# Beamsville Truck By-Pass Implementation Study Final Report

October 18, 2021

**PRESENTERS:**

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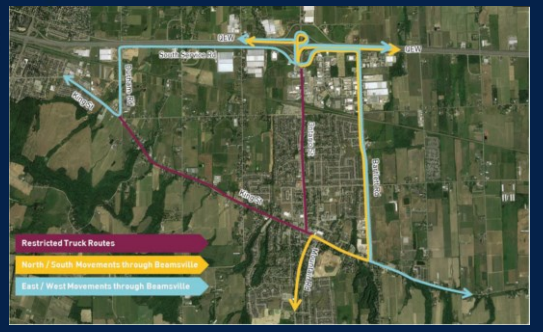


# Purpose of Today's Presentation


- Provide a summary of the Final Report
- Provide the proposed Implementation Plan
- Provide the Cost Estimates
- Review Next Steps

# Alignment to Council's Strategic Priorities

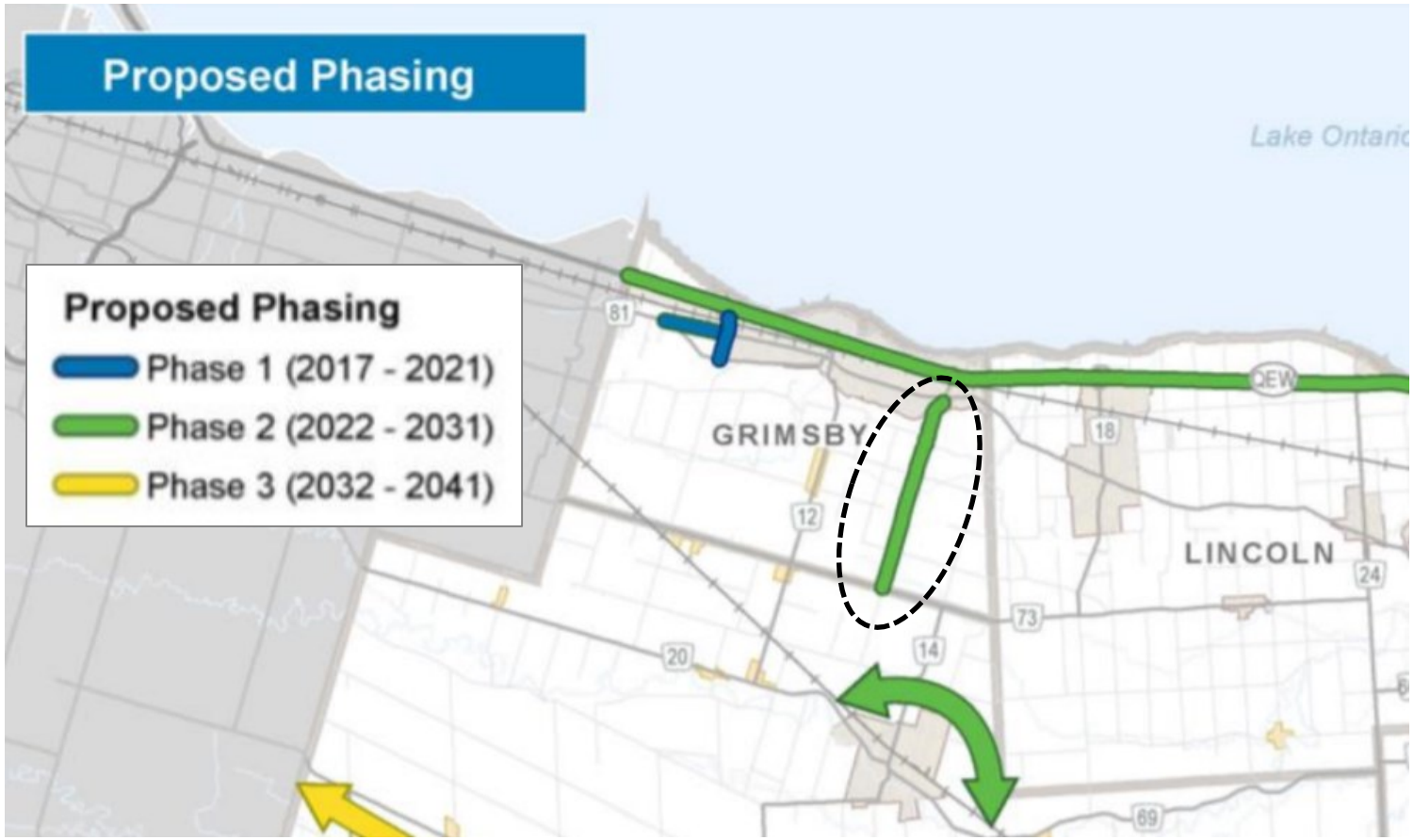
- Connected Community
  - Address truck traffic and road safety issues across Lincoln
- Resilient Community
  - Promotion of public safety through education, prevention and partnerships
  - Develop and implement road safety initiatives such as speed reduction, traffic calming and truck routes
- Vibrant Community
  - Drive economic potential and community well-being
- Welcoming Community
  - Be a business friendly environment

# How We Got Here


- 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.
- 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. The Beamsville Truck By-Pass Implementation Study is a key element in response to Council's motion.
- The Beamsville Truck Bypass Route Recommendation was developed through the Town's Master Transportation Plan completed in 2019. The objective being to re-direct truck traffic from the downtown area of Beamsville.

# How We Got Here

**Long Term Solution:** To improve goods movement in the west portion of the Niagara Region is to construct a new north-south truck route escarpment crossing being the **Park Road/Bartlett Avenue extension in Grimsby**



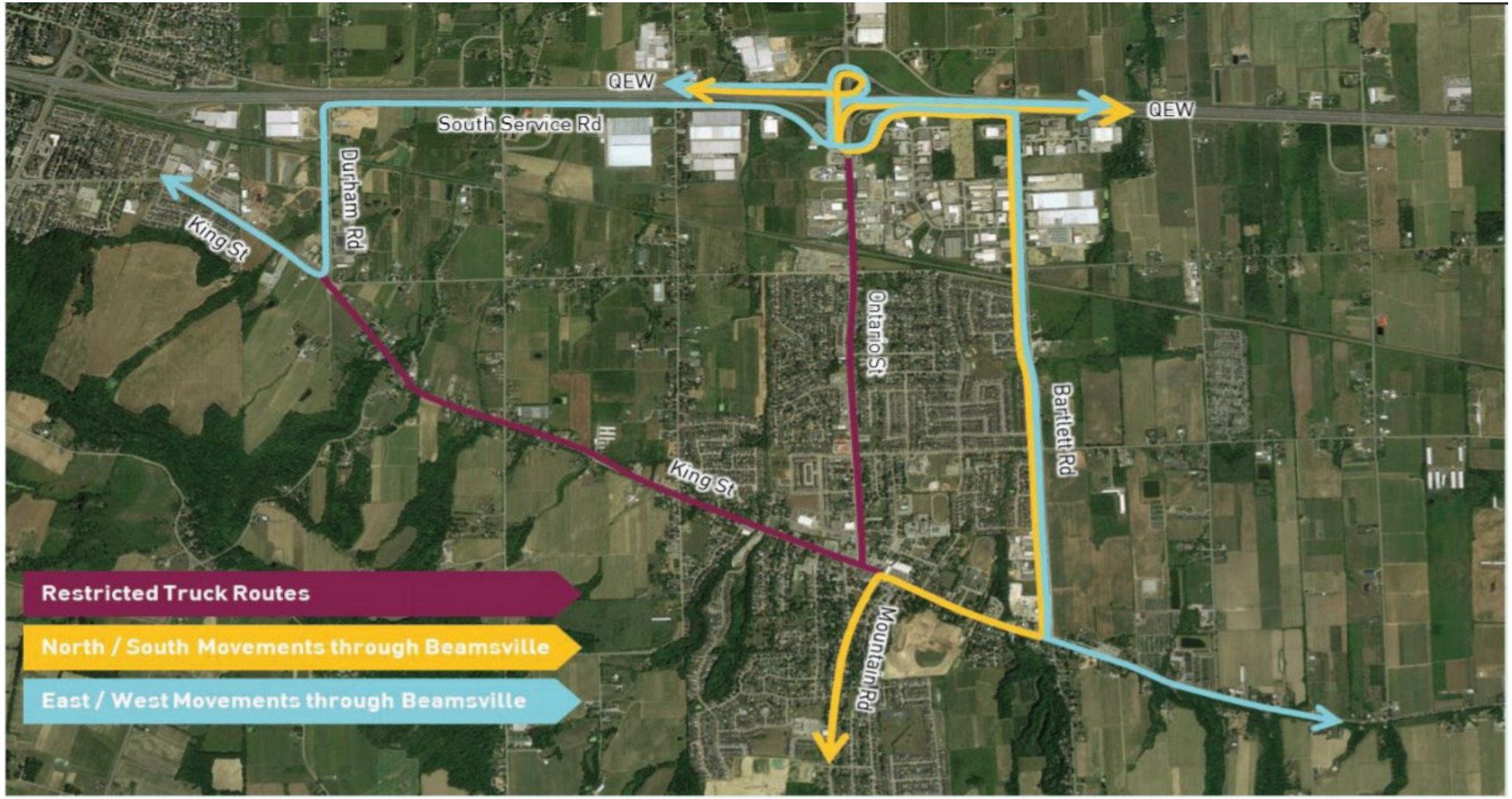

Source: Niagara Region Transportation Master Plan: Road Network Strategy Technical Paper (2017), Exhibit 3 excerpts

# How We Got Here


- In the interim until the longer term solution (Park Rd/Bartlett Ave Extension is Grimsby) is constructed, a **key short-term solution** for Lincoln to is to implement the Beamsville Truck Bypass Route

- In order to move forward with the Beamsville Truck Bypass short term solution, the Town in partnership with the Niagara Region has completed an implementation study

# Beamsville Truck Bypass Implementation Study



# Study Highlights


- Existing conditions have been documented, traffic data has been collected and background studies have been assessed
- There has been consultation with key stakeholder groups including the Town's Active Transportation Committee
- Truck diversion impacts were evaluated
- Truck signage and truck enforcement strategies have been developed
- Intersection and corridor operational assessments were performed
- Impacts to railway crossings have been assessed
- A multi-use trail and a truck inspection lay-by have been incorporated into the plan for Bartlett Road with improved streetlighting
- A traffic noise study was completed identifying no concerns
- Preliminary, high-level project cost estimates have been generated

# Stakeholder Engagement


- ✓ Town of Lincoln Active Transportation Advisory Committee;
- ✓ Town of Lincoln Economic Development;
- ✓ Town of Lincoln Engineering Services;
- ✓ Town of Lincoln Chamber of Commerce;
- ✓ Downtown Bench Beamsville BIA;
- ✓ Niagara Region;
- ✓ Niagara Regional Police Service;
- ✓ Ministry of Transportation Ontario;
- ✓ Ontario Trucking Association;
- ✓ CN Rail;
- ✓ GO Transit Implementation Office; and
- ✓ Aggregate companies including Walker and Nelson Quarries.

# What We Heard from the Stakeholder Engagement

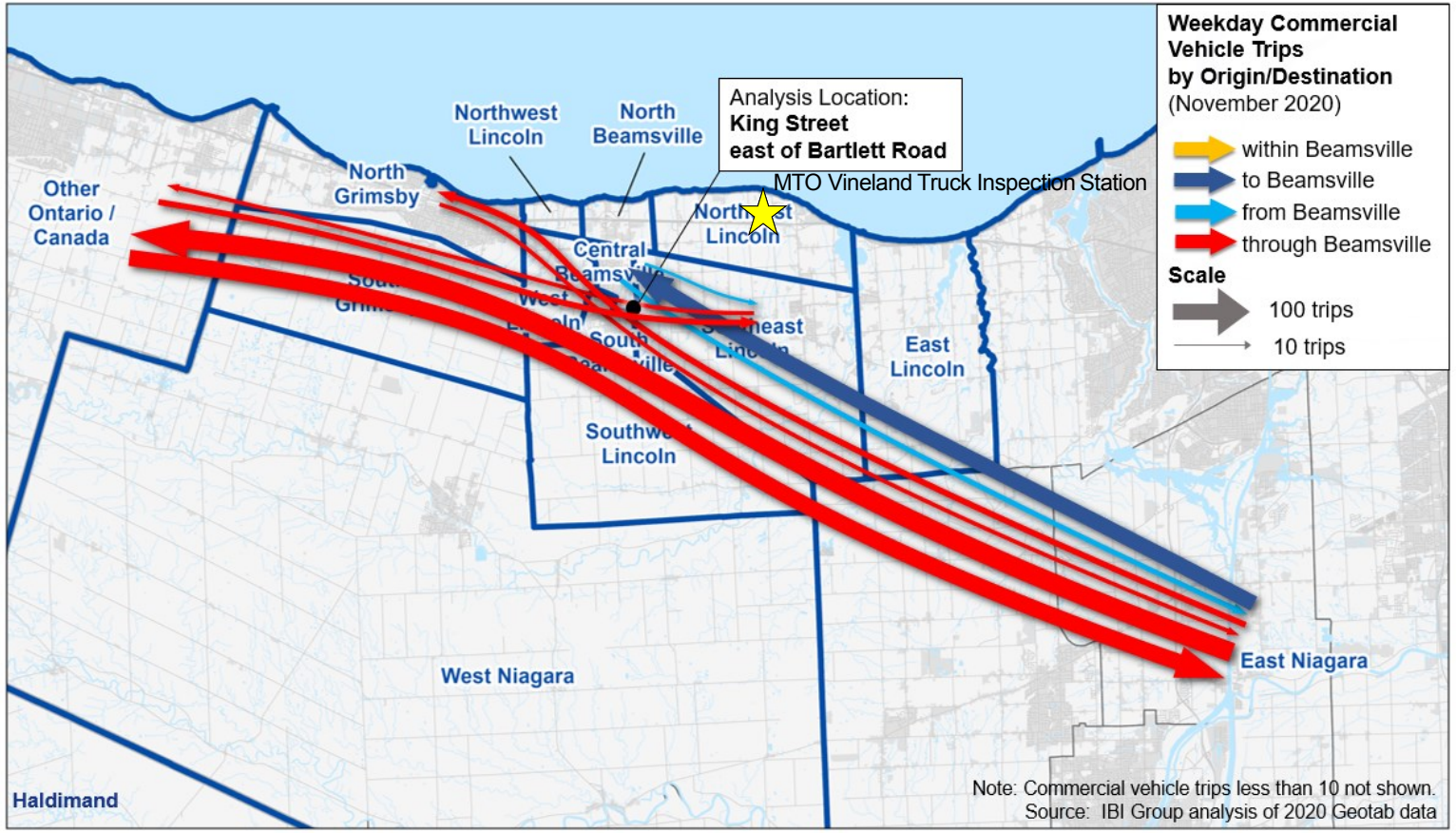

- ✓ Important to review the safety and features of the level railway crossings
- ✓ King/Mountain – ability for trucks to complete turns without mounting sidewalks is important
- ✓ Important that trucks can still make local deliveries
- ✓ Implementation plan should include enforcement features
- ✓ Develop community and local business communication strategy
- ✓ Include separated active transportation elements in the design

# Existing Conditions

Origin-Destination analysis of weekday truck traffic west of Bartlett Road:

- 42% of trips (approx. 212 trips) are to/from/ within Lincoln
- 13% to/from North Grimsby
- 45% (approx. 224 trips) are longer-distance trips between East Niagara and west of Niagara Region
- The greater number of westbound flows vs. eastbound flows indicates the practice of bypassing the WB-only truck inspection station on QEW, especially for local trips

**Origin-Destination Flows on King Street West of Bartlett Road**



# Anticipated Diverted Daily Truck Volumes, 2024 Horizon Year

| Rerouting Scenario | 24-Hour Two-Way Truck Volume Estimates | | |
|---|---|---|---|
| | Ontario Street | Durham Road | Bartlett Road |
| Existing Routing; Total Trucks | 240 - 360 | 170 - 190 | 250 - 300 |
| 75% Rerouting, Total Trucks | 110 - 140 | 180 - 200 | 370 - 480 |
| Estimated Diverted Trucks | -130 | +10 | +120 |

# Operational Assessment

## Proposed Durham Road cross-section

# Operational Assessment

## Proposed Bartlett Road cross-section

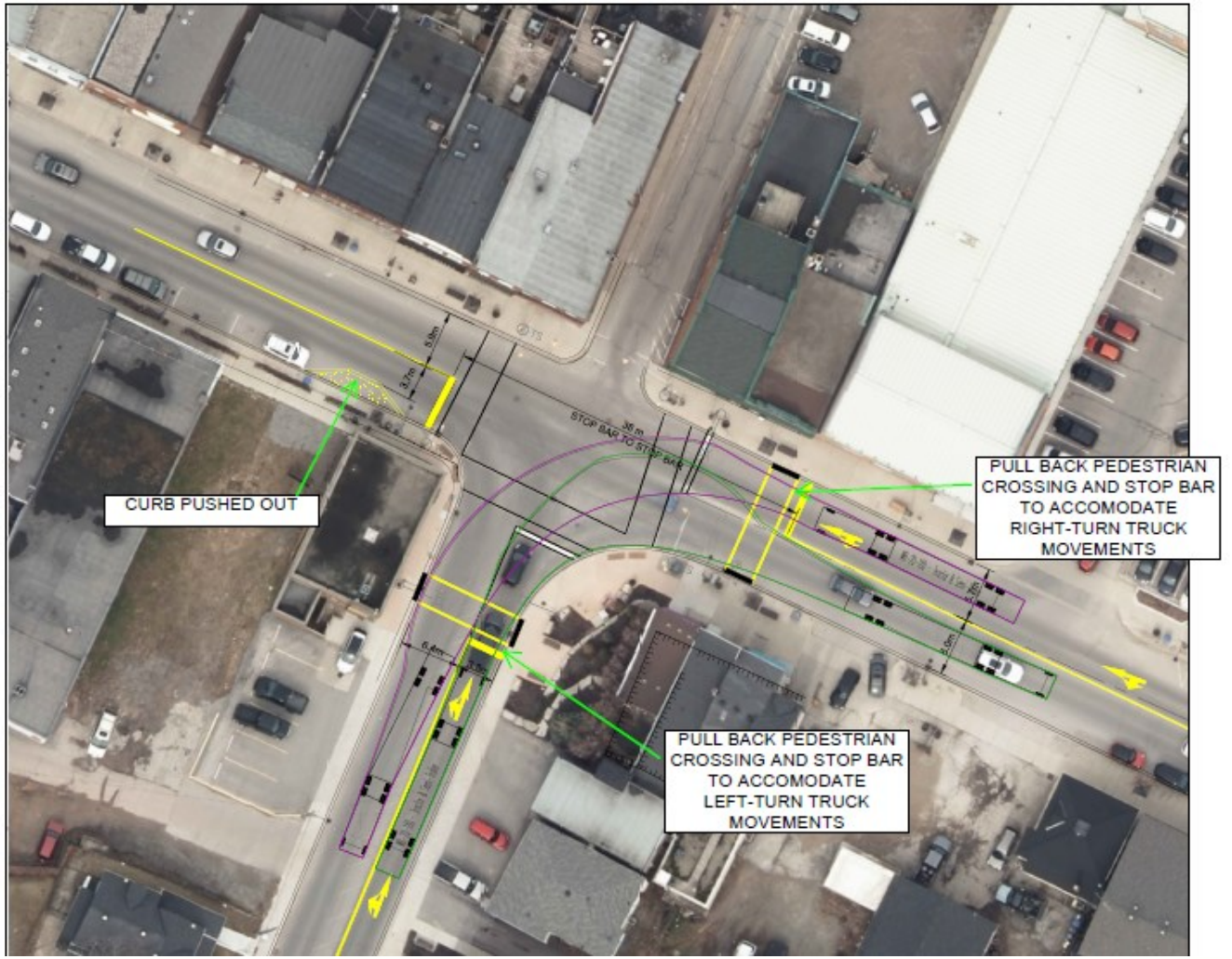
# Operational Assessment

## Proposed King/Mountain intersection (Regional)

| USER GROUP | NEEDS | WANTS |
|---|---|---|
| **Pedestrians** | • Maintain existing sidewalk widths<br>• Protect against vehicle encroachment | • Protected sidewalk area on the SE and SW corner<br>• Maintain or reduce current crossing distances |
| **By-Pass Trucks** | • Feasible truck movements WB left turn and NB right turn | • No encroachment on opposing traffic lanes |
| **On Street Parking** | • Parking for King St businesses | • No on-street parking removed |
| **General Traffic** | • Single lane approaches<br>• Reasonable buffer from turning trucks | • Minimal delays<br>• Dedicated turn lanes |
| **Non-by-Pass Trucks** | • Minimum one feasible truck movement per intersection approach | • All movements feasible for trucks |
| **Cyclists** | • Buffered bike lanes on King St east and west of Mountain Rd | • Buffered bike lanes on King St east and west of Mountain Rd<br>• Buffered from on-street parking |
| **Loading Areas** | • Access to businesses for deliveries | • Delivery parking in front of businesses |

# Operational Assessment

## Proposed King/Mountain intersection



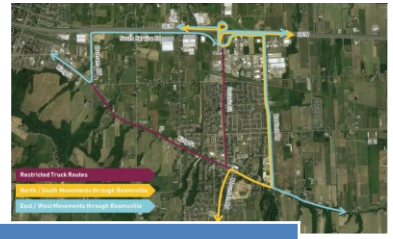
# Operational Assessment

## Recommendations

| Location | Recommended Improvements |
|---|---|
| Durham Road and South Service Road | • Widen the road along the radii to allow additional space for the trucks to complete the turning movements without crossing into other lanes |
| Ontario Street and South Service Road | • Shift westbound lanes and traffic island to the north to widen the eastbound lane and facilitate the southbound left-turn and the northbound right-turn<br>• Eliminate left turn movements egressing from Esso station by extending the existing island beyond the access.<br>• Narrow the northwest driveway into Pioneer Gas Station to a right-in/right-out only configuration. |
| South Service Road and Bartlett Road | • Widen the road on the radii to allow trucks to complete the turning movements without crossing into other lanes and add lighting |
| Greenlane and Bartlett Road | • Reduce the northwestern corner curb radius to discourage truck turning movements. |
| King Street and Bartlett Road | • Relocate stop bar further back from intersection.<br>• Add a painted median.<br>• Remove southbound right channelization island to allow for more desirable approach angles for trucks executing a southbound right turn movement. |
| King Street and Cherry Heights Boulevard | • Add light to existing hydro pole on King Street. |
| King Street and Mountain Road | Short Term:<br>• Move back northbound and westbound stop bars and crosswalks to the limits of truck turning movements, and install pedestrian buttons and heads at the newly relocated crosswalks.<br>• Narrow the east and west legs to single-lane shared movements to discourage vehicles from by-passing turning trucks at the intersections.<br>• Remove west crosswalk and extend barrier to discourage crossings on the west side of the intersection.<br>• Upgrade 4 intersection lights from 64W Type 3 to 118W Type 2.<br>Long Term:<br>• Roadway expansion/widening as part of intersection reconstruction |

# Operational Assessment

## Recommendations Continued

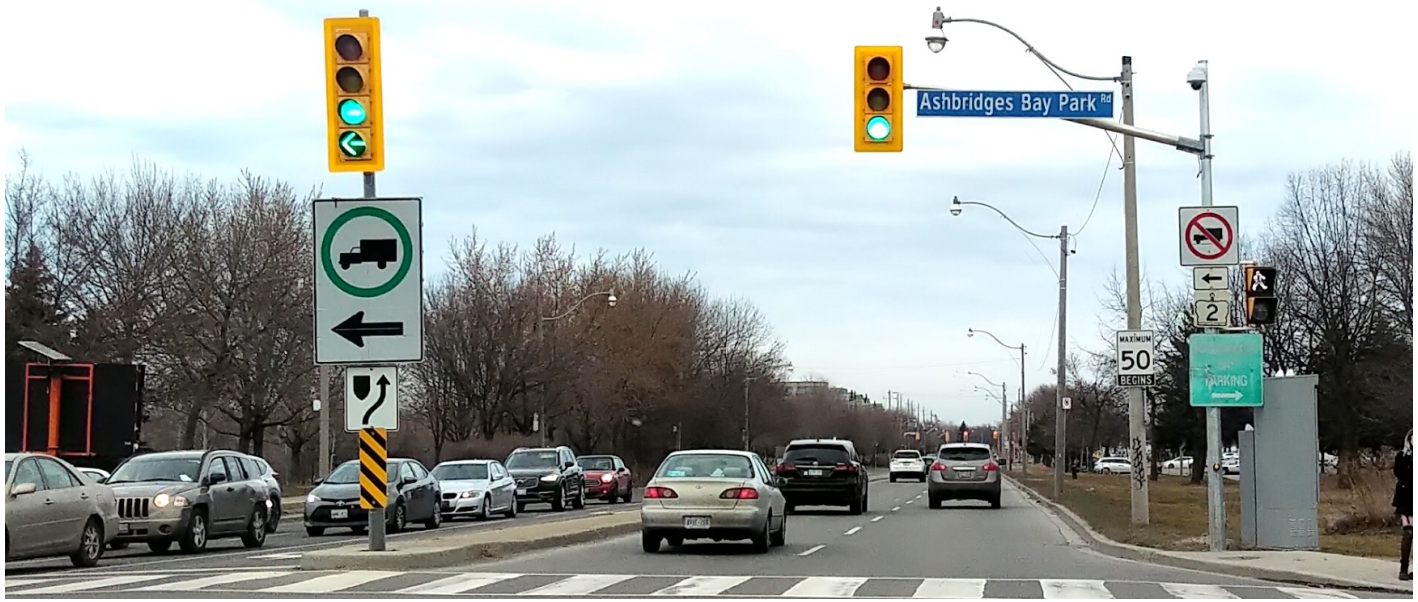


| Location | Recommended Improvements |
|---|---|
| John Street and Bartlett Road | • Install a traffic control signal at the intersection to account for the 2024 Future Conditions (100% Rerouting) scenario. |
| Durham Road Crossing | • Widen the two at-grade crossing lanes to 3.5 m each and include a 1.5 m shoulder on either side.<br>• Increase crossing surface by 0.5 m beyond either side of the roadway width.<br>• Relocate existing crossing signal equipment.<br>• Replace gate arm with a longer one to align with the road centerline.<br>• Flatten approach grades (must be 2% or less)<br>• Repaint pavement markings.<br>• Add 2 light poles with 74W Type 3 CREE fixtures 10 m away from rail tracks at the approach in each direction. |
| Mountain Street (From King Street to Beam Street) | • Upgrade existing light fixtures to improve veiling luminance ratio (glare)*. |
| King Street (From Mountain Street to East Avenue) | • Upgrade existing light fixtures to improve veiling luminance ratio (glare)*. |
| Bartlett Road Crossing | • Widen the two at-grade crossing lanes to 3.5 m each and include a 1.5 m shoulder on either side.<br>• Construct a 3 m multi-use path (MUP) on the east side.<br>• Relocate existing crossing signal equipment.<br>• Replace gate arm with a longer one to align with the road centerline and add two lights on the gate arm where the MUP is proposed; the lights should flash alternatively.<br>• Repaint pavement markings. |
| King Street (From East Avenue to Bartlett Road) | • Install combination of joint-use hydro and staggered poles with upgraded light fixtures*. |
| Bartlett Road (From King Street to South Service Road) | • Upgrade and reconstruct<br>• Install a multi-use trail on the east side of Bartlett Road (final location and limits TBD through the detailed design phase) |
| Note: (*) High level recommendation. Further lighting analysis required. | |

# Policies and Strategies

**Truck Route Signage**

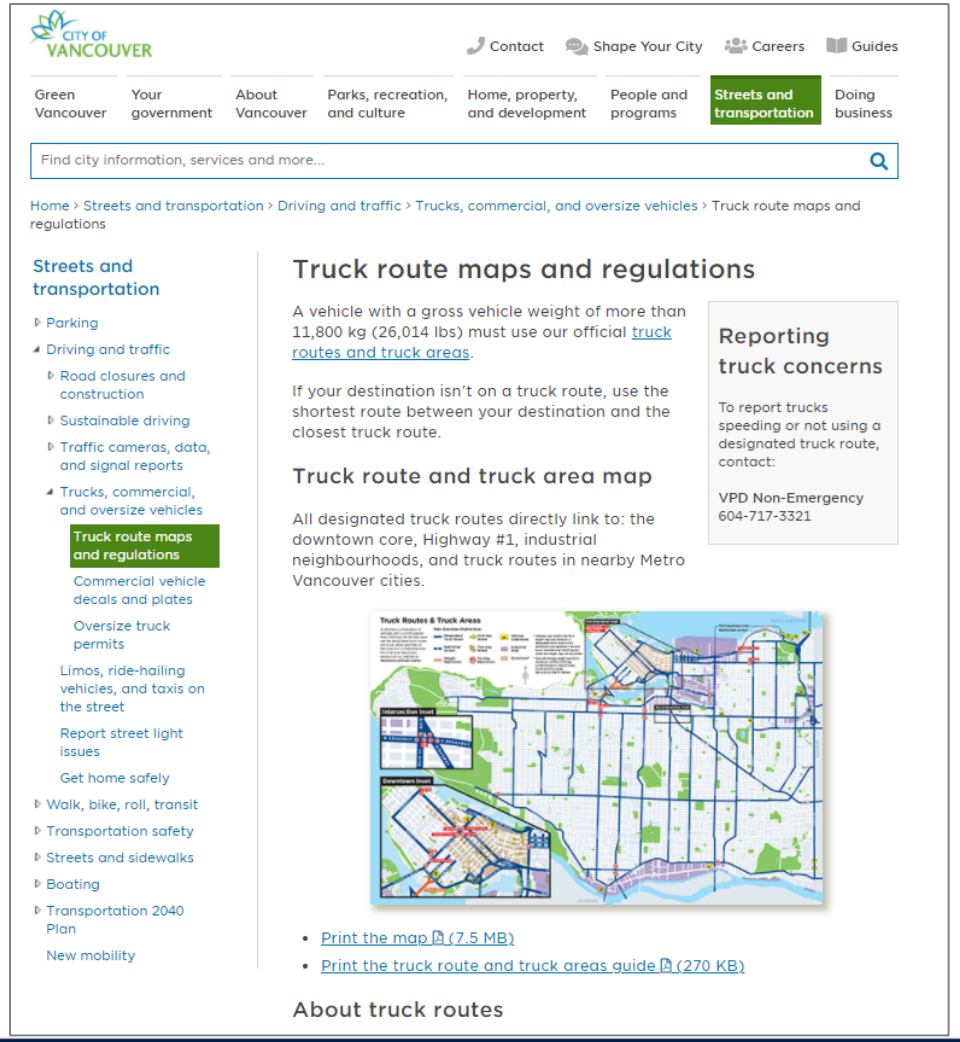
- Update by-laws to include that permissive signage can have a mandatory function to help guide trucks (Town roads only)
- Deploy a hybrid signage system
- Use permissive signage at key decision points on Regional Roads and both permissive and prohibitive signage at key decision points on Town of Lincoln roads



# Policies and Strategies

## Truck Route Information

- Post a truck route map on the Town of Lincoln website, and work with Niagara Region and the Province of Ontario to disseminate Town of Lincoln truck route information




Online Truck Route Information Example:
City of Vancouver

# Policies and Strategies

**Scale Avoidance**

- Continue to work with MTO enforcement branch to identify resource-efficient and cost-effective options to identify and enforce scale by-passing trucks
- Partner with MTO to implement an additional camera monitoring pilot to assist with improved enforcement – including funds in the 2022 budget

**Exceeding Vehicle Weight Limits:**

- Support Niagara Region Police training more officers in commercial vehicle safety

# Policies and Strategies

## Truck Inspection Lay-by

# Study Conclusions


- With purposeful and strategic planning, the Beamsville Truck By-Pass as recommended in the Town's Transportation Master Plan can be very successful in diverting trucks away from downtown Beamsville.

- The existing road network can accommodate the proposed truck diversion with only straightforward upgrades to Durham Road, Bartlett Road and Niagara Region intersections being required.

- Staff must continue to work closely with the Niagara Region, Niagara Regional Police Service, MTO and other agencies and community partners to implement the study recommendations and improve truck safety in Lincoln.

# Estimated Capital Project Costs

| 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 | $1,000,000.00 |
| | **Total:** | $13,500,000.00 |

- These are high-level preliminary cost estimates at this time
- In 2022, during detailed design, staff will work purposefully to achieve the most cost effective plan with the least amount of impacts to private property
- Staff will report back to Council with more refined cost estimates during 2023 capital budget deliberations

# Project Next steps


- **2022** - Initiate detailed design and public consultation phase for upgrading both Bartlett Rd and Durham Rd
  - Develop truck bypass route mapping
  - Request Niagara Region to incorporate recommendations in operational and capital plans
- **2023** - Upgrade Durham Rd
- **2024/2025** - Upgrade Bartlett Rd, and Niagara Region to upgrade regional intersections
- **2025** – Install signage and implement bypass route


# Questions and/or Comments?

# Thank you