



Subject:	Beamsville Truck Bypass Implementation Study Update
To:	Committee of the Whole – Community Services & Infrastructure
From:	Public Works Department

Report Number:	PW-32-21
Wards Affected:	All
Date to Committee:	October 18, 2021
Date to Council:	October 25, 2021

Recommendation:

Receive and file Report PW-32-21, Beamsville Truck Bypass Implementation Study Update.

Purpose:

To present the findings and recommendations of the Beamsville Truck Bypass Implementation Study project to committee and summarize the action items and next steps towards implementing the truck bypass route.

Background:

On April 15, 2019 Council passed a resolution regarding truck safety in Lincoln. The motion identified several concerns related to truck traffic and identified several action items to address the concerns. Truck traffic safety strategies are a high priority for the Town in responding to resident's concerns to help improve road safety throughout the community.

The Town's Transportation Master Plan developed comprehensive strategies for the movement of goods in Lincoln, including the implementation of a truck by-pass around Beamsville. The effective implementation of this by-pass route and other truck safety initiatives requires ongoing partnership with the Niagara Region and other key agencies such as the Minister of Transportation and Niagara Region Police Services

Report:

The challenges regarding goods movement are multi-faceted and the solutions will require cooperation between multiple municipalities and different levels of government.

The process to implement the ultimate truck route solution requires some key short interim solutions before the longer term, ultimate plan can be constructed.

Long Term Solution – New Truck Route Niagara Escarpment Crossing (Park Road to Bartlett Avenue – Grimsby)

The long-term solution to improve goods movement in the west portion of the Niagara Region is to implement a new north-south truck route escarpment crossing. The Niagara Region Transportation Master Plan identified the need for a new north-south escarpment crossing linking the QEW with Highway 20. A new north-south Niagara Escarpment Crossing is necessary to offset the negative economic, environmental, and safety implications of high commercial vehicle traffic travelling through urban & residential areas within the communities of Lincoln and Grimsby.

The Park Road to Bartlett Avenue connection in Grimsby is recommended as the new truck route Niagara Escarpment Crossing. Bartlett Avenue in Grimsby includes an interchange on the QEW and can serve as the truck access to the QEW highway. By constructing this new escarpment crossing and connecting it to the goods movement network, the Town would be able to make further changes to goods movement within its boundaries, particularly in Beamsville. Mountain Road is proposed to be taken off the truck route network by transferring ownership from the Region to the Town for the stretch between Fly Road and King Street. The Town could then prohibit through truck traffic on this area of Mountain Road. Trucks would be directed to bypass Beamsville completely and use the new Park Road - Bartlett Avenue connection to access the QEW.

The Town of West Lincoln is considering the potential linkage of this preferred truck route as part of the 2019-initiated Smithville Urban Boundary Expansion Study. As the Township of West Lincoln is expected to grow to meet regional/provincial growth targets, consideration will be made on the exact placement of the bypass and opportunities to connect the Smithville Bypass to the proposed Niagara Escarpment Crossing at the northerly edge of the Smithville Urban Boundary limit.

An Individual Class Environmental Assessment is planned for a new transportation highway/arterial within the Bartlett Avenue / Park Road Corridor to provide an appropriate truck route standard.

The Niagara Region is leading this long-term solution in partnership with the Town of Lincoln, Town of Grimsby, and Township of West Lincoln. The new Niagara Escarpment Crossing is a significant long-term project estimated to cost \$150 million requiring financial support from various levels of government. The Town of Lincoln Council, along with Grimsby, West Lincoln and the Niagara Region have been advocating with different levels of government for support on this key infrastructure project for west Niagara. Most recently at the 2021 ROMA conference in January, Town of Lincoln Council along with Grimsby, West Lincoln & the Niagara Region completed a delegation meeting with Caroline Mulroney, Minister of Transportation to discuss this important project.

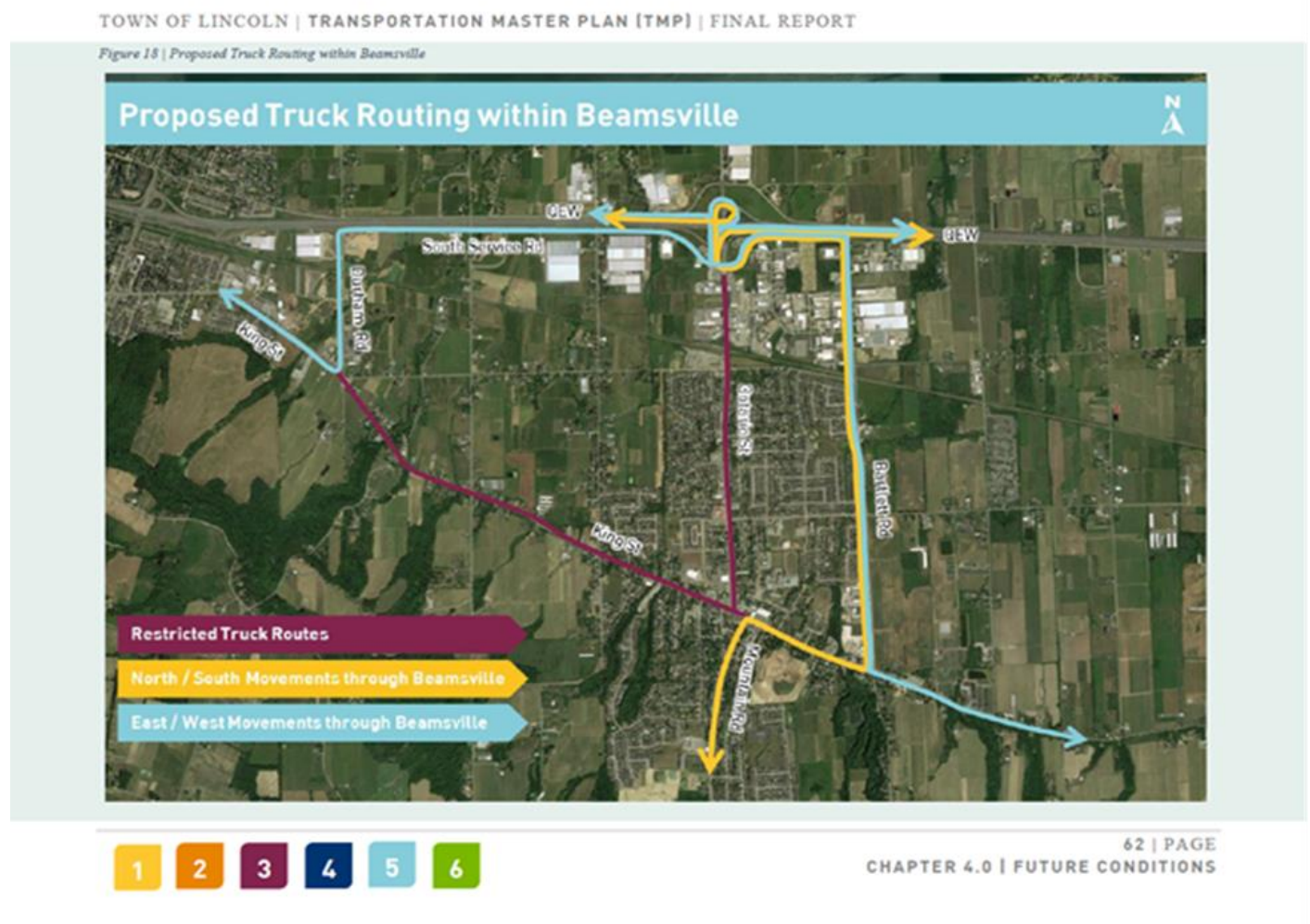
In terms of next steps, the Niagara Region is completing the terms of reference for initiating an Individual Environmental Assessment (IEA) Study for the Niagara Escarpment Crossing Project in 2022.

Short Term Solution – Beamsville Truck Bypass Route

Residents of Beamsville cannot wait for the major long term Niagara Escarpment Crossing Project (new truck route Park Road – Bartlett Avenue – Grimsby) to be designed and constructed before action is taken regarding trucks in the downtown urban area. As such the Town's Transportation Master Plan (TMP) assessed short-term solutions to find viable routes for trucks to bypass the downtown area of Beamsville. The Town's TMP recommended that Bartlett Road and Durham Road become bypass routes to redirect truck traffic out of the downtown area of Beamsville.

The following bypass route was recommended as shown in figure 1.0 below.

Figure 1.0 – Proposed Beamsville Truck Bypass Route



The proposed Beamsville Truck Bypass Route entails the following:

- Through trucks traveling north on Mountain Road should be directed to turn east on King Street and then north on Bartlett Road on their way to the QEW.
- Trucks should then travel Bartlett Road until they reach South Service Road and then travel west to the Ontario Street at QEW interchange. This bypass route is illustrated by the yellow line in Figure 1.0 shown above.
- In addition to improving Bartlett Road, the intersection of Mountain Road at King Street also would need to be improved to facilitate northbound right turns of trucks from Mountain Road onto King Street.
- Trucks traveling east on King Street should be directed to turn north onto Durham Road and then east on South Service Road.
- Trucks then could access the QEW or continue South Service Road to Bartlett Road and eventually back to King Street to head further east.
- Trucks exiting the QEW at Ontario Street should be directed to South Service Road and use Bartlett Road or Durham Road to access King Street. This route is illustrated by the blue line in Figure 1.0 shown above.

Beamsville Truck Bypass Implementation Study – Progress Update

In order to move forward with the Beamsville Truck Bypass short term solution the Town has completed an implementation study. The Town of Lincoln has led the Beamsville Truck Bypass Implementation Study in partnership with the Niagara Region with IBI Group leading as the prime consultant for transportation engineering and planning.

The purpose of this study was to evaluate the proposed bypass route and identify deficiencies related to truck safety, traffic operations, utilities, street lighting, active transportation, and roadway geometry that may pose a challenge to trucks diverted to the by-pass.

The study is in final draft form and the results and findings are outlined in the attached document prepared by the IBI Group including the mitigation measures recommended to implement the by-pass route and their associated preliminary cost estimates. This study also encompasses key issues related to complete streets and active transportation along the by-pass route.

Detailed analysis and discussion have been provided in the final draft report however study focus areas and milestones include:

- Background studies have been assessed.
- Consultation with key stakeholder groups and the active transportation committee has occurred.
- Data collection program completed.
- Existing conditions have been documented including traffic volumes and speeds, truck travel patterns and overall network safety.
- A truck signage strategy has been proposed and recommendations to encourage compliance have been provided.

- The subject of the MTO Vineland truck inspection station avoidance and general community truck safety has been discussed and documented with future action items for consideration provided.
- Intersection and corridor operational assessments have been completed for the entire bypass route and preliminary design alternatives for necessary improvements have been developed. Operational assessments were conducted with an active transportation lens.
- Truck diversion impacts have been evaluated against the network and geometric improvements required have been identified. Preliminary design alternatives have been provided.
- The potential impacts of reconstructing Bartlett Road with a separated multi-use trail and a designated truck inspection lay-by have been evaluated and preliminary design options have been developed.
- Railway crossings on Bartlett Road and Durham Road have been reviewed and operational safety improvements resulting from road reconstruction have been identified.
- The existing streetlight network has been evaluated against current standards and necessary improvements have been flagged.
- A traffic noise study was completed.
- Preliminary construction cost estimates for recommendations have been generated.

Summary of Findings

In general, it has been determined that the diversion of trucks to the proposed truck bypass route can be accommodated by the existing road network with relatively straightforward upgrades to Durham Road, Bartlett Road and key Niagara Regional intersections. The existing network was determined to have sufficient capacity and most intersections will continue to operate at acceptable levels of service and safety with only minor modifications being required.

Benefit of Truck Diversion

There is significant benefit to the existing downtown area of Beamsville to reroute vehicles away from Ontario Street and the downtown district from both a traffic safety and economic perspective.

The IBI Group has advised staff that based on their industry experience that it is reasonable to assume that through effective signage and implementation of the recommended improvements, up to 75% of existing daily truck trips travelling through Beamsville (non-destination trips) could be diverted to the truck route away from the Beamsville Downtown area. However, it is important to note that this is only an estimate, and it is not possible to fully predict future truck travel patterns.

Signage Strategy and Regional Position of Truck Prohibition

The proposed signage strategy entails signing the bypass route with permissive (green truck symbol with directional arrows) signage directing trucks to follow the route. The Region is fully supportive of a “preferred truck route” signage strategy on Regional Roads and the recommended operational intersection improvements highlighted in this report. The Region has advised that they are not able to support a prohibitive truck by-law at this time based on regional policies, but plan to undertake a future Truck Route Master Plan in 2023 at which time, prohibitive signage policies will be evaluated. In addition to the permissive signage plan, strategic geometric intersection and road upgrades have been recommended to make the proposed route more attractive for trucks to further promote its usage.

Bartlett Road – Improvement Recommendations

It is recommended that Bartlett Road be reconstructed to an urban cross-section that is suitable for heavy truck traffic. The roadway should be built to have wider travel lanes, curb and gutter to accommodate storm sewer/drainage upgrades and improved streetlighting.

It is proposed that a multi-use trail also be constructed in the corridor to provide separation for pedestrians and cyclists. The exact alignment has not been determined and will be decided through consultation with residents, AT Committee and Council however it has been determined that a multi-use trail can be accommodated.

All intersections along the corridor require minor modifications to accommodate safe truck turning movements. John Street has been flagged as likely requiring signalization at build-out and implementation of the by-pass however this will need to be further evaluated and confirmed in the future.

Durham Road – Improvement Recommendations

Similar to Bartlett Road, Durham Road should be reconstructed to an urban cross-section that is suitable for heavy truck traffic. The roadway should be built to have wider travel lanes, curb, and gutter to accommodate storm sewer/drainage upgrades and improved streetlight.

Regional Intersections – Improvement Recommendations

Most operational improvements recommended at Regional intersections are considered minor and include streetlight upgrades, pavement markings and small geometric changes.

The Mountain Street and King Street intersection would be considered the most challenging intersection to modify and involves curb extensions, a reconfiguration of signal locations, pavement markings and lighting improvements.

It is important to note that IBI has identified a solution that focuses on improving turning movements in the eastbound direction which should encourage trucks to take the preferred truck route.

Railway Crossing Impacts

Durham Road and Bartlett Road have existing railway crossings that must be considered when reconstructing these corridors. The impacts of the proposed roadway upgrades on both CN railway crossings were evaluated and minor improvements will be required including signal equipment modifications as well as, paving and pavement marking upgrades.

Vineland MTO Truck Inspection Station Avoidance

During the consultation phase, staff conducted separate meetings with the MTO and NRP to further discuss the issue of the QEW inspection station avoidance and the impacts that it has on truck safety in Lincoln. Although not specifically tied to the Beamsville Truck Bypass Implementation Study, the protect team decided it was important to consider the issue at the same time to determine if there were areas of improvement that could possibly be incorporated into the bypass route design.

As a result, it was determined that the MTO and NRP would benefit greatly from dedicated inspection lay-by on Bartlett Road that would allow them an area to safely pull trucks over for safety inspections/enforcement. As such in response, a pull over lay-by area has been proposed to be incorporated into the Bartlett Rd reconstruction design north of John Street.

Further discussions around inspection station avoidance and recommendations to further combat the issue can be found within the attached report. Some key immediate actions include:

- Continue to conduct truck safety inspection blitzes in collaboration with agency partners to raise awareness and educate drivers also allowing for targeted monitoring and data collection of bypass truck patterns in the Town.
- The Town is proposing to lead a camera monitoring pilot project in partnership with MTO to improve the monitoring and enforcement of inspection station truck bypass traffic. The proposed area for the camera is the Victoria Ave and Service Rd area to capture trucks avoiding the inspection station.

Noise Study Findings

The IBI Group completed a noise study which determined that the network would continue to operate without significant truck noise implications. A detailed assessment is available for review in the attached report.

Next Steps and Workplan

To ensure this project remains a high priority the following next steps are proposed:

- **2022** - Initiate the detailed design and public consultation phase for upgrading both Bartlett Rd from King St to the South Service Rd and Durham Road from King St to the South Service Rd.
- **2022** - In consultation with the Town's communication department, staff will develop truck bypass route mapping on the Town's website.
- **2022** - The Region will incorporate the recommended intersection improvements in their operational and capital plans.
- **2023** - Upgrade Durham Rd from King St to the South Service Rd
- **2024/2025** - Upgrade Bartlett Rd from King St to the South Service Rd
- **2024/2025** - Niagara Region to upgrade Regional Intersections
- **2025** - Install truck route signage and implement the bypass route

Financial, Legal, Staff Considerations:

Financial:

Year	Location	Estimated Construction Cost
2023	Durham Road	\$2,500,000.00
2024/2025	Bartlett Road	\$10,000,000.00
2024/2025	Niagara Region Intersections	<u>\$1,000,000.00</u>
Total:		\$13,500,000.00

At present, conservative preliminary cost estimates have been generated and it is expected that Bartlett Road will cost approximately 10.0 million dollars to reconstruct with all of the improvements highlighted in the report including the construction of a new multi-use trail. Durham Road improvements are expected to cost 2.5 million dollars. Regional costs for the recommended intersection improvements are estimated to cost approximately 1 million dollars.

Based on the preliminary estimates provided, the total anticipated cost of implementing the Beamsville Truck Bypass is 13.5 million dollars. Detailed pre-tender cost estimates will be generated as part of the detailed design phase to validate these preliminary estimates.

It is important to note that although the Beamsville Truck Bypass Implementation Study has recommended that both Bartlett Rd and Durham Rd be upgraded. These particular

road assets require upgrading regardless and have previously been identified in the Town capital plan and development charge study. Bartlett Rd has been previously identified to be upgraded to better accommodate vehicular and truck traffic, improved drainage, servicing, the need for active transportation/sidewalks, etc. Also, the Town's Transportation Master Plan had also recommended that focus be given to Bartlett Rd in the future as a key north/south corridor route in Beamsville to help distribute traffic flow and support active transportation. Similarly, Durham Rd is a surface treated road in poor condition and needs to be upgraded/reconstructed. As such, the Beamsville Truck Bypass Route initiative has simply moved the Bartlett Rd and Durham Rd reconstruction projects forward in the capital plan as a higher priority to address Council's commitment to improving Truck Traffic Safety in Lincoln.

Staffing:

N/A

Legal:

N/A

Public Engagement Matters:

Truck traffic safety (Goods Movement) was a significant component of the Town's Transportation Master Plan and through that process, the TMP recommended the subject Beamsville Truck Bypass Route. Through the subject implementation study process, further consultation has been completed with stakeholders and the Town's Active Transportation Committee. The Beamsville Truck Bypass Implementation Study will also be made available to the public on the dedicated Speak Up Lincoln Truck Traffic Safety page.

It is staff's recommendation that significant public engagement be priority through the development of the detailed design and the construction and implementation of the truck by-pass. In addition to the Town using the Speak-Up Lincoln engagement platform with a dedicated project page, staff propose to conduct multiple public meetings and engage with key stakeholders to communicate the final design plans prior to construction. The results of these engagement sessions will be communicated to Council through regular staff reports.

Conclusion:

Staff will continue to work closely with the Niagara Region, NRPS, MTO and other agencies and community partners while implementing the initiatives and opportunities identified in Beamsville Truck Bypass Implementation Study. Staff will ensure improving truck safety remains a high priority for Lincoln and will transition from the implementation study to detailed design and construction at the discretion of Council through budget allocation.

Respectfully submitted,

Walter Neubauer, CET
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Appendices:

Appendix A Draft Final Study Report
Appendix B Staff Presentation

Report Approval:

Report has been reviewed by Director of Public Works. Final approval is by Chief Administrative Officer.