

Candlers Mountain Road Bridge and Interchange Improvements at Lynchburg Expressway

Project: U000-118-311, B623, P101
UPC 119384



WELCOME

Amanda Cox, DBIA
VDOT Project Manager

**Candlers Mountain Road Bridge and Interchange Improvements
at Lynchburg Expressway**

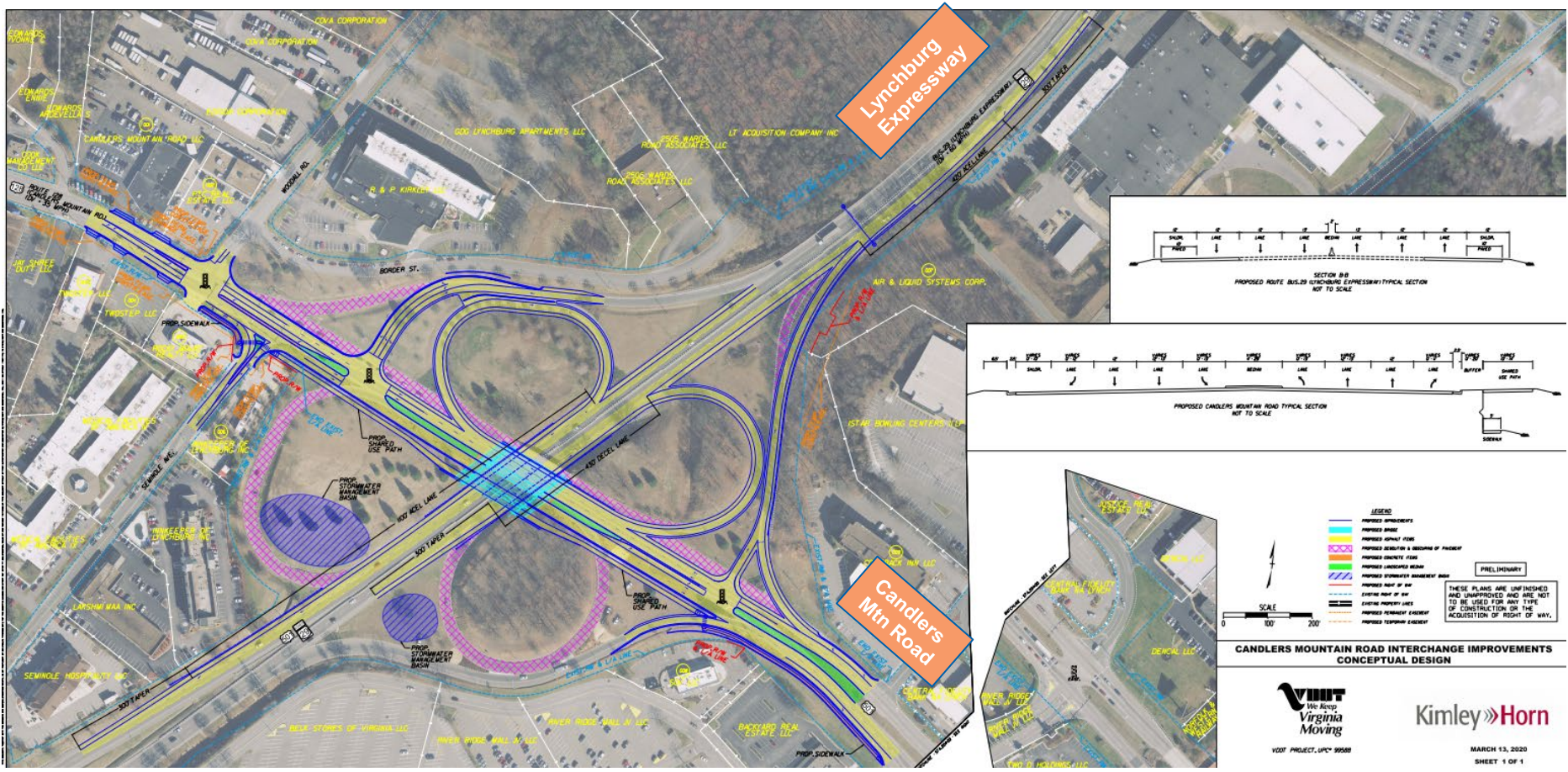
Agenda

- **Introduction**
- **Purpose of Stakeholder meeting**
- **Overview of SMART SCALE Concept**
- **Operational and Safety Analysis Report (OSAR)**
- **Review of preliminary design**
- **Project schedule and budget**

Purpose of Stakeholder Meeting

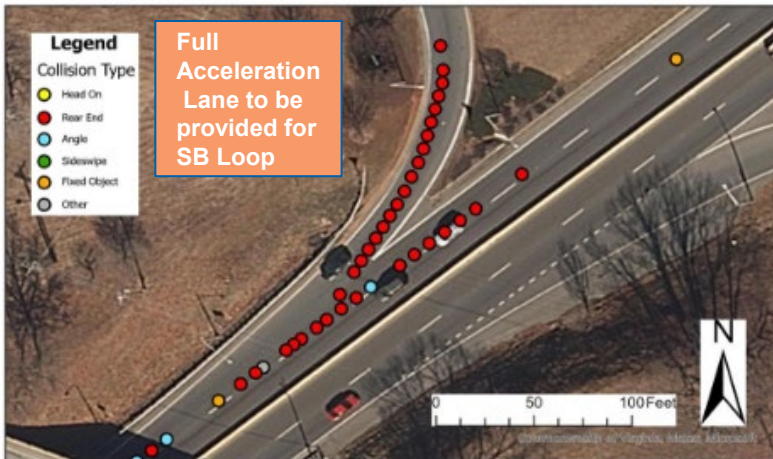
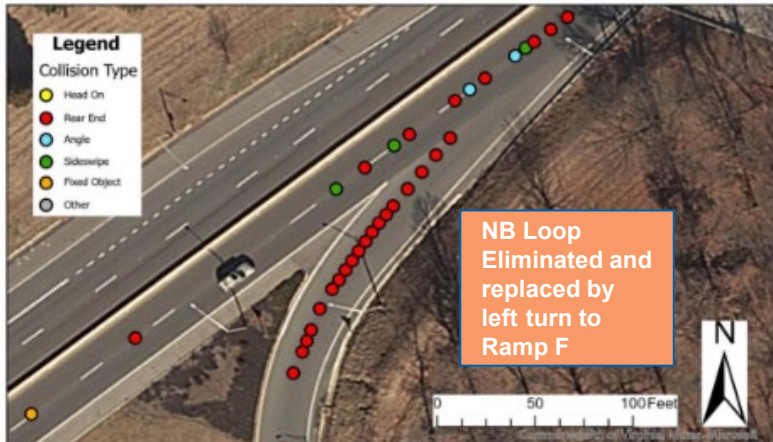
- **Provide information on the project's preliminary design efforts**
- **Confirm scope of SMART SCALE Project for the Candler's Mt. Rd. Interchange**
- **Engage Stakeholders in a discussion of:**
 - Roadway design elements
 - Bridge design features
 - Maintenance of Traffic
- **Obtain Stakeholder feedback regarding the preliminary design**

SMART SCALE 2020



Summary of Benefits of the Project

- Improved operations and safety of traffic merging onto the Lynchburg Expressway by providing acceleration and deceleration lanes for ramps and loops



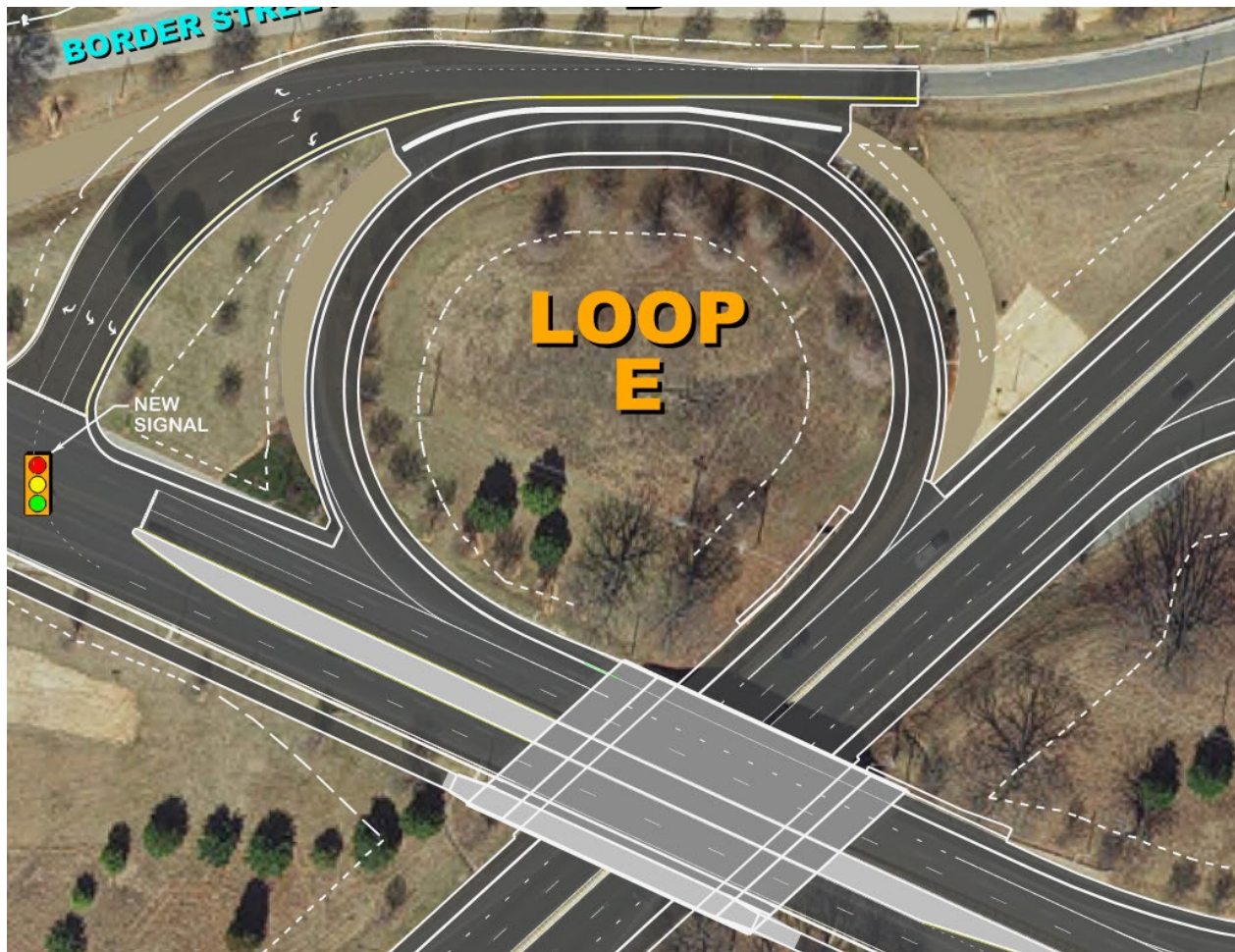
	2015	2016	2017	2018	2019	Total
Northbound Lynchburg Expressway						
Mainline	4	2	2	2	2	12
Weaving Segment	1	2	1	9	6	19
Merge Related	18	9	14	9	19	69
Diverge Related	2	1	1	0	5	9
Ramps	8	8	2	8	5	31
Total	33	22	20	28	37	140
Southbound Lynchburg Expressway						
Mainline	4	4	4	9	2	23
Weaving Segment	5	1	5	2	1	14
Merge Related	28	31	19	24	34	136
Diverge Related	5	0	2	1	5	13
Ramps	4	4	3	4	5	20
Total	46	40	33	40	47	206
Candlers Mountain Road						
Signalized Intersections	41	48	35	29	51	204
Unsignalized Intersections	6	1	3	0	0	10
Driveways	4	1	0	3	0	8
Total	51	50	38	32	51	222
Overall	130	112	91	100	135	568

Project Scope

- **Removal of two loop ramps allows for the extension of the acceleration / deceleration lanes on the Lynchburg Expressway to improve safety and traffic operations**
- **Raise the grade of Candler Mountain Road to increase vertical clearance over the Lynchburg Expressway**
- **Add two 2-phase signalized intersections at the new ramp terminals to maintain access for all existing traffic movements**
- **Modify access at Seminole Avenue to right-in / right-out and realign Ramp D to improve safety and traffic operations at the Woodall Road intersection**
- **Improvements to the existing traffic signal at Woodall Road**
- **Share-Use-Path Crossing over Lynchburg Expressway on south side of Candler Mountain Road connecting to proposed sidewalk**



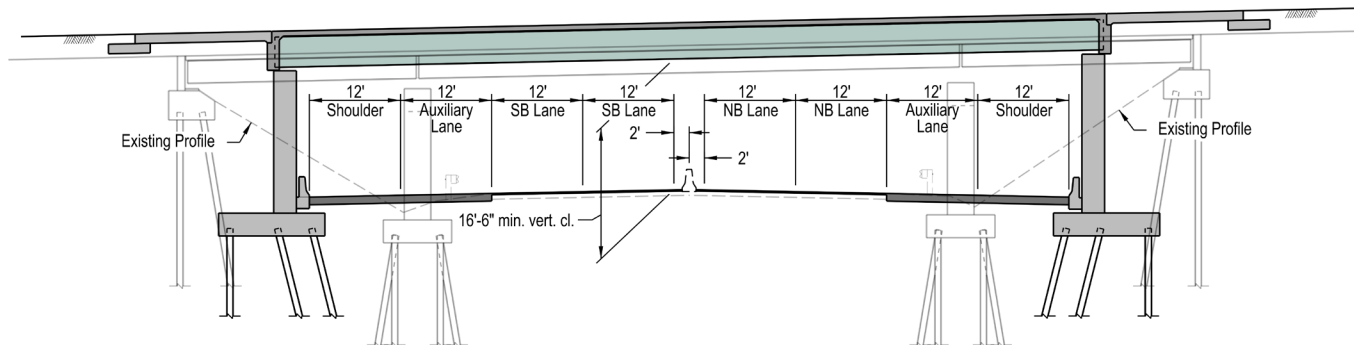
Loop E Enhancement / Features



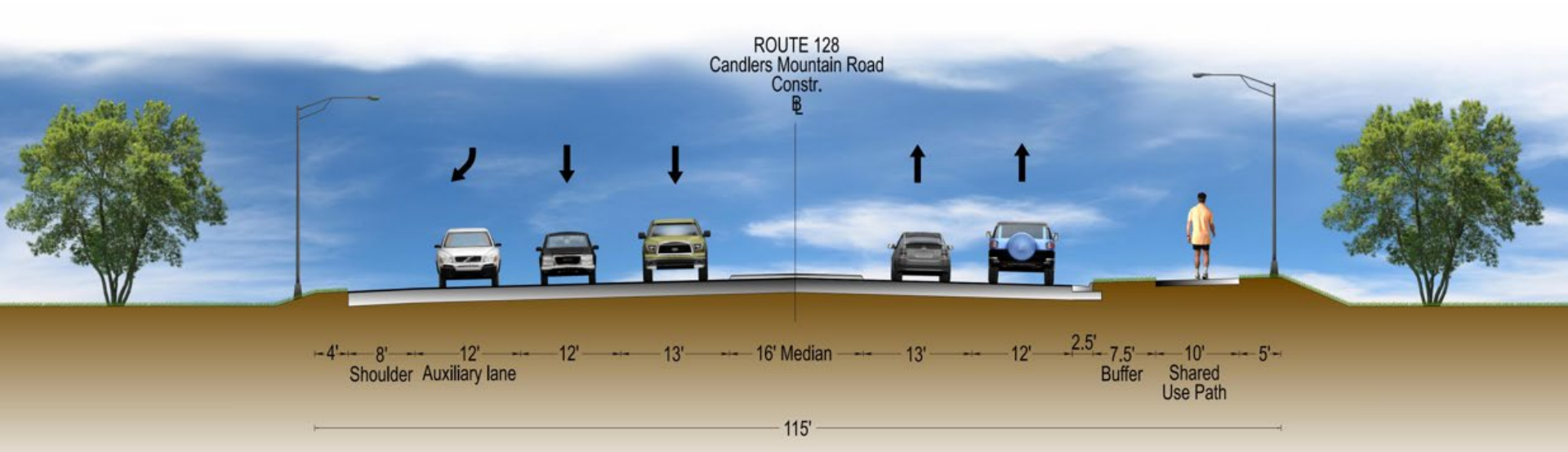
- Existing radius provided a 20-mph design speed
- Proposed radius provides a 25-mph design speed
- Location allows majority of loop to be constructed under traffic
- Total width of pavement has increased from ~20-ft to 30-ft

Summary of Benefits of the Project

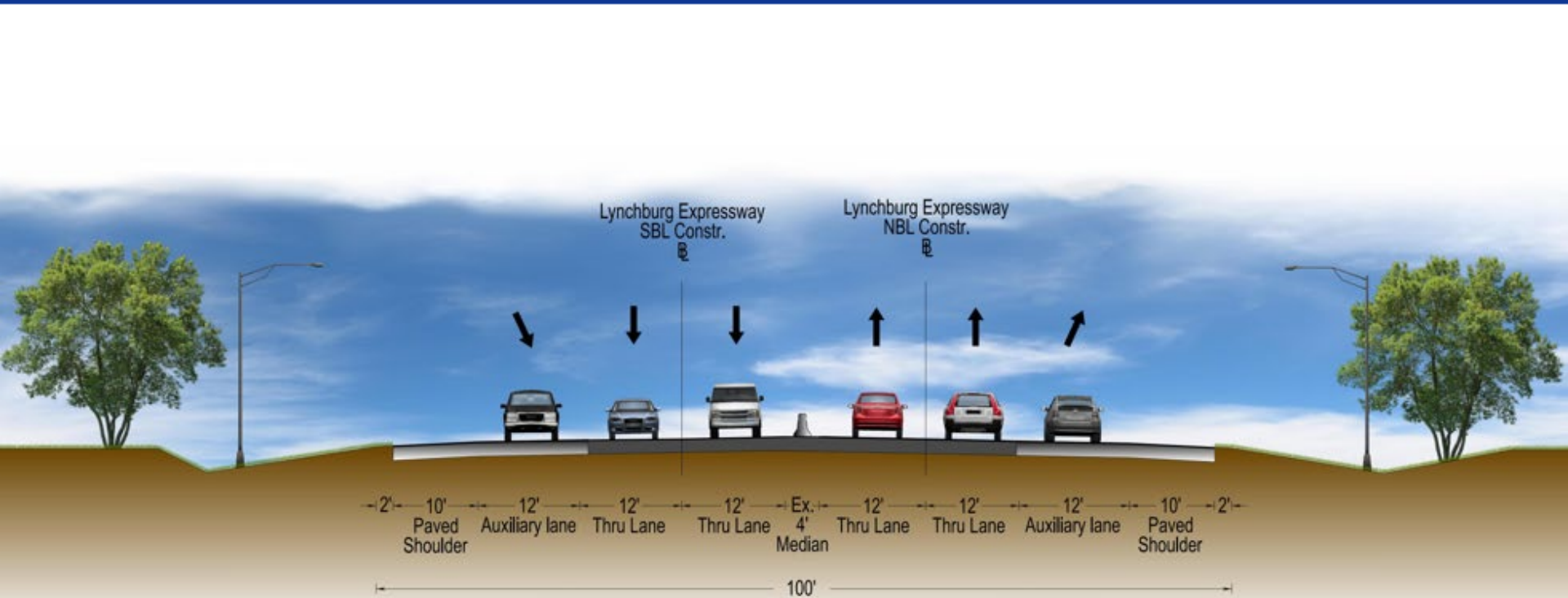
- Replacement of the Candler's Mt. Rd. bridge over the Lynchburg Expressway with increased horizontal and vertical clearance



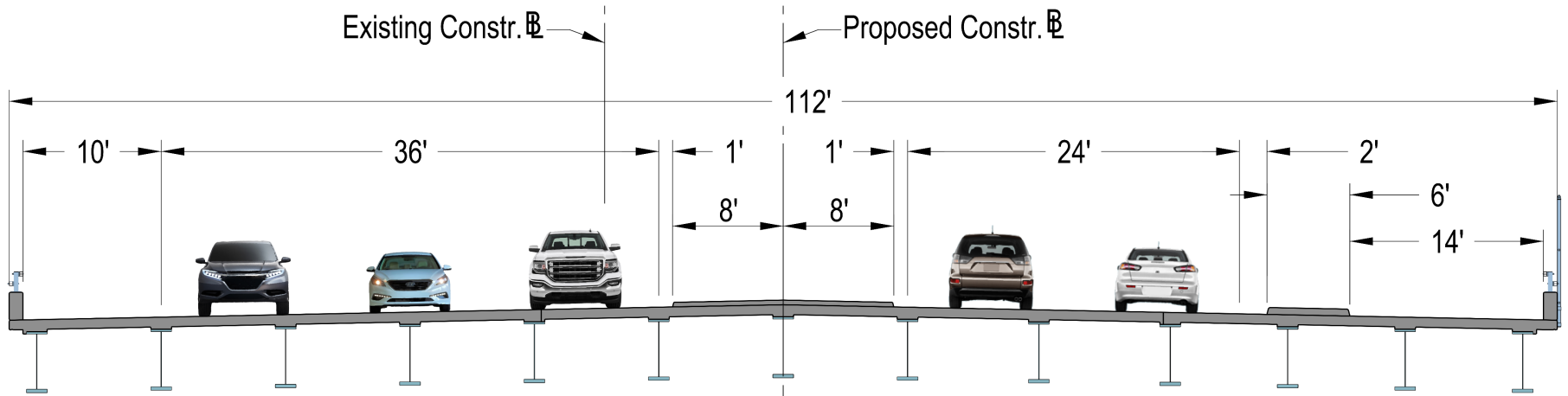
Candlers Mountain Road Typical



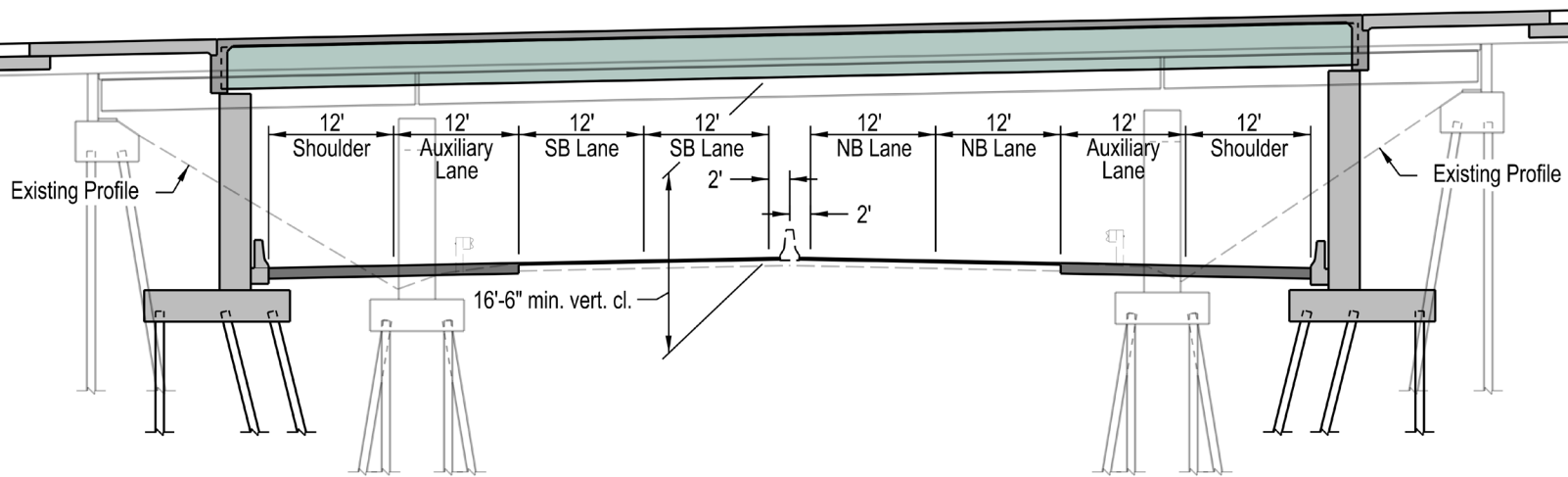
Lynchburg Expressway Typical



Bridge Typical Section



Bridge Elevation View







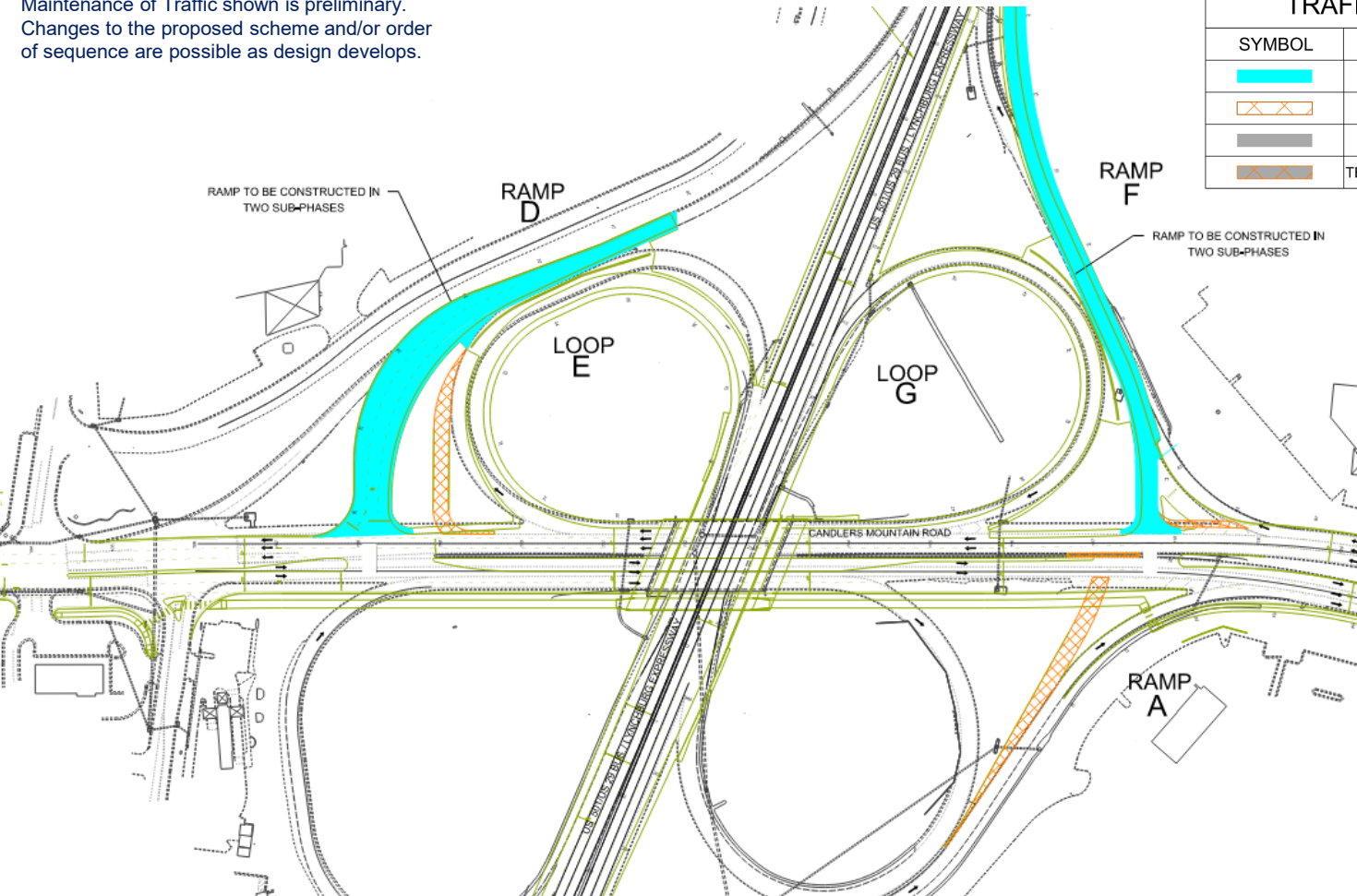
Maintenance of Traffic Goals

- **SAFETY IS PARAMOUNT**
 - For workers and traveling public
 - Apply Smart Work Zone Technology
- **Minimize traffic impacts**
 - Maintain existing through lanes on Candler Mountain Road during peak hours
 - Maintain existing through lanes on Lynchburg Expressway northbound during peak hours. Southbound evaluating alternatives for improved safety and traffic operations related to merging in Loop E into the through lanes of the Expressway.
 - Provide for maintaining existing traffic movements for ramps / loops
- **Minimize driver confusion**
 - Limit traffic pattern changes for ramp movements
 - Effective, proactive communication plan
- **Maintain access to businesses**

Maintenance of Traffic Preliminary Sequence

Maintenance of Traffic shown is preliminary. Changes to the proposed scheme and/or order of sequence are possible as design develops.

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY PAVEMENT
	WORK COMPLETED IN PREVIOUS PHASES
	TEMP PAVEMENT COMPLETED IN PREVIOUS PHASES

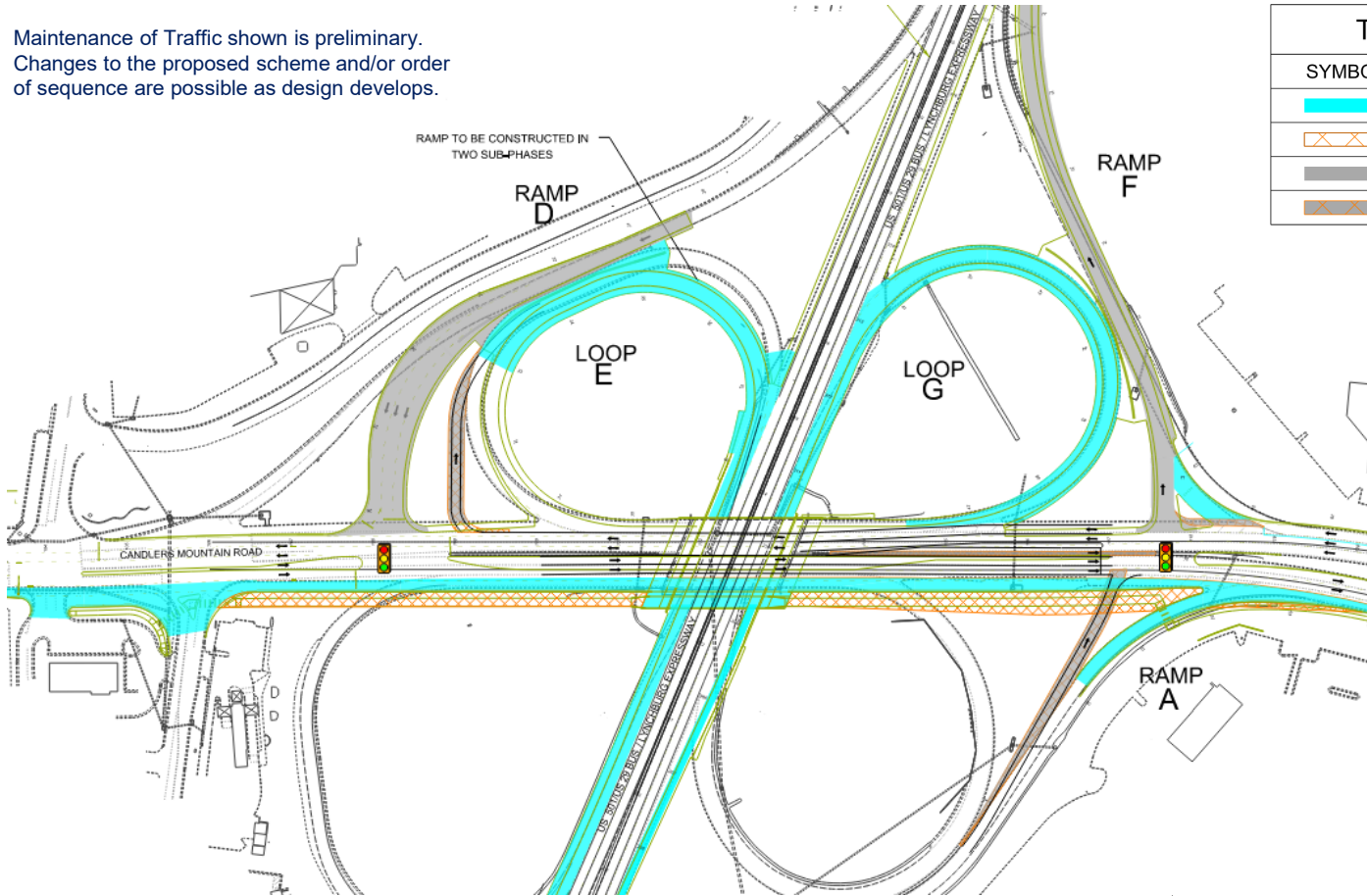


Phase 1

- Setting the stage for bridge reconstruction
- Permanent and temporary ramp connections
- Lane closures for build up for temporary connections

Maintenance of Traffic Preliminary Sequence

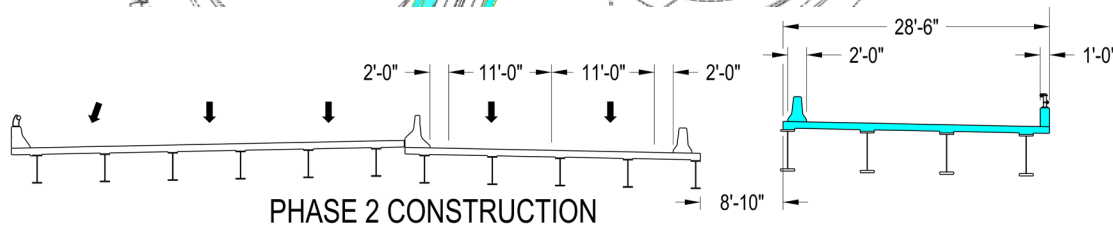
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TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
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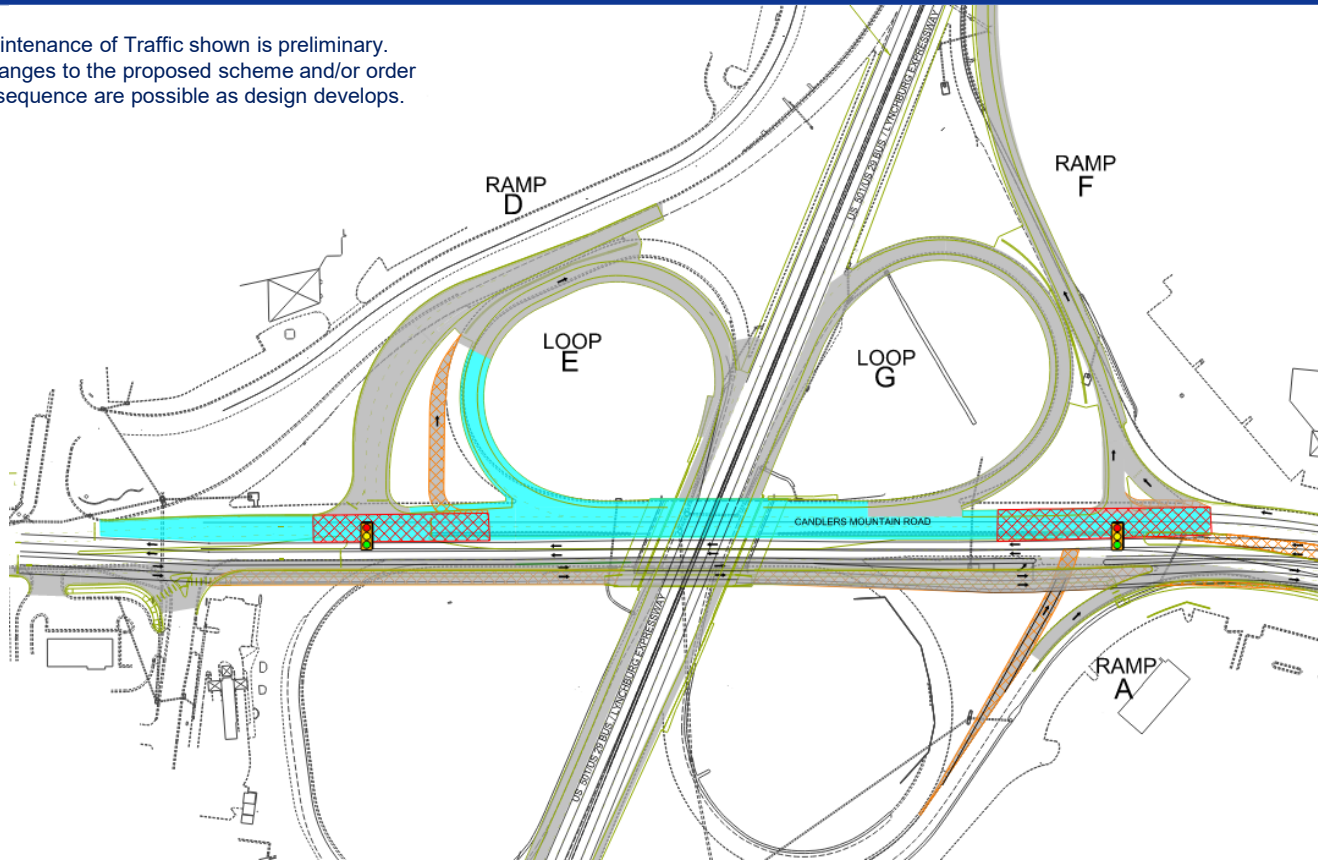
Phase 2

- Shift traffic north on existing structure
- Closes EB to NB loop ramp
- Closes SB to WB loop ramp
- Temporary signals as shown
- Remove existing signal at Seminole Ave



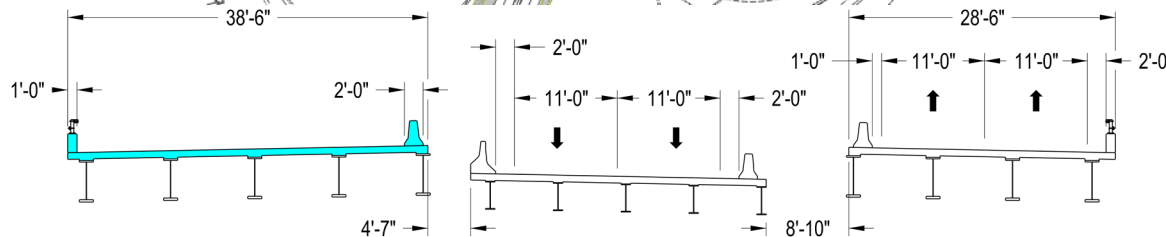
Maintenance of Traffic Preliminary Sequence

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Phase 3

- Shift traffic south – EB on new structure, WB on existing structure
- Construct new portion of structure for WB traffic
- Address profile changes and maintain traffic movements
- Overnight lane closures possible to reconstruct intersection areas
- Temporary signals as shown

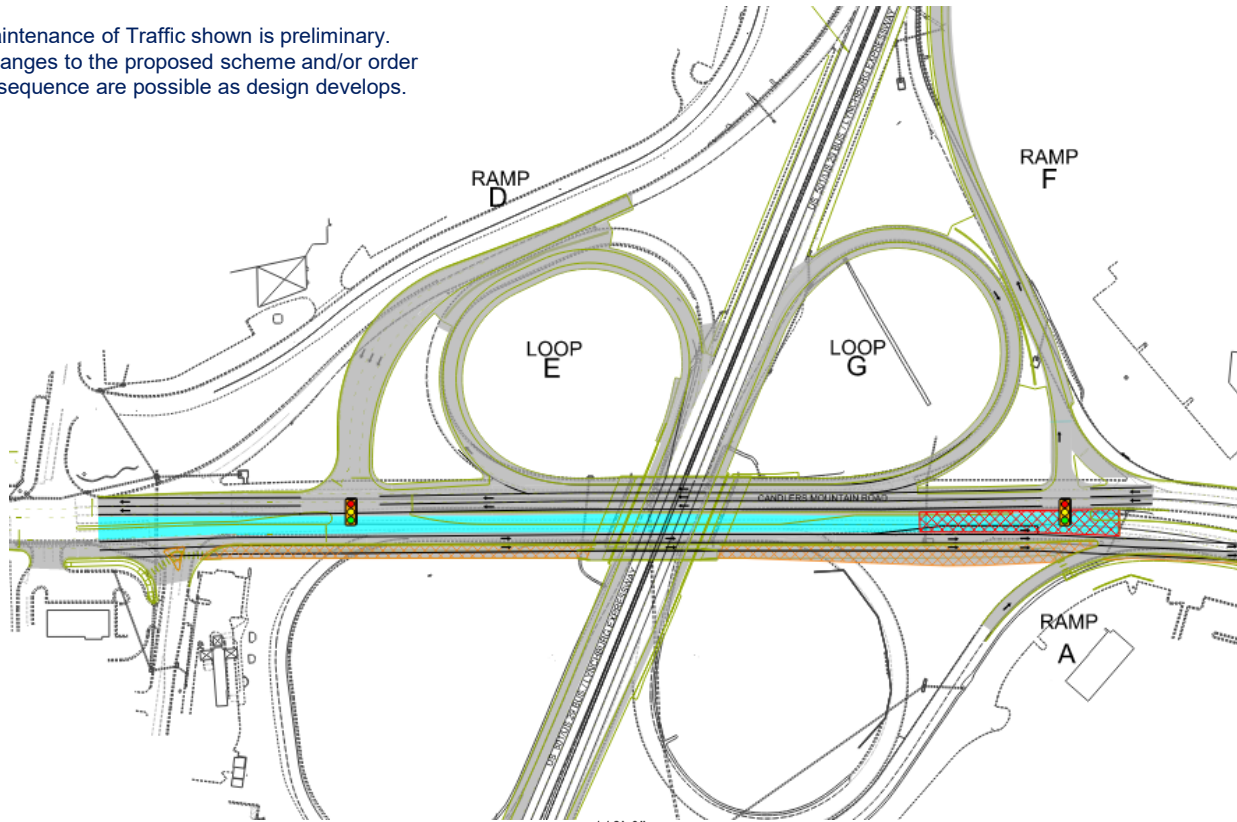


PHASE 3 CONSTRUCTION

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY PAVEMENT
	WORK COMPLETED IN PREVIOUS PHASES
	TEMP PAVEMENT COMPLETED IN PREVIOUS PHASES
	CONSTRUCTED WITH A SERIES OF NIGHTLY CLOSURES / NIGHTLY DETOURS OF RAMPS D, E & F.

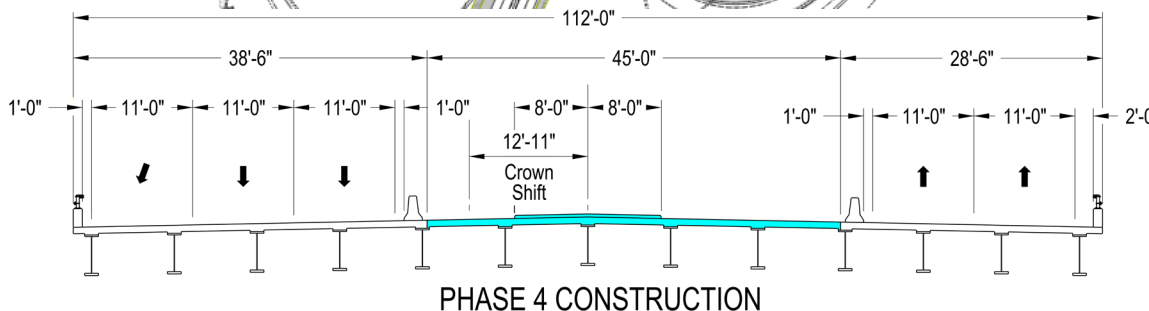
Maintenance of Traffic Preliminary Sequence

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Phase 4

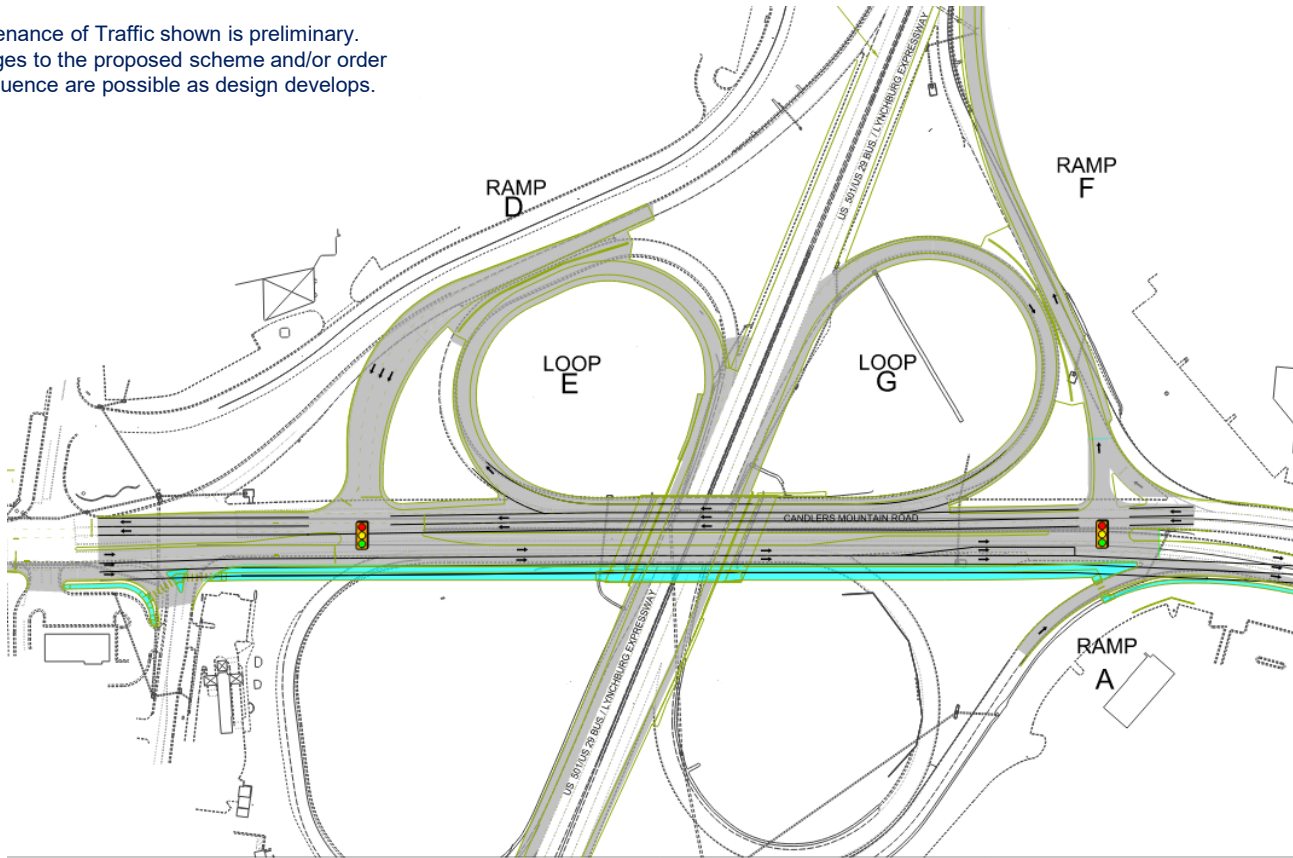
- Shift traffic to outside on new structure
- Complete structure
- Overnight closures possible to reconstruct intersection areas
- Transition from temporary signals to permanent signals



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY PAVEMENT
	WORK COMPLETED IN PREVIOUS PHASES
	TEMP PAVEMENT COMPLETED IN PREVIOUS PHASES
	CONSTRUCTED WITH A SERIES OF NIGHTLY CLOSURES / NIGHTLY DETOURS OF RAMPS D, E & F.

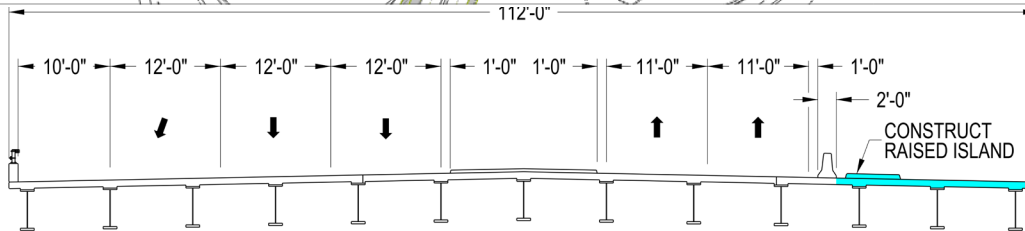
Maintenance of Traffic Preliminary Sequence

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Phase 5

- Shift all lanes into final configuration
- Construct permanent Shared Use Path along EB Candler's Mtn Road
- Remove temporary pavement







PHASE 5 CONSTRUCTION

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY PAVEMENT
	WORK COMPLETED IN PREVIOUS PHASES
	TEMP PAVEMENT COMPLETED IN PREVIOUS PHASES

Maintenance of Traffic Lynchburg Expressway

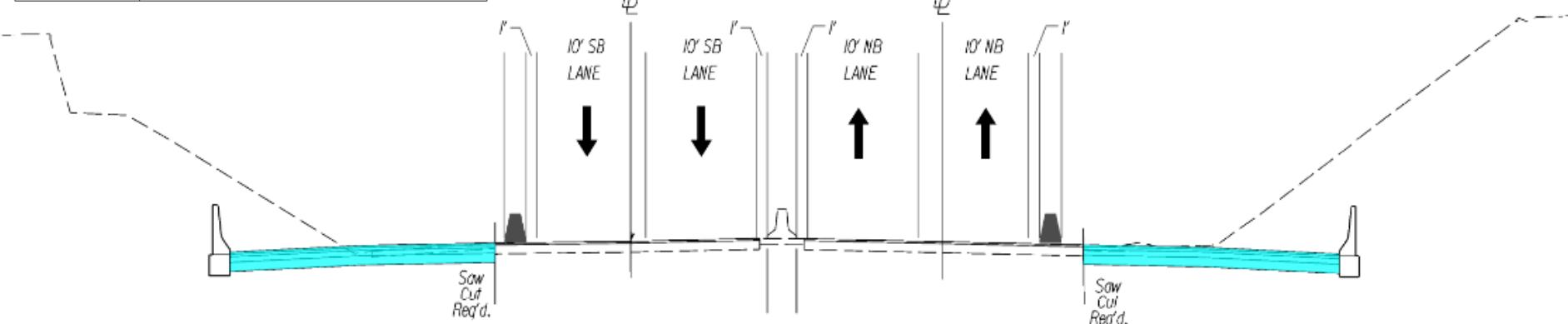
Lane Configuration

- Provide two 10' travel lanes in each direction (southbound evaluating the merge of Loop E to improve safety and operations)
- Provide 1' offset to temporary barrier along outside lanes
- Maintain offset to existing barrier along median

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY PAVEMENT
	WORK COMPLETED IN PREVIOUS PHASES
	TEMP PAVEMENT COMPLETED IN PREVIOUS PHASES

Lynchburg
Expressway
SBL
Constr.

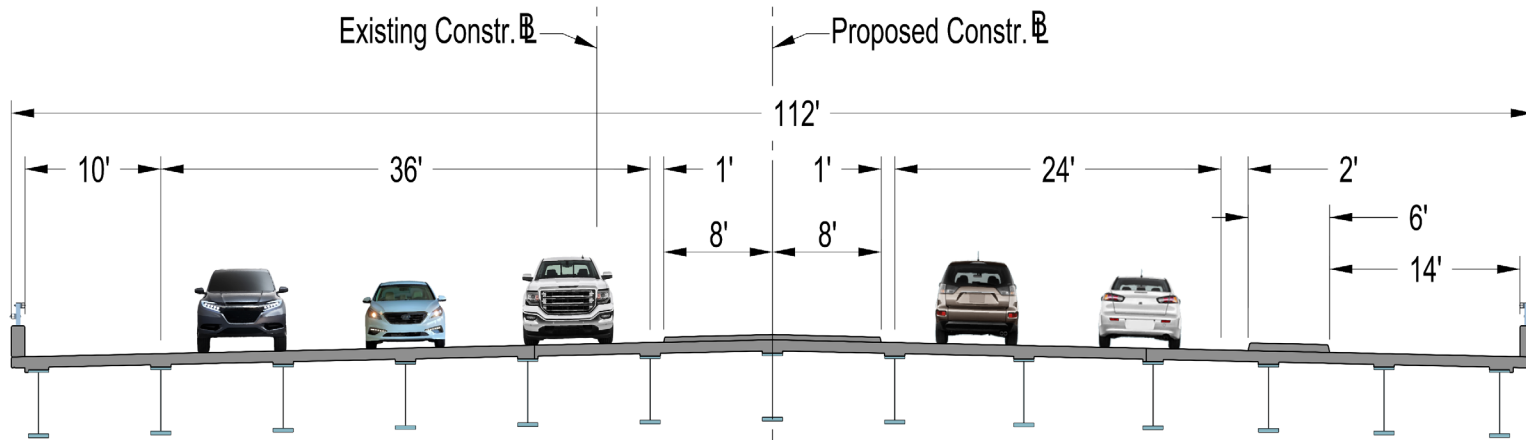
Lynchburg
Expressway
NBL
Constr.



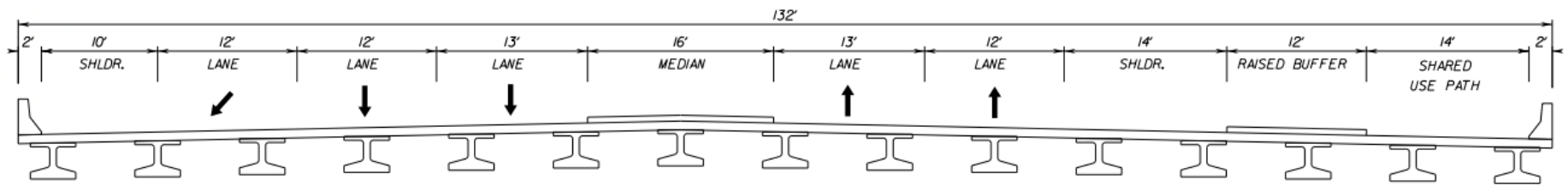
Construction of Acceleration / Deceleration Lanes

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Bridge Design Enhancements



Proposed Bridge



Smart Scale Bridge

Bridge Design Enhancements

Pros

- Reduced bridge cost by reducing width by 20-ft.
- Reduced future bridge and roadway maintenance cost
- Reduced roadway approach reconstruction
- Improved Candler's Mt. Rd. alignment

Cons

- Additional phase of bridge construction which extends duration of construction

Right of Way

Right of Way

- **Anticipate 8 parcels**
 - 4 parcels temporary/permanent easements
 - 4 parcels right of way and easement acquisition
 - Utility easements TBD

Current Program Budget

Total Program Budget \$64,657,203

- PE \$6,001,246
- ROW \$5,292,466
- CN \$53,363,491

Proposed Project Schedule

- **Design Notice to Proceed – Jan - 2023**
- **Completion of OSAR – Feb - 2023**
- **Stakeholder Meeting – June - 2023**
- **Preliminary Plans – June - 2023**
- **Environmental Document – 1Q 2024**
- **Public Hearing – 1Q 2024**
- **Notice to Begin Right of Way Acquisition – 2Q 2024**
- **Advertise for Construction – 2Q 2026**
- **Construction Duration Estimated at 30 months**

Questions?



