



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

Charles A. Kilpatrick, P.E.
Commissioner

November 18, 2014

The Honorable Walter A. Stosch
Co-chair, Senate Finance Committee
Innsbrook Centre
4551 Cox Road, Suite 110
Glen Allen, Virginia 23060-6740

The Honorable Charles J. Colgan
Co-chair, Senate Finance Committee
10660 Aviation Lane
Manassas, Virginia 20110-2701

The Honorable S. Chris Jones
Chair, House Appropriations Committee
P.O. Box 5059
Suffolk, Virginia 23435-0059

Dear Gentlemen:

Item 444 H of Chapter 2 of the 2014 Acts of the Assembly (Special Session I), directs the Commissioner of Highways to investigate methods through which to fund the replacement of the Churchland Bridge in Portsmouth, Virginia and directs that a report be provided to the Chairmen of the House Appropriations and Senate Finance Committees on the feasibility of including federal and/or state funding for the project in the Six-Year Improvement Program. Attached is a report that provides an overview and background information on the Churchland Bridge project and addresses the issues specified by Item 444 H.

If you have any questions or need additional information, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Kilpatrick'.

Charles A. Kilpatrick, P.E.
Commissioner of Highways

Attachment

cc: The Honorable Aubrey L. Layne, Jr.

**CHURCHLAND BRIDGE FUNDING FEASIBILITY STUDY
ITEM 444, H OF CHAPTER 2 OF THE 2014 ACTS OF THE ASSEMBLY
UPC 102715**

**Report to the Chairmen of the House Appropriations and Senate Finance
Committees**

October 1, 2014

**Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219**

PREFACE

Item 444, H of Chapter 2 of the 2014 Acts of the Assembly (Special Session I) directs the Commissioner of Highways to investigate methods through which to fund the replacement of the Churchland Bridge in Portsmouth, Virginia, and report to the Chairmen of the House Appropriations and Senate Finance Committees by October 1, 2014 on the feasibility of including federal and/or state funding for the project in the Six-Year Improvement Program.

This study was conducted by the Virginia Department of Transportation's (VDOT) Program Management Division with assistance from VDOT's Structure and Bridge Division and Hampton Roads District. VDOT's Environmental Division and Alternative Project Delivery Office also provided subject matter expertise to support the study team's high-level risk analysis workshop to identify and analyze potential risks involved with the Churchland Bridge project.

This report was authored by the following VDOT staff:

Ms. Margie Ray, Program Management Division
Ms. Deborah Mangiaracina, Structure and Bridge Division
Mr. Bryant Porter, Hampton Roads District
Mr. Derrick Williams, Hampton Roads District

In addition to the staff listed above, the following VDOT staff provided subject matter expertise and insight to support the risk analysis for this study:

Mr. Cooper Wamsley, Environmental Division
Ms. Jennifer Salyers, Hampton Roads District Environmental Division
Mr. Chris Eggleston, Hampton Roads District Bridge Engineer
Mr. Steve Rowan, Hampton Roads District
Mr. Jeff Hetzer, Alternative Project Delivery Office

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EXECUTIVE SUMMARY

This report summarizes the response of the Virginia Department of Transportation (VDOT) to Item 444, H of Chapter 2 of the 2014 Acts of Assembly (Special Session I). Specifically, Item 444 H directs the Commissioner of Highways to investigate methods through which to fund the replacement of the Churchland Bridge in Portsmouth, Virginia, and report by October 1, 2014, to the Chairmen of the House Appropriations and Senate Finance Committees on the feasibility of including federal and/or state funding for the project in the Six-Year Improvement Program (SYIP).

The Churchland Bridge is an urban four lane bridge which carries traffic on U.S. Route 17 over the Western Branch of the Elizabeth River in the city of Portsmouth, Virginia. The bridge is owned, operated, and maintained by the city of Portsmouth (the City) as part of its urban highway system. The City has initiated a project that entails full replacement of the northbound lanes and includes minor rehabilitative repairs to the southbound lanes of the bridge. The existing structure has two distinct construction designs built at different times. The northbound lanes of the Churchland Bridge were constructed in 1951, and the structure was widened in 1973 with the newer portion carrying the southbound lanes of traffic. The northbound lanes of the bridge have obsolete details that would require significant rehabilitation or replacement for this portion of the structure to remain in service. Currently the entire bridge is classified as structurally deficient with a rating of 4 (poor) due to the older portion of the structure.

The project is fully funded to the City's current estimate of \$35.5 million (the SYIP currently reflects an estimate of \$29.5 million which will be updated) including \$2.5 million for the preliminary engineering phase, \$2 million for the right of way phase, and \$31 million for the construction phase. The City of Portsmouth (the City) has applied for and received two Revenue Sharing awards for a total of \$7.25 million (\$14.5 million including the required local match). The City has expended approximately \$295 thousand to date on preliminary engineering, including the required environmental studies and development of 30% design plans. VDOT and the City have entered into a standard local project administration agreement whereby the City has committed to fund the project with a mix of Revenue Sharing and local funds. Pending funding availability, the City plans to advertise this project for construction in September 2015. Construction is expected to take two years.

As part of the Urban Maintenance Program, the Commissioner of Highways, subject to approval of the Commonwealth Transportation Board (CTB), makes payments to cities and towns in the urban system for maintenance, construction and reconstruction of roads and streets meeting specific criteria and under certain conditions. The City is a recipient of said annual payments and will receive \$11.5 million for Fiscal Year (FY) 2015. Based on information that the City is required to submit, over the past six years, the City has expended all of the funding it receives under the Urban Maintenance Program, and expended from 10% to 55% in additional local funds on eligible maintenance activities.

This study evaluated funding options to supplement/replace the City's local funds and to support their investment in this project. Options included a review of regional, state and federal

fund sources. The City is designing the project to federal standards; however, the City has not yet pursued federal participation and federal authorization has not been obtained since the project is funded through Revenue Sharing and local funds. If federal authorization is obtained, the project would be eligible for federal funding. Based on the project schedule, funding of the Churchland Bridge project from VDOT's construction program funds (federal or state) in lieu of the local funds currently allocated to the project would result in reduced funding and/or delays to other projects in the SYIP. Additionally, if state or federal funding designated for bridges is provided, other more highly rated (structurally deficient) bridges will be unfunded and/or delayed. Notwithstanding, it should be noted that, as a result of this report, VDOT has examined its processes for distribution of funding for bridges and intends to revise those processes to ensure equitable treatment of both state-maintained and locally-maintained bridges.

As a result of VDOT's analysis and a determination of the feasibility of funding the Churchland Bridge project, it is recommended that City continue to submit applications for the Revenue Sharing program to further leverage local funds. If awarded, the City will be able to fully fund the project through Revenue Sharing funds and local match. The City should pursue regional funding options through the Hampton Roads Transportation Planning Organization which will require that the City obtain federal authorization. The City should coordinate with VDOT and Federal Highway Administration (FHWA) to obtain federal authorization. Finally, as part of the upcoming HB2 project prioritization, the City may submit the project as a candidate for prioritization.

CHURCHLAND BRIDGE FUNDING FEASIBILITY STUDY ITEM 444, H OF CHAPTER 2 OF THE 2014 ACTS OF THE ASSEMBLY

INTRODUCTION

This report is VDOT's response to Item 444, H of Chapter 2 of the 2014 Acts of the Assembly (Special Session I), included in Appendix A, which directed VDOT to investigate methods through which to fund the replacement of the Churchland Bridge in Portsmouth and report on the feasibility of including federal and/or state funding for the project in the Six-Year Improvement Program (SYIP). The city of Portsmouth (City) is administering this project. The project is included in the SYIP approved by the Commonwealth Transportation Board (CTB), and is identified as State Project Number 0017-124-R90 and Universal Project Code (UPC) 102715.

The study entailed a comprehensive review of existing project information to assess the project status, funding needs, and cash flow needs. Appendix B includes a list of the documents reviewed in preparation of this report. Additionally, the study team conducted a risk analysis to identify key risks that may impact the feasibility of funding the project. As a result of the risk analysis, the study team evaluated the more significant technical and financial risks potentially impacting the project funding needs and availability. The risk analysis is included in Appendix C.

VDOT and the City entered into a standard project administration agreement (Appendix D) in September 2012 where the City agreed to administer and fund the project. The project is fully funded to its current \$35.5 million estimate with VDOT Revenue Sharing funds and local funds. The agreement does not include the use of Federal-aid Highway funds. If Federal-aid Highway funds (federal funds) are added to the project then a new agreement will be required.

Project Location and Description

The Churchland Bridge (High Street, U.S. Route 17) is located in the City (Figure 1) and crosses the Western Branch of the Elizabeth River (Figure 2 and Figure 3). The bridge is owned, operated, and maintained by the City as part of its urban highway system. As defined by the City, the proposed project termini are from Duke Drive (northern terminus) to Shenandoah Street (southern terminus) for a total length of 0.55 miles.

The Churchland Bridge is on the federally-designated National Highway System, along one of the City's evacuation routes. Pursuant to the *Scoping Report* provided by the City, as of 2011, the average daily traffic (ADT) was approximately 29,900 vehicles per day, with 4% truck traffic. In the proposed design year of 2034, the ADT will be approximately 33,200 vehicles per day.

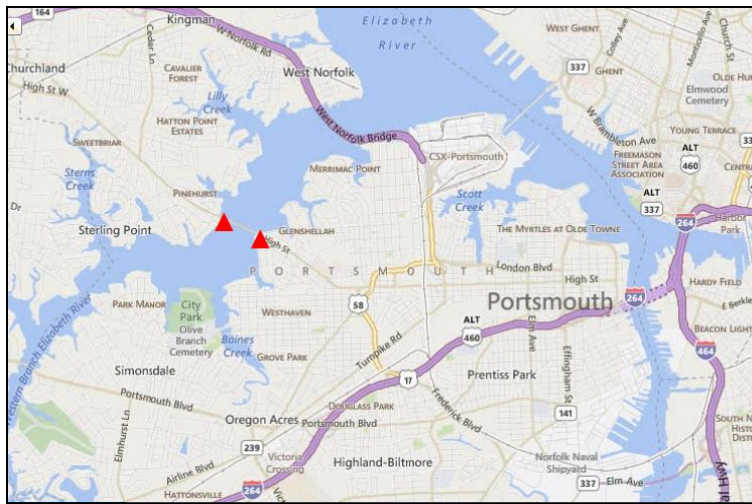


Figure 1 - Project Location Map

The existing structure has two distinct construction designs. The existing structure was originally constructed as a two-lane bridge in 1951 and was widened in 1973 to provide four lanes (two in each direction) over the Western Branch of the Elizabeth River. The northbound traffic (NBL) is carried on the 1951 portion of the structure and the southbound traffic (SBL) is carried on the 1973 portion. The NBL and SBL have individual superstructures, piers and pile bents. However, the abutments are connected and considered one substructure unit. Because of this detail, both the NBL and SBL are considered one structure, share one federal structure number, and are inspected and evaluated as a single structure. The NBL is a multiple-span, multiple-unit structural steel bridge with a suspended span (pin-and-hanger type) over the navigation channel. Pin and hanger assemblies are considered fracture critical structural components. The term “fracture critical” means that failure of these components can lead to a partial- or full-bridge collapse. The SBL is a multiple-span, multiple unit structural steel bridge with steel plate girders over the navigational channel. Existing structure plans show that there is approximately 60 feet of horizontal clearance between fenders. Vertically the structure affords approximately 40 feet of clearance over mean high water (MHW) at the navigational channel. The total length of the existing bridge is approximately 2,035 feet.

Due to the fracture critical pin and hanger assemblies and recent bridge condition evaluations, the City has determined that the NBL of the bridge should be replaced, and that minor rehabilitation work is required for the SBL. The existing pin-and-hanger (fracture critical) detail is in need of replacement and the remainder of the existing bridge superstructure for the NBL has reached the end of its useful life.

Project Scope

As defined by the City, the current project scope includes replacement of the NBL with pre-stressed, post-tensioned (spliced) concrete girders for channel crossing, and conventionally pre-stressed concrete girders for approach spans. Approach units will be supported by either pile bents or multi-column piers, and the channel crossing unit will be supported by multi-column piers. Minor approach roadway work will be required. Approach roadway tapers will be provided at each approach to accommodate the new, wider bridge deck. The NBL will be widened to accommodate a multiuse path on the new portion of the bridge. Minor rehabilitation

proposed on the SBL includes guardrail replacement, bearing replacement, deck joint replacement, pile jack replacement/installation and concrete crack/spall repair.

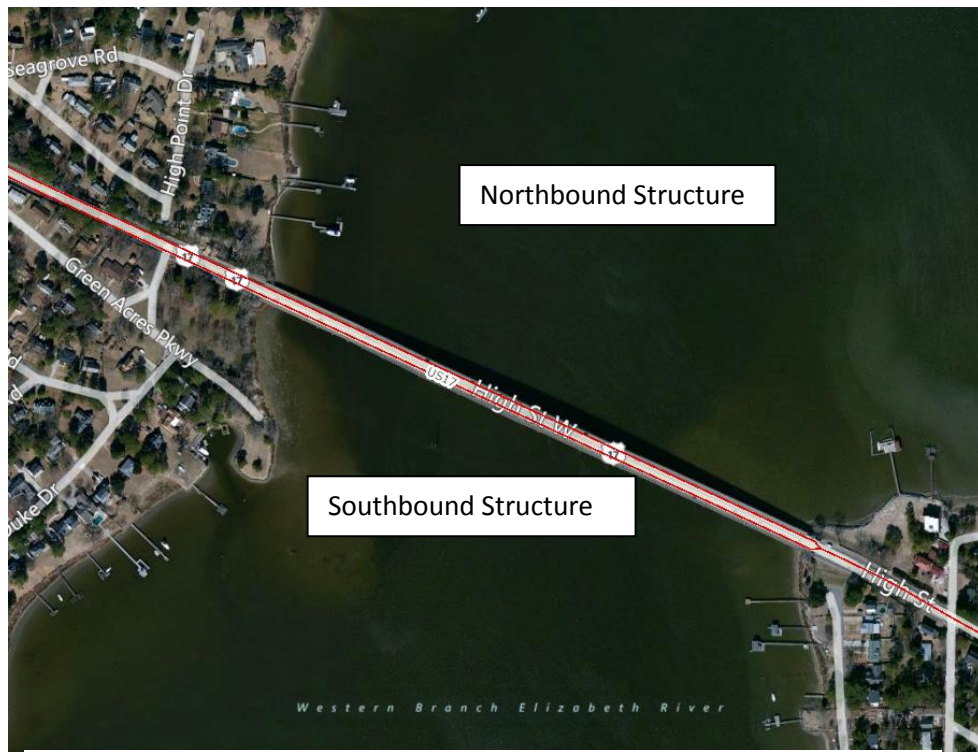


Figure 2 - Churchland Bridge, State Project # 0017-124-R90, UPC 102715



Figure 3 - Churchland Bridge as viewed from the Western Branch of the Elizabeth River.

Project Schedule and Estimate

As identified in the CTB's FY2015-2020 SYIP, the project schedule and estimate is based on a construction advertisement date of November 2016 (FY2017). However, the City has developed an accelerated project schedule to accomplish construction advertisement in September 2015 (FY2015). The City's accelerated schedule is based on an assumption of funding availability. Currently, the City has completed 30% plan development and reviews have been completed. The City is proceeding to 60% plan development in preparation of a combined location and design public hearing. The City's proposed accelerated schedule is:

October 2014 – 60% Bridge Plan Submittal and field inspection
December 2014 – Right-of-Way plan submission
April 2015 – 90% Pre-Advertisement Conference (PAC) plan submittal
July 2015 – 100% Construction Plan Submittal
September 2015 - Approval to advertise

Pursuant to the City's project scope and estimate, the total estimated cost of the project is \$35.5 million, including \$2.5 million for the preliminary engineering phase, \$2 million for the right of way phase, and \$31 million for the construction phase. The FY2015-2020 SYIP currently reflects a project estimate of \$29.5 million and requires updating.

NEPA/Permitting and Other Approvals

The City is nearing completion of an environmental assessment (EA) to meet the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 *et seq.*). The City has closely coordinated with the US Army Corp of Engineers, the US Coast Guard and the Virginia Department of Environmental Quality during development of the EA and to ensure permits are readily obtained. The City has indicated that the following environmental permits will be required in order for the Churchland Bridge project to proceed:

Table 1. Entities from which Environmental Permits are Required
US Army Corp of Engineers
US Coast Guard
Department of Environmental Quality
Virginia Marine Resources Commission
General Permit for Discharges of Stormwater from Construction Activities
VDH Office of Drinking Water – Certificate to Construct
City of Portsmouth – Department of Public Utilities

In addition to the environmental permits, the project demonstrates regional support and is included in the Hampton Roads Transportation Planning Organization's (HRTPO) constrained long range transportation plan. HRTPO has scored and ranked projects included in the long

range transportation plan. The Churchland Bridge project ranked 6th in the Urban Roadway System category

http://www.hrtpo.org/uploads/docs/Projects_Handout_Final_updated_3.25.13_v3.pdf.

The project is not considered regionally significant for air quality (23 CFR § 450.104) and is not required to be included in the HRTPO Transportation Improvement Program (TIP) or the Statewide Transportation Improvement Program (STIP). However, the project is included in the FY2012-2015 TIP. In order to obtain federal authorization for this project, the project will need to be included in the STIP.

Additional discussion of the technical and funding aspects are provided in the following sections.

TECHNICAL ANALYSIS

As a locally administered project, the City is required to follow the process outlined in Chapter 18 of VDOT's *Locally Administered Projects Manual* in the development of the project. This document has been approved by VDOT and FHWA as the sole source of guidance for local government and VDOT staff in developing locally administered projects. With respect to the guidance provided for projects to meet federal eligibility requirements, localities are required to consult the *VDOT Structure & Bridge Manual Volume V* for additional guidance and direction.

The City has provided a *Preliminary Structure Report* to replace the NBL and rehabilitate the SBL of the Churchland Bridge. Their *Preliminary Structure Report* has been developed in general accordance with the *VDOT Structure & Bridge Manual, Volume V* in order to obtain federal authorization if desired. Because the NBL and SBL are considered one structure and evaluated as such, in order to use federal funds on the project, the structure cannot be deficient once work is completed. Therefore, the City will have to insure the SBL is in good condition and not deficient once this project is complete.

In order to assist FHWA in evaluating the NBL and SBL, the City will need to provide additional information regarding the proposed rehabilitative work for the SBL portion of the work. VDOT and FHWA utilize the *VDOT Structure & Bridge Manual Volume V Part 2 (Volume V)* to evaluate structures for replacement versus repair. Chapter 32 of the *Volume V* sets out numerous methods and procedures to evaluate existing structures including a decision matrix to follow for maintenance and replacement treatments. Two of the key concepts (*Volume V – Part 2, File 32.02-1*) that must be considered when evaluating the benefits and costs of an existing bridge repair, partial or full replacement project are:

1. How much repair must be performed on the structure to bring the structure back to good condition; and
2. How much preventative maintenance must be performed to provide an appropriate life extension for the structure that is to remain?

The *Preliminary Structure Report* submitted by the City provides a discussion of replacing the structure of the NBL and rehabilitating the SBL. The report is typical for a replacement project and draws reasonable conclusions for the NBL. The report defers the repairs

of the SBL to a separate document not yet provided for review. This approach provides only basic explanation of the repairs to be completed and no discussion of the expected life extension provided to the entire structure. *Volume V* includes guidance about when a bridge repair project should be a total bridge replacement project. When a repair project reaches 65% of the total replacement cost, a total bridge replacement is recommended (*Volume V, Part 2, File 32.02-6*).

Based on past project experience, FHWA has required VDOT to follow the approaches outlined in *Volume V* before FHWA decides whether or not to participate in a project involving an existing structure that was to remain in some form. The City will need to provide information to FHWA as described above.

FUNDING ANALYSIS

The City estimates the project cost is \$35.5 million. Based on existing Revenue Sharing funding, the project is fully funded for the preliminary engineering and right of way acquisition phases. The remainder of funding for the project is based on local (City) contributions. As part of their application for the Revenue Sharing program, the City has indicated its intent to pursue future Revenue Sharing funds to fund the balance of the project. However, Revenue Sharing funds that may be received by a locality in any given year are statutorily limited to \$10 million and the City must compete on an annual basis for such funds based on the prioritization process established by § 33.2-357 of the *Code of Virginia*, so that such future funding is not guaranteed.

Based on the schedule included in the CTB's FY2015-2020 SYIP, funding for construction is needed beginning in FY2017 and construction would need to be fully funded within 12 months of construction completion (FY2021) to meet the requirements of § 33.2-221(C) of the *Code of Virginia*. However, based on the new accelerated schedule proposed by the City, funding for construction will be needed in FY 2015 and construction would need to be fully funded within 12 months of completion (FY2018).

For the purposes of this analysis, the study team evaluated options to supplement/replace the local contributions that are not a match to the revenue sharing funds, approximately \$21 million. The study team identified the types of funds for which this project would qualify, assessed the availability of each fund type, risks and limitations. The discussion is divided into categories of local, state, and federal funding sources.

Local Funds

The City has made a significant commitment and investment to fund the replacement of the NBL of the Churchland Bridge. Depending on other potential fund sources, leveraging local funding with future Revenue Sharing applications and as required match to other fund sources would continue to be an effective use of local funds.

Regional/State Funds

The project is eligible for certain regional and state funds sources.

1. The City has been successful in its two requests for Revenue Sharing funds with CTB providing the state share. This remains a viable option for the City. Applications for FY2016 Revenue Sharing funds were due October 31, 2014. The City submitted an application for FY2016 funding requesting a total of \$5 million in state matching funds (requiring \$5 million in matching local funds). Decisions on Revenue Sharing applications will be made in spring 2015. Submission of this and additional annual Revenue Sharing applications, if awarded, could potentially result in full funding of the project in accordance with the schedule included in the FY2015-2020 SYIP.
2. The CTB currently utilizes the alternate formula (CTB formula) for distribution of available funds up to \$500 million per year pursuant to §33.2-358 (C) of the *Code of Virginia*. The CTB formula will sunset in FY2020. The project is eligible to receive statewide discretionary funds allocated by the CTB, but would need to be screened and scored under the new statewide prioritization process. The prioritization process has not yet been sufficiently developed at this time to further assess its impacts on the availability of funding for this project.
3. Using the CTB formula mentioned above, available construction funds in excess of \$500 million would be distributed through the state construction formula. Based on current revenue projections, no funds are distributed by the state construction formula until FY2021. Additionally, based on prior agreement, a portion of the City's urban formula allocations are necessary to repay a Toll Facilities Revolving Account (TFRA) loan on the Pinner's Point project (UPC 11750). Repayment of the loan has been deferred until urban formula allocations are again available. Approximately \$23 million remains to be paid.
4. In accordance with § 33.2-319 of the *Code of Virginia*, the CTB makes payments to cities and towns in the urban system for maintenance, construction and reconstruction of roads and streets meeting specific criteria and under certain conditions. The City is a recipient of annual payments as part of this Urban Maintenance Program and will receive \$11.5 million for FY2015. Each year, localities are required to submit audited maintenance expenditures to VDOT. Over the past six years, the City has expended all of the maintenance funding they receive from VDOT under the Urban Maintenance Program, and from 10% to 55% in additional local funds on eligible maintenance activities. This data is posted on VDOT's website for public information at <http://www.virginiadot.org/business/local-assistance-programs.asp#UrbanHighways>. Based on current use of the annual payments for maintaining local infrastructure, this source of funds may be insufficient to supplement the project.

Federal Funds

As discussed above, the project does not currently have federal authorization. In order to utilize federal funds, FHWA requirements would need to be addressed so that authorization is obtained. Once obtained, the project would be eligible for certain federal funds.

1. The HRTPO manages and selects projects to be funded by the Regional Surface Transportation Program (RSTP). The HRTPO utilizes a project prioritization process to guide investment decisions with information included in the *HRTPO CMAQ/RSTP Project Selection Process* <http://www.hrtpo.org/page/cmaq-and-rstp/>. This project would be subject to the HRTPO selection process. As discussed previously, the HRTPO ranked the Churchland Bridge project 6th in the Urban Roadway System category. This is an option for the City to pursue.
2. VDOT's Structure and Bridge Division manages the state bridge program (including federal and state funding). The Structure and Bridge Division's analysis is provided below under the heading "Bridge Program Analysis".
3. The project is eligible for other statewide discretionary federal funds allocated by the CTB, but would need to be screened and scored under the new statewide prioritization process. The prioritization process has not yet been sufficiently developed at this time to further assess its impacts on the availability of funding for this project.
4. The Moving Ahead for Progress in the 21st Century Act (P.L. 112-141) (MAP-21) federal surface transportation programs authorization has recently been extended by Congress to provide funding through May 2015. Future federal funding remains uncertain until Congress provides a more permanent, long-term solution.
5. The City applied for a U.S. Department of Transportation (USDOT) TIGER grant to replace a portion of the local funds on the project. Based on the September 2014 notice from USDOT, the City was unsuccessful in its application for TIGER grant award. While the City was unsuccessful in the most recent application, if future programs are made available, the City could apply.

Bridge Program (State or Federal) Analysis

Prior to implementation of MAP-21, USDOT included a set aside for specific use on bridges. With the enactment of MAP-21, this set aside was removed; however, the CTB elected to continue to set aside federal funds for bridges. VDOT's Structure and Bridge Division manages state and federal bridge funding and conducted an analysis to determine the impact to the statewide bridge program should funding be allocated to the project. VDOT utilizes a prioritization process to rank eligible bridge projects. The criterion considers the following factors: Average Daily Traffic (ADT); Truck ADT; Weight Restrictions; Detour Length; Sufficiency Rating; Fracture Critical; Scour Critical; Structural Deficiency, General Condition Rating; Substandard Roadway Width; and Age.

The CTB allocated \$467 million for bridge reconstruction and rehabilitation (state) in the FY2015-2020 SYIP for 127 bridge replacement projects. To accommodate the Churchland Bridge project utilizing this funding source, 43 of the 127 (33%) projects would be impacted. The 43 projects are statewide and the impacts would potentially delay these project schedules. An analysis was generated to isolate the impact to the Hampton Roads District alone versus statewide. The Hampton Roads District bridge program consists of 27 bridge replacement projects utilizing federal and CTB Bridge allocations. The entire District bridge program would be impacted with potential schedule delays to accommodate funding for the Churchland Bridge project.

Furthermore, although the Churchland Bridge is structurally deficient, it does not currently score as high as many other structures. Based on VDOT's bridge prioritization process, the Churchland Bridge project ranks 25th in priority out of 1,688 bridges in the Hampton Roads District and 227th out of 21,063 bridges statewide. The number of bridges included in this analysis includes bridges owned and maintained by VDOT and localities.

CONCLUSIONS AND RECOMMENDATIONS

The only funds allocated to the Churchland Bridge project in the FY2015-2020 SYIP are Revenue Sharing funds and local funds. While the project is being developed utilizing federal requirements, there is currently no federal authorization by FHWA, which is necessary before the project is eligible for federal funding. The study team identified several key risks potentially impacting the sources and eligibility of certain fund sources. However, there are several options available to the City to other state (in addition to the state portion of the Revenue Sharing funds) or federal funds to the projects.

Conclusions:

1. While the project is being developed as federally eligible, the City has not pursued federal authorization. Federal funding is not available for use on the project until federal authorization is obtained.
2. The City has successfully applied for and received Revenue Sharing funds with the CTB providing the state share. The City is eligible to apply for additional Revenue Sharing funds.
3. The project is eligible to be considered for other regional funding sources through HRTPO.
4. Other state and federal funds allocated by the CTB are committed to projects included in the FY2015-2020 SYIP or are subject to HB2 project prioritization. The project is eligible for statewide discretionary funds allocated by the CTB, but would need to be screened and scored under the new statewide prioritization process.
5. If other state or federal funding is utilized for this project, this will result in VDOT not funding and/or delaying other projects. If state or federal funding set aside for bridges is utilized for this project, there will be significant impacts to the bridge program. Additionally, if state or federal funding is provided, other more highly rated (structurally deficient) bridges will be unfunded and/or delayed.

6. As a result of this report, VDOT will revise its processes for distribution of bridge funding to ensure equitable treatment of both state-maintained and locally-maintained bridges.

Recommendations:

1. The City should continue to submit applications for the Revenue Sharing program to further leverage local funds.
2. Based on VDOT's analysis, the schedule included in the FY2015-2020 SYIP is considered feasible based on current funding provided through the state Revenue Sharing program and local funds. Considering design and development due diligence that is still required, accelerating the project schedule further is not recommended.
3. The City should pursue regional state and federal funding options through HRTPO.
4. The City should coordinate with VDOT and FHWA to assess options for federal participation and obtain federal authorization.
5. As part of the upcoming HB2 project prioritization, the City may submit the project as a candidate for prioritization.

APPENDIX A - Item 444, H of Chapter 2 of the 2014 Acts of the Assembly

Department of Transportation (501)

444. Highway System Acquisition and Construction (60300)

H. The Commissioner is directed to investigate methods through which to fund the replacement of the Churchland Bridge in Portsmouth and report to the Chairmen of the House Appropriations and Senate Finance Committees on the feasibility of including federal and or state funding for the project in the Six Year Improvement Program by October 1, 2014.

APPENDIX B - Supporting Documentation

Documents reviewed as part of this study include:

Hampton Roads Transportation Planning Organization, Federal Fiscal Year 2012-2015 Transportation Improvement Program, Urban System Projects
<http://www.hrtpotip.org/PDFs/Final%20FY%202012-2015%20TIP%20Report.pdf>

Hampton Roads Transportation Planning Organization, 2034 Long Range Transportation Plan
http://www.hrtpo.org/uploads/docs/Section_6_The_Regional_Transportation_Plan.pdf

Hampton Roads Transportation Planning Organization, Hampton Roads Transportation Project Priorities, Prioritization of Transportation Projects, Project Evaluation and Scoring, March 2013
http://www.hrtpo.org/uploads/docs/Projects_Handout_Final_updated_3.25.13_v3.pdf

Hampton Roads Transportation Planning Organization, *HRTPO CMAQ/RSTP Project Selection Process*, <http://www.hrtpo.org/page/cmaq-and-rstp/>

City of Portsmouth, TIGER VI Capital Funding Application, April 2014

City of Portsmouth, Scoping Report, September 2013

City of Portsmouth and Virginia Department of Transportation, Standard Project Administration Agreement, September 2012

Churchland Bridge Replacement, Preliminary Structure Report, Plans and Estimates, March 2014

City of Portsmouth, Bridge Inspection Report, April 2014

VDOT Structure & Bridge Manual Volume V Part 2

VDOT Local Assistance Division Webpage, Urban Highways and Urban Maintenance Payment Program, http://www.virginiadot.org/business/local-assistance-programs.asp#Urban_Highways

APPENDIX C – Risk Analysis

On July 24, 2014, representatives of the study team and other VDOT subject matter experts participated in a risk workshop. Attendees included:

Ms. Margie Ray, Program Management Division
Ms. Deborah Mangiaracina, Structure and Bridge Division
Mr. Bryant Porter, Hampton Roads District
Mr. Derrick Williams, Hampton Roads District

In addition to the staff listed above, the following VDOT staff provided subject matter expertise and insight to support the risk analysis for this study:

Mr. Cooper Wamsley, Environmental Division
Ms. Jennifer Salyers, Hampton Roads District Environmental Division
Mr. Chris Eggleston, Hampton Roads District Bridge Engineer
Mr. Steve Rowan, Hampton Roads District
Mr. Jeff Hetzer, Alternative Project Delivery Office

Methodology

The study team conducted a high level risk workshop to identify, assess, and understand major project risks. Subject matter experts from VDOT’s Environmental Division and Structure and Bridge Division were invited to participate. Assistance was provided by VDOT’s Alternative Project Delivery Office of the Location and Design Division, which has significant experience with risk assessments.

Participants were provided access to project information included in Appendix B, including the TIGER grant application and bridge inspection reports. Participants were requested to review and be prepared to discuss key risks and their concerns at the workshop. At the risk workshop, each participant was requested to provide their thoughts on project risks, focusing on key, high level risks. Each risk was ranked based on its probability of occurrence and the impact to cost and schedule if the risk were to occur. A scale of 1 to 3 was utilized for both with 1 being low probability/low impact and 3 being high probability/high impact. The total risk is calculated by multiplying the probability by the impact, allowing each risk to be ranked relative to other risks; this results in a maximum score of 9 (highest risk) and minimum score of 1 (lowest risk).

Key Project Risks

The key risks are broadly categorized by technical or financial risks. The technical risks are further divided into NEPA/permitting, scope, and right of way/utilities. The study team also identified several other risks (i.e. hazardous materials, maintenance of traffic, etc.); which will need to be addressed at a later stage of project development and are not included in this study. A brief discussion of these key risk areas is provided below.

RISK ASSESSMENT			
Key Risks	Probability	Impact	Probability x Impact
NEPA/Permitting			
NEPA Approval	2	3	6
CORP Permit Approval	2	3	6
Coast Guard Permit Approval	2	3	6
Scope			
Partial replacement or full replacement	3	3	9
Off-site Stormwater Management Basin	1	1	1
ROW/Utilities			
ROW	2	3	6
Utility Relocation	1	2	2
Funding			
Funding availability	3	3	9
State funds	3	3	9
Federal funds	3	3	9

NEPA/Permitting

The City is advancing an EA to meet the requirements of NEPA and based on communication with the City, they have conducted early and regular communication with the permitting agencies (US Army Corps of Engineers, US Coast Guard and the Virginia Department of Environmental Quality (VDEQ)) to ensure they can obtain a Finding of No Significant Impact (FONSI) for the NEPA study and obtain the permits when needed. However, depending on the source(s) of funding for this project, there is risk in obtaining the NEPA approval with possible scope and schedule impacts. If federal funding is to be considered for use on the Project, concurrence from the Federal Highway Administration (FHWA) is needed on the NEPA document.

Scope/ROW/Utilities

The City has clearly defined the scope of the project for a full replacement of the northbound structure and minor structural/cosmetic repairs to the southbound structure. Depending on the source(s) of funding for this project, there is a risk to schedule and cost. FHWA authorization in this project is needed in order for the City to access federal funding. The City is designing to American Association of State Highway and Transportation Officials (AASHTO) standards and based on communication between the City and VDOT, the City

believes that FHWA authorization will result in limited delays or cost impacts. However, VDOT believes this remains a significant risk as both the northbound and southbound structures are considered by FHWA to be a single structure, possessing a single federal bridge identification number. It is possible that FHWA would require a full replacement of both structures, resulting in significant cost increases and schedule delays. The risks associated with ROW and Utilities are similarly impacted.

Funding

The City has successfully pursued funding through the Revenue Sharing program and has certified the required local match to obtain that funding. As part of their application for the Revenue Sharing program, the City has indicated their intent to pursue future Revenue Sharing program funds to fund the balance of the project. However, revenue sharing funding that a locality may receive is statutorily limited to \$10 million in any given year and the City must compete on an annual basis for such funds based on the prioritization process established by § 33.2-357 of the *Code of Virginia*, so that such future funding is not guaranteed.

The City is a recipient of annual payments as part of the Urban Maintenance Program. Over the past six years, the City has expended all of the maintenance funding received pursuant to §33.2- 319 of the *Code of Virginia* and typically provides additional local funds on eligible maintenance activities. Based on current use of the annual payments for maintaining local infrastructure, this source of funds may be insufficient to supplement the project.

Based on VDOT's current construction program and recent reductions in federal and state funds, there is concern that federal or state funds may not be available for use on the project. Moreover, certain funds that may be used on the project are subject to a prioritization process that is required as a result of House Bill 2. The prioritization process has not yet been established and the project would compete for funding against other VDOT projects. There is also a risk that until federal authorization is obtained, federal funding is not available as a source of funds to the project, thus limiting the types of funds that can be used. Finally, depending upon a determination of federal authorization, it is possible the additional work may be required, which could impact the cost, scope and schedule.

APPENDIX D – Standard Project Administration Agreement

STANDARD PROJECT ADMINISTRATION AGREEMENT State-aid Projects

Project Number	UPC	Local Government
0017-124-R90	102715	City of Portsmouth

THIS AGREEMENT, made and executed in triplicate this 13 day of September 2012, by and between the City of Portsmouth, Virginia, hereinafter referred to as the LOCALITY and the Commonwealth of Virginia, Department of Transportation, hereinafter referred to as the DEPARTMENT.

WHEREAS, the LOCALITY has expressed its desire to administer the work described in Appendix A, and such work for each improvement shown is hereinafter referred to as the Project; and

WHEREAS, the funds shown in Appendix A have been allocated to finance the Project(s) and the funding currently allocated or proposed for the project(s) does not include Federal-aid Highway funds; and

WHEREAS, both parties have concurred in the LOCALITY's administration of the phase(s) of work for the respective Project(s) listed in Appendix A in accordance with applicable federal, state and local laws and regulations.

NOW THEREFORE, in consideration of the mutual premises contained herein, the parties hereto agree as follows:

1. The LOCALITY shall:
 - a. Be responsible for all activities necessary to complete the noted phase(s) of each Project shown in Appendix A, except for activities, decisions, and approvals which are the responsibility of the DEPARTMENT, as required by federal or state laws and regulations or as otherwise agreed to, in writing, between the parties.
 - b. Receive prior written authorization from the DEPARTMENT to proceed with the project.
 - c. Administer the project(s) in accordance with guidelines applicable to Locally Administered Projects as published by the DEPARTMENT.
 - d. Provide certification by a LOCALITY official of compliance with applicable laws and regulations on the **State Certification Form for State Funded Projects** or in another manner as prescribed by the DEPARTMENT.
 - e. Maintain accurate and complete records of each Project's development of all expenditures and make such information available for inspection or auditing by the DEPARTMENT. Records and documentation for items for which reimbursement will be requested shall be maintained for not less than three (3) years following acceptance of the final voucher on each Project.

- f. No more frequently than monthly, submit invoices with supporting documentation to the DEPARTMENT in the form prescribed by the DEPARTMENT. The supporting documentation shall include copies of related vendor invoices paid by the LOCALITY and also include an up-to-date project summary and schedule tracking payment requests and adjustments.
 - g. Reimburse the DEPARTMENT all Project expenses incurred by the DEPARTMENT if due to action or inaction solely by the LOCALITY the project becomes ineligible for state reimbursement, or in the event the reimbursement provisions of Section 33.1-44 or Section 33.1-70.01 of the Code of Virginia, 1950, as amended, or other applicable provisions of state law or regulations require such reimbursement.
 - h. On Projects that the LOCALITY is providing the required match to state funds, pay the DEPARTMENT the LOCALITY's match for eligible Project expenses incurred by the DEPARTMENT in the performance of activities set forth in paragraph 2.a.
 - i. Administer the Project in accordance with all applicable federal, state, and local laws and regulations. Failure to fulfill legal obligations associated with the project may result in forfeiture of state-aid reimbursements
 - j. If legal services other than that provided by staff counsel are required in connection with condemnation proceedings associated with the acquisition of Right-of-Way, the LOCALITY will consult the DEPARTMENT to obtain an attorney from the list of outside counsel approved by the Office of the Attorney General. Costs associated with outside counsel services shall be reimbursable expenses of the project.
 - k. For Projects on facilities not maintained by the DEPARTMENT, provide, or have others provide, maintenance of the Project upon completion, unless otherwise agreed to by the DEPARTMENT.
2. The DEPARTMENT shall:
- a. Perform any actions and provide any decisions and approvals which are the responsibility of the DEPARTMENT, as required by federal or state laws and regulations or as otherwise agreed to, in writing, between the parties.
 - b. Upon receipt of the LOCALITY's invoices pursuant to paragraph 1.f, reimburse the LOCALITY the cost of eligible Project expenses, as described in Appendix A. Such reimbursements shall be payable by the DEPARTMENT within 30 days of an acceptable submission by the LOCALITY.
 - c. If appropriate, submit invoices to the LOCALITY for the LOCALITY's share of eligible project expenses incurred by the DEPARTMENT in the performance of activities pursuant to paragraph 2.a.
 - d. Audit the LOCALITY's Project records and documentation as may be required to verify LOCALITY compliance with applicable laws and regulations.

- e. Make available to the LOCALITY guidelines to assist the parties in carrying out responsibilities under this Agreement.
3. Appendix A identifies the funding sources for the project, phases of work to be administered by the LOCALITY, and additional project-specific requirements agreed to by the parties. There may be additional elements that, once identified, shall be addressed by the parties hereto in writing, which may require an amendment to this Agreement.
4. If designated by the DEPARTMENT, the LOCALITY is authorized to act as the DEPARTMENT's agent for the purpose of conducting survey work pursuant to Section 33.1-94 of the Code of Virginia, 1950, as amended.
5. Nothing in this Agreement shall obligate the parties hereto to expend or provide any funds in excess of funds agreed upon in this Agreement or as shall have been included in an annual or other lawful appropriation. In the event the cost of a Project is anticipated to exceed the allocation shown for such respective Project on Appendix A, both parties agree to cooperate in providing additional funding for the Project or to terminate the Project before its cost exceeds the allocated amount, however the DEPARTMENT and the LOCALITY shall not be obligated to provide additional funds beyond those appropriated pursuant to an annual or other lawful appropriation.
6. Nothing in this agreement shall be construed as a waiver of the LOCALITY's or the Commonwealth of Virginia's sovereign immunity.
7. The Parties mutually agree and acknowledge, in entering this Agreement, that the individuals acting on behalf of the Parties are acting within the scope of their official authority and the Parties agree that neither Party will bring a suit or assert a claim against any official, officer, or employee of either party, in their individual or personal capacity for a breach or violation of the terms of this Agreement or to otherwise enforce the terms and conditions of this Agreement. The foregoing notwithstanding, nothing in this subparagraph shall prevent the enforcement of the terms and conditions of this Agreement by or against either Party in a competent court of law.
8. The Parties mutually agree that no provision of this Agreement shall create in the public, or in any person or entity other than parties, rights as a third party beneficiary hereunder, or authorize any person or entity, not a party hereto, to maintain any action for, without limitation, personal injury, property damage, breach of contract, or return of money, or property, deposit(s), cancellation or forfeiture of bonds, financial instruments, pursuant to the terms of this of this Agreement or otherwise. Notwithstanding any other provision of this Agreement to the contrary, unless otherwise provided, the Parties agree that the LOCALITY or the DEPARTMENT shall not be bound by any agreements between the either party and other persons or entities concerning any matter which is the subject of this Agreement, unless and until the LOCALITY or the DEPARTMENT has, in writing, receive a true copy of such agreement(s) and has affirmatively agreed, in writing, to be bound by such Agreement.

9. This agreement may be terminated by either party upon 30 days advance written notice. Eligible Project expenses incurred through the date of termination shall be reimbursed in accordance with paragraphs 1.f, 1.g, and 2.b, subject to the limitations established in this Agreement and Appendix A. Upon termination and unless otherwise agreed to, the DEPARTMENT shall retain ownership of plans, specifications, and right of way for which state funds have been provided, unless all state funds provided for the Project have been reimbursed to the DEPARTMENT by the LOCALITY, in which case the LOCALITY will have ownership of the plans, specifications, and right of way.

THE LOCALITY and DEPARTMENT acknowledge and agree that this Agreement has been prepared jointly by the parties and shall be construed simply and in accordance with its fair meaning and not strictly for or against any party.

THE LOCALITY and the DEPARTMENT further agree that should Federal-aid Highway funds be added to the project, this agreement is no longer applicable and shall be terminated. The LOCALITY and the DEPARTMENT mutually agree that they shall then enter into a Standard Project Administration Agreement for Federal-aid Projects.

THIS AGREEMENT, when properly executed, shall be binding upon both parties, their successors, and assigns.

THIS AGREEMENT may be modified in writing by mutual agreement of both parties.

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IN WITNESS WHEREOF, each party hereto has caused this Agreement to be executed as of the day, month, and year first herein written.

CITY OF PORTSMOUTH, VIRGINIA:



Kenneth L. Chandler

Typed or printed name of signatory

City Manager
Title

07-25-12
Date


Signature of Witness

7/25/12
Date

NOTE: The official signing for the LOCALITY must attach a certified copy of his or her authority to execute this agreement.

COMMONWEALTH OF VIRGINIA, DEPARTMENT OF TRANSPORTATION:



Commissioner of Highways
Commonwealth of Virginia
Department of Transportation

8/13/12
Date


Signature of Witness

9/13/12
Date

Attachment
Appendix A1 – UPC 102715

Appendix A1

Project Number: **0017-124-R90** UPC: **102715** Locality: **City of Portsmouth**
 Project Location ZIP+4: **23707-1106** Locality DUNS# **N/A** Locality Address (incl ZIP+4): **801 Crawford Street Portsmouth, VA, 23704-3822**

Project Narrative

Scope: **Replacement of the northbound High Street - Churchland Bridge**
 From: **Intersection of High Street/Grayson Street**
 To: **Intersection of High Street/Seafrove Road/Carney Street**
 Locality Project Manager Contact info: **James Wright (757) 393-8592**
 Department Project Coordinator Contact Info: **Angela Rico (757) 925-2227**

Project Estimates				
	Preliminary Engineering	Right of Way and Utilities	Construction	Total Estimated Cost
Estimated Locality Project Expenses	\$2,490,000	\$2,000,000	\$24,998,000	\$29,488,000
Estimated VDOT Project Expenses	\$10,000	\$0	\$2,000	\$12,000
Estimated Total Project Costs	\$2,500,000	\$2,000,000	\$25,000,000	\$29,500,000

Project Cost and Reimbursement						
Phase	Estimated Project Costs	Funds type (Choose from drop down box)	Local % Participation for Funds Type	Local Share Amount	Maximum Reimbursement (Estimated Cost - Local Share)	Estimated Reimbursement to Locality (Max. Reimbursement - Est. VDOT Expenses)
Preliminary Engineering	\$2,500,000	Revenue Sharing	50%	\$1,250,000	\$1,250,000	
				\$0	\$0	
				\$0	\$0	
Total PE	\$2,500,000			\$1,250,000	\$1,250,000	
Right of Way & Utilities	\$2,000,000	Local Funds	100%	\$2,000,000	\$0	
				\$0	\$0	
Total RW	\$2,000,000			\$2,000,000	\$0	
Construction	\$25,000,000	Local Funds	100%	\$25,000,000	\$0	
			0%	\$0	\$0	
Total CN	\$25,000,000			\$25,000,000	\$0	
Total Estimated Cost	\$29,500,000			\$28,250,000	\$1,250,000	\$1,238,000

Total Maximum Reimbursement by VDOT to Locality (Less Local Share)	\$1,250,000
Estimated Total Reimbursement by VDOT to Locality (Less Local Share and VDOT Expenses)	\$1,238,000

Project Financing					
Revenue Sharing State Match	Revenue Sharing Local Match	Local Funds			Aggregate Allocations (A+B+C+D+E+F)
\$1,250,000	\$1,250,000	\$27,000,000			\$29,500,000

Program and project Specific Funding Requirements

- This project shall be administered in accordance with VDOT's Locality Administered Projects Manual
- The project will be constructed and maintained in accordance with VDOT's: Urban Manual (List Appropriate Guide or Manual)
- This project is a Revenue Sharing project and must follow the procedures set forth in the Guide to the Revenue Sharing Program.
- The Locality will continue to operate and maintain the facility as constructed. Should the design features of the project be altered by the Locality subsequent to project completion without approval of the Department, the locality inherently agrees, by execution of this agreement, to make restitution, either physically or monetarily, as required by the Department.
- This is a limited funds project. The Locality shall be responsible for any additional funding in excess of \$1,250,000 (if applicable)
- Estimated eligible VDOT expenses are based on VDOT processing SERP (if applicable) and inspection. Any additional assistance may result in additional VDOT charges.
- In accordance with §33.1-23.05 of the Code of Virginia, this project must be initiated and at least a portion of the funds expended by June 19, 2015 or the project may be subject to deallocation.

Revenue Sharing Funds above consist of the following Fiscal Years:
 • FY 13 - \$2,500,000 (\$1,250,000 Locality and \$1,250,000 VDOT)

Total project allocations: \$29,500,000

James E Wright Jr

 Authorized Locality Official and date
 _____ 8/13/12
 Typed or printed name of person signing

Bryant Porter

 Authorized VDOT Official
 Recommendation and Date
 _____ 8/13/12
 Typed or printed name of person signing