

GENESEE TRANSPORTATION COUNCIL

RESOLUTION

Resolution 21-19 Accepting the Colonel Patrick O’Rorke Memorial Bridge Operation and Maintenance Analysis Strategy Final Report as evidence of completion of UPWP Task 7951

WHEREAS,

1. The *FY 2020-2021 Unified Planning Work Program* includes Task 7951, O’Rorke Bridge Operations and Maintenance Analysis and Strategy, for the purpose of increasing the technical understanding of the O’Rorke Bridge by investigating its electrical and mechanical components and developing recommendations for routine maintenance procedures along with potential repair and replacement cost estimates;
2. Said Task included an investigation of the condition of the bridge’s electrical and mechanical components, an assessment of current operations and maintenance practices, identification of operations and maintenance needs, development of an asset management strategy with estimated costs and recommended timeframes for conducting maintenance work, and updates to the bridge’s operations, electrical maintenance, and mechanical maintenance manuals;
3. Said Task has been completed and has resulted in the *Colonel Patrick O’Rorke Memorial Bridge Operation and Maintenance Analysis Strategy Final Report*; and
4. Said Report has been reviewed by GTC staff and member agencies through the GTC committee process and has been found to be consistent with the goals, objectives, and recommendations of the Long Range Transportation Plan.

NOW, THEREFORE, BE IT RESOLVED

1. That the Genesee Transportation Council hereby accepts the Colonel Patrick O’Rorke Memorial Bridge Operation and Maintenance Analysis Strategy Final Report as evidence of completion of UPWP Task 7951; and
2. That this resolution takes effect immediately.

CERTIFICATION

The undersigned duly qualified Secretary of the Genesee Transportation Council certifies that the foregoing is a true and correct copy of a resolution adopted at a legally convened meeting of the Genesee Transportation Council held on June 10, 2021.

Date _____

KEVIN C. BUSH, Secretary
Genesee Transportation Council

EXECUTIVE SUMMARY

The Colonel Patrick O'Rorke Memorial Bridge (BIN 3317120) is a critical link in the regional transportation system linking Pattonwood Drive directly to the eastern end of the Lake Ontario State Parkway. The movable portion of the bridge is a double leaf rolling lift bascule bridge, with an average of 566 operations per year, that has had a history of operational issues dating back to the 2004 installation, resulting in significant disruptions to local and regional traffic.

This study, conducted by WJE Engineers and Architects, P.C., provided a review of the mechanical and electrical systems associated with the movable bridge to provide an asset management strategy to maintain the systems in a state of good repair for a desired service life of 75 years. The study included a review of the current operating status of the systems, recent operating issues, existing documentation, and a review of practices related to the maintenance and operation of the bridge.

An inspection of the mechanical and electrical systems yielded numerous recommended repairs including, but not limited to, adjustments to positively seat the bridge in relay operating mode, a repair for the manual operating mechanism at the southeast tail lock, replacement of the seized over-travel limit switches and adjustments to the rotary cam limit switches, repairs to address motor overspeed faults, adjustments to the bumper blocks, repairs to the heavily corroded machinery room floors and sealing the decks to prevent water intrusion.

An inventory of the available reference drawings and literature raises questions about the status of the electrical installation, as there were numerous copies of electrical shop drawings, some with hand mark-ups. Future repair efforts may be complicated by the need to review and verify the accuracy of the installations prior to making any changes to the system.

The bridge was provided with operation and maintenance materials at the time of construction. Copies of these materials remain at the bridge though bridge maintenance and operation personnel use separate abbreviated electronic copies that include mechanical maintenance (primarily lubrication) and operation procedures. Note, however, that the existing manuals and separate electronic materials do not provide good guidance on utilizing bypasses or for manual operation. In addition, at the time of this study, periodic preventative maintenance for the electrical systems is no longer being performed.

Revised operation and maintenance manuals have been provided, as part of this study, to address noted shortcomings in the operation and maintenance materials. These may be used by maintenance and operation personnel for future reference. Apart from these revised materials, recommendations are provided for mechanical and electrical near-term repairs, training of personnel, maintenance, and for capital repairs.

The results of the study are intended to be used to address near term issues including the elimination of operational failures and to minimize long term capital requirements. With improvements to maintenance and by providing near and long term repairs, it is expected that the bridge can be maintained in a reliable condition for the target 75 year life. The provided costs may be utilized by the owner as part of their planning for near term and long term expenditures required to maintain the bridge mechanical and electrical systems in a state of good repair.