

Project Information for Constructability Review

TN

**I-240 Interchange at Airways Boulevard
Grade, Drain, Pave, Bridge, Walls, Sign & Marking,
Signal, ITS, and Lighting
TDOT PIN 107913.00**

Region 4, Shelby County

TDOT Project Manager:

Benjamin Webb, P.E., PMP

Benjamin.Webb@tn.gov

731-747-5006

**Project
Description**

Project will be delivered as Design/Bid/Build. Right of Way acquisition is complete, and the project is planned to be Let to Construction in February 2027.

Scope Summary

Proposed improvements include the following to improve operations, safety, and modernization of the interchange.

- Remove the two existing I-240 bridges and replace with a single new 3-span concrete bridge with walled abutments
- Remove the existing southbound ramp bridge over Nonconnah Creek and replace with a new 3-span concrete bridge with open abutments
- Install a new 5-span steel flyover bridge with open abutments over I-240
- Install a new 3-span concrete bridge with open abutments over Airways Boulevard South
- Widen the existing Airways Boulevard 7-span concrete bridge over Nonconnah Creek
- Remove the existing southbound ramp bridge over Airways Boulevard South
- Install 5 retaining walls associated with the bridge installations (*Full Design provided*)
- Design and install 6 retaining walls along mainline and ramps (*Concept Design provided*)
- Design and install 2 noise walls along mainline and ramps (*Concept Design provided*)
- Remove the existing interchange loop ramps and replace with ramps in a SPUI configuration
- Install a new permanent traffic signal on Airways Boulevard at the SPUI
- Modify the existing traffic signal at Airways Boulevard and Ketchum to interconnect with the new traffic signal at the interchange
- Install two temporary traffic signals at the interchange ramps during construction
- Remove and fully replace street lighting and interchange lighting with high mast and offset
- Install an earthen noise berm on the north side of I-240
- Resurface Airways Boulevard through the project corridor
- Install closed storm drainage through the project corridor
- Install a multi-modal path between Democrat Road and Nonconnah Creek



Proposed Improvements

Challenges

The project location, proximity to the airport and major freight carriers, and existing interchange configuration are contributing factors in anticipated challenges.

- I-240 temporary closures for beam setting may be possible, but the facility has an exceptionally high traffic volume and clearing the queue may take additional time. It is expected that these types of activities would be limited to weekends.
- TDOT desires to maintain 2-lanes of I-240 traffic to the maximum extent possible.
- TDOT desires to maintain access to and from I-240 in both directions from Airways Boulevard throughout the project duration.

General Closure Elements

The contractor will be required to always maintain at least a two lanes along I-240 each direction throughout all phases of construction, and all ramp movements in all directions are to be maintained.

Temporary ramps are planned at Airways Boulevard, with a single short duration weekend closure with detours allowed for each ramp.

The traffic control plan consists of 6 main phases, each with multiple sub-phases. The overall scheme is as follows:

1. Phase 1
 - a. Construction of temporary shoulder and minor widening along I-240 Mainline
 - b. Construction of the Airways/Nonconnah Bridge widening (Bridge 3)
 - c. Construction of temporary ramps and traffic signals
2. Phase 2
 - a. Construction of temporary ramps and traffic signals
 - b. Demolition of existing ramps
3. Phase 3
 - a. Construction of the mainline I-240 Bridge (Bridge 1)
 - b. Construction of new mainline pavement for I-240 in existing median area
 - c. Demolition of existing ramps
4. Phase 4
 - a. Construction of Single Point Urban Interchange (SPUI) ramps
 - b. Construction of new traffic signal at SPUI
 - c. Demolition of existing I-240 mainline bridges
5. Phase 5
 - a. Construction of new Flyover Bridge (Bridge 2) and approaches
 - b. Construction of new Ramp Bridge over Airways South (Bridge 5)
 - c. Demolition of existing Nonconnah Ramp bridge
 - d. Construction of new Nonconnah Ramp Bridge (Bridge 4)
 - e. Construction of proposed ramps
 - f. Demolition of temporary traffic signals
6. Phase 6
 - a. Demolition of existing ramp bridge to Plough Boulevard
 - b. Construction of Airways South roadway
 - c. Construction of Plough Boulevard northbound roadway

1. Bridge Demolition and Construction
 - a. Do you have any concerns about the bridge demolition or construction over Nonconnah Creek? (*One partial demo and widening, one new structure, one full demo*)
 - b. Do you have any concerns related to foundation construction working room given the proposed traffic phasing?
 - c. The Department is considering different options for setting beams over live traffic, including using detours when possible or allowing temporary (30 minutes max.) closures followed by 30 minutes of traffic being open.
 - i. How long overall do you think it will take to set the mainline I-240 beams over Airways Boulevard (per beam)?
 - ii. How long overall do you think it will take to set the Ramp Flyover beams over Airways/Mainline I-240/SPUI Ramps (per beam)?
 - iii. How long overall do you think it will take to set the Ramp beams over Airways Boulevard South (per beam)?
2. Retaining Walls and Noise Walls
 - a. Do you anticipate any challenges with the construction of the proposed retaining walls and noise walls?
3. I-240 Temporary Ramp and Traffic Signal Construction
 - a. Do you see any challenges to the maintenance of ramp traffic during construction of the temporary ramps and signals?
 - b. Do the ramp closures and detours provide sufficient working room to complete the grade changes?
 - c. Are the weekend closures anticipated for construction of the temporary ramp connections sufficient?
4. Utilities
 - a. Do you foresee any challenges with proposed bridge construction and bridge widening over Nonconnah Creek with the proximity to the Jet Fuel, Crude Oil, and Natural Gas lines on the south bank?
5. Staging and Material Storage
 - a. Do you anticipate any staging or material storage issues with the project footprint?
6. Do you have any ideas for implementing innovation that may expedite the overall project completion, improve constructability, or reduce project cost that we may not have already discussed?



Existing Conditions – Facing West along I-240



Proposed Rendering – Facing West along I-240



Existing Conditions – Facing East along I-240



Proposed Rendering – Facing East along I-240



Existing Conditions – Facing North along Plough/Airways Boulevard



Proposed Rendering – Facing North along Plough/Airways Boulevard