

Strategic Transportation Investments Division

TSITE Summer Meeting
July 27, 2023



TDOT
Department of
Transportation

Steve Allen
Director

Strategic Transportation Investments Division

Introducing the STID Oyster Cult





TM

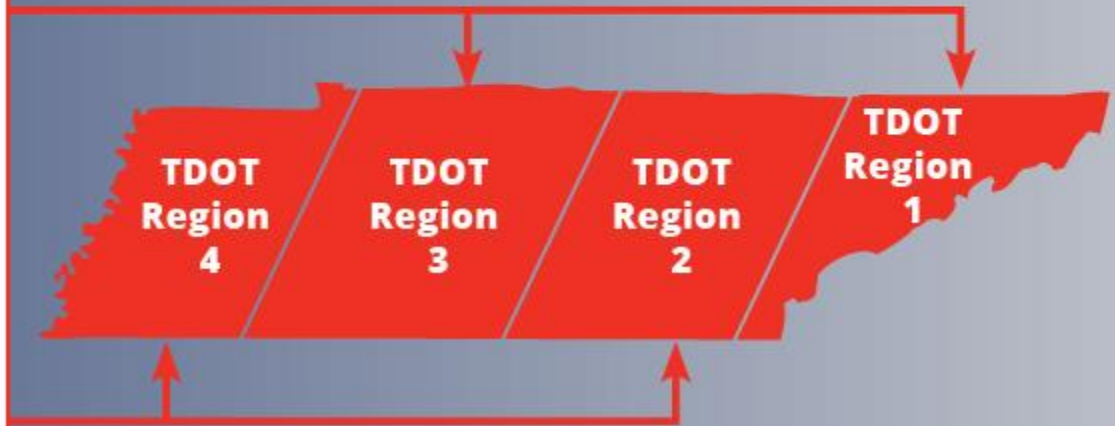
PDN Stage 0 & 1

Governor Lee's Proposed FY24 Budget - Critical Transportation Investments

**\$3 Billion
Total
Proposed Allocated
to State
Transportation
Projects**

\$750 Million for EACH Region

- IMPROVE Act Acceleration
- Rural Interstate Widenings
- Major Urban Congestion Projects
- Statewide Partnership Program Projects
- Safety and State of Good Repair Acceleration
- Economic Development Projects



**\$300 Million
for State Aid Program**
*Flows to counties for local
transportation projects*



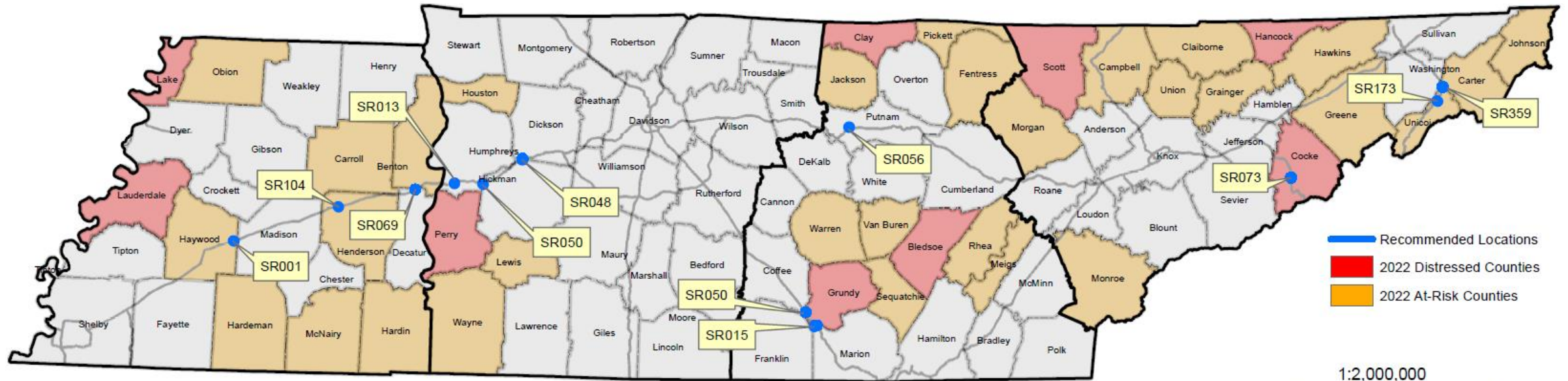
General Fund Transfer Projects

- GFT Funding partial comes from local stakeholders roughly 20%
- GFT projects
 - State Highway Partnership Programs
 - Economic Development projects
 - Rural interchange improvement projects

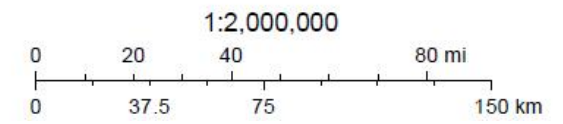


Rural Interchange Improvement Program

Improves interchanges at state highway facilities providing access to "At-Risk" and "Distressed" counties



- Recommended Locations
- 2022 Distressed Counties
- 2022 At-Risk Counties

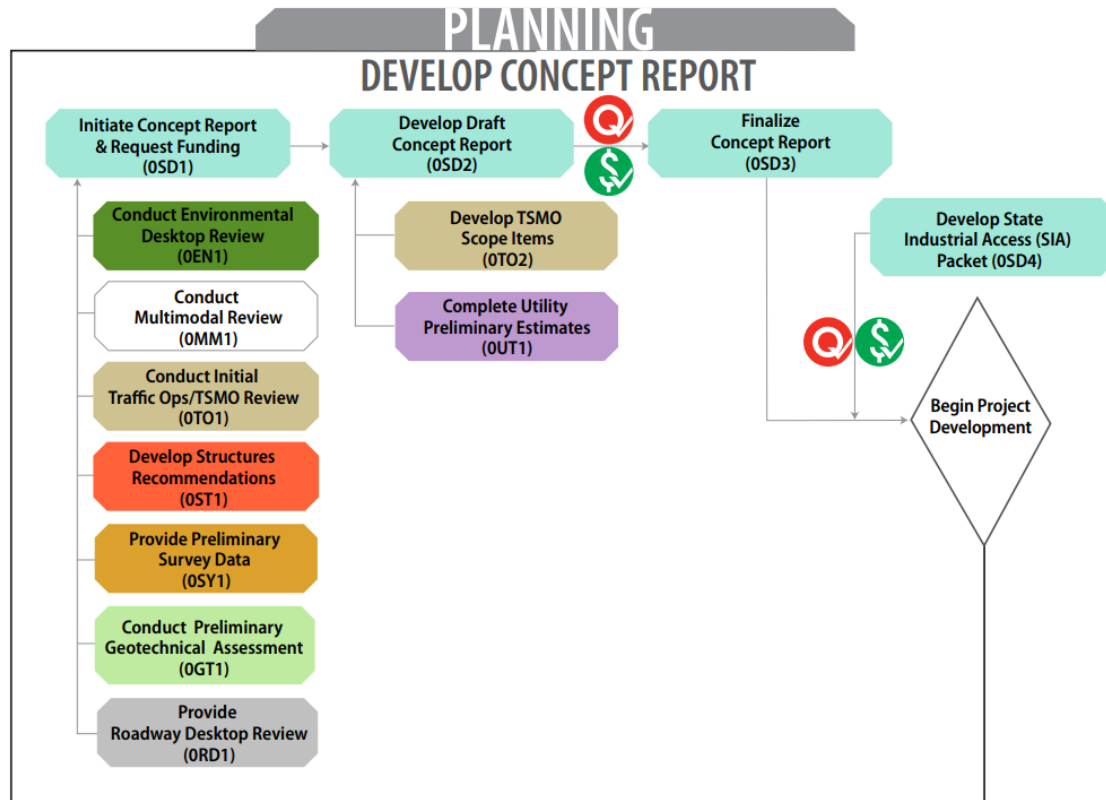


Rural interchange GFT Project List

III. Rural Interchange Improvement Program Projects

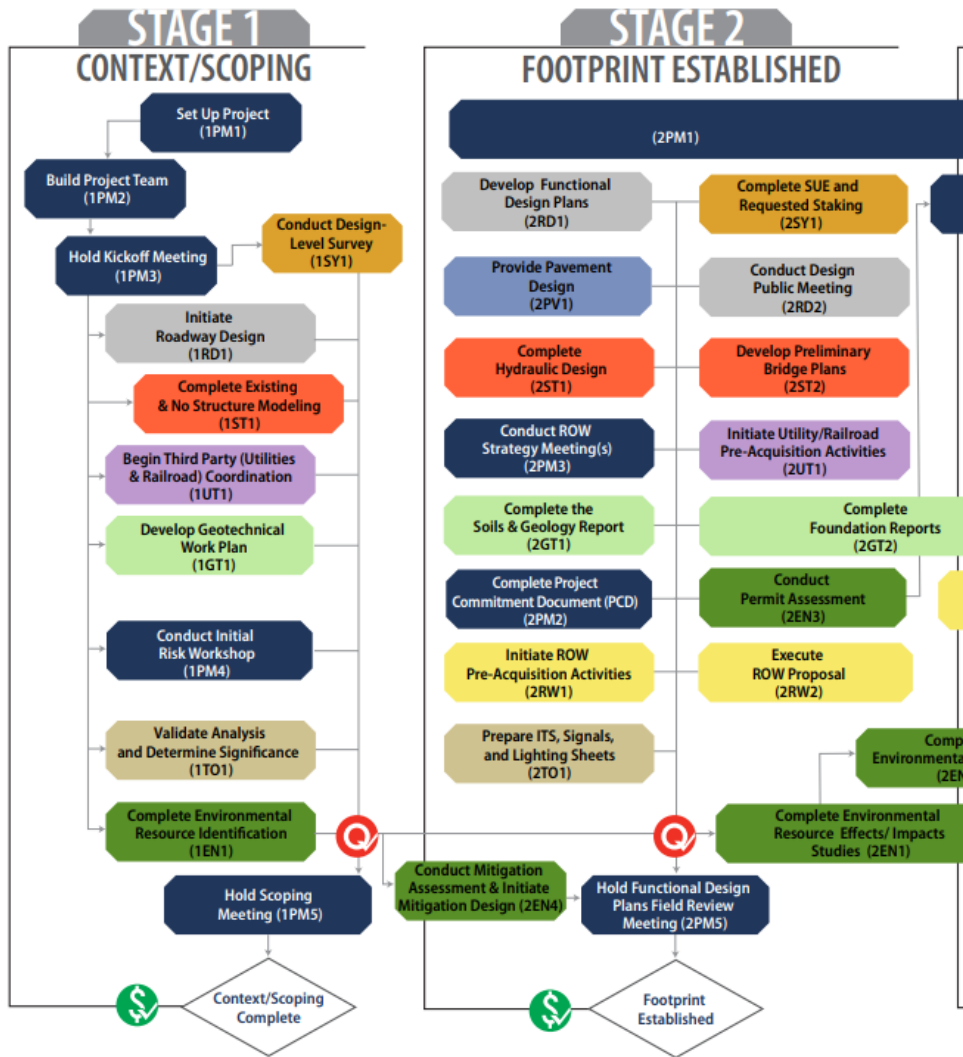
1.	I-40 Interchange at State Route 50 - Reconstruct Interchange, Widen State Route 50, Add High Mast Lighting	\$	22,000,000	Hickman
2.	I-40 Interchange at State Route 13 - Reconstruct Interchange, Widen State Route 13, Add High Mast Lighting		11,000,000	Humphreys
3.	I-40 Interchange at State Route 56 - Reconstruct Interchange, Widen State Route 56, Add High Mast Lighting		22,000,000	Putnam
4.	I-40 Interchange at State Route 73 - Ramp Improvements, Widen State Route 73, Add High Mast Lighting		22,000,000	Cocke
5.	I-40 Interchange at State Route 69 - Ramp Improvements		11,000,000	Decatur
6.	I-24 Interchange at State Route 50 - Ramp Improvements, Add High Mast Lighting		11,000,000	Grundy
7.	I-26 Interchange at State Route 359 - Add High Mast Lighting		5,500,000	Carter
8.	I-40 Interchange at State Route 48 - Ramp Improvements, Widen State Route 48, Add High Mast Lighting		16,500,000	Dickson & Hickman
9.	I-40 Interchange at State Route 1 - Ramp Improvements, Add High Mast Lighting		11,000,000	Haywood
10.	I-40 Interchange at State Route 104 - Reconstruct Interchange, Widen State Route 104, Add High Mast Lighting		22,000,000	Henderson
11.	I-24 Interchange at State Route 15 - Ramp Improvements, Widen State Route 15, Add High Mast Lighting		16,500,000	Marion
12.	I-26 Interchange at State Route 173 - Add High Mast Lighting		5,500,000	Unicoi
Total Rural Interchange Improvement Program Projects		\$	176,000,000	

What does PDN Stage 0 do?



- Requests funding for studies
- Gathers input from other disciplines
- Develops Concept Report
- Provides cost estimates

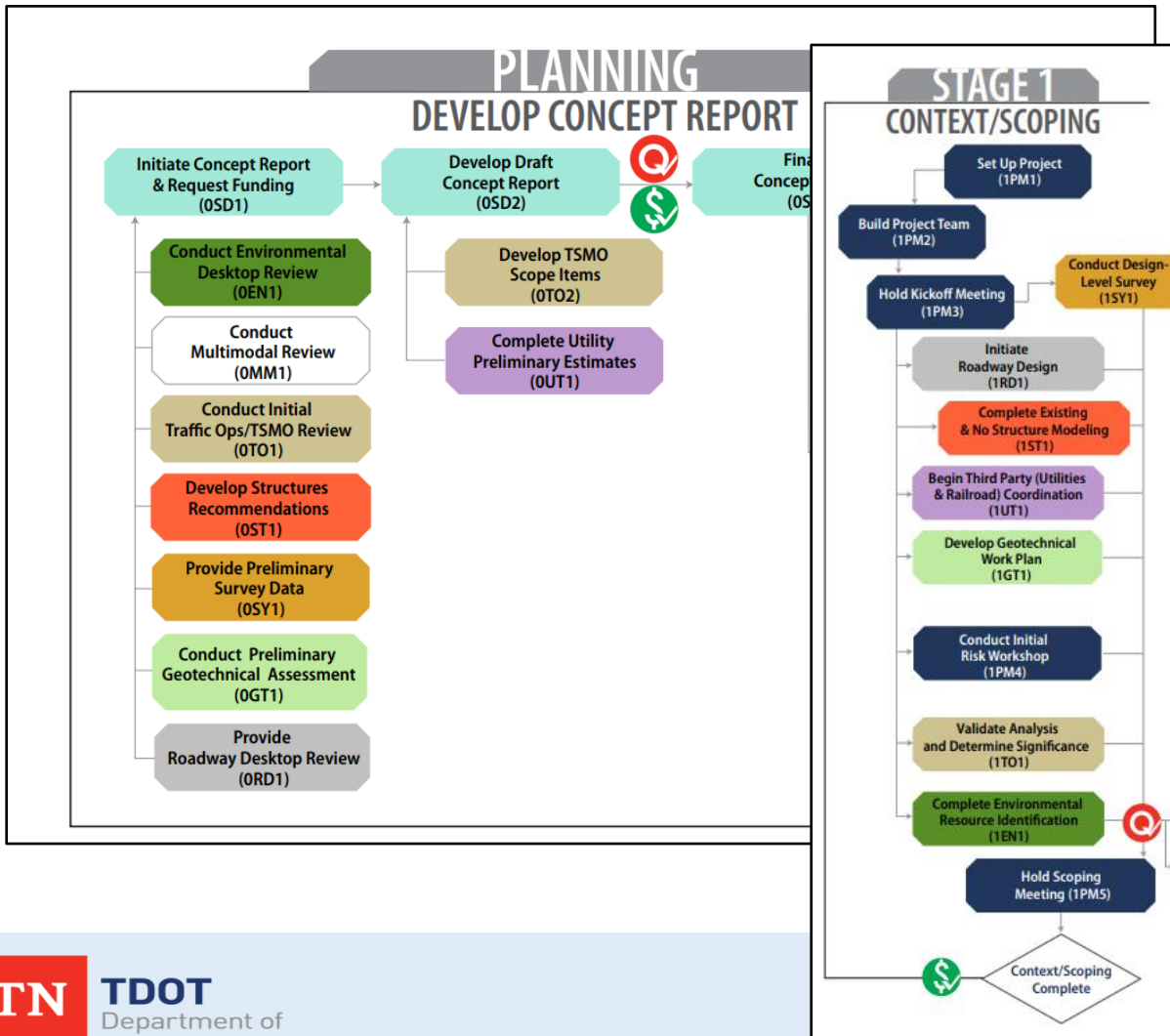
What does PDN Stage 1 do?



- Build interdisciplinary project team
 - Kick off coordination
 - Review Alternatives
 - Risk analysis
 - Scope project

PDN Stage 0 compressing into Stage 1

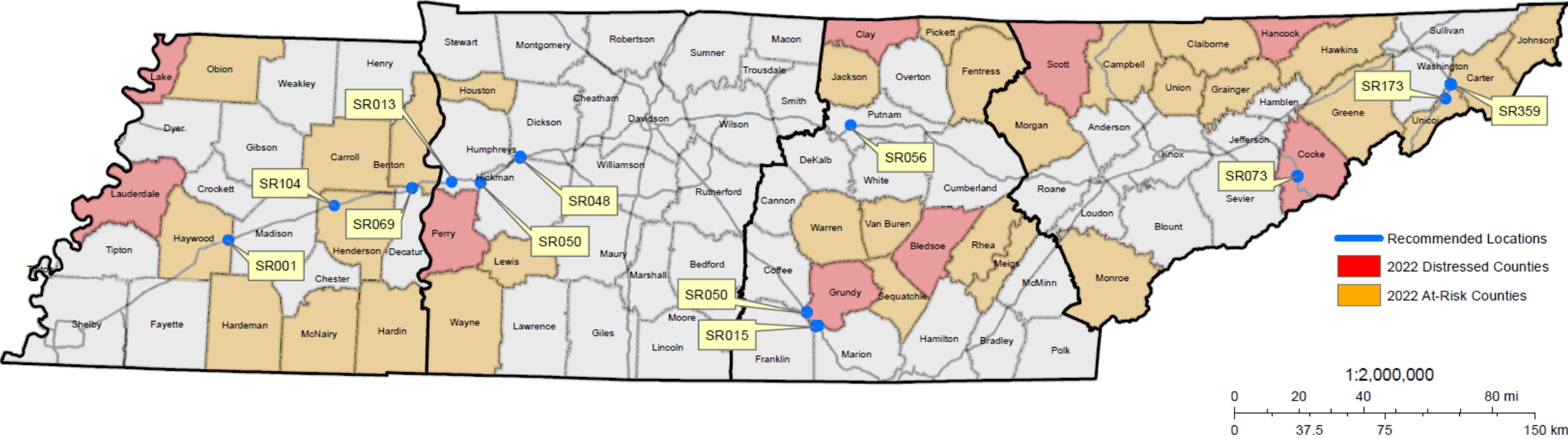
- Why did we decide to blend Stage 0 and Stage 1 for some projects?



How will this process work for the Rural interchange GFT Projects?

Rural Interchange Improvement Program

Improves interchanges at state highway facilities providing access to "At-Risk" and "Distressed" counties



STID responsibilities in a blended 0/1 Stage

- Compile planning level comments prior to kickoff meeting
- Coordinate with FHWA
 - Interstate Access Requests (IARs)
 - Safety & Operational Analysis Reports (SOARs)
- Investigate Alternatives
 - Single line sketches/conceptual drawings
 - Cost estimates
 - Complete Intersection/Interchange Evaluation
 - Traffic signal warrants



Example of Single Line Sketch

Challenges of Scoping within the Budget

- Cost estimates are set at different stages of development
- GFT projects had estimated budgets set at high level by STID
- Construction prices and expected contingencies have gone up

III. Rural Interchange Improvement Program Projects

1.	I-40 Interchange at State Route 50 - Reconstruct Interchange, Widen State Route 50, Add High Mast Lighting	\$ 22,000,000	Hickman
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Total Rural Interchange Improvement Program Projects		\$ 176,000,000	

Other challenges of Merging Stage 0 and 1

- Every option in the scoping meeting should be investigated at some level
- Lots of meetings

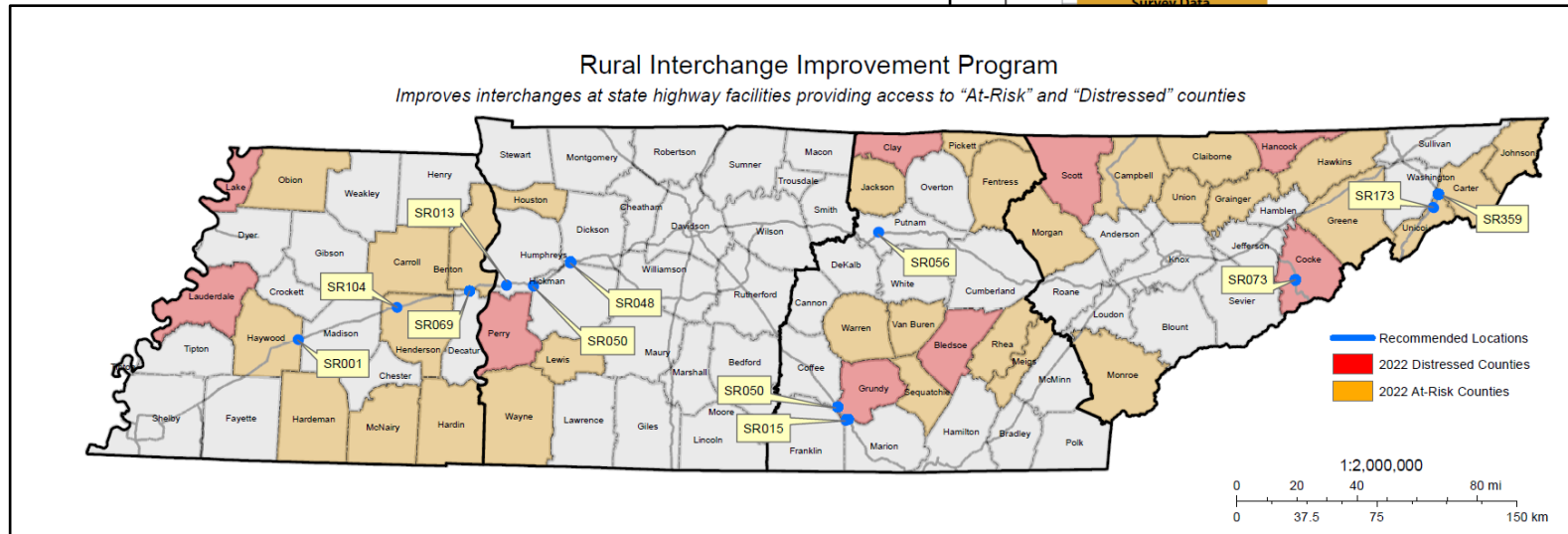
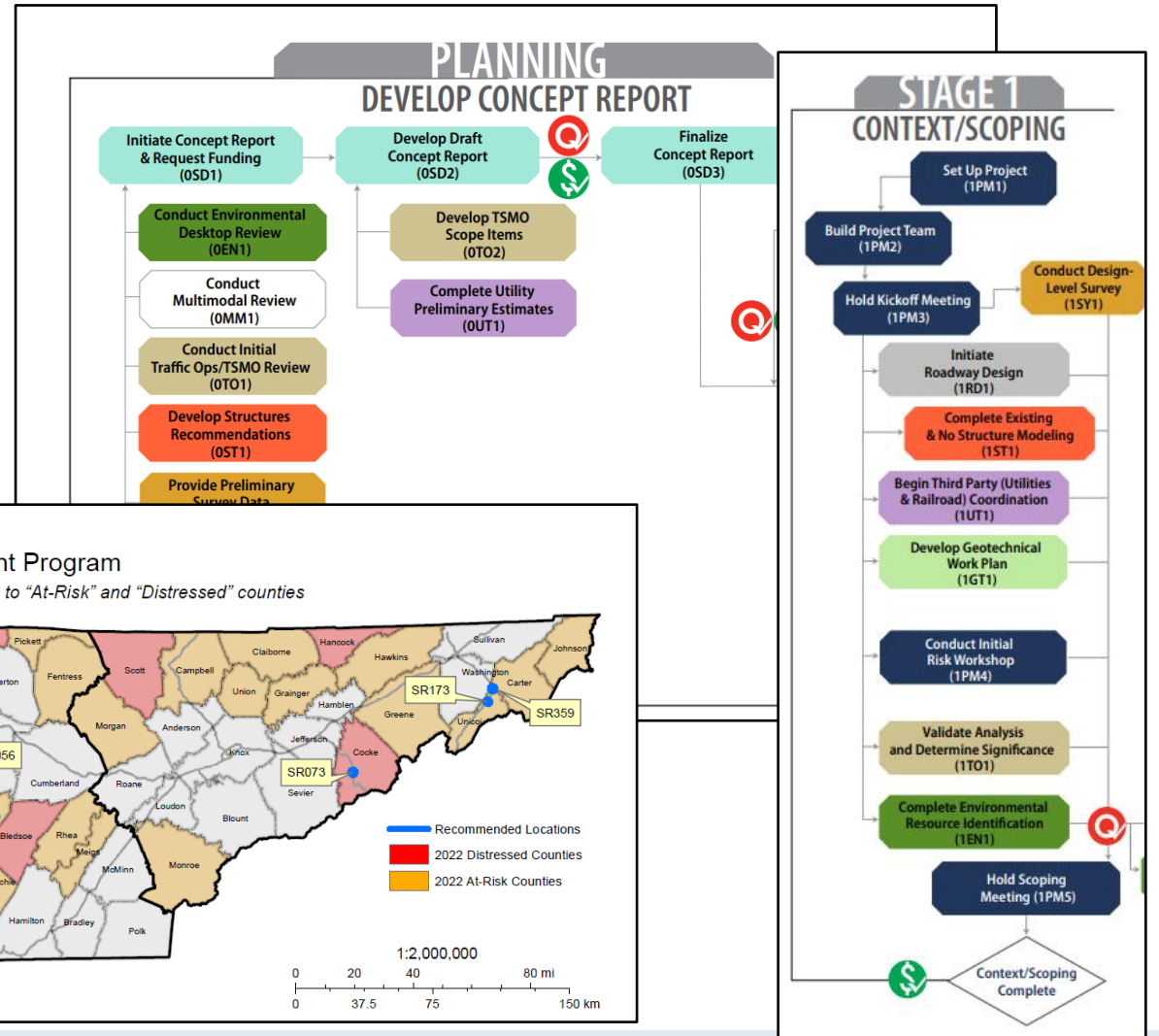


Benefits of Merging Stage 0 and 1

- Streamlined development
- All disciplines and stakeholders are represented throughout
- Collaborative decision-making
 - Every discipline learning about how one decision may affect a different area

Conclusion

- PDN good



THANK YOU

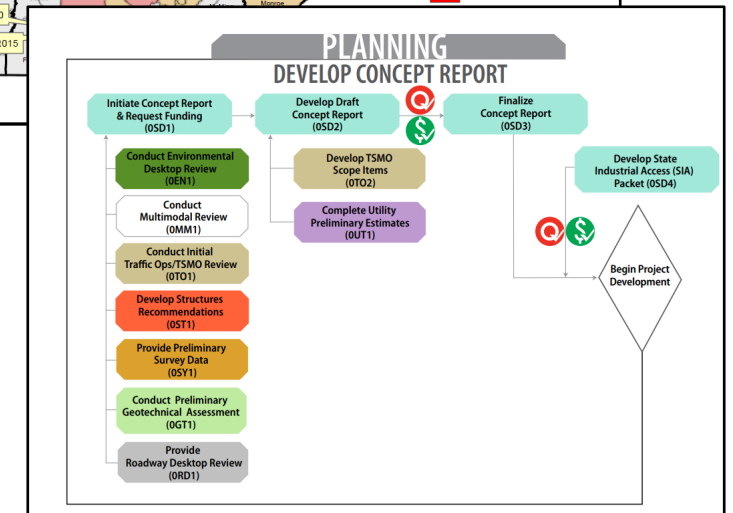
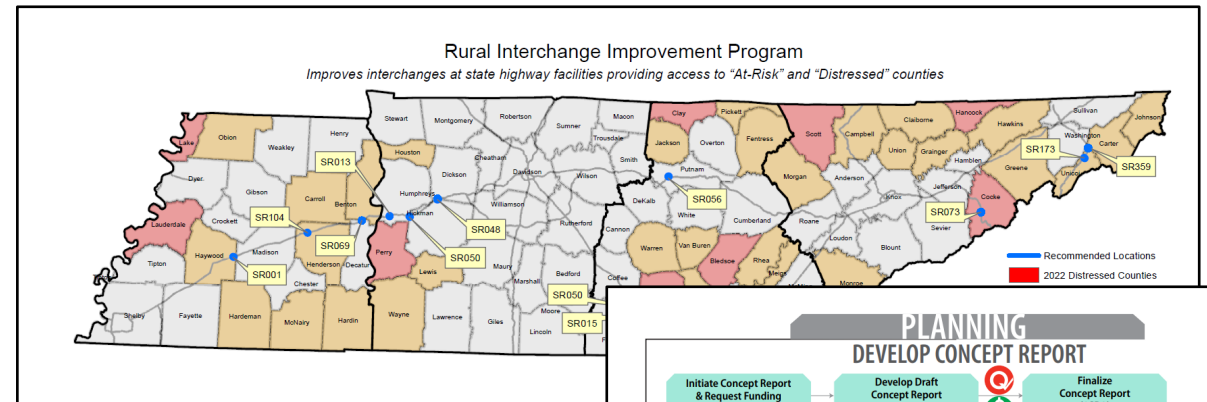
QUESTIONS?

Konner Spradlin

& Amy Rauch

Civil Engineering Managers 1

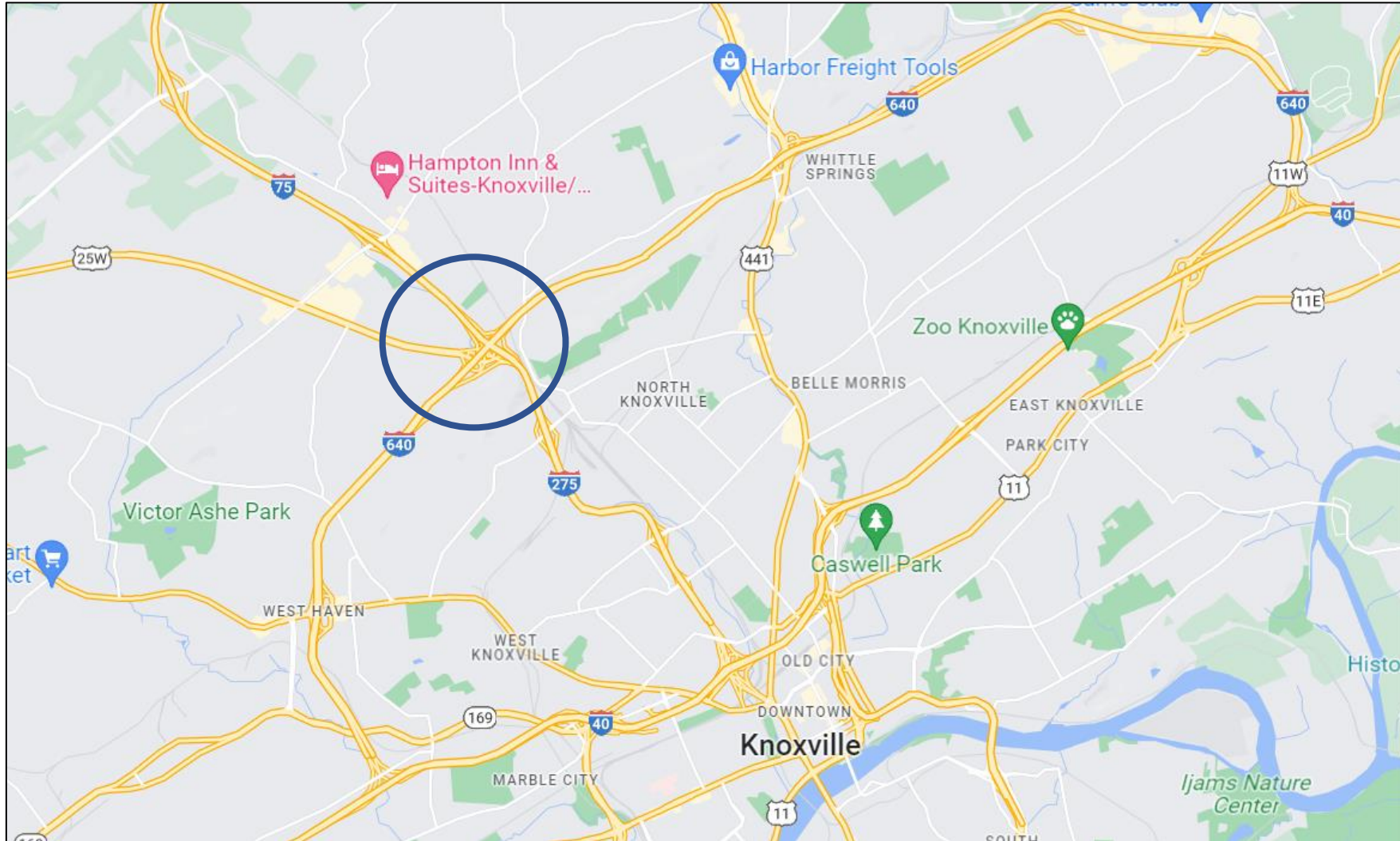
TDOT STID





**Knox County
Sharps Gap Interchange I-75/275 @ I-
640 & US-25W (Clinton Hwy)**

Sharps Gap Interchange I-75/275 @ I-640 & US-25W (Clinton Hwy)



SHARPS GAP INTERCHANGE

SHARPS GAP

SHARPS RIDGE

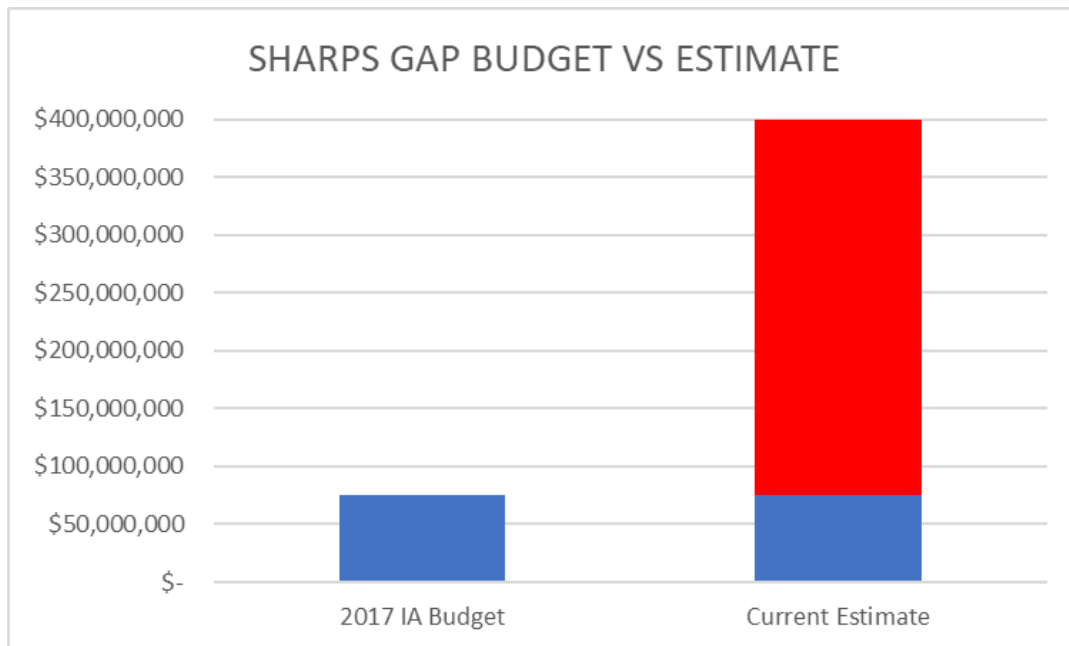
I-275 – NFS RR – BRUHINN ROAD

Background

IMPROVE Act Committed Project 2017

- Original IA Budget: \$75 million
- Current Estimate: \$300-400 million

Being Considered for
Transportation Modernization Act
(TMA) Funding - \$3.3 Billion

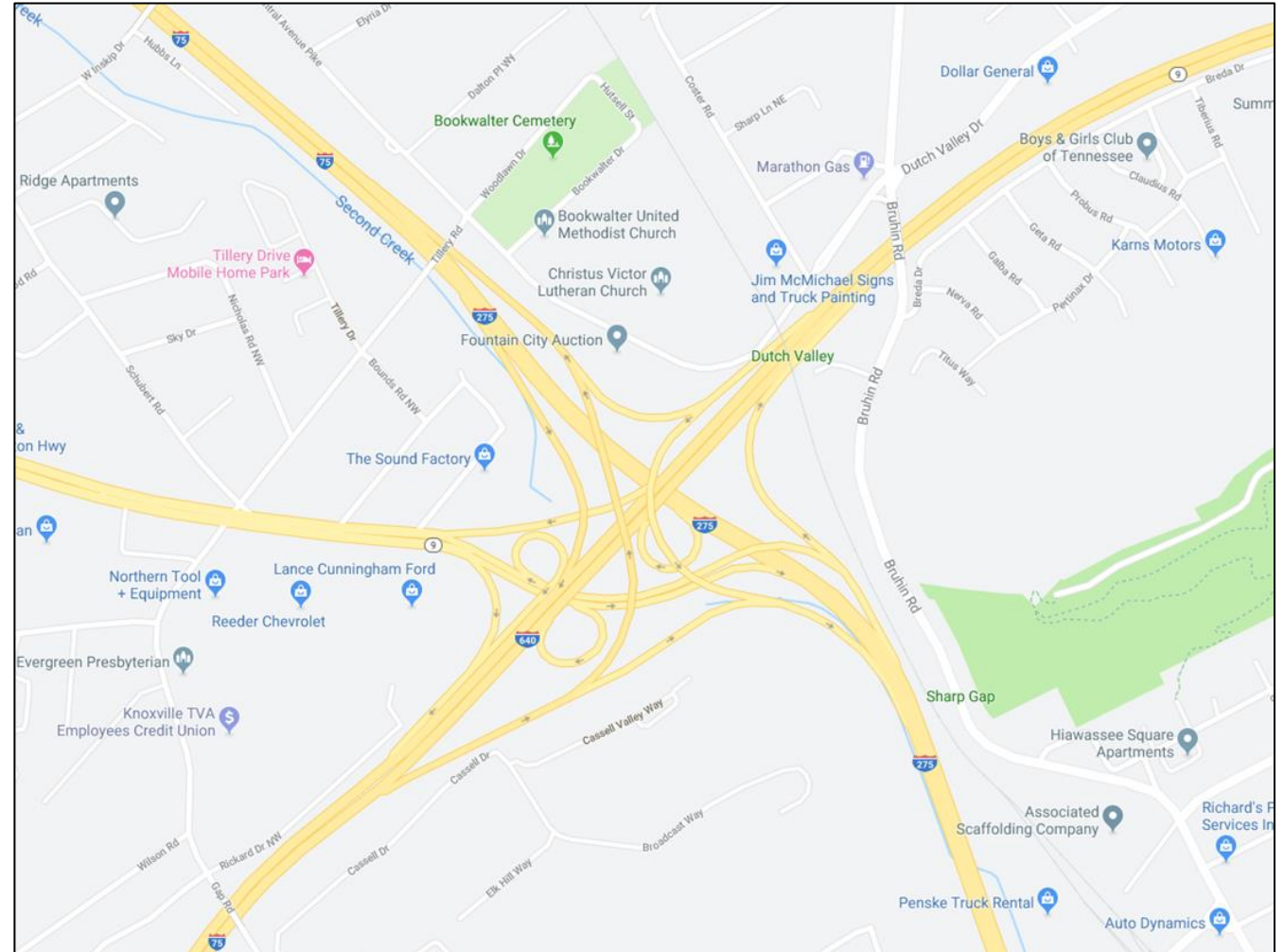


Timeline

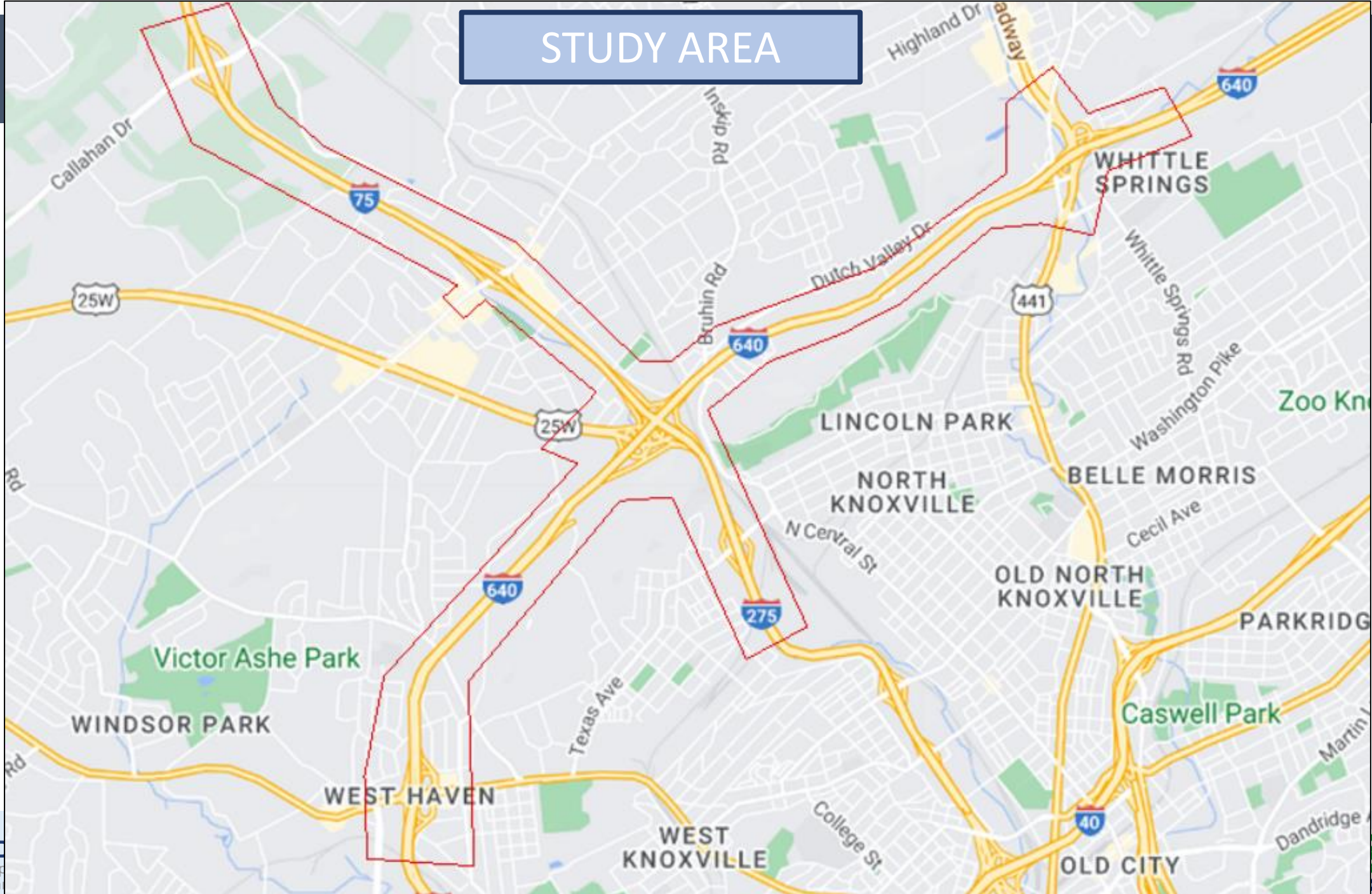
- Late 2017 – Began scoping conceptual studies
- 2018 – 1st Draft Traffic Analysis and Conceptual Design
- 2019 & 2020 – STID and Region 1 Coordination to fine tune the concept. Started Early Coordination w/ FHWA.
- 2021 – Development of IAR and 1st IAR Draft to sent to FHWA
- 2022 – TDOT submitted 2nd IAR Draft to FHWA
 - Currently addressing feedback from FHWA HQ in DC

Purpose and Need

- Primary
 - Reduce Congestion
 - Address High Crash Locations
 - Address Geometric Deficiencies
- Secondary
 - Maintain Access to all movements



STUDY AREA



AADTs



Geometric Deficiencies

Low Speed Ramps



Geometric Deficiencies

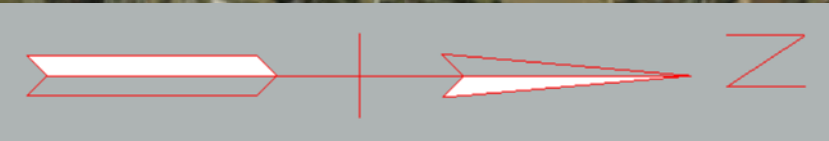
Ramp Spacing

HEISKELL AVE

0.30 MI

MERCHANTS DRIVE

0.50 MI



Traffic Conditions - AM



Traffic Conditions - AM

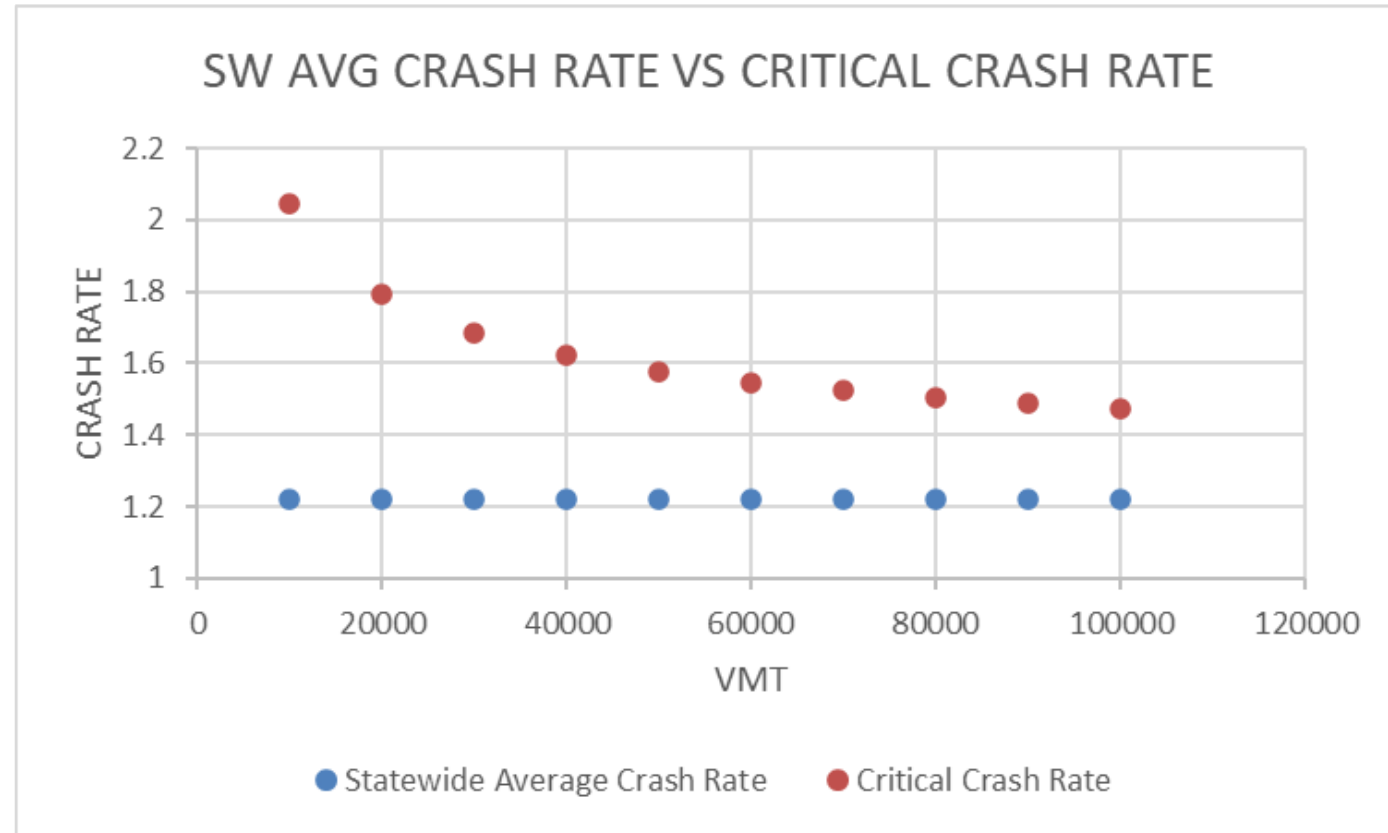


Traffic Congestion - PM



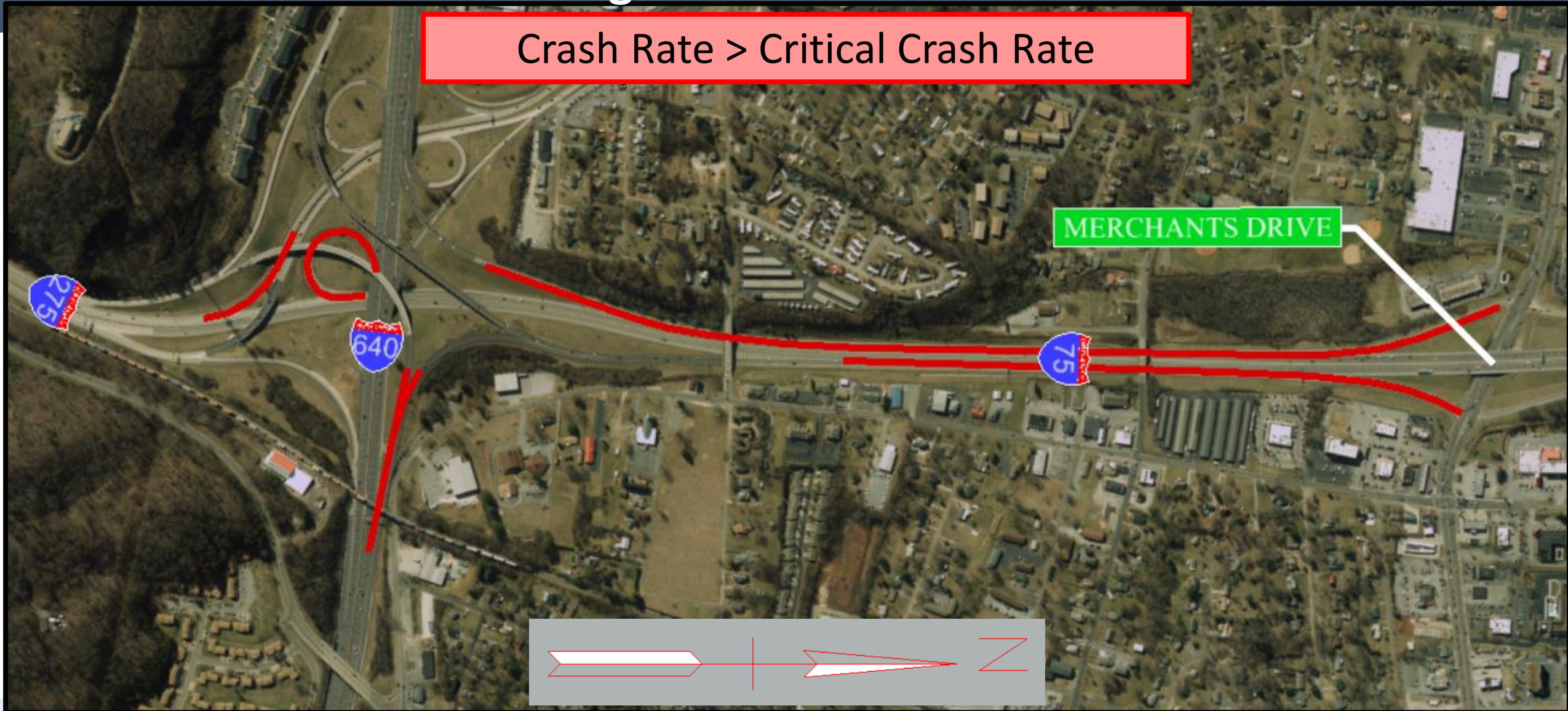
High Crash Locations

- Actual crash rate exceeds critical crash rate
- What is a critical crash rate?
- Threshold where we are confident that the actual crash will continue to exceed the statewide average if left untreated

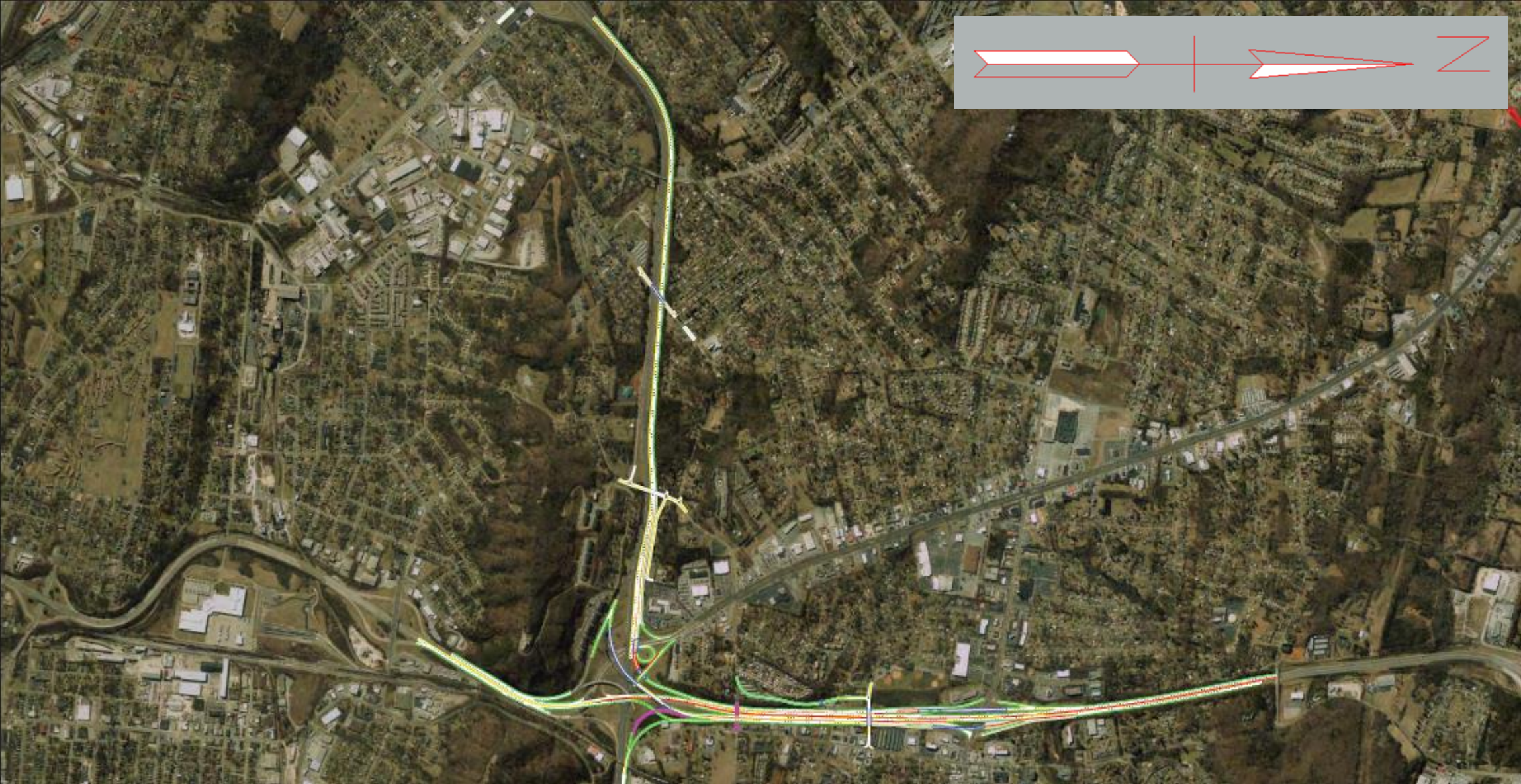


High Crash Locations

Crash Rate > Critical Crash Rate

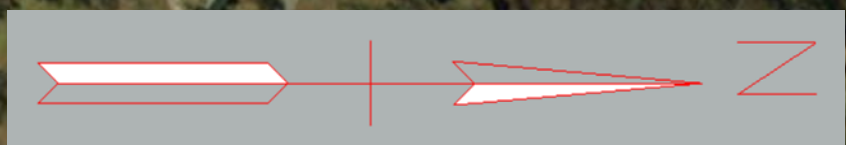


Conceptual Alternative



AM PROJECT

TYPE	YEAR	COUNTY	FIGURE NO.
1AR	2019	KNOX	2



MATCH LINE SEE FIGURE NO. 3

MATCH LINE SEE FIGURE NO. 1

EXIT 10B

Northbound (top half):
Exit 10B: Knoxville Asheville (Route 275 / 640)
Exit 10B: Nashville Chattanooga (Route 75 / 640)
Exit 10B: Marietta Dr. (Route 640) **EXIT ONLY**

Southbound (bottom half):
Exit 10B: **EXIT ONLY**

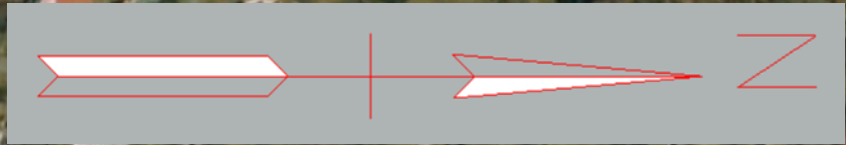
(REQUIRED)

PRIMUS ROAD

MURRAY DRIVE

75

TYPE	YEAR	COUNTY	FIGURE NO.
1AR	2019	KNOX	3

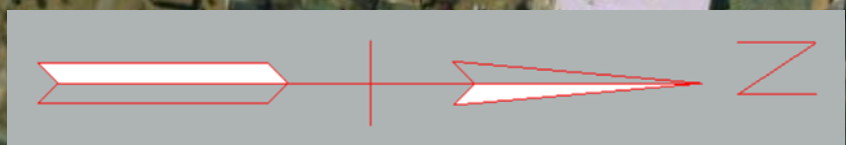


AM PROJECT

2

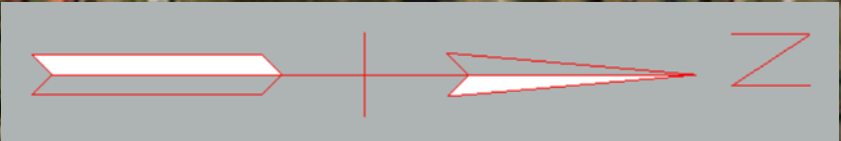
AM PROJECT

TYPE	YEAR	COUNTY	FIGURE NO.
1AR	2019	KNOX	4



AM PROJECT

TYPE	YEAR	COUNTY	FIGURE NO.
1AR	2019	KNOX	5



AM PROJECT

TYPE	YEAR	COUNTY	FIGURE NO.
AR	2019	KNOX	2



AM PROJECT

TYPE	YEAR	COUNTY	ROUTE NO.
[AR	2019	KNOX	3



WILSON ROAD

75

MATCH LINE SEE FIGURE NO. 2

AM PROJECT



TYPE	YEAR	COUNTY	FIGURE NO.
1AR	2019	KNOX	1

PM PROJECT



TYPE	YEAR	COUNTY	FIGURE NO.
JAR	2019	KNOX	2



(REMOVE)

(RETAIN)

(RELOCATE TO NEW BRIDGE)

MATCH LINE
SEE FIGURE NO. 3

PM PROJECT

TYPE	YEAR	COUNTY	ROUTE NO.
[AR	2019	KNOX	6

PM PROJECT



PM PROJECT

TYPE	YEAR	COUNTY	FIGURE NO.
IAR	2019	KNOX	7

MATCH LINE SEE FIGURE NO. 6

MURRAY DRIVE

PRIMUS ROAD

KENTUCKY
75

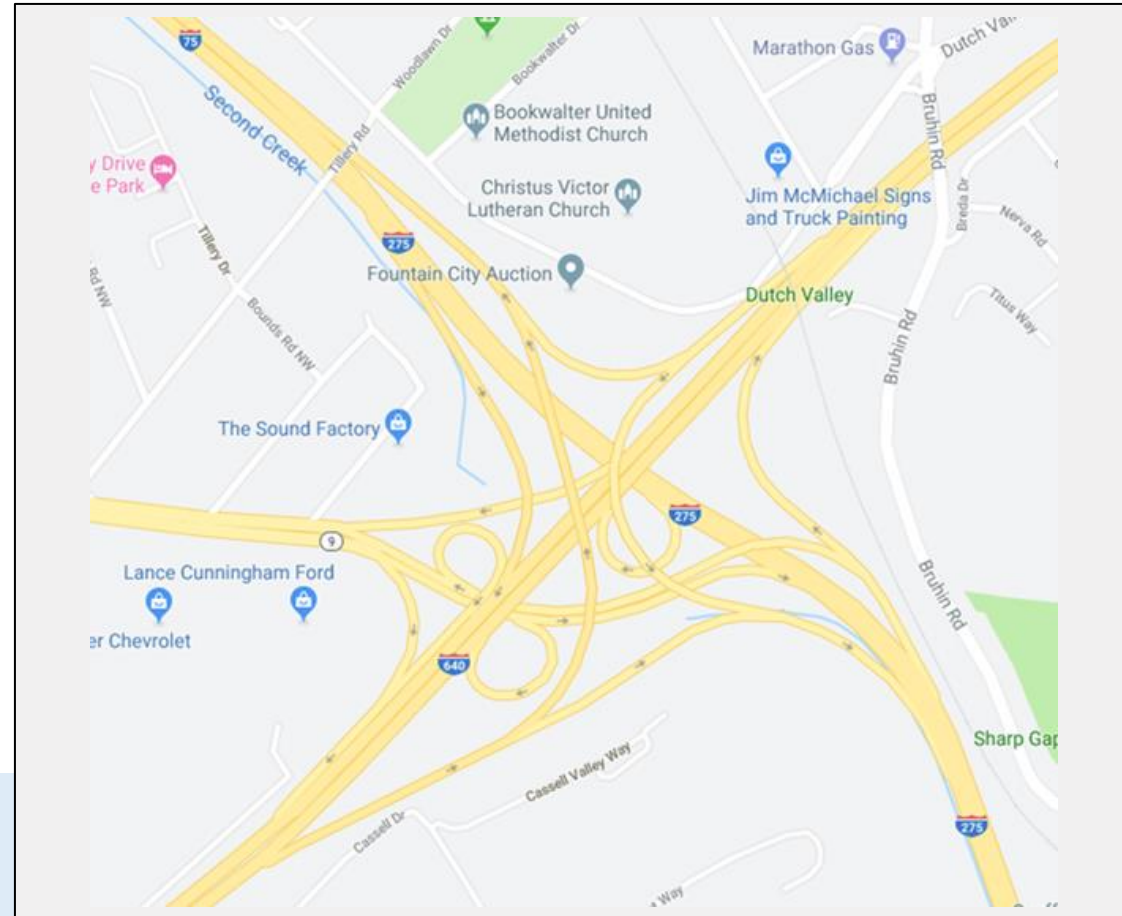
Traffic Performance

- 2047 AM – 26% Reduction in Delay
- 2047 PM – 19% Reduction in Delay

THANK YOU

QUESTIONS?

David Duncan
Civil Engineering Manager 1
TDOT STID





TM

Sevier County

I-40

Interchange at Exit 408



About the Development

- Kituwah LLC, Eastern Band of Cherokee Indians
 - Restaurants
 - Retail
 - Hotels
 - Entertainment



About the Development

- Buc-ee's
 - Largest in the world (for now)
 - 74,000 sq. ft.
 - 120 gas pumps
- Buc-ee's projects 15,000 vpd (65% Increase)
- More coming with developments



THE 407
GATEWAY TO ADVENTURE!



Buc-ee's Boulevard

Gateway Boulevard

SMOKY GAP
- DISTRICT -
- OPENING 2025 -

COURTYARD
BY ROBERT
- 2025 -

NEAR TERM
DEVELOPMENT

PHASE 2
FUTURE DEVELOPMENT
- COMING SOON -

PHASE 2
FUTURE DEVELOPMENT



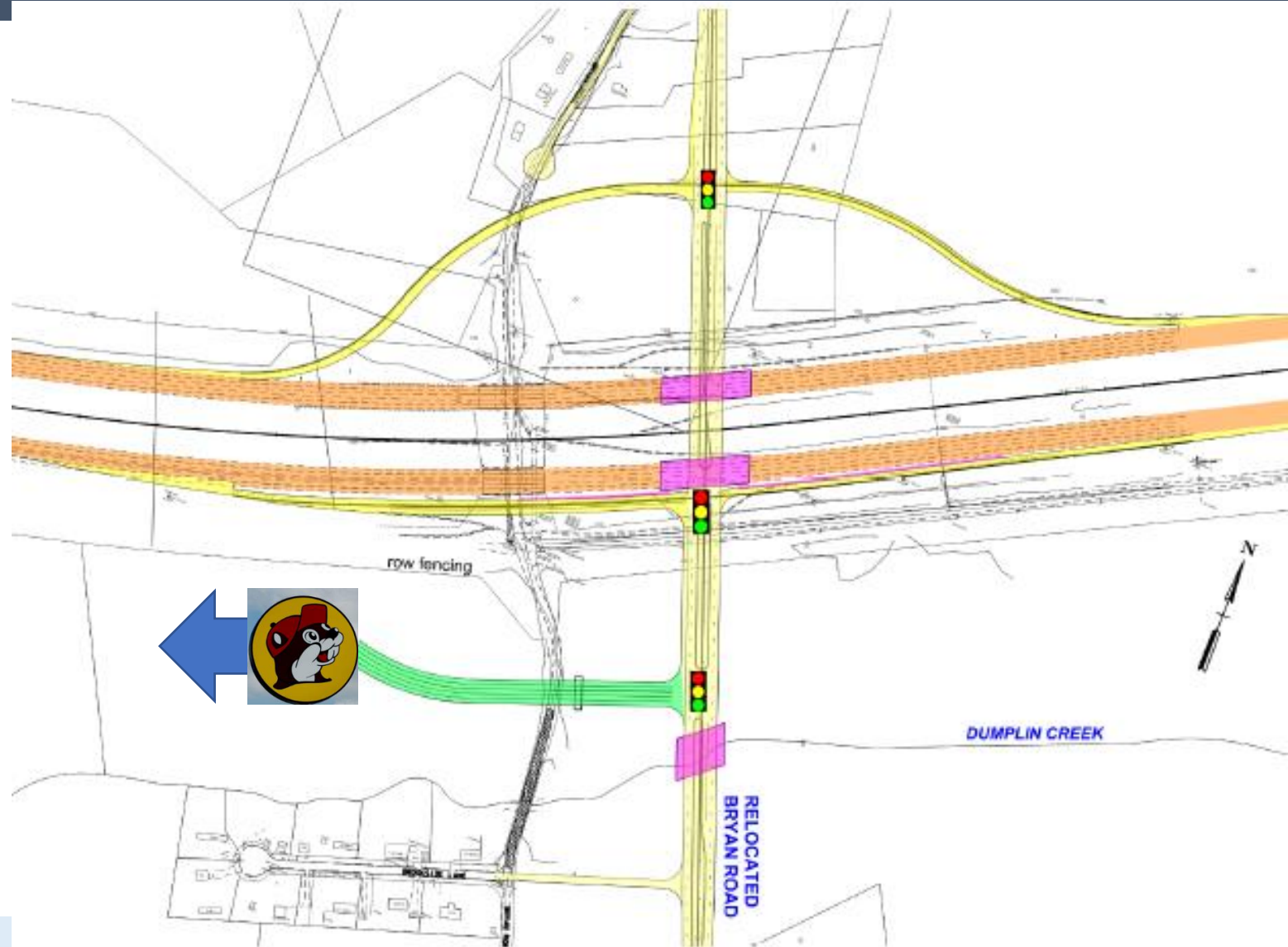
Exit 408 IAR

- June 2022
 - Draft IAR submitted
- Kituwah LLC
- Robert Campbell and Associates
- CDM – Smith
- TDOT



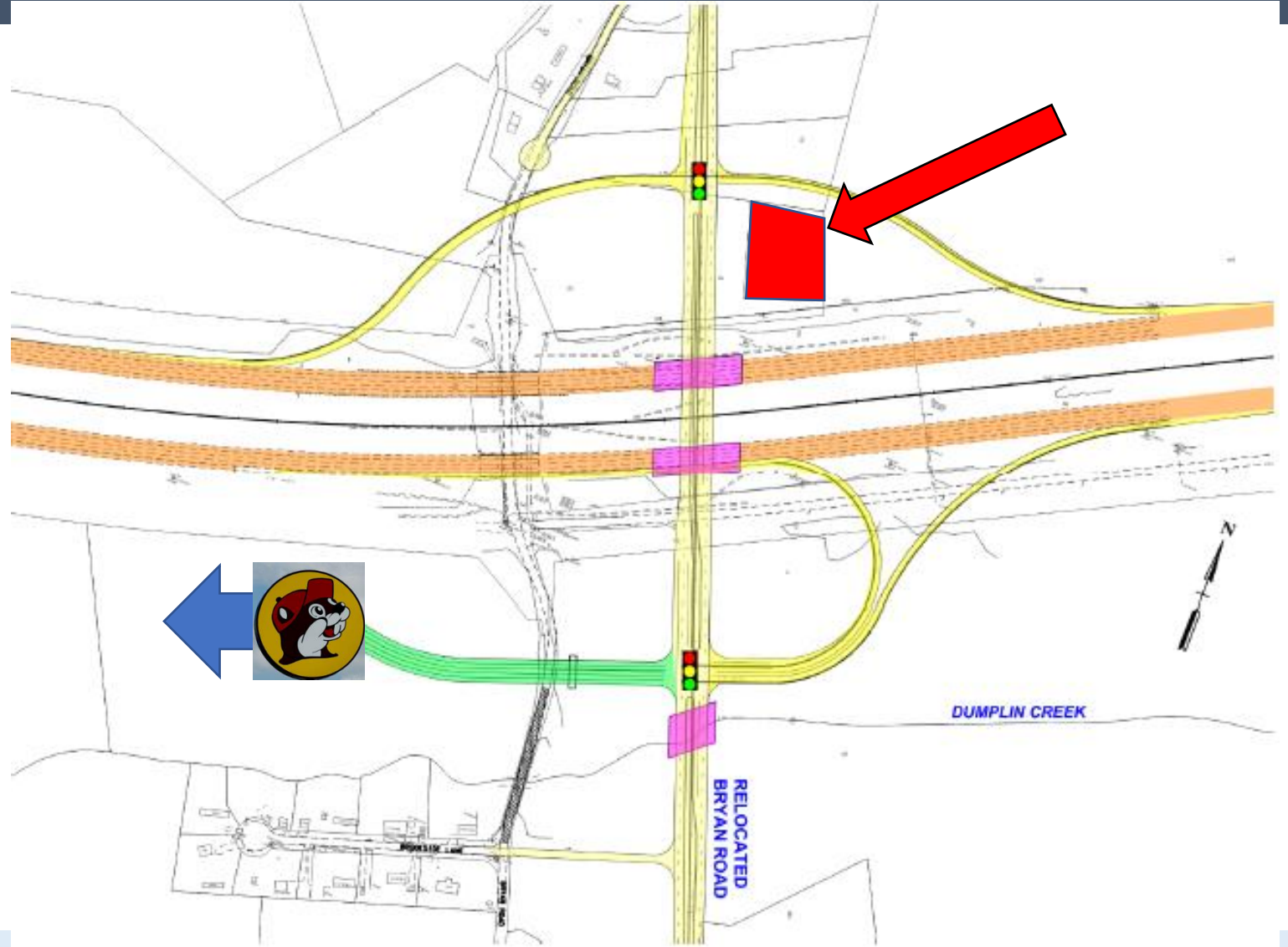
Original Proposed Build Alternatives

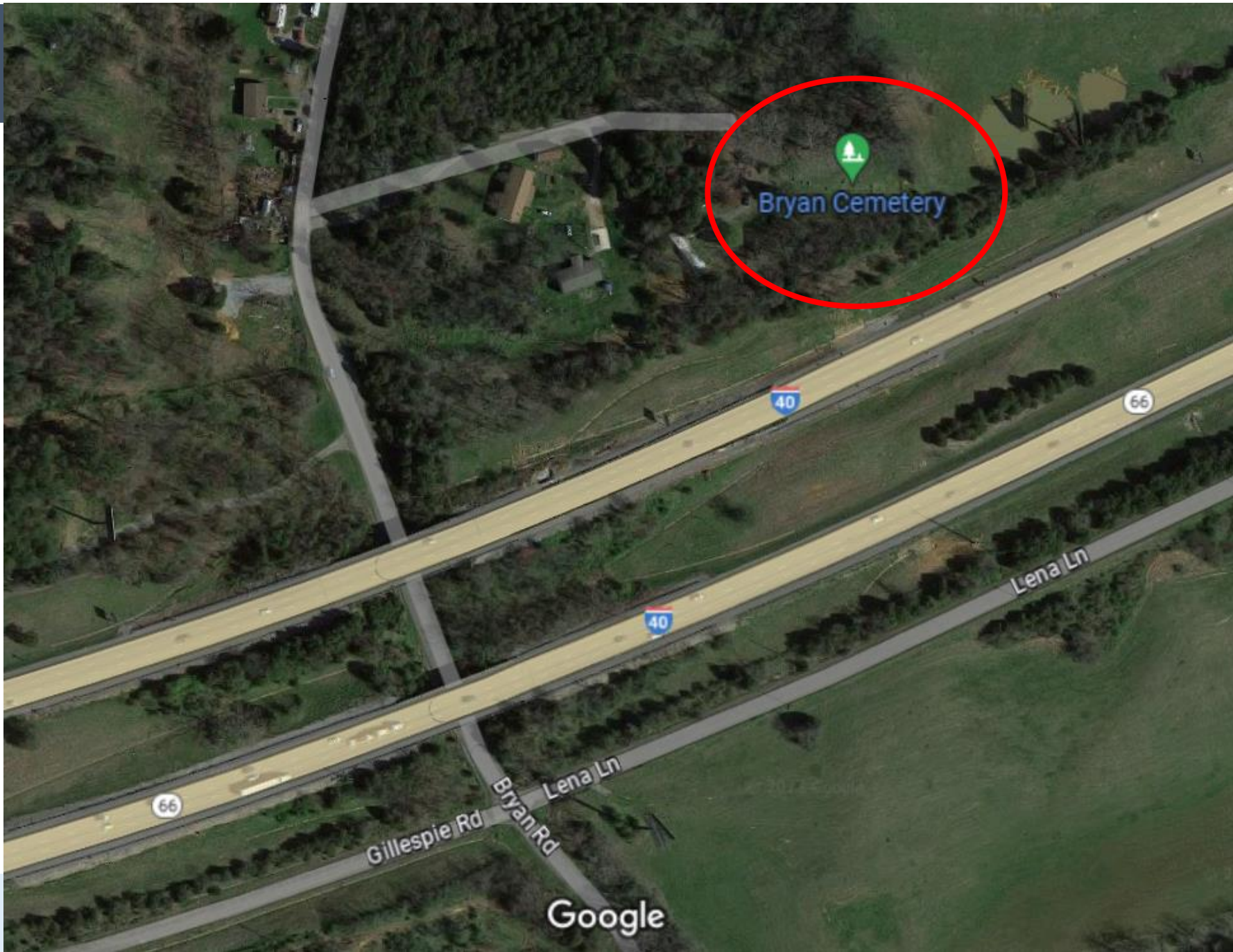
- 1. Diamond/Tight Diamond



Original Proposed Build Alternatives

- 2. Diamond with Loop in SE Quadrant

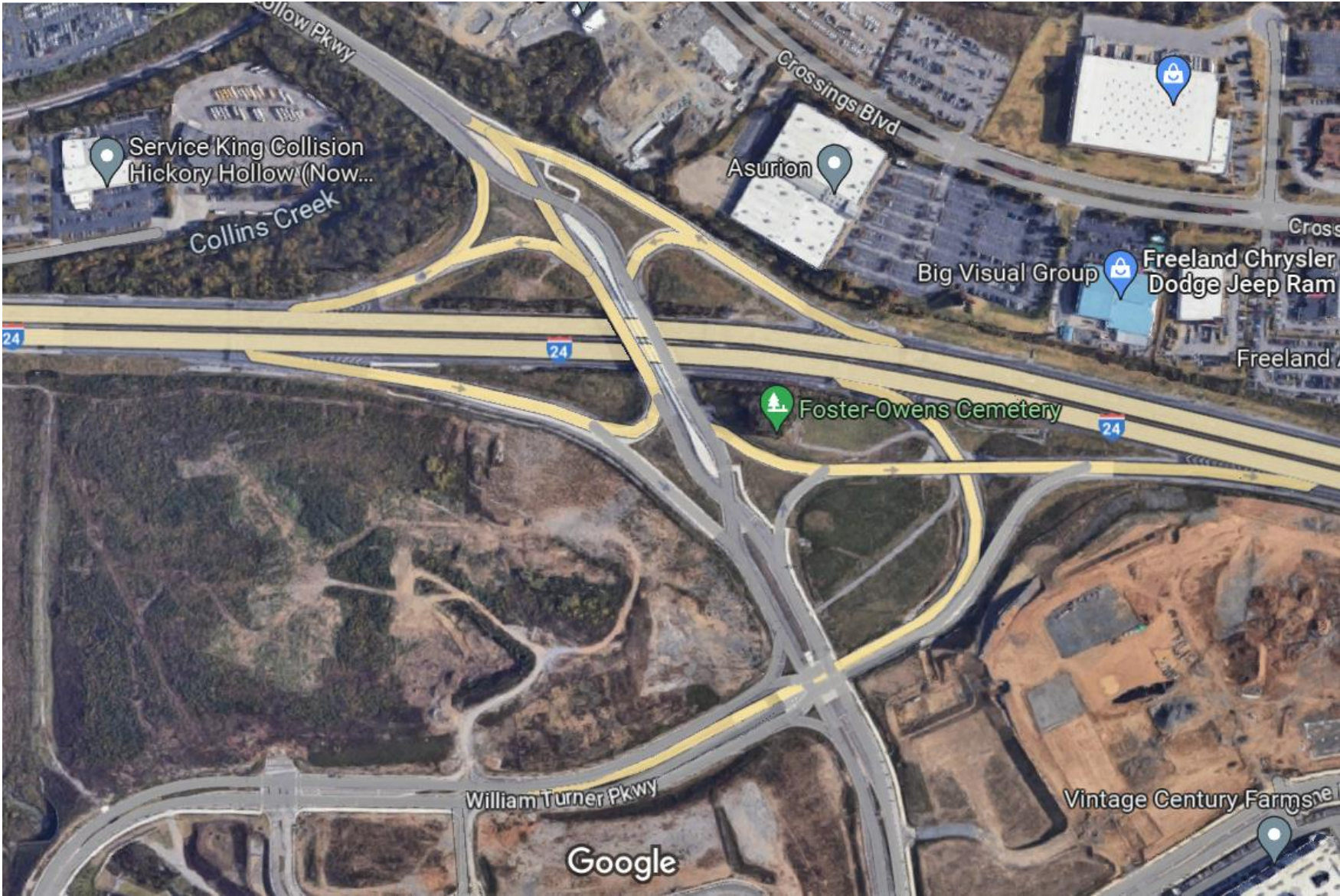


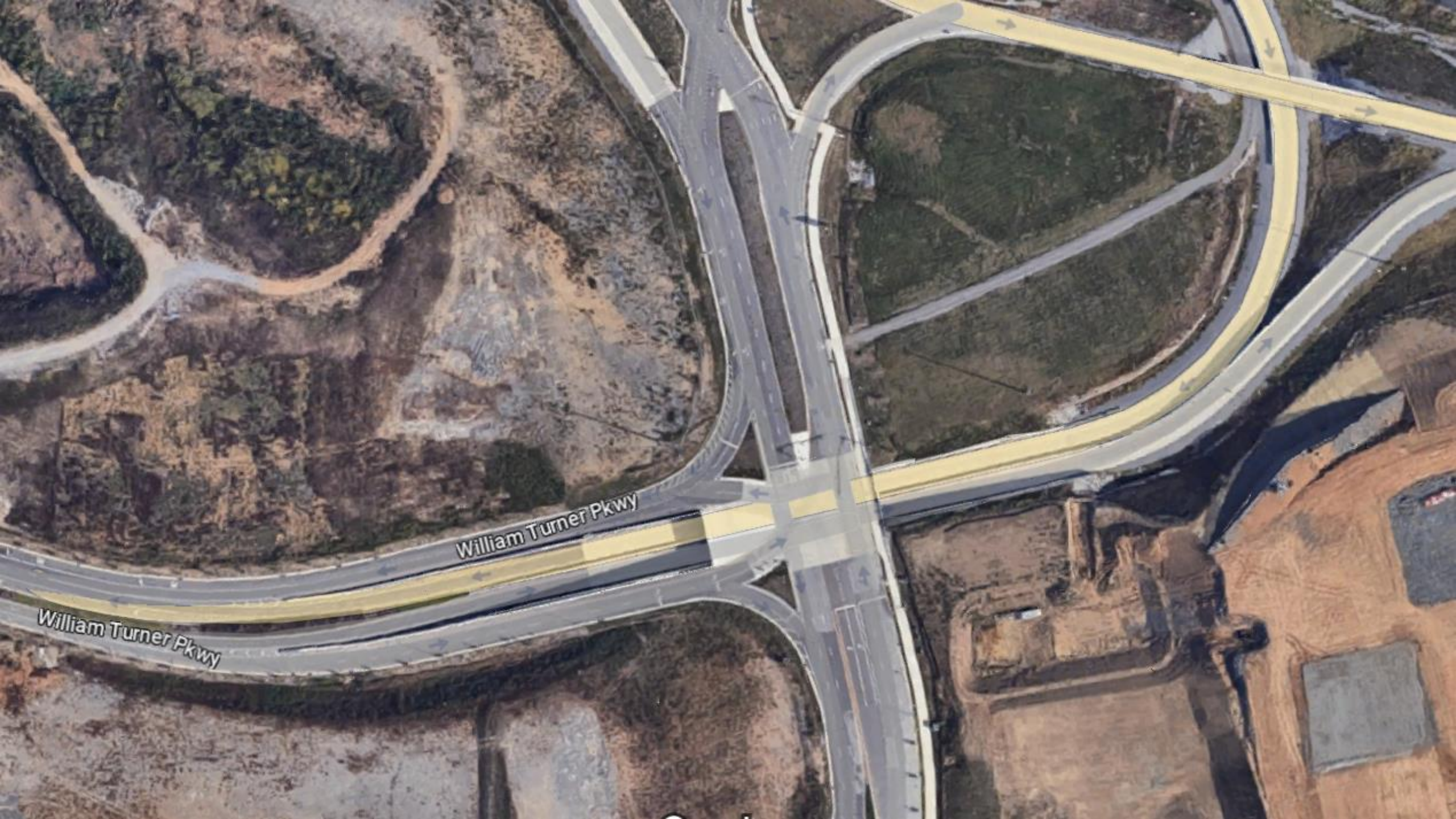


Challenges with Original Concepts

- Bryan Cemetery
- Tight Diamond Ramps
- Loop Ramp Terminates at Traffic Signal
- C-D Road Constraints/Capacity
- Constructability
- Attractiveness to EB Drivers Trying to Access Development

Davidson I-24 Interchange at Hickory Hollow Pkwy



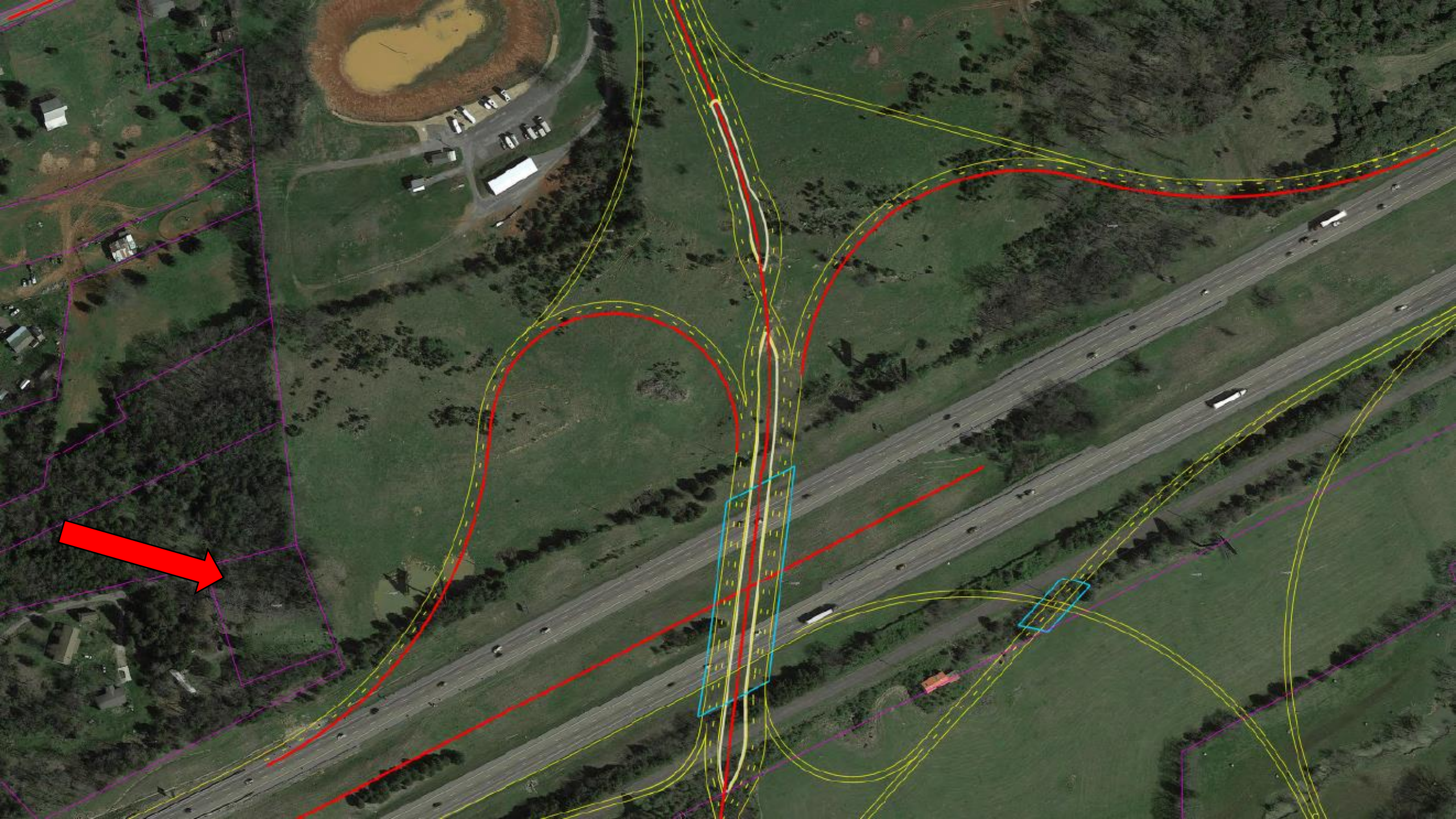


William Turner Pkwy

William Turner Pkwy

Revisited Concept – Diverging Diamond Interchange









Current Status

- Site Visit Held
- IAR Currently Being Revised
- Schedule???

THANK YOU

QUESTIONS?



Caleb Smith
Civil Engineering Manager 1
TDOT STID



Thank You from the STID Oyster Cult

