#### **Concept Report Form**

The Concept Report Form develops an initial project vision, basis of design and report (e.g., the Concept Report) to transition into the subsequent design stages (Stages 1 through 4 in the Project Delivery Network [PDN]). This form summarizes all project components using information to complete the Concept Report.

			Gen	eral Proj	ect Informa	tion				
Project Name	Smith/Putn	am Countie	s I-40 E	Bridges/Rest	Area Concept I	Report				
PIN	131552.01									
Route	Route	Route NHS (Y/N) F			al Class		City		Coun	ty
Information	I-40	Yes		Inter	state	Gordons	ville/Buffalc	Vall :	Smith/Pu	tnam
Project Information	Begin Lo Mile	•	Log ile	AADT <sup>1</sup>	Design Hour Vol. (DHV) <sup>1</sup>	Truck % <sup>1</sup>	Design Speed (MPH)	Posted Speed (MPH)	Base Year	Design Year
	16.33	0.	80	61,650	5,183	27.00	70	70	2026	2046
Project Description & Standard Drawings Used	expansion a WB in Smith standards. conceptual with media I-40 corrido	The I-40 Interchange Improvement and Truck Parking project will add a 125 bay truck parking expansion adjacent to the Welcome Center, replace twin bridges 80I00400036 along I-40 EB & WB in Smith & Putnam County, and update ramp acceleration and deceleration length to current standards. The grade of the I-40 bridges will be raised 1ft 8in. The project will utilize two conceptual typical sections for I-40: 4 lane freeway with depressed median, and 6 lane freeway with median barrier for the proposed bridge. The project length is approximately 0.86 miles. The I-40 corridor is a full access controlled facility with an interchange to access the Welcome Center.								
Important Project History or Related Projects	2022: TDOT STID coordinated with Structures and Long-Range Planning to submit Rest Area Improvements (truck parking expansion, ramp improvements, and bridge replacements) for potential grant funding. STID developed site visit packet and presented alternatives to Structures, Region 3 Project Development & Operations, STID, and Region 3 Project Management. The Grant was awarded to TDOT and preliminary design activities started in 2023.								Project Details	
Project Purpose/Need	The purpose of the project is to add a new commercial truck parking lot (approximately 125 bays) adjacent to the Welcome Center, replace the I-40 twin bridges adjacent to the Welcome Center interchange and extend the acceleration and deceleration ramps to meet current standards. Federal Funding is anticipated to be utilized in the construction of this project.								Proje	
Major Environmental Considerations	removal act	tivities of th an existing	e exist treatn	ing structure nent facility	the Caney Fork es and a retainii on site of the W this septic syste	ng wall. The elcome Ce	ere is a drip	field septi	С	

Multi-Modal Considerations	There are no multi-modal considerations as this facility is a full control access facility. This project is expected to utilize federal funding.						
Major Project Risks	Project risks include impacts that would effect the SOP of the Welcome Center and additional permitting costs to change or update that SOP. This document is covered by 23 USC § 407 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 407.						
Concent	Total Current Project Cost	Construction Year Estimate	λ ,ς				
Concept Estimate and	\$ 84,300,000		Preliminary Estimates				
Timeline	Proposed Construction Year	Estimated Construction Duration	elim				
Timeline			Pr E				

<sup>&</sup>lt;sup>1</sup> Traffic numbers reflect identified design year

#### **Approvals**

Executed for approval of this Concept Report	Jul 3, 2024
Project Management Director	Date
The following individuals to execute if a bridge concept report:	
Structures Director	Date
Regional Project Development Director	Date
Bureau Chief of Engineering	Date
Bureau Chief of Environment and Planning	 Date

		Action Checklist	
0SD1 Init	iate (	Concept Report and Request Funding	
Complete	NA		Date Completed
	✓	Request and Finalize Safety Data	
✓		Request Project Number, PIN, and Task Profile Numbers	09/10/2021
	✓	Coordinate with Long Range Planning	
✓		Request and Finalize Traffic Data	11/10/2021
	✓	Request Preliminary Survey Data	
✓		Initiate Division Reviews	05/19/2023
	✓	Schedule Site Review (with appropriate Divisions)	
0EN1 Con	duct	Environmental Desktop Review	
Complete	NA		Date Completed
✓		Confirm Environmental Desktop Review is Complete	05/25/2024
0MM1 Co	nduc	t Multimodal Review	
Complete	NA		Date Completed
	✓	Confirm Multimodal Review is Complete	
	✓	Review Multimodal Considerations & Recommendations	
0TO1 Con	duct	Initial Traffic Ops/TSMO Review (include HQ Traffic Ops and Regional Traffic Office)	
Complete	NA		Date Completed
		Confirm Transportation Systems Management & Operations (TSMO) Alignment & Operations Review is Complete	
		Request Concept Report Review	05/19/2023
0ST1 Dev	elop	Structures Recommendations	
Complete	NA		Date Completed
✓		Confirm Recommended Structure Type for Concept Report is Complete	05/19/2023
	✓	Confirm Hydraulic Recommendations for Concept Report is Complete	
OSY1 Prov	vide I	Preliminary Survey Data	
Complete	NA		Date Completed
	✓	Confirm Control Ground Survey Set	
	✓	Review Preliminary Survey Data	
	✓	Determine Time to Complete the Aerial Survey	
0GT1 Con	duct	Preliminary Geotechnical Assessment	
Complete	NA		Date Completed
	✓	Confirm Geotechnical Division Review is Complete	
<b>ORD1 Pro</b>	vide	Roadway Desktop Review	
Complete	NA		Date Completed
✓		Confirm Roadway Division Review is Complete	05/19/2023

		Action Checklist	
0SD2 Dev	elop	Draft Concept Report	
Complete	NA		Date Completed
	✓	Conduct Intersection and Interchange Evaluation (IIE)	
	✓	Complete Conceptual Signal Warrants	
✓		Develop Draft Conceptual Layouts/Crash Figures for Site Visit	05/19/2023
✓		Compile Initial Divisional Reviews for Site Visit	05/19/2023
	✓	Prepare & Send Site Visit Packet	
	✓	Lead Site Visit	
✓		Initiate Interstate Access Requests (IAR) Concept Coordination with FHWA (if applicable)	01/15/2024
✓		Develop, Compile, and Distribute the Draft Concept Report	05/06/2024
0TO2 Dev	elop	TSMO Scope Items (include HQ Traffic Ops and Regional Traffic Office)	
Complete	NA		Date Completed
	✓	Confirm Signal Warrants Analysis is Complete	
	✓	Confirm Lighting Warrants Analysis is Complete	
	✓	Review and Confirm TSMO & ITS Scope and Budget	
0RW1 Co	mple	te Preliminary Right-of-Way Estimates	
Complete	NA		Date Completed
	✓	Review and Confirm Preliminary Right-of-Way Cost Estimates	
0UT1 Con	nplet	e Utility Preliminary Estimates	
Complete	NA		Date Completed
		Review and Confirm Preliminary Utility Estimate	
		Review and Confirm Preliminary Railroad Cost Estimate	
0SD3 Fina	alize (	Concept Report	
Complete	NA		Date Completed
	✓	Compile and Review Initial Risk Assessment	
✓		Finalize Conceptual Layouts	04/15/2024
✓		Develop Environmental Technical Study Area (ETSA)	04/15/2024
✓		Address Comments and Finalize Concept Report	06/01/2024
	1	Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)	
	✓	Develop Roadway Safety Audit (RSA) No Plans Document	
✓		Submit the final Concept Report for Review and Signatures (as needed; see 0SD3 for additional information)	06/27/2024
✓		Finalize Document and Upload All Needed Electronic Files	07/10/2024
<b>√</b>		Notify the Project Management Director or Assigned Project Manager to Set Up Project (1PM1)	07/10/2024

NA Justification							
Several items are marked NA due to their lack or relevance given the schedule of this project and document type.							
2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2							

Conceptual Layout(s) and Cross Section  Environmental Technical Study Area (ETSA) Layout  Concept Cost Estimate (Construction Year Estimate)  TSMO & ITS Scope and Budget¹  ROW Form 44-A¹  Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Famail or memo containing Structure Type Recommendations¹  Famail or memo containing Hydraulic Recommendations¹  Alternation and Interchange Evaluation (IIE) Analysis and Summary Form  Forecasted Traffic Sheets¹  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Concept Report Table of Contents/Attachments		
Conceptual Layout(s) and Cross Section  Environmental Technical Study Area (ETSA) Layout  Concept Cost Estimate (Construction Year Estimate)  TSMO & ITS Scope and Budget¹  ROW Form 44-A¹  Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Famail or memo containing Structure Type Recommendations¹  Famail or memo containing Hydraulic Recommendations¹  Alternation and Interchange Evaluation (IIE) Analysis and Summary Form  Forecasted Traffic Sheets¹  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form		Included	NA
Environmental Technical Study Area (ETSA) Layout  Concept Cost Estimate (Construction Year Estimate)  TSMO & ITS Scope and Budget¹  ROW Form 44-A¹  Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Finvironmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famil or memo containing Hydraulic Recommendations¹  Althorization and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Althory Conservations of the Risk Assessment Form  Althory Conservations of t	One-Page Summary (with project location map)	✓	
Concept Cost Estimate (Construction Year Estimate)  TSMO & ITS Scope and Budget¹  ROW Form 44-A¹  Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famil or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Conceptual Layout(s) and Cross Section	✓	
TSMO & ITS Scope and Budget¹  ROW Form 44-A¹  Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famil or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Environmental Technical Study Area (ETSA) Layout	✓	
ROW Form 44-A¹  Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Email or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Concept Cost Estimate (Construction Year Estimate)	✓	
Crash Packet¹  Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famail or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	TSMO & ITS Scope and Budget <sup>1</sup>		✓
Crash Prediction Analysis¹  Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famil or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	ROW Form 44-A <sup>1</sup>		✓
Site Visit Attendee List  Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famil or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Crash Packet <sup>1</sup>	✓	
Environmental Desktop Review Form¹  Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Famil or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Crash Prediction Analysis <sup>1</sup>		✓
Multimodal Considerations & Recommendations¹  Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Email or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  V  Initial Risk Assessment using the Risk Assessment Form	Site Visit Attendee List	✓	
Existing Structure Summary¹  Email or memo containing Structure Type Recommendations¹  Email or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Environmental Desktop Review Form <sup>1</sup>	✓	
Email or memo containing Structure Type Recommendations¹  Email or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Multimodal Considerations & Recommendations <sup>1</sup>		✓
Email or memo containing Hydraulic Recommendations¹  Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Existing Structure Summary <sup>1</sup>	✓	
Hydraulic Data  Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Email or memo containing Structure Type Recommendations <sup>1</sup>	✓	
Intersection and Interchange Evaluation (IIE) Analysis and Summary Form  Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Email or memo containing Hydraulic Recommendations <sup>1</sup>	✓	
Traffic Analysis Summary/Tables  Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Hydraulic Data	✓	
Forecasted Traffic Sheets¹  Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Intersection and Interchange Evaluation (IIE) Analysis and Summary Form		✓
Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)¹  Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form	Traffic Analysis Summary/Tables	✓	
Signal Warrant¹  Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form  ✓	Forecasted Traffic Sheets <sup>1</sup>	✓	
Lighting Warrant¹  Initial Risk Assessment using the Risk Assessment Form  ✓	Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output) <sup>1</sup>	✓	
Initial Risk Assessment using the Risk Assessment Form   ✓	Signal Warrant <sup>1</sup>		✓
	Lighting Warrant <sup>1</sup>		✓
	Initial Risk Assessment using the Risk Assessment Form		✓
Final Interstate Access Request (IAR) Document and Memo with Letter from STID Director	Final Interstate Access Request (IAR) Document and Memo with Letter from STID Director		1
Road Safety Audit (RSA) No Plans¹ ✓	Road Safety Audit (RSA) No Plans <sup>1</sup>		✓

#### NA Justification

Several items are marked NA due to their lack or relevance given the schedule of this project and document type.

<sup>&</sup>lt;sup>1</sup> External document to STID

### Project Summary & Location Maps (4 pages)

#### **Project Summary**

## Smith County – I-40 Bridge Replacement/Rest Area Truck Parking Project Concept Report (L.M. 16.333/ L.M. 0.138) PIN 131552.01

#### **Existing Route:**

- Four Lane Divided (Depressed Median, Barrier Wall, Bifurcated) with 12' lanes, 10' outside and 4' inside shoulders. 1 Total Bridge (Six Lane Divided Median, Barrier Wall) with 12' lanes, 10' outside and 4' inside shoulders within Project Corridor.
- Speed Limit = 70 MPH
- Project Length = 0.92 Miles
- Crash History (10/31/2018 to 11/1/2021)

Crash Rates							
Туре	I-40 Project Crash Rate	SW Average					
Total	0.876	0.616					
Fatal	0.000	0.007					
Incapacitating Injury	0.000	0.028					

#### Traffic

		No E	Build		Build			
Year	I-40 EB	Ramps	I-40 WB Ramps		I-40 EB Ramps		I-40 WB Ramps	
	AM	PM	AM	PM	AM	PM	AM	PM
2026 (45,710 AADT)	c/c	c/c	C/B	c/c	B / B	C / B	B / B	B / B
2046 (59,420 AADT)	D/C	D/D	D/C	D/C	c/c	D/C	c/c	c/c

Note: Off Ramp / On Ramp

#### **Project History:**

- 2022:
  - TDOT STID coordinated with Structures and Long-Range Planning to submit Rest Area Improvements (truck parking expansion, ramp improvements, and bridge replacements) for potential grant funding. STID developed site visit packet and presented alternatives to Structures, Region 3 Project Development & Operations, STID, and Region 3 Project Management. The Grant was awarded to TDOT and preliminary design activities started in 2023

#### **Current Proposed Improvements:**

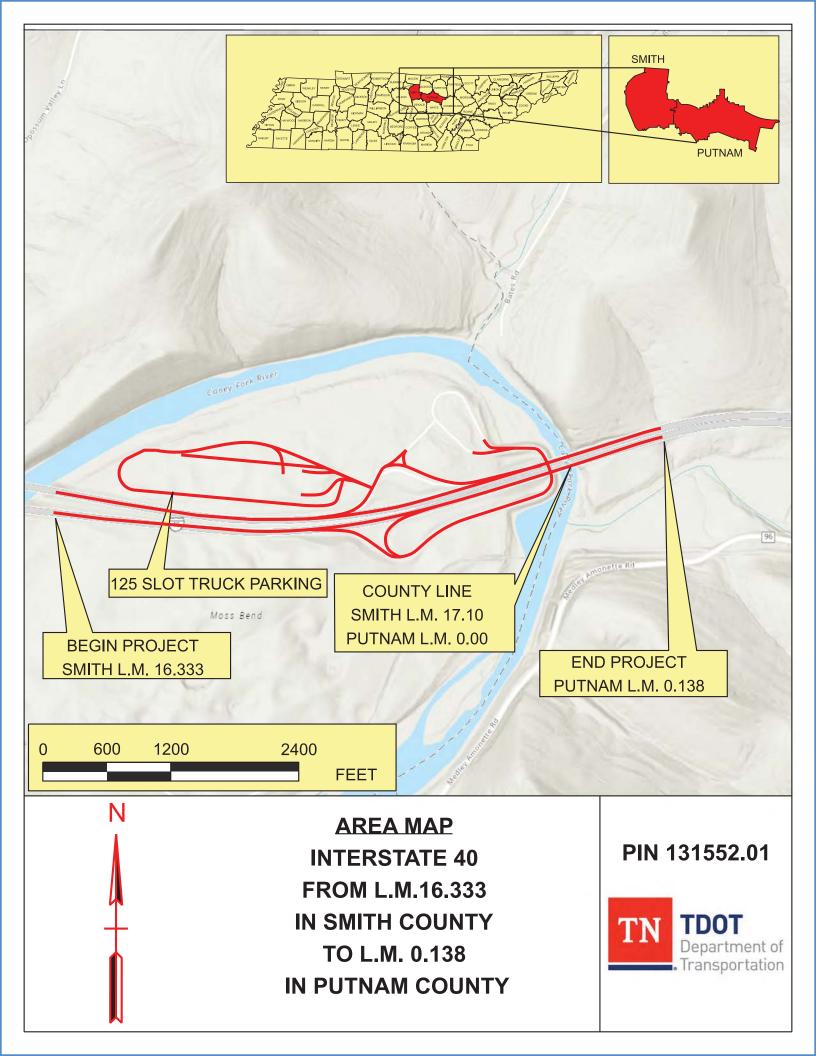
Current proposed improvements include a new truck parking area (approximately 125 bays) at the I-40 Rest Area, improvements to local traffic circulation around welcome center property, acceleration and deceleration length to current standards and replacement of twin bridges 80100400036 along I-40 EB & WB in Smith & Putnam County.

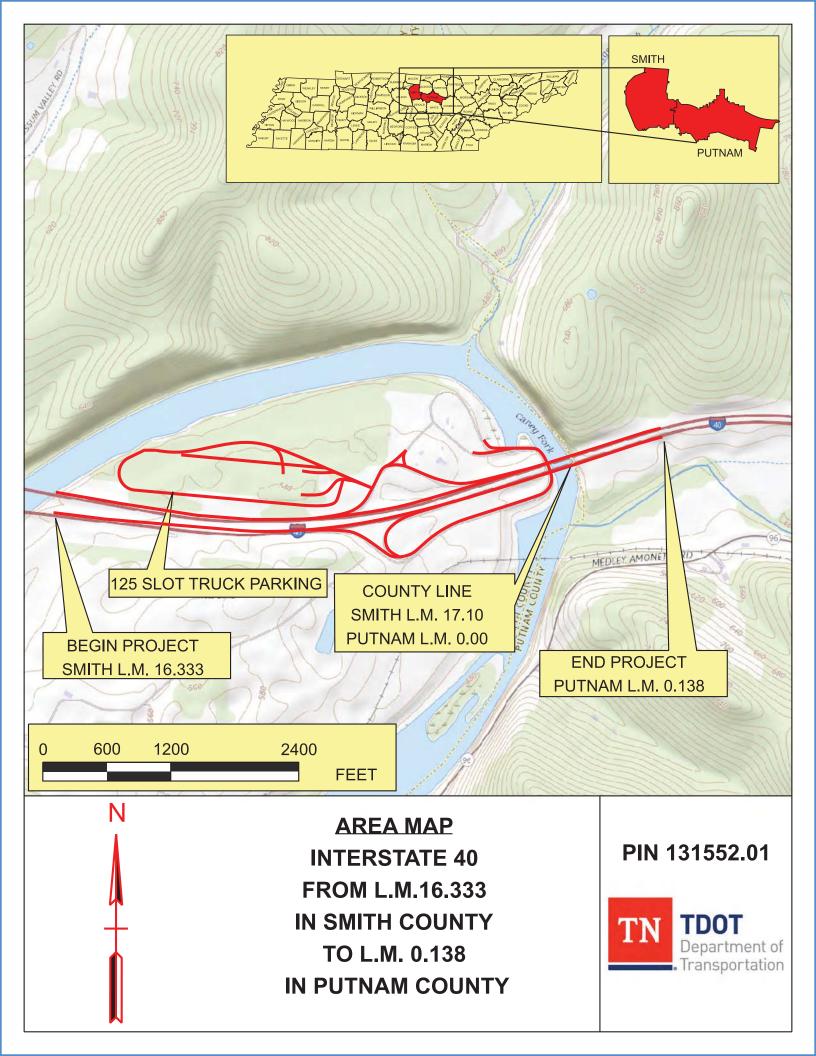
#### **Project Status:**

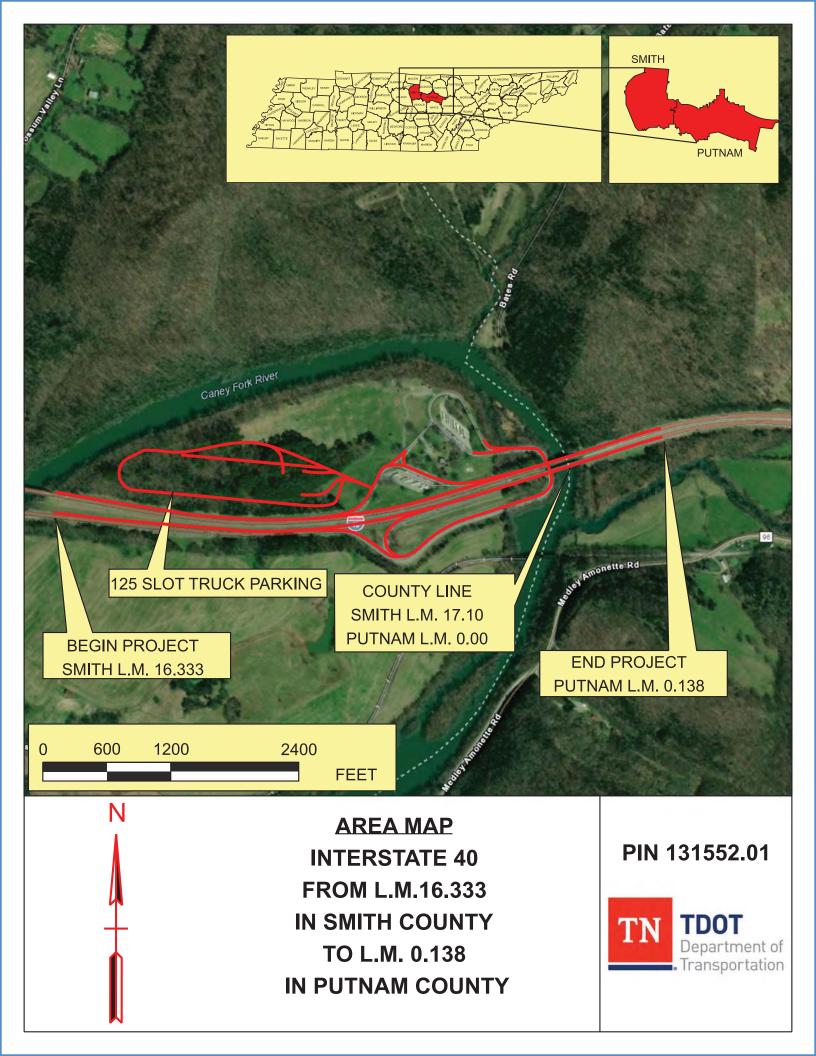
- TDOT received INFRA grant award letter in Fall 2023.
- Draft concept report submitted 12/19/2023
- Draft concept report comments received 4/10/2024
- Updated draft concept report submitted 4/30/2024
- USDOT & TDOT expect project funding to be obligated by September 30, 2025



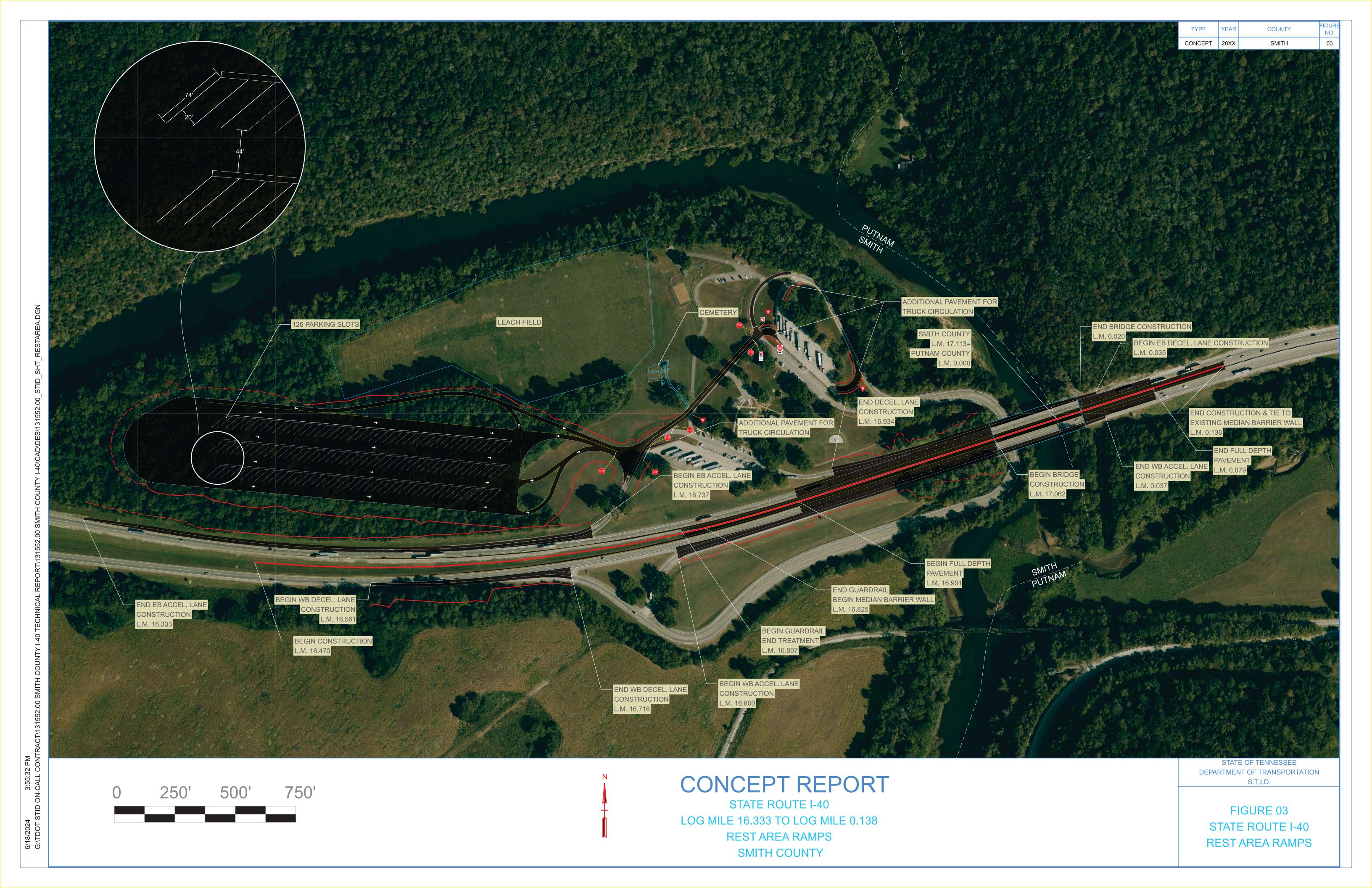
Concept Report June 18, 2024

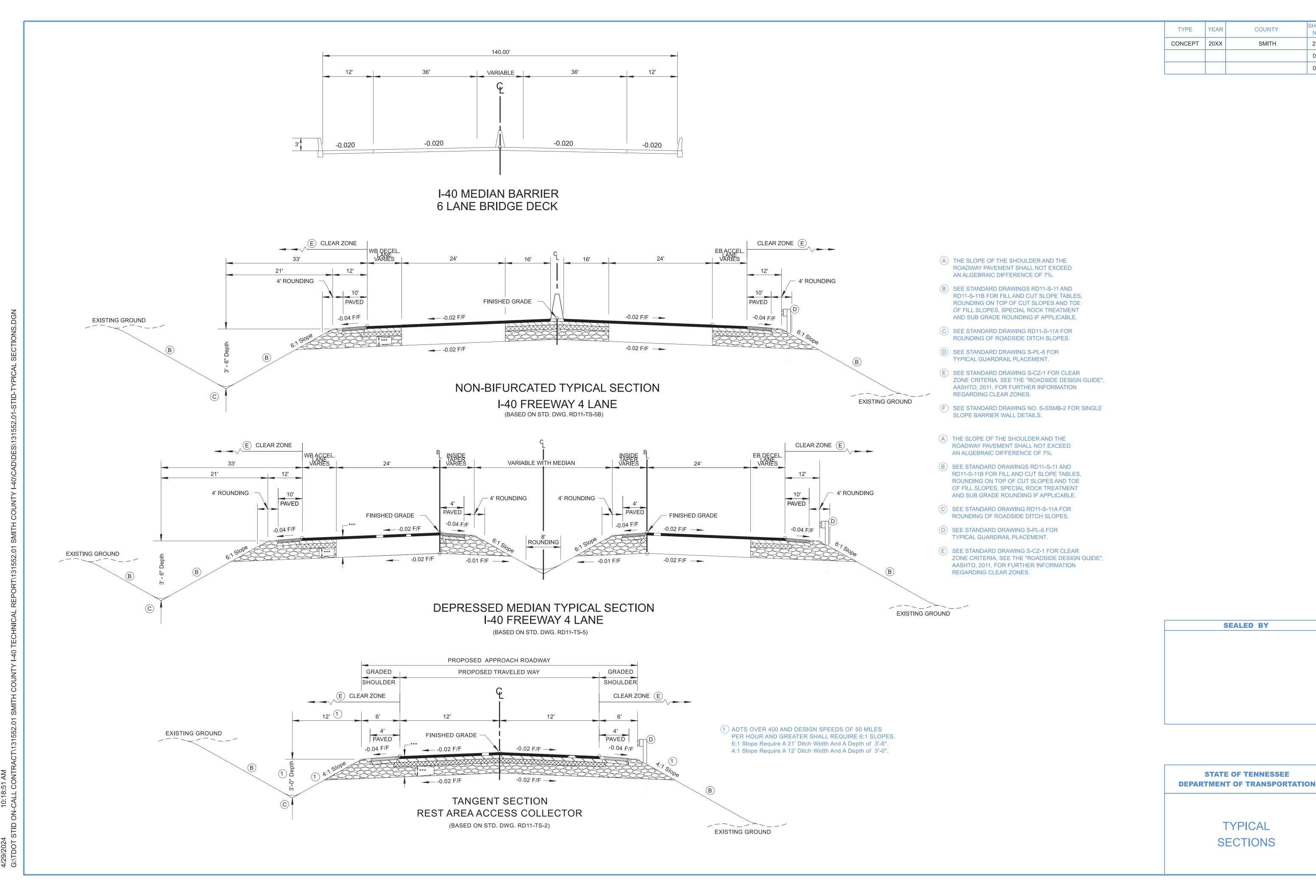






# Conceptual Layout Typical Sections and Environmental Technical Study Area (ETSA) Layouts (4 pages)



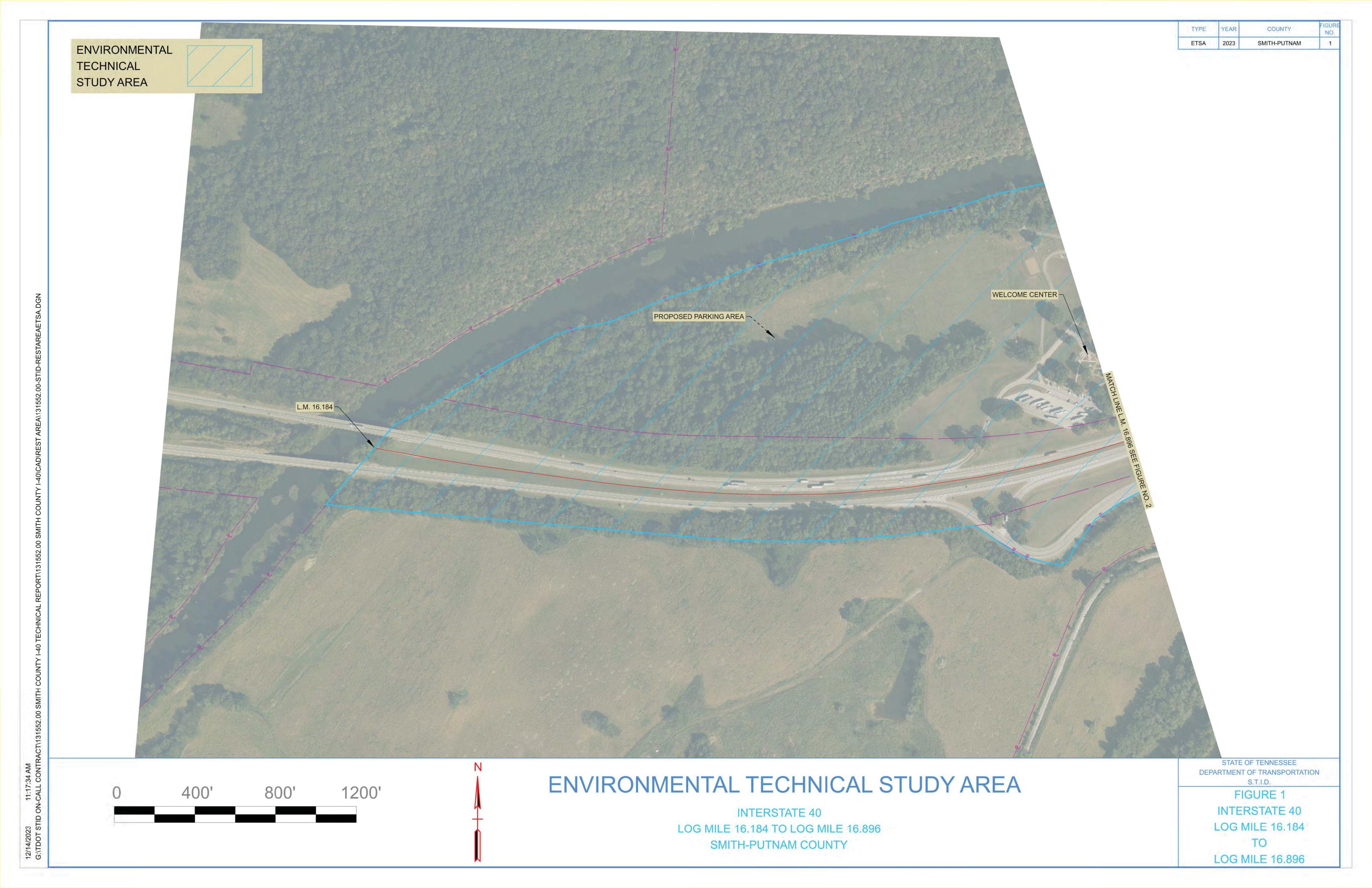


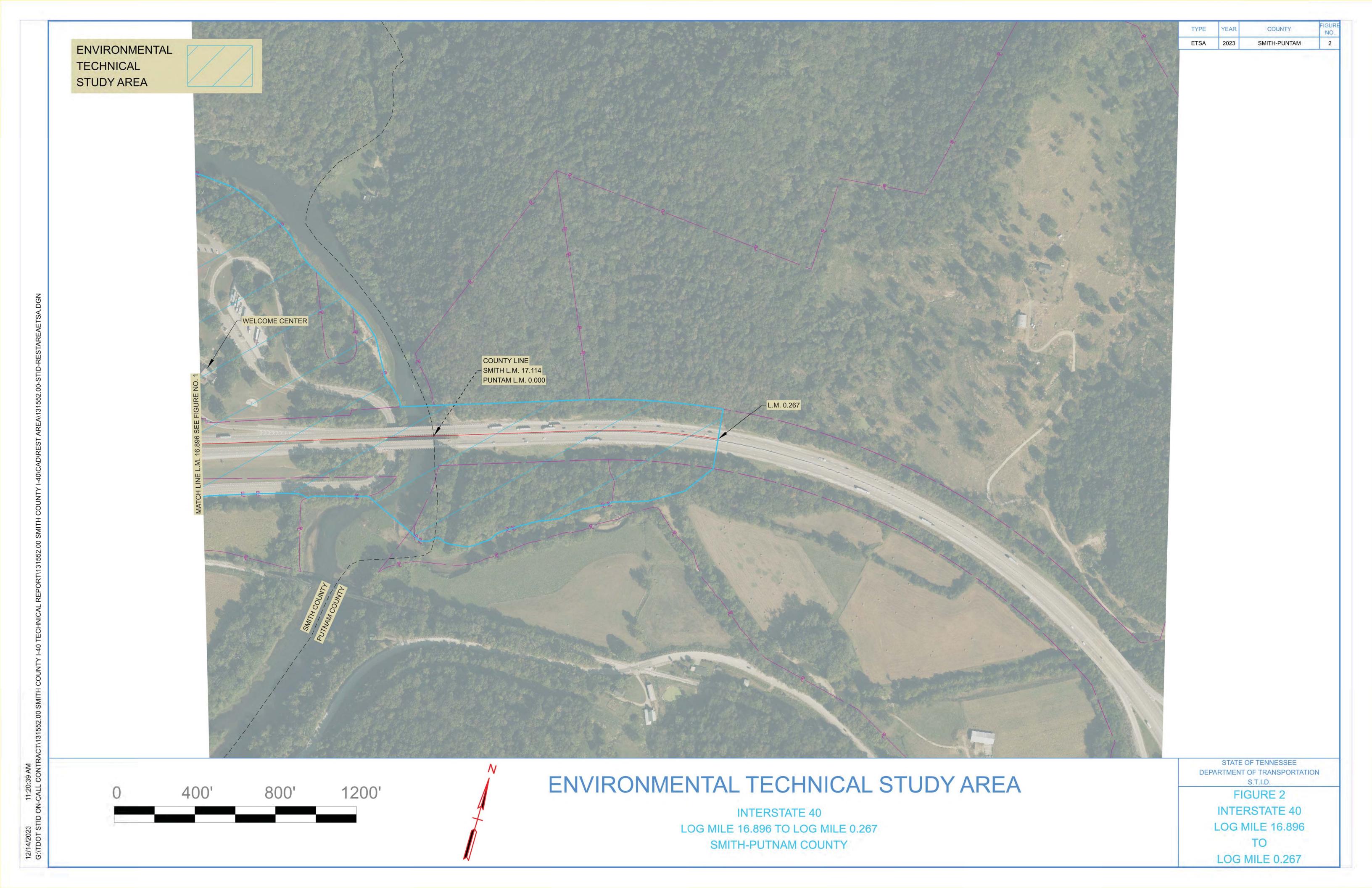
COUNTY

2B5

000

000





#### Cost Estimates (2 pages)

#### **COST ESTIMATE SUMMARY**

#### **COST ESTIMATE SUMMARY**

TN TDOT
Department of Transportation

Route: I-40

Termini: L.M. 16.333 - L.M. 0.138

Scope of Work: Bridge Replacement, Accel./Decel. Lane Improvements

Project Type of Work: Bridge Replacement

County: Smith Estimate Developed By Length: 0.92 Miles Initial/Organization

Date: June 18, 2024
Estimate Type: Design-Build

Years Inflated: 0

Years Inflated:	0				
DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	TOTAL
Construction Items					
Removal Items		\$0		\$0	\$304,000
Asphalt Paving		\$0		\$0	\$3,130,000
Concrete Pavement	\$0	\$0	\$0	\$0	
Drainage	\$0	\$0	\$0	\$1,050,000	
Appurtenances	\$0	\$0	\$0	\$489,000	
Structures & Contingency		\$0	\$0	\$0	\$16,700,000
Fencing		\$0	\$0	\$0	\$0
Signalization & Lighting		\$0	\$0	\$0	\$0
Railroad Crossing		\$0	\$0	\$0	\$0
Earthwork		\$0	\$0	\$0	\$1,420,000
Clearing and Grubbing		\$0	\$0	\$0	\$0
Seeding & Sodding		\$0	\$0	\$0	\$118,000
Rip-Rap or Slope Protection		\$0	\$0	\$0	\$47,100
Guardrail		\$0	\$0	\$0	\$108,000
Signing		\$0	\$0	\$0	\$23,400
Pavement Markings	\$0	\$0	\$0	\$83,600	
Maintenance of Traffic		\$0	\$0	\$0	\$272,000
Construction Lines and Stakes		\$0	\$0	\$0	\$403,000
	l l	ESIGN-BID-BUILD & DI	ESIGN-BUILD PERCENTA	AGES	
Mobilization	10%	\$0	\$0	\$0	\$2,370,000
Additional Items	20%	\$0	\$0	\$0	\$4,750,000
Const. Contingency (Structures Not Included)	30%	\$0		\$0	\$4,250,000
Const. Eng. & Inspec.	15%	\$0	\$0	\$0	\$5,270,000
Construction Estimate - DBB & DB		\$0	\$0	\$0	\$40,800,000
Right-of-Way & Utilties		LOCAL 0%	STATE 0%	FEDERAL 0%	TOTAL
Right-of-Way		\$0	\$0	\$0	\$0
Utilities		\$0	\$0	\$0	\$0
		LOCAL	STATE	FEDERAL	
Preliminary Engineering		0%	0%	0%	TOTAL
Prelim. Eng. (Design-Build) 10.0%		\$0		\$0	\$4,080,000
Design-Build Project	\$0	\$0	\$0	\$ 44,900,000	
			REVIEW TEAM		
Review	Process A	Applies to Bridge, Legis	slative, and Economic D	evelopment Projects	
		ROLE	NAME/ORG	GANIZATION	DATE COMPLETED
Primary Co	Primary Cost Estimate (Before Draft Report):				
	Inde	pendent Cost Estimate:			
	mao	pendent cost Estimate.	l		
	iii do	Manager Review:			

#### **COST ESTIMATE SUMMARY**

#### **COST ESTIMATE SUMMARY**

Route: I-40 Rest Area

Termini: L.M. 16.333 - L.M. 0.138
Scope of Work: Rest Area New Construction

TN TDOT
Department of
Transportation

Project Type of Work: Construction-New

County: Smith Estimate Developed By
Length: 1.19 Miles Initial/Organization

Date: June 18, 2024
Estimate Type: Design-Build

Years Inflated: 0

DESCRIPTION	LOCAL	STATE	FEDERAL			
DESCRIPTION		0%	0%	0%	TOTAL	
Construction Items			3,1			
Removal Items		\$0	\$0	\$0	\$88,100	
Asphalt Paving		\$0	\$0	\$0	\$852,000	
Concrete Pavement		\$0	\$0	\$0	\$13,200,000	
Drainage	\$0	\$0	\$0	\$434,000		
Appurtenances	\$0	\$0	\$0	\$0		
Structures & Contingency		\$0	\$0	\$0	\$0	
Fencing		\$0	\$0	\$0	\$0	
Signalization & Lighting		\$0	\$0	\$0	\$59,800	
Railroad Crossing		\$0	\$0	\$0	\$0	
Earthwork		\$0	\$0	\$0	\$2,990,000	
Clearing and Grubbing		\$0	\$0	\$0	\$74,700	
Seeding & Sodding		\$0	\$0	\$0	\$42,800	
Rip-Rap or Slope Protection		\$0	\$0	\$0	\$0	
Guardrail		\$0	\$0	\$0	\$60,700	
Signing	\$0	\$0	\$0	\$17,800		
Pavement Markings	\$0	\$0	\$0	\$203,000		
Maintenance of Traffic	\$0	\$0	\$0	\$216,000		
Construction Lines and Stakes	\$0	\$0	\$0	\$350,000		
	D	ESIGN-BID-BUILD & DE	SIGN-BUILD PERCENTA	AGES	, and , and	
Mobilization	10%	\$0	\$0	\$0	\$1,820,000	
Additional Items	20%	\$0	\$0	\$0	\$3,650,000	
Const. Contingency (Structures Not Included)	30%	\$0	\$0	\$0	\$7,110,000	
Const. Eng. & Inspec.	15%	\$0	\$0	\$0	\$4,620,000	
Construction Estimate - DBB & DB		\$0	\$0	\$0	\$35,800,000	
Right-of-Way & Utilties		LOCAL 0%	STATE 0%	FEDERAL 0%	TOTAL	
Right-of-Way				\$0	¢.	
Utilities		\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	
Othities		LOCAL	STATE	FEDERAL	30	
Preliminary Engineering		0%	0%	0%	TOTAL	
Prelim. Eng. (Design-Build) 10.0%		\$0	\$0	\$0	\$3,580,000	
Design-Build Projec	\$0	\$0	\$0	\$ 39,400,000		
200.9 244 1 10,00		, -	REVIEW TEAM	**	<b>33</b> , 133,33	
Review	Process A		lative, and Economic D	evelopment Projects		
		ROLE	NAME/ORG	GANIZATION	DATE COMPLETED	
Primary Cos	st Estimate	e (Before Draft Report):				
	Inde	pendent Cost Estimate:				
		Manager Review:				
		QA/QC peformed by:				

## Crash Packet Crash Prediction Analysis (4 pages)

#### TENNESSEE DEPARTMENT OF TRANSPORTATION

COUNTY = S	SMITH				Date:	4/26/2024
Route = I-	-40					
Location = N	им 16.333 - М	M 0.138				
Highway Type = F	reeway					
FUNCTIONAL CLASS=	RURAL INTER	STATE				
DATA YEARS = 0	OCT 31 2018- N	OV 1 2021				
ADT YEARS USED= 2	2020 ETRIMS (C	ROWN FROM	2019)			
COMMENTS =						
	НМВ					
SECTION = MORE T						
BLM	ELM	Length	Average AADT	VMT		
16.333	17.113	0.780	41,207	32,141		
17.113	17.193	0.138	41,207	3,297		
0.000	0.000	0.000		0		
0.000	0.000	0.000		0		
0.000	0.000	0.000		0		
0.000 0.000	0.000	0.000		0		
0.000	0.000	0.860	41,207	35,438		
		0.000	41,207	35,436		
INTERSECTION				Leg	Traffic AADT	
Log Mile =				North =		
_090				East =		
PRODUCED PURS	SUANT TO			South =		
PUBLIC RECORD	S REQUEST			West =		
This document is covere		09	;	Entering AADT =	0	
and its production pur	•			2020 Etrims (Gro		
document records re	-		Freeway	•	,	
waive the provision	_		Oct 31 2018- No			
					*Severe	Other
		Total	Fatal	Incap. Injury	Crashes	Injury
No. of Crashes	=	34	0	0	0	2
No. of Years	=	3				
SW avg. rate	=	0.616	0.007	0.028	0.035	0.104
17-19 S/W Rates						
Exposure (E)	=	38.8046				
Crash Rate (A)	=	0.876	0.000	0.000	0.000	0.052
Critical Rate (C)	=	0.922				
Severity Index (SI)	=	0.0588				
Actual Rate/SW Avera	nge =	1.42	0.00	0.00	0.00	0.50
	_		0.00	0.00	0.00	0.50
Ratio of A/C	=	0.95				
* Severe Crashes ar	e the sum of	fatal and inca	nacitating injur	v crashos		
Devele Orasiles di	C UIC SUIII UI	iutai allu IIIUa	pacitating injur	y clasiles		
						Revised 11/3/2009
T.D.O.T. STRTAEGIC	TRANSPORTA	TION INVESTM	MENTS DIVISION	(SAFETY DATA	SECTION )	Hmb
					, , ,	