

US 301: SECTION 2, LEVELS ROAD TO E. OF NSSR

301 US 301 Project Development

Section 2:

US 301, Levels Road Extended to East of Norfolk Southern Railroad (NSRR), including:

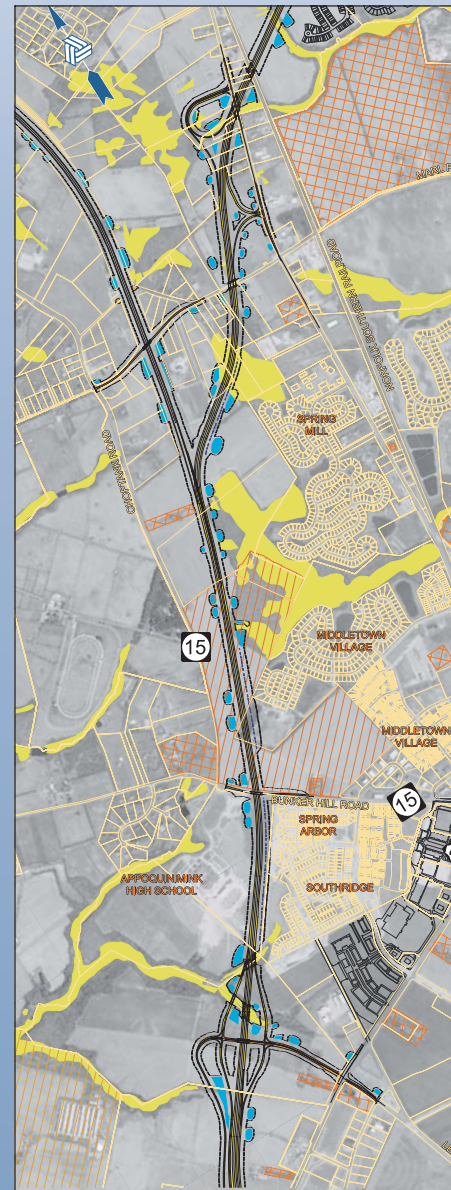
- 2 lanes in each direction
- Controlled Access
- 54 foot wide median*
- Bunker Hill Road Overpass of New US 301
- New US 301 Interchange with Spur Road (northbound US 301 to northbound Spur Road and southbound Spur Road to southbound US 301)
- New US 301 Interchange with Existing US 301
- Interchange ramps at Existing US 301 (to and from north only) to be tolled
- Improvements to Existing US 301 to accommodate New US 301 Interchange
- New US 301 Overpass of Existing US 301
- New US 301 Overpass of Norfolk Southern Railroad

* Median Width Reduced from 66 feet (ROD) to 54 feet

ROD Commitments:

- Visual earth berms at Southridge, Middletown Village and Springmill communities

See Impacts Matrix Handout for comparison of environmental impacts of FEIS/ROD Alternative and the "Potential Refinements".



NB US 301 Exit to NB Spur Road

FEIS/ROD Alternative: Provides left exit from northbound US 301 to northbound Spur Road

Advantages

- Minimal required right-of-way needed
- Somewhat further distance from the Springmill community east of US 301



Potential Refinement

Provides right exit ramp from Northbound US 301 to Northbound Spur Road

Advantages

- Improved operation and safety based on slower right lane speeds and driver expectations
- Simplifies advance signing by allowing safe placement adjacent to right shoulder
- Improved skew for ramp bridge over US 301, which simplifies design and construction
- Shorter 2-span structure over US 301, approximately 300' total bridge length for the right exit versus 700' for the left exit
- Reduces construction costs for bridge structure and retaining walls by \$5.25M versus the left exit configuration
- Retaining walls are not needed

Disadvantages

- Additional right-of-way needed
- Somewhat closer to the Springmill community, i.e. 1,600 for the right exit versus 1,700 for the left exit
- Increased wetland (7.61 vs. 7.31 acres) and forest impacts (6.04 vs. 5.41 acres)

See Impacts Matrix Handout for comparison of environmental impacts of FEIS/ROD Alternative and the "Potential Refinements".

NB US 301 Exit to NB Spur Road

FEIS/ROD Alternative: Partial Cloverleaf Option (Yellow)

Advantages

- Balances impacts to local community resources

Disadvantages

- Not traditional type interchange
- Wider bridge needed over Existing US 301 because of deceleration lane for loop ramp
- Additional turn lanes on Existing US 301 for access ramps and loops to New US 301
- Impacts on Midland Farms community
- Requires 2 additional signals to be placed on Existing US 301

Potential Refinement

Replace Proposed Partial Cloverleaf Interchange configuration at New US 301/Existing US 301 Interchange, north of Armstrong Corner Road with Diamond configuration with Roundabouts (Blue)

Advantages

- Provides single point access with Existing 301
- Minimizes wetland impacts (1.53 vs. 1.85 acres) along tax ditch to the west of proposed US 301
- Improves geometry of US 301 Bridge over Existing 301 the ramp gore is no longer on the bridge
- Provides tangent sections along on-and off-ramps to facilitate tolling operations
- Reduces Waters of the US impacts
- Separates ramp movements from Existing 301 Intersection

Disadvantages

- Impacts on Mid Farms community
- Reduces distance between New US 301 and Middletown Baptist Church
- Increases construction cost by \$1M

Roundabouts

Advantages

- Provides full movements, including u-turns (i.e. does not require turn bays)
- Can easily accommodate traffic if parcel west of interchange is developed (Potential DeIDOT Maintenance Facility / Park and Ride Facility)
- Typically reduces speeds and eliminates left turn and right angle conflicts, improving safety (less accidents, especially fatalities)
- Generally less expensive/more flexible for traffic growth
- More convenient for drivers during off-peak travel periods
- Will not require traffic signal maintenance (i.e. detection, timing plans)
- Separates ramp movements from Existing 301 Intersection

Disadvantages

- None identified

See Impacts Matrix Handout for comparison of environmental impacts of FEIS/ROD Alternative and the "Potential Refinements".

