



BLAKENEY BRIDGE REPORT #PW-12-2022

Public Works Committee
April 27, 2022

Sean Derouin, Public Works Manager

BACKGROUND

- Blakeney Bridge spans the Mississippi River, 8km downstream of Almonte and 11 km upstream of Pakenham.
- Bridge is located on Blakeney Road (Twp. Road), just west of the hamlet of Blakeney, east of County Road 29.
- Constructed in 1912, the crossing is composed of three (3) individual structures, one a single span, while the other two have supporting piers in the river as follows:
 - West Bridge: 26.8m 2-span bridge
 - Middle Bridge: 26.5m 2-span bridge
 - East Bridge: single 13.1m span bridge
- The bridge provides for 300 cars per day on average.
- The structures are deficient in load carry capacity, with a 12-tonne load limit imposed, and substandard in width, with a single 4.9m lane.



BACKGROUND

- Blakeney Bridge is considered a boundary bridge as it is not located on a County Road.
- It is unknown when the Bridge became a County responsibility, but existing records indicate the bridge has been a County bridge dating back to at least the 1940's.
- Historically, boundary bridges were transferred to the upper tiers in order to gain eligibility for provincial supplementary funding administered by the Ministry of Transportation known as the Boundary Bridge Fund that was available to Counties for rehabilitating or reconstructing Boundary Bridges.
- In 1995, the County of Lanark completed an Environmental Assessment, Alternatives Report, and a draft design for a replacement two-lane bridge after receiving funding from the Boundary Bridge Fund.
 - The application to MTO included concerns regarding the bridge's concrete deterioration, bridge width, and structural adequacy.
- In 1996, all supplementary funding programs previously administered by the MTO had been discontinued with the passing of Bill 26, and the Boundary Bridge Fund was assimilated into block grants, therefore the County of Lanark never received the necessary funding to proceed with the bridge replacement.

BACKGROUND

- Blakeney Bridge Rehabilitation History:
 - 1975: exposed concrete deck replacement
 - 1993: emergency abutment repairs
 - 2000: deck and girder repairs; substructure repairs; new railings-> designed to provide service life extension of 20-25 years.
 - 2007: emergency repairs to the abutments completed
 - 2020: corrosion perforated girder repaired
- An enhanced bridge master inspection was completed in 2017 (Appendix A) with a follow up structural design report in 2019 (Appendix B) recommending replacement of the bridge and three abutments.
- The 2021 regular biannual inspection noted stringers requiring strengthening and large-scale delamination of the concrete deck (Appendix C).

DISCUSSION

- An updated report on Blakeney Bridge was prepared by Keystone Bridge Management services this past month (Appendix D) which highlighted the condition of the bridge and recommended further studies/ investigations.

Risk and Remaining Service Life

- From the 2022 report, the following risk scenarios may occur if the bridge is not rehabilitated or replaced in the next 3 to 6 years:
 - Deck punching failure causing vehicle damage and resulting in closure of the bridge
 - Girder or Stringer end crushing resulting in a depression of the deck surface and subsequent closure of the bridge
 - Load Trespass resulting in severe/ catastrophic damage to the bridge
 - Flooding event damaging piers and abutment foundations in the water course
 - Missed critical defects due to accessibility constraints during inspection.
- The report recommends reducing the load posting to 5-tonnes and closing the bridge no later than 2026 if significant capital investments are not made.

DISCUSSION

- The 2022 report also recommended the following studies/ investigations to be completed.
 - Transportation Study to investigate the need for the bridge crossing
 - Follow up enhanced bridge master inspection
 - Environmental Assessment (EA) which includes a Cultural Heritage Assessment (CHER) and a Heritage Impact Assessment (HIA), which would be required for any contemplated significant changes to the bridge
 - Load Posting Review



CONCLUSION

- Most of the substructure consists of materials from original construction, at over 100 years old, the bridge has exhausted its normal service life and would be required to close in the next three to possibly six years if the County does not invest in it.
- Blakeney Bridge is a low volume, single lane, load posted bridge, not located on a County Road, therefore the PW department would like endorsement from County Council on the direction to take regarding the future of the bridge, since significant capital investments are required to maintain its service, such as:
 - Major Rehabilitation= >\$1M, extending the service life for 15-20 years.
 - Structure Replacement= \$2-3M, extending the service life for 75 years.



ANALYSIS & OPTIONS

1. Advertise a Request for Proposal (RFP) for a Municipal Class Environmental Assessment (EA) report to assess alternative options for Blakeney Bridge which would include a CHER, HIA and a Transportation Needs Study to determine the need for the bridge crossing and recommend the preferred option such as:
 - I. Close Bridge
 - II. Convert to pedestrian only bridge
 - III. Rehabilitate Bridge
 - IV. Replace Bridge
 - V. Do nothing.
2. Review existing load posting and reduce if required.
3. Complete an enhanced bridge master inspection to update the existing condition of the bridge.
4. Move forward with bridge replacement in the next 3 years (still require a CHER & HIA)
5. Close bridge to traffic by 2026, pending results of yearly inspections.
6. Any combination of the above.

FINCANCIAL IMPACT

1. EA + Transportation Study~ \$50-\$60K
2. Load Posting Review ~\$5-\$10K
3. Enhanced Bridge Inspection ~\$5-\$10K
4. Move forward with bridge replacement in the next 3 years (still require a CHER & HIA) ~\$30-\$40
5. Close bridge to traffic by 2026, pending results of yearly inspections. ~\$2K for signage and public notice
6. Any combination of the above.

RECOMMENDATIONS

- PW recommends completing an enhanced inspection and load posting review in 2022, which can be accommodate within our existing engineering budget.
- PW also recommends proceeding with an RFP to complete an Environmental Assessment + a Transportation needs study, tendering in 2022 and beginning the assignment in 2023.

FURTHER DISCUSSION

- The Municipal Act of 1980 stated that “The Council of a County has jurisdiction over every bridge crossing a river, stream, pond, or lake forming a boundary line between local municipalities, other than a city or separated town”.
- In 1998, The County amalgamated into 6 townships and 3 towns.
- Blakeney Bridge is no longer considered a boundary bridge, along with Bow Lake Road Bridge (Lanark Highlands), and three structural culverts located on the Upper Scotch Line (Tay Valley).
- The only remaining inter-municipal boundary bridge is Glen Isle, which is on the boundary between Mississippi Mills and Beckwith.
- Since boundary bridge funding is no longer available, there is no advantage to the County to manage these structures as they are primarily local use bridges.
- Further discussion should take place regarding future jurisdiction of these boundary bridges.

FURTHER DISCUSSION

- Removing the bridge from the County jurisdiction does not immediately remove future liability
- County still needs to demonstrate due diligence on repair and maintenance

ATTACHMENTS

- Appendix A- Blakeney Bridge 2017 Enhanced Inspection
- Appendix B- Blakeney Bridge 2019 SDR Report
- Appendix C- Blakeney Bridge 2021 Bi-Annual Inspection
- Appendix D- Blakeney Bridge 2022 Condition Report

RECOMMENDED MOTION

That Council authorize the enhanced inspection and load posting review in 2022 of the Blakeney Bridge; and

That the County proceed with an RFP to complete an Environmental Assessment and a Transportation needs study, with the project date to take place in 2023; and

That Council direct staff to proceed with investigating options to vest the Blakeney Bridge from the County jurisdiction and bring forward information to Council concerning the same at a future meeting.



**MINUTES
FOURTH MEETING OF 2022
PUBLIC WORKS
COMMITTEE OF THE WHOLE**

The Public Works Committee of the Whole met in regular session on Wednesday, April 27, 2022 immediately following County Council.

Members Present: Chair S. Fournier, Warden J. Fenik and Councillors C. Lowry, R. Minnille, B. Dobson, K. Van Der Meer, E. McPherson, B. Campbell, P. McLaren, B. Crampton, R. Kidd, S. Mousseau, D. Black, S. Redmond.

Staff/Others Present: K. Greaves, CAO
J. Ralph, County Clerk
T. McCann, Director of Public Works
S. Derouin, Public Works Manager

Regrets: Councillor R. Scissons, Councillor J. Hall

PUBLIC WORKS

Chair: Councillor S. Fournier

1. CALL TO ORDER (Reminder please silence all electronic devices)

The meeting was called to order at 6:10 p.m.
A quorum was present.

MOTION #PW-2022-24

MOVED BY: B. Campbell **SECONDED BY:** B. Dobson

That the meeting recess to move directly into Economic Development.

ADOPTED

MOTION #PW-2022-25

MOVED BY: B. Dobson **SECONDED BY:** B. Crampton

That the meeting reconvene at 7:03 pm.

ADOPTED

2. DISCLOSURE OF PECUNIARY INTEREST

None at this time.

3. APPROVAL OF MINUTES

March 23rd, 2022

MOTION #PW-2022-26

MOVED BY: J. Fenik **SECONDED BY:** S. Redmond

That, the minutes of the Public Works Committee meeting held on March 23rd, 2022 be approved as circulated.

ADOPTED

4. ADDITIONS AND APPROVAL OF AGENDA

April 27th, 2022

MOTION #PW-2022-27

MOVED BY: B. Campbell **SECONDED BY:** S. Mousseau

That, the agenda be approved as presented.

ADOPTED

5. DELEGATIONS (10 MINUTES)

6. QUESTIONS OF THE DELEGATION FROM COUNCIL

7. PRESENTATIONS

8. COMMUNICATIONS

- i) RFP 2022-06 Lanark County Housing Communication
Climate Action Now

MOTION #PW-2022-28

MOVED BY: K. Van Der Meer **SECONDED BY:** S. Redmond

That, the communications for the April Public Works Committee meeting be received as information.

ADOPTED

9. CONSENT REPORTS

10. DISCUSSION REPORTS

- i) PW-11-2022 - Request for Amendment of Lanark County By-Law 2015-30 Off Road Vehicles: Townline Road Carleton Place
Sean Derouin, Public Works Manager

MOTION #PW-2022-29

MOVED BY: B. Campbell **SECONDED BY:** R. Kidd

That Report #PW-11-2022, Request for Amendment of Lanark County By-law 2015-30 Off Road Vehicles, be received; AND

That, the Public Works Committee recommends to County Council that Lanark County Council amends By-law 2015-30 Off Road Vehicles, allowing Off Road Vehicles in the Town of Carleton Place, on County Road 7B, Townline Road, from the OVRT to County Road 29; AND

That, the Clerk send a copy of this report to the Town of Carleton Place.

ADOPTED

- ii) PW-12-2022 - Blakeney Bridge
Sean Derouin, Public Works Manager

Council discussed the motion and suggested the removal of the item in the suggested motion related to removing the bridge from the County's jurisdiction.

MOTION #PW-2022-30

MOVED BY: R. Kidd **SECONDED BY:** B. Campbell

That Council authorize the enhanced inspection and load posting review in 2022 of the Blakeney Bridge; and

That the County proceed with an RFP to complete an Environmental Assessment, with the project date to take place in 2023

ADOPTED

11. VERBAL REPORTS

- i) Report of the Climate Action Committee (verbal)
Councillor Rickey Minnille

Councillor Crampton brought forward a motion related to the energy audits on County Buildings. It was noted that an energy audit had been done to the County Social Housing and that staff could bring that information forward.

After discussion, Councillor Crampton rescinded his motion.

MOTION #PW-2022-31

MOVED BY: B. Dobson **SECONDED BY:** K. Van Der Meer

That the Economic Development Committee recommend to Council that the RFP 2022-06 be paused; and

That staff be directed to to bring forward information related to analyze the greenhouse gas and financial implications of retrofitting the buildings for major efficiency improvements and conversion to heating systems.

ADOPTED

12. DEFERRED REPORTS

13. CONFIDENTIAL REPORTS

14. NEW/OTHER BUSINESS

15. ADJOURNMENT

The Committee adjourned at 7:48 p.m. on motion by Councillors E. McPherson, and B. Crampton.

Jasmin Ralph, Clerk

A handwritten signature in black ink, appearing to read 'Kurt Greaves', with a long horizontal line extending to the right.

Kurt Greaves, CAO