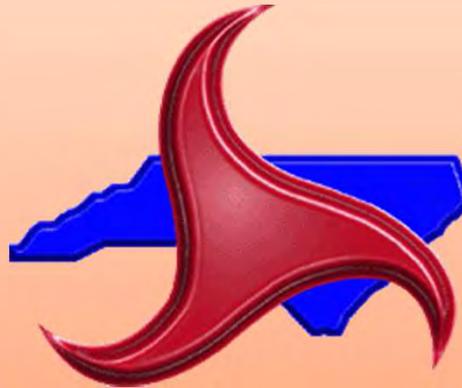


# **PROPOSED US 301 BYPASS IMPROVEMENTS**

**Rocky Mount, Nash County**

**TIP Project No. U-3330**

**WBS No. 36596.1.1.1**



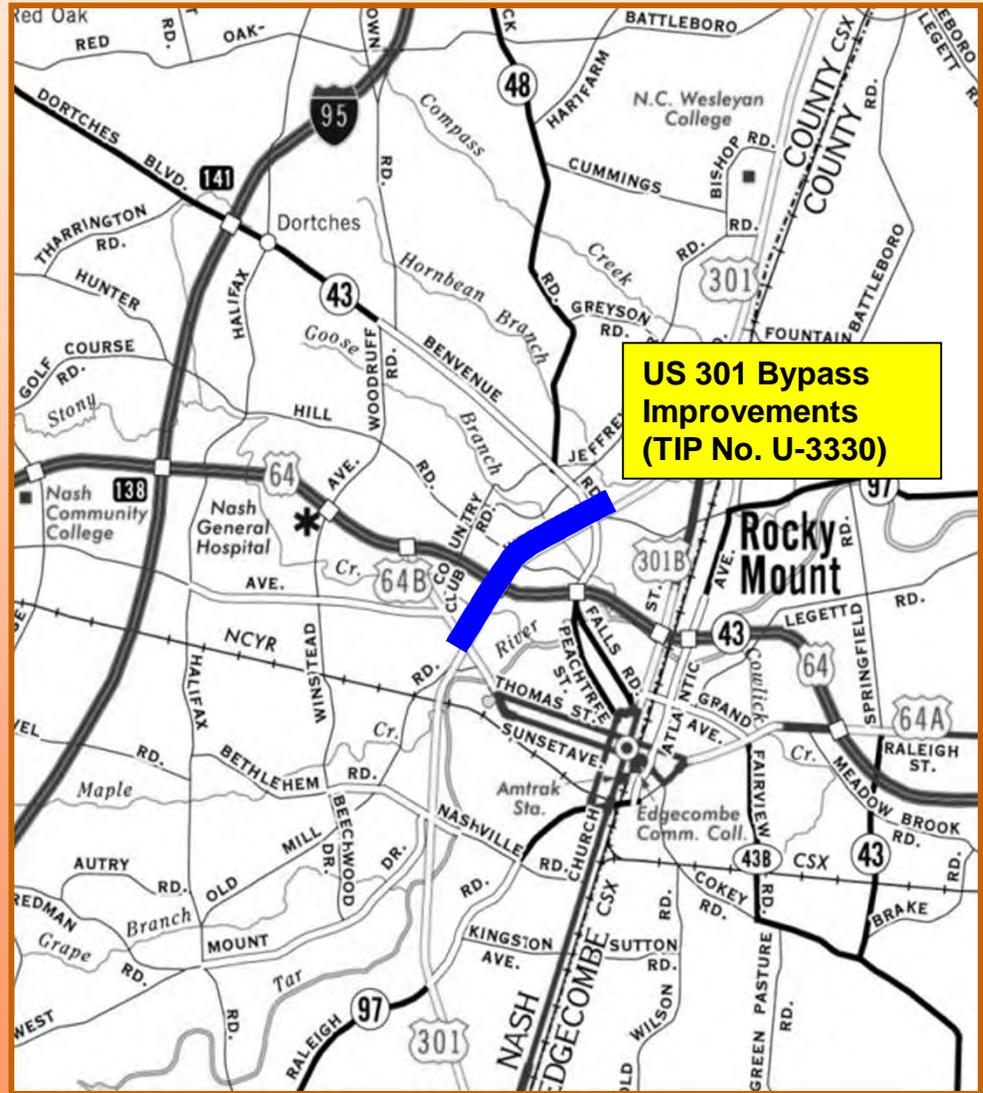
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**

**Public Hearing**

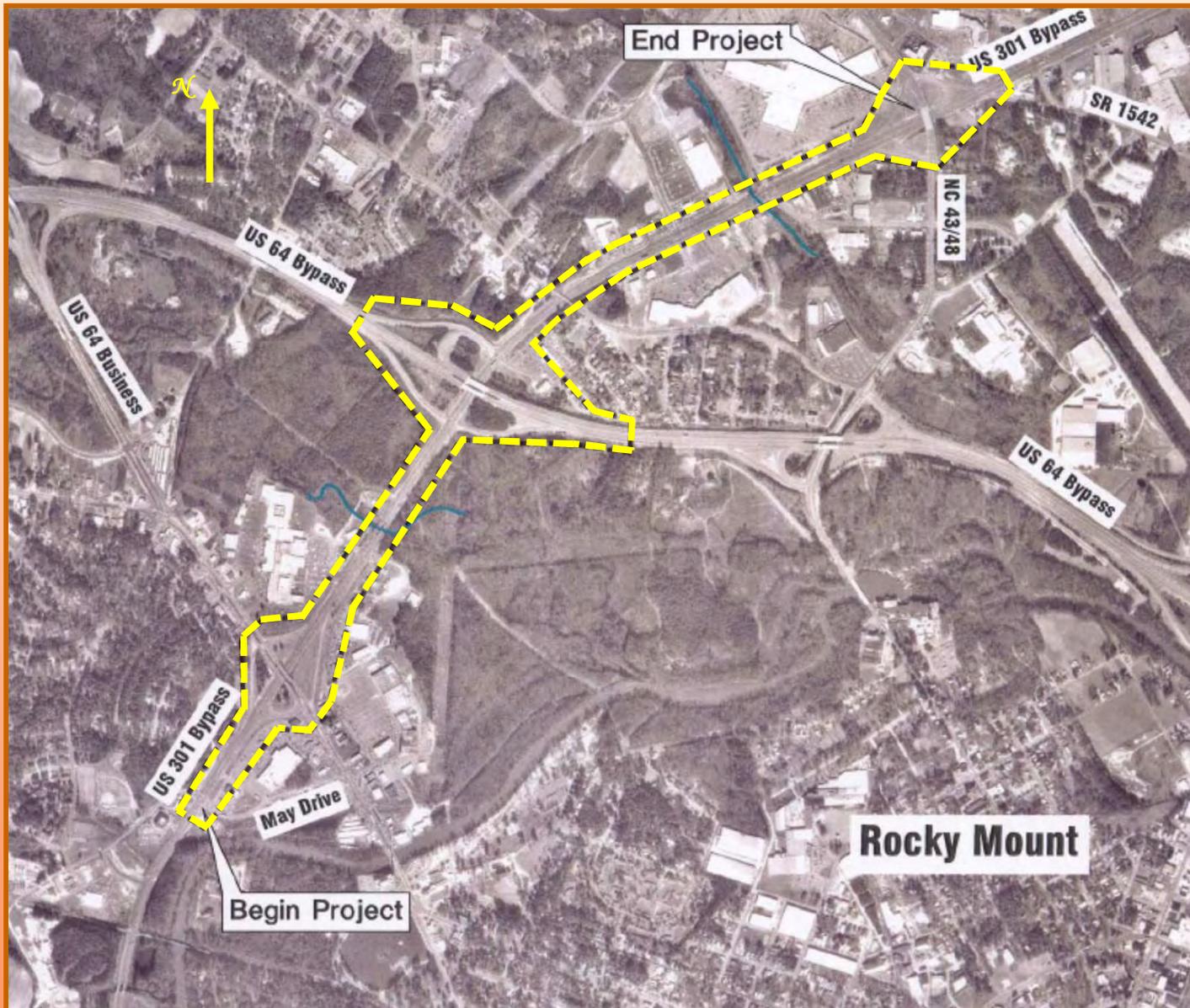
**June 17, 2010**

# Project Description

- Improvements to US 301 Bypass from just south of SR 1836 (May Drive) to NC 43/48 (Benvenue Road)
- Approximately 2.3 miles
- Purpose of project is to increase capacity and improve travel and safety along the facility
- The proposed improvements includes widening the existing multi-lane roadway to provide six through lanes
- US 301 Bypass is part of the NC Strategic Highway Corridors Program and is designated as an Expressway



# Study Area



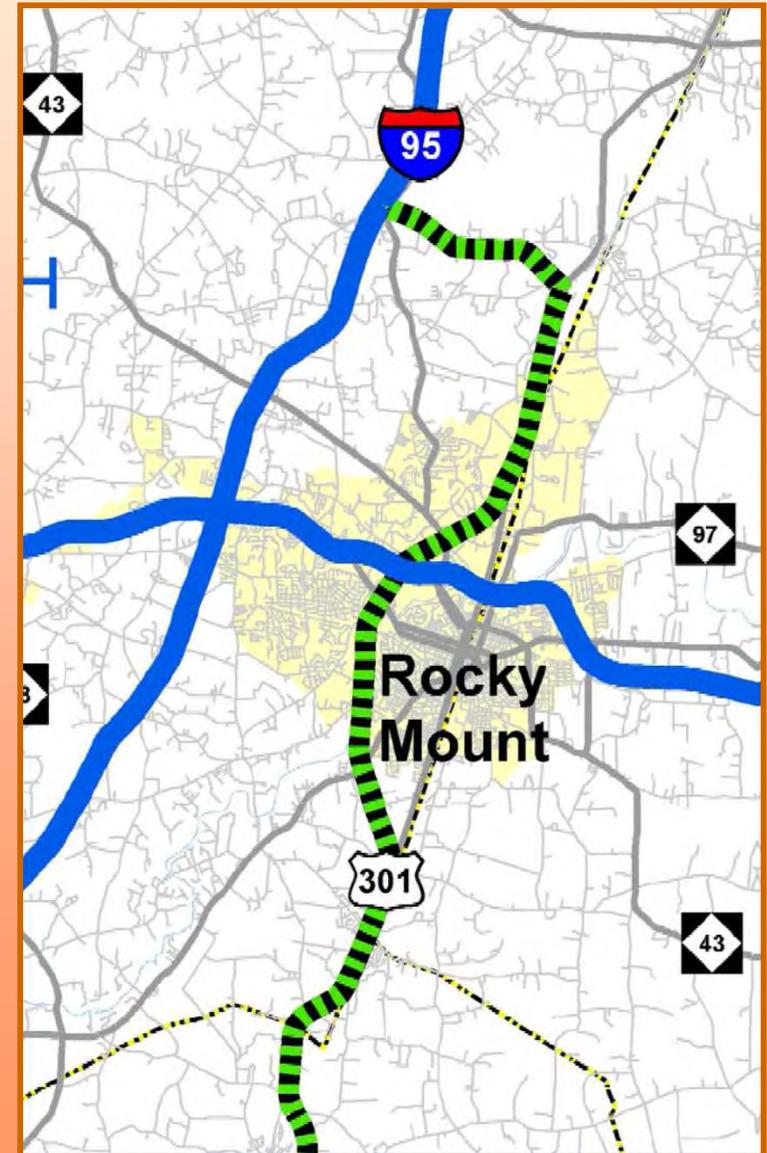
# Strategic Highway Corridors

- Joint effort between NCDOT, Dept. of Commerce, and Dept. of Environment and Natural Resources
- Establishes a “vision” for 5,400 miles of highway along 55 corridors throughout the state
- Primary purpose: “to provide a network of high-speed, safe, reliable highways throughout North Carolina”



# Strategic Highway Corridors in the Rocky Mount Area

- I-95 from Florence, SC to Petersburg, VA (Corridor 48)
- I-95: Freeway
- US 301: Expressway

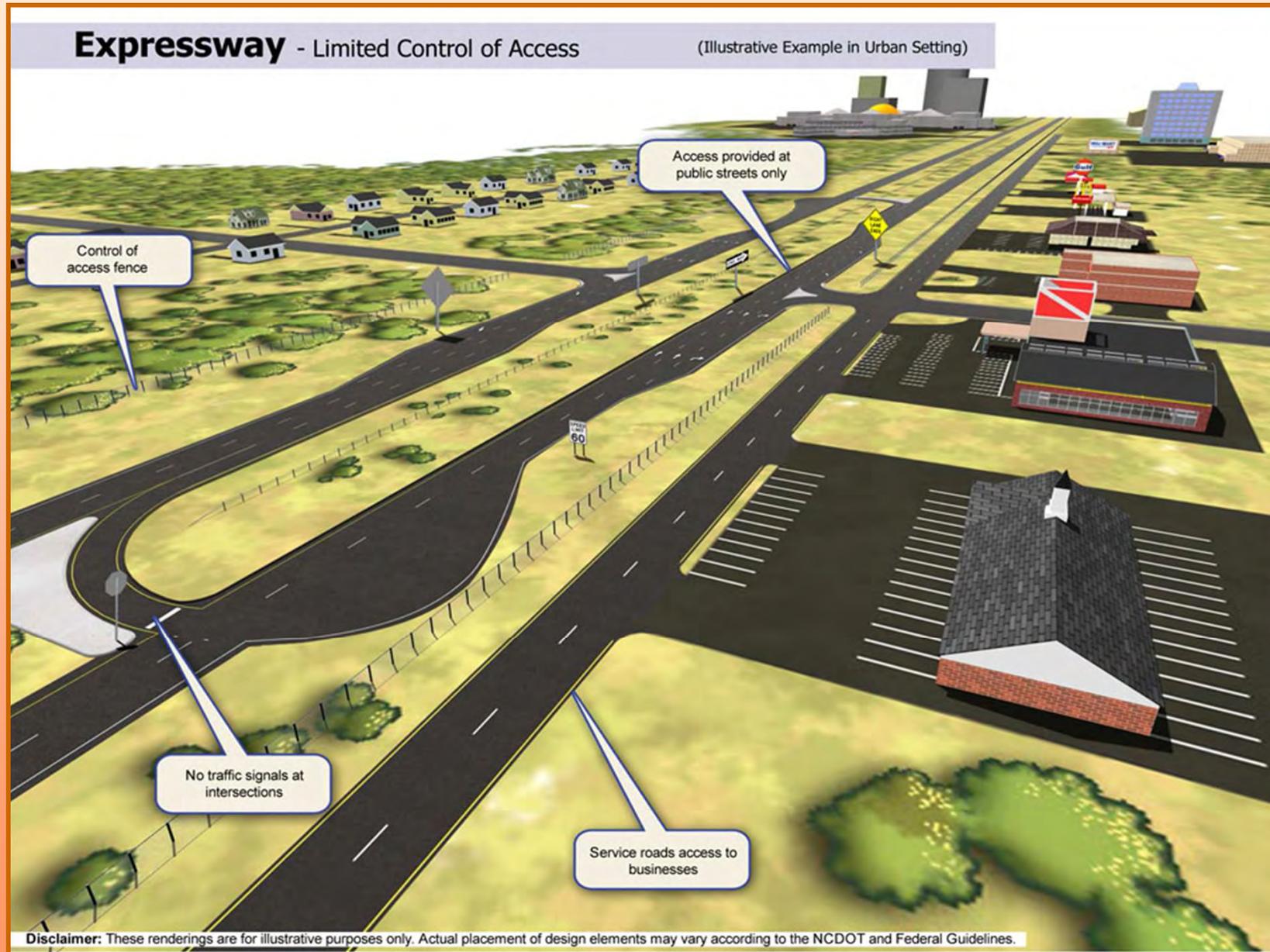


# US 301 Bypass is Designated as an Expressway –

## *What Does This Mean?*

- **Traffic Service:** High mobility, low to moderate access from side streets
- **Posted Speed:** 45 to 60 mph
- **Control of Access:** No driveways or a limit of one driveway per parcel adjacent to US 301
- **Traffic Signals:** Discouraged

# Vision of an “Expressway”



# Proposed US 301 Bypass Improvements

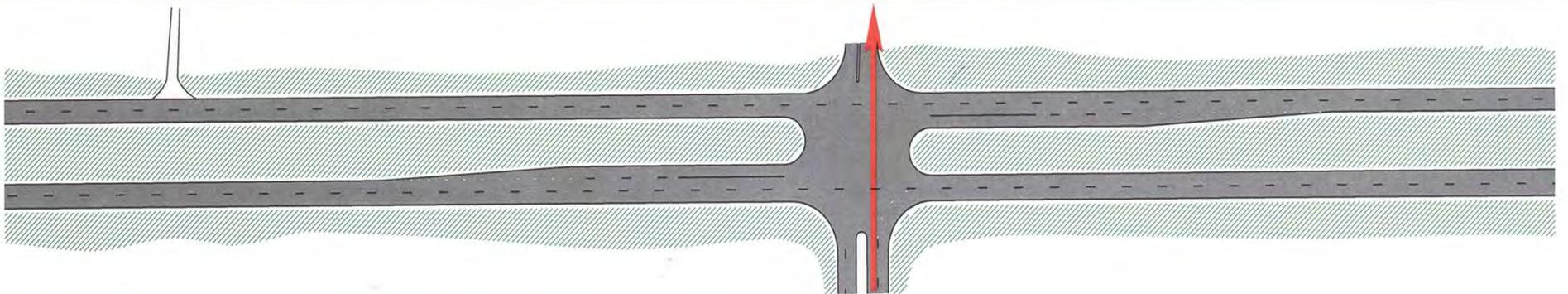
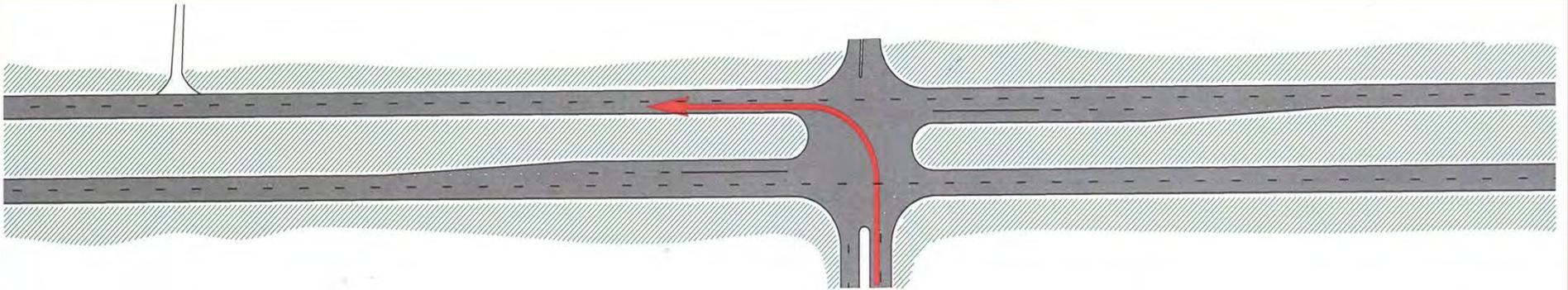
## Alternative A

- This is a typical design that widens existing 301 Bypass from a 4-lane facility to a 6-lane facility, by adding an outside travel (through) lane in both directions.
- Existing intersections are improved by adding appropriate turn and storage lanes, and then adjusting signal phasing and timing (green time for each turning movement).

# Alternative A

## “Conventional” Intersections

Intersecting side streets can directly cross the median to turn left or to go straight through... however this design provides less green time to vehicles wishing to travel along US 301 Bypass.



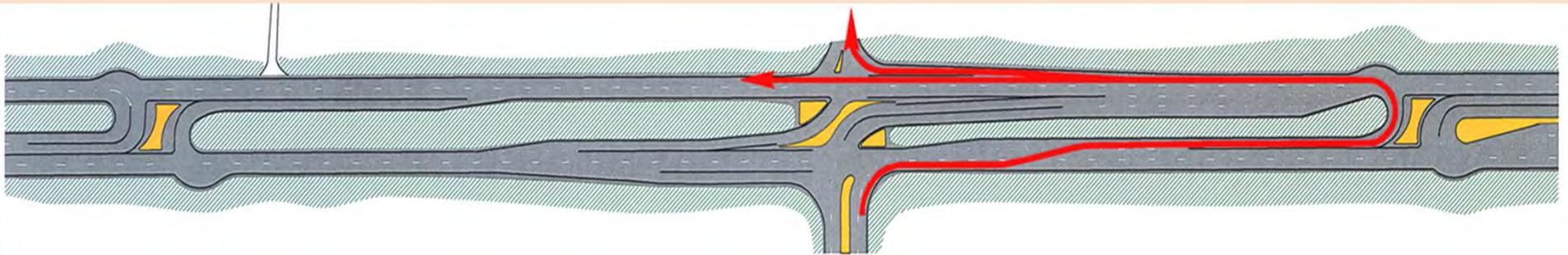
# Proposed US 301 Bypass Improvements

## Alternative B

- This design also widens existing 301 Bypass from a 4-lane facility to a 6-lane facility, by adding an outside travel (through) lane in both directions.
- The design then modifies “breaks” in the highway median such that left turns and through-movements from side streets are directed to their desired destination by way of a right turn, followed by a U-turn at a designated median opening approximately 800 feet away (See next slide for a picture).
- This alternative is more consistent with the Strategic Corridor Expressway Designation for US 301 Bypass.

# Alternative B

## Modified Intersections That Use Median U-Turns



- A type of intersection in which minor cross-street traffic is prohibited from going straight through or left at a divided highway intersection.
- Traffic must turn right, but can then access a protected U-turn to proceed in the desired direction.

\*Other configurations are possible based on site specific conditions.

# Benefits of Median U-Turns

- Improves safety by reducing potential conflict points at intersections
- Time savings – will reduce the number of stops and delays to travelers on US 301 Bypass
- Increased capacity and improved traffic flow – more green time can be provided at signals because the intersection has fewer conflicting traffic movements
- Improved access management

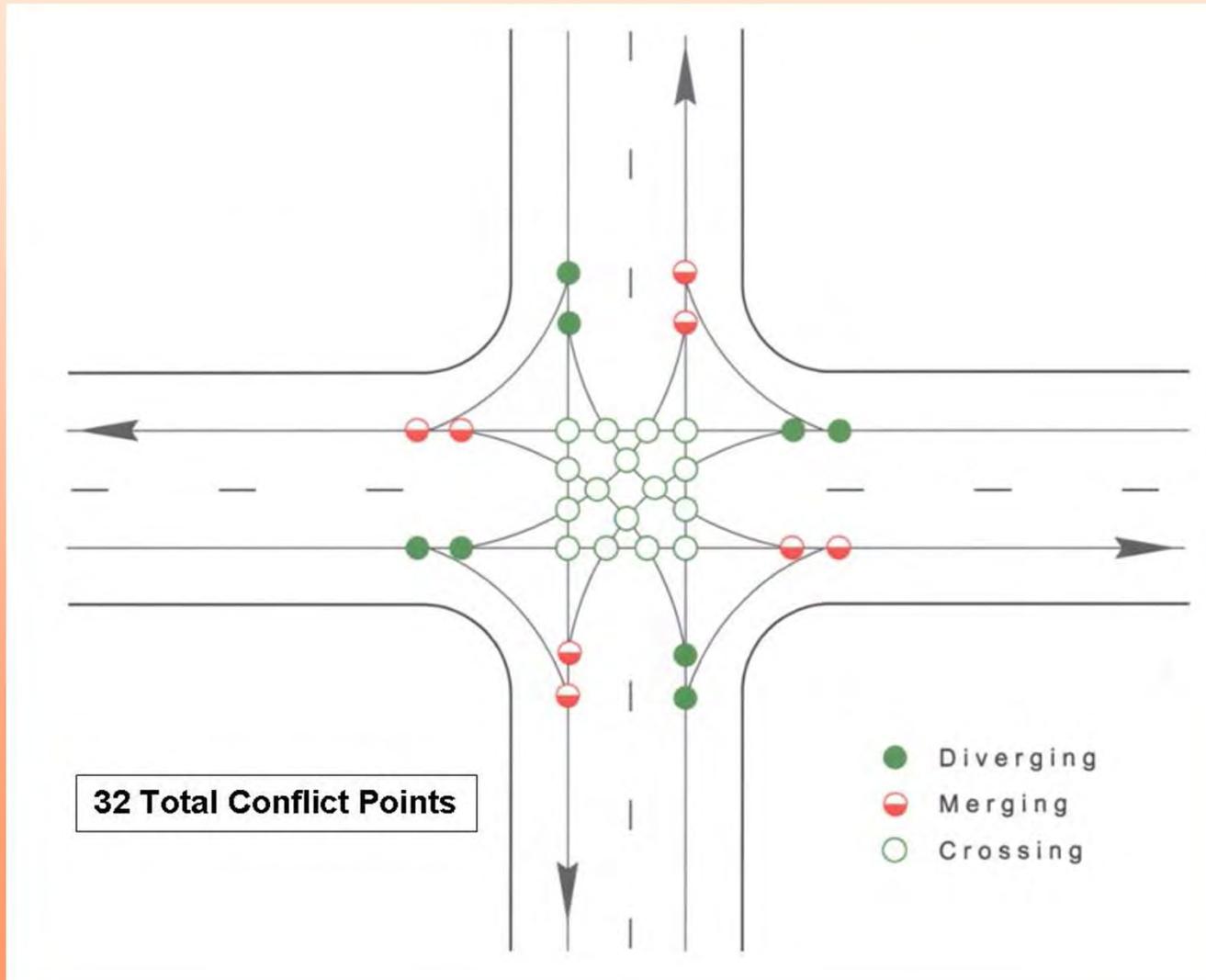
**One of our stations today shows a video that simulates the travel experience on a highway that uses Median U-Turns.**

**Many people wonder:**

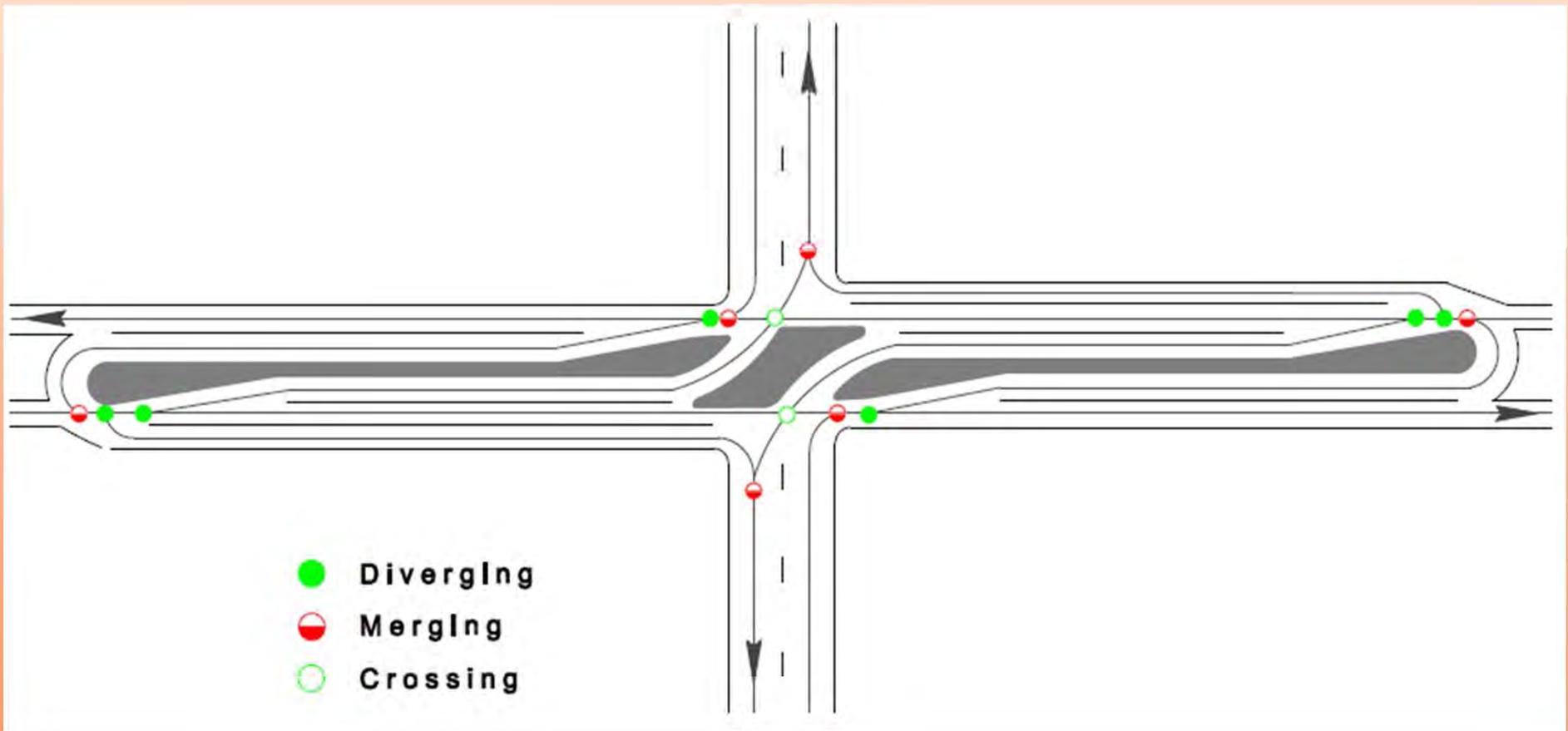
**“Yes – I see the advantage of a Median U-Turn for those traveling through the highway section. But what about those of us wanting to cross the highway or make a left turn?**

**Please visit our poster board displays and ask about the actual “inconvenience time” projections. You may be surprised.**

# Conventional Intersection Conflict Points That Cause Accidents



# Median U-Turns – Potential Conflict Points



# **Total Intersection Conflict Points**

**Conventional Intersection – 32**

**Superstreet Intersection – 14**

# More Green Time

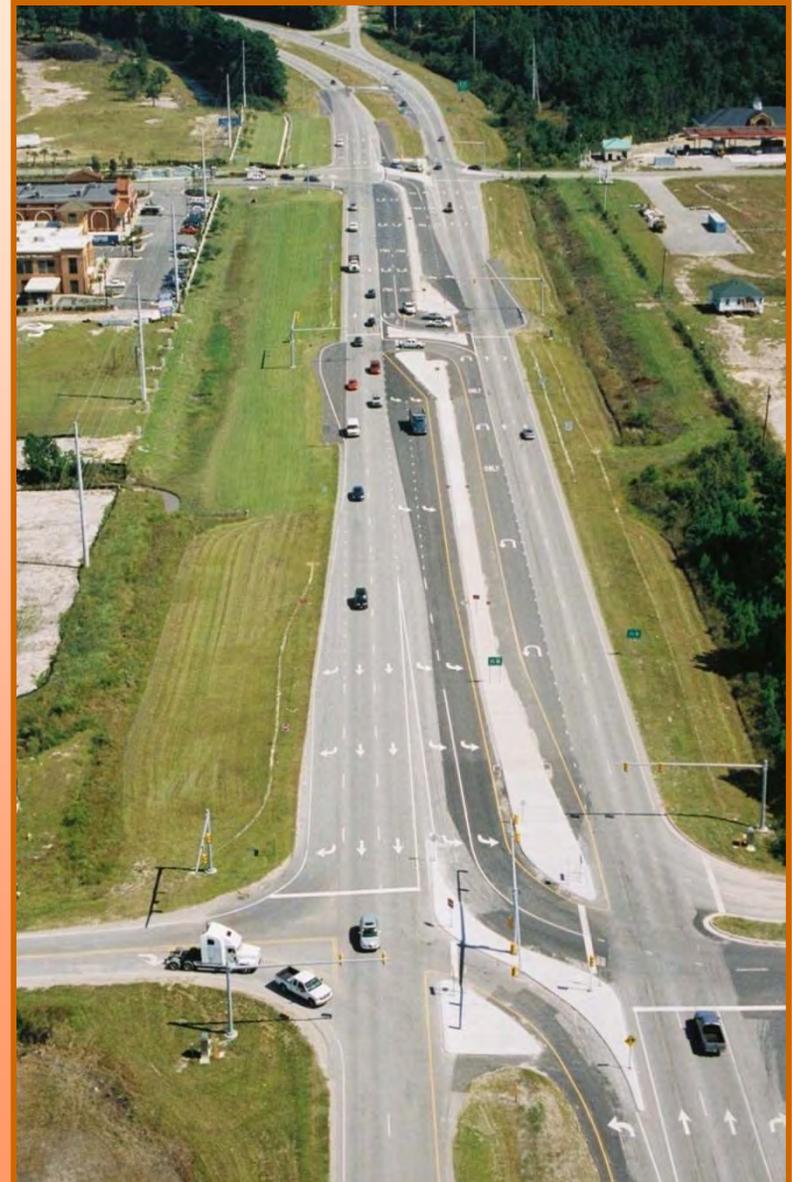
- **A Median U-Turn design has only 2 conflicting movements (as opposed to the normal intersection that has 8), so the signal cycle only uses 2 “phases.”**
- **Thus, significantly more green time is available for sharing between “through movements” on US 301 Bypass and “turning movements” from side streets.**

# Median U-Turns in North Carolina

- US 15/501 in Chapel Hill, Orange County
- US 17 in Pender and New Hanover Counties
- US 17 in Leland, Brunswick County
- US 1, Vass Bypass in Moore County
- US 23-74 in Haywood County
- NC 87 in Elizabethtown, Bladen County

**Examples of Existing Highways  
with Median U-Turns  
in North Carolina**

# Median U-Turns in Leland, NC



# US-17 in Wilmington, NC



# U-Turns are Designed to Handle Large Trucks



# Chapel Hill, NC

## Pedestrian Accommodations

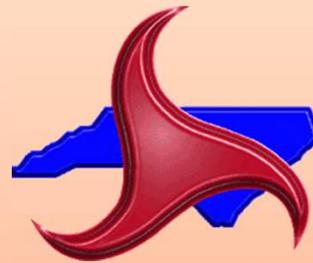


# **Today, we are asking for YOUR opinion:**

**Do you wish for US 301 Bypass to be widened in the “conventional” manner, or do you like the design that uses Median U-Turns?**

**Please visit our stations to learn more and ask questions – on any aspect of the proposed recommendations.**

**Forms are available so you can provide comments (on any subject) that will be considered prior to a final decision.**



**Thank You!**