



HARKERS ISLAND BRIDGE REPLACEMENTS PROJECT

STIP No. B-4863

PUBLIC MEETING #2 HANDOUT - March 2, 2017

PURPOSE OF THE PUBLIC MEETING

The purpose of this Public Meeting is to provide the public with an opportunity to view and comment on the current preliminary design of the four proposed alternatives for the project. Representatives from the North Carolina Department of Transportation (NCDOT) and their consultants are available to explain the proposed project, discuss any concerns you have, and answer your questions.



PUBLIC MEETING FORMAT

- Please sign in at the registration table.
- The Public Meeting this evening is an "open-house" style format between the hours of 4 pm and 7 pm. Project Team representatives are available to discuss the project with you and answer your questions.
- There is a presentation available to watch prior to viewing the displays.
- Several displays showing project related information are stationed around the room.
- Comment forms are available and can be filled out tonight or returned by mail or email by March 30th to the address shown on the form.

PROJECT DESCRIPTION

The NCDOT proposes to build either one or two fixed-span bridges to replace the two bridges over The Straits that provide access to Harkers Island. Currently, one bridge is a fixed-span and one is a swing-span (also known as the Earl C. Davis Memorial Bridge).



PROJECT NEED AND PURPOSE

The existing bridges (No. 73 and 96) were built in the 1960's and 1970's and are due for replacement. The new bridge(s) will address the existing need to improve the structural integrity of the bridges and provide sufficient accommodation for emergency access and evacuation on Harkers Island Road.

PROJECT HISTORY

Bridge number 73 is a swing-span bridge that was built in 1969 to replace the wooden structure that was originally constructed in 1941. The current bridge has two 12-foot lanes, one in each direction, with a 2.5-foot shoulder on each side. The navigational clearances for existing bridge number 73 are 14 feet vertically when closed, 70 feet vertically when open (due to power lines), and 36 feet horizontally. In 2014, a bridge inspection determined that this bridge was structurally deficient, due to the age and poor condition of the existing bridge structure, receiving a rating of 15 out of 100.

Bridge number 96 is a fixed-span bridge that was built in 1970. It has two 12-foot lanes, one in each direction, with a total horizontal width of 26 feet. The navigational clearances for existing bridge number 96 are 4 feet vertically and 45 feet horizontally. In 2015, a bridge inspection determined that bridge number 96 was functionally obsolete, based on the narrow width of the existing bridge. It received a rating of 47 out of 100.

BRIDGE TYPES

Movable Bridges are ones in which portions of the bridge move. When closed, these bridges provide a lower clearance between the water and the bridge allowing only smaller boats to pass underneath. When opened, the bridge provides space for larger boat traffic to cross. Typical movable bridges include swing-span bridges, vertical-lift bridges, and bascule bridges. The existing Harkers Island Bridge (Bridge No. 73) is an example of a swing-span bridge.

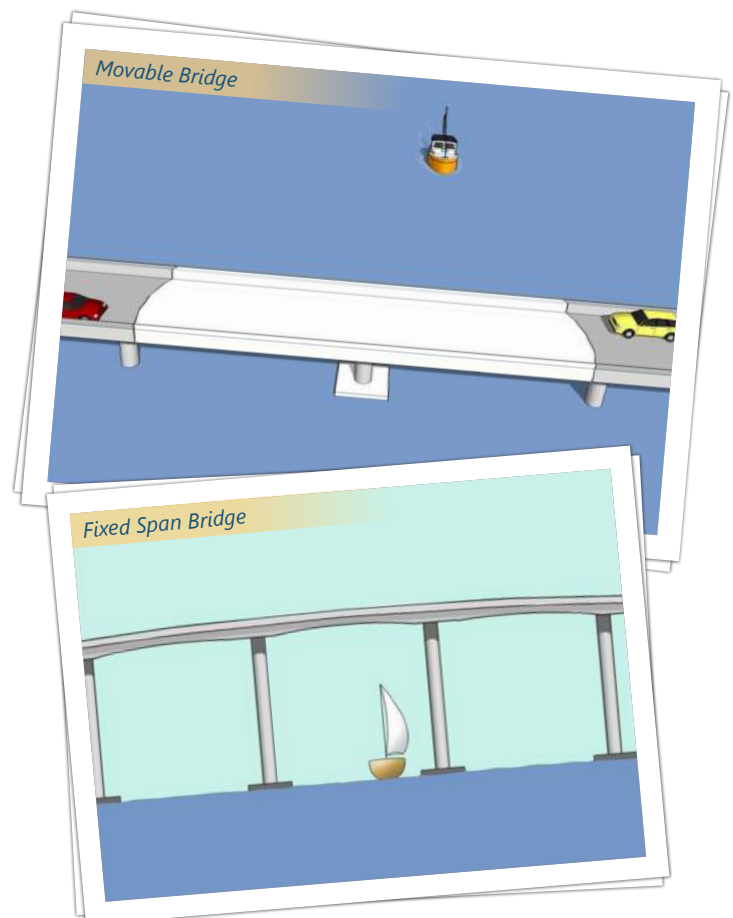
Fixed-Span Bridges are fixed in place with no moveable spans. Typically, fixed-span bridges are built much higher than moveable bridges, providing vertical clearance over waterways to allow for larger boat traffic to pass beneath.

Currently, there are only a handful of movable bridges left in North Carolina. In general, it is the NCDOT policy to replace existing movable bridges with fixed-span bridges where possible.

NCDOT has adopted this policy for the following reasons:

Fixed-span bridges:

- allow for uninterrupted car and boat travel, reducing congestion and delays.
- allow for faster emergency evacuations and response times for all modes of transportation.
- have lower maintenance costs.
- do not have operational costs.
- and fixed span bridges do not require a bridge tender to operate the bridge.



ALTERNATIVES

In order to maintain access to Harkers Island during construction using the existing bridges, new alignment alternatives are proposed for this project. Other elements like utility location, natural resource impacts, and sound engineering design play an important role in developing alternatives.

All alternatives will have two 12-foot travel lanes, one in each direction, both on the bridge(s) and the roadway approaching the bridge(s). For the bridge(s), there will be a 4-foot paved shoulder on each side, while the roadway surface will have 4-foot paved shoulders as well as an additional 4 to 7 feet of grass shoulder with guardrail as needed.

Based on citizens' comments and coordination with reviewing agencies, the Project Team developed an additional study alternative, Alternative 5. Alternative designs along with comments received from the Public Meeting were presented to federal, state, and local environmental agencies at a meeting held on June 15, 2016. This group of agencies and NCDOT make up the Project Team who guide the environmental study. The agencies were provided an opportunity to review potential impacts associated with each alternative. Based on the information obtained to date, the reviewing agencies and Project Team agreed to eliminate Alternative 1, leaving Alternatives 2, 3, 4, and 5 to be carried forward into a more detailed design, also known as preliminary design, which allows for a higher level of engineering analysis. Alternative 1 was eliminated due to low public support, low agency support, higher community resource impacts, and higher natural environmental resource impacts than the other alternatives. Since the June 2016 meeting, the preliminary designs for the alternatives carried forward (Alternatives 2, 3, 4, and 5) have been completed and are presented today for your review and comments.

VERTICAL AND HORIZONTAL CLEARANCE OF THE PROPOSED BRIDGE

The Draft Navigational Impact Report has been completed for this project, per the United States Coast Guard's (USCG) requirements. This report provides information on the proposed project in relation to navigational needs in the area. Included in the report is a summary of the proposed project vessel height surveys completed in 2014, interview data with local maritime community members, and waterway data obtained from the United States Army Corps of Engineers (USACE) and the National Oceanic and Atmospheric Administration (NOAA). The USCG received a summary of the public input from the first public meeting to aid in their review. The data included in the report demonstrates that the proposed bridge alternatives (Alternatives 2, 3, 4, and 5), with 45-foot Vertical Navigational Clearance (VNC) and 125 to 150-foot Horizontal Navigational Clearance (HNC) at Bridge No. 73, provide acceptable clearances for area marine travel for the replacement of the Harkers Island Bridges. The USCG is reviewing the provided information, reaching out to the public for feedback on bridge clearances, and has the final approval on the proposed bridge clearances.





ALTERNATIVE 2

Alternative 2 would include two fixed-span bridges, one located to the west of Bridge No. 73 and one located to the east of Bridge No. 96, touching down on the center island.

ALTERNATIVE 3

Alternative 3 would include two fixed-span bridges, each located to the east of the existing bridges, touching down on the center island.

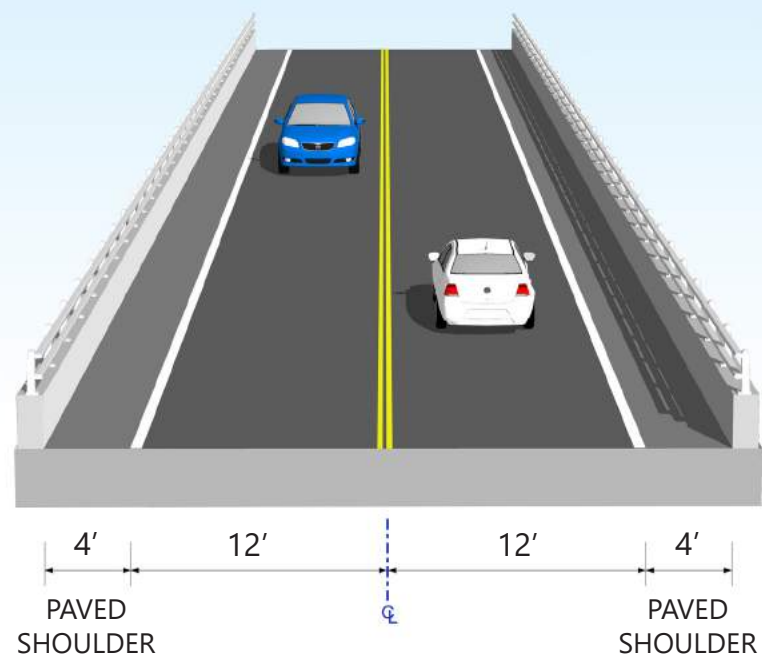
ALTERNATIVE 4

Alternative 4 would include one fixed-span bridge, located to the east of the existing bridges. The center island would not have a roadway connection.

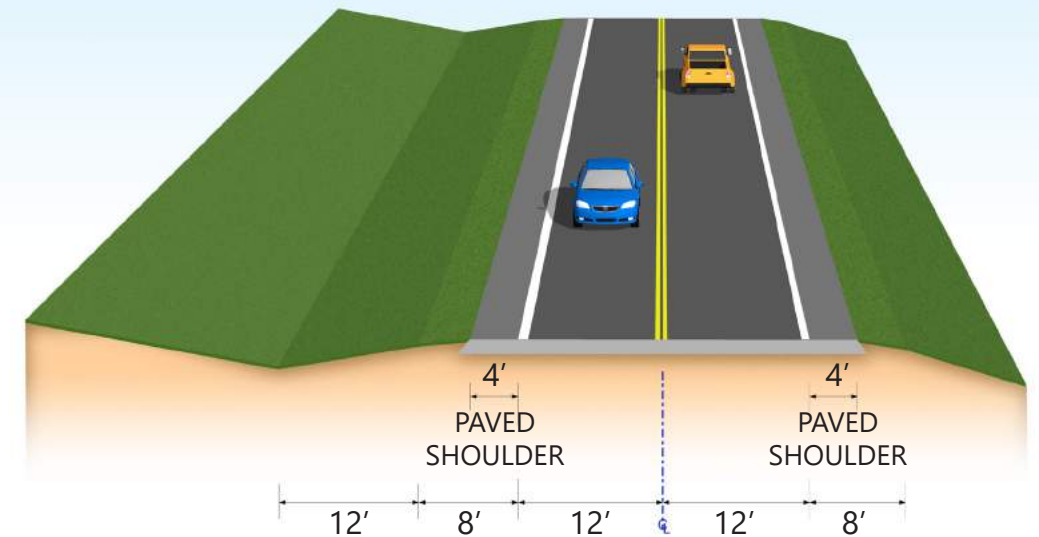
ALTERNATIVE 5

Alternative 5 would include one fixed-span bridge, located to the east of the existing bridges. Alternative 5 is similar to Alternative 4, but with an alignment swinging further east. Recently, Carteret County has expressed their support for Alternative 5 and their willingness to take over ownership of existing Bridge No. 96 from the mainland to the center fishing island, re-purposing the bridge as pedestrian-use only.

Bridge Typical Section



Roadway Typical Section



HARKERS ISLAND BRIDGE REPLACEMENTS PROJECT (B-4863)

ALTERNATIVE COMPARISON TABLE

Category	Alt 2	Alt 3	Alt 4	Alt 5
Project Description				
Project Length (miles) - including permanent bridge length	0.82	0.86	0.86	0.86
Permanent Bridge Length (ft) - fixed length	1,880/690	1,555/825	2,905	3,200
Bridge Structure (sf) - Bridge No. 73 / Bridge No. 96	65,800/24,150	54,425/28,875	101,675	112,000
Human Environment Impacts				
Community Resources [Section 4(f) Properties]				
Straits Boat Landing Area -- permanent/temporary (acres)	0.08/0.21	0.06/0.09	0.06/0.09	0.06/0.08
Straits Fishing Pier -- permanent/temporary (acres)	0.35/0.01	1.11/0.16	1.12/0.24	-
Harkers Island Beach Access -- permanent/temporary (acres)	0.61/0.08	0.05/-	0.05/-	0.04/-
Properties Impacted (number) -- no anticipated relocations	7	10	10	9
Proposed Right-of-Way/Temporary Easements (acres)	1.38/0.09	1.23/0.05	1.21/0.04	0.89/0.08
Archeological Site	1	1	1	1
Natural Environment Impacts				
Wetlands: CAMA/Riparian (acres)	0.50/-	0.26/0.08	0.13/0.08	0.09/0.05
Potential Submerged Aquatic Vegetation (SAV) Habitat (acres)	0.06	0.13	0.13	0.44
Surface Water (acres)	0.03	-	-	-
Federally Protected Species	Unresolved* / MA/NLAA**	Unresolved* / MA/NLAA**	Unresolved* / MA/NLAA**	Unresolved* / MA/NLAA**
Miscellaneous				
Constructability Concerns	High	Medium	Medium	Low
Splash Zone Concerns	High	High	Low	Low
Evacuation/Flooding Concerns (potential for issue on center island)	High	High	Low	Low
Public Feedback/Cost				
Public Preference at Public Meeting #1	0%	50%	50%	N/A
Construction Costs	\$28,900,000	\$29,600,000	\$31,400,000	\$32,900,000

Represents alternative with lowest impact/cost in each category

Represents alternative with highest impact/cost in each category

*Unresolved – Unresolved Effect to the following five sea turtle species: Green Sea Turtle (*Chelonia mydas*), Hawksbill Sea Turtle (*Eretmochelys imbricata*), Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Leatherback Sea Turtle (*Dermochelys coriacea*), and Loggerhead Sea Turtle (*Caretta caretta*)

**MA/NLAA – May Affect/Not Likely to Adversely Affect the following species: West Indian manatee (*Trichechus manatus*)

N/A – Not Applicable - Alternative 5 did not exist at time of Public Meeting #1

NOTES	1) Community Resource Impact are areas based on proposed right-of-way and easement boundaries as determined from the preliminary design plans for each alternative.	3) Potential Submerged Aquatic Vegetation Habitat Impacts are based on the area of the proposed bridge above the potential SAV locations.
	2) Wetland Impacts are based on preliminary design permanent and temporary slope stakes, plus an additional 25 feet outside of each construction limit as determined from the preliminary design plans for each alternative.	4) Surface Water Impacts are based on area of fill needed to construct the roadway approach and retaining walls within the existing water surface.

Archeological Site

An archeological site exists within the project area, located on the mainland side east of the existing road. While it is not eligible for listing on the National Register of Historic Places, it is recommended that this site be avoided as part of this project. However, each of the four alternatives could impact this site. It is recommended that supervision of the construction activities be supervised by appropriate staff to insure potentially significant artifacts will not be affected.

Federally Protected Species

There exist five types of federally protected sea turtles in the area and at this time, the impact to these species is unknown for any alternative. Once an alternative is selected, the level of impact will be assessed by the federal and state regulatory agencies.

Constructability Concerns

Constructability concerns exist for each alternative, but are higher for Alternative 2 because the alignment crosses over the roadway on the center fishing island. This will make the maintenance of traffic during construction more challenging than the other alternatives. Due to Alternative 5 being further away from the existing bridges, it would make construction easier than for Alternatives 3 and 4.

Splash Zone Concerns

The splash zone concern refers to the area where the structure of a bridge could be damaged due to the splash area from the waterway that is bridged. This concern increases when the bridge has a lower clearance for a longer span. Alternatives 2 and 3 would result in high splash zone concerns because the lower level bridge, to replace Bridge No. 96, would still be within the splash zone. Alternatives 4 and 5 would result in low splash zone concerns because neither alternative would touch down on the center island, thus the alternatives can be designed to be out of the splash zone aside from the tie-down locations on either end.

Evacuation and Flooding Concerns

Evacuation and flooding concerns are also present with the project. Alternatives 2 and 3 would result in high concern since the bridges would touch down on the center island as well as on either tie-down point on the mainland and the island. While Alternatives 4 and 5 would also tie-down on the mainland and the island, neither alternative would touch down on the center island, thus reducing the evacuation and flooding concerns.

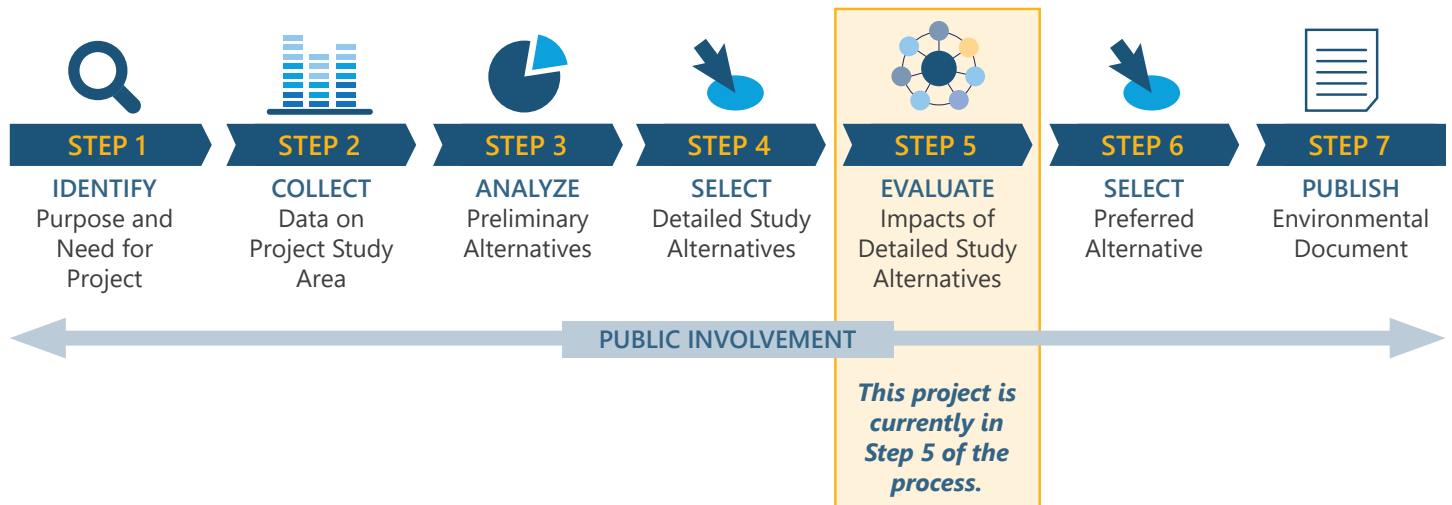
Construction Costs

Construction costs for each alternative differ depending on the type of bridge being built, its length, and materials and labor costs. Alternative 2 would have the lowest construction cost while Alternative 5 would have the highest. It is anticipated that Alternatives 2 and 3 would have higher maintenance costs since the lower spanning bridge would need routine maintenance due to the splash zone area.



PROJECT DEVELOPMENT PROCESS

Project development, environmental studies, and engineering analysis is being conducted in accordance with the National Environmental Policy Act (NEPA). NEPA is a federal law enacted in 1970 that requires the Federal Government to consider the environmental impacts of, and alternatives to, major proposed actions in its decision-making processes. The Act is the basic national charter for the protection of the environment. Under NEPA, an agency must study the adverse and beneficial environmental impacts of alternatives that meet a project's purpose and need. This project development process can be divided into the steps shown below. Currently, this project is in Step 5 as we analyze the impacts of each study alternative. This will lead the Project Team to selecting a preferred alternative for the project in Step 6.



The Project Team is made up of NCDOT staff and consultants representing Planning, Design, Division, Right of Way, Public Involvement, Community Studies, and others, as well as the Federal Highway Administration (FHWA), the U.S. Coast Guard (USCG), the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service (USFWS), the U.S. Environmental Protection Agency (USEPA), the National Marine Fisheries (NMFS), the N.C. Division of Water Resources (NCDWR), the N.C. Department of Coastal Management (NCDCM), the N.C. Wildlife Resource Commission (NCWRC), and the State Historic Preservation Office (SHPO). Other agencies are invited as appropriate. The Project Team will convene to recommend the Least Environmentally Damaging Practicable Alternative (LEDPA) and the recommendation will be taken into account when the FHWA and NCDOT formally select and approve the final alternative. This is done as part of the environmental documentation process. The Project Team will inform the public once the preferred alternative is selected.

Once the preferred alternative is selected, the roadway design will be refined and will include efforts to further reduce environmental impacts. While the proposed right-of-way is currently shown on the project maps, please note that right-of-way needed may change based on final design.



PROJECT SCHEDULE

Summer 2017 //
Selection of Preferred Alternative

Fall 2017 //
Environmental Document
Completion

2018 // Right-of-Way
Acquisition Begins

2020 // Construction Begins

COSTS

Right-of-Way Acquisition Cost //
\$1.3 Million

Construction Cost //
\$33.5 Million

CONTACT US

Your feedback and input is valuable to the success of the project.

- Comment forms are provided for you to write down your questions, comments and concerns.
- More information can be found at:
<https://www.ncdot.gov/projects/harkersislandbridges/>

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Comment Form

Public Meeting
March 2, 2017

Harkers Island Bridge
Replacements Project
(STIP No. B-4863)

If possible, please return this comment form before leaving tonight.

Your answers to the following questions will help the NCDOT team as they move forward with project development. Please provide your comments in the space below and return this form to a Project Team Member or place it in the "COMMENT BOX". Thank You!

Name: _____

Address : _____

1) Where do you live?

Harkers Island Straits Beaufort Morehead City Other: _____

2) How often do you travel on the Harkers Island bridges?

Rarely 1-3 days per week >3 days per week, but not every day Daily

3) How often do you travel under/through the Harkers Island bridges (via boat)?

Rarely 1-3 days per week >3 days per week, but not every day Daily

4) Do you own property within the project study area (see Vicinity Map in handout)?

Yes No If yes, what is the address of your property, and what is its primary use?

Property's Address: _____

Property's Use: Residential Business Industrial Recreational _____

5) List the four alternatives in order of preference with First Preference = most favorable, Fourth Preference = least favorable. Use the space below to list any reasons why.

First Preference is: Alternative _____

Second Preference is: Alternative _____

Third Preference is: Alternative _____

Fourth Preference is: Alternative _____

6) If Alternative 5 is chosen as the Selected Alternative, would you support the County taking ownership of the existing Bridge No. 96 connecting the mainland to the center fishing island?

If yes, please explain: _____



Comment Form

Public Meeting

March 2, 2017

Harkers Island Bridge
Replacements Project
(STIP No. B-4863)

If possible, please return this comment form before leaving tonight.

7) How often do you use the following community features:

Harkers Island Beach Access	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Rarely	<input type="checkbox"/> None
Straits Fishing Pier	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Rarely	<input type="checkbox"/> None
Straits Boat Landing Access	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Rarely	<input type="checkbox"/> None



8) Do you have any other issues or ideas that you would like to share regarding the proposed Harkers Island Bridge Replacements project?

9) Were display maps and handouts easy to read and understand? Yes No

10) Were the Project Team members helpful and clear in their explanations? Yes No

11) Based on the information available, were all substantial questions answered? Yes No

If no, please explain: _____

**If you are not able to fill out this form tonight,
please send it before March 30, 2017 to the address below:**

Harkers Island Bridge Replacements Project Team
1520 South Boulevard, Suite 200
Charlotte, North Carolina 28203
Email: marogerson@ncdot.gov or edith.peters@rsandh.com
Fax: 1-800-758-1284

TITLE VI PUBLIC INVOLVEMENT FORM

Completing this form is **completely** voluntary. You are not required to provide the information requested in order to participate in this meeting.

Meeting Type: Public Meeting Location: Core Sound Waterfowl Museum and Heritage Center, 1785 Island Road, Harkers Island, NC 28531	Date: March 2, 2017
STIP No.: B-4863 Project Description: Harkers Island Bridge Replacements Project	

In accordance with Title VI of the Civil Rights Act of 1964 and related authorities, the North Carolina Department of Transportation (NCDOT) assures that no person(s) shall be excluded from participation in, denied the benefits of, or subjected to discrimination under any of the Department's programs, policies, or activities, based on their race, color, national origin, disability, age, income, or gender.

Completing this form helps meet our data collection and public involvement obligations under Title VI and NEPA, and will improve how we serve the public. Please place the completed form in the designated box on the sign-in table, hand it to an NCDOT official or mail it to the PDEA-Human Environment Section, 1598 Mail Service Center, Raleigh, NC 27699-1598. All forms will remain on file at the NCDOT as part of the public record.

Zip Code: _____ Street Name: (i.e. Main Street) _____ Total Household Income: <input type="checkbox"/> Less than \$12,000 <input type="checkbox"/> \$47,000 – \$69,999 <input type="checkbox"/> \$12,000 – \$19,999 <input type="checkbox"/> \$70,000 – \$93,999 <input type="checkbox"/> \$20,000 – \$30,999 <input type="checkbox"/> \$94,000 – \$117,999 <input type="checkbox"/> \$31,000 – \$46,999 <input type="checkbox"/> \$118,000 or greater	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female Age: <input type="checkbox"/> Less than 18 <input type="checkbox"/> 45-64 <input type="checkbox"/> 18-29 <input type="checkbox"/> 65 and older <input type="checkbox"/> 30-44 Have a Disability: <input type="checkbox"/> Yes <input type="checkbox"/> No
Race/Ethnicity: <input type="checkbox"/> White <input type="checkbox"/> Asian <input type="checkbox"/> Black/African American <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Native Hawaiian/Pacific Islander <input type="checkbox"/> Other (please specify): _____	National Origin: (if born outside the U.S.) <input type="checkbox"/> Mexican <input type="checkbox"/> Central American: _____ <input type="checkbox"/> South American: _____ <input type="checkbox"/> Puerto Rican <input type="checkbox"/> Vietnamese <input type="checkbox"/> Chinese <input type="checkbox"/> Korean <input type="checkbox"/> Other (please specify): _____

How did you hear about this meeting? (newspaper advertisement, flyer, and/or mailing)

For more information regarding Title VI or this request, please contact the NCDOT Title VI Section at (919) 508-1896 or toll free at 1-800-508-1886, or by email at sddickens@ncdot.gov.

Thank you for your participation!



Attn: Jammie Robbins
NCDOT - PDEA
Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598

