



**TDOT**

Department of  
Transportation

# Ocoee Corridor K Update

US-64/SR-40

February 15, 2023

# Background

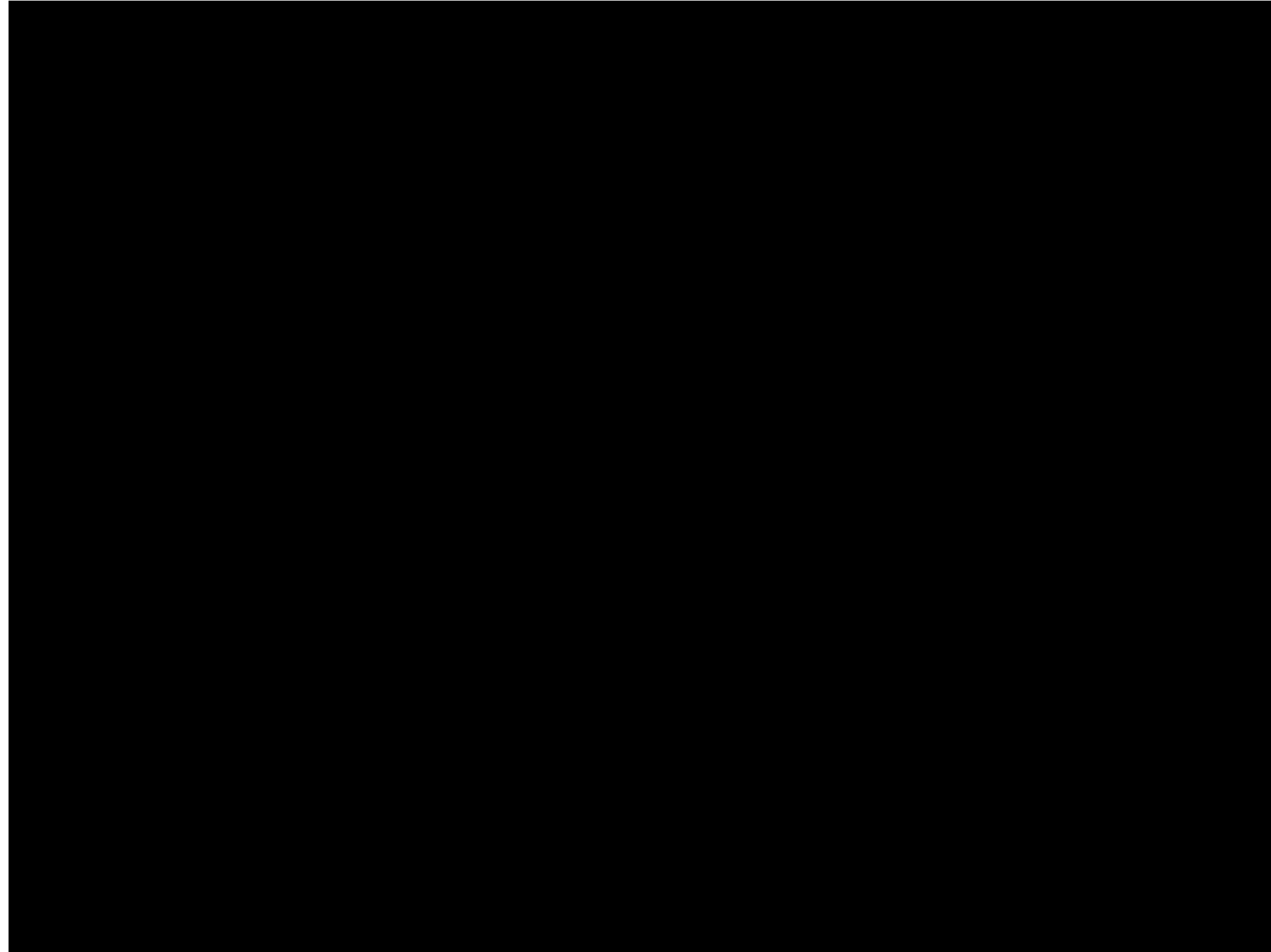
- Part of the Appalachian Development Highway System (1965)
- Safe and reliable east-west route
- Improve mobility and connectivity in the area
- Multiple previous attempts to develop projects in the corridor



# US-64/SR-40 “Corridor K” - TDOT History

<b>1965</b>	Corridor K is one of 31 projects originally listed in ARDA	<b>2008</b>	Cost and issues raised by public, interest groups, resource agencies lead to rescission of DEIS
<b>1970s</b>	TDOT begins planning work (including NEPA). <i>Project does not advance due to lack of funding</i>	<b>2009</b>	Major Rockslide
<b>1980s</b>	TDOT/FHWA develop EA, approved-1990. <i>FONSI never approved. 1993 project placed on indefinite hold</i>	<b>2009/10</b>	Current EIS planning & NEPA begins
<b>1990s</b>	TDOT/USFS prepare EA/FONSI. <i>Due to Financial/Environmental Cost to Benefit Ratio, FHWA does not adopt EA/FONSI</i>	<b>2014 -17</b>	Adding long tunnel option developed & distributed.
<b>1999</b>	TDOT/FHWA initiate EIS	<b>2018</b>	Targeted Approach Developed & Pauses current EIS
		<b>2020</b>	ARC gives TDOT approval to move forward with Public Outreach Targeted Approach
		<b>2022</b>	ARC approved change from new alignment to targeted approach

# US 64 Rockslide – Polk County (2009)



# US-64/SR-40 “Corridor K”



## CHALLENGES

- Located in Cherokee National Forest
- Environmental Constraints
- Topography
- Cost

## TARGETED APPROACH

- Multiple projects to address needs of corridor
- 35 Road Safety Audit Projects
- 14 Rockfall Mitigation Sites

# US-64/SR-40 "Corridor K" Overview

Targeted  
Approach

CORRIDOR K

SR-40 (US-64) From  
West of the Ocoee  
River to SR-68 Near  
Ducktown

Polk County, TN,  
PIN 102420.08



# Targeted Approach

- Geometric improvements
- Signage/pavement markings
- Guardrail
- Rockfall/geotechnical improvements
- Intersection improvements



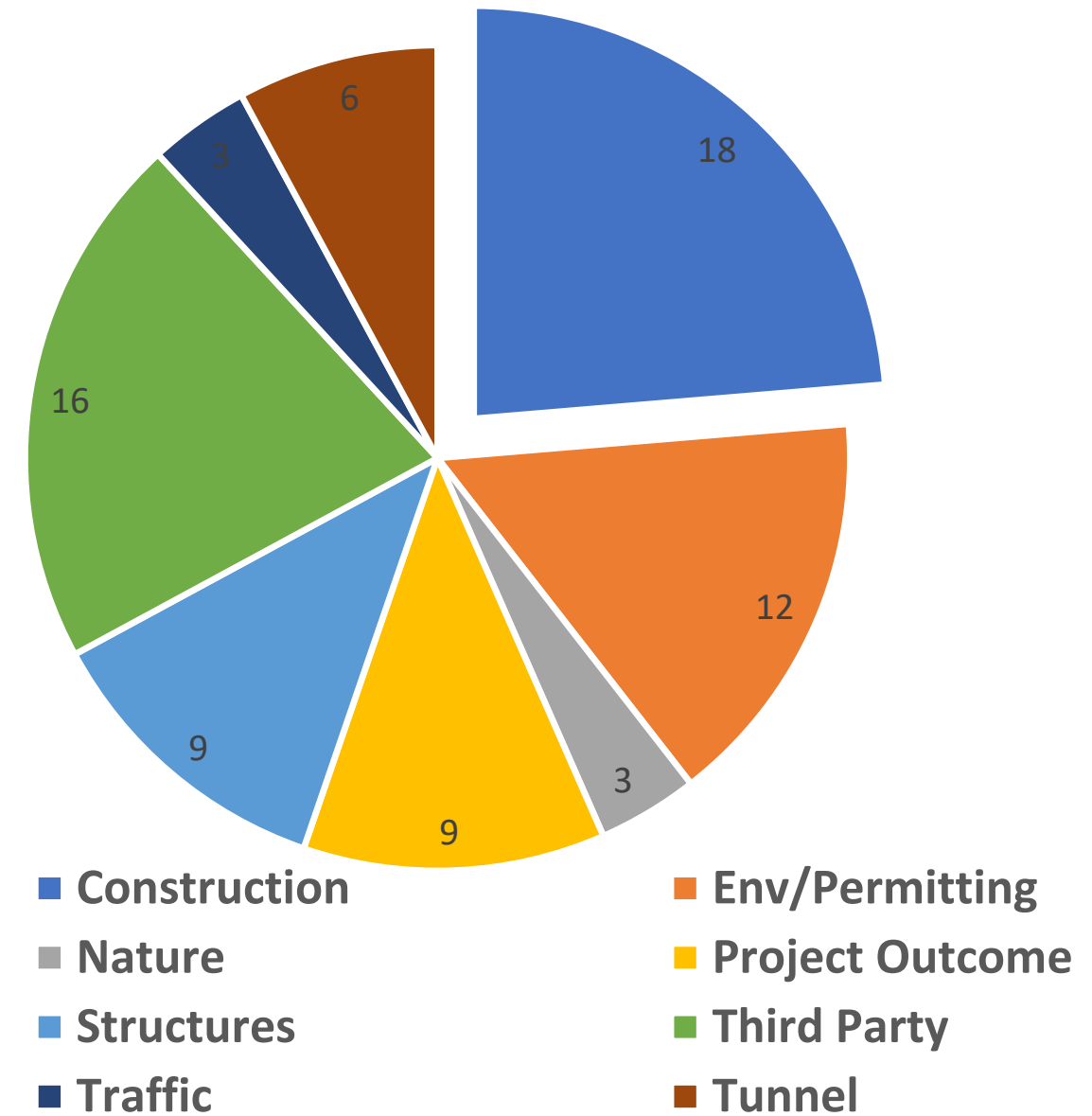
# Work to Date

- Survey
- Risk Workshop
- Geotechnical Reconnaissance
- NEPA Desktop Review/Coordination
- Traffic/Safety Analysis - Baseline conditions
- Concept Validation
- Cost Estimates
- Programming/Grouping



# Risk Workshop

- July 14, 2022
- 20+ Attendees
- Pre-Meeting Survey / 76 risks
- Workshop for each location
- ~40 overall project risks



# Risk Workshop

TDOT Corridor K (US Highway 64) (State Route 40) Roadway Improvement

Project Risk Register

REV : 0

DATE : July 14, 2022

Risk Level	Low Risk	Medium Risk	High
Rating Score	1	2	3

Risk ID	RBS	Status	Risk Description	Impact	Mitigation	Locations	Probability Score	Time Impact Rating (A)	Cost Impact Rating (B)	Current RR Rating
13	Traffic	Open	Traffic Control is difficult -Construction traffic and MOT restrictions resulting in traffic delays and increase risk of traffic accidents -Summer whitewater rafting season. -Limited room in the corridor -US 64 is vital artery for commerce in the region. Few and circuitous detour routes.	Cost, Economic, Public Involvement	-Bundle project -Develop site specific traffic control plans. These will depend on how sites are bundled. -Alternative Delivery method on complicated/full closure projects -Phase traffic to allow one lane in each direction. One-lane operations may be necessary. -Weekend lane closures to avoid major queues and advanced notice and awareness of delays/closures -Consider maintenance of traffic during design and when grouping projects for construction lettings.	All	3	3	3	9
18	Construction	Open	How would you sequence the construction of sites to best achieve intended objectives? Prioritization for batching considerations include: safety, contractual, contractor availability, environmental considerations, calendars, road shutdown schedules. Inflation in construction costs	This is an opportunity as well as a risk. The right plan will save time and cost. Done poorly would add cost and time. Project is much more expensive than expected	Prioritize site constructions to minimize impacts and to achieve maximum benefit Plan will be developed to have a formal evaluation process. Do calculate costs, provide additional	All	3	3	3	9

# Geotechnical Reconnaissance

- Review of published geologic data and available TDOT conceptual Rockfall Mitigation reports
  - 2014 Study (14 Locations)
  - Newer Data via GES
- Reconnaissance Site Inspections
- Rockfall Mitigation Concept Design
  - Concept 0 (Baselines) based on 2018 Targeted Approach recommendations
  - Alternative Concepts for select RSAR sites
- Preliminary Rockfall Mitigation Report
  - Summarizing Concepts
  - Cost Estimates, include APM disposal
  - Recommendation for future investigation/mapping and design



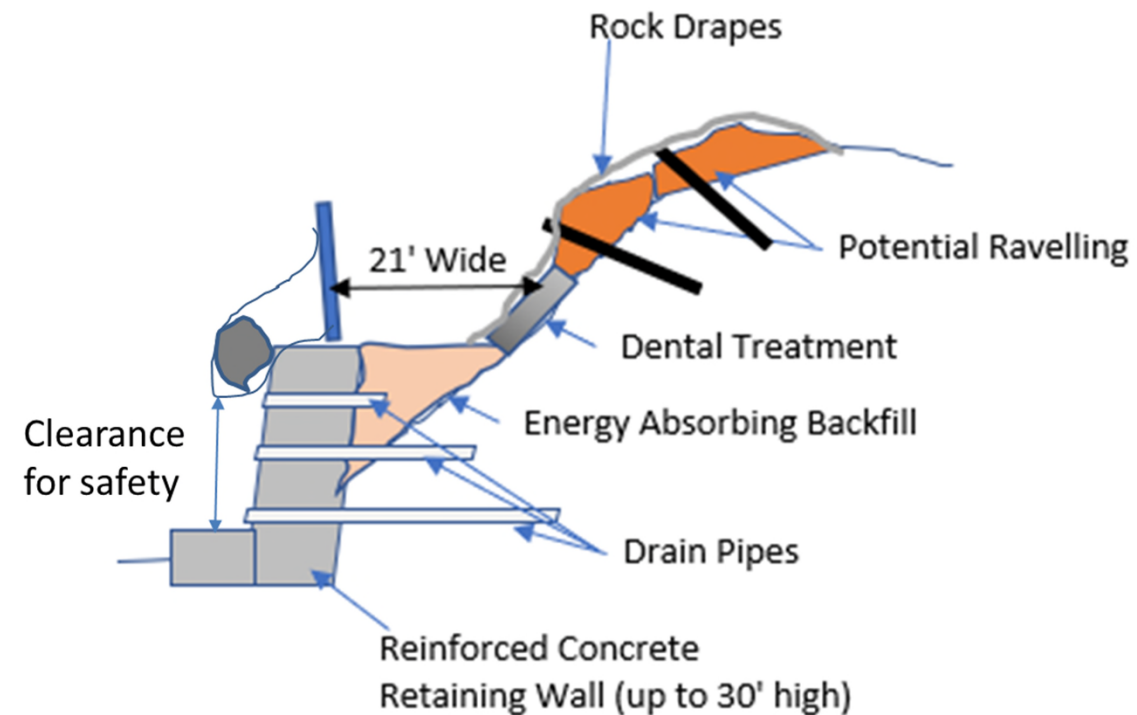
# Geotechnical Reconnaissance

- Rock Slope Status – Potential Wedge, Planar, Toppling Failures
- Minimize Toe Cuts
- Retaining Walls on Slope or Riverside – Improve Roadway Alignment
- Catchment Space per TDOT Design Requirement ( $W_{min.} \geq 21'$ )
- Active Support – Anchored Rock Drapes/Shotcrete
- Multi-Protection System – Rockfall Catch Fence (Energy Absorption)

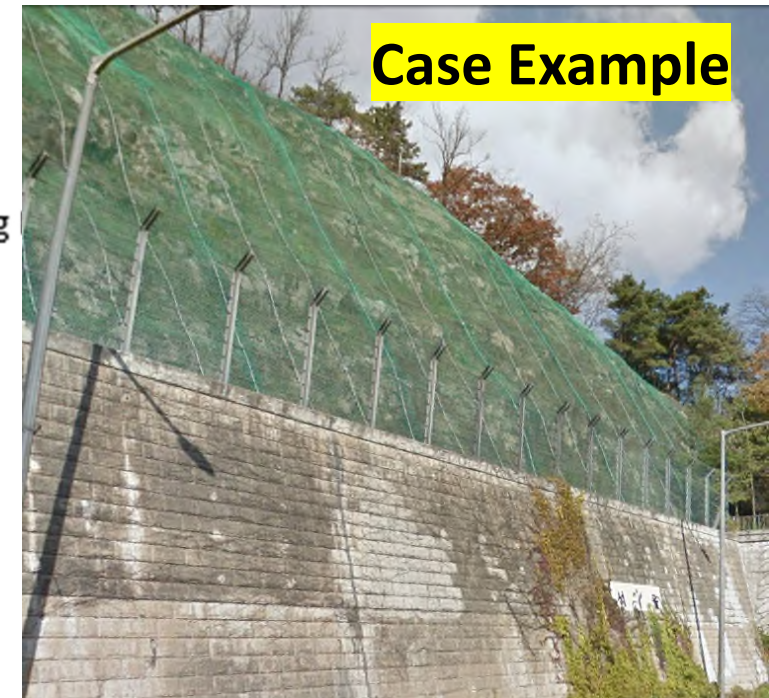
**RSAR No.13**  
**Wedge & Toppling Pattern**



**RSAR No.22**  
**Planar Pattern**

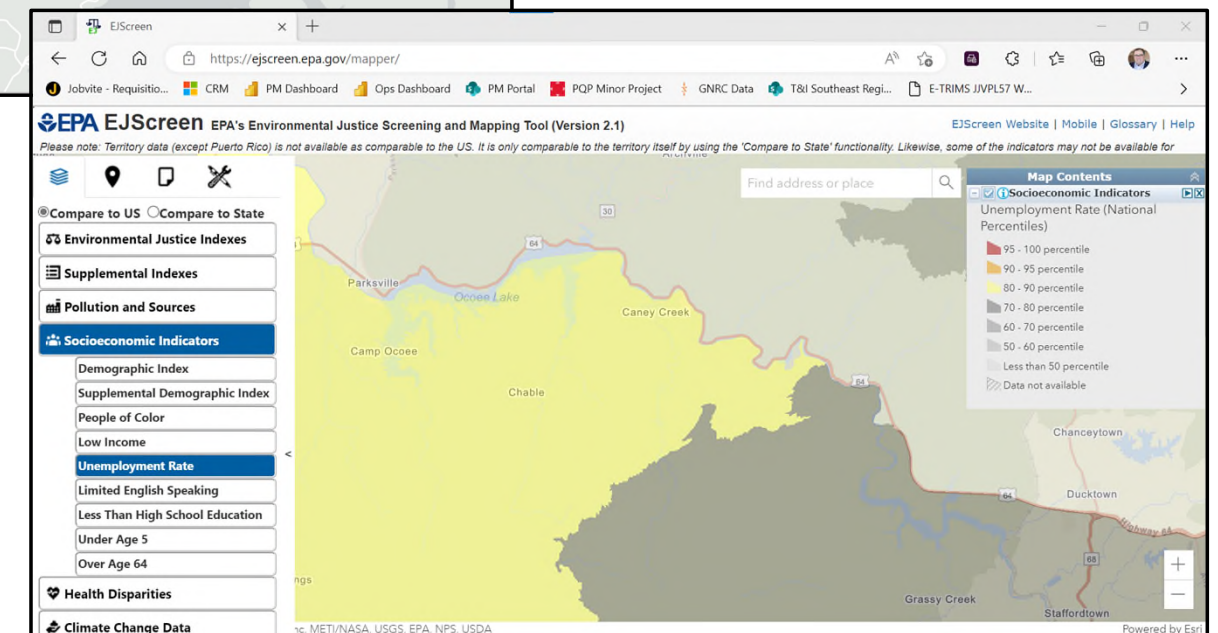
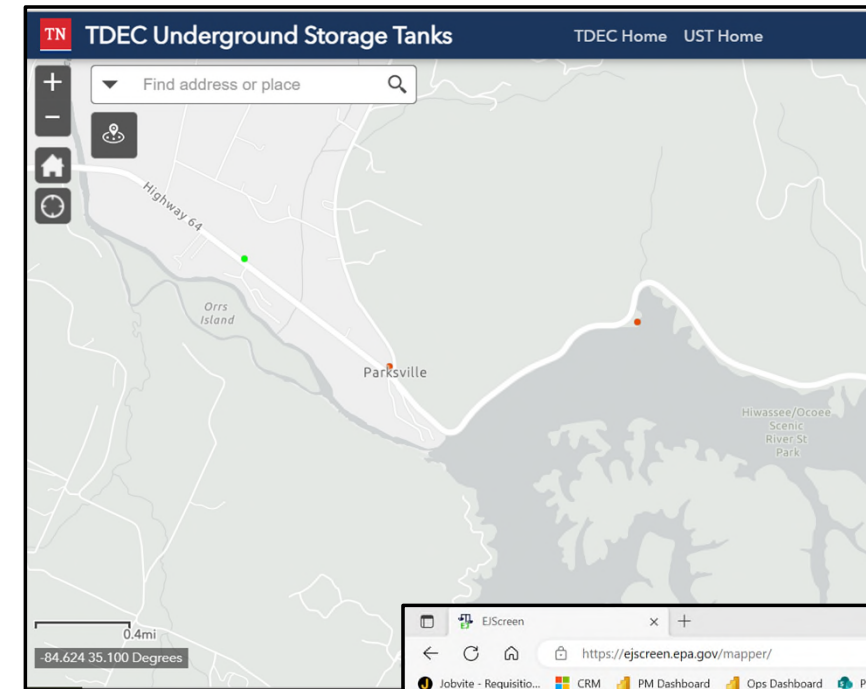


**Case Example**



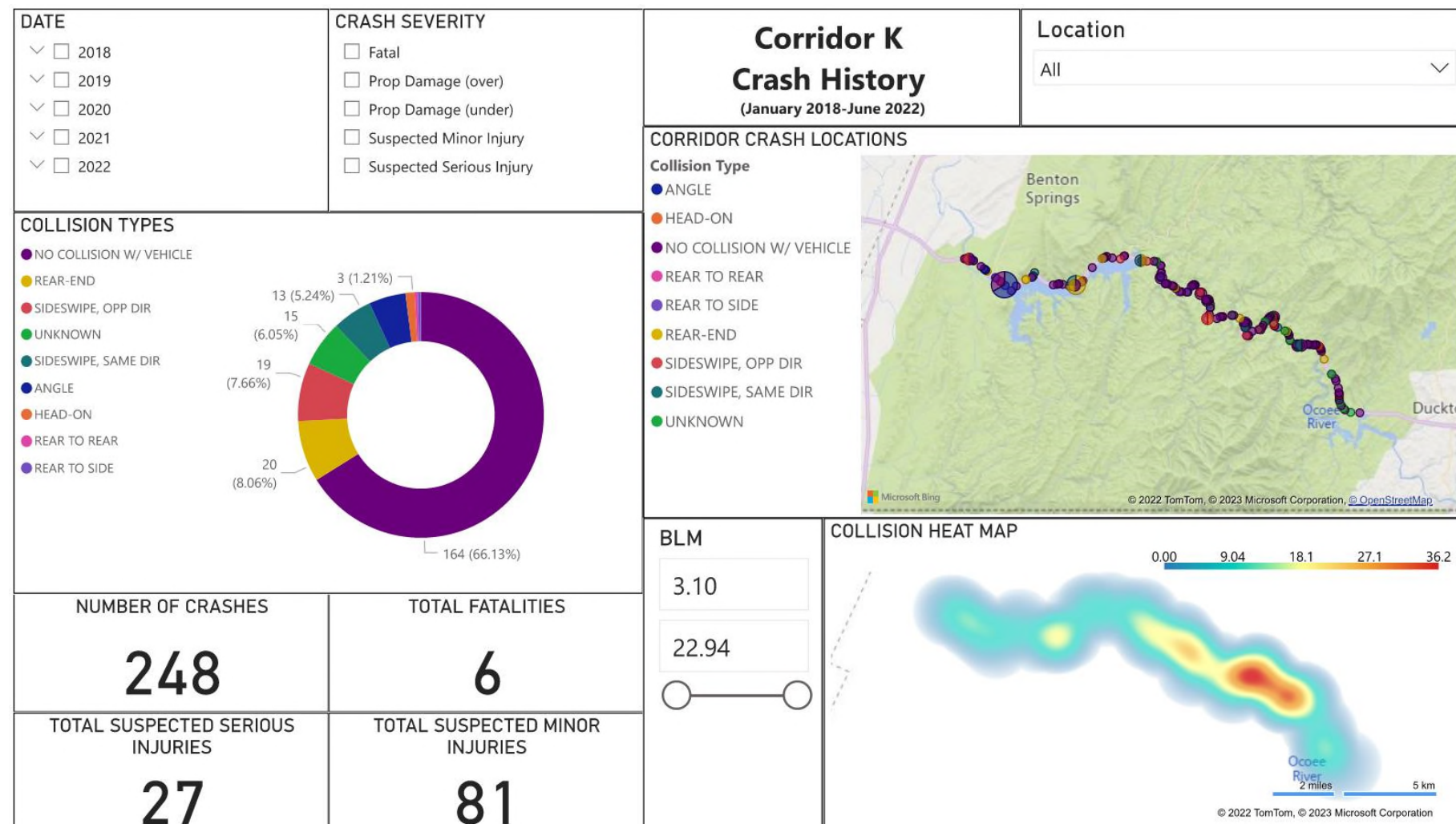
# NEPA Coordination

- Multiple past NEPA studies
- Desktop Review
- Avoid potential fatal flaw issues
- Agency coordination
  - TDOT
  - TVA
  - USFS
- Establish ETSA



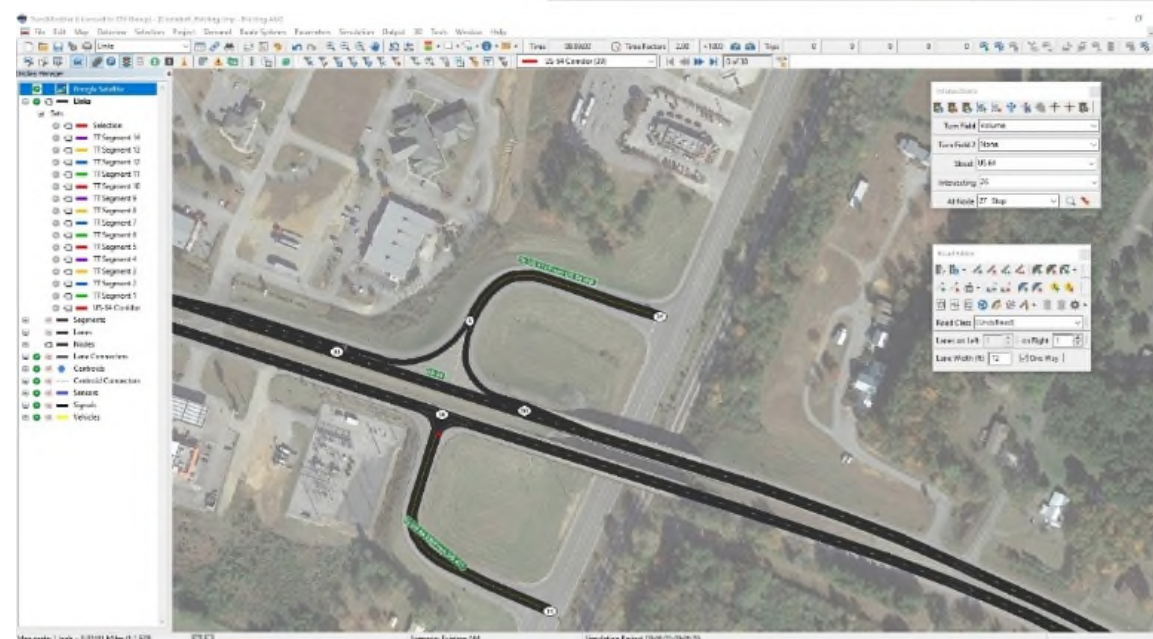
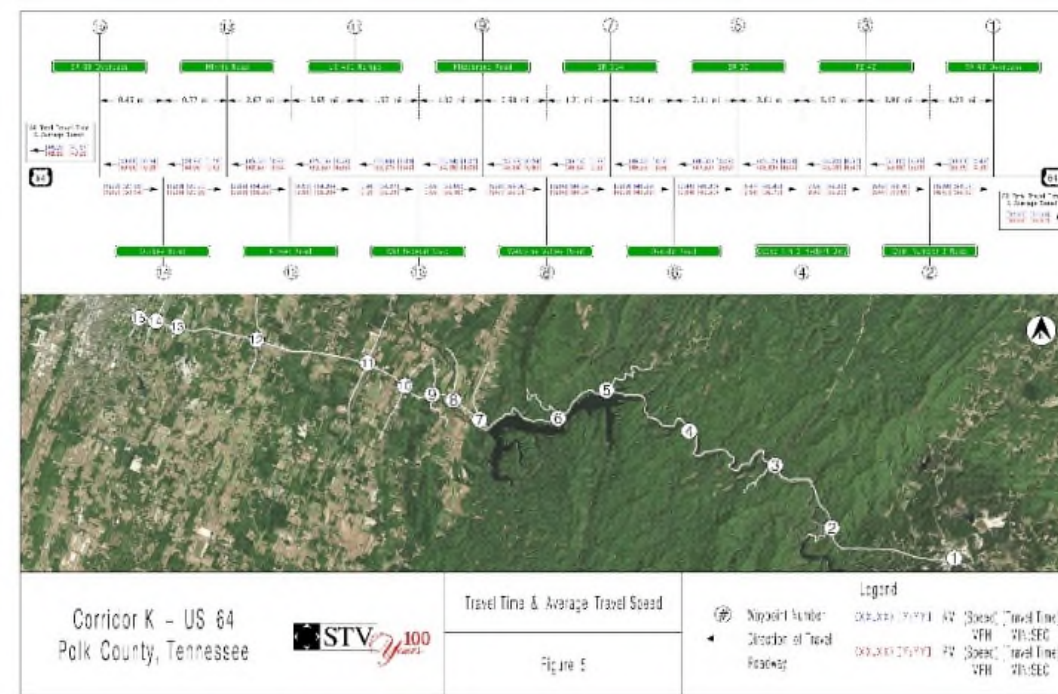
# Traffic/Safety Analysis – Baseline

- Safety is a primary factor
  - Drives many of the improvements
- AASHTO Ware
- Power BI tool
  - quickly and easily access crash data
- Using crash data to drive design concepts



# Traffic/Safety Analysis – Baseline

- Speed is key to ARC
  - SR 40/SR 60 interchange in Bradley County to SR 40/SR 68 interchange in Ducktown
  - Goal running speed = 50mph
- Travel Time Runs
  - Avg. speed = 42.4mph EB AM
  - Avg. speed = 44.1mph EB PM
  - Avg. speed = 46.9mph WB AM
  - Avg. speed = 48.7mph WB PM
- TransModeler
  - Analyze impacts to corridor with proposed improvements



# Concept Validation

- Complete Survey for each site
- Baselined 2018 Findings for each location "Concept 0"
- Re-establish Baseline estimate
- Commenced work on alternative concepts
- Iterative for HHR locations
- Select recommended concept for each location
- Coordinate with third parties
- Concept enters next phase of development
  - PDN
  - Alt-D
  - Bundling



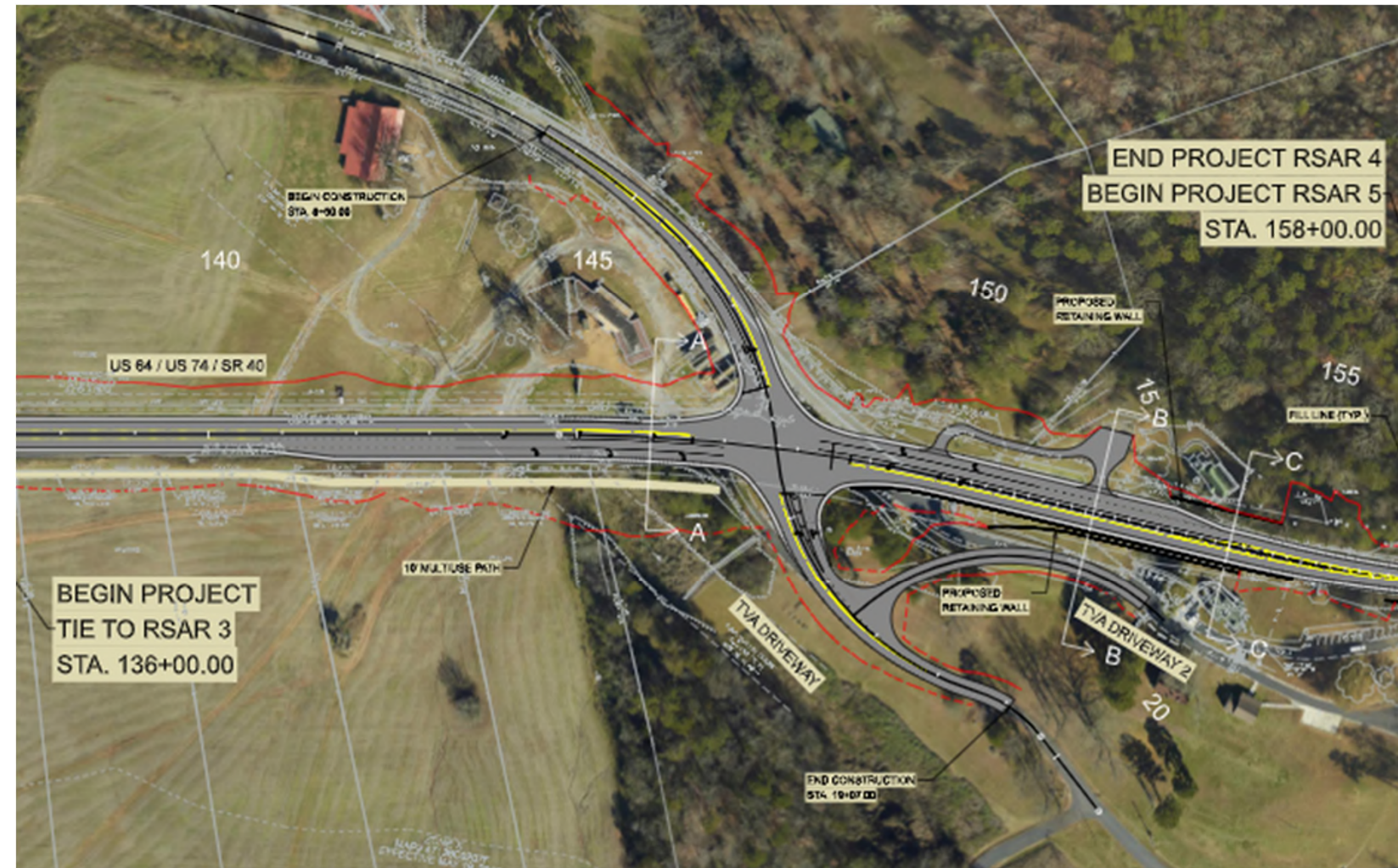
# Location 3

- Bridge Replacement at Cloud Branch
  - Load Rated
- 3-Lane Section
- Improved Vertical profile
- 45MPH Design
- Multi-Use Path
  - Connects Ocoee River at new bridge to Sugarloaf Mountain Park



# Location 4

- Intersection Improvements
- Consolidate Drives/Simplify Operations
- Signal Warrants not met
- Ties to 3-lane section for Location 3
- 4F & TVA Coordination

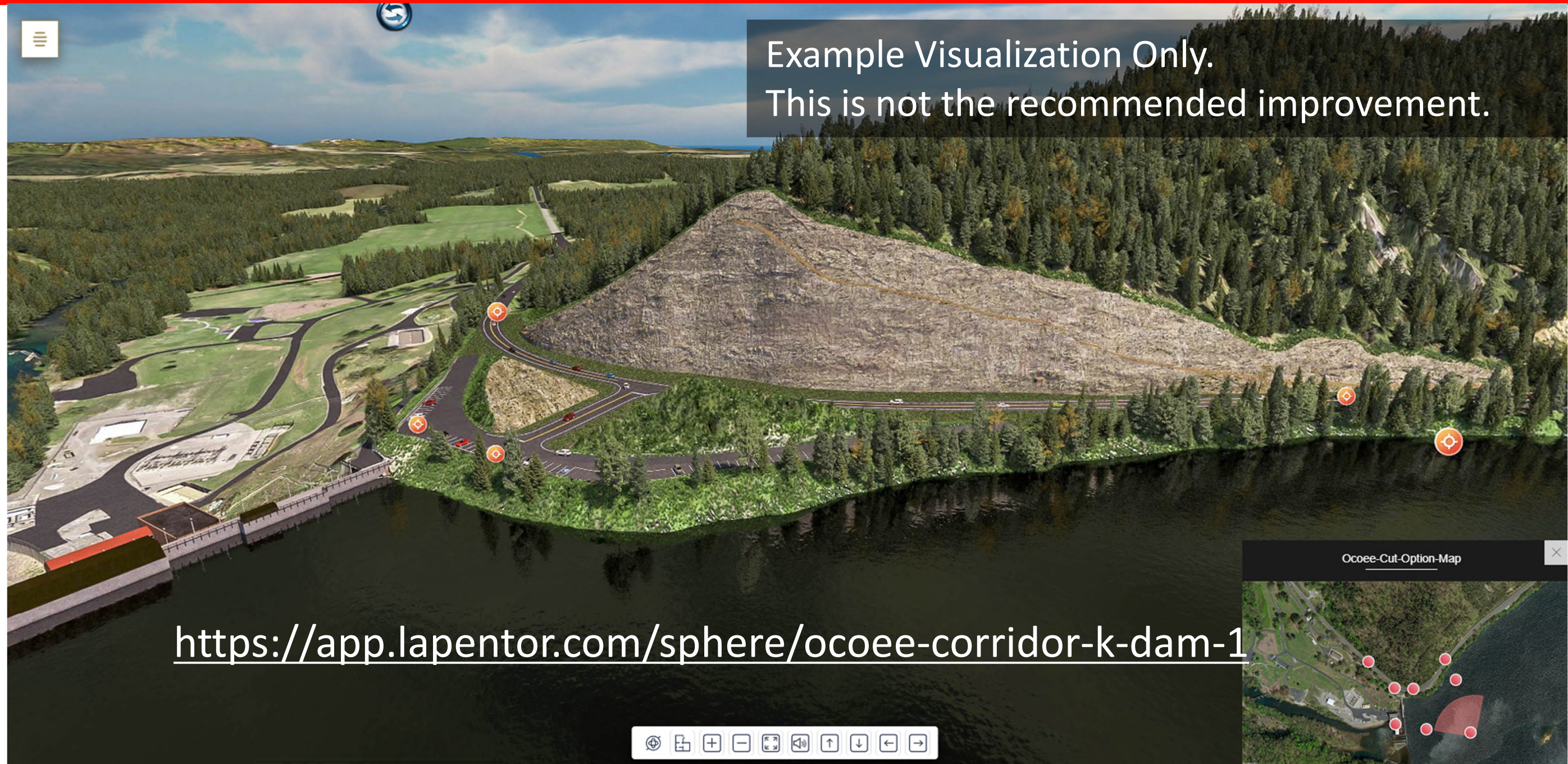


# Location 5 – Risks/Concerns

- Rock Excavation - quantities/cost
- Acid Producing Material – removal/treatment
- Impact to the Dam - stringent blasting requirements
- Park Service concerns with Aesthetics

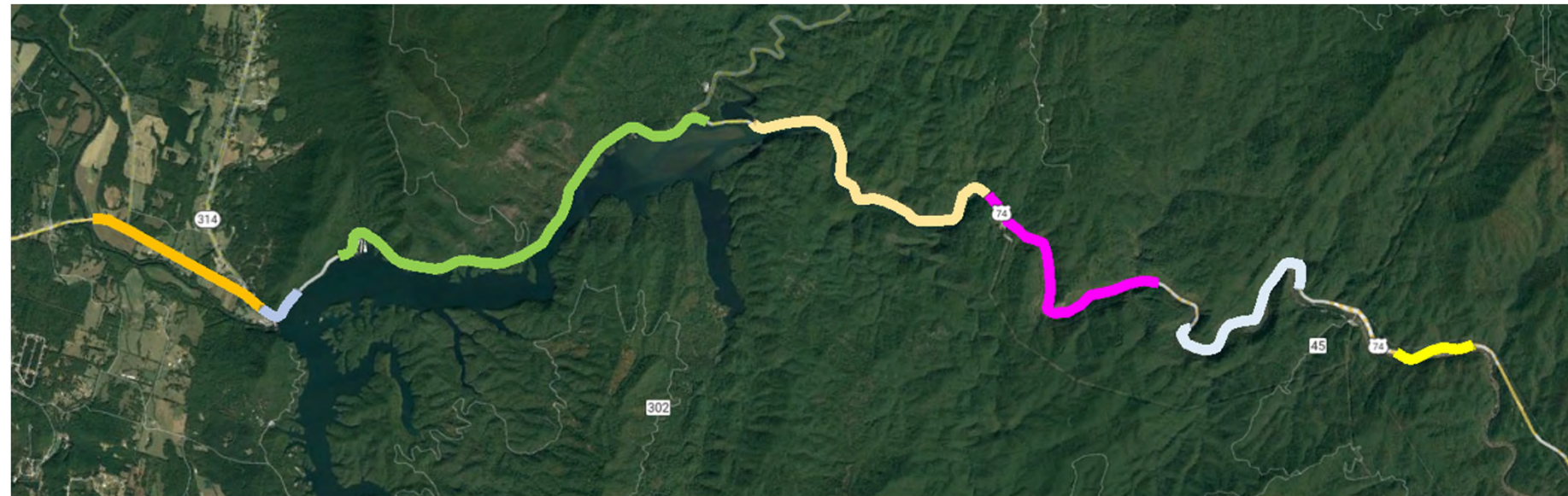


# Visualizing the Potential Cut



# Programming

- Project Grouping
- Recommendation Delivery Methods
  - Traditional vs Alt-D
- Allocate Funding:
  - Dedicated ARC Funding
  - + Safety & Rockfall Mitigation as appropriate



# Next Steps

- Finalize concept recommendations
- Prioritize project programming
- Advance design plans