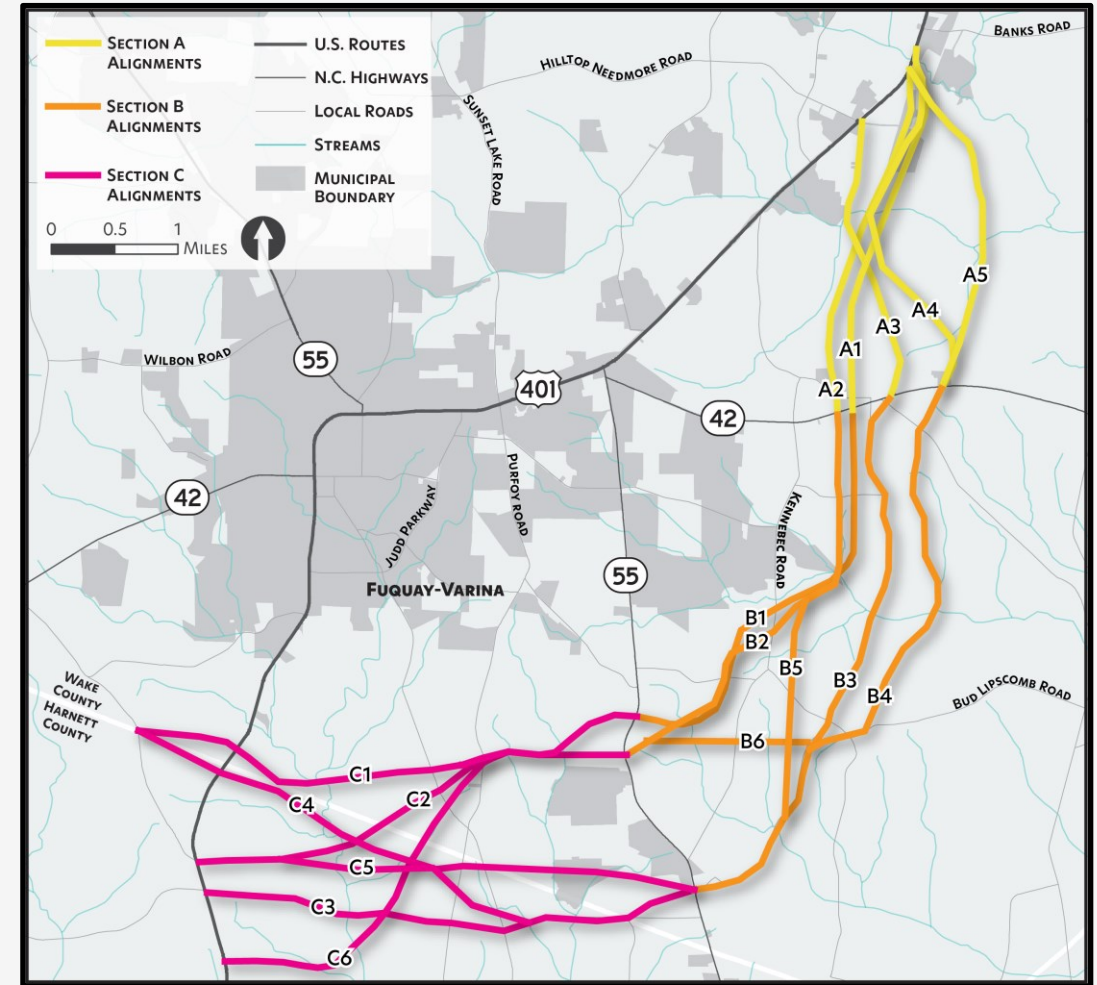
Future U.S. 401 - Alignments

U.S. 401 CORRIDOR STUDY

Wake County / Fuquay-Varina
Harnett County / Lillington

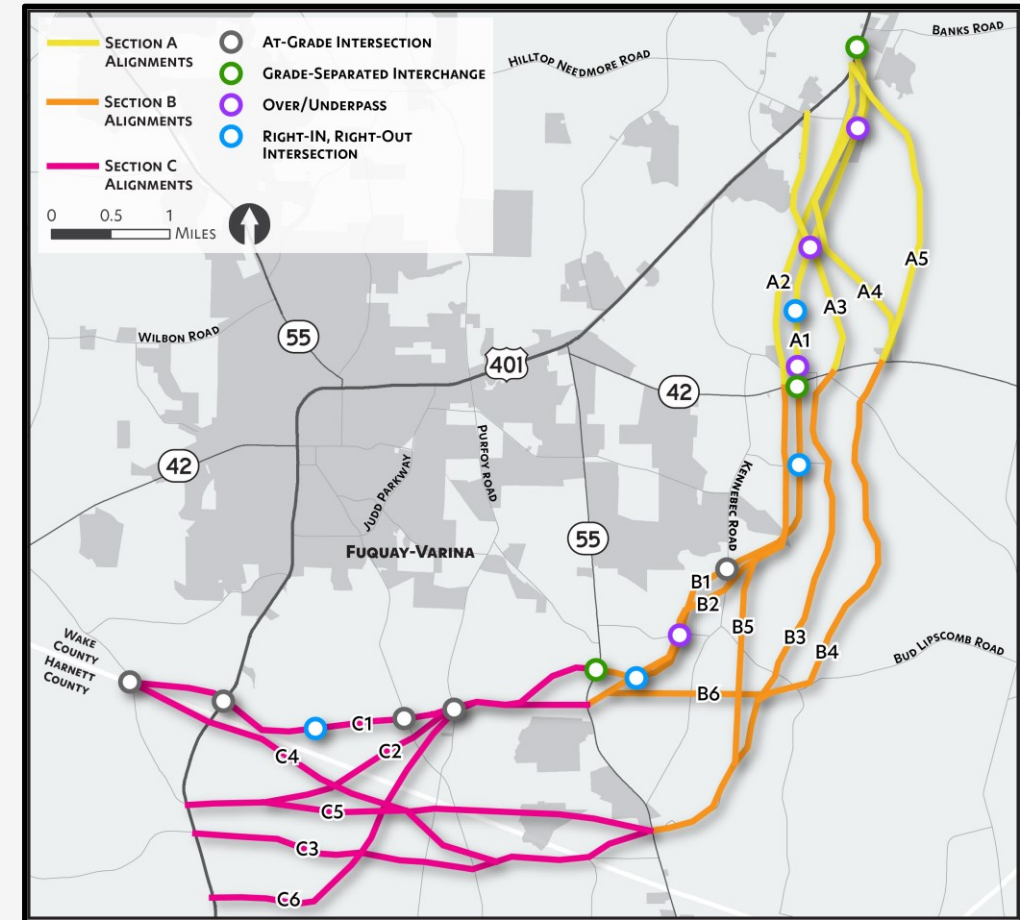


- **Three Sections** for alignment evaluation
- **Section A** is from U.S. 401 to N.C. 42.
- **Section B** is from N.C. 42 to N.C. 55
- **Section C** is from N.C. 55 to U.S. 401 with an option to extend to Piney-Grove Rawls Rd



Future U.S. 401 - Intersections

- Partial-access controlled facility
- Interchanges at
 - U.S. 401 (near Banks Rd),
 - N.C. 42
 - N.C. 55
- At-grade Reduced Conflict Intersections (RCIs) to increase safety and traffic flow. Details on the next slide.
- Right in- right outs with other major roads
- Over/underpasses with other minor roads.



Future U.S. 401 - Intersections



- A **reduced conflict intersection (RCI)** (*superstreet, synchronized street, or median U-turn*) is a term used to describe several types of designs used to improve safety and traffic flow on a highway.
- Design reduces more than half of the potential locations, where drivers and pedestrians can collide.



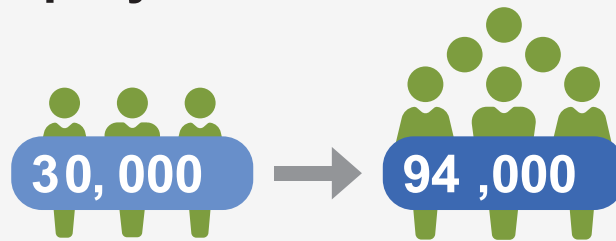
RCI at U.S. 401 (Louisburg Road) and E Young Street in Rolesville, NC.



Future U.S. 401 - Developments

Several developments proposed or under construction.

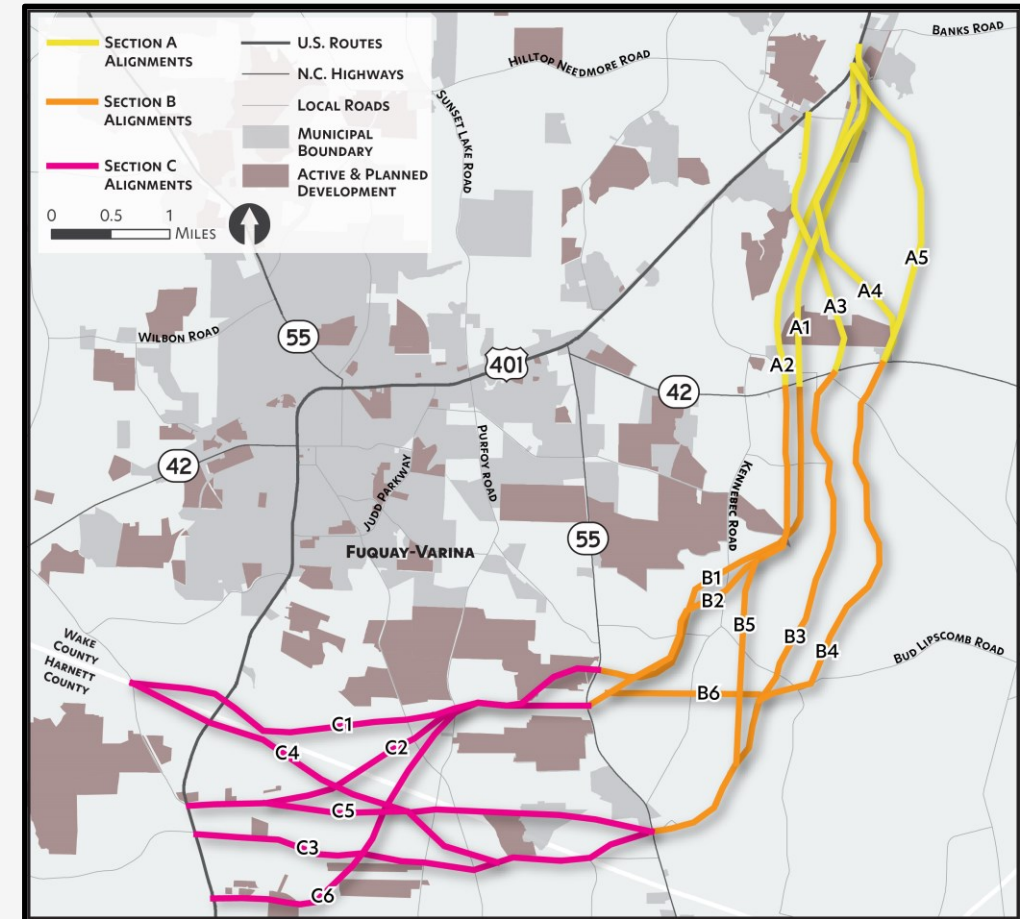
By 2045, population in Fuquay-Varina is projected to increase:



and employment is projected to increase:

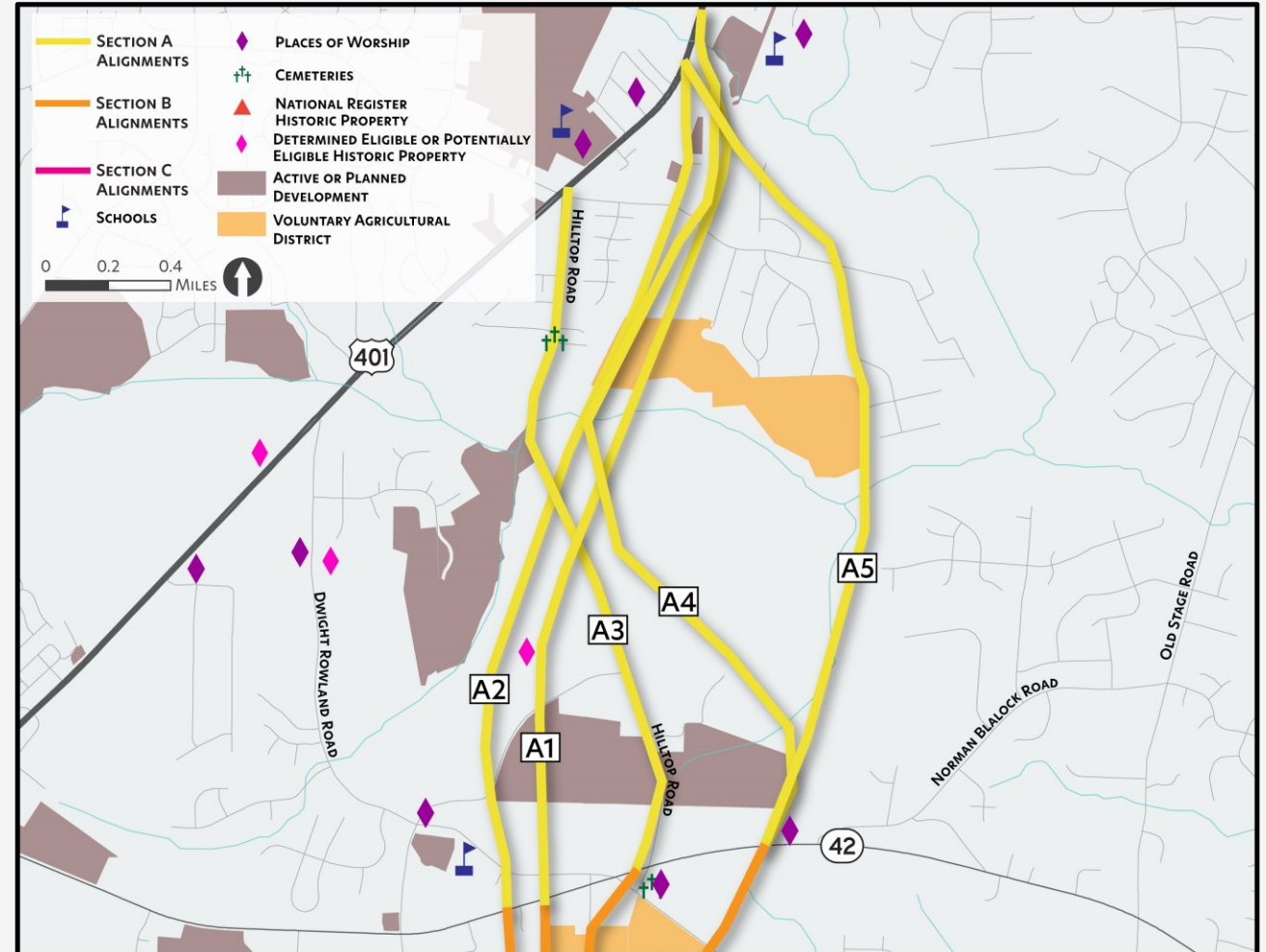


Source: Triangle Regional Model v6.2



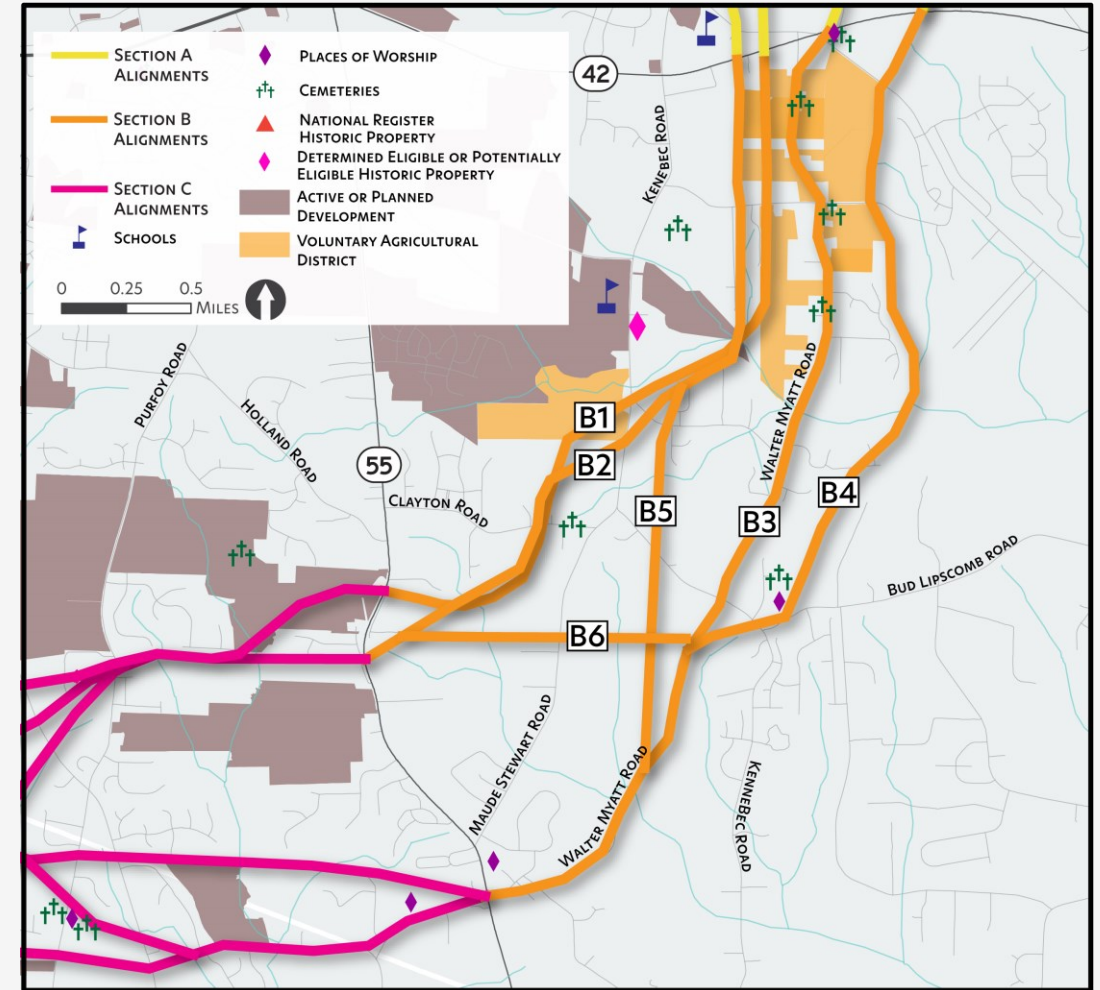
Future U.S. 401 - Section A

- Alignment A1 follows the alignment in the current MTP.
- Alignment A3 follows Hilltop Road between U.S. 401 and N.C. 42
- Alignments A2, A4 and A5 are new alignments



Future U.S. 401 - Section B

- Alignment B1 follows the alignment in the current MTP.
- Alignment B3 follows Walter Myatt Rd between N.C. 42 and N.C. 55
- Alignments B2, B4, B5 and B6 are new alignments
- Certain portions may overlap
- Alternatives B3, B4 and B5 can potentially be combined with Western Angier Bypass (N.C. 55) to provide a direct connection to U.S. 401 in Lillington via N.C. 210.



Future U.S. 401 – N.C. 210 Alternative

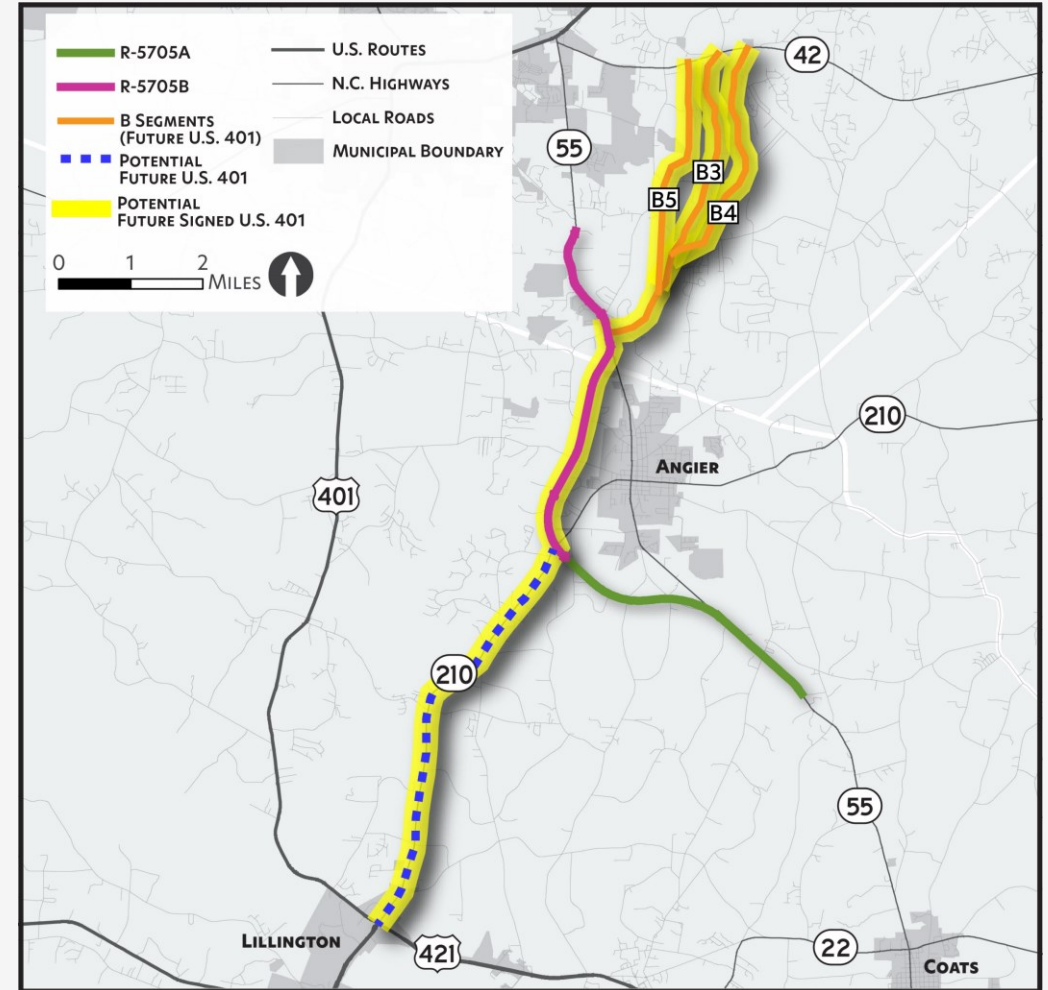
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Alternative created from feedback from CTT during Phase 2 Public Engagement.
Potential for Future U.S. 401 to follow:

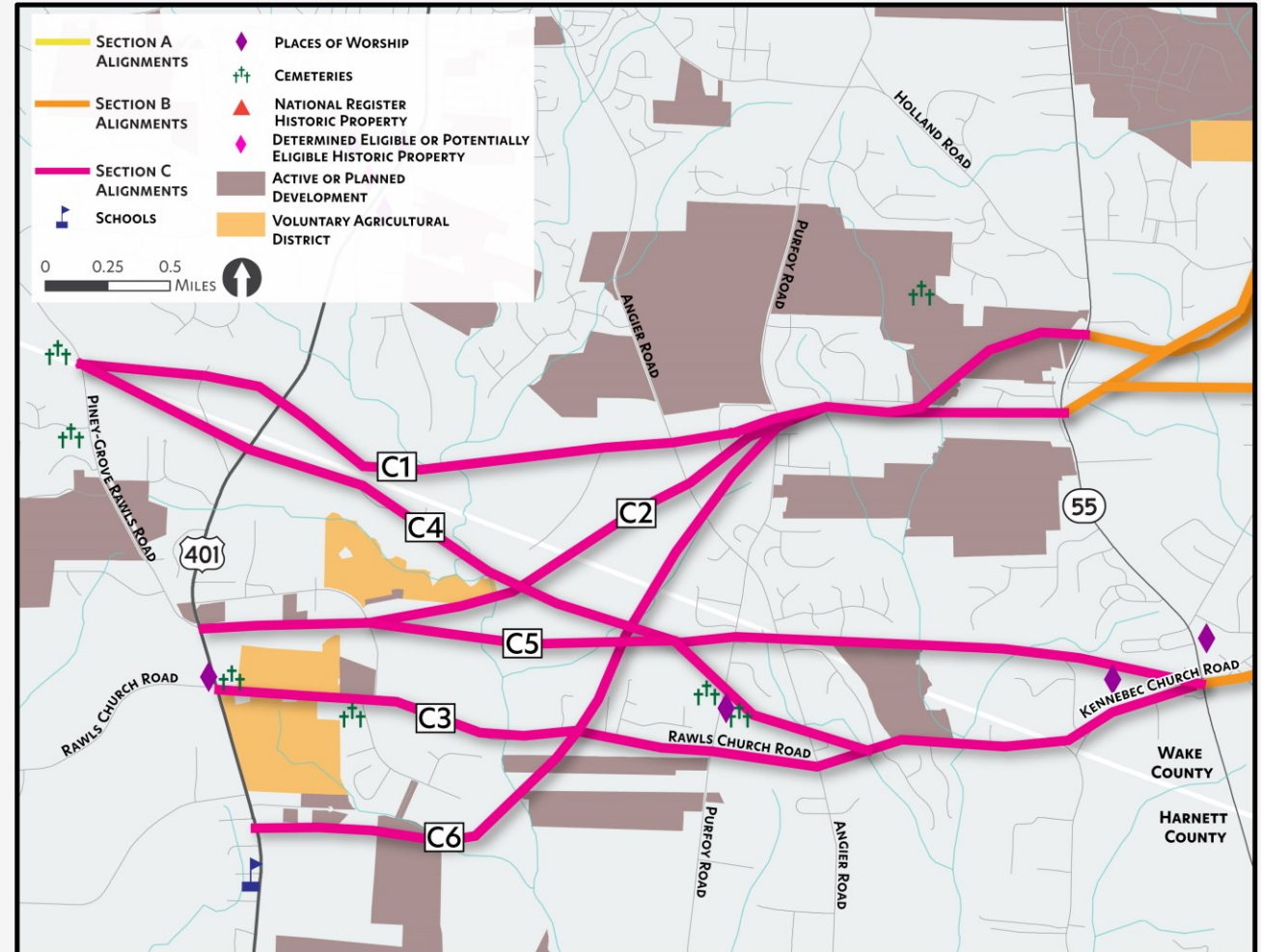
- B alternatives to N.C. 55
- R-5705B project – N.C. 55 Angier Bypass from existing N.C. 55 to N.C. 210
- Follow N.C. 210 to intersection with Existing U.S. 401 and U.S. 421
- Provides a direct connection to U.S. 401 in Lillington via N.C. 210.



Future U.S. 401 - Section C



- Alignment C1 follows the current MTP alignment.
- Alignment C3 follows Kennebec Church and Rawls Church Roads.
- Alignments C2, C4, C5 and C6 are new alignments
- Certain portions may overlap



Future U.S. 401 - Tradeoffs

Section A

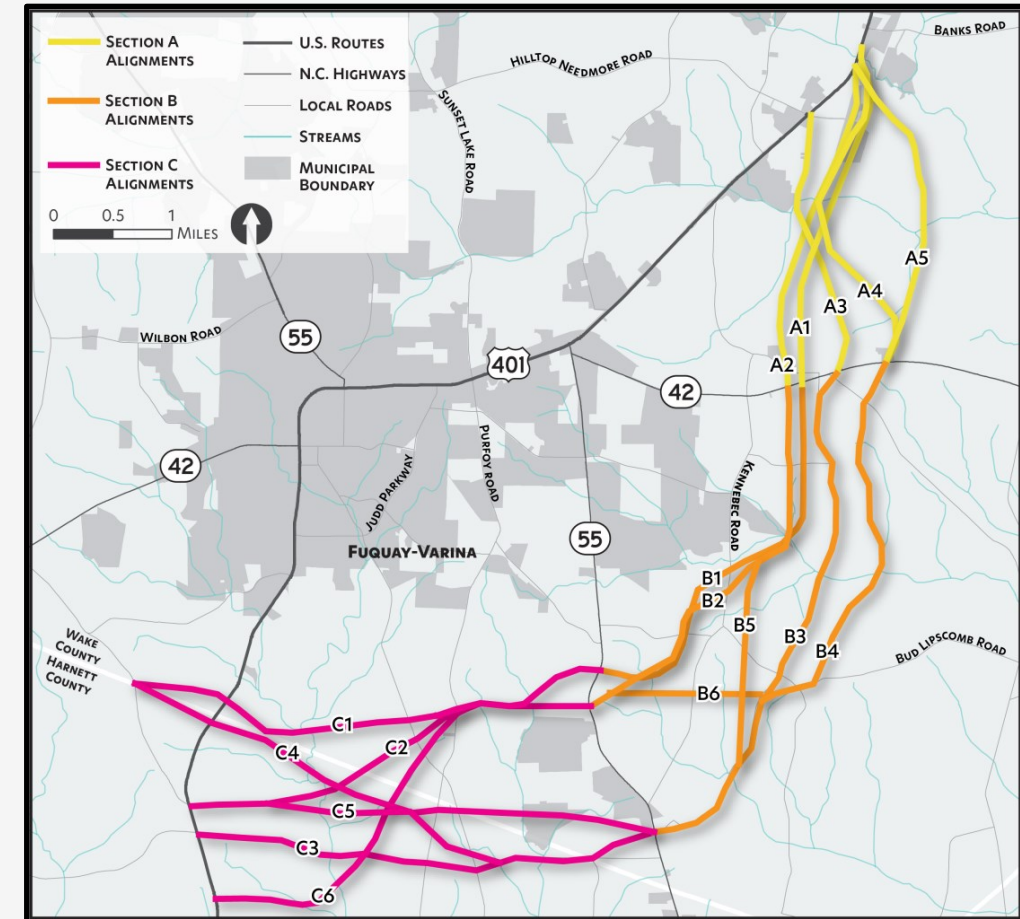
	Least		Most
Properties Impacted	A2, A4	A1, A3	A5
Agricultural Land Impacted	A3, A5	A2	A1, A4
Environmental Impacts	A3	A2	A1, A4, A5
Project Cost	A2, A3		A1, A4, A5

Section B

Properties Impacted	B1, B6	B2, B4	B3, B5
Agricultural Land Impacted	B2, B4, B5, B6	B3	B1
Environmental Impacts	B2, B3	B1, B5	B4, B6
Project Cost	B1, B2, B3	B5	B4, B6

Section C

Properties Impacted	C1, C2, C6		C3, C4, C5
Agricultural Land Impacted	C6	C4, C5	C1, C2, C3
Environmental Impacts	C2, C3	C5	C1, C4, C6
Project Cost	C2	C1, C3, C6	C4, C5



Future U.S. 401 - Roadway Sections

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Alt 1: 16' wide Multi-Use Path on one side



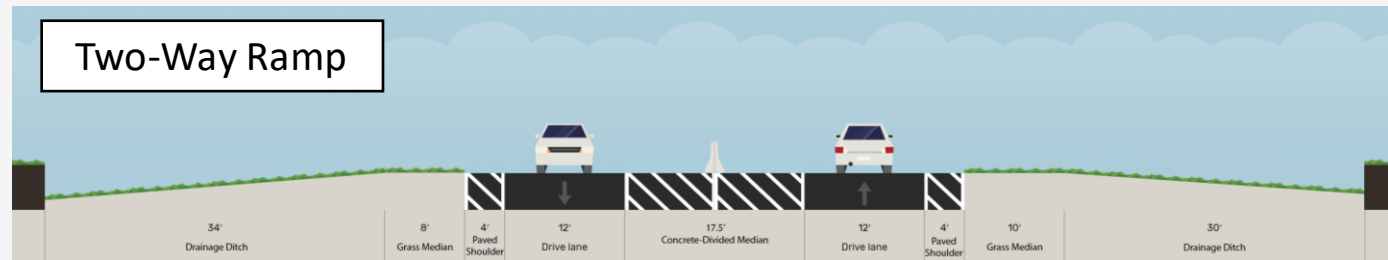
Alt 2: 12' wide Multi-Use Paths on both sides



One-way Ramp



Two-Way Ramp

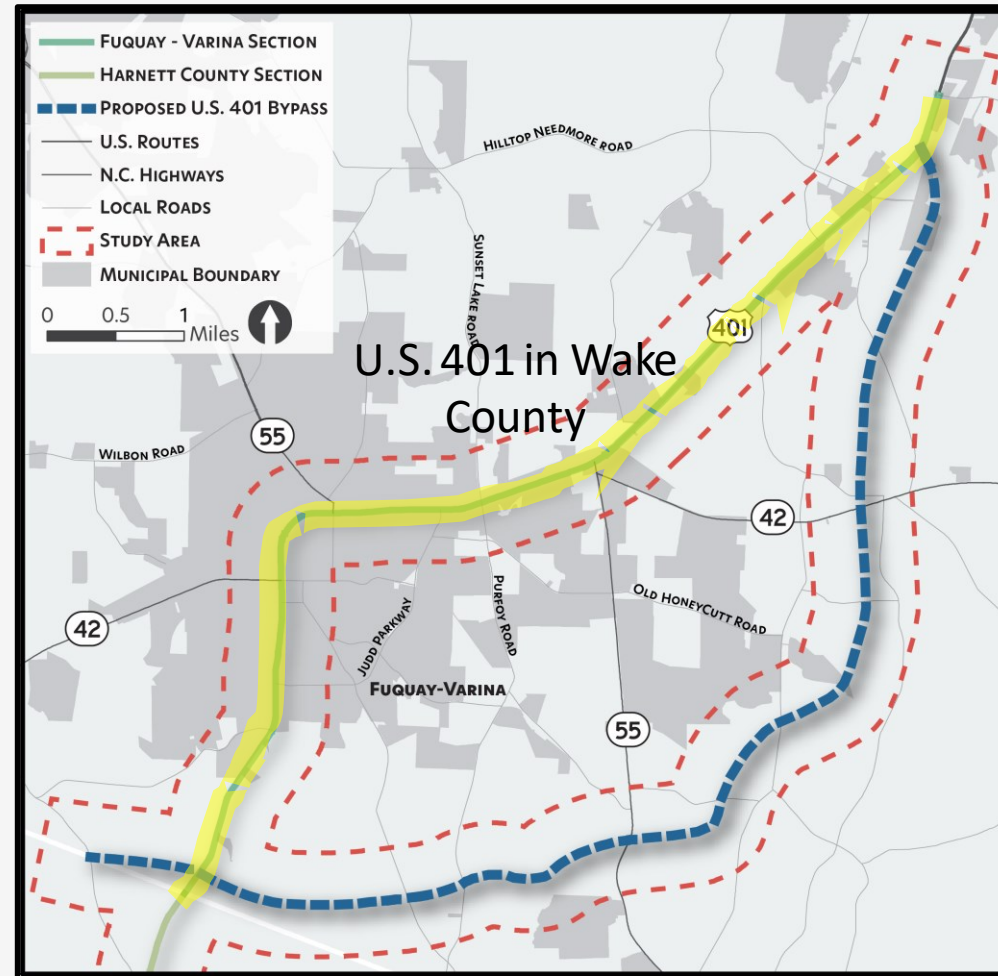


U.S. 401 in Wake
County
(Existing)

U.S. 401 in Wake County - Overview

U.S. 401 CORRIDOR STUDY

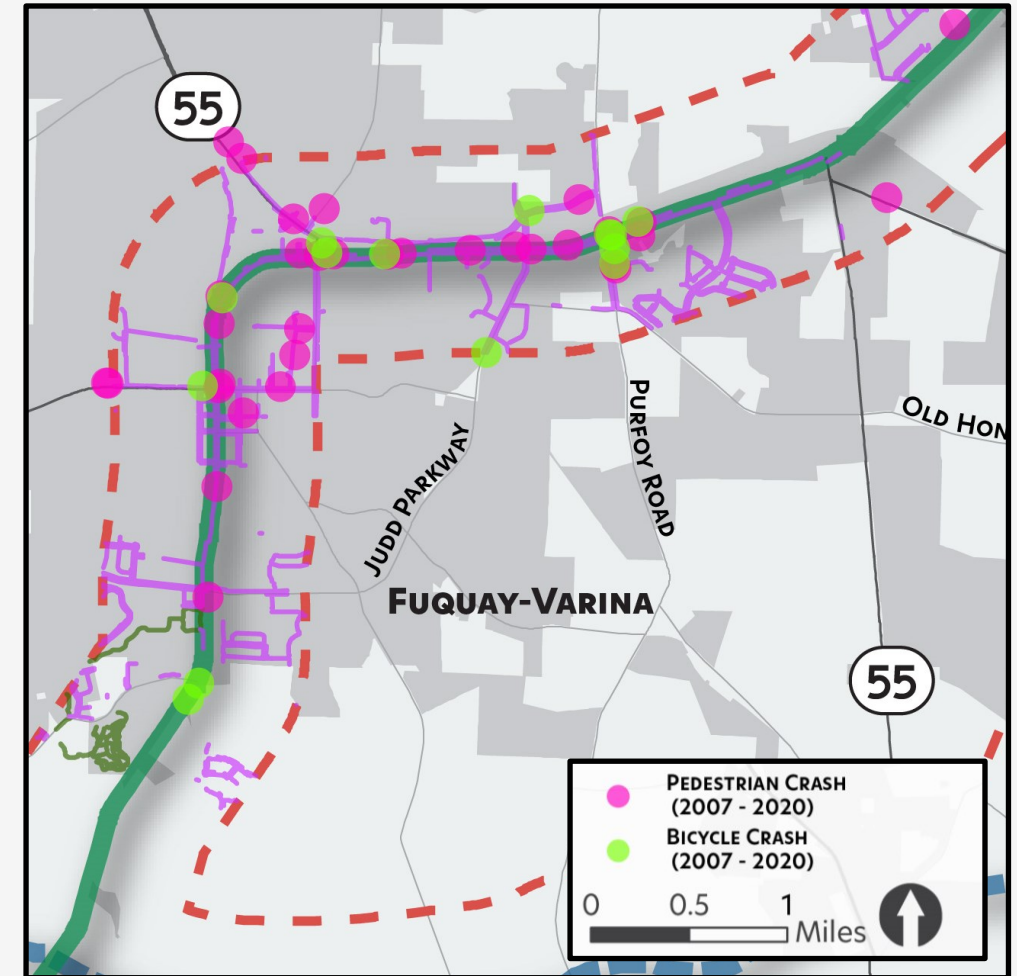
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U.S. 401 in Wake County Bicyclist-Pedestrian Crashes

Total Crashes between 2007 and 2020

Intersection	Bicycle	Pedestrian
Sunset Lake Road / Purfoy Road	5	5
N Ennis Street / N.C. 55	2	3
E Academy Street / N.C. 42	1	2



U.S. 401 in Wake County - Sections



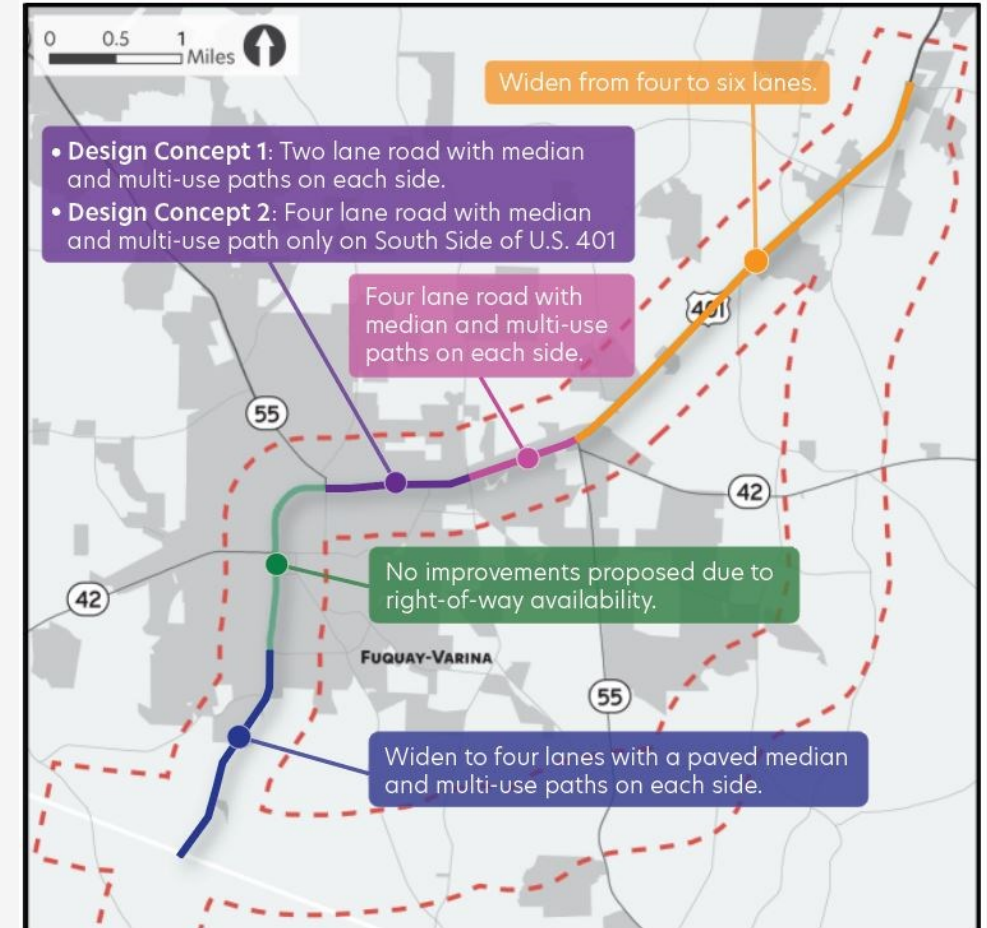
Banks Road to NC 55: Widen from 4 to 6 lanes. (MTP Project)

NC 55 to Judd Parkway NW: Add paved median. (MTP Project)

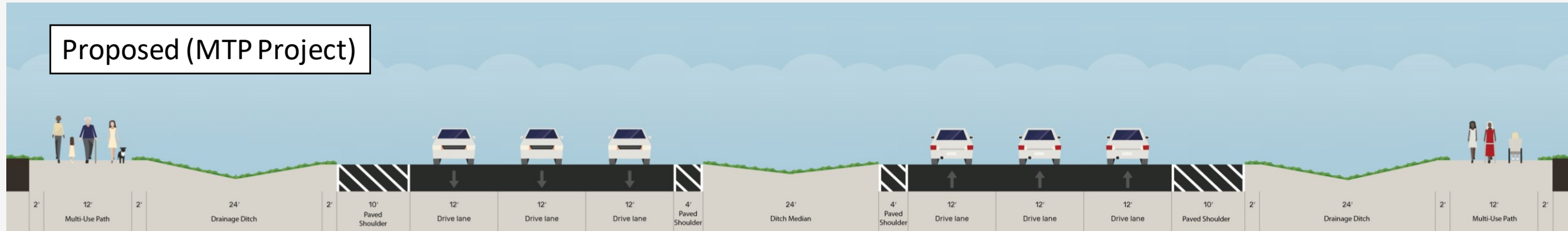
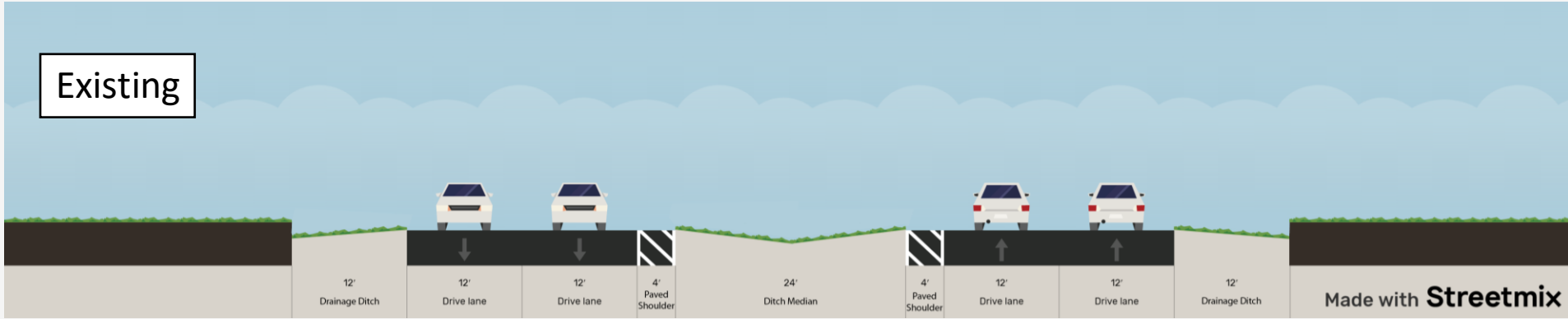
Judd Parkway NW to Ennis Street: Two alternative design concepts.

Ennis Street to Judd Parkway SW: No improvements.

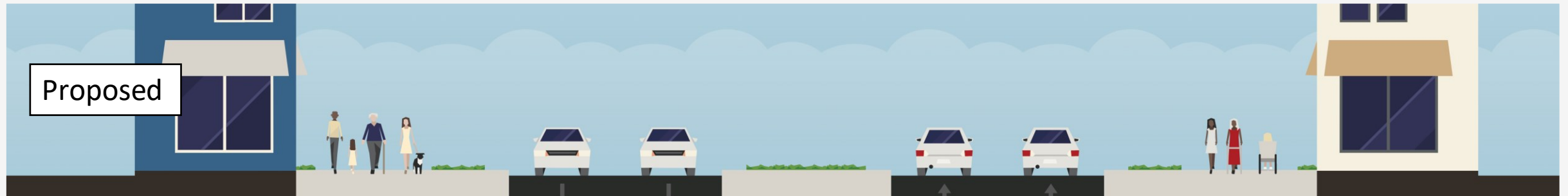
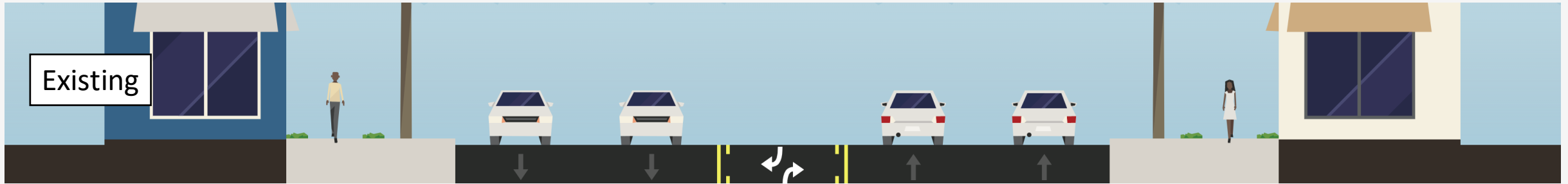
Judd Parkway SW to Harnett County: Two alternative design concepts.



U.S. 401 in Wake County – Banks Road to N.C. 55

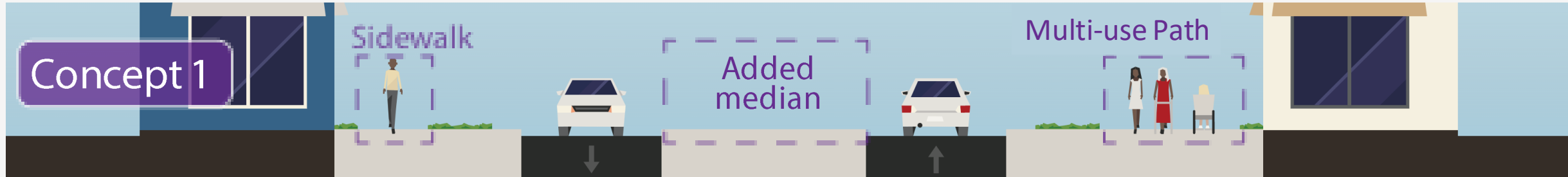
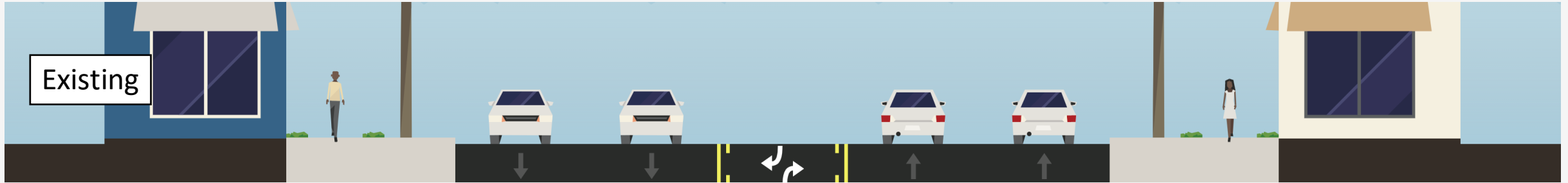


U.S. 401 in Wake County – N.C. 55 to Judd Parkway SE



U.S. 401 in Wake County – Judd Parkway SE to Ennis Street

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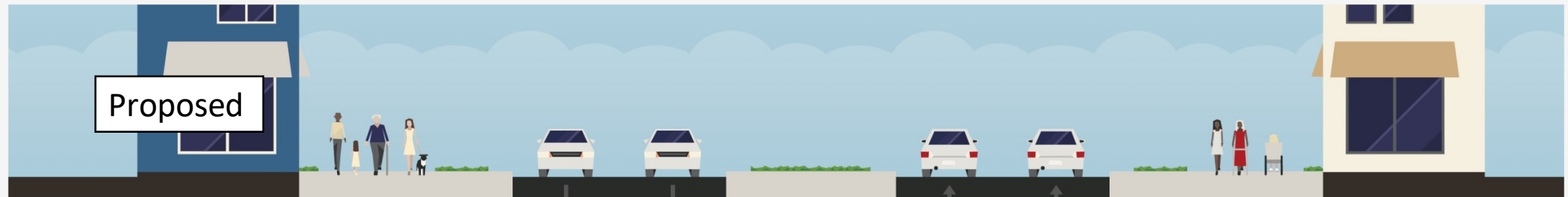
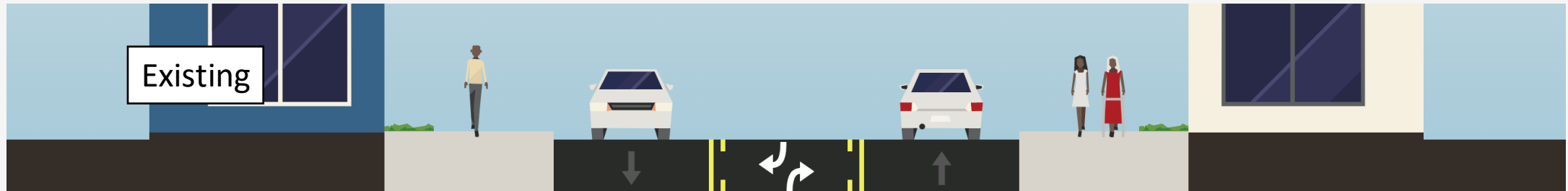
www.US401CorridorStudy.com



#US401CorridorStudy

U.S. 401 in Wake County– Judd Parkway SW to Harnett County

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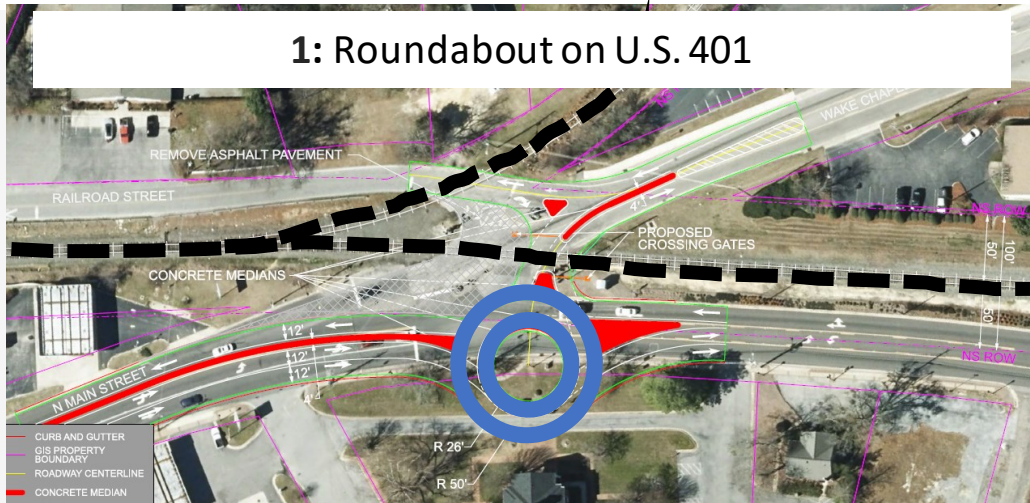
www.US401CorridorStudy.com



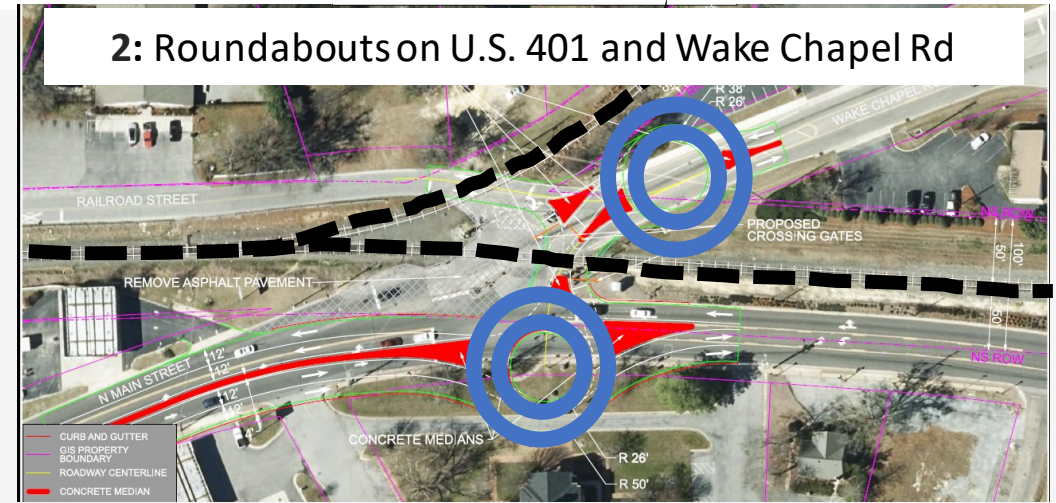
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U.S. 401 in Wake County – US 401/Wake Chapel Road

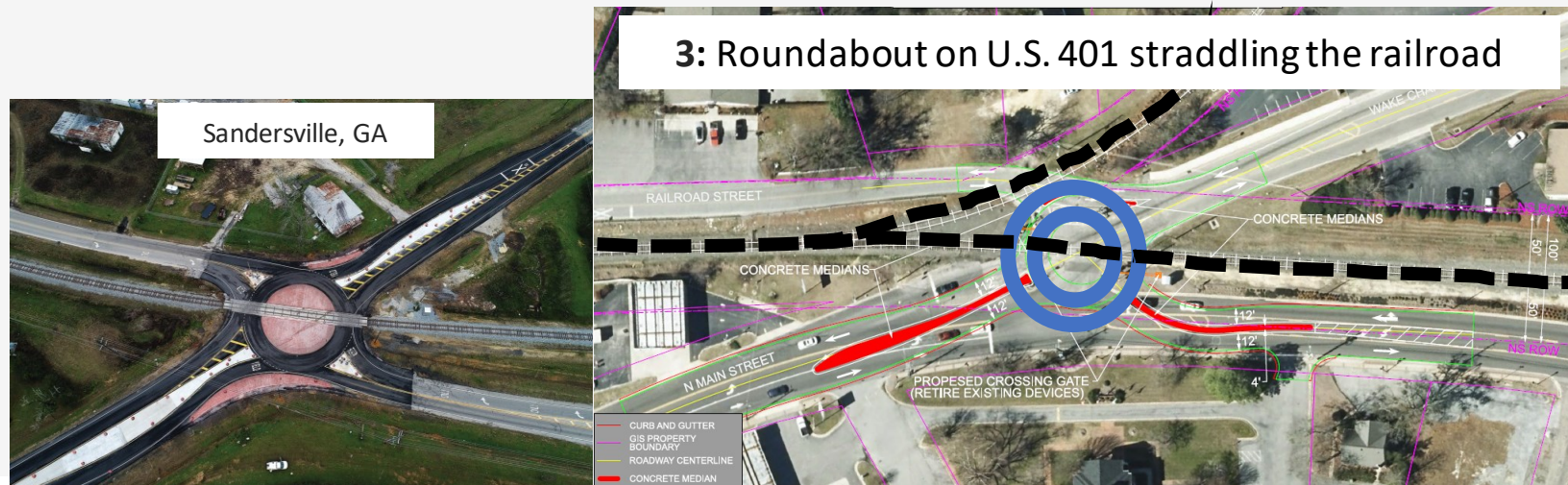
1: Roundabout on U.S. 401



2: Roundabouts on U.S. 401 and Wake Chapel Rd



3: Roundabout on U.S. 401 straddling the railroad



Conway, AR



Sandersville, GA



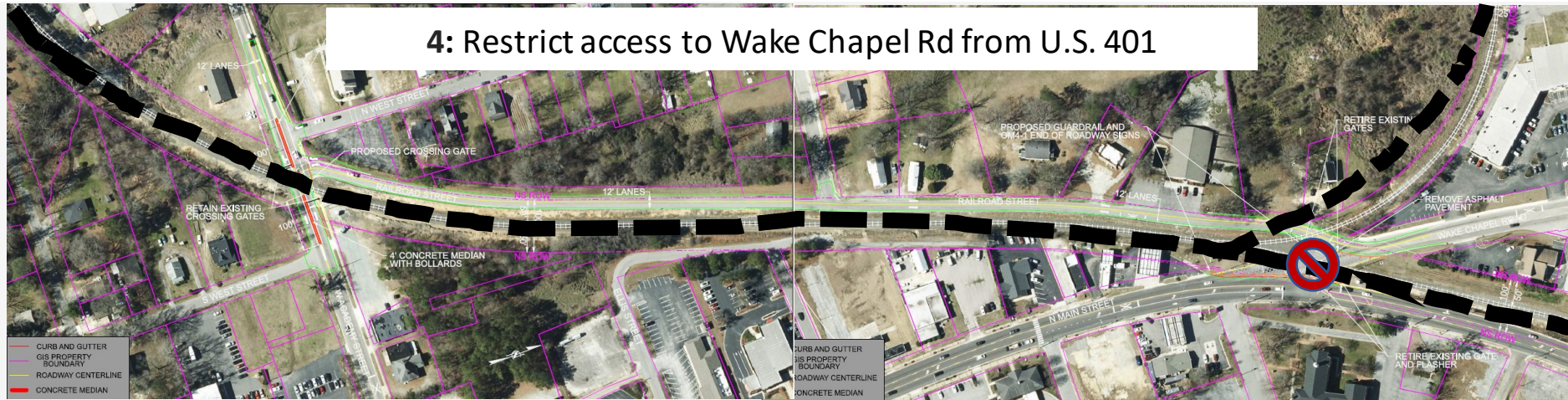
U.S. 401 in Wake County – US 401/Wake Chapel Road

U.S. 401 CORRIDOR STUDY

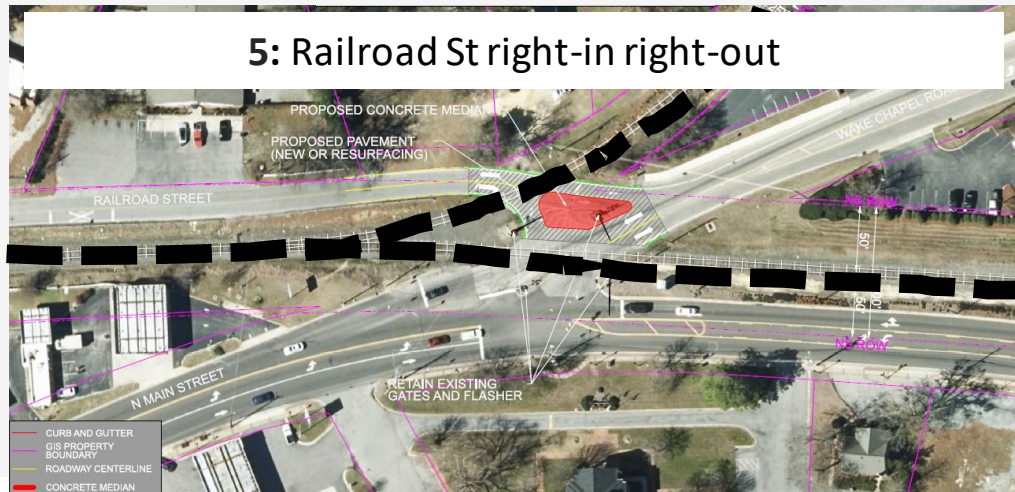
Wake County / Fuquay-Varina
Harnett County / Lillington



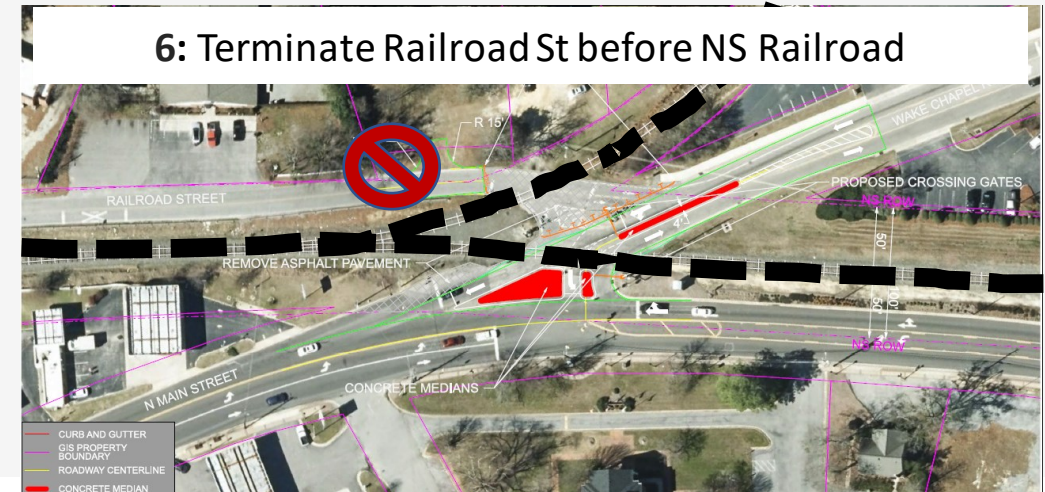
4: Restrict access to Wake Chapel Rd from U.S. 401



5: Railroad St right-in right-out



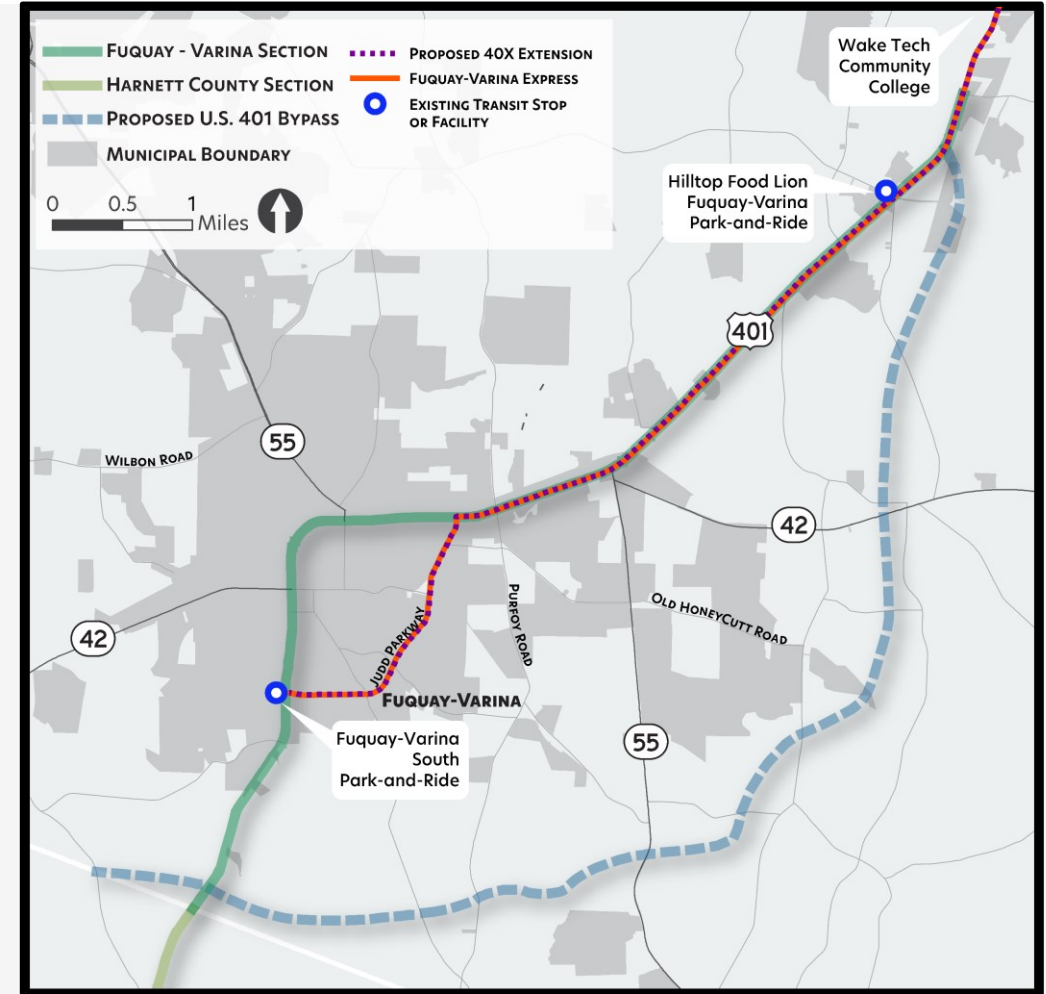
6: Terminate Railroad St before NS Railroad



U.S. 401 in Wake County - Transit

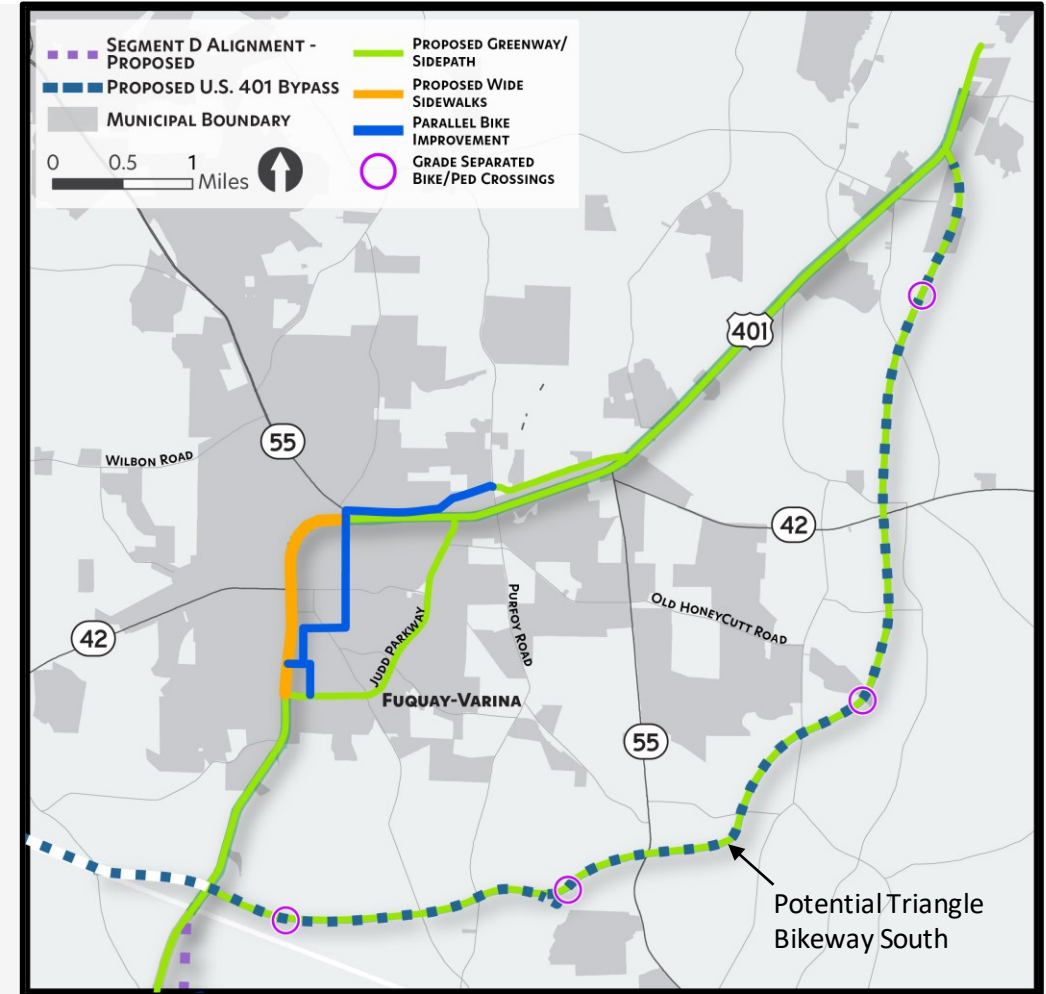


- Strengthening transit connections to Garner and Raleigh.
- Connections to Holly Springs and Apex may be possible in the future.



U.S. 401 in Wake County - Bicycle-Pedestrian Facilities

- Multi-Use Paths or Sidewalk and bicycle lanes throughout the corridor.
- Wide sidewalks or MUP through Downtown, parallel bike improvements.

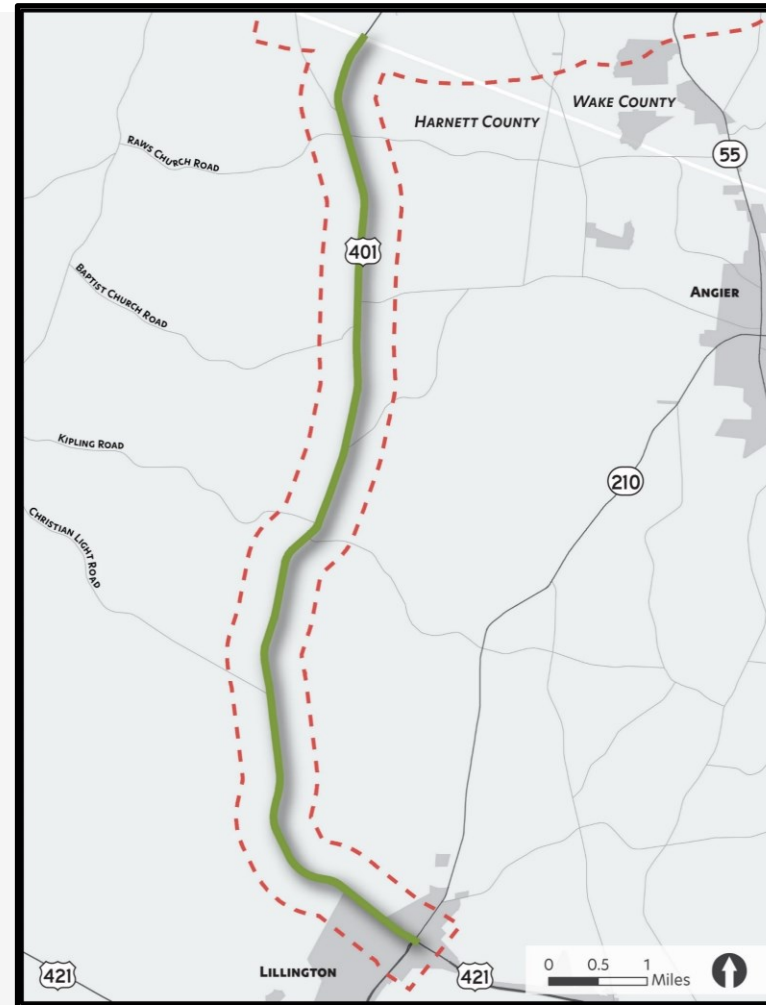


U.S. 401 in Harnett County

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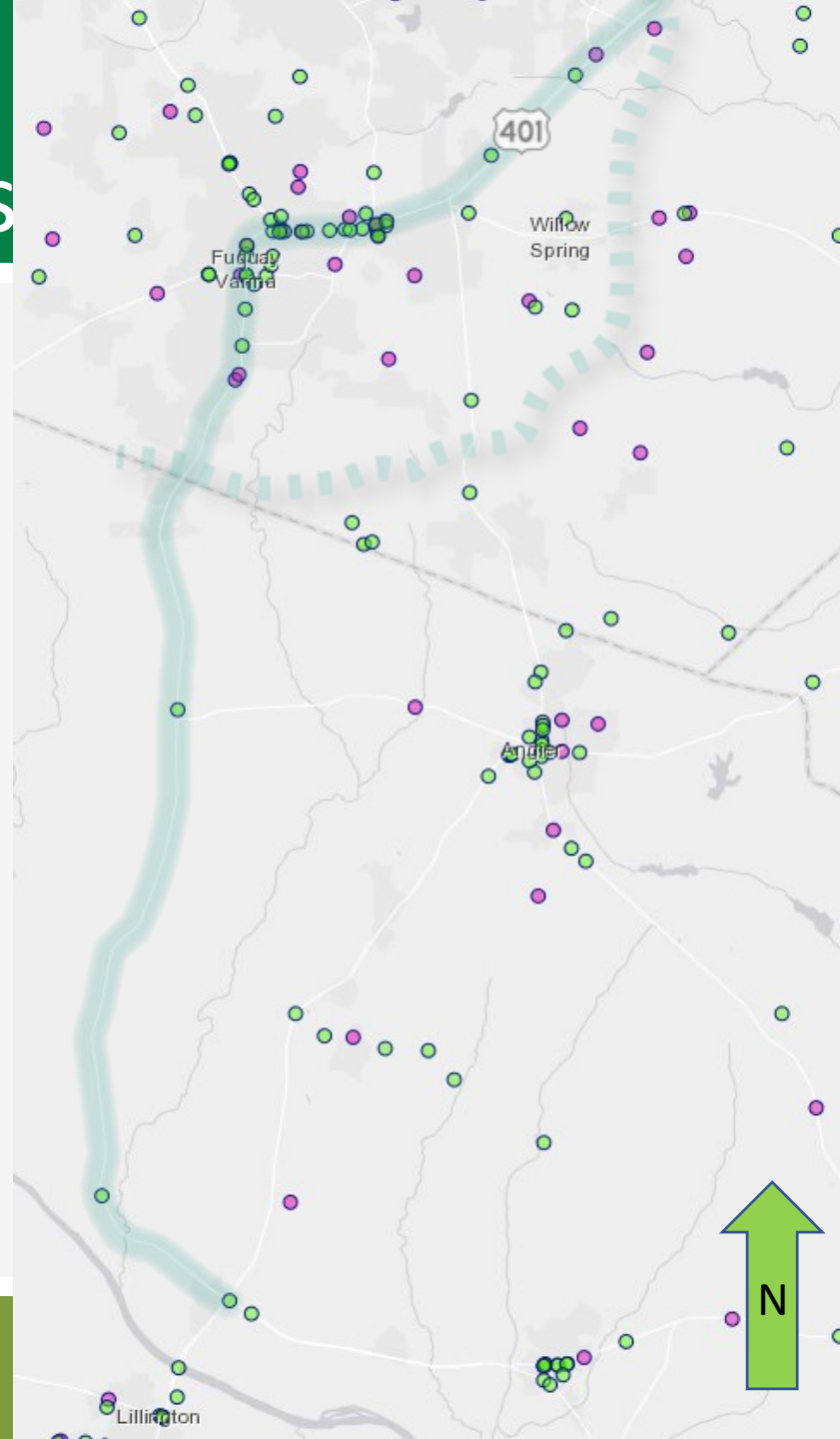


#US401CorridorStudy

U.S. 401 in Harnett County Bicyclist-Pedestrian Crashes

Total Crashes between 2007 and 2020

Intersection	Pedestrian
East Williams Street area	1
Morgan Farm area	3
NC 210 Area	2



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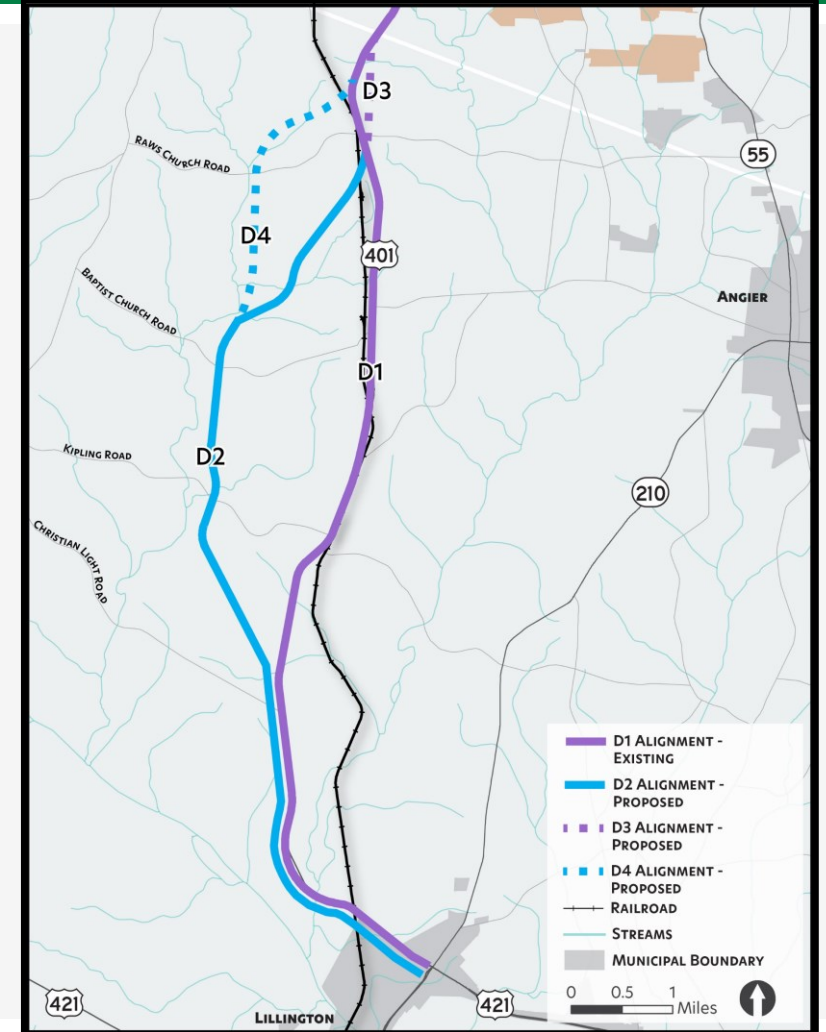
U.S. 401 in Harnett County

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- **Widen to a 4-lane road** with a multi-use path on one or both sides to accommodate future traffic projections.
- **Realignment** around high growth neighborhoods in northern Harnett county.
- **Improved intersections at**
 - Piney-Grove Rawls Road
 - Chalybeate Road
 - Chalybeate Springs Road
 - Rawls Church Road



U.S. 401 in Harnett County - Developments

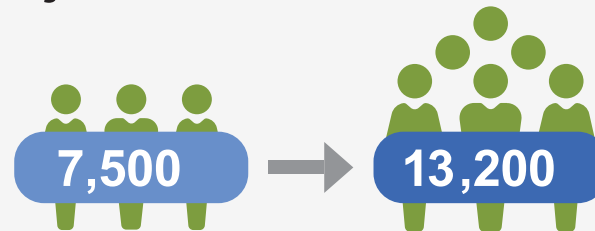
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Several new developments along U.S. 401 and along Kipling Rd and Harnett Central Rd.

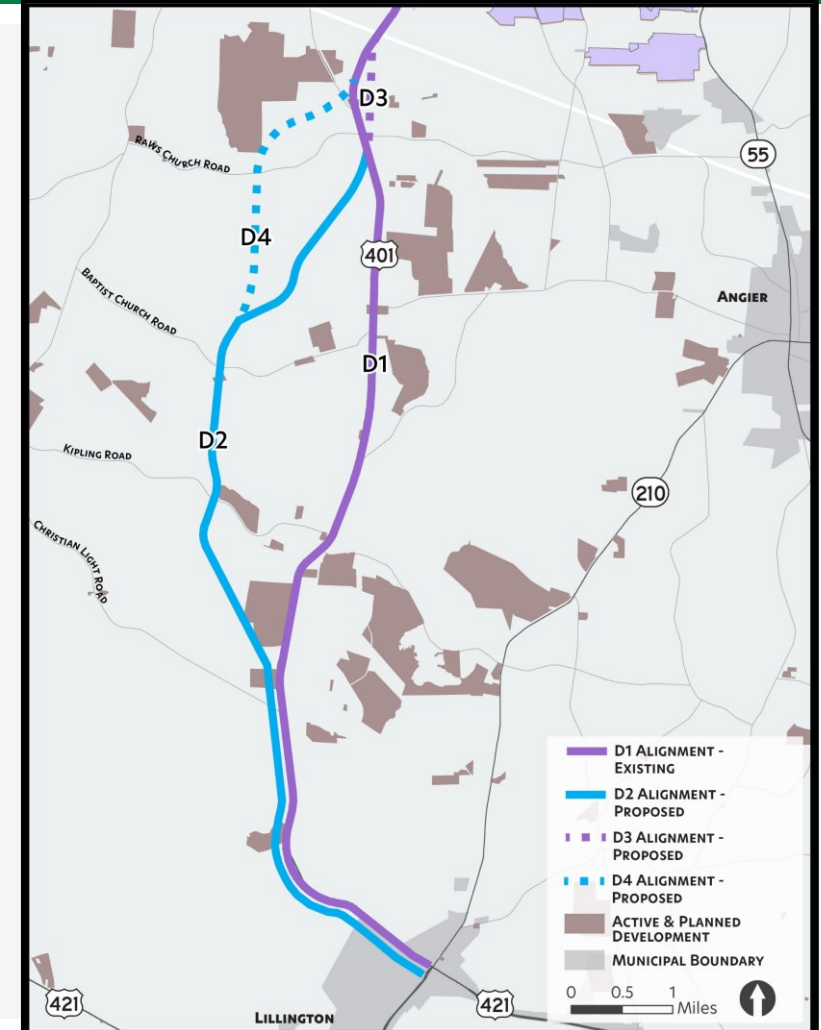
By 2045, population is projected to increase:



and employment is projected to increase:



Source: Triangle Regional Model v6.2



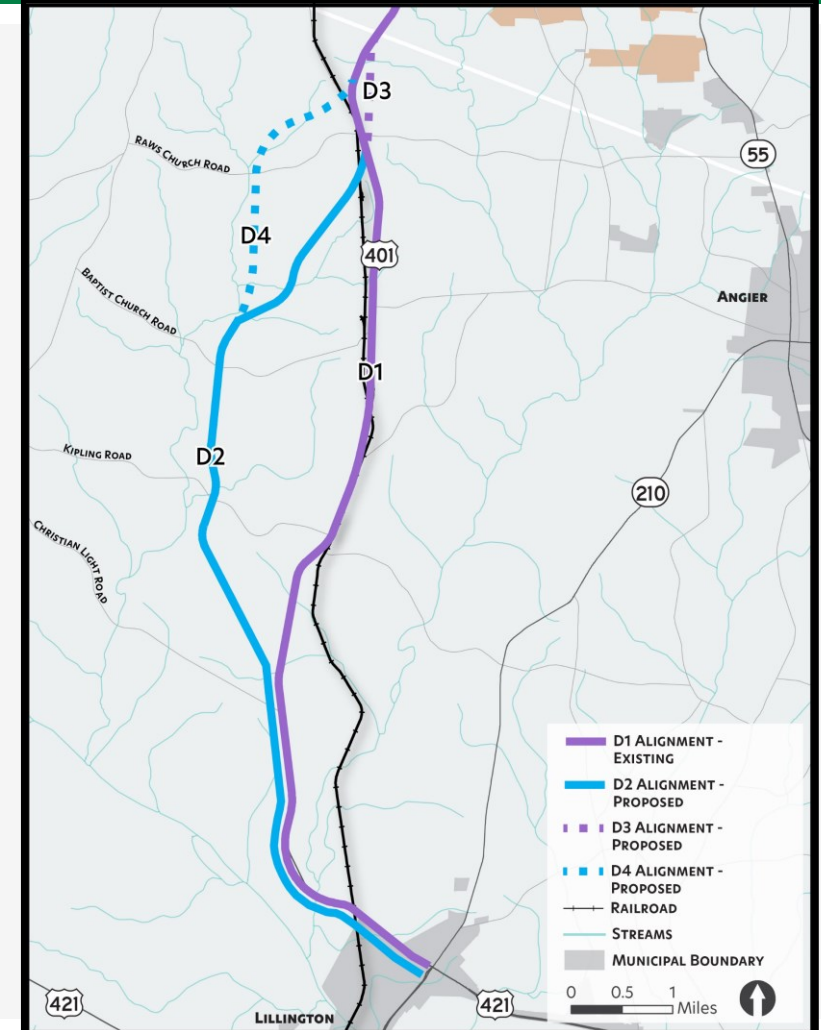
U.S. 401 in Harnett County - Tradeoffs

U.S. 401 CORRIDOR STUDY

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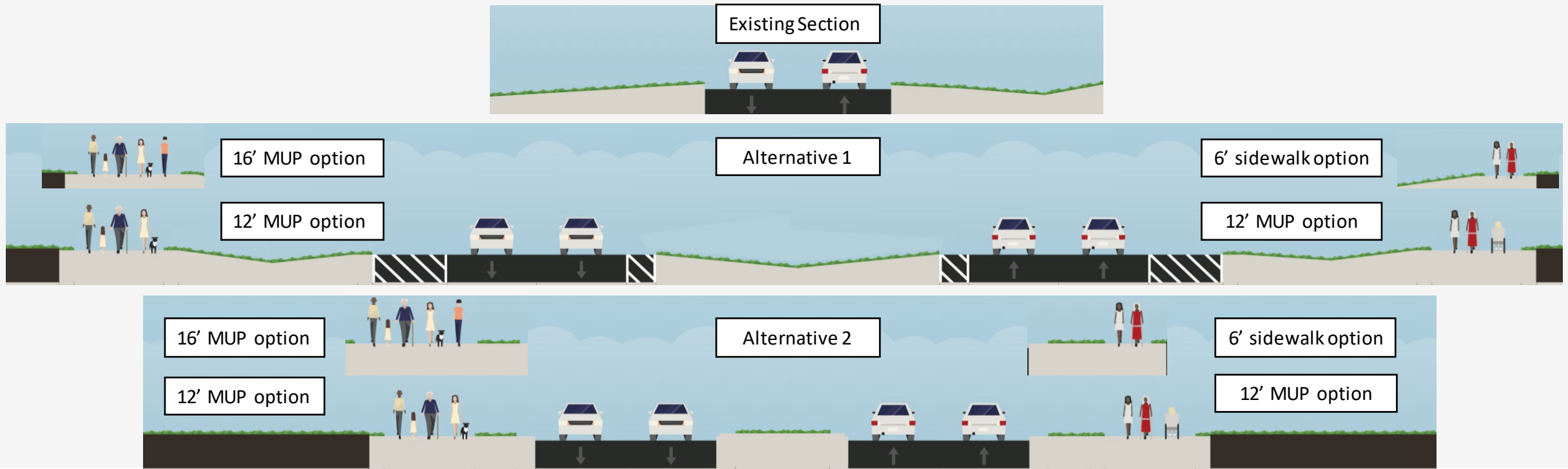


	← Least	→ Most
Properties Impacted	D2, D4	D1, D3
Agricultural Land Impacted	D1, D3	D2, D4
Environmental Impacts	D1, D3	D2, D4
Project Cost	D2, D4	D1, D3

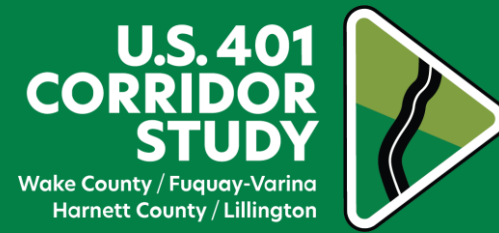


U.S. 401 in Harnett County – Widening Concepts

- **Alternative 1:** Use “Clear Zones” (a wide protect buffer) and a ditch median
- **Alternative 2:** Use a paved median with curb and gutter to reduce right-of-way



U.S. 401 in Harnett County - Railroad Recommendations



- Redesign the railroad crossings along U.S. 401 and other roadways in the study area to accommodate future widening anticipated due to growth in the area.
 - Install Signal Flashing Cantilevers
 - Relocate and add crossing gates to cover the wider typical section
 - Relocate signal bungalows as needed
 - In cases where there is no concrete median, guardrail can be considered as a barrier to prevent vehicles from driving around the crossing gates
- With the proposed widening along U.S. 401, there are horizontal sight distance and roadway curvature concerns at railroad crossing near Matthews Rd
 - Installation of Signal Flashing Cantilevers could provide a better sight distance at this location.
- Access to Lafayette School Rd across the railroad may become more unsafe once U.S. 401 is widened due to its proximity to the intersection
 - Close the at-grade crossing at Lafayette School Rd
- Chalybeate Rd across the railroad may become more unsafe once U.S. 401 is widened due to the intersection's skewed angle as well as proximity
 - Close the at-grade crossing at Chalybeate Rd (Southern End)
- Railroad crossing at northern end of Chalybeate Rd has sight distance concerns for vehicles turning from U.S. 401
 - Install additional W10-1 warnings sign and supplemental beacon

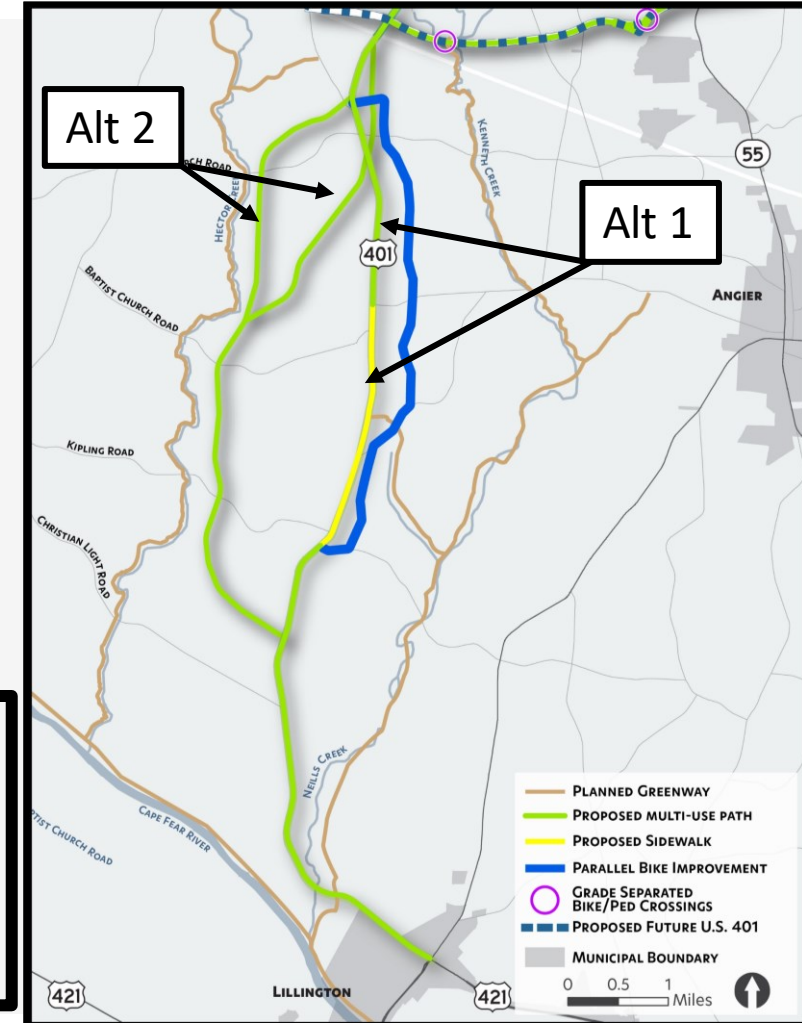


Segment 3 - Bicycle-Pedestrian



- Alt 1: Multi-use Path facility along most of U.S. 401, Sidewalk through constrained areas
- Alt 2: Multi-use Path facility along a new location section of U.S. 401 (multiple alternative alignments)

Either alternative could potentially be paired with connections to planned greenways along Neill's Creek and/or Hector Creek and/or parallel bike improvements



Public Engagement Activities



Survey Period from August 31
until October 3

Online or Paper Versions



Website with all Public
Engagement Phase 2 Materials
Available

US401CorridorStudy.com



Take the Survey!



Complete online at
www.publicinput.com/401corridor



Text keyword
"US401Corridor"
To 73224



Request a paper survey
and return by mail

Take the survey by October 3, 2021!

¿Habla español? ¡La encuesta está disponible en español!



Q&A Session

Contact Us



US401CorridorStudy@publicinput.com



Thank you!

