

Virtual Public Meeting 1

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

February 4, 2021





Welcome everyone to the first of two public meetings for the Route 19 Bridges Environmental Assessment. I'm Dave Kocour with Hg Consult and I'm the consultant project manager for MoDOT. I need to let you know that this evening's virtual meeting is being recorded and will be posted to the project website afterwards so that you or others who were unable to attend this evening can go back and watch the meeting at your convenience. There are two ways you can ask questions or provide comments on this evening's presentation. One is through using the Chat feature during the meeting today and the other is through the website later on where you can provide comments on this evening's meeting for the next three weeks. Of course, you can submit other comments and questions at any time on the project website which if you don't have the address for it will be displayed at the end of this presentation. As part of the recording process, I am required to read the following disclaimer. The opinions expressed during this event do not necessarily reflect the opinions of MoDOT, the Missouri Highway and Transportation Commission or Hg Consult and do not necessarily constitute MoDOT or the Highway and Transportation Commissions policy.

We have several people from the project team including technical specialists on the call this evening, and I'd like to introduce a few of them. First, I'd like to introduce Pete Berry who is the MoDOT project manager for this project. We also have the MoDOT Southeast District Engineer Mark Croarkin on the call along with several other MoDOT district staff. Richard Moore MoDOT's Environmental Section Chief, Karen Daniels who is a Senior Historian with MoDOT,

Taylor Peters an Environmental Specialist with the Federal Highway Administration, and I believe members from the National Park Service Ozark National Scenic Riverway Office which is a cooperating, or if you will a partnering agency with MoDOT and FHWA on this project, we may also have Army Corps of Engineers - Little Rock District staff with us this evening, the Corps is also a cooperating agency.

Buddy Desai who is a coworker of mine and who will also be presenting this evening, and finally Terry Hood who is also a coworker of mine and our bridge engineer. We also have three subconsultants as part of our consultant team that are represented on tonight's call as well including Olsson who worked on the previous study that we'll talk a little bit about later, Vireo who has a lot of experience in working on National Park Service projects, and Single Wing Creative who is assisting us with public outreach and content. In fact, staff from Single Wing we'll be moderating this evening's meeting by collecting and presenting your comments or questions to me at the end of this presentation. We would like to make this as interactive as possible. I think we've all been through a number of these virtual meetings by now, but just a few housekeeping items: everyone outside the project team is muted, but feel free to submit any comments or questions through the Chat feature that should be at the bottom of your page. If you are a member of the project team and not speaking please mute your microphone, and again after this meeting this presentation will be posted on the project website.



Here's an overview of what were going to cover in this evening's meeting:

1. Project Introduction
2. Activities to Date and Next Steps
3. Existing Conditions
4. Purpose and Need
5. Screening of Conceptual Alternatives
6. Discussion and Questions



So here is the multi-million dollar question. What are we doing here today? Today, we are here to talk about the future of the Route 19 Bridges. Let me be clear, MoDOT is not pre-supposing any solutions. We are here to provide you with up-to-date information, next steps, and answer any questions. If for some reason were not able to get to all your questions this evening we will answer all of them from tonight's meeting and post your questions and answers to the website.

Where We've Been

PROJECT HISTORY



Current River Bridge constructed in 1924 and Spring Valley Creek Bridge in 1930

MoDOT conducted Bridge Rehabilitation Study in 2019

Rehabilitation study identified 23 conceptual bridge alternatives

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This slide shows Where We've Been and the Project History:

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

Where We've Been

PROJECT HISTORY

A circular inset image showing a concrete arch bridge over a river, surrounded by greenery. The bridge has multiple arches and is supported by concrete pillars. The text "Spring Valley Bridge constructed: 1930" is written in white along the bottom edge of the circular frame.

MoDOT conducted a meeting with National Park Service and others during rehabilitation study

Recommended that the alternatives be the subject of a National Environmental Policy Act (NEPA) study

Spring Valley Bridge constructed: 1930

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This slide shows Where We've Been & Project History continued:

- MoDOT conducted a meeting with National Park Service and others during rehabilitation study
- Recommended that the alternatives be the subject of a National Environmental Policy Act (NEPA) study

What is NEPA?

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

- 1 A U.S. environmental law that promotes the enhancement of the environment including the natural, social, and economic environment.
- 2 NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision.
- 3 Informed decision-making and good planning.

NEPA

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What is NEPA? National Environmental Policy Act:

1. A U.S. environmental law that promotes the enhancement of the environment including the natural, social, and economic environment.
2. NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision.
3. Informed decision-making and good planning is really what NEPA is supposed to be all about.

What is an EA?

ENVIRONMENTAL ASSESSMENT (EA)

- 1 Prepared to determine whether an action is a "major federal action significantly affecting the quality of the human environment".
- 2 End result is decision document for a preferred alternative.

EA

What is an EA? Environmental Assessment:

1. Prepared to determine whether an action is a "major federal action significantly affecting the quality of the human environment".
2. End result is decision document for a preferred alternative.

Your Input Makes a Difference!



Agency Coordination & Public Outreach

Cooperating agencies (Core Team)

Participating agencies

Corridor Advisory Team (CAT)

Another side of NEPA is agency coordination and public outreach which again supports informed decision making and good planning. We have already been working closely and partnering with the National Park Service and U.S. Army Corps of Engineers as Cooperating Agencies. A Cooperating Agency means any Federal agency, other than the lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. So in our case when we refer to the Core Team we are referring to FHWA, MoDOT, National Park Service and the U.S. Army Corps of Engineers. We also coordinate with and involve what is referred to as Participating Agencies which are defined as any with an interest in the project and in our case include the EPA, U.S. Fish & Wildlife Service, the NRCS, FEMA, MDNR, MDC, SEMA and several Native American tribes. For this project we also formed a Corridor Advisory Team that is a cross section of local businesses, governments, organizations and planning agencies. In fact, we just held our first CAT meeting right before the holidays which was very similar to this meeting. By the way, you can find the presentation and notes from that meeting on the project website.

Your Input Makes a Difference!



Agency Coordination & Public Outreach

Public

Other Stakeholders

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We also make a great deal of effort to reach out to the public through meetings like this, websites, press releases, social media and any number of other tools and get your input on the project as well. Your input makes a difference. Finally, there is always the potential that we may reach out to other stakeholders as they are identified throughout the process.

It's Your Turn!

Your Role in the Section 106 Process

- Section 106 of the National Historic Preservation Act
- Public is encouraged to be involved
- Assist in identifying historic properties



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Under NEPA we have a number of laws and regulations that we must follow one of those is Section 106 of the National Historic Preservation Act of 1966. It requires that each federal agency identify and assess the effects its actions may have on historic properties. Under Section 106, each federal agency must consider public views and concerns about historic preservation issues when making final project decisions. Because of the relationship between MoDOT and FHWA, our Environmental Assessment must include the Section 106 process. The public is encouraged to be involved in the Section 106 process and by asking questions and expressing concerns about historic properties. You can also help the study team in identifying historic properties.

It's Your Turn!

Your Role in the Section 106 Process

- Identifying appropriate mitigation measures for unavoidable adverse effects
- Consulting Parties



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You can also help the study team identify actions that may be taken to mitigate or offset unavoidable impacts to these resources as described in the EA. MoDOT and FHWA have engaged a number of local, state and regional entities interested in historic preservation as well as federally-recognized native American tribes in the Section 106 process. The groups, referred to as consulting parties, will assist MoDOT in evaluating the alternatives and will be providing input in the development of documentation that will include measures to minimize harm to the historic resources identified.

Section 4(f) Properties

Refers to the original section of the USDOT Act of 1966.

Provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation development.

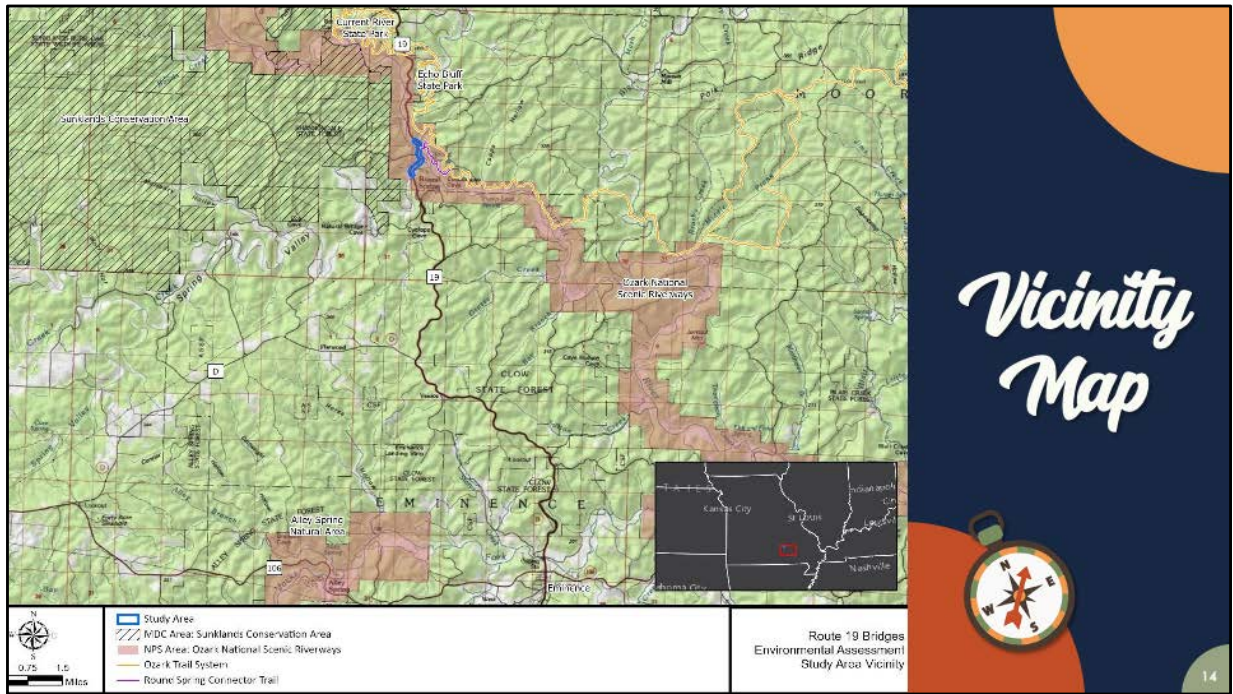
Determine that there is no feasible and prudent alternative that avoids the 4(f) properties and that the project includes all possible planning to minimize harm to the 4(f) properties; or

FHWA makes a finding that the project has a de minimis impact on the 4(f) properties.

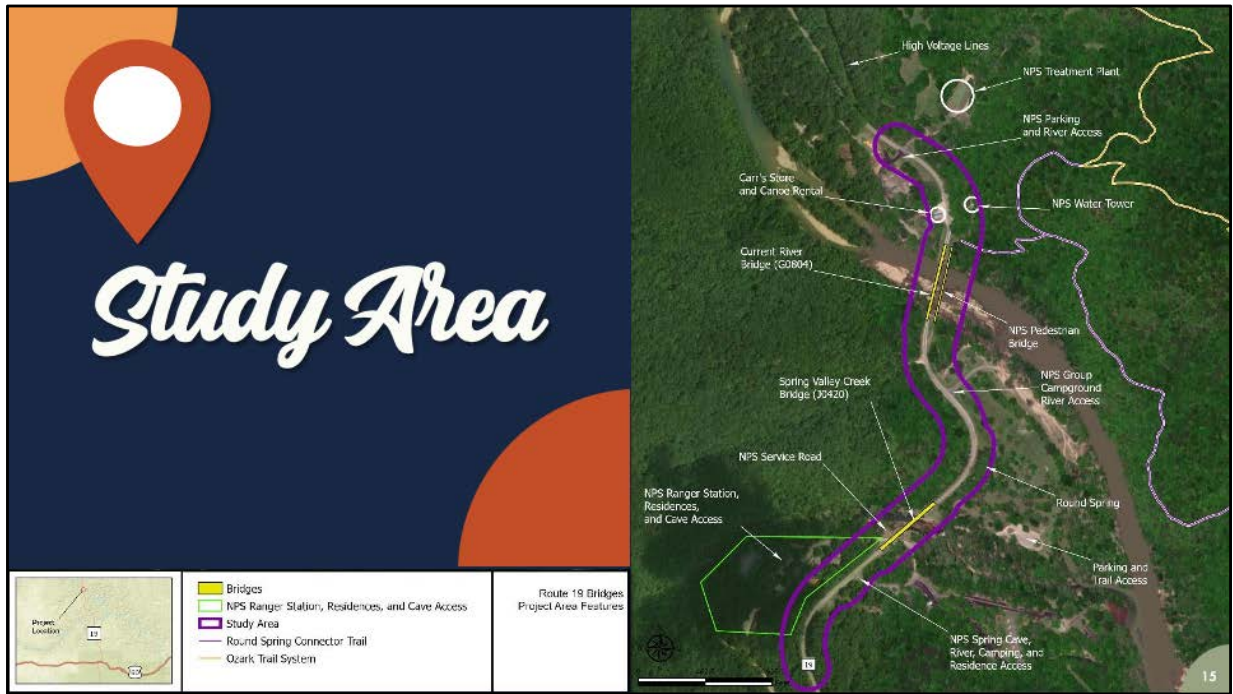


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Another law we are subject to under NEPA includes Section 4(f) properties: Refers to the original section of the USDOT Act of 1966. Provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation development. Determine that there is no feasible and prudent alternative that avoids the 4(f) properties and that the project includes all possible planning to minimize harm to the 4(f) properties; or FHWA makes a finding that the project has a de minimis impact on the 4(f) properties.



The project is located here in this part of the state we are talking about and here you can see where we are in relation to the City of Eminence. Note our entire study area is within the Ozark National Scenic Riverways.



Here's a much closer look at our study area which is outlined in purple as you can see, we've labeled several of the features in the study area and immediate vicinity.



Let me now talk a little bit about where we've been and where we're going.

Where We've Been

Activities to Date



- Initiated NEPA Study in July 2020
- Review of Rehabilitation Report and Data
- Data Collection
- Initiated Agency Coordination

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Here is a list of the Activities to date we have participated in:

- Initiated NEPA Study in July 2020,
- Review of Rehabilitation Report and Data,
- Data Collection,
- Initiated Agency Coordination.

Where We've Been



Activities to Date

- Developed Project Identity
- Developed Public Involvement Plan
- Developed Project Website
- Developed Purpose and Need for the Project

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Continued Activities to date:

- Developed Project Identity,
- Developed Public Involvement Plan,
- Developed Project Website,
- Developed Purpose and Need for the Project.

The infographic features a dark green background with a topographic map pattern. On the left is a circular logo with a dark blue background, containing the text 'BRIDGES AT' in teal, 'Round Spring' in white script, and 'SHANNON COUNTY' in teal. To the right, the title 'Where We've Been' is written in white script, and 'Activities to Date' is in white sans-serif. Below the title are four horizontal bars of different colors, each containing a text description of an activity.

Where We've Been

Activities to Date

- Screened conceptual alternatives
- Held first Core team meeting November 30, 2020
- Held first Community Advisory Team (CAT) meeting December 17, 2020
- Held first public meeting (today)

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Continued activities to date:

- Screened conceptual alternatives,
- Held first Core team meeting November 30, 2020,
- Held first Community Advisory Team (CAT) meeting December 17, 2020,
- Held first public meeting (today).

Where We're Headed

The Next Steps

- Second Core Team Meeting in March 2021
- Conduct Field Work in Spring/Summer 2021
- Third and Final Core Team Meeting Fall 2021
- Second CAT Meeting Late Fall 2021



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Now we will look at where we're headed:

- Second Core Team Meeting - March 2021 to go over what we've heard in the public meeting as well as the Corridor Advisory Team meeting,
- Conduct Field Work - Spring/Summer 2021,
- Third and Final Core Team Meeting - Fall 2021,
- Second CAT Meeting - Late Fall 2021.

Where We're Headed

The Next Steps

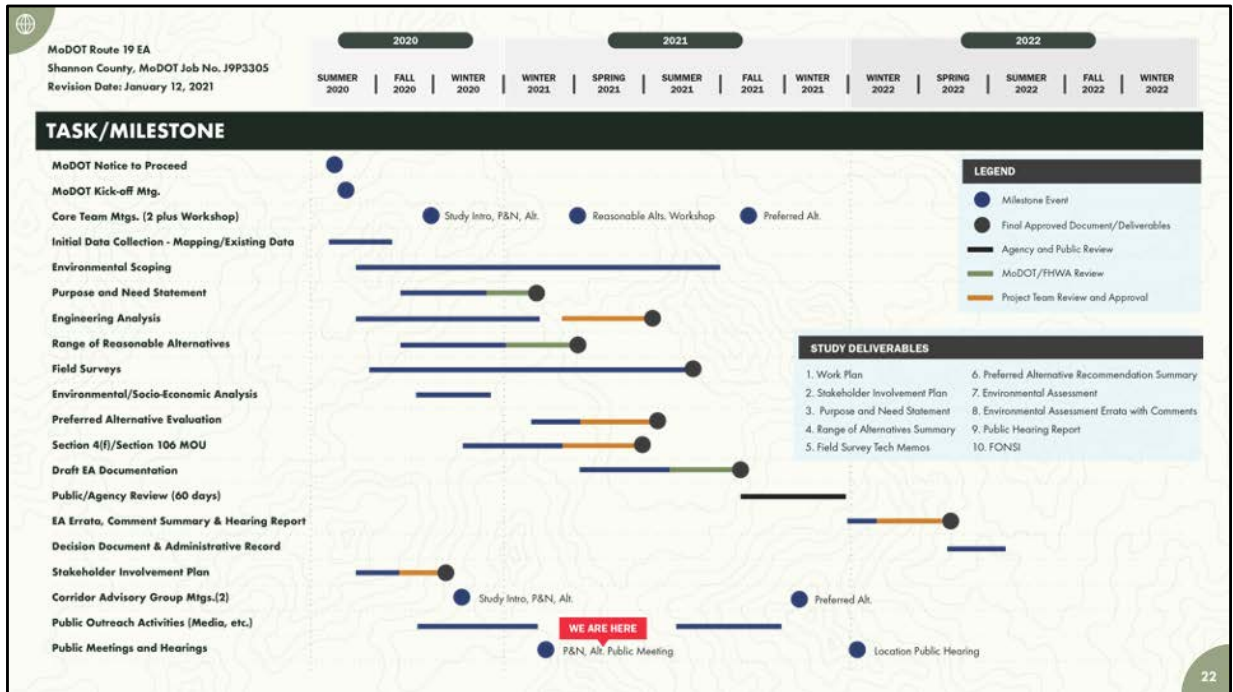
- Public Hearing Winter 2021
- NEPA Document Spring 2022
- NEPA Clearance Early Summer 2022



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Where we're headed cont.


- Public Hearing - Winter 2021 where we will come forward back to you with a recommended preferred alternative,
- NEPA Document - Spring 2022,
- NEPA Clearance - Early Summer 2022 The next phase would then be to move into design assuming that the funding would be available.



Overview of schedule with some of the key milestones and NEPA clearance expected in Summer 2022.



Now let me talk a little bit about the existing conditions within our study area.



Bridge & Roadway Conditions

- Roadway functional classification
 - Rural minor arterial
- Roadway alignment is poor
- Single-lane with narrow shoulders on Current River Bridge and two lanes with no shoulders on Spring Valley Creek 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


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The current bridge & roadway conditions are:

- Roadway functional classification – rural minor arterial,
- Roadway alignment is poor,
- Single-lane with narrow shoulders on Current River Bridge and two lanes with no shoulders on Spring Valley Creek Bridge,
- Bridge Sufficiency Ratings –
 - Current River 33.5%
 - Spring Valley 33.1%,
- Both bridges are structurally deficient,
- Moderate to heavy scour around the pier that is in the Current River. Current River Bridge is 18' wide and Spring Valley Creek Bridge is 20' wide.



These are photos that give you an idea of the current state of the bridges you've got a lot of rusting of the structural steel and decaying side rails.



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

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The current statistics for traffic safety in the study area:

- Current Average Annual Daily Traffic or AADT for 2020 – 700 vehicles,
- 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*.

Over three times the rate compared to the statewide average for similar facilities.

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



The map shows crash locations:

- One Property Damage Only on the Current River Bridge,
- One Property Damage Only and one Minor Injury on the Spring Valley Bridge,
- Two Property Damage Only and two Minor Injury on Northbound approach to the Spring Valley Bridge. We've been told this looks a little bit low and we are looking to see if the National Park Service has additional data, but this is what we got from MoDOT who gets their data from the Highway Patrol.

Water & Threatened-Endangered Species

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

The water & threatened-endangered species we need to be cautious of during the study are:

- Crossings of Current River and Spring Valley Creek,
- 100-year floodplain,
- Wetlands within Current River portion of the study area,
- Current River is designated as an Outstanding Natural Resource Water and priority watershed,
- One water well within the study area,
- Springs/Caves/Karst geology (rock formations that are pocked with caves and other voids that allow groundwater and springs to appear in a number of locations),
- Suitable Indiana Bat habitat corridor-wide,
- Endangered Ozark hellbender (salamander).



Land Use

- Entire study area within the NPS Ozark National Scenic Riverways – Section 4(f)
- Large public use areas
- One private business

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An overview of the land use of the study area is:

- Entire study area within the NPS Ozark National Scenic Riverways – Section 4(f),
- Large public use areas,
- One private business



Cultural Resources

- Three Bridges Historic District – eligible for the National Register of Historic Places (NRHP)
- Current River Bridge and Spring Valley Bridge are eligible for the NRHP
- Section 4(f) resources
- Documented archaeological sites

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The cultural resources we are keeping in mind during the study are:

- Three Bridges Historic District – eligible for the National Register of Historic Places (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

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A thing to note about minority populations & poverty in the study area is that there are:

- No permanent residents within study area,
- So no minority or low-income populations within study area that we need to accommodate.



Hazardous Materials

- No known hazardous material sites within study area

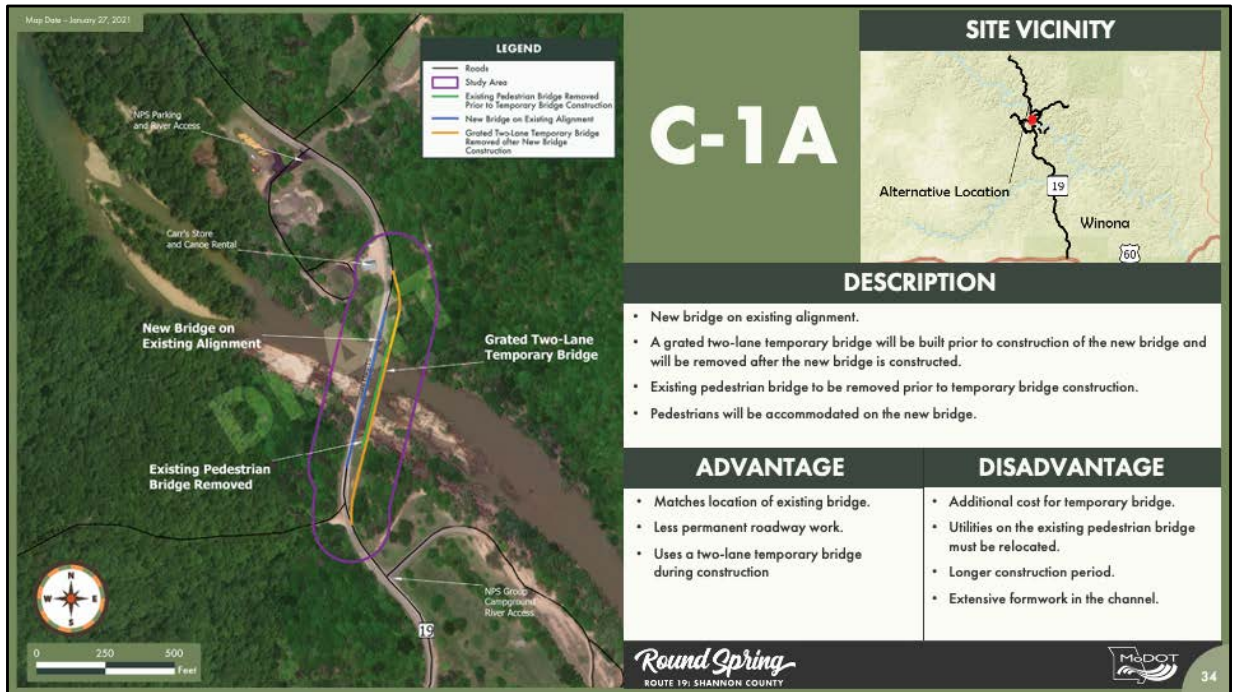
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Hazardous Materials:

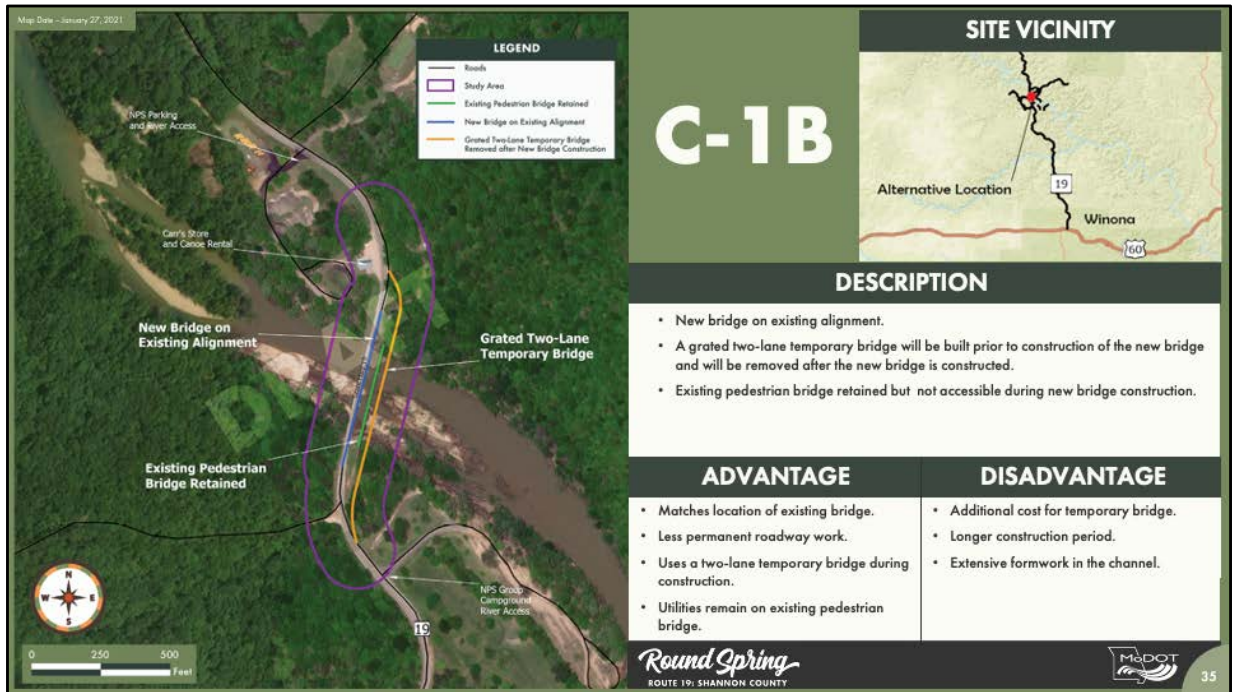
- No known hazardous material sites within study area



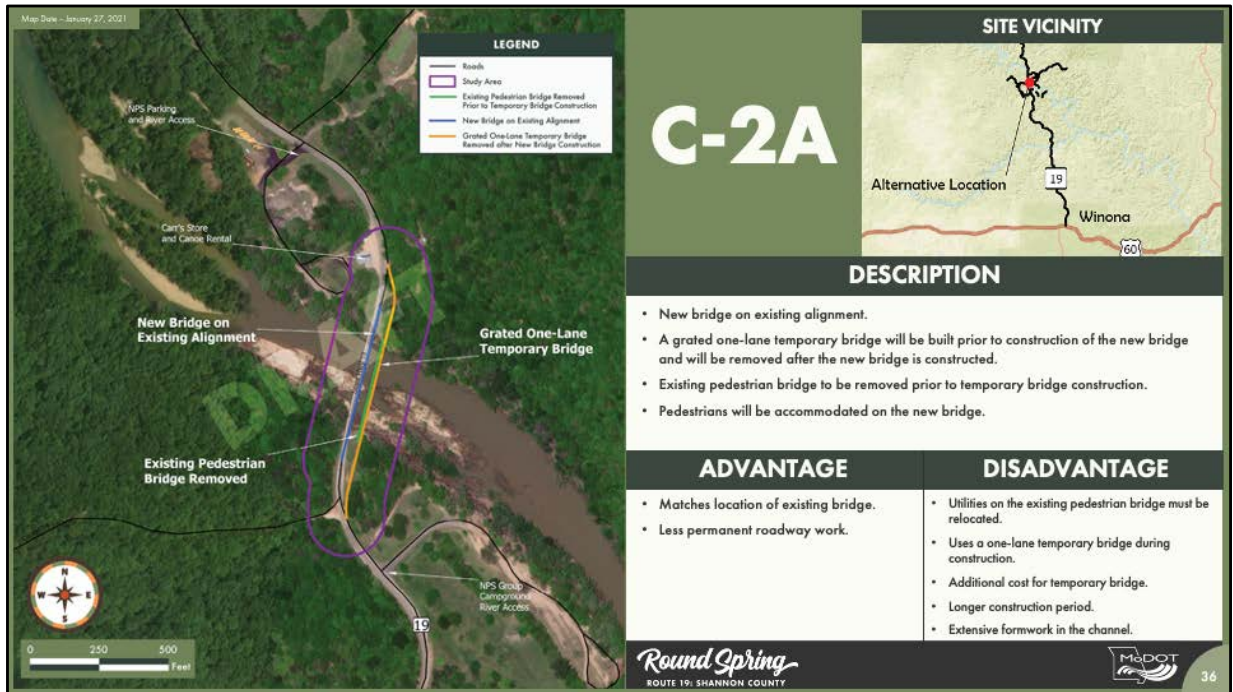
I'm going to turn it over to Buddy at this point to go into more detail about the Conceptual Alternatives.



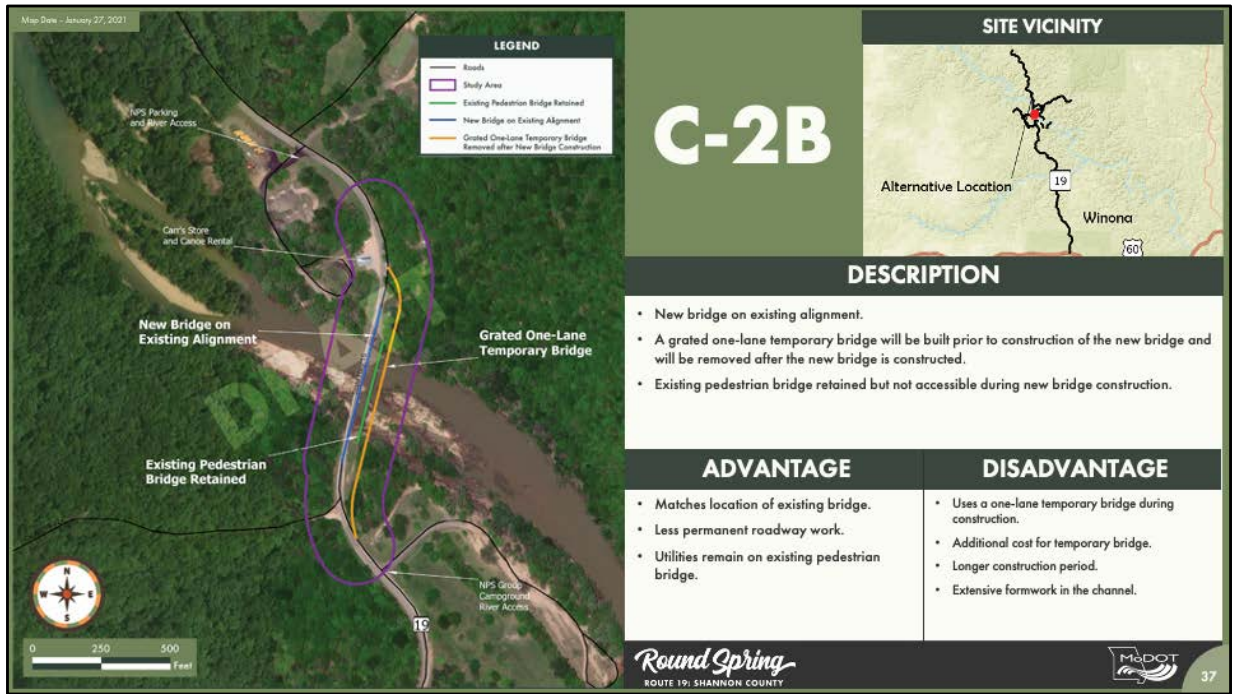
We have a number of alternatives for both the Current River and Spring Valley Creek bridges. As I go through these you will see blue lines, which represent a proposed new bridge or a rehabilitated bridge; a green line for Current River represents the existing pedestrian bridge; and an orange line represents what may be either a temporary bridge or existing bridge that will eventually be removed. We tried to remain consistent. Alternative C-1A is to place a new bridge on existing alignment. As you can see in the map, the existing pedestrian bridge would be removed prior to construction of the orange line, which is a grated two lane temporary bridge. In the end, you'll have one bridge crossing over the Current River on existing alignment.



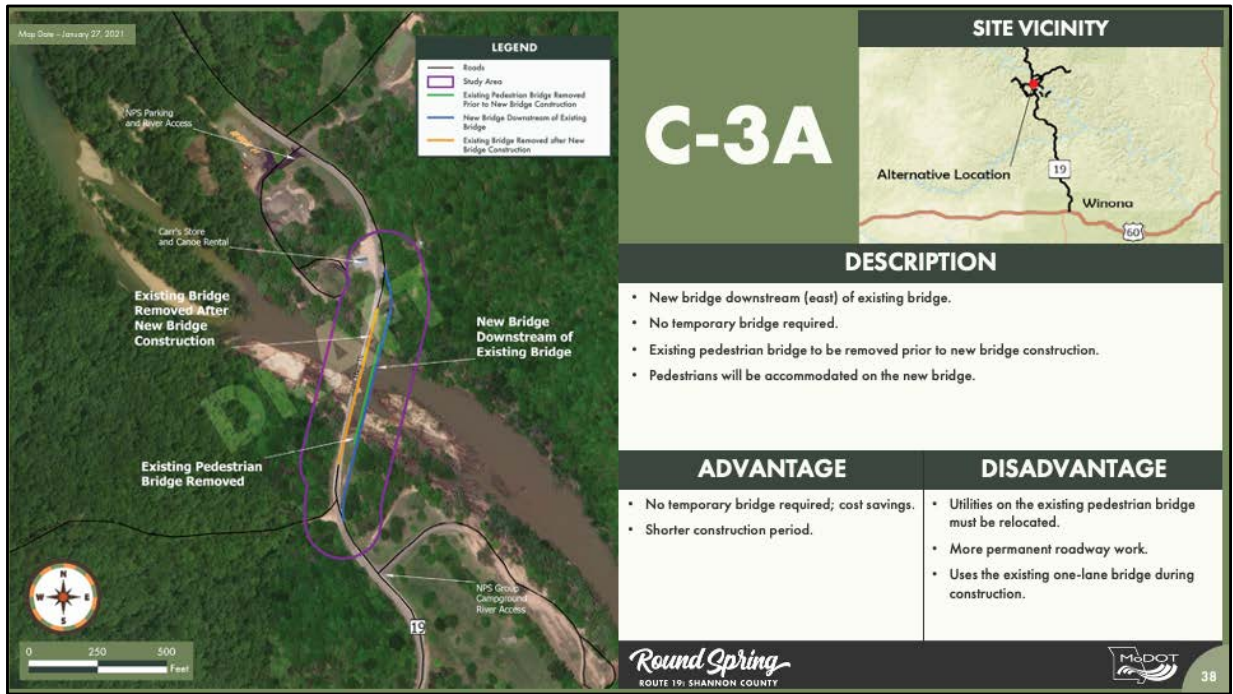
Alternative C-1B is very similar to C-1A except the pedestrian bridge would be retained and the grated two-lane temporary bridge and would be built further downstream. The end result of this alternative would be a new bridge on existing alignment with the pedestrian bridge being retained. The only caveat is during construction, the pedestrian bridge would not be accessible due to the construction activities in the area.



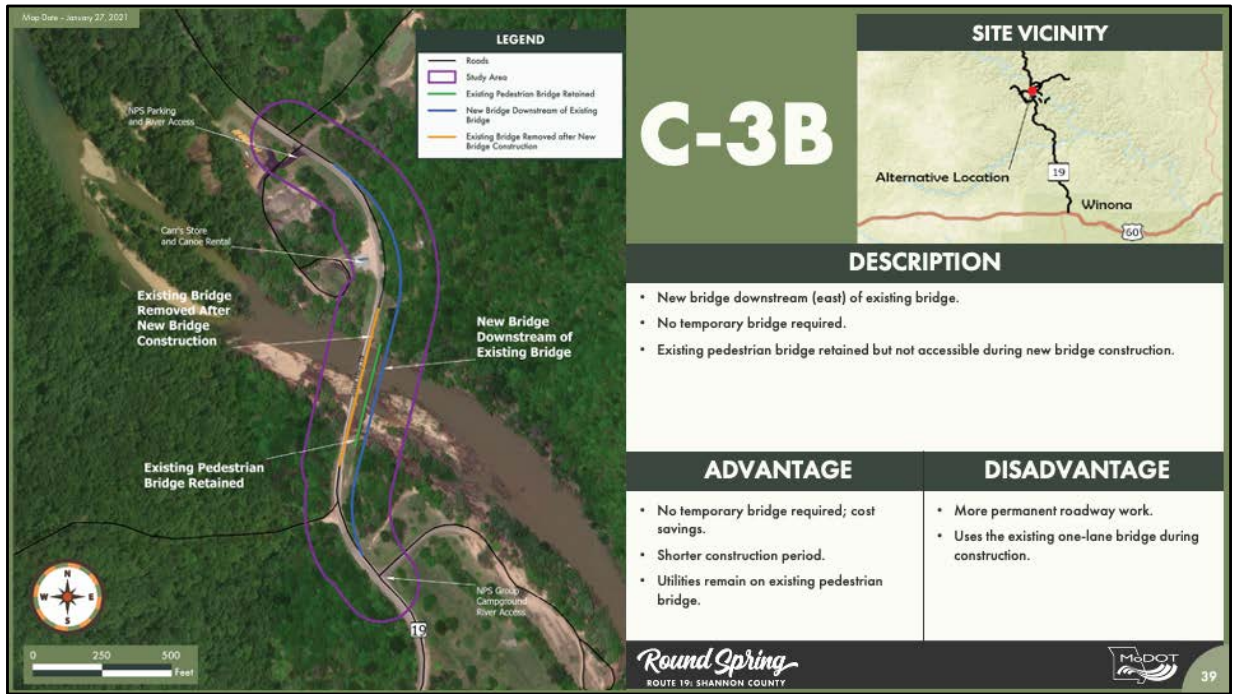
Alternative C-2A is again a new bridge on existing alignment, and it is very similar to Alternative C-1A. The pedestrian bridge would be removed prior to construction of a grated, one-lane temporary bridge. This would save a little bit of cost under this alternative. And again, the pedestrian bridge is removed prior to construction of the grated one lane temporary bridge. The end result is a new bridge on existing alignment, with no pedestrian bridge.



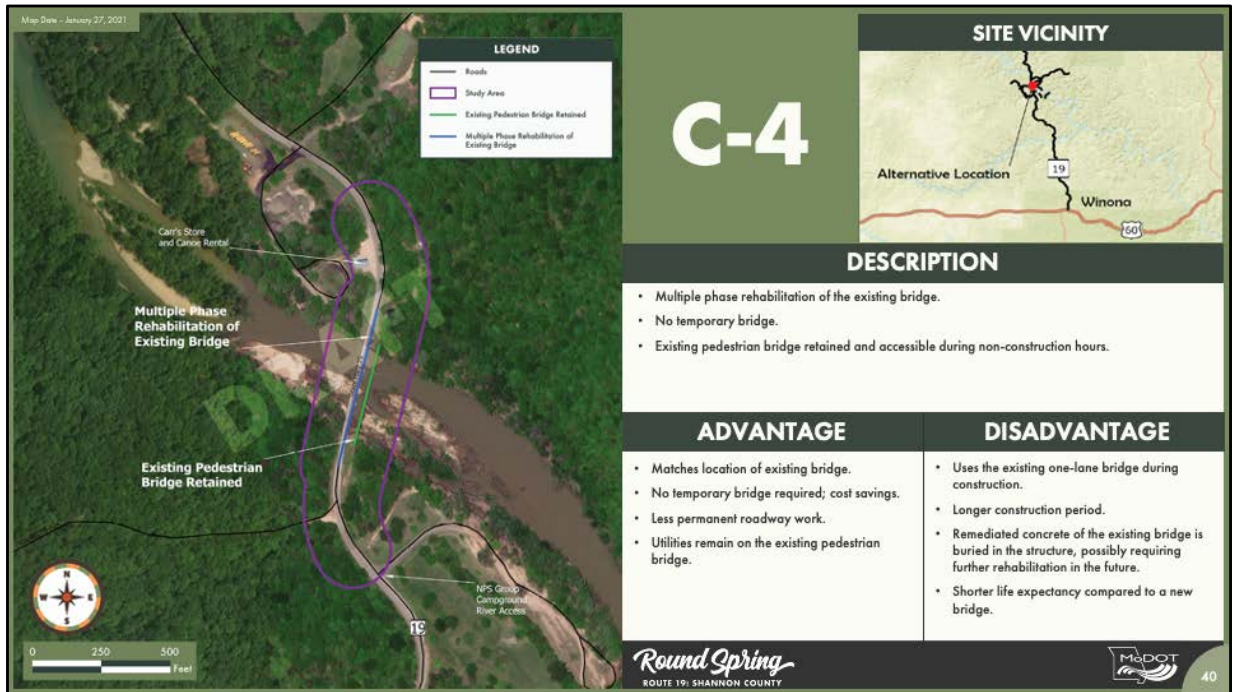
Alternative C-2B is similar to alternative C-1B, a new bridge on existing alignment. In this case, the pedestrian bridge is retained, but not accessible during construction and a grated one-lane temporary bridge is built further downstream of the pedestrian bridge and will be removed once the new bridge on existing alignment is constructed.



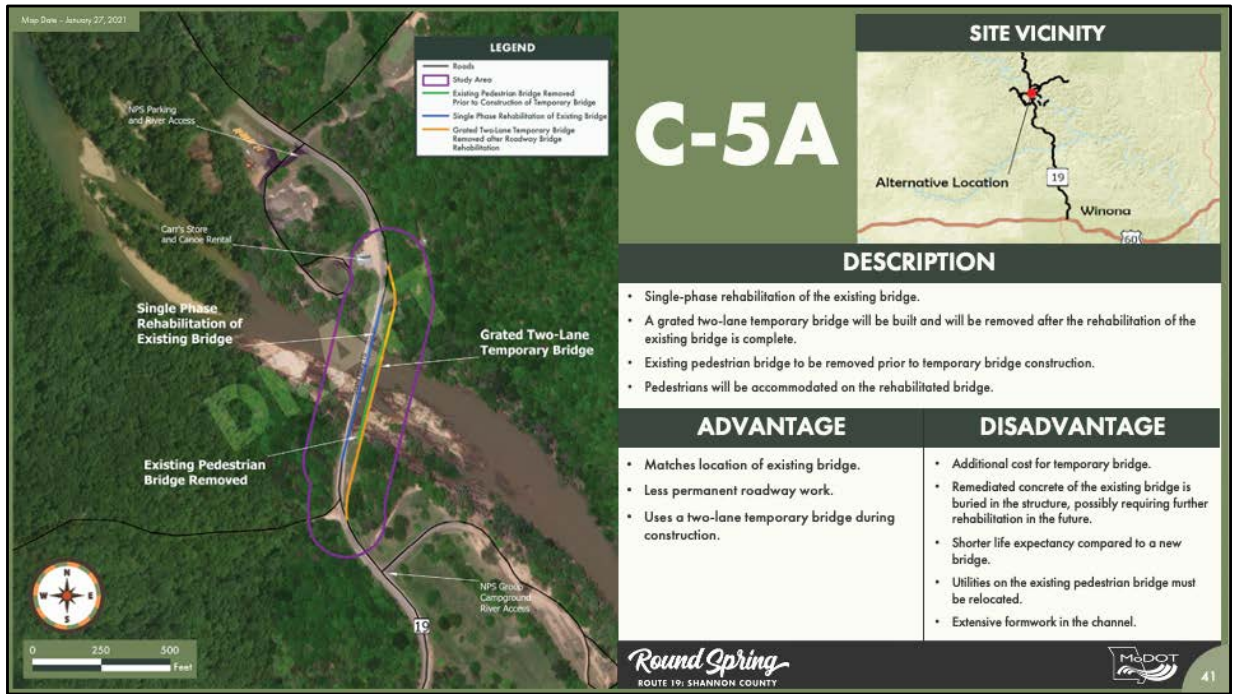
In Alternative C-3A we're moving off alignment for the new bridge. You'll see the blue line downstream of the existing bridge. We'll build a new bridge at that location, and remove the pedestrian bridge before that construction begins. And then once construction is completed, the existing bridge would be removed. And you would be again with one bridge downstream of the existing bridge.



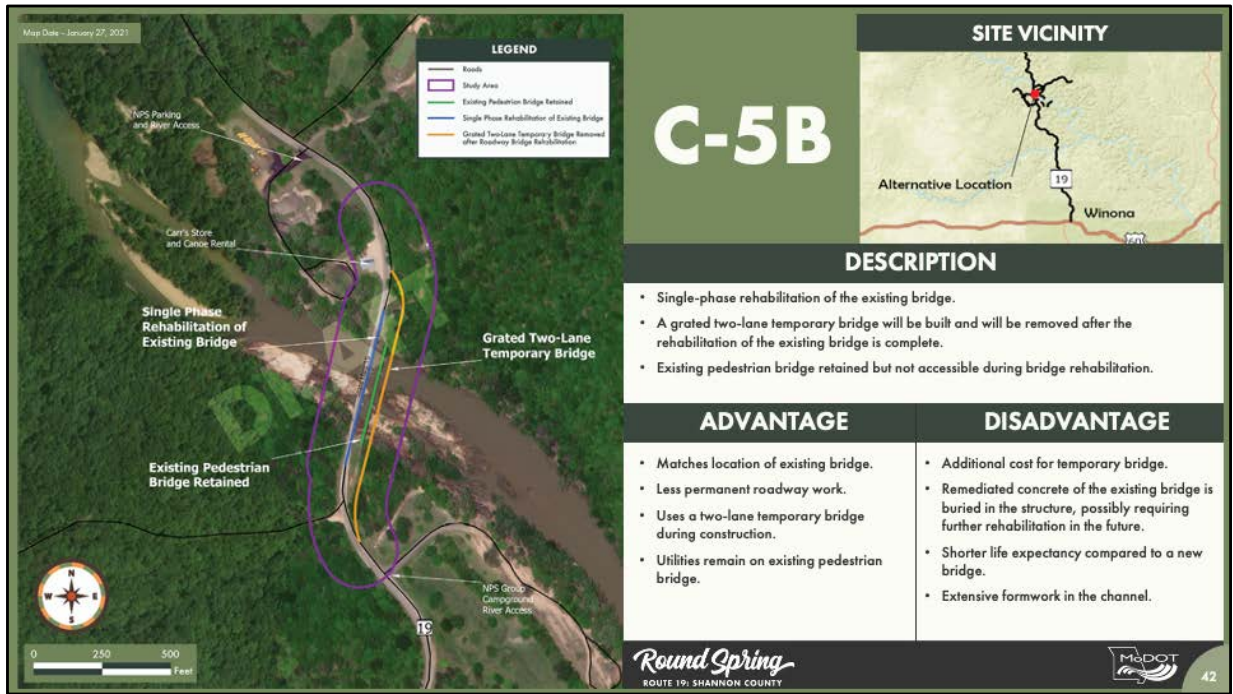
Alternative C-3B is very similar to C-3A, except the pedestrian bridge is retained and the new bridge would be built a little bit further downstream than under alternative C-3A. The existing bridge would be removed after the new bridge is constructed.



Alternatives C-4 and C-5 deal with rehabilitation of the existing bridge. In this case, you see a multiple phase rehabilitation of the existing bridge. Because it's a multiple phase rehabilitation, we don't need a temporary bridge. And in this case, again, the existing pedestrian bridge would be retained. The unique part of this is that during non-construction hours, the existing pedestrian bridge would still be accessible.



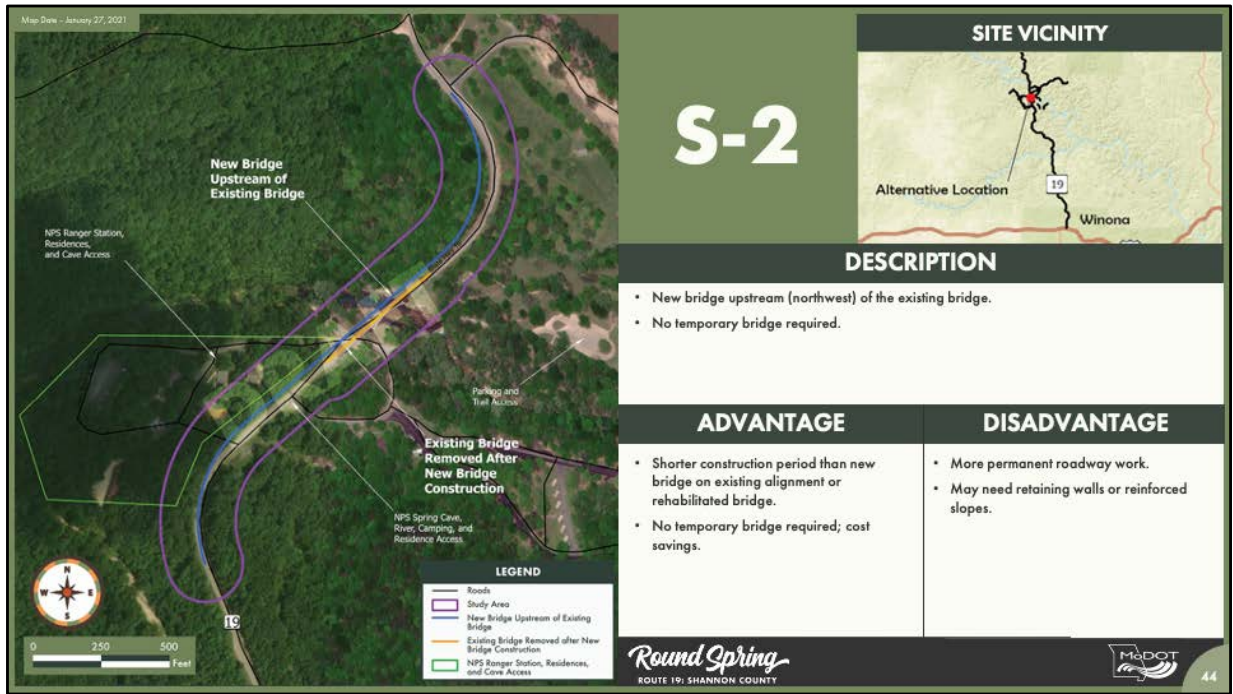
And then the final alternatives are C-5A and C-5B. These are single-phase rehabilitations. We will rehabilitate the entire bridge at one go, if you will. We would need a grated two lane, temporary bridge. C-5A removes the pedestrian bridge prior to construction of the temporary bridge.



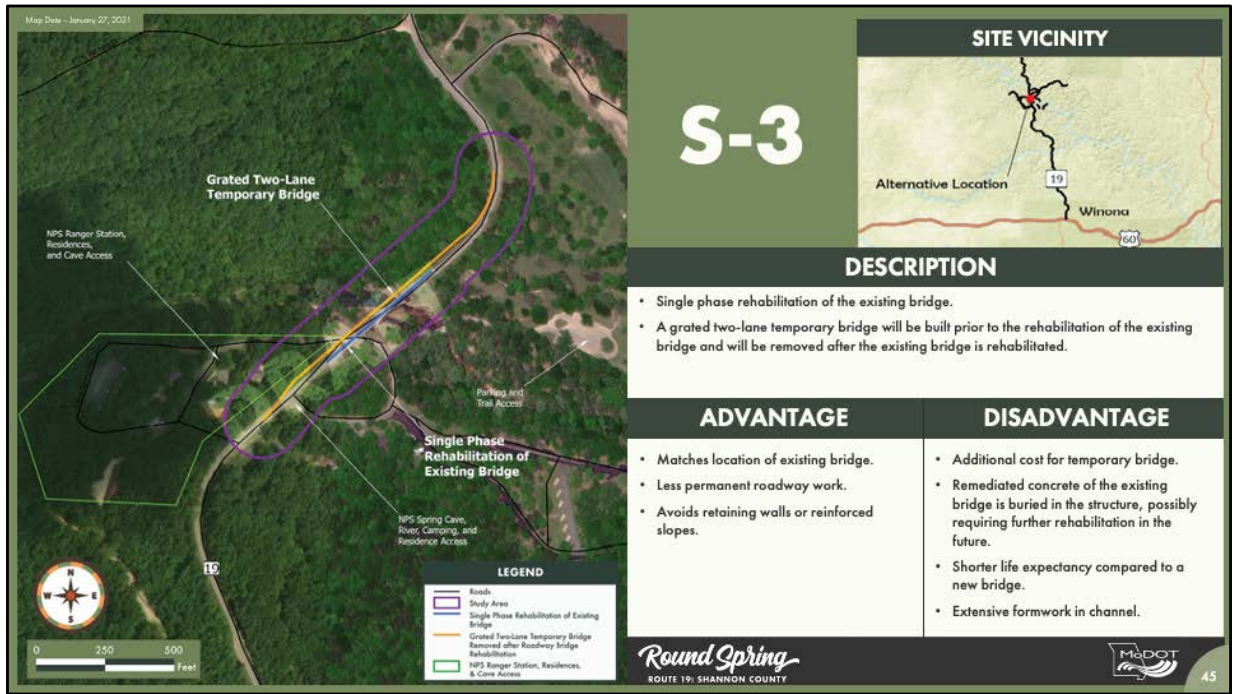
C-5B is very similar to C-5A, except that the pedestrian bridge is retained, and the grated temporary bridge would be built further downstream and then removed once the existing bridge is fully rehabilitated.



We now move on to the Spring Valley Creek alternatives. Alternative S-1 is a new bridge on existing alignment, and because it's on existing alignment, we would need to construct a grated two-lane, temporary bridge upstream, or to the northwest of the existing bridge. Once the new bridge is constructed the grated two-lane temporary bridge would be removed.



Alternative S-2 is a new bridge upstream, or northwest, of the existing bridge. The blue line, representing the new bridge, is slightly upstream or to the north and west of the existing bridge. Once the new bridge is constructed and open, then the existing bridge would be removed. And again, you would be left with one bridge over the Spring Valley Creek.



Finally, alternative S-3 is a single phase rehabilitation of the existing bridge. Therefore we would construct a grated two-lane temporary bridge prior to this single-phase rehabilitation. And the grated two-lane temporary bridge would be removed after rehabilitation of the existing bridge.



Once we have these eight alternatives with some variants for the Current River, relating to whether the existing pedestrian bridge is retained or removed, we move on to what we call the draft Purpose and Need. Purpose and Need defines why we're doing the project, what the needs are in the project area.

PURPOSE

- 1 Improve the condition of the bridge crossings.
- 2 Improve the functionality of the bridge crossings.

NEED

- 1 The Route 19 crossing of the Current River and Spring Valley Creek are too narrow for current design standards.
- 2 The Route 19 crossing of the Current River is in fair condition and the Spring Valley Creek bridge is in poor to satisfactory condition.
- 3 The Route 19 crossing of the Current River and Spring Valley Creek are important to regional and local connectivity.

Draft Purpose & Need

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The purpose of the Current River and Spring Valley Creek bridges projects are to improve the condition of the existing bridges and improve the functionality of the bridge crossings meaning that both crossings are too narrow for current standards. The Current River bridge is considered in fair condition. MoDOT looks at the bridge deck, the superstructure and substructure. Superstructure is everything above the deck, substructure everything below the deck. The Current River bridge is in fair condition, and the Spring Valley Creek bridge is in poor to satisfactory condition. And finally, because this is one of the only crossings of these two water bodies for many miles, the Route 19 crossings of both of these water bodies are important to regional and local connectivity.



The next step in these types of projects is to screen the alternatives. Up until this point, we haven't determined impacts of the conceptual alternatives.

CURRENT RIVER BRIDGE ALTERNATIVES		No Action	New Bridge on Existing Alignment			New Bridge on Offset Alignment	
		NO-BUILD	ALTERNATIVE C-1A	ALTERNATIVE C-1B	ALTERNATIVE C-2A	ALTERNATIVE C-2B	ALTERNATIVE C-3A
NEEDS YES NO UNDETERMINED							
Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	X	●	●	●	●	●
	Can the deck, substructure, and superstructure improve to good condition?	X	●	●	●	●	●
	Is the lifespan of the bridge greater than 75 years?	X	●	●	●	●	●
	Does the bridge meet current LRFD seismic design criteria*?	?	●	●	●	●	●
	Can safe pedestrian accommodations be provided?	●	●	●	●	●	●
Regional and Local Connectivity	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	●	●	●	●	●	●
	Can construction be completed with limited traffic impacts? (e.g. closures or detours)	●	●	●	●	●	●
REASONABLE ALTERNATIVE?		YES (BY RULE)	YES	YES	YES	YES	YES

*LRFD seismic design criteria refers to a bridge's ability to withstand an earthquake.

We take the purpose and need elements, and we screen the conceptual alternatives against them. Those alternatives that meet the purpose and need elements move forward as reasonable alternatives for which we will perform a detailed impact analysis. And through that analysis, eventually it is determined what the preferred alternative is for both bridge crossings. You can see at the top of the slide the first set of alternatives, Alternative C-1 and its variants, Alternative C-2 and its variants, and the first C-3 alternative. And then what we ask are the questions along the left-hand column, the needs. And so I'll briefly go through those:

- Does the bridge meet current design standards?
- Can the deck substructure and superstructure be improved to good condition?
- Is the lifespan of the bridge greater than 75 years? This is generally the target MoDOT holds for new bridges: 75 to 100 years.
- Does it meet seismic criteria?
- And can safe pedestrian combinations be provided?

The second need element is regional and local connectivity. Is access to recreational facilities maintained? And the second question we ask is, can construction be completed with limited traffic impacts? A dot or a circle, filled in circle means that, yes, it can meet those criteria, and if

there's an X, that means it does not meet the criteria.

By rule, the no-build alternative moves forward. The no-build alternative deals with regular maintenance only, with no other improvements to it. It's not a no-cost alternative, but just routine maintenance does not meet the first three criteria under existing bridges in poor condition. But by rule, it moves forward in the analysis.

Alternatives C-1A, C-1B, C2A, C-2B, and C-3A move forward as reasonable alternatives.

CURRENT RIVER BRIDGE ALTERNATIVES CONT.		New Bridge on Offset Alignment				Rehabilitate Existing Bridge on Alignment			
		ALTERNATIVE C-3B	ALTERNATIVE C-4	ALTERNATIVE C-5A	ALTERNATIVE C-5B	ALTERNATIVE C-3B	ALTERNATIVE C-4	ALTERNATIVE C-5A	ALTERNATIVE C-5B
		New bridge downstream of existing bridge, no temporary bridge, pedestrian bridge retained	Multiple phase rehabilitation of existing bridge, no temporary bridge, pedestrian bridge retained	Single phase rehabilitation of existing bridge, grated two-lane temporary bridge, pedestrian bridge removed	Single phase rehabilitation of existing bridge, grated two-lane temporary bridge, pedestrian bridge retained				
NEEDS									
Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	●	●	●	●				
	Can the deck, substructure, and superstructure improve to good condition?	●	●	●	●				
	Is the lifespan of the bridge greater than 75 years?	●	X	X	X				
	Does the bridge meet current LRFD seismic design criteria?*	●	?	?	?				
Regional and Local Connectivity	Can safe pedestrian accommodations be provided?	●	●	●	●				
	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	●	●	●	●				
	Can construction be completed with limited traffic impacts? (e.g. closures or detours)	●	●	●	●				
REASONABLE ALTERNATIVE?		YES	X NO - DOES NOT MEET ALL NEED ELEMENTS	X NO - DOES NOT MEET ALL NEED ELEMENTS	X NO - DOES NOT MEET ALL NEED ELEMENTS				

* LRFD seismic design criteria refers to a bridge's ability to withstand an earthquake.

The next sheet shows the remaining alternatives for Current River bridge. Alternative C3-B satisfies all of the purpose and need criteria. The rehabilitation alternatives, C4, C5-A, and C5-B would not meet the lifespan guidelines that MoDOT requires. And therefore they do not meet that criteria. Because of this, we are proposing that rehabilitating the existing alternatives should be removed from consideration and not move forward as reasonable alternatives.

SPRING VALLEY BRIDGE ALTERNATIVES

NEEDS

✓ YES
✗ NO
? UNDETERMINED

	No Action NO-BUILD	New Bridge on Existing Alignment ALTERNATIVE S-1 <small>New bridge on existing alignment, grated two-lane temporary bridge</small>	New Bridge on Offset Alignment ALTERNATIVE S-2 <small>New bridge upstream (NW) of existing bridge, no temporary bridge</small>	Rehabilitate Existing ALTERNATIVE S-3 <small>Single phase rehabilitation of existing bridge, grated two-lane temporary bridge</small>
Existing Bridge is in Poor Condition	✗	●	●	●
Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	✗	●	●	●
Can the deck, substructure, and superstructure improve to good condition?	✗	●	●	●
Is the lifespan of the bridge greater than 75 years?	✗	●	●	✗
Does the bridge meet current LRFD seismic design criteria?*	?	●	●	?
Regional and Local Connectivity	●	●	●	●
Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	●	●	●	●
Can construction be completed with limited traffic impacts? (e.g. closures or detours)	●	●	●	●
REASONABLE ALTERNATIVE?	✓ YES (BY RULE)	✓ YES	✓ YES	✗ NO - DOES NOT MEET ALL NEED ELEMENTS

*LRFD seismic design criteria refers to a bridge's ability to withstand an earthquake.

Finally, at Spring Valley the same questions are asked under needs. As far as the no-build alternative, it does move forward by rule, but it doesn't meet the first three sub criteria of the existing bridge being in poor condition. And once again, a rehabilitation of the existing Spring Valley bridge will not have a lifespan of 75 years. Therefore, we are also recommending that it be removed from further consideration, and not move forward as a reasonable alternative. One thing I'll point out for the rehabilitation alternatives for both the Current River and Spring Valley Creek is that not only will we won't get at least 75 years lifespan and we are not quite sure whether it would meet the seismic criteria.

