

## Pilot Testing of the TCAPP Decision Guide and Related Capacity Products: Hoopstick Creek, South Carolina

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SHRP 2 Capacity Project C39A1 Pilot

# **Pilot Testing of the TCAPP Decision Guide and Related Capacity Products: Hoopstick Creek, South Carolina**



TRANSPORTATION RESEARCH BOARD  
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# **Pilot Testing of the TCAPP Decision Guide and Related Capacity Products: Hoopstick Creek, South Carolina**

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**TRANSPORTATION RESEARCH BOARD**

Washington, D.C.

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# Executive Summary

## Introduction

The fundamental purpose and goal of this pilot test was to evaluate and propose enhancements to the Transportation for Communities—Advancing Projects through Partnerships (TCAPP) collaborative planning tool. The focus was on assessing the tool’s value in providing guidance to help project partners work collaboratively toward environmental permitting decisions for South Carolina Department of Transportation (SCDOT) projects. The project team, led by the SCDOT, used the tool to evaluate a proposed bridge replacement over Hoopstick Creek on Johns Island, South Carolina. The project team recognizes that the selected pilot project may be perceived as routine for most transportation agencies. These types of projects account for the greatest quantity of National Environmental Policy Act (NEPA) reviews and permit applications within the SCDOT. A pilot test of TCAPP on this project is useful because routine projects typically require a disproportionate amount of time in the environmental process compared with large or complex projects. While complex projects receive greater attention and collaboration from agency partners, the SCDOT has recognized the need for improved coordination on projects like Hoopstick Creek Bridge Replacement.

## Project Context

The pilot project used to evaluate TCAPP is a proposed bridge replacement on Bohicket Road (State Road 10-20) over Hoopstick Creek, a tidally influenced creek, on Johns Island, South Carolina, in Charleston County. Bohicket Road, a minor arterial road and scenic highway, is adjacent to sensitive environmental resources, including tidal salt marsh, essential fish habitat, and iconic live oak canopy. The existing bridge measures 60 ft by 33 ft and has been evaluated as structurally deficient and functionally obsolete. The bridge is eligible for repair, rehabilitation, or replacement through the Highway Bridge Replacement and Rehabilitation Program. The existing bridge and its approach roads do not meet current design and safety guidelines for a minor arterial roadway carrying over 12,000 vehicles per day. The curvature and geometric design of the existing roadway also contribute to poor line-of-sight conditions along Bohicket Road.

The proposed project includes replacement of the existing bridge with a prestressed concrete structure measuring 90 ft by 49 ft. A turn lane is also being considered on the new bridge to accommodate turning movements onto Plowground Road and to improve the overall safety of the existing roadway. It is anticipated that a turn lane would improve the safety of the bridge and the Bohicket Road/Plowground Road intersection.

The Hoopstick Creek Bridge Replacement meets the requirements of a Charleston District U. S. Army Corps of Engineers (USACE) regional general permit for highway projects and is being reevaluated in compliance with NEPA as a categorical exclusion. Because of the project’s coastal location, a majority of, if not all, state and federal resource and regulatory agencies are involved in the NEPA and permitting process.

## Scope of Project

The project assessed TCAPP's value in helping project partners work collaboratively toward an environmental permitting decision on the Hoopstick Creek Bridge Replacement project. The pilot project focused on the implementation of six "decision point files" of the TCAPP decision tool, entirely from the environmental permitting/NEPA (ENV) section. The following tasks were completed as part of the scope of the project.

- *Task 1.* The SCDOT participated in a TCAPP training session hosted by the American Association of State Highway and Transportation Officials (AASHTO) in Atlanta, Georgia. Members of the team who attended the training session presented an overview for the remainder of the team.
- *Task 2.* An agency workshop was conducted to provide agency partners with an overview of the Hoopstick Creek Bridge Replacement project and discuss ENV-3 (Approve Purpose and Need) and ENV-4 (Reach Consensus on Study Area). During the workshop, agency partners also reviewed components of the TCAPP Decision Guide, partner and stakeholder definitions, and where the roles of partners are defined in each key decision point. The TCAPP Partner Collaboration Assessment was conducted.
- *Task 3.* The purpose of the Agency Coordination Effort (ACE) task was to improve interagency communication and collaboration by using the environmental permitting/NEPA section of the TCAPP Decision Guide. Two meetings and a site visit were used to progress through ENV-6 (Discuss Full Range of Alternatives), ENV-7 (Approve Alternatives to be Carried Forward), ENV-10 (Approve Preferred Alternative), and ENV-12 (Reach Consensus on Avoidance and Minimization). Other activities associated with Task 3 included review of the Partner Collaboration Assessment, collection of qualitative agency feedback, and a mitigation workshop.

## Conclusions

Before initiating the pilot project, the SCDOT and agency partners were aware that communication could be improved during the environmental permitting/NEPA process. Applying TCAPP resulted in an increased understanding among the agency partners and SCDOT regarding their roles and expectations for permitting approvals. The pilot project created an opportunity for dialogue among the SCDOT and partner agencies that not only improved the level of environmental analysis for Hoopstick Creek Bridge Replacement but provided insights for process improvements as well. The SCDOT gained an increased understanding of the information required and the level of detail to be submitted for permits, a view of how the decision makers use the information to address concerns, and how decision makers process a complete application. Agency partners gained a new perspective of the processes and constraints that the SCDOT faces when evaluating projects. One of the lasting contributions of TCAPP to the team and agencies is an understanding that communication is key for all projects, all the time.

While TCAPP provided a forum to collaborate and exchange information, which increased the spirit of camaraderie among agency partners and the SCDOT representatives, the team encountered challenges in keeping all partner agencies engaged throughout the process. Limited or no participation by some partner agencies may have been a result of reduced travel budgets and personnel, the perception that current communication is effective, and past failed efforts to improve communication.

The team found TCAPP to be helpful as a resource during the environmental permitting process; the TCAPP Decision Guide served as a reminder of what steps “should” be done, as opposed to evaluating the project using the status quo. The early project discussion and site visit were useful in reviewing the Hoopstick Creek project and were recommended by one agency as “an example for future projects.” The SCDOT will likely use TCAPP as a guide and resource to facilitate interagency coordination and cooperation when looking to advance a project having significant environmental impacts. Based on the pilot test, the SCDOT and agency partners are considering implementation of the following practices during the environmental permitting process:

- Reinststate regular ACE meetings.
- Establish effective communication regarding permit applications and submittal process for the common goals of
  - Decreasing repetitive administrative efforts,
  - Assembling complete applications, and
  - Maintaining all laws and requirements.
- Schedule regular meetings to discuss consistent submittal deficiencies, updated requirements, new regulations, and the approval processes.

## Recommendations for TCAPP

Evaluating TCAPP was useful for the SCDOT because the tool’s Decision Guide provided structure to the environmental process for routine projects. The project team evaluated key outcomes of each task and provided several recommendations for improving TCAPP.

- Key outcome: Frustration with breadth and depth of information on website.
  - Recommendation: Greater customization based on level of practitioner experience, class of NEPA action, and/or status of project in Decision Guide.
- Key outcome: Reluctance to apply TCAPP because current methods already work, time to redesign environmental processes is limited, or the team has extensive experience in transportation planning.
  - Recommendation: Greater emphasis on TCAPP’s value as a resource when problems arise or projects stall.

- Key outcome: In a state where the NEPA/permitting merger process has yet to be implemented, fitting the Decision Guide to the Hoopstick Creek Bridge Replacement project was a challenge.
  - Recommendation: Include a brief narrative discussion in one of the existing links, explaining that the current ENV/NEPA Decision Guide is designed to be used in the merged context. However, the TCAPP Decision Guide could be marketed as a resource to help correlate the permitting and NEPA steps until an official merger process is adopted.
- Key outcome: The level of coordination and meetings to complete the key decision points was too extensive for a routine project.
  - Recommendation: TCAPP could be customized for application on all NEPA classes of action. However, TCAPP should be marketed to emphasize that portions of the Decision Guide are useful and can apply to routine projects.
- Key outcome: Agency partners disagreed with TCAPP-identified partner roles.
  - Recommendation: Roles may require adjustment to state-specific partner roles as there may not be shared goals among the agencies.
- Key outcome: The TCAPP Partner Collaboration Assessment was confusing and did not have analytic capabilities.
  - Recommendation: Enhanced analytic capabilities and results based on specific collaboration ratings would be more useful. The results provide valuable recommendations but do not adjust to the weaknesses and strengths of the particular partners.

## CHAPTER 1

### Introduction

The fundamental purpose and goal of this pilot test was to evaluate and propose enhancements to the Transportation for Communities—Advancing Projects through Partnerships (TCAPP) collaborative planning tool. The focus was on assessing the tool’s value in providing guidance to help project partners work collaboratively toward environmental permitting decisions for South Carolina Department of Transportation (SCDOT) projects. The project team, led by the SCDOT, used the tool from July 2013 through December 2013 to evaluate a proposed bridge replacement over Hoopstick Creek on Johns Island, South Carolina. The project team recognizes that the selected pilot project may be perceived as “routine” for most transportation agencies. Routine projects are those transportation improvements that undergo National Environmental Policy Act (NEPA) review as a categorical exclusion and/or Clean Water Act permitting through the SCDOT’s general permit. Typical routine projects may include intersection improvements, bridge replacements, and roadway maintenance. These types of projects account for the greatest quantity of NEPA reviews and permit applications within the SCDOT.

The Hoopstick Creek Bridge Replacement is located in coastal South Carolina; therefore, the project involves a majority of, if not all, state and federal resource and regulatory agencies. A pilot test of TCAPP on this project is useful because routine projects typically require a disproportionate amount of time in the environmental process compared with large or complex projects. While complex projects receive greater attention and collaboration from agency partners, the SCDOT has recognized the need for improved coordination on projects like Hoopstick Creek Bridge Replacement. Evaluating TCAPP was useful for the SCDOT because the tool’s Decision Guide provided structure to the environmental process for routine projects.

#### **Project Context: Hoopstick Creek**

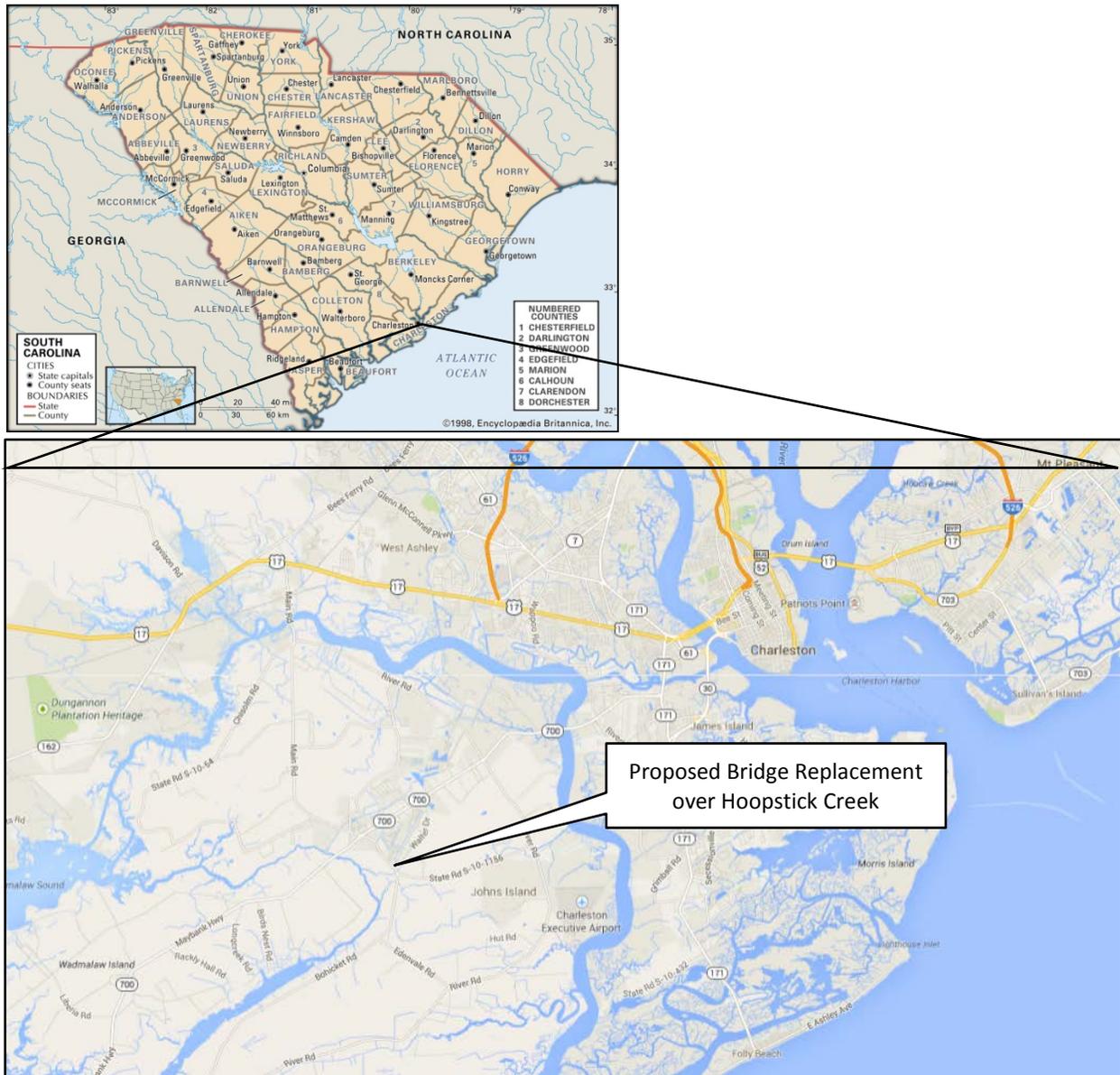
The pilot project used to evaluate TCAPP is a proposed bridge replacement on Bohicket Road (State Road 10-20) over Hoopstick Creek, a tidally influenced creek, on Johns Island, South Carolina, in Charleston County (Figure 1.1). It was selected to include the agencies and issues for which the project team hopes to improve coordination. The timing of the project also corresponded with the timing of the second Strategic Highway Research Program (SHRP 2) project funds, meaning that coordination must occur to let the project in fall 2014.

The existing bridge measures 60 ft by 33 ft and has been evaluated as structurally deficient and functionally obsolete in accordance with federal bridge inspection standards. The bridge has an overall sufficiency rating of 41, making it eligible for repair, rehabilitation, or replacement through the Highway Bridge Replacement and Rehabilitation Program. The substructure of the existing bridge is in poor condition, exhibiting evidence of advanced corrosion and deterioration due to scour activity.

Bohicket Road is classified as a minor arterial roadway that serves as the hurricane evacuation route on Johns Island. The existing bridge and its approach roads also do not meet

current design and safety guidelines for a minor arterial roadway carrying over 12,000 vehicles per day. The typical section for the existing bridge consists of two 12-ft travel lanes with 2-ft shoulders. Current design guidelines for a bridge on a minor arterial roadway require 12-ft travel lanes and 10-ft shoulders.

The average daily traffic (ADT) on Bohicket Road over Hoopstick Creek in 2012 was 12,400 vehicles per day. The 2035 Charleston Area Transportation Study (CHATS) long-range transportation plan identifies this portion of Bohicket Road as a congested corridor.



**Figure 1.1. Location of Hoopstick Creek Bridge Replacement project.**  
(Source: Google Maps.)

The curvature and geometric design of the existing roadway also contribute to poor line-of-sight conditions along Bohicket Road. The line of sight along a roadway plays an important role in the amount of time drivers have to stop due to an obstruction or turning vehicle. The Plowground Road intersection (Figure 1.2) is located less than 150 ft south of the Hoopstick Creek Bridge. The existing bridge over Hoopstick Creek does not provide any storage for vehicles coming off the bridge and turning onto Plowground Road, which leads to an unsafe roadway condition. Between January 2010 and April 2013, a total of seven crashes occurred at the intersection of Bohicket Road and Plowground Road.

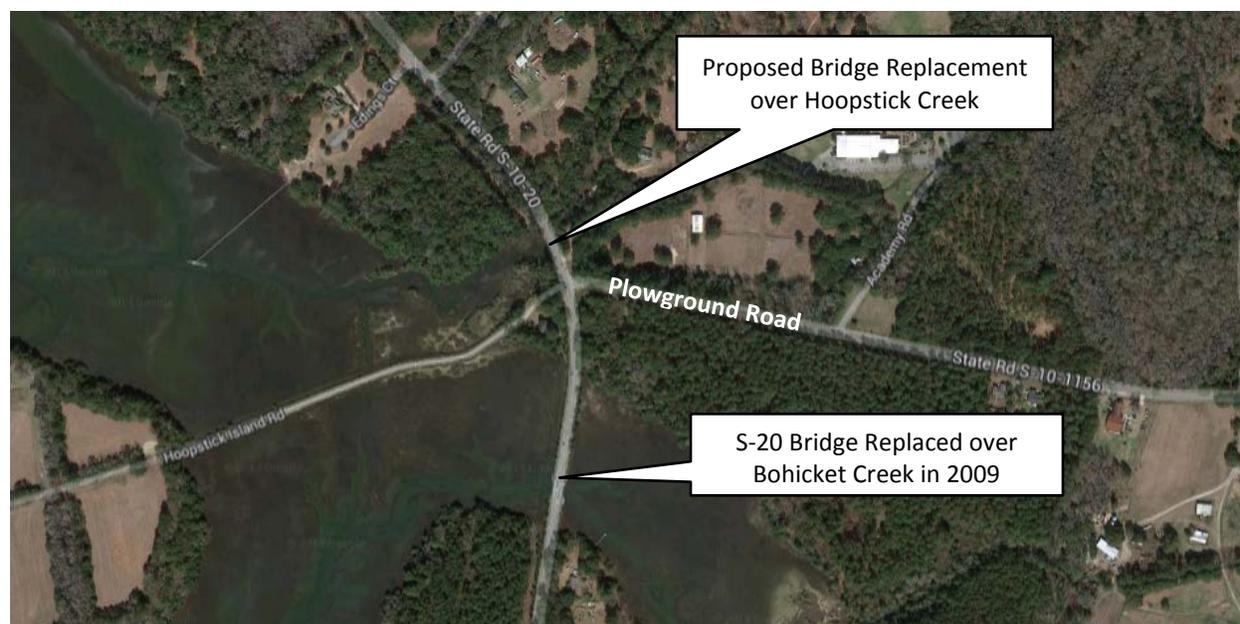


**Figure 1.2. Bohicket Road and Plowground Road intersection, bridge to north.**

(Source: Google Maps Street View.)

### **Past Permitting and NEPA Evaluations**

The project was originally proposed in combination with a nearby bridge replacement over Bohicket Creek, also on State Road 10-20 (Figure 1.3). The projects were previously approved under a categorical exclusion on January 14, 2004. A U.S. Army Corps of Engineers (USACE) nationwide permit was issued for the projects in March 2005. The bridge over Bohicket Creek was replaced in 2009; however, limited funding prevented the SCDOT from constructing the bridge over Hoopstick Creek.



**Figure 1.3. Aerial photograph of Hoopstick Creek Bridge Replacement project.**

(Source: Google Earth.)

### Proposed Project

The proposed project includes replacement of the existing bridge with a prestressed concrete structure measuring 90 ft by 49 ft. The typical section of the new bridge would consist of two 12-ft travel lanes, one 15-ft left turn lane, and 5-ft shoulders. A turn lane is also being considered on the new bridge to accommodate turning movements onto Plowground Road (2011 ADT = 1,180) and to improve the overall safety of the existing roadway. It is anticipated that the addition of the 15-ft turn lane would improve the safety of the bridge and the Bohicket Road/Plowground Road intersection.

The Hoopstick Creek Bridge Replacement meets the requirements of a USACE regional general permit for highway projects in which impacts to tidal waters are expected to be less than 0.5 acres. The project is also being reevaluated in compliance with the NEPA as a categorical exclusion.

### Environmental Considerations

#### *Wetlands and Essential Fish Habitat*

Tidally influenced areas, such as Hoopstick Creek and its adjacent salt marsh, are considered “critical area” by the state of South Carolina. These resources are managed by the South Carolina Department of Health and Environmental Control (SCDHEC) Office of Ocean and Coastal Resource Management (OCRM). Tidal areas are also regulated by the USACE as waters protected by Section 10 of the Rivers and Harbors Act.

Hoopstick Creek is a small tidal creek that drains to a larger creek and marsh system, known as Bohicket Creek (Figure 1.4). Bohicket Creek is classified as outstanding

resource waters according to the SCDHEC water classification system (R. 61-69 Classified Waters, June 22, 2012). Hoopstick Creek and its adjacent salt marsh are wider south of the bridge, narrowing and transitioning to a freshwater system north of the bridge. The salt marsh, or estuarine emergent wetlands, is important for many invertebrates and provides nursery grounds for other species. The tidal marshes surrounding Hoopstick Creek contain saltmarsh cordgrass (*Spartina alterniflora*), needlegrass (*Juncus roemerianus*), and big cordgrass (*Spartina cynosuroides*). There are no shellfish beds within 1,000 ft of the project.

Three habitat types that are designated as essential fish habitat by the South Atlantic Fishery Management Council are present within the project area: a tidal creek (Hoopstick Creek), estuarine emergent wetlands, and inter/subtidal unvegetated flats.



**Figure 1.4. Salt marsh south of existing Hoopstick Creek Bridge.**

(Source: Blair Goodman Wade.)

### *Live Oak Canopy*

The project corridor is located within a 10.34-mile segment of Bohicket Road that has been designated as a state scenic highway. Bohicket Road was one of the first designated scenic highways in the state of South Carolina. As is typical of the South Carolina Lowcountry, large live oak (*Quercus virginiana*) trees border State Road 10-20 as it approaches Hoopstick Creek (Figure 1.5). Any tree measuring 24 inches or greater diameter at breast height, except pines, is considered a grand tree by Charleston County, where the project is located. Article 9.4, Tree Protection and Preservation, of the Charleston County Zoning and Land Development Ordinance requires a variance request to the County Board of Zoning Appeals to remove any trees as part of the bridge replacement. Because of this ordinance and the trees' iconic status in the Lowcountry, the SCDOT evaluates impacts to the live oaks when considering bridge and approach alignments.



**Figure 1.5. Live oak canopy approaching existing Hoopstick Creek Bridge.**  
(Source: Google Maps Street View.)

## Challenges Addressed by the TCAPP Process

The SCDOT currently faces challenges in environmental agency coordination and communication. Challenges are evidenced by frequent revisions to permit applications, agency comment letters, and frustrations at interagency meetings, known as Agency Coordination Effort (ACE) meetings. The SCDOT has realized improvements to communication and responsiveness of agencies by funding liaison positions at regulatory and resource agencies as well as conducting interagency meetings throughout all phases of project development and delivery. The ACE meetings have lapsed during the past 2 years.

A pilot test of TCAPP on the Hoopstick Creek Bridge Replacement project is relevant because similar routine projects make up the majority of SCDOT Environmental Services Office (ESO) workload, while requiring a disproportionate amount of staff and agency time in the environmental process compared with a large or complex project. The SCDOT has recognized the need for improved coordination on projects like Hoopstick Creek Bridge Replacement.

This pilot test focused on the environmental permitting/NEPA portion of the TCAPP Decision Guide. The Federal Highway Administration (FHWA) had not implemented an environmental permitting and NEPA merger process within South Carolina at the time of this pilot project. Therefore, the TCAPP Decision Guide for environmental permitting (ENV) had to be best fit for the Hoopstick Creek Bridge Replacement project. The following key decision points were used.

- ENV-3: Approve Purpose and Need, Reach Consensus on Project Purpose;
- ENV-4: Reach Consensus on Study Area;
- ENV-6: Approve Full Range of Alternatives;
- ENV-7: Approve Alternatives to Be Carried Forward;

- ENV-10: Approve Preferred and Least Environmentally Damaging Practicable Alternative (LEDPA); and
- ENV-12: Reach Consensus on Avoidance and Minimization for the LEDPA.

A project-specific goal for the TCAPP process was to conduct a thorough alternatives analysis and reach consensus on a preferred alternative for the Hoopstick Creek Bridge Replacement. The intended result was to complete a permit application that met regulatory requirements and expectations of the partner agencies.

The SCDOT also planned to use the TCAPP Decision Guide to facilitate additional process improvements, such as identifying process timing changes for interagency meetings, better defining alternatives analyses requirements, enhancing partner agency coordination, and shortening project delivery time frames. Process-oriented goals of the pilot project were to (1) increase communication among decision makers and partners, (2) identify and address agency resource concerns at the earliest point possible in the transportation development process, (3) document resource agency comments/involvement, (4) evaluate the utility of using the TCAPP tool for interagency coordination in South Carolina, and (5) provide suggestions for enhancing the TCAPP tool for interagency coordination.

## **Project Team**

The SCDOT ESO was the lead organization in implementing the pilot project. The SCDOT ESO is a separate division under the chief engineer for location and design. ESO staff consists of 16 full-time, multidisciplinary personnel with experience in all aspects of environmental permitting and NEPA documentation. The SCDOT ESO works closely with the regulatory and resource agencies in the environmental permitting and NEPA process.

Tidewater Environmental Services, Inc., (Tidewater) was responsible for assisting the SCDOT in administration of the pilot project tasks (i.e., preparing for and mediating meetings, developing meeting materials and report drafts). Tidewater is an environmental consulting firm that specializes in providing innovative solutions for complex environmental and natural resource projects. Tidewater has nine personnel who are specialists for NEPA, wetlands, permitting, mitigation, stream and wetland restoration, and protected species. They have extensive project management and complete document preparation experience with all facets of natural resource assessments, documentation, and permitting for transportation improvement projects.

Comprehensive Business Consultants, LLC, (CBC) is a Disadvantaged Business Enterprise that was used for independent project monitoring. CBC is a management consulting firm that provides program and project management support services on major design, engineering, and construction projects for both public- and private-sector clients. CBC has performed these services on major public and private infrastructure projects, such as interstate highway systems, bridges, airports, vehicular tunnels, and rapid transit systems.

## Project Partners

The project team used TCAPP's Partner User Portal to consider which agencies would be considered partners. TCAPP identifies partners as those parties with a decision-making role at one or more points in the transportation planning process. These decisions are fiscal and/or legal in nature. Several agencies provide regulatory approvals for the Hoopstick Creek Bridge Replacement project. Their specific roles are described as follows:

- *FHWA* reviews and approves all NEPA evaluations conducted by the SCDOT. The South Carolina office of the FHWA was invited to all meetings and kept informed on project status throughout. Staff attended and participated in the agency workshop but were not present or participatory during subsequent meetings.
- *USACE* provides permitting decisions in compliance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The SCDOT currently funds three liaison positions at the USACE. USACE personnel attended the agency workshop, site visit, and all meetings, regularly engaging in discussion about the pilot project and general process improvements.
- *SCDHEC Bureau of Water and OCRM* provide Section 401 of the Clean Water Act certification of federal actions and permits for compliance with the Coastal Zone Management Act, respectively. The SCDOT currently funds personnel positions at SCDHEC Bureau of Water. SCDHEC Bureau of Water and OCRM were active participants in the agency workshop, site visit, and second meeting. The agency did not attend the final meeting.

While the following agencies generally do not issue permit or NEPA decisions, their consultation and involvement are essential to project success. Therefore, the SCDOT also considers the following agencies to be partners:

- *National Oceanic and Atmospheric Administration (NOAA) Fisheries* provides review in accordance with Magnuson-Stevens Fishery Conservation and Management, the Marine Mammal Protection, and the Endangered Species acts. NOAA Fisheries was invited to all meetings and kept informed on project status throughout. However, the agency's representative was unable to attend the agency workshop or site visit. The NOAA Fisheries representative attended the final meeting and was an active participant, expressing interest in improving environmental coordination.
- *U.S. Fish and Wildlife Service (USFWS)* provides consultation on the Endangered Species Act. USFWS was invited to all meetings and kept informed on project status throughout. The agency's staff did not attend any meetings or participate in the pilot project.
- *South Carolina Department of Natural Resources (SCDNR)* is a state resource agency that provides consultation on protected species and wildlife. SCDNR was invited to all

meetings and kept informed on project status throughout. The agency's staff did not attend any meetings or participate in the pilot project.

- *South Carolina Department of Archives and History (SCDAH) State Historic Preservation Office (SHPO)* provides consultation on Section 106 of the National Historic Preservation Act. The representative from SHPO attended the agency workshop, site visit, and all meetings. While the pilot project did not have cultural resource impacts, the SHPO representative remained engaged and interested in environmental process improvements.

The SCDOT solicited letters of interest from all of the partner agencies. The purpose of the letter of interest was to describe the SHRP 2 C39A1 project and determine if the agency would participate in the TCAPP pilot project, when awarded. Letters indicating interest in participation were received from NOAA Fisheries, SCDAH-SHPO, and USFWS. All project partners were expected to interact directly with their agency decision makers, be present and prepared for research project meetings with decisive information on their agency's interests, and be responsive to research data-gathering requests.

CHATS is a metropolitan planning organization (MPO) that oversees transportation planning and programming of improvements for the Berkeley, Charleston, Dorchester urbanized area in coordination with SCDOT and the local cities and counties. The Hoopstick Creek Bridge Replacement project originated from the CHATS MPO and is currently listed on the State Transportation Improvement Program. CHATS was not an agency partner for this project because the MPO is not typically involved in similar routine projects. CHATS would not be a decision maker or advisor for a project with categorical exclusion review. Also, as a categorical exclusion, the project did not require public hearings.

## **Proposed Tasks**

The proposed schedule started on March 28, 2013, when the contract was signed. The following tasks were completed within the 16-month required time frame.

### **Task 1: Training**

The SCDOT participated in a TCAPP training session hosted by AASHTO in Atlanta, Georgia, on April 29 and 30, 2013. Members of the team who attended the training session presented an overview for the remainder of the team.

### **Task 2: Agency Workshop**

An agency workshop was held on August 29, 2013, at the SCDOT offices in Columbia, South Carolina. The purpose of this workshop was to provide agency partners with an overview of the SHRP 2 C39A1 project and the proposed pilot project on Hoopstick Creek on Johns Island, South Carolina. SCDOT and Tidewater personnel reviewed components of the TCAPP Decision Guide, partner and stakeholder definitions, and where the roles of partners were defined in each

key decision point. During this meeting, agency partners were given a Partner Collaboration Assessment from the TCAPP tool. After the meeting, the team met via conference call to discuss the outcomes of the workshop, successes, and challenges, and to adjust the schedule if necessary. CBC provided meeting minutes and a progress report outlining third-party perspectives on the workshop and methods for improving coordination.

### **Task 3: Agency Coordination Effort Improvements**

The purpose of the ACE task was to improve interagency communication and collaboration processes by using the environmental permitting/NEPA section of the TCAPP Decision Guide. A goal of this task was to align the key decision points with SCDOT's project planning process to better involve external agency decision makers in the project planning process. Another goal was to receive input from agencies at points in the permitting process when their comments would be more specific and accountable to enable the SCDOT to make project adjustments and/or decisions. The intended result of this task was to improve environmental approval streamlining and eliminate redundant or unnecessary efforts.

The ACE task included a project team and agency site visit to Hoopstick Creek on Johns Island, South Carolina, on September 27, 2013. The site visit was followed by a meeting at SCDHEC-OCRM offices to discuss ENV-6 and ENV-7 from the TCAPP Decision Guide. A final meeting was held at the SCDOT offices with the team and agency partners on December 3, 2013. The purpose of this meeting was to discuss project elements related to ENV-10 and ENV-12 from the TCAPP Decision Guide. During the final meeting, the SCDOT, Tidewater, and CBC hosted a roundtable with agency stakeholders to gather information on the quality and usefulness of the TCAPP application process.

## CHAPTER 2

### Description of the Project and Summary of Outcomes

The Hoopstick Creek Bridge Replacement project was selected for this pilot project to test and provide useful feedback on the operation and utility of the web-based TCAPP resource. The focus was on assessing the tool's value in providing guidance to help project partners work collaboratively toward an environmental permitting decision. The final environmental permitting process would be deemed a success if the agency partners agreed on a least environmentally damaging practicable alternative (LEDPA).

The pilot project focused on the implementation of six “decision point files” of the TCAPP decision tool, entirely from the ENV section. These steps were selected for this test because they were deemed the most relevant and critical to the SCDOT's permitting process. Each of the tasks included in the pilot test, along with their relationship to the relevant TCAPP decision point, are described below. In addition, a key outcome is included that indicates the specific result from applying TCAPP.

#### Task 1: Training

The SCDOT participated in a TCAPP training session hosted by AASHTO in Atlanta, Georgia, on April 29 and 30, 2013. On May 6, 2013, the SCDOT personnel who attended the training session presented an overview for the remainder of the team.

Key outcome: After the training, SCDOT personnel felt the tool provided valuable resource information, but the breadth and depth of the website were overwhelming. It was expressed that the TCAPP tool would be best suited for transportation practitioners new to the planning field. SCDOT personnel with extensive project and planning experience did not anticipate using the tool but felt TCAPP could be used as a resource, potentially for training new staff. The tool was also perceived to have been developed with little state or local transportation agency input.

#### Task 2: Agency Workshop

An agency workshop was held on August 29, 2013, at the SCDOT offices in Columbia, South Carolina. All external agency decision makers were invited. During the agency workshop, the SCDOT and Tidewater provided an overview of the C39A1 project and the proposed pilot project on Hoopstick Creek on Johns Island, South Carolina. The TCAPP website was projected on a large screen; SCDOT and Tidewater personnel reviewed components of the TCAPP Decision Guide, partner and stakeholder definitions, and where the roles of partners were defined in each key decision point. A foam board with each ENV decision point was used to show the role, as defined by TCAPP, of the agency partners for the Hoopstick Creek Bridge Replacement. A color-coded system was used to show which agencies were decision makers, advisors, or observers at each decision point. The goal of the foam board was to emphasize that partner roles

change through the key decision points. The board also created a source of discussion among the SCDOT and agency partners about whether their roles followed the TCAPP guidance or would be different for this pilot project.

### **Evaluation of Existing SCDOT Environmental Permitting/NEPA Process**

To initiate the use of the TCAPP Decision Guide, the SCDOT led a discussion of the existing SCDOT project delivery process. The goal of this exercise was to inform agency partners of the SCDOT's perspective of where and when they fit into project delivery and how their decisions affect project delivery. This task gave all participants insight and context for subsequent tasks and goals.

The SCDOT presented a flow chart (Figure 2.1) of how projects currently move through the permitting process, beginning with the approval of a Program Action Request (PAR). During the presentation, the SCDOT stated its view of where in the process agencies should be brought in for commenting and opinions. This led to a discussion which resulted in several different opinions being voiced by various agencies on SCDOT's perspective and where they believed they best fit into the process. This proved to be an opportunity for all participants to share their views openly.

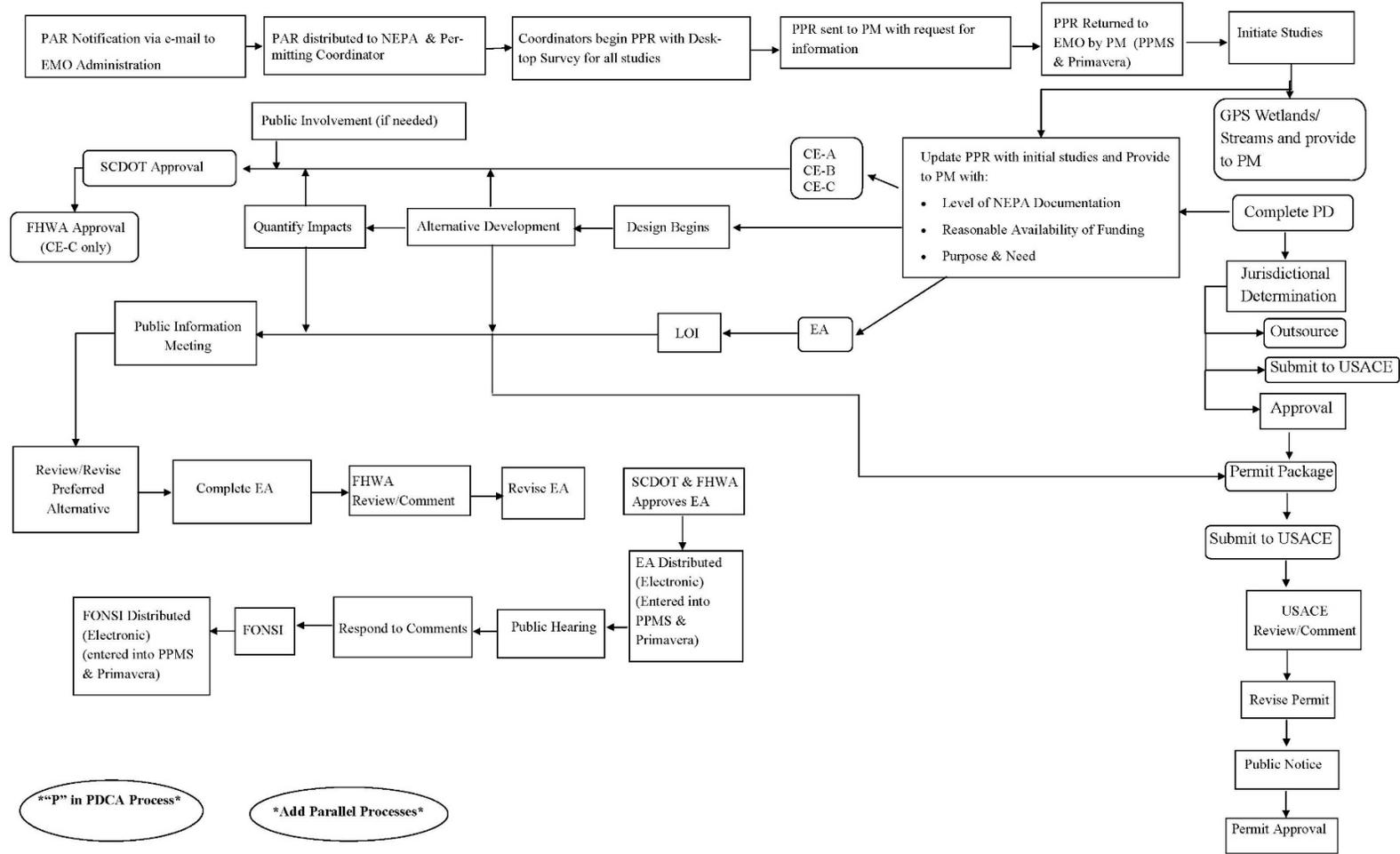
Several topics were brought up during the discussion. For example, agencies indicated that documentation was sent to them at different times, resulting in confusion about the project. One agency noted that a permit application was sent before the Environmental Assessment (EA), that sometimes the EA does not arrive in a timely manner, and that sometimes the permit application and EA are sent to different project managers—all of which create a delay. The USACE indicated that permit applications are often received before the public meeting which may result in changes to the project. If project changes result from the public meetings, then the permit application submitted is no longer valid and needs to be modified. The USACE questioned the practice of submitting permit applications ahead of known public meetings. One important statement was supported by all agencies: formal comments cannot be given on the permit application until the public notice is complete.

To capture the perspectives of the agencies, the agencies used sticky-notes to indicate on the flow chart where they wanted to participate and have involvement in the permitting and NEPA processes. All agency partners agreed that each project is different and requires varying levels of involvement at each stage. The SCDOT and Tidewater made revisions to the flow chart based on the comments received during this portion of the workshop and provided revised copies to all agency partners (Figure 2.2).

**Key outcome:** This portion of the workshop resulted in several important outcomes. The first is that all SCDOT documentation needs to be completed and submitted concurrently to the agencies after all known public information or hearings have been completed. If there are changes to the NEPA documents, design, and/or scope, then the agencies must be notified as soon as practical. The second outcome is that the agencies are unable to provide official comments on projects before receiving a formal or official application or request. They can

provide guidance and minimal feedback on information presented, but they cannot offer absolute or conclusive opinions on informal requests. The last, and possibly most important, outcome of the agency workshop was that the agencies were able to express the precise times when they felt their notification and involvement in the permitting process would be the most beneficial and appropriate. The SCDOT indicated that due to the discussion, it should better be able to involve all parties at the times indicated and better improve the process and communication among agencies. The SCDOT should also notify agencies of any changes to the project during public involvement and design stages.

TCAPP facilitated the evaluation of existing SCDOT environmental permitting and NEPA processes. During preparations for the agency workshop, the project team considered the questions TCAPP recommends before using the Partner Collaboration Assessment—who would be a partner, what were their roles in the process—and whether to evaluate the existing process or situation. The project team decided it was necessary to evaluate existing processes and procedures before using the Partner Collaboration Assessment or proceeding with the steps of the Decision Guide. While the SCDOT regularly evaluates its ESO processes and procedures, TCAPP provided a forum to consider the existing situation that involved all of the agency partners. Typically, the SCDOT works with the individual agencies to refine the ESO processes; TCAPP and the pilot project provided an opportunity to evaluate the ESO processes collectively with all the agency partners. As a result of TCAPP, the SCDOT ESO is aware of procedural issues and is disseminating information to ESO personnel to improve permitting and NEPA correspondence.



**Figure 2.1. ESO environmental process before TCAPP pilot project. EMO = environmental management office; PPR = local public agency project planning report; PM = project manager; PPMS = Oracle Project Portfolio Management Software; CE-A = Type A categorical exclusion; CE-B = Type B categorical exclusion; CE-C = Type C categorical exclusion; GPS = global positioning system; PD = proposed design; LOI = letter of intent; FONSI = finding of no significant impact; PDCA = plan, do, check, act.**

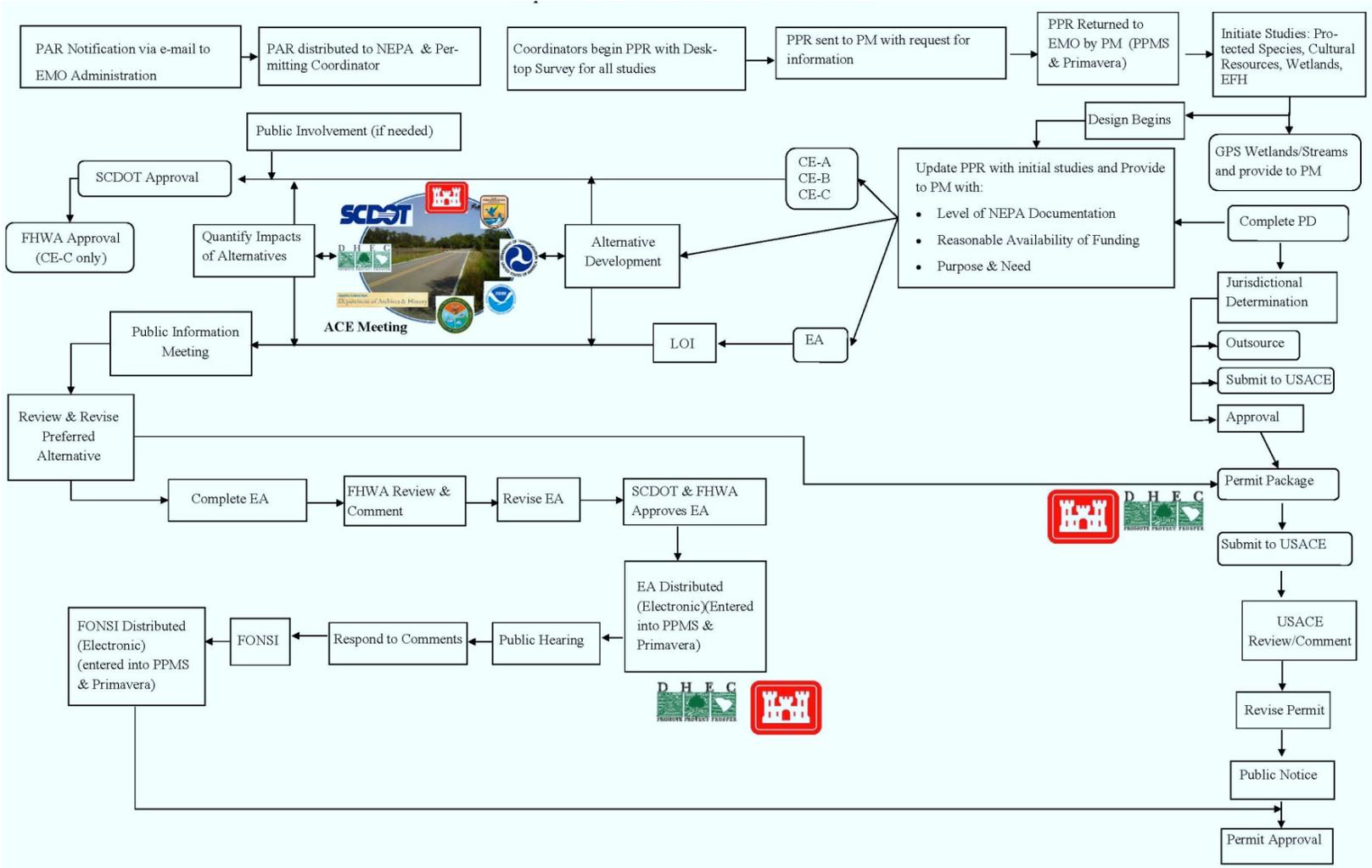


Figure 2.2. Improved ESO environmental process. EFH = essential fish habitat.

### **ENV-3: Approve Purpose and Need, Reach Consensus on Project Purpose**

The ENV-3 key decision was used to substantiate and identify any missing aspects of the project purpose and need. The SCDOT provided an overview of the existing bridge and roadway conditions. The National Bridge Inventory, Structure Inventory and Appraisal Report determined the Hoopstick Creek Bridge to be structurally deficient and functionally obsolete. The substructure was reported to be poor, with “intolerable” deck geometry that prioritizes corrective action. Scour around the bridge footings was determined to be “somewhat better than the minimum adequacy to tolerate being left in place as is.”

The SCDOT provided the following project purpose to initiate discussion with agency partners: The purpose of the project is to correct structural deficiencies of the S-20 over Hoopstick Creek Bridge and to bring the existing bridge and its approach roads up to current design and safety standards.

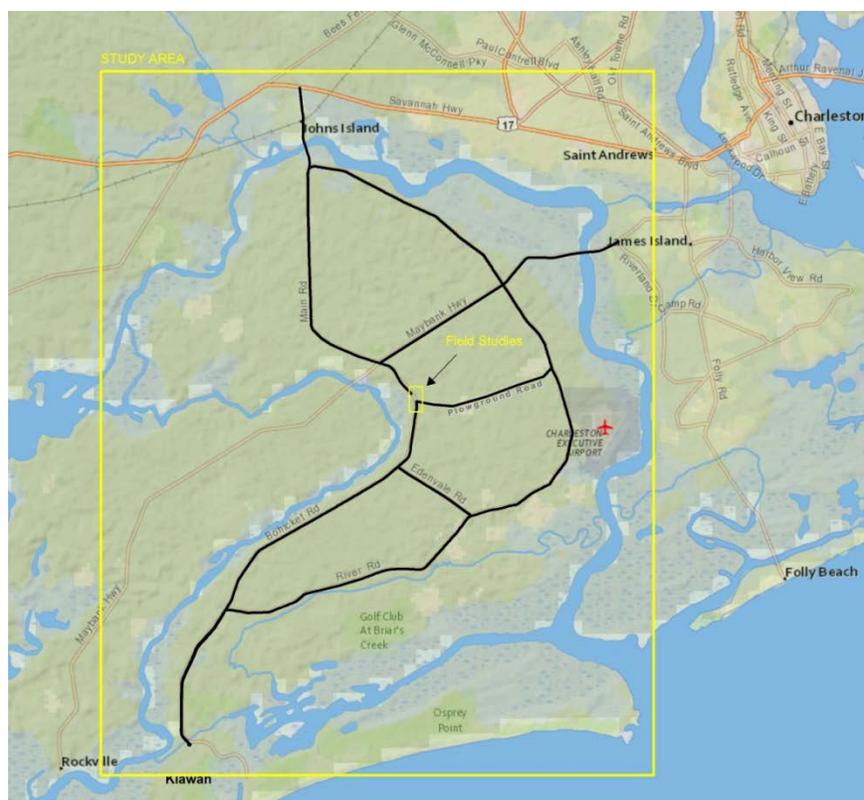
Key outcome: The tool was used to identify partner roles in approval of the purpose and need. Several partner agencies disagreed with their identified role in this step of the TCAPP Decision Guide. For example, the USACE stated it could not “approve” a purpose and need. Resources agencies, such as SCDHEC-OCRM and SHPO, felt their role as advisors was not needed so early in the permitting process for a project of this scale.

The Questions to Gather Stakeholder Interests, provided by TCAPP for each step of the Decision Guide, were also used to facilitate discussions about any additional needs or purposes that should be included. Minimal input was received from the agency partners, likely a result of inexperience with functional and deficiency ratings. The uncontroversial nature of a bridge replacement project may have also limited agency feedback. One agency partner felt limited to provide input because of the technical specifications supporting the project.

### **ENV-4: Reach Consensus on Study Area**

The purpose of this step was to reach consensus on an initial geographic area of study (the area within which any alternatives will fall).

Key outcome: The Questions to Gather Stakeholder Interests were also used to facilitate discussions about the study area. The SCDOT selected the large study area because of the potential impacts associated with closing the road and detouring traffic to other secondary roads on Johns Island. The USACE and FHWA recommended creating a more refined study area where most of the field studies would occur. As a result of this discussion, the SCDOT narrowed the study area to the roads and resources immediately surrounding the bridge and its approaches (Figure 2.3). When asked about the resources within the study area that each agency partner valued, most of the agencies responded with the resources within their regulatory jurisdiction. For example, the SHPO valued archeological and architectural resources that may be within the study area, while SCDHEC-OCRM was concerned with impacts to the salt marsh critical area.



**Figure 2.3. Hoopstick Creek Bridge Replacement study area.**

(Sources: Google Maps and SCDOT.)

### Task 3: Agency Coordination Effort

The purpose of the ACE task was to improve interagency communication and collaboration processes by using the environmental permitting/NEPA section of the TCAPP Decision Guide. A goal of this task was to align the key decision points and SCDOT's project planning process to better involve external agency decision makers in the project planning process. Another goal was to receive input from agencies at points in the permitting process when their comments would be more specific and accountable to enable the SCDOT to make project adjustments and/or decisions. The intended result of this task was to improve environmental approval streamlining and eliminate redundant or unnecessary efforts.

The ACE task included a project team and agency site visit to Hoopstick Creek on Johns Island, South Carolina, on September 27, 2013. The SCDOT provided maps of the study area (from ENV-4) and five alternative bridge and approach alignments over an aerial photograph. The project team and agency partners discussed each alternative and walked the study area to determine the potential effect on the surrounding environment. The discussion during the site visit identified several issues to be addressed in evaluating the alternatives; these included the surrounding salt marsh and tidal creek, proximity of an adjacent property owner and the ingress/egress, live oak trees, and location of power line utilities. The site visit was followed by a

meeting at SCDHEC-OCRM offices to discuss ENV-6 and ENV-7 from the TCAPP Decision Guide.

### **ENV-6: Discuss Full Range of Alternatives**

The goal of this key decision was to identify a full range of possible project alternatives to meet the purpose and need. This step was of particular interest to the SCDOT because of permitting challenges when new alternatives are introduced late in the environmental process.

Key outcome: The TCAPP Decision Guide was used during the meeting to identify partner roles and facilitate a brainstorming session to identify a full range of alternatives. The meeting was structured to allow for open dialog among the project team and partners.

The USACE expressed concern about its role description in that it could not approve a full range of alternatives. The group also discussed the significance of TCAPP's role descriptions for FHWA and the USACE. The FHWA approves a full range of alternatives that meet the purpose and need, while the USACE is guided in its decision by NEPA, permitting, and consultation requirements. There was discussion within the group about whether SCDHEC was a decision maker, since this agency provides a state permitting decision for the project. As a result of the key decision point ENV-6, the range of alternatives increased from five to eight for the project (Figure 2.4 and Figure 2.5). The SCDOT agreed to consider these alternatives, provided they met the purpose of and need for the project.



**Figure 2.4. Full range of alternatives for Hoopstick Creek Bridge Replacement project.**



**Figure 2.5. Full range of alternative alignments for Hoopstick Creek Bridge Replacement project.**  
(Source: SCDOT, Environmental Systems Research Institute (ESRI), and Tidewater Environmental Services, Inc.)

### **ENV-7: Approve Alternatives to Be Carried Forward**

The purpose of the ENV-7 key decision is to narrow the list of alternatives to be carried forward for more detailed analyses. The SCDOT's goal was to review the eight identified alternatives based on the environmental issues identified at the site visit and obtain approval from the partner agencies of alternatives to be carried forward. To meet permitting requirements, the alternatives approved to be carried forward included those that avoid and minimize impacts to natural resources to the greatest extent possible.

Key outcome: The TCAPP Decision Guide was used during the meeting to identify partner roles and facilitate a discussion of which alternatives should be carried forward. The USACE reiterated that they cannot approve a list of alternatives to be carried forward; however, they will issue a 404(b)(1) letter if they feel a full range of alternatives has not been considered or if they feel that there is an alternative for non-water-dependent projects with decreased impacts.

The SCDOT and partner agencies discussed whether Alternative 8 (rehabilitation) would meet the project's purpose and need. Alternative 8 was eliminated because rehabilitation would not address the safety concerns in the road curvature and intersection with Plowground Road. The partner agencies felt unprepared to make a decision about the remaining alternatives because they did not know the project's impact on the human and natural environment. The agencies requested a comparison of impacts for each alternative, including the no-build alternative. Further discussion led to elimination of Alternative 7 (permanent bridge to the south) because of the apparent increase in impacts to the salt marsh and essential fish habitat when compared with the other alternatives. The USACE suggested that permit applications should include a discussion of all alternatives and a brief mention of the alternatives that were eliminated from review. Permit applications should always describe why alternatives were eliminated.

A final meeting was held at the SCDOT headquarters with the team and agency partners on December 3, 2013. The purpose of this meeting was to discuss project elements related to ENV-10 and ENV-12 from the TCAPP Decision Guide. Before the meeting, Tidewater and the SCDOT prepared a comparison of the alternatives' impacts on public interest review factors. The information was provided to the agency partners 2 weeks before the meeting.

### **ENV-10: Approve Preferred Alternative/LEDPA**

The purpose of this step was for the SCDOT and agency partners to approve a preferred project alternative using input from past meetings, agency decision makers, and the detailed information about potential impacts (Table 2.1).

**Table 2.1. Impacts Analysis**

Impacts	Alternative								
	No-build	#1	#2	#3	#4	#5	#6	#7	#8
		Replace on existing alignment and detour	Staged construction (north)	Staged construction (south)	Temporary bridge (north)	Temporary bridge (south)	Permanent alignment (north)	Permanent alignment (south)	Rehab
<b>Public Interest Review Factors</b>									
Economics	Potential adverse impact: bridge failure	Potential adverse impact: 10-mi detour	No impact						
Aesthetics	No impact	Removal of live oak canopy will impact aesthetics							No impact
General environment	No impact	Minimal adverse impact; minimal beneficial impact (longer bridge Span)							Minimal adverse impact
<b>Wetlands (in acres)</b>									
Critical area	0.0	0.07	0.17	0.18	0.08	0.28	0.08	0.28	0.07
Wetland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Fish and Wildlife Values</b>									
Essential fish habitat	No impact	Minimal temporary and permanent impacts							Minimal temporary impact
Land use and property ownership	No impact	No impact	No impact	No impact	Temporary impact to property access on Bohicket Road	No impact	Permanent impact to property access on Bohicket Road; SCDOT acquires 16.4 acres	No impact	No impact

Impacts	Alternative								
		#1	#2	#3	#4	#5	#6	#7	#8
	No-build	Replace on existing alignment and detour	Staged construction (north)	Staged construction (south)	Temporary bridge (north)	Temporary bridge (south)	Permanent alignment (north)	Permanent alignment (south)	Rehab
Floodplain values	No impact	New span wider and longer than existing; no impact							No impact
Navigation	No impact	Channel only navigable by small craft or kayaks; temporary impact during construction; no permanent impact							
Recreation	No impact	New bridge will contain sidewalks							No impact
Water quality	No impact	Bridge runoff will not affect shellfish beds							No impact
Safety (bridge, road curvature, and intersection meet safety standards)	Adverse impact	Concerns over detour on local roads with high ADTs	Beneficial impact	Beneficial impact	Temporary adverse impact	Beneficial impact	Adverse impact	Beneficial impact	Adverse impact
Needs and welfare of people	Potential safety concern	Adverse impact: 10-mi detour	Beneficial impact	Beneficial impact	Potential safety concern	No impact	Potential safety concern	No impact	Potential safety concern
Trees	No impact	Impact to live oaks							No impact
Note: Interest factors not affected by any alternative or not applicable: conservation, energy needs, cultural values, T&E (threatened and endangered), shoreline erosion and accretion, mineral needs, food and fiber production.									

Key outcome: The group agreed that current processes do not establish a time to formally approve an alternative. The SCDOT asked the partner agencies if it was possible to obtain approval of a preferred alternative at this step in the process. The USACE stated it does not issue approval of alternatives. The USACE will issue a public notice for a project to obtain other stakeholder input. Comments received during the public notice may introduce additional project alternatives.

The SCDOT informed the group that Alternative 3 (staged construction to the south) was its preferred alternative. The Questions to Gather Stakeholder Interests were used to identify any partner concerns with the preferred alternative. The USACE expressed concern with selecting a preferred alternative because of inadequacies in the provided alternatives analysis information. Ultimately, none of the partner agencies formally approved Alternative 3 as the preferred alternative.

The USACE also recognized the challenge of translating the alternatives analysis information from the field to paper. The USACE decision makers reviewed the information and needed additional detail to support the selection of the preferred alternative. For example, the SCDOT could provide additional details about why an adjacent landowner's access could not be adjusted to support Alternatives 2 and 4. Based on the discussion spurred by the TCAPP Decision Guide, the SCDOT obtained suggestions about the level of detail and documentation to include in future permit applications.

### **ENV-12: Reach Consensus on Avoidance and Minimization**

The purpose of the ENV-12 step was to discuss avoidance, minimization, and mitigation measures that could be taken to further reduce the impact associated with the preferred alternative. The SCDOT's Regional Program Group 1 design managers presented an overview of SCDOT's roadway design process. This presentation was used to discuss the design considerations, site constraints, and avoidance and minimization measures they consider in roadway design.

Key outcome: The following avoidance and minimization measures were proposed by the SCDOT:

- Increased shoulder slope (reducing shoulder width), from preferred 6:1 to 4:1 and 2:1;
- ESO request for a design exception on bridge shoulders, from 10 ft to 6 ft (under review);
- Piles not placed in channel, when feasible;
- Removal of material from under existing bridge; and
- Lengthening of bridge.

Questions about purpose and roles from ENV-12 in the TCAPP Decision Guide were not helpful in achieving agreement about the avoidance and minimization measures. The partner

agencies could not approve avoidance and minimization measures without a detailed analysis of how much the impact would be reduced. Due to agencies' limitations in approving the avoidance and minimization measures specific to the Hoopstick Creek project, the project team discussed how such measures should be addressed in permit applications.

The SCDOT and partner agencies also discussed the anticipated compensatory mitigation for the Hoopstick Creek project. Impacts to the salt marsh critical area would likely be mitigated by debiting credits from the SCDOT's approved Huspa Creek Mitigation Bank. While mitigation is available for the Hoopstick Creek project, the SCDOT and partner agencies recognize the need for compensatory mitigation to offset future projects in the state. Many SCDOT projects do not have local banks to service mitigation needs, which results in the SCDOT having to propose and perform permittee-responsible mitigation. The SCDOT hopes to avoid project delays when mitigation from banks is unavailable in certain watersheds.

Compensatory mitigation has been an ongoing point of discussion among the SCDOT and agencies, specifically the USACE, for some time. It was during the ENV-12 step evaluation that the idea for a mitigation workshop was conceived.

For projects in South Carolina, mitigation is a real threat to stall projects. In the TCAPP Decision Guide, the section Environmental Review/NEPA Merged with Permitting includes a detailed discussion of mitigation processes and requirements. After further discussion with the USACE, it was thought that a workshop on mitigation in the state could benefit both agencies and the public. The SCDOT proposed to sponsor and host the workshop if the USACE would agree to present information specific to mitigation requirements in the state.

As a result of the discussions held at the final meeting, the SCDOT, USACE, and FHWA partnered to host a mitigation workshop on April 10, 2014. The purpose of the workshop was to promote the establishment of new wetland and stream mitigation banks in South Carolina. The goal of the workshop was to inform the public about mitigation requirements, agencies' roles in determining what is acceptable mitigation, and what is expected in a mitigation proposal. Key leaders from the SCDOT and FHWA outlined the demand for mitigation credits and why more banks are needed, while the USACE discussed federal mitigation regulations, state guidelines, and information needed for sufficient mitigation proposals.

Private mitigation bankers, consultants, landowners, conservation organizations, and nonprofit organizations were invited to attend. More than 135 people attended the mitigation workshop. Consultants and mitigation bankers made up over 70% of the organizations in attendance. The SCDOT anticipates that the mitigation workshop will result in greater understanding and transparency of mitigation needs and guidelines within the state. In the long term, the SCDOT anticipates increased development of mitigation banks in watersheds with the greatest mitigation needs.

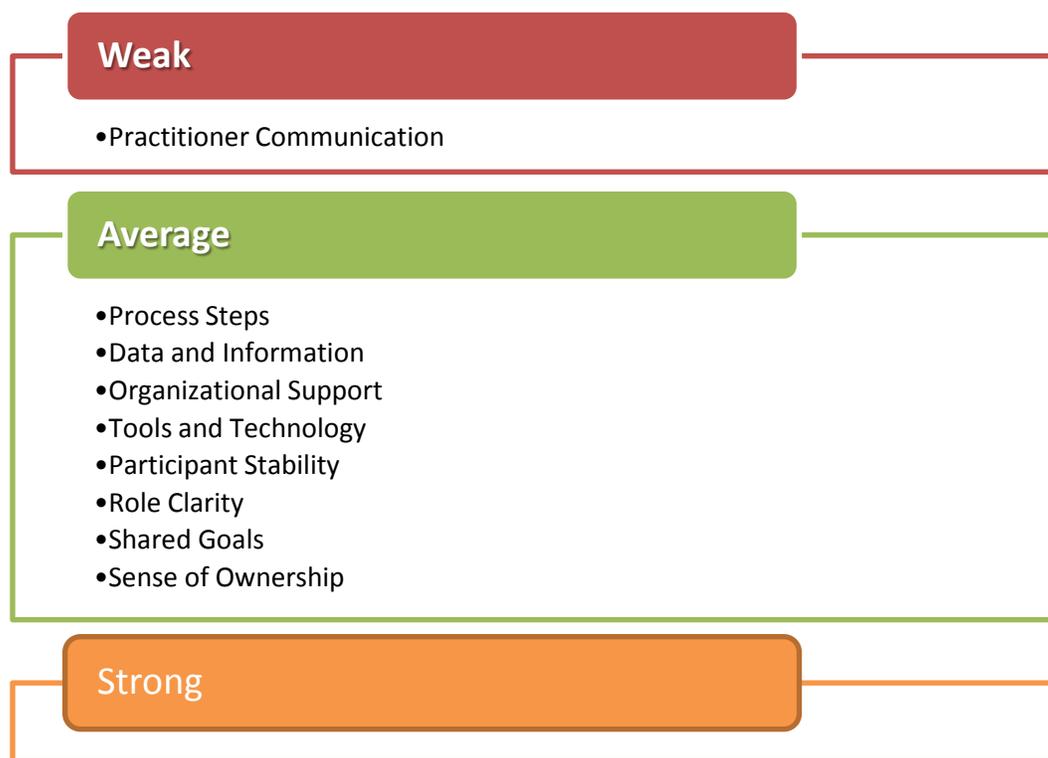
## CHAPTER 3

### Assessments

#### Partner Collaboration Assessment

The Partner Collaboration Assessment was intended to pinpoint areas in which existing process or team dynamics were not supportive of collaboration. Figure 3.1 shows the results of the TCAPP Partner Collaboration Assessment that was undertaken by project team members on August 29, 2013, at the agency workshop. The assessment was completed by each attendee representing the SCDOT and several partner agencies.

The findings from the assessment mostly affirmed what the project team already knew: challenges existed within the environmental process that inhibited collaboration among the agencies and the SCDOT.



**Figure 3.1. Results of TCAPP Partner Collaboration Assessment.**

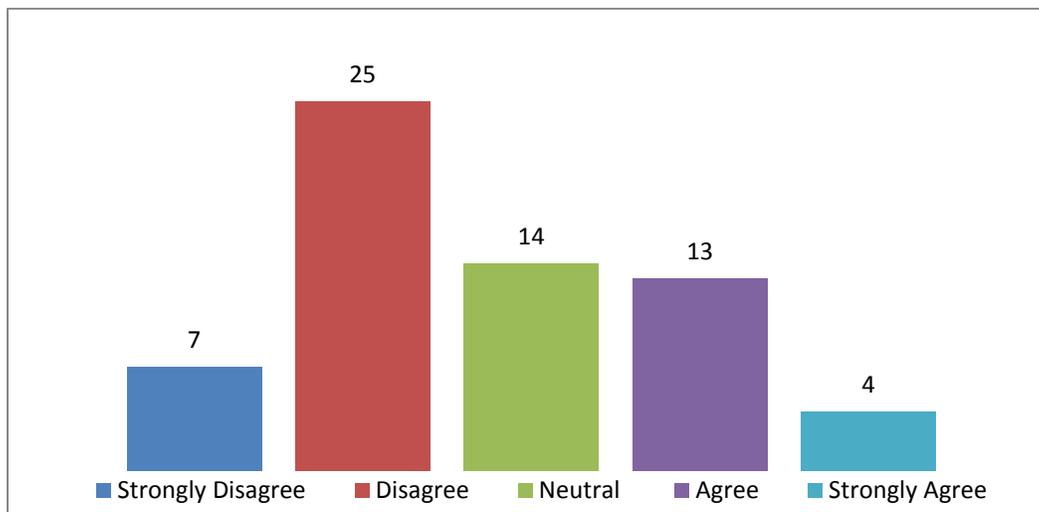
#### Review of Partner Collaboration Assessment

During the SCDOT and agency partner site visit and meeting on September 27, 2013, Tidewater provided an overview of the Partner Collaboration Assessment results. The purpose of this overview was to highlight areas of consensus and obtain feedback from the agency partners on the results. Figures 3.2 through 3.5 depict the total number of responses in each Likert category

for the overall collaboration metric. The results of the TCAPP Partner Collaboration Assessment, particularly the Questions to Consider and Things You Can Do sections, were used to facilitate discussion among the SCDOT and partner agencies.

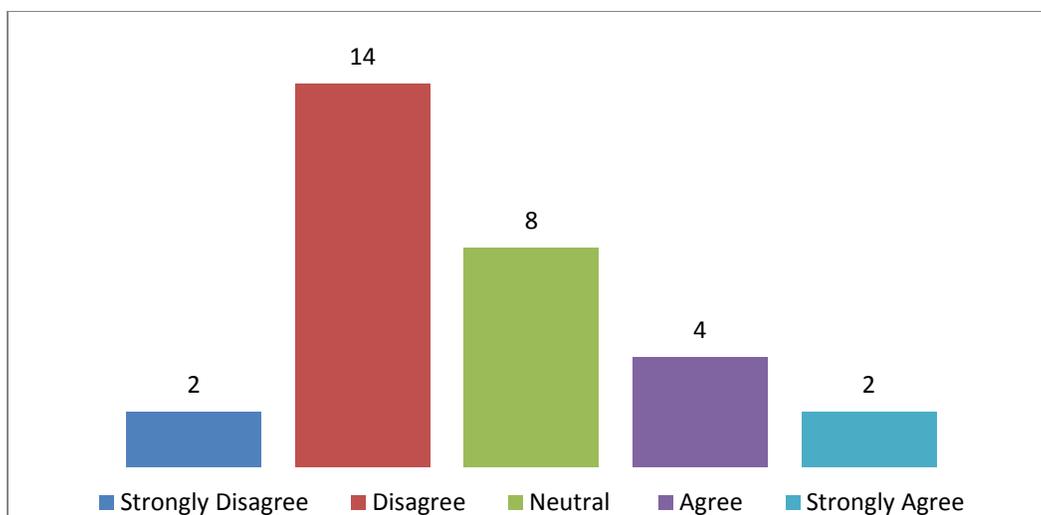
Figure 3.2 shows the overall opinions of the SCDOT and agency partners about practitioner communication. Approximately half of the responses strongly disagreed or disagreed with the assessment's statements about practitioner communication; the remainder felt neutral, agreed, or strongly agreed with the statements. Agency partners provided the following recommendations to improve practitioner communication:

- Communicate earlier and more effectively;
- Provide adequate time to review information before agency and SCDOT meetings (2 to 3 weeks);
- Coordinate site visits at agency request;
- Provide project locations to help agencies identify important resources and their need to participate; and
- Understand that unforeseen issues may arise during the public notice period.



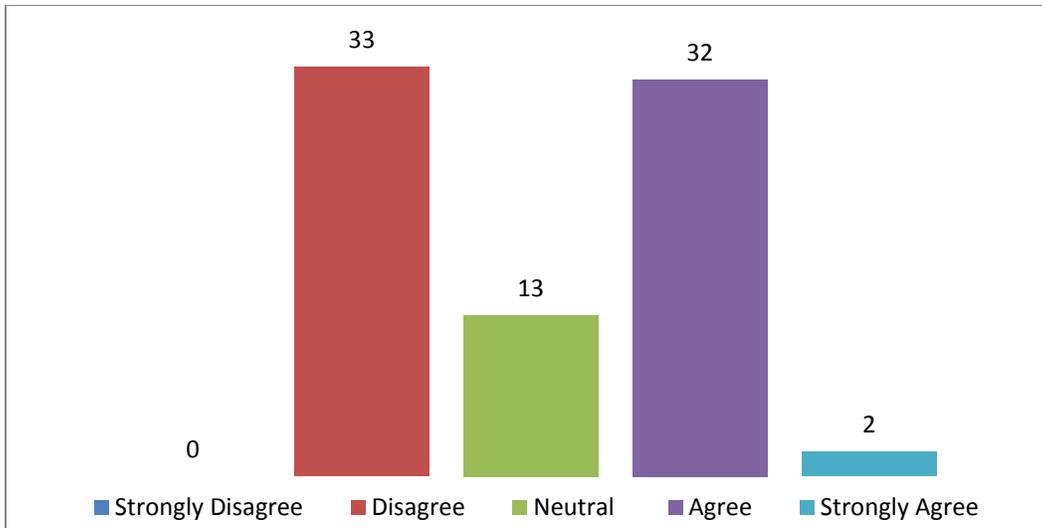
**Figure 3.2. Overall opinions on practitioner communication.**

Figure 3.3 provides overall opinions of the SCDOT and agency partners about role clarity. According to the results of the TCAPP Partner Collaboration Assessment, the SCDOT and agency partners felt that partner roles and responsibilities were not understood by the decision-making group or stakeholders. Confusion over the partner roles identified in the TCAPP Decision Guide may have contributed to the overall disagreement with role clarity statements in the Partner Collaboration Assessment.



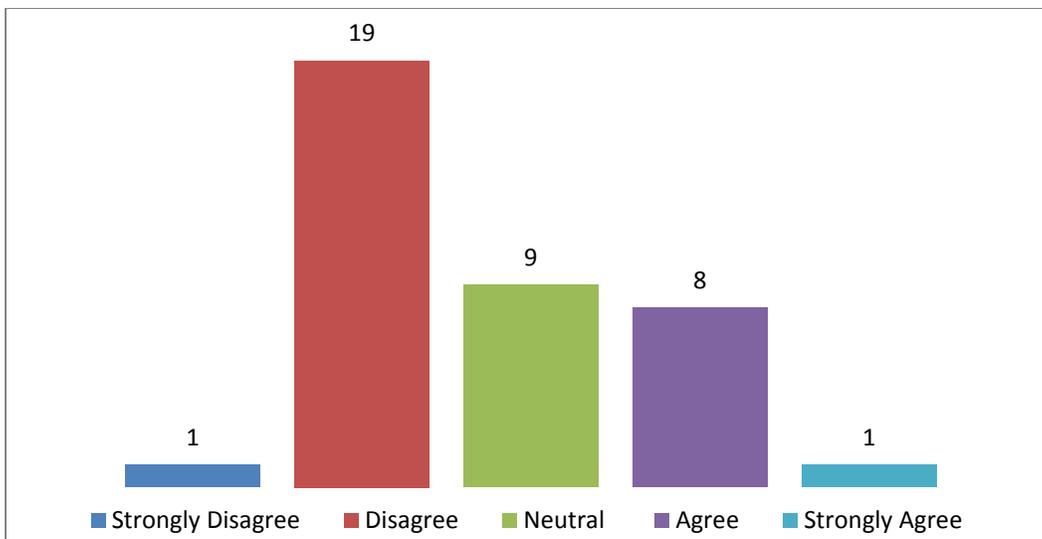
**Figure 3.3. Overall opinions of role clarity.**

Figure 3.4 provides overall opinions of the SCDOT and agency partners about shared goals. The results diverged for most statements regarding shared goals. Only half the participants felt they shared goals during the environmental permitting and NEPA process. After reviewing the results of the TCAPP Partner Collaboration Assessment, the SCDOT and agency partners discussed their goals during the environmental permitting and NEPA processes. The SCDOT emphasized that its role is to build and provide safe transportation and the ESO’s role is to ensure that the project minimizes environmental impacts. Personnel are never “for” or “against” a project; rather, the SCDOT is seeking authorization from the partner agencies. The permitting agencies (SCDHEC and USACE) indicated that their administrative and regulatory processes are mandated. The USACE emphasized that its role is to examine permit applications and ensure the project will be constructed in accordance with the regulations. When the SCDOT requests guidance on environmental issues of concern or project alternatives, the agencies felt they could not provide such guidance. Despite a lengthy discussion, the SCDOT and agency partners could not agree on a shared goal.



**Figure 3.4. Overall opinions of shared goals.**

Figure 3.5 provides overall opinions of the SCDOT and agency partners about sense of ownership for the project. Most of the responses disagreed with the statements of the TCAPP Partner Collaboration Assessment. During the discussion, agency partners expressed that they could not advocate for a project and support stakeholder buy-in. The disparity over shared goals, discussed above, also contributed to the limited sense of ownership.



**Figure 3.5. Overall opinions of sense of ownership.**

### Follow-Up Questionnaire

The work plan initially proposed having partner agencies take a series of the Partner Collaboration Assessments at various milestones in the environmental permitting process. The

objective was to make a quantitative comparison of partner collaboration throughout the process. However, given the responses from the assessment during the first meeting, the SCDOT wanted greater qualitative input from the partner agencies. A questionnaire was sent to the partner agencies on November 8, 2013. Seven SCDOT and agency partners responded. Figure 3.6 shows the questions provided via Survey Monkey.

<p><b>Coordination and Communication</b></p> <ol style="list-style-type: none"> <li>1) Does your agency encounter problems coordinating with the DOT during the environmental permitting/NEPA process? (Yes or No)             <ol style="list-style-type: none"> <li>a. If Yes, have the 2 previous TCAPP meetings aided communication between your agency and the DOT? (Yes or No)</li> <li>b. If No, how could the DOT improve interagency coordination? (open text)</li> </ol> </li> <li>2) What are the biggest obstacles to interagency coordination during the environmental permitting/NEPA process? (open text)</li> <li>3) Are there obstacles ok to interagency coordination <i>within</i> your agency? (Yes or No)             <ol style="list-style-type: none"> <li>a. If Yes, please explain. (open text)</li> </ol> </li> </ol> <p><b>Interagency Meetings</b></p> <ol style="list-style-type: none"> <li>4) What aspect of the interagency meetings do you believe is the weakest? Why? (open text)             <ol style="list-style-type: none"> <li>a. Strongest? Why? (open text)</li> </ol> </li> <li>5) Does the DOT provide your agency with sufficient information prior to the agency meetings? (Yes or No)             <ol style="list-style-type: none"> <li>a. If No, what specific ideas do you have that DOT can do to improve this? (open text)</li> </ol> </li> <li>6) Does the DOT provide your agency with sufficient time to review materials prior to agency meetings? (Yes or No)</li> </ol> <p><b>Shared Goals</b></p> <ol style="list-style-type: none"> <li>7) What steps in the environmental permitting/NEPA process are most important to your agency? Please rank the milestones from highest to lowest importance.             <ul style="list-style-type: none"> <li>• Purpose and Need</li> <li>• Defining Study Area</li> <li>• Alternatives Analysis</li> <li>• Avoidance and Minimization of the LEDPA</li> <li>• Compensatory Mitigation of the LEDPA</li> </ul> </li> <li>8) Do you feel that your agency's role in the environmental permitting/NEPA process at SCDOT is clear? (Yes or No)</li> <li>9) Have the 2 previous TCAPP meetings helped define or clarify your agency's role in the process? (Yes or No)</li> </ol>
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**Figure 3.6. Survey Monkey questionnaire.**

## Results of Follow-Up Questionnaire

The questionnaire identified problems with communication and coordination between the SCDOT and partner agencies. Four of the seven respondents stated their agency encountered problems coordinating with the SCDOT during the environmental permitting/NEPA process. Respondents emphasized the importance of early coordination, such as preapplication meetings, to avoid project modifications and issues during the public notice period. The respondents also identified obstacles to interagency coordination during the environmental permitting/NEPA process, including the following:

- Time for submittals;
- The need to have a representative from each agency at meetings;
- Not being able to complete consultation until final plan is presented;
- Communicating what each agency needs;
- Lack of communication;
- Having enough information to provide comments on;
- Not receiving constructive comments from agencies during early coordination;
- Agency concerns and comments not always incorporated into project designs; and
- Not being engaged with resource agencies early in the project development process.

The questionnaire asked respondents about potential obstacles within their agency that may limit coordination during the environmental permitting and NEPA process. Only 30% of the respondents identified obstacles, including staff availability and insufficient communication of agency needs, within their agencies.

Seventy percent of the respondents felt the two previous TCAPP meetings aided communication between their agency and the SCDOT. One agency stated that the early project discussion and site visit were useful in reviewing the Hoopstick Creek project and “could serve as an example for future projects.” Additional comments stated that using TCAPP helped identify areas in which communication needs improvement. One agency felt that communication with the SCDOT was good before the pilot project and has remained that way throughout use of TCAPP.

As noted earlier, ACE meetings with the SCDOT and agency partners have lapsed during the past 2 years. Respondents were asked about the strengths and weaknesses of the interagency meetings. The SCDOT plans to use this information to address weaknesses and expand strengths when regular ACE meetings are reinstated.

Weaknesses

- Attendance
- Need to have a representative from each agency at meetings
- Past comments not considered when presenting new projects
- Delivery of project information
- Receiving constructive feedback
- Explanation of why options are not available or viable

Strengths

- Desire to develop a project that satisfies regulatory requirements
- Opportunity for agencies to address information requirements before permit applications

The questionnaire also revealed that half the respondents were not provided with sufficient information before the ACE meetings. Partner agencies also felt that information was not provided in a timely manner. One respondent felt that the information provided was used to support a decision already made by the SCDOT without agency input.

The SCDOT discussed the possibility of resuming ACE meetings, conducting site visits, and providing information to the partner agencies a minimum of 2 weeks before the ACE meeting. The USACE suggested providing the purpose, need, and location of a project during the initial ACE meeting. If agencies have significant comments about a project, a site visit should be conducted. NOAA Fisheries suggested combining site visits in close proximity to one another on 1 day. At subsequent ACE meetings, the SCDOT will verify that agencies have an understanding of what is to be accomplished for each project.

Over half the respondents felt their agency's role in the environmental permitting/NEPA process at SCDOT was clear. One respondent emphasized that the process would only improve if all partner agencies were involved. Half of the respondents felt that the previous TCAPP meetings helped define or clarify their agency's role in the process.

### **Third-Party Assessment and Observations**

CBC was responsible for independent monitoring and attended the workshop, site visit, and meetings to evaluate their success. Meeting minutes were provided to the project team and agency partners following the meetings. Progress reports were provided to the SCDOT and Tidewater for interim feedback on the TCAPP application. During the final meeting on December 3, 2013, CBC provided verbal feedback on how the pilot project was accomplished and the extent of the participants' involvement. CBC identified the following results of the TCAPP pilot:

- Increased understanding between decision makers and the SCDOT with regard to their roles and expectations for permitting approvals;

- Increased the spirit of camaraderie among decision makers and SCDOT representatives;
- Increased understanding of the specific information required for permit submissions, a view of how the decision makers use the information to address concerns, and how decision makers determine/process a complete application; and
- Allowed/encouraged decision makers to view the permitting process from the perspective of the agency representatives.

CBC also provided suggestions for future SCDOT and agency collaboration, including the following:

- The SCDOT should allow more time for review of permit applications from the approving agencies and submit applications further in advance of actual time required for approval.
- Decision makers should provide support to SCDOT and exercise more tolerance with the applicant in understanding regulations and laws regarding submittal requirements, as the applicant may not have in-depth understanding of the regulations.
- Decision makers and SCDOT representatives should commit to establishing effective communication regarding applications/permits and submittal process for the common goals of (i) decreasing repetitive administrative efforts, (ii) assembling complete applications, and (iii) maintaining all laws and requirements.
- The SCDOT should modify, enhance, and implement the checklist for submittal requirements.
- Decision maker and SCDOT representatives should schedule regular meetings to discuss consistent submittal deficiencies, updated requirements, new regulations, and the approval processes.
- A peer committee of decision maker and SCDOT representatives should be established to meet and discuss any concerns.

## CHAPTER 4

### Recommendations

#### Lessons Learned

At the completion of the pilot project, the SCDOT discussed the problems which they were aware of at the outset and which were revealed by using TCAPP. The SCDOT also determined whether TCAPP helped resolve these problems.

Before initiating the pilot project, the SCDOT and agency partners were aware that communication could be improved during the environmental permitting/NEPA process. The SCDOT hoped the TCAPP Decision Guide would facilitate process improvements, such as enhancing partner agency coordination and shortening project delivery time frames. Applying TCAPP resulted in an increased understanding among the agency partners and the SCDOT regarding their roles and expectations for permitting approvals. The pilot project created an opportunity for dialogue between the SCDOT and partner agencies that not only improved the level of environmental analysis for Hoopstick Creek Bridge Replacement, but allowed for systematic and process improvements, as well. The SCDOT gained an increased understanding of the specific information required for permit applications, a view of how decision makers use the information to address concerns, and how decision makers process a complete application. Agency partners gained a new perspective on the processes and constraints the SCDOT faces when evaluating projects. One of the lasting contributions of TCAPP to the team and agencies is an understanding that communication is key to all projects, all the time.

TCAPP revealed a disparity between the SCDOT and partner agency goals in the environmental permitting and NEPA process. The TCAPP Partner Collaboration Assessment results were divergent for shared goals; only half the participants felt they shared goals during the environmental permitting and NEPA process. The SCDOT expressed that its goal was to construct safe transportation while minimizing environmental impacts; the agency partners indicated that their goals were mandated by regulations. The USACE emphasized that its role is to examine permit applications and ensure the project will be constructed in accordance with the regulations. For example, when the SCDOT requests guidance on environmental issues of concern or project alternatives, the agencies cannot provide such guidance. Instead, the agencies can only consider the information presented in a permit application in relation to their regulations. Despite lengthy discussions, the SCDOT and agency partners could not agree on a shared goal. There continues to be mistrust between the SCDOT and partner agencies. TCAPP was helpful in facilitating the conversation but did not provide guidance on how to proceed with a project or a process when partners do not share goals.

## Recommendations for SCDOT and Partner Agencies

The SCDOT will likely use TCAPP as a guide and resource when looking to advance a project having significant environmental impacts to facilitate interagency coordination and cooperation. One of the most beneficial aspects of the TCAPP tool is the identification of partners and stakeholders who need to be brought together at crucial decision points in the project development and review process. By having the necessary partners communicating and discussing the project concerns, the SCDOT feels that progress can be made in the regulatory agency review and approval process.

Based on the participation in the pilot test, the SCDOT and agency partners are considering implementation of the following practices during the environmental permitting process:

- Regular ACE meetings will be reinstated.
  - Ensure that agencies are given adequate time to review materials before meeting.
  - Ensure information provided is clear and comprehensive.
  - Schedule site visits, if requested or determined to be necessary.
  - Potentially use webinar format for agency partners that are unable to attend.
- The SCDOT is committed to establishing effective communication regarding permit applications and submittal process for the common goals of
  - Decreasing repetitive administrative efforts,
  - Assembling complete applications, and
  - Maintaining all laws and requirements.
- The SCDOT and agency partners will schedule regular meetings to discuss consistent submittal deficiencies, updated requirements, new regulations, and the approval processes.

The SCDOT also plans to disseminate information about TCAPP to planning organizations, such as Council of Governments, metropolitan planning organizations, and local transportation planning staff. The SCDOT hopes that exposure to TCAPP will help planning staff recognize how decisions made during long-term transportation planning can influence environmental permitting and NEPA decisions. Once TCAPP is housed under the FHWA, the SCDOT hopes to collaborate with the FHWA South Carolina office in this coordination effort.

## Recommendations for TCAPP

This section of the report more specifically evaluates distinct components or elements within the TCAPP tool that were considered during this test of TCAPP to facilitate environmental approvals for a bridge replacement over Hoopstick Creek. This section was derived from meeting minutes prepared by CBC.

## **Breadth and Depth of Information**

After the training, SCDOT personnel felt the tool provided valuable resource information, but the breadth and depth of the website were overwhelming. The team understands that the tool's complexity may be a result of its intended nationwide use, from the federal to local planning levels. The linkages to the Integrated Ecological Framework were unclear and further complicated the website and TCAPP Decision Guide. Team members expressed frustration with the “wordiness” of the website and difficulty in finding information applicable to the project.

*Recommendation:* TCAPP could be more useful and project-specific if an interactive portal was used to lead the team into applicable portions of the TCAPP Decision Guide. Leading questions, such as “Are you new to planning?” could help tailor the level of information based on experience. Questions could also be used to gauge where the project is in the TCAPP Decision Guide process. The team also suggests greater use of explorer or search tools to limit the amount of text on the website. For example, if an experienced practitioner is using the website, definitions could be hidden unless the practitioner clicks on the link or explorer symbol for more information. Requests for greater customization were repeated several times during the pilot project. TCAPP may benefit from additional capabilities to create a project file so that the user can select specific steps needed for their project, identify partners and stakeholders, edit roles, and so on. This type of customization could be used to share information among agencies and document environmental concerns at each step. The project file could be saved and updated as the project progresses and used in future project planning to help identify potential challenges.

## **Marketing the Tool as a Resource**

TCAPP helped team members see the big picture of how decisions made during long-term planning influence permitting and NEPA decisions. However, the project team encountered some reluctance to apply TCAPP because current methods already work or limited time is available to redesign environmental processes. Members of the project team and partners with extensive experience in transportation planning were not as responsive to TCAPP as those new to the environmental process.

*Recommendation:* During the pilot, several members of the project team said that the TCAPP tool would be best suited for transportation practitioners new to the planning field. Several members of the project team and partners agencies referred to TCAPP as a resource instead of a tool. The project team recommends emphasizing TCAPP's value as a resource when problems arise or projects stall, with value to even the most experienced practitioner.

## **Application to States without an Environmental Permitting and NEPA Merger Process**

South Carolina is a state where the NEPA/permitting merger process has yet to be implemented. The Environmental Review/NEPA Merged with Permitting section of the TCAPP Decision Guide is set up to follow the merged process between federal agencies. Therefore, the TCAPP

Decision Guide for environmental permitting/NEPA was best fit for the Hoopstick Creek project. It proved to be a challenge to completely follow the TCAPP Decision Guide simply because the project team and partners are not currently set up according to the merger process. The SCDOT and partner agencies had to be creative in the use of the TCAPP Decision Guide to facilitate a fair evaluation of the tool. Steps from the ENV portion of the TCAPP Decision Guide were selected based on their applicability to the categorical exclusion reevaluation and application for a general permit. While the SCDOT and project partners adequately maneuvered through the TCAPP Decision Guide, frustration was expressed by all partners. Because the SCDOT and partner agencies do not follow a merger process, the team expended greater time and effort than expected on deciding which steps to follow, at which time in the project, and on defining partner roles.

*Recommendation:* Using TCAPP without an environmental permitting/NEPA merger process is a challenge. However, the project team found the tool useful and would not deter states without a merger process from using the tool. It would be helpful to have a brief narrative discussion in one of the existing links explaining that the current ENV setup is designed to be used in the merged context but that the TCAPP Decision Guide can also be used when there is not a merged process. The tool could be marketed as a resource to help correlate the permitting and NEPA steps until an official merger process is adopted.

### **Routine Projects**

The TCAPP tool was helpful in engaging the correct agency at the correct time. The TCAPP Decision Guide also allowed the SCDOT to engage each partner agency for the length of time needed to comment, coordinate, and/or advise. Despite this, the project team felt the level of coordination and meetings to complete ENV-3, 4, 6, 7, 10, and 12 was too extensive for a routine project such as the Hoopstick Creek Bridge Replacement. The SCDOT and the partner agencies do not have the personnel or time for face-to-face coordination at the level conducted for the pilot project. The project team realizes that most of this coordination for the steps in the TCAPP Decision Guide would occur via letters, e-mails, and telephone.

*Recommendation:* The TCAPP application is better suited for large projects, such as environmental impact statement (EIS) analysis, than a routine bridge replacement project with a categorical exclusion–level analysis. For this reason, the SCDOT does not anticipate using TCAPP for every project. TCAPP could be customized for application on all classes of action (e.g., categorical exclusion, EA, and EIS). Similar to the tool’s Applications: Special Topics tab, an application could be created to highlight relevant portions of the Decision Guide for each class of action.

However, TCAPP should be marketed to emphasize that portions of the Decision Guide are useful and can apply to routine projects. Applying TCAPP to a routine project may identify procedural issues not evident to partners, stakeholders, or practitioners. Even without full applicability of the tool for this pilot project, TCAPP facilitated discussion of project alternatives

and impacts among the SCDOT and agency partners. As one agency partner commented, “I did not really get the full use of the tool, but it allowed us to come together and comment.” Other states may benefit from using TCAPP to identify and improve procedures in routine projects, even if the tool is not applied to all projects.

### **Partners Roles**

A significant portion of the discussion during the first two meetings revolved around TCAPP’s identified partner roles. TCAPP was beneficial in that it required the SCDOT and agency partners to consider what and where their role was in the pilot project. However, agency partners did not understand how they fit within this process, and the definitions were unclear. In some cases, the resource agencies could have participated more as stakeholders, but the SCDOT perceives them as partners. In most cases, the USACE was a decision maker but disagreed that its regulations allowed it to approve a step in the environmental permitting process. For the regulatory agencies, such written approval does not occur until the permit is issued. One agency partner explained that that agency could provide guidance on the purpose and need and alternatives but still deny the permit application.

*Recommendation:* Roles defined by TCAPP are based on standard federal processes; but they may require adjustment to state-specific partner roles as there may not be shared goals among the agencies. The team found it helpful to identify partner roles early in the pilot project and determine how they differed from the TCAPP-designated roles. In many cases, resource agencies were not defined and that generated confusion about partner roles. Non-SCDOT agencies prefer terms such as collaborator, arbitrator, reviewer and/or consultant and negatively received a perception that they had a partner role in a transportation improvement project.

### **Partner Collaboration Assessment**

The project team and agency partners felt the TCAPP Partner Collaboration Assessment was confusing. The assessment may have been taken too early in the process or not explained with enough detail. Even though the partners at the meeting have worked together extensively in the past, during the first meeting, there continued to be discussion over partner roles and terminology in the tool. Many of the responses were neutral because of the timing of the assessment. This may have contributed to the overall dislike of the assessment.

*Recommendation:* The Partner Collaboration Assessment would have been more useful with enhanced analytic capabilities. For example, instead of taking the assessment as a group or having to manually input results into electronic format, the assessment could be taken by multiple agencies and partners through a website (i.e., similar to Survey Monkey). This would allow instantaneous data interpretation and analysis of collective results. The PDF handout on the website contains errors. The team noted that the questions under Decision-Making Authority are the same as those under Tools and Technology. The small font size makes it difficult to print the assessment and provide it to partners in a meeting setting.

The project team reiterates a recommendation from the Minnesota pilot project that the assessment could better adapt results based on specific collaboration ratings. The results and recommendations provide valuable information but do not adjust to the weaknesses and strengths of the particular partners. The assessment results could be improved to identify potential solutions based on the input for the specific user.

## CHAPTER 5

### Conclusion

The focus of this pilot project was to assess TCAPP's value in providing guidance to help project partners work collaboratively toward an environmental permitting decision on the Hoopstick Creek Bridge Replacement. Although the project is relatively small, the team found that significant commitment and communication was required to advance the project through the environmental permitting steps.

While the pilot project provided a forum to collaborate and exchange information, which increased the spirit of camaraderie among agency partners and the SCDOT representatives, the team encountered challenges in keeping all partner agencies engaged throughout the process. The team recognized the importance of participation not only for the pilot project, but for future projects as well. According to a representative of the SCDOT, limited or no participation in the pilot project by some partner agencies may have been a result of the following:

- Reduced travel budgets;
- Condensed personnel with limited time to participate in nonessential tasks (e.g., USACE liaison participation was consistent partially because the SCDOT funds the positions);
- Lack of interest by the agency partners in improving communication because of
  - Perception that current communication is effective, and
  - Limited investment caused by failed efforts to improve communication in the past;
- Individual personalities not conducive to partner development or improvement.

In addition, agencies may have felt the current environmental process and level of communication with the SCDOT is satisfactory and would not be improved by the pilot project. Finally, some partner agencies may have deemed the research project not a high enough priority for their time. The effect of agency participation, or lack thereof, was felt by the entire team because each agency partner had different regulatory or resources responsibilities for the project.

A project-specific goal for the TCAPP process was to conduct a thorough alternatives analysis and reach consensus on a preferred alternative for the Hoopstick Creek Bridge Replacement project. The intended result was to complete a permit application that met regulatory requirements and expectations of the partner agencies. The team found TCAPP to be helpful as a resource during the environmental permitting process; the TCAPP Decision Guide served as a reminder of what steps “should” be done, as opposed to evaluating the project using the status quo. The early project discussion and site visit were useful in reviewing the Hoopstick Creek project and were recommended by one agency as “an example for future projects.”

## References

### Regulations

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South Carolina Department of Health and Environmental Control. *Classified Waters*. R. 61-69, June 22, 2012.

### Websites

Greenwich Mean Time, [wwp.greenwichmeantime.com/time-zone/usa/south-carolina/map](http://wwp.greenwichmeantime.com/time-zone/usa/south-carolina/map). Accessed May 2014.

Google Earth, Image LandSat © 2014 Google.

Google Maps, Maps Data © 2014 Google.

Survey Monkey, © 1999–2014 SurveyMonkey.

## Abbreviations

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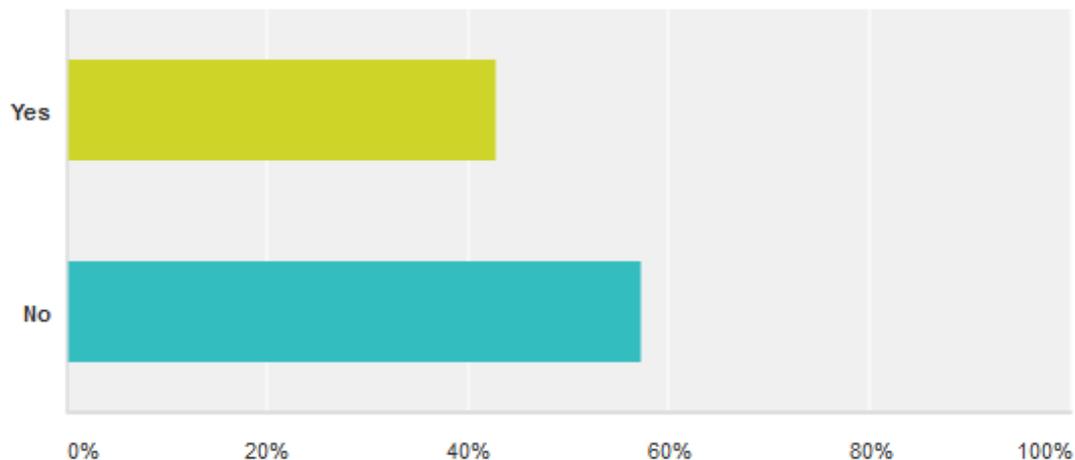
ACE	Agency Coordination Effort
ADT	average daily traffic
CBC	Comprehensive Business Consultants, LLC
CHATS	Charleston Area Transportation Study
EA	Environmental Assessment
EIS	environmental impact statement
ENV	environmental permitting/NEPA Decision Guide
ESO	Environmental Services Office
FHWA	Federal Highway Administration
LEDPA	Least Environmentally Damaging Practicable Alternative
MPO	metropolitan planning organization
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
OCRM	Office of Ocean and Coastal Resource Management
PAR	Program Action Request
SCDAH	South Carolina Department of Archives and History
SCDHEC	South Carolina Department of Health and Environmental Control
SCDNR	South Carolina Department of Natural Resources
SCDOT	South Carolina Department of Transportation
SHPO	State Historic Preservation Office
SHRP 2	Second Strategic Highway Research Program
TCAPP	Transportation for Communities—Advancing Projects through Partnerships
Tidewater	Tidewater Environmental Services, Inc.
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

## APPENDIX A

### Survey Monkey Assessment Results

#### Coordination and Communication

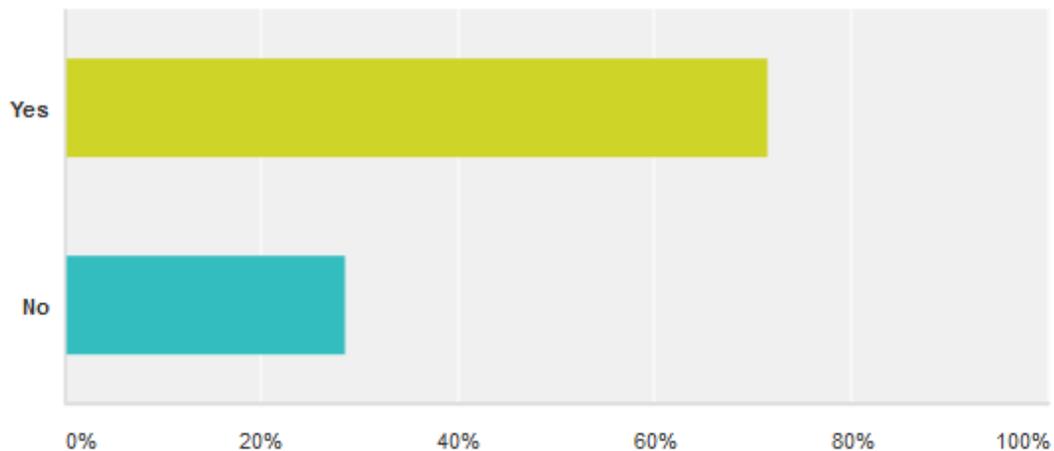
- 1) Does your agency encounter problems coordinating with the DOT during the environmental permitting/NEPA process? (Yes or No)



*“Would like to see alternatives before Individual Permit public comment period. Pre-application coordination is best.”*

*“Coordination/agency input earlier in the process (prior to permit application) could address design issues, which could avoid costly project modifications during the permitting process.”*

- a. If Yes, have the 2 previous TCAPP meetings aided communication between your agency and the DOT? (Yes or No)



- b. If No, how could the DOT improve interagency coordination? (open text)

*“Discussions and site visit addressing early (pre-permit application) agency coordination have been useful and could serve as an example for future projects.”*

*“Our communication was good before TCAPP and has remained that way.”*

*“The previous TCAPP meetings have helped identify areas where communication needs to be improved.”*

- 2) What are the biggest obstacles to interagency coordination during the environmental permitting/NEPA process? (open text)

*Time for submittals*

*Need to have a representative from each agency at meetings*

*Cannot complete consultation until final plan is presented (conflicts with SCDOT/FHWA process)*

*Communicating what each agency needs*

*Lack of communication*

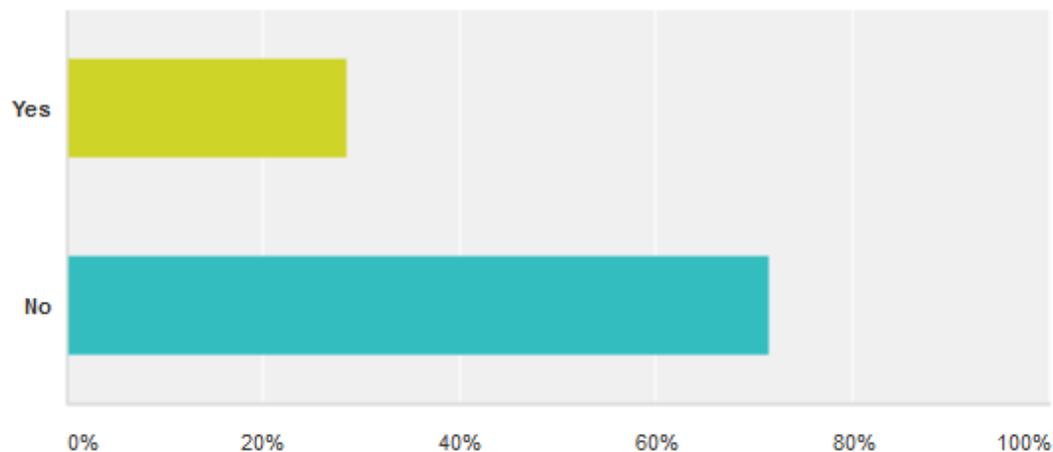
*Having enough information to provide comments on*

*Not receiving constructive comments from agencies during early coordination*

*Agency concerns and comments not always incorporated into project designs*

*Not being engaged with resource agencies early in the project development process*

- 3) Are there obstacles to interagency coordination *within* your agency? (Yes or No)



- a. If Yes, please explain. (open text)

*Staff availability and time.*

*Offices in our agency do not communicate their needs or concerns adequately.*

## Interagency Meetings

- 4) What aspect of the interagency meetings do you believe is the weakest? Why? (open text)

*Attendance*

*Need to have a representative from each agency at meetings*

*Past comments not considered when presenting new projects*

*Delivery of project information*

*Receiving constructive feedback*

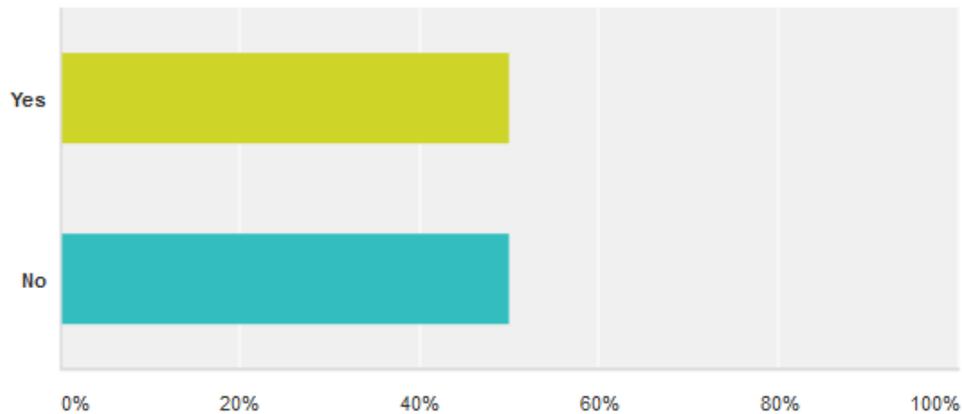
*Explanation of why options are not available or viable*

- a. Strongest? Why? (open text)

*Desire to develop a project that satisfies regulatory requirements*

*Opportunity for agencies to address information requirements prior to permit applications*

- 5) Does the DOT provide your agency with sufficient information prior to the agency meetings? (Yes or No)



- a. If No, what specific ideas do you have that DOT can do to improve this? (open text)

*Insufficient information*

*Basic project description sometimes provided, by detailed information at meetings*

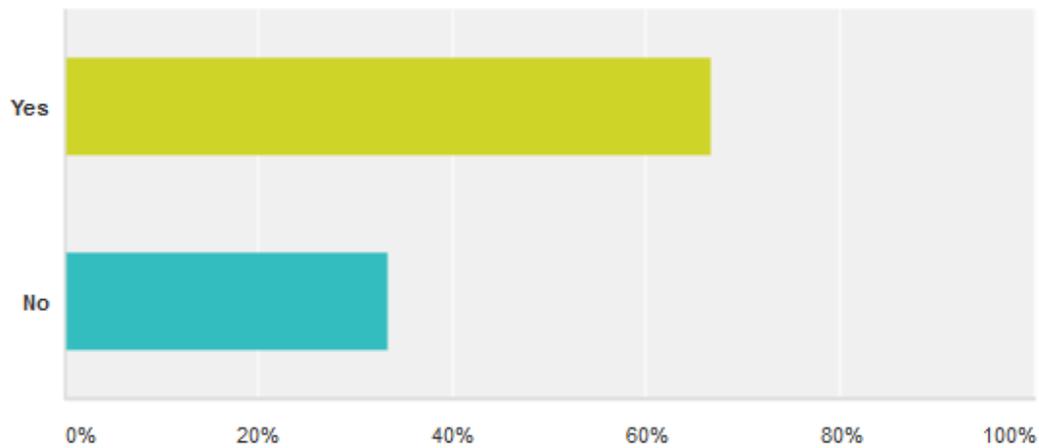
*Not provided in timely manner*

*Projects pushed through permitting process, decisions already made by SCDOT*

- 6) Does the DOT provide your agency with sufficient time to review materials prior to agency meetings? (Yes or No)

## Shared Goals

- 7) What steps in the environmental permitting/NEPA process are most important to your agency? Please rank the milestones from highest to lowest importance.
  1. Purpose and Need
  2. Alternatives Analysis
  3. Avoidance and Minimization of the LEDPA
  4. Compensatory Mitigation of the LEDPA
  5. Defining Study Area
- 8) Do you feel that your agency's role in the environmental permitting/NEPA process at SCDOT is clear? (Yes or No)



*Process will only improve if all agencies, including FHWA, are involved.  
Agencies need more input prior to design.*

- 9) Have the 2 previous TCAPP meetings helped define or clarify your agency's role in the process? (Yes or No)

