

Corridor Advisory Team (CAT) Meeting

Missouri Department of Transportation
Route 19 Bridges Environmental Assessment (EA)
Shannon County, MO

December 17, 2020





Welcome!

Introductions



Today's Agenda

01

CAT Roles &
Responsibilities

02

Project Introduction

03

Activities To
Date/Next Steps

04

Existing Conditions

05

Draft Purpose and
Need

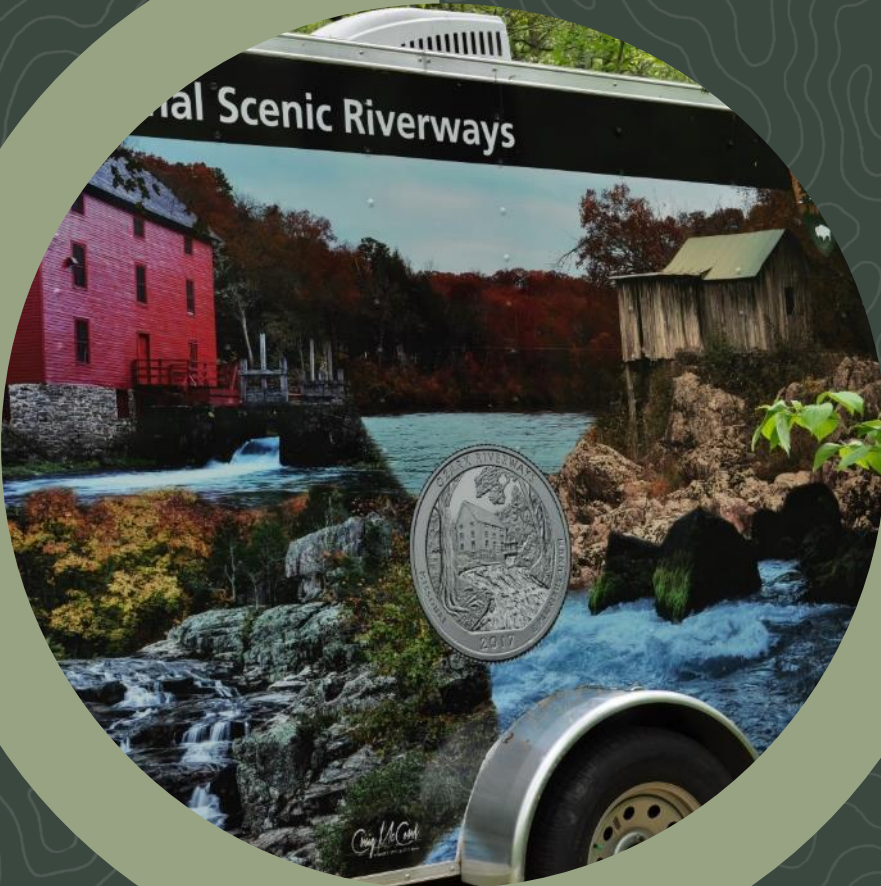
06

Screening of Conceptual
Alternatives



CAT Roles & Responsibilities

CAT Roles & Responsibilities

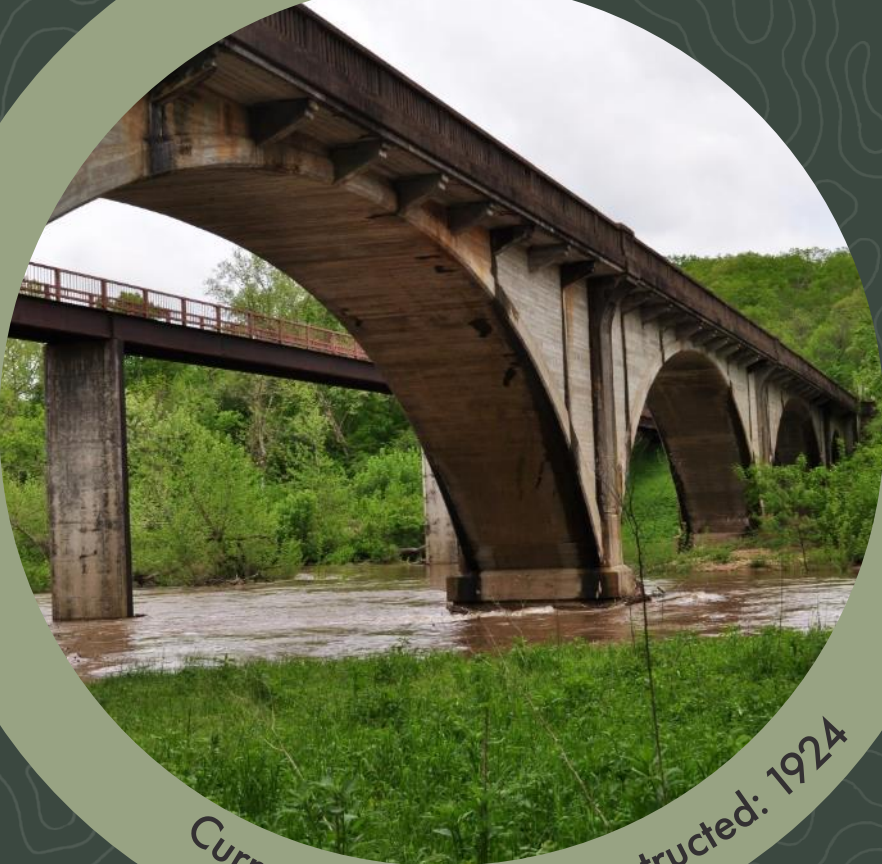


- Represent a cross section of local and regional interests
- Provide input at major milestones after Core Team meetings and before going to the public
- Disseminate information and educate others within your organization and public at large



Project Introduction

Project History



Current River Bridge constructed: 1924

- Current River Bridge constructed in 1924 and Spring Valley Bridge in 1930
- MoDOT conducted Bridge Rehabilitation Study in 2019
- Rehabilitation study identified 23 conceptual bridge alternatives

Project History

- MoDOT conducted charette with NPS and others during rehabilitation study
- Recommended that the alternatives be the subject of a NEPA study



Spring Valley Bridge constructed: 1930



What is NEPA?

- National Environmental Policy Act (NEPA)
- A U.S. environmental law that promotes the enhancement of the environment including the natural, social and economic environment
- Required for major federal actions
- Informed decision-making and good planning

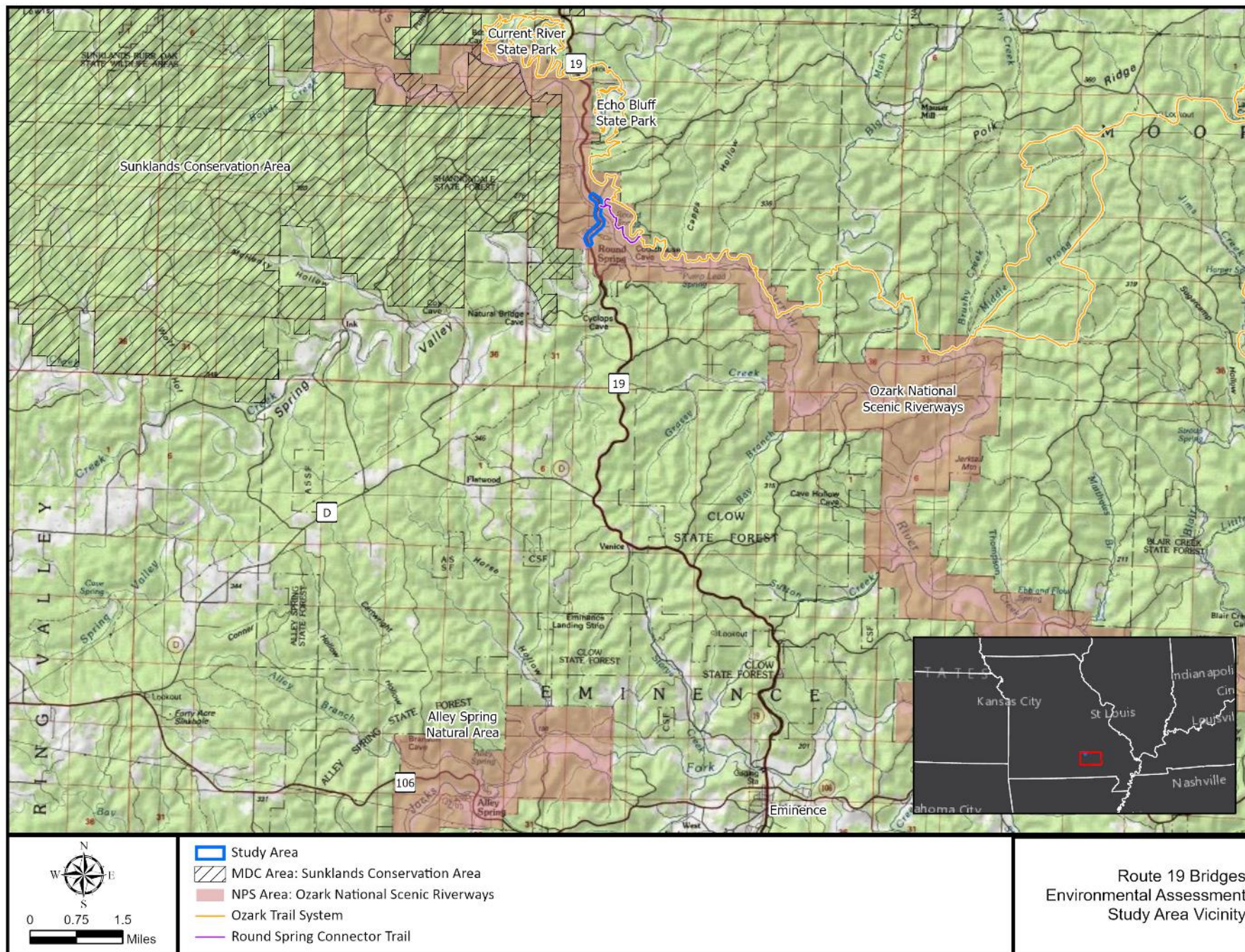


What is an EA?

- Environmental Assessment (EA)
- Done to determine whether or not an action is a "major federal action significantly affecting the quality of the human environment."
- End result is recommendation for a preferred alternative to carry into design documented in a Finding of No Significant Impact (FONSI) or further evaluation under an Environmental Impact Statement (EIS)



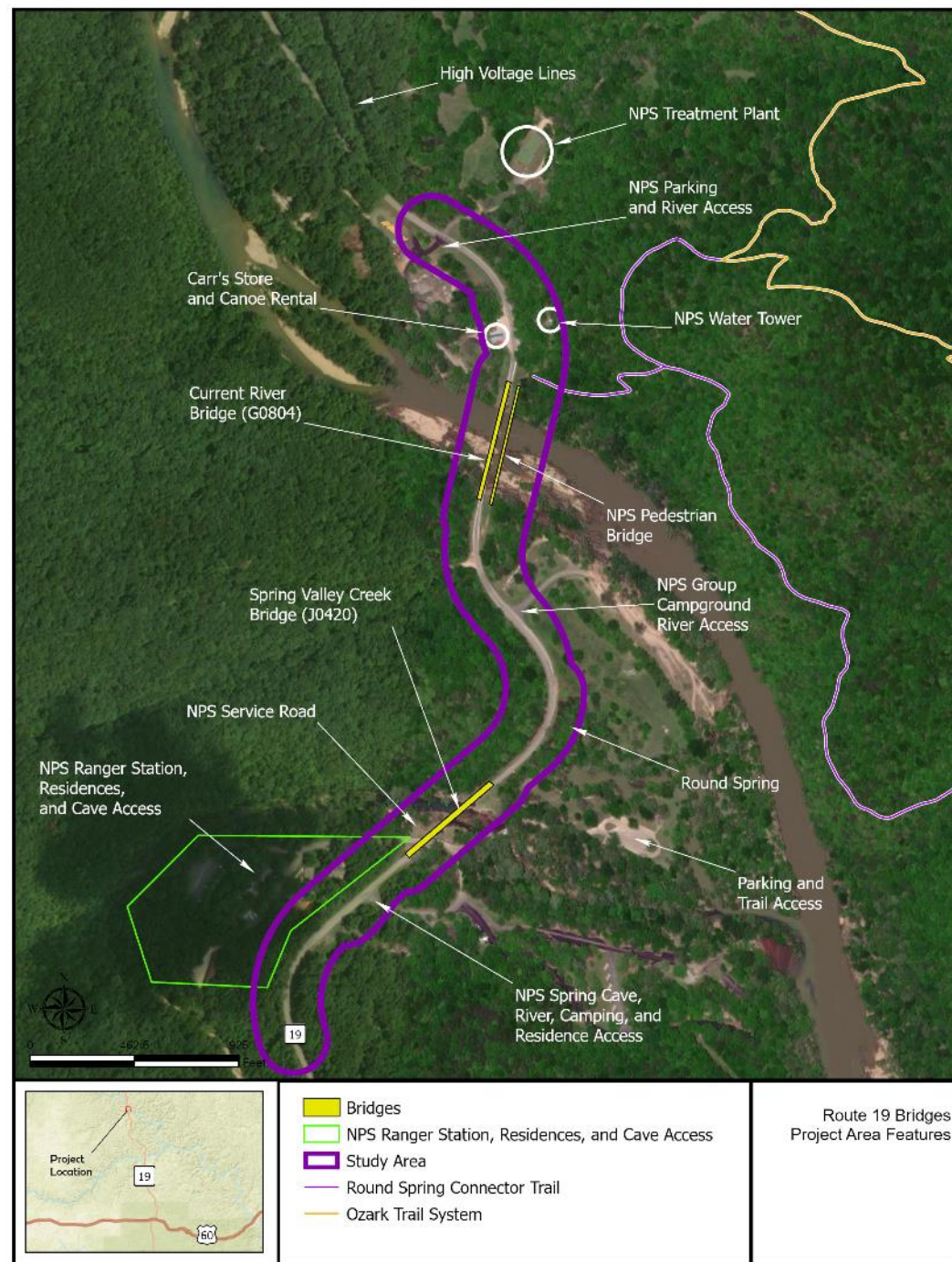
Vicinity Map



Route 19 Bridges
Environmental Assessment
Study Area Vicinity



Study Area





Activities to Date & Next Steps

Activities to Date



- Kicked NEPA study off in July 2020
- Review of rehabilitation report/ data
- Data collection
- Initiated agency coordination



Activities to Date

- Developed project identity
- Developed public involvement plan
- Developed project website



Activities to Date

- Developed initial Purpose and Need
- Screened conceptual alternatives
- Held first Core team meeting November 30
- Held first CAT meeting (today)

Next Steps



- Submit Purpose and Need to the Federal Highway Administration (FHWA) in December
- Public meeting in January 2021
- Second Core team meeting in February 2021

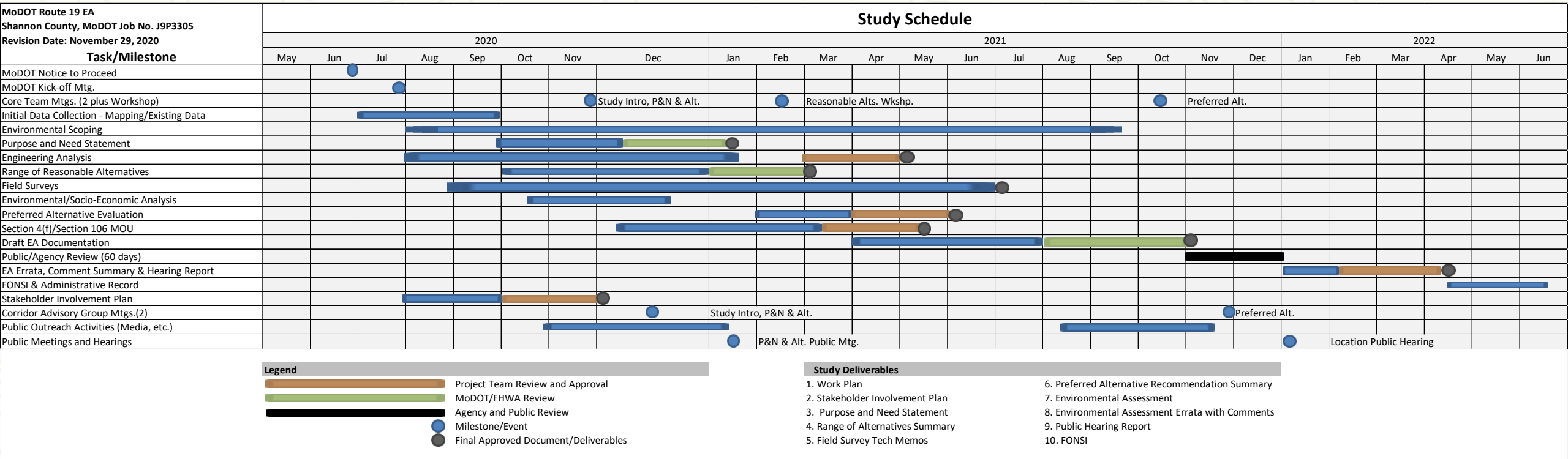
Next Steps



- Conduct field work in Spring/Summer 2021
- Third and final Core team meeting Fall 2021
- Second CAT meeting late Fall 2021

Next Steps

- Public Hearing Winter 2021
- Finalize EA Spring 2022
- If no significant impacts prepare FONSI in early Summer 2022



Study Deliverables

1. Work Plan

2. Stakeholder Involvement Plan

3. Purpose and Need Statement

4. Range of Alternatives Summary

5. Field Survey Tech Memos

6. Preferred Alternative Recommendation Summary

7. Environmental Assessment

8. Environmental Assessment Errata with Comments

9. Public Hearing Report

10. FONSI



Existing Conditions

Bridge and Roadway Conditions

- Roadway functional classification – rural minor arterial
- Roadway alignment is poor
- Two lane section with no shoulders and only one lane on Current River Bridge
- Bridge Sufficiency Ratings:
 - Current River: 33.5%
 - Spring Valley: 33.1%
- Both bridges are structurally deficient
- Moderate to heavy scour at Current River Bridge





Current River Bridge Photos



Spring Valley Bridge Photos

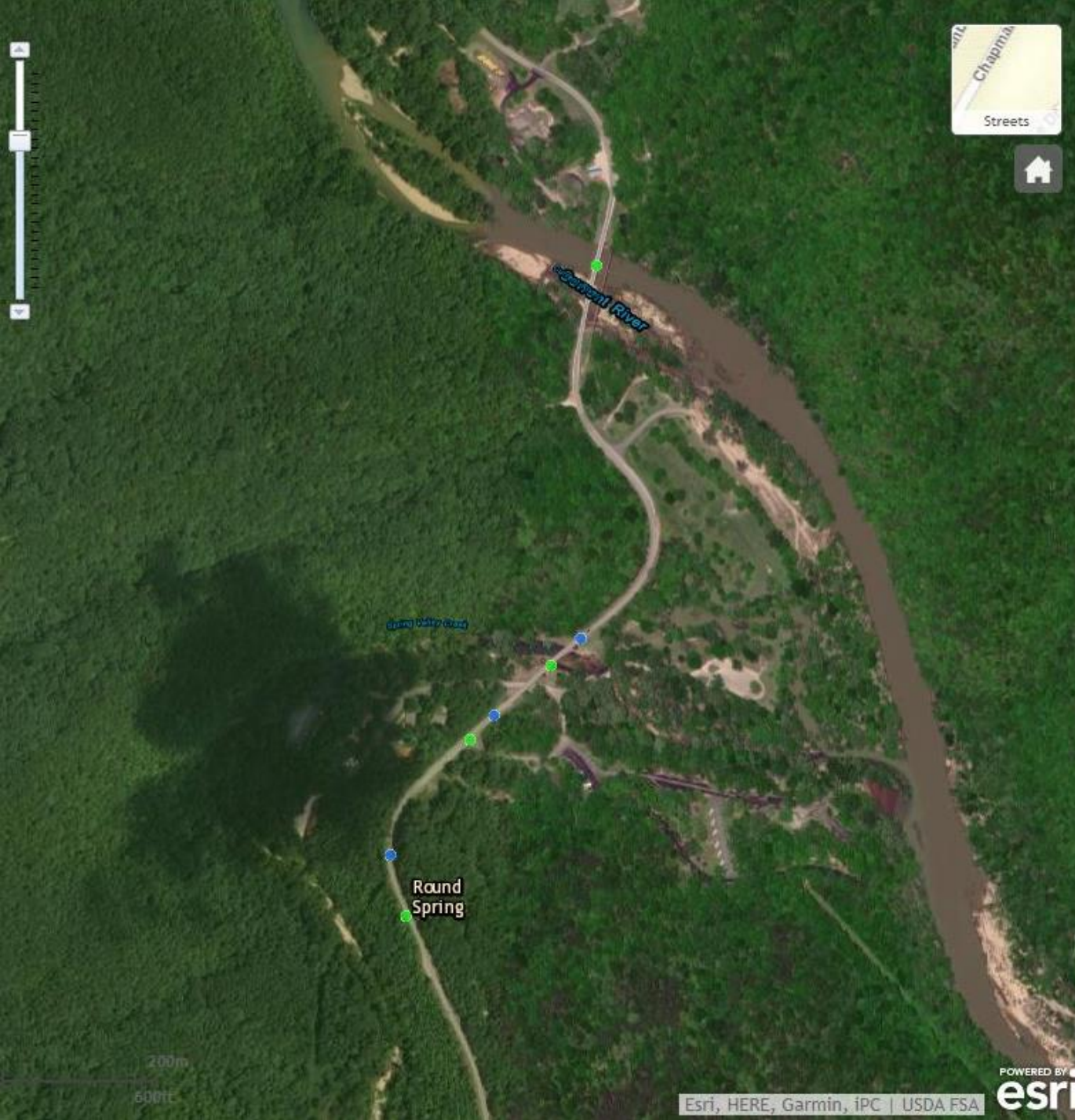


Traffic/Safety

- Current AADT (2020) – 700
- Construction year AADT (2025) – 721
- Design year AADT (2045) – 797
- Crash Rates:
 - Route 19 (2015-2019):
 - 652 Crashes/HMVMT
 - Statewide Average (Two Lane):
 - 209 Crashes/HMVMT

"Crashes/HMVMT" = Crashes per 100 Million Vehicle Miles Traveled



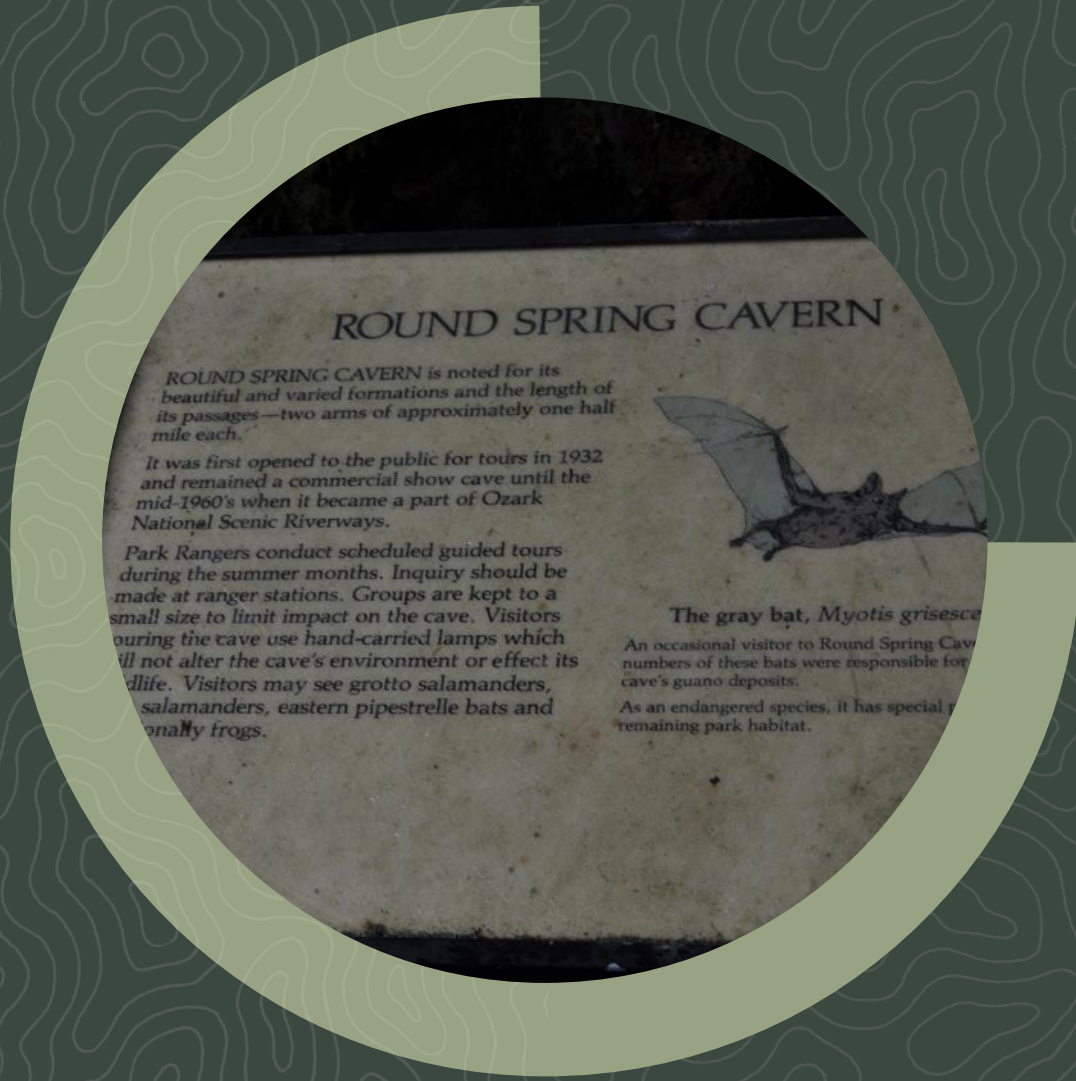


Crash Locations

- Blue dots = Minor Injury and Green dots = Property Damage Only (PDO)
- One PDO on the Current River Bridge
- One PDO and one Minor Injury on the Spring Valley Bridge
- Two PDO and two Minor Injury on Northbound approach to the Spring Valley Bridge

Water/T&E

- Crossings of Current River and Spring Valley Creek
- 100-year floodplain
- Wetlands within Current River portion of study area
- Current River is designated as an Outstanding Natural Resource Water and priority watershed
- One water well within study area
- Caves/Karst geology
- Suitable Indiana Bat habitat corridor-wide
- Endangered Ozark hellbender





Land Use

- Entire study area within the NPS ONSR Section 4(f)
- Large public use areas
- One private business

Cultural Resources



- Within Three Bridges historic district eligible for NRHP
- Current River Bridge and Spring Valley Bridge are eligible for the NRHP
- Section 4(f) resources
- Documented archaeological sites

Minority Populations & Poverty

- No permanent residents within study area
- No minority or low-income populations within study area

Hazardous Materials

- No known hazardous material sites within study area





Conceptual Alternatives

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



C-1A

COST: \$12.7 MILLION

DESCRIPTION

- New bridge on existing alignment.
- A temporary two-lane bridge will be built prior to construction of the new bridge and will be removed once construction of the new bridge is complete.
- Existing pedestrian bridge removed.

SITE VICINITY



ADVANTAGES

- Matches location of existing bridge.
- Final configuration is a single bridge over the channel.
- Less permanent roadway work.
- Uses a two-lane bridge during construction.

DISADVANTAGES

- Additional cost for temporary bridge.
- Pedestrian bridge must be removed prior to construction of the two-lane temporary bridge.
- Utilities on the existing pedestrian bridge must be relocated.
- No separate pedestrian bridge.

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C-1B

COST: \$9.1 MILLION

DESCRIPTION

- New bridge on existing alignment.
- A temporary two-lane bridge will be built prior to construction of the new bridge and will be retained as a pedestrian bridge once construction of the new bridge is complete.
- Existing pedestrian bridge removed.

SITE VICINITY



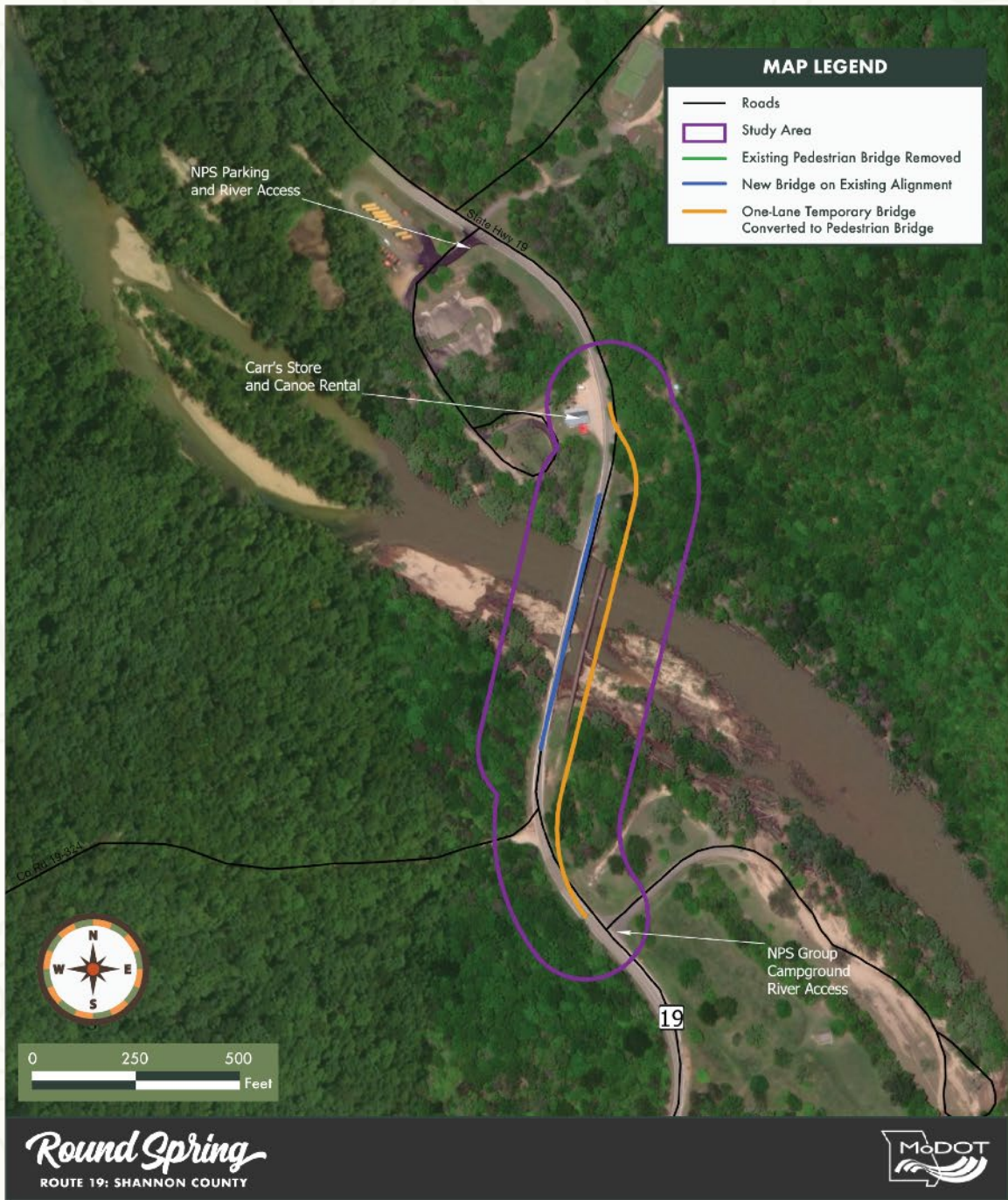
ADVANTAGES

- Matches location of existing bridge.
- Less permanent roadway work.
- Uses a two-lane bridge during construction.
- Separate pedestrian bridge provided.

DISADVANTAGES

- Final configuration is two bridges over the channel.
- Pedestrian bridge must be removed prior to construction of the two-lane temporary bridge.
- Utilities on the existing pedestrian bridge must be relocated.
- Additional cost for temporary bridge.

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C-2

COST: \$10.4 MILLION

DESCRIPTION

- New bridge on existing alignment.
- A temporary one-lane bridge will be built prior to construction of the new bridge and will be retained as a pedestrian bridge once construction of the new bridge is complete.
- Existing pedestrian bridge removed.

SITE VICINITY

Alternative Location

19

Winona

60

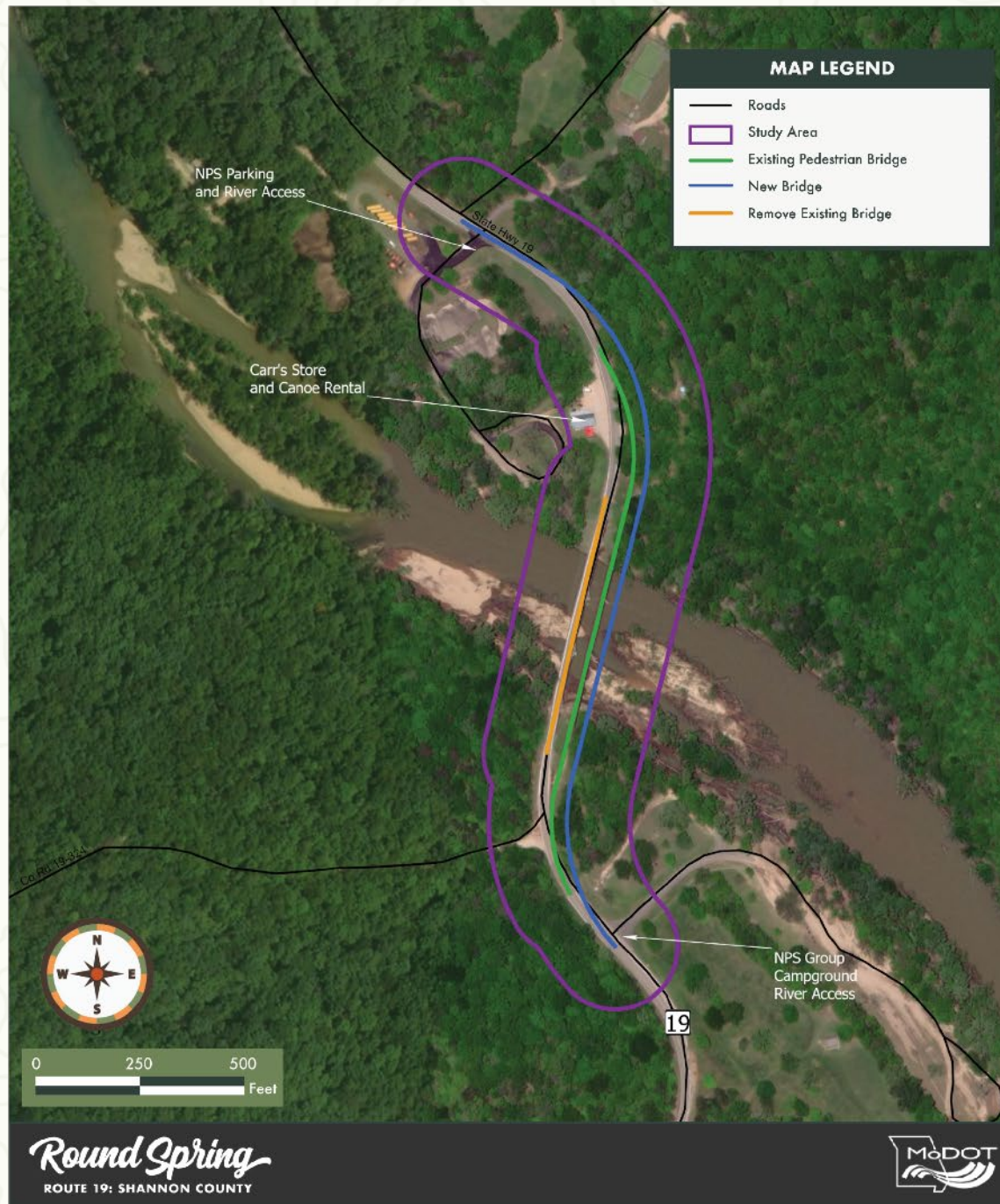
ADVANTAGES

- Matches location of existing bridge.
- Less permanent roadway work.
- Separate pedestrian bridge provided.

DISADVANTAGES

- Final configuration is two bridges over the channel.
- Pedestrian bridge must be removed prior to construction of the one-lane temporary bridge.
- Utilities on the existing pedestrian bridge must be relocated.
- Uses a one-lane bridge during construction.
- Additional cost for temporary bridge.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



C-3A

COST: \$10.8 MILLION

DESCRIPTION

- New bridge downstream (east) of existing bridge.
- No temporary bridge required.
- Existing pedestrian bridge removed.

SITE VICINITY



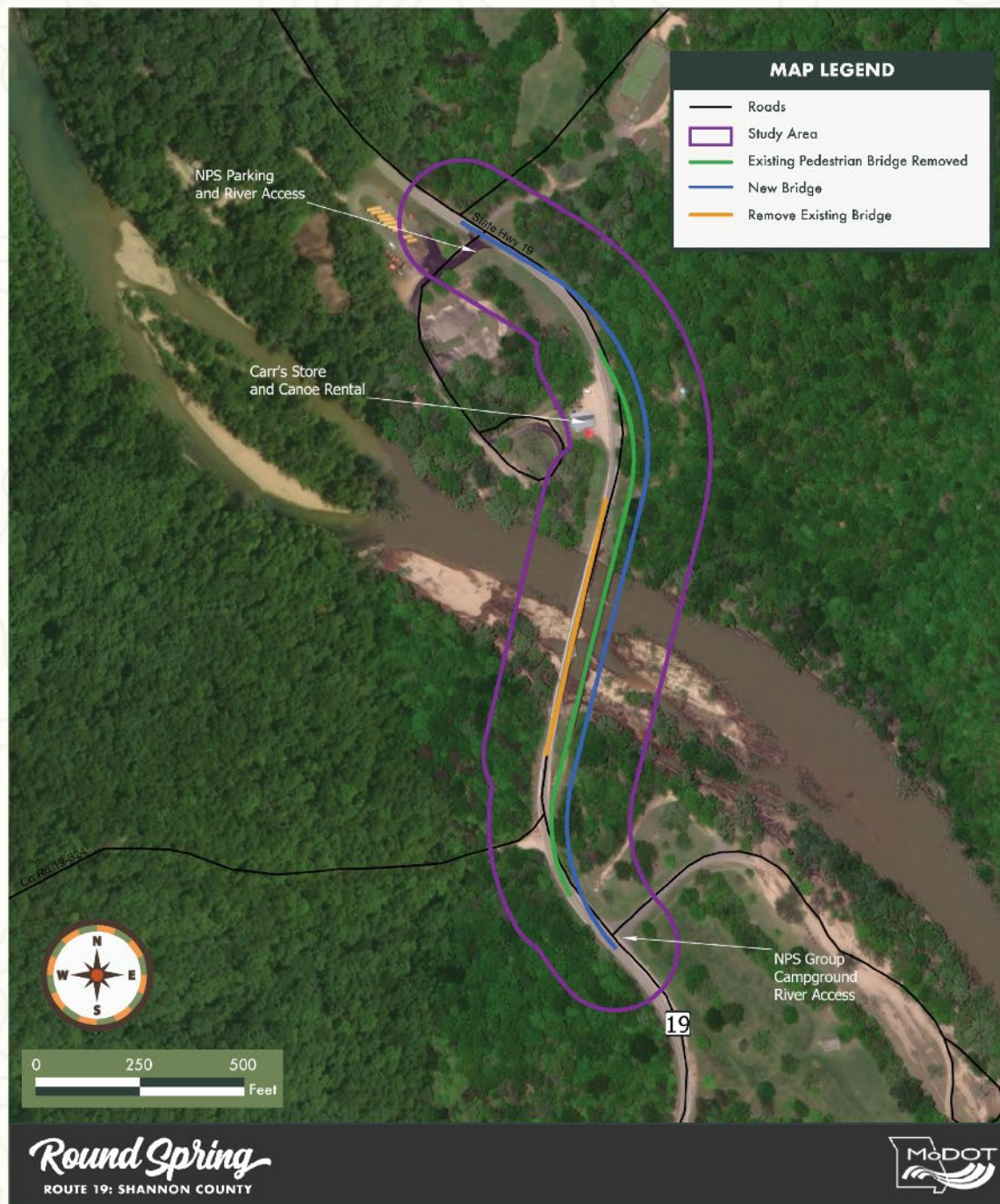
ADVANTAGES

- No temporary bridge; cost savings.
- Final configuration is a single bridge over the channel.

DISADVANTAGES

- Pedestrian bridge must be removed prior to construction.
- Utilities on the existing pedestrian bridge must be relocated.
- More permanent roadway work.
- Uses a one-lane bridge during construction.
- No separate pedestrian bridge.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



C-3B

COST: \$11 MILLION

DESCRIPTION

- New bridge downstream (east) of the existing bridge.
- No temporary bridge.
- Existing pedestrian bridge retained.

SITE VICINITY



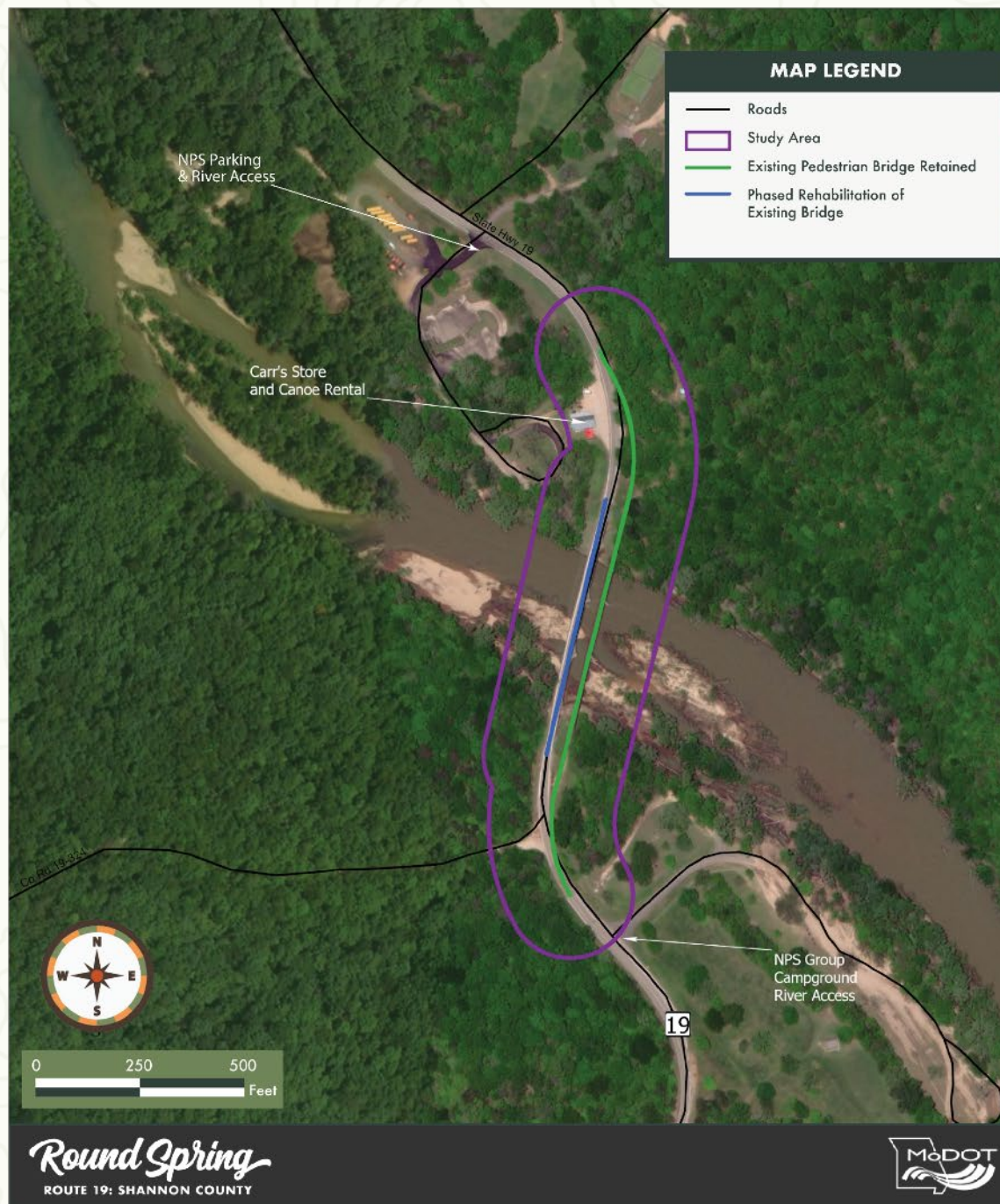
ADVANTAGES

- No temporary bridge required; cost savings.
- Existing pedestrian bridge usable during construction of new bridge.
- Separate pedestrian bridge provided.
- Utilities remain on the existing pedestrian bridge.

DISADVANTAGES

- Final configuration is two bridges over the channel.
- More permanent roadway work.
- Uses a one-lane bridge during construction.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



C-4

COST: \$8.6 MILLION

DESCRIPTION

- Multiple phase rehabilitation of the existing bridge.
- No temporary bridge.
- Existing pedestrian bridge retained.

SITE VICINITY



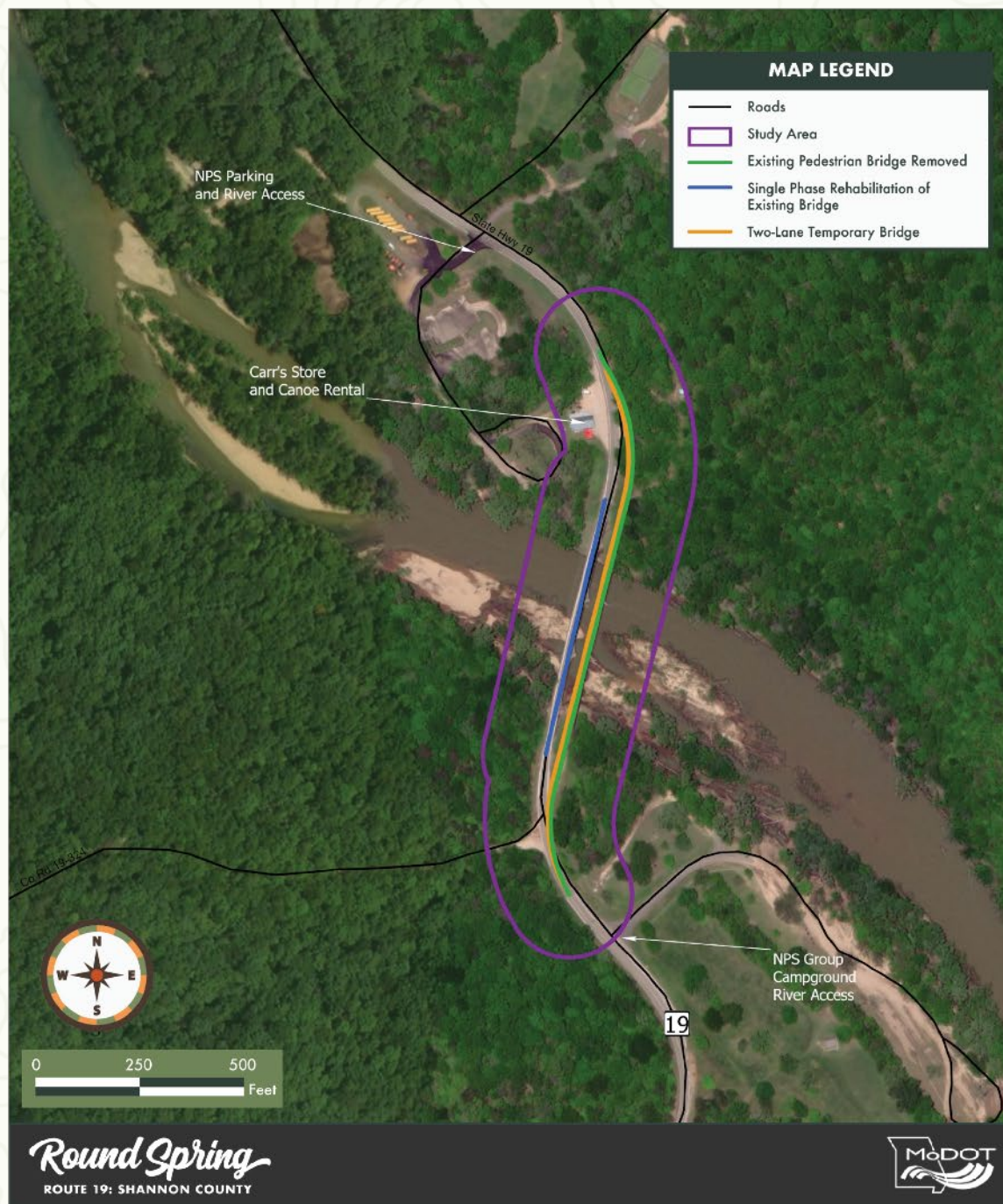
ADVANTAGES

- Matches location of existing bridge.
- No temporary bridge required; cost savings.
- Existing pedestrian bridge usable during construction for new bridge.
- Separate pedestrian bridge provided.
- Utilities remain on the existing pedestrian bridge.

DISADVANTAGES

- Final configuration is two bridges over the channel.
- Uses a one-lane bridge during construction.
- Longer construction period.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



C-5A

COST: \$10.4 MILLION

DESCRIPTION

- Single-phase rehabilitation of the existing bridge.
- A temporary two-lane bridge will be built prior to rehabilitation of the existing bridge and will be removed once the rehabilitation of the existing bridge is complete.
- Existing pedestrian bridge removed.

SITE VICINITY



ADVANTAGES

- Matches location of existing bridge.
- Final configuration is a single bridge over the channel.
- Less permanent roadway work.
- Uses a two-lane bridge during construction.

DISADVANTAGES

- Additional cost for temporary bridge.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.
- Pedestrian bridge must be removed prior to construction of the two-lane temporary bridge.
- Utilities on the existing pedestrian bridge must be relocated.
- No separate pedestrian bridge.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



C-5B

COST: \$8.4 MILLION

DESCRIPTION

- Single phase rehabilitation of the existing bridge.
- A temporary two-lane bridge will be built prior to rehabilitation of the existing bridge and will be removed once the rehabilitation of the existing bridge is complete.
- Existing pedestrian bridge retained.

SITE VICINITY



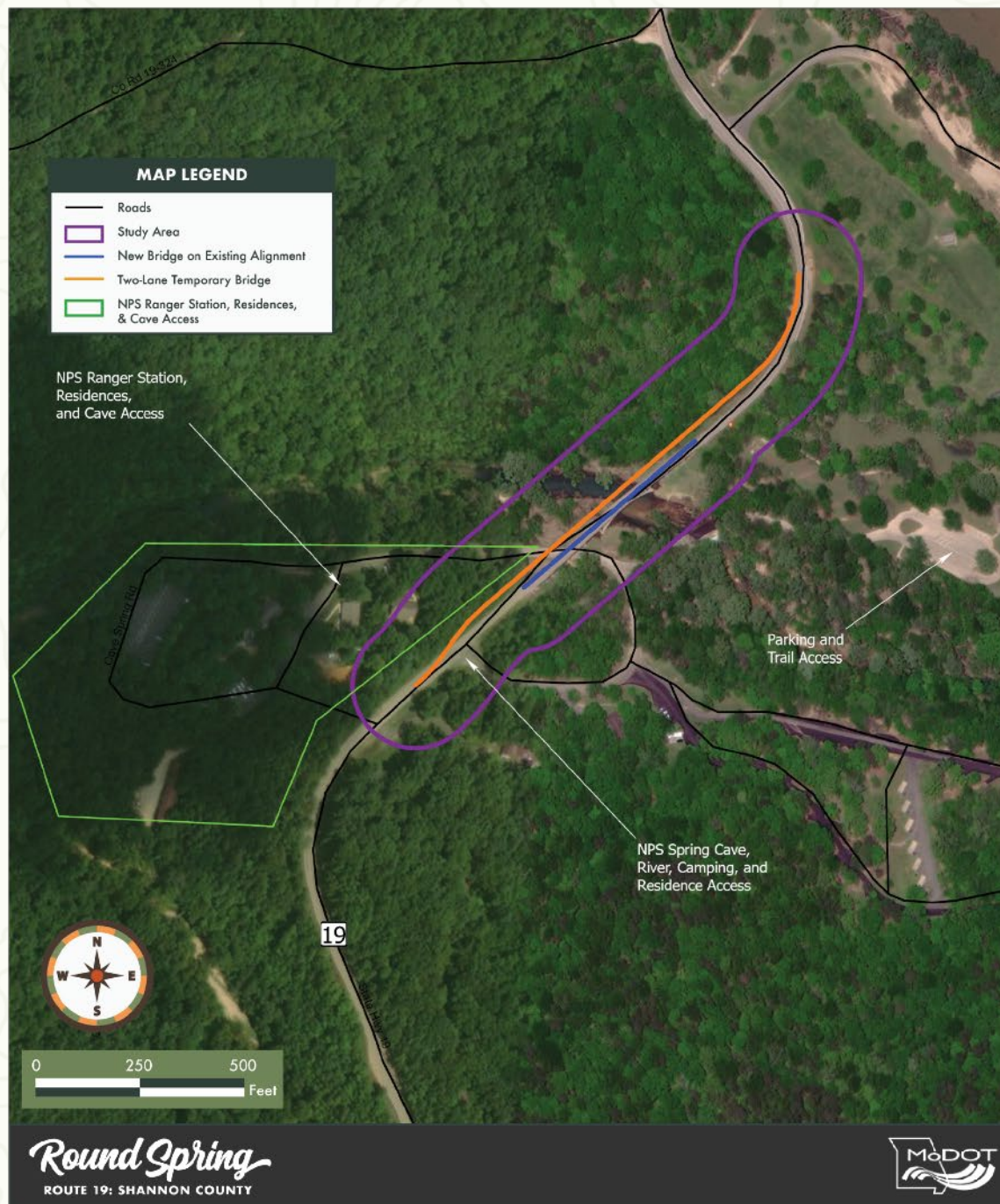
ADVANTAGES

- Matches location of existing bridge.
- Less permanent roadway work.
- Uses a two-lane bridge during construction.
- Existing pedestrian bridge usable during rehabilitation of the existing bridge.
- Separate pedestrian bridge provided.
- Utilities remain on the existing pedestrian bridge.

DISADVANTAGES

- Final configuration is two bridges over the channel.
- Additional cost for temporary bridge.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



S-1

COST: \$7.8 MILLION

DESCRIPTION

- New bridge on existing alignment.
- A temporary two-lane bridge will be built prior to construction of the new bridge and will be removed once construction of the new bridge is complete.

SITE VICINITY



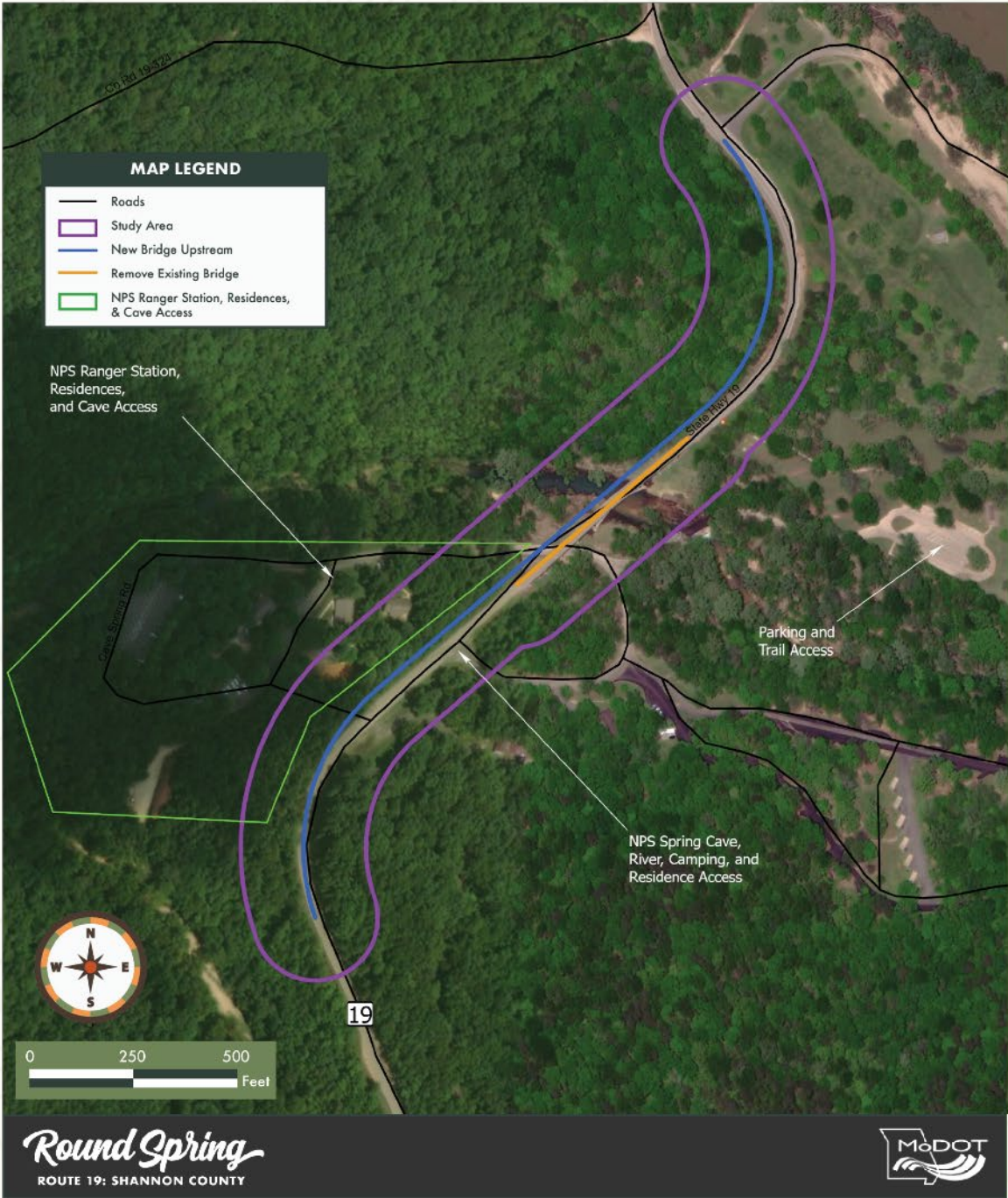
ADVANTAGES

- Matches location of existing bridge.
- Less permanent roadway work.
- Avoids retaining walls or reinforced slopes.

DISADVANTAGES

- Additional cost for temporary bridge.
- Builds two bridges over the channel during construction.
- Extensive formwork in the channel.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



S-2

COST: \$7.4 MILLION

DESCRIPTION

- New bridge upstream (northwest) of the existing bridge.
- No temporary bridge required.

SITE VICINITY



ADVANTAGES

- Final configuration is a single bridge over the channel.
- No temporary bridge required; cost savings.

DISADVANTAGES

- More permanent roadway work.
- May need retaining walls or reinforced slopes.
- Extensive formwork in the channel.

Note: This Conceptual Alternative has been Revised Since the Date of This Meeting (December 17, 2020).



S-3

COST: \$7 MILLION

DESCRIPTION

- Rehabilitate the existing bridge.
- A temporary two-lane bridge will be built prior to rehabilitation of the existing bridge and will be removed once the rehabilitation of the existing bridge is complete.

SITE VICINITY



ADVANTAGES

- Matches location of existing bridge.
- Less permanent roadway work.
- Avoids retaining wall or reinforced slopes.
- Avoids extensive formwork in the channel.

DISADVANTAGES

- Additional cost for temporary bridge.
- Builds two bridges over the channel during construction.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.
- Cannot carry design loading but will not require load posting.




Draft Purpose and Need

Draft Purpose and Need Elements



- Improve the condition of the existing crossings
- Improve the functionality of the existing crossings
- Importance to local and regional connectivity



Initial Screening of Conceptual Alternatives



Current River Bridge Alternatives

			CURRENT RIVER BRIDGE CONCEPTUAL ALTERNATIVES								
			NO ACTION	NEW BRIDGE ON EXISTING ALIGNMENT			NEW BRIDGE ON OFFSET ALIGNMENT		REHABILITATE EXISTING		
			No-Build	Alternative C-1A	Alternative C-1B	Alternative C-2	Alternative C-3A	Alternative C-3B	Alternative C-4	Alternative C-5A	Alternative C-5A
				Two-lane temporary bridge removed after construction, existing pedestrian bridge removed	Two-lane temporary bridge retained as permanent pedestrian bridge after construction, existing pedestrian bridge removed	One-lane temporary bridge retained as permanent pedestrian bridge after construction, existing pedestrian bridge removed	Downstream (east), no temporary bridge, existing pedestrian bridge removed	Downstream (east), no temporary bridge, existing pedestrian bridge remains	Multiple phase rehabilitation of existing bridge, no temporary bridge, existing pedestrian bridge remains	Single phase rehabilitation of existing bridge, two-lane temporary bridge removed after construction, existing pedestrian bridge removed	Single phase rehabilitation of existing bridge, two-lane temporary bridge removed after construction, existing pedestrian bridge retained
Needs	Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	N	Y	Y	Y	Y	Y	Y	Y	Y
		Can the deck, substructure, and superstructure improved to good condition?	N	Y	Y	Y	Y	Y	Y	Y	Y
		Is the lifespan of bridge greater than 75 Years?	N	Y	Y	Y	Y	Y	N	N	N
		Does the bridge meet current LRFD seismic design criteria?	?	Y	Y	Y	Y	Y	?	?	?
		Can safe bike and pedestrian accommodations be provided?	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Regional and Local Connectivity	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	Y	Y	Y	Y	Y	Y	Y	Y	Y
		Can construction be completed with limited traffic impacts? (e.g. closures or detours)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reasonable Alternative?			Yes (By rule)	Yes	Yes	Yes	Yes	Yes	No - Does not meet all Need elements	No - Does not meet all Need elements	No - Does not meet all Need elements



Spring Valley Bridge Alternatives

			NO ACTION	NEW BRIDGE ON EXISTING ALIGNMENT	NEW BRIDGE ON OFFSET ALIGNMENT	REHABILITATE EXISTING
			No-Build	Alternative S-1 Two-lane temporary bridge removed after construction	Alternative S-2 Upstream (northwest), no temporary bridge	Alternative S-3 Temporary bridge removed after construction
Needs	Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	N	Y	Y	Y
		Can the deck, substructure, and superstructure improved to good condition?	N	Y	Y	Y
		Is the lifespan of bridge greater than 75 Years?	N	Y	Y	N
		Does the bridge meet current LRFD seismic design criteria?	?	Y	Y	?
		Can safe bike and pedestrian accommodations be provided?	N	Y	Y	Y
	Regional and Local Connectivity	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	Y	Y	Y	Y
		Can construction be completed with limited traffic impacts? (e.g. closures or detours)	Y	Y	Y	Y
Reasonable Alternative?			Yes (By rule)	Yes	Yes	No - Does not meet all Need elements



Discussion/Questions

<https://www.modot.org/roundspringbridges>