

City of Vaughan: Rural Corridors King Vaughan Road/Pine Valley Drive/Kipling Avenue Traffic & Safety Corridor Review

Public Meeting #2
April 19, 2023



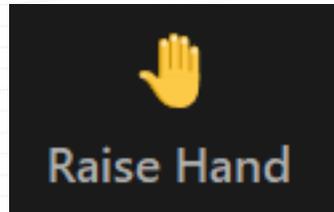
Welcome & Opening Remarks



Land Acknowledgment

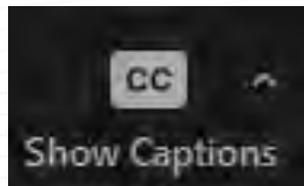
We respectfully acknowledge that the City of Vaughan is situated in the Territory and Treaty 13 lands of the Mississaugas of the Credit First Nation. We also recognize the traditional territory of the Huron-Wendat and the Haudenosaunee. The City of Vaughan is currently home to many First Nations, Métis and Inuit people today. As representatives of the people of the City of Vaughan, we are grateful to have the opportunity to work and live in this territory.

Zoom Webinar Controls – Main Toolbar



Click or tap the **Raise Hand** button to ask a question or provide a comment verbally. The button will be highlighted yellow while your hand is raised, and you are in the queue.

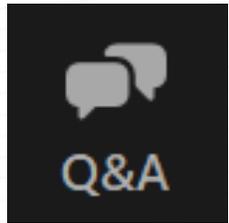
All attendees are muted, attendees with their hand raised will be placed in a queue to be unmuted by the facilitator.



Click or tap the **Show Captions** button to display closed captions.

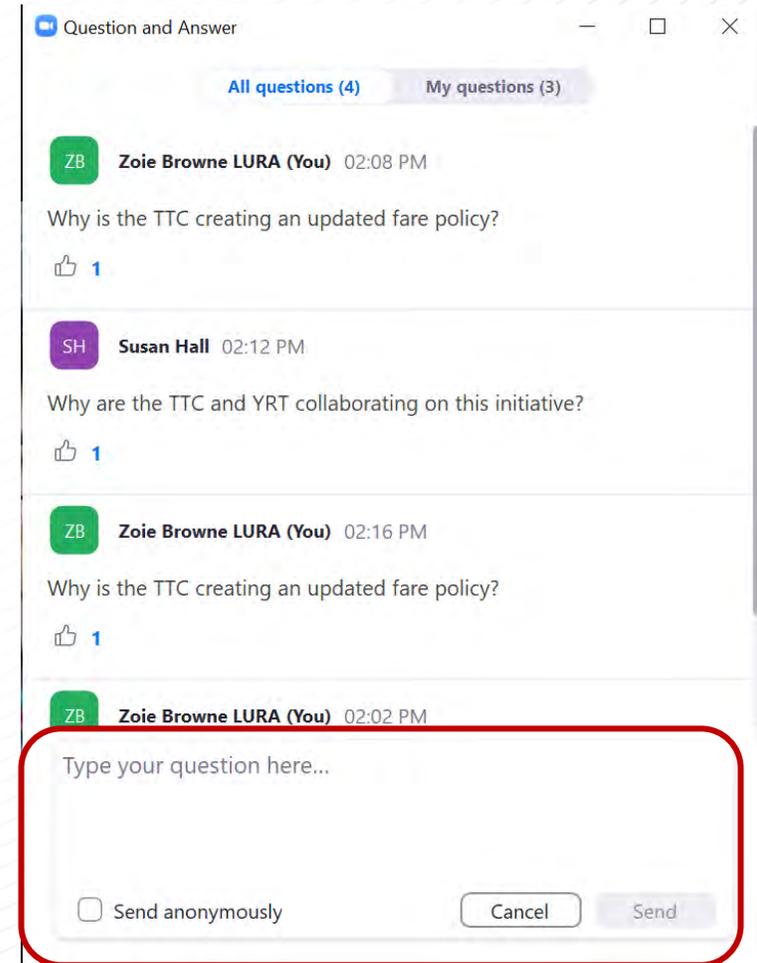
We will be recording this session.
Only the presentation portion will be posted.

Zoom Webinar Controls – Q&A



Click or tap the **Q&A** button to open the Q&A window and submit a written question. Similar questions may be combined and provided with a verbal response.

To submit a written question or comment, type it into this box and then click **Send**.



Zoom Webinar Controls – Telephone Call-In Participants



*9 Raise/Lower Hand

To **raise your hand**, press ***9** on your telephone's keypad. Press ***9** again to **lower your hand**.

Note: You may hear an audio prompt if the host lowers your hand on your behalf.

*6 Unmute/Mute

You can **unmute** yourself by pressing ***6** on your phone's keypad. Press ***6** again to **mute** when you are done speaking.

Note: You may hear an audio prompt if the host mutes you on your behalf.

Purpose of the Session



- ▶ **Provide information about the project purpose, objectives and schedule**
- ▶ **Present study findings and analysis**
- ▶ **Identify areas of improvement and identified suggestions**
- ▶ **Collect public feedback**

Icebreaker



- ▶ **Have you been involved in the rural corridor review thus far? (Select all that apply)**
 - I completed the survey
 - I participated in the first public meeting
 - This is my first time being involved

- ▶ **Which corridor are you most interested in discussing today? (Select all that apply)**
 - King-Vaughan Road
 - Pine Valley Drive
 - Kipling Avenue



Get Involved!



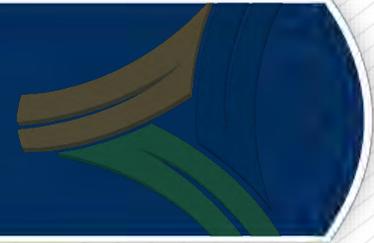
Mentimeter

Visit <https://www.menti.com/>
(on your phone, tablet, or computer)

Input the code 1273 9911
to provide input throughout the
meeting

Project Overview

Project Purpose



- ▶ **As part of the MoveSmart Mobility Management Strategy, the City of Vaughan is furthering its commitment to road safety by conducting six In-Service Road Safety and Corridor Operational Reviews (Corridor Reviews: 3 rural and 3 urban corridors).**
- ▶ **The Corridor Reviews will examine the current and future transportation planning and mobility infrastructure needs for six corridors across Vaughan.**
- ▶ **By assessing traffic operations in these areas, the City can identify additional road safety opportunities for pedestrians, cyclists, and transit and vehicular road users to better serve all modes of transportation.**
- ▶ **These reviews will enable City staff to make recommendations on short- and long-term implementation plans to address any areas of improvement identified in these areas, which will be presented to Council for approval.**

What is a Corridor?

A corridor refers to a linear road and its associated land uses.

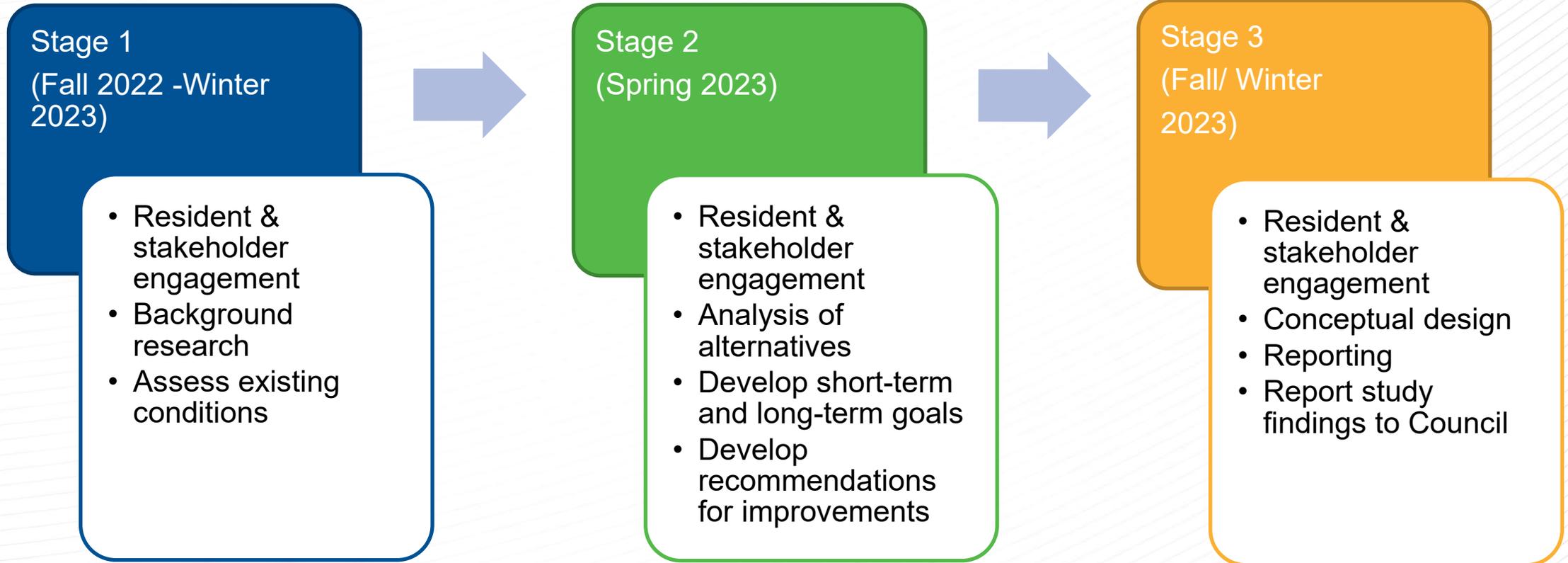
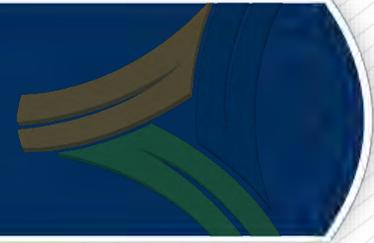
This can include a main roadway and any sidewalks, bike lanes, greenspace and/or bus stops located along that roadway.

Project Components



- ▶ **Identify existing and future transportation needs, including when traffic control measures changes are required (including pedestrian facilities, cycling crossings, stop signs, traffic signals etc.)**
- ▶ **Address the existing and future multi-modal transportation needs for the corridor, which should balance the demand and needs of all modes of transportation**
- ▶ **Address area resident interests concerning traffic operations, traffic safety, operating speeds, pedestrian and cycling safety**
- ▶ **Identify opportunities for transportation improvements to address identified areas and interests**

Project Schedule



Work Completed



To date, we have completed the following:

- ▶ **Background Research and Existing Conditions**
 - Field Observations
 - Traffic Data Collection
 - Intersection Analysis
 - Corridor Assessments
 - Collision Review
- ▶ **Resident and Stakeholder Engagement Round 1**
- ▶ **Analysis and preliminary recommendations**

Traffic Operations and Road Safety Review



To date, we have completed the following:

- ▶ **In-corridor safety assessments for the three rural corridors were conducted.**
- ▶ **Vehicle operating speeds within these corridors have been assessed.**
- ▶ **Heavy vehicle use within these corridors has been assessed.**
- ▶ **The applicability, feasibility, and appropriateness of potential mitigation measures has been reviewed and assessed.**

Public Engagement Round 1 – What We Heard



King-Vaughan Road:

- ▶ **Vision: cyclist-friendly, comfortable/safe for all modes, connected**
- ▶ **Areas to Address: frequency of collisions/near misses, curves/obstacles, aggressive driving**

Kipling Avenue:

- ▶ **Vision: cyclist-friendly, safe for all road users, connected**
- ▶ **Areas to Address: speeding, aggressive driving, pavement conditions**

Pine Valley Drive:

- ▶ **Vision: safe for all road users, cyclist-friendly, connected**
- ▶ **Areas to Address: biking facilities, speeding, aggressive driving, not obeying signs**

Overview of Identified Areas to be Addressed

Overview of In-Corridor Safety Assessments



- ▶ **Intersection sight distance / sight line improvements identified**
- ▶ **Signage and post condition improvements identified**
- ▶ **Pavement marking condition improvements identified**
- ▶ **Sections of guide rail to be replaced identified**
- ▶ **Asphalt roadway condition improvements identified**
- ▶ **Opportunities for dedicated walking / cycling provisions identified. Currently accommodated on narrow shoulders where available**
- ▶ **Opportunities to provide roadside illumination identified**
- ▶ **No identifiable trends or patterns from the collision data**

Overview of In-Corridor Safety Assessments



- ▶ **Roadways are designed in accordance with necessary guidelines and manuals**
 - Posted maximum speed limits are appropriate for the roadway sections as designed
 - Posted advisory speed limits for curves/bends are appropriate

- ▶ **Any recommendations provided would be above and beyond what is existing provincial standards/guidelines. The intent is to compliment and further improve safety conditions.**

Overview of Vehicle Operating Speeds



- ▶ **The collected speed data indicates non-compliance with the posted maximum posted speed limits**
- ▶ **Posted maximum speed limits range from 60 km/h with 40 km/h advisory, to 80 km/h**
- ▶ **85th percentile (operating) speeds all exceed the posted maximums**
- ▶ **For horizontal curves with posted advisory speeds, compliance was observed**

Overview of Heavy Vehicle Volumes



- ▶ **Volume of heavy vehicles observed are reflective of typical rural collector and arterial classifications**
- ▶ **Rural collectors are typically designed to accommodate up to 30% trucks in the 3 – 5 tonne range per the TAC Guide**
- ▶ **Rural arterials are typically designed to accommodate up to 20% trucks per the TAC Guide**
 - Year round 5 tonne load restrictions are in place along several sections of King-Vaughan Road, Kipling Avenue, and Pine Valley Drive
- ▶ **Consideration of the changing impacts regarding truck traffic as the corridors become urbanized, including increased pedestrians and cyclists from newer residential developments**

Overview of Preliminary Recommendations

Potential Mitigation Measures - Safety



Sight Distance/Sight Lines

- ▶ Improve sight triangles
- ▶ Vegetation to be removed where noted
- ▶ Maintain a hazard's sight distance through increased frequency of landscaping/maintenance of roadside vegetation

Signage

- ▶ Replace signage where appropriate (i.e., retroreflective sheeting is ineffective) to ensure fixed, moving, and situation hazards are effectively communicated to motorists
- ▶ Increase signage size to improve reading time, perception-reaction time, maneuvering time, legibility distance, and adjacent vegetation

Potential Mitigation Measures - Safety



Signage

- ▶ Installation of tiger tails beneath stop signs
- ▶ Supplementary flashing beacons
- ▶ New signage to improve and address identified potential fixed, moving, and situation hazards (i.e., “Share the Road” and “Shared Use Land Single File” signage for motorists and cyclists)

Pavement Markings

- ▶ Replacement of pavement markings where required (i.e., retroreflectivity)
- ▶ Provision of pavement marking delineators where determined appropriate (i.e., changes in the horizontal alignment for improved daytime and nighttime visibility)

Potential Mitigation Measures - Safety



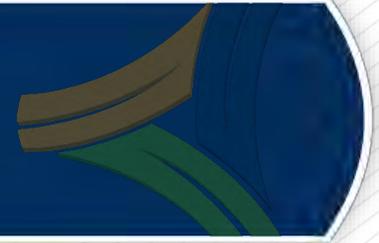
Pavement Markings

- ▶ Provision of stop bars at intersections
- ▶ Provision of direction dividing lines addressing specific roadway features including vertical curves, horizontal curves, and obstructions within the roadway
- ▶ Where appropriate, the provision of edge line markings to delineate the outside edges of the travelled pavement
- ▶ Periodic inspections and at regular intervals during service life

Guide Rail

- ▶ Replacement of damaged guide rail where appropriate

Potential Mitigation Measures - Safety



Roadway Asphalt

- ▶ Locations that may exhibit wheel rutting, potholes, and demonstrate overall degraded conditions should be removed and replaced

Active Transportation Infrastructure

- ▶ Corridor sections adjacent to residential neighbourhoods currently do not provide any dedicated infrastructure for walking or cycling
- ▶ No dedicated active transportation infrastructure. Does not promote walkability for pedestrians and limits accessibility
- ▶ To address and improve mobility for all users, where feasible the provision of paved shoulders are identified are appropriate and well-suited for rural / non-urbanized cross-sections per the City's Pedestrian and Bicycle Master Plan

Potential Mitigation Measures - Safety



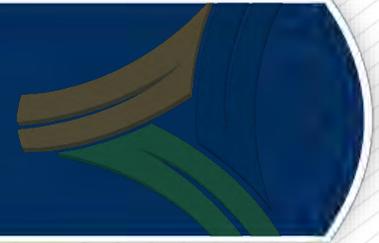
Roadside Illumination

- ▶ Appropriate roadside lighting to be considered along the corridors
- ▶ Intersection lighting improvements (i.e., upgrade to LED, increased lumen output)

Collisions

- ▶ There were no identifiable trends or patterns noted from the collision data reviewed. The exception being the majority of reported collisions were single motor vehicle accidents resulting in property damage only, predominantly due to driver error
- ▶ The proposed operational measures for implementation are anticipated to improve the overall corridor operations and minimize the number of single motor vehicle accidents due to driver error

Potential Mitigation Measures – Speed Management



The following recommendations specific to rural roadways are to slow down drivers physically or psychologically.

▶ Horizontal physical displacement

- A form of displacement that requires drivers to move horizontally left or right to require them to slow down
 - Pavement markings to narrow travel lanes
 - Transverse rumble strips

▶ Vertical physical displacement

- A form of displacement that moves drivers vertically, giving them an unpleasant feeling to slow down
 - Rumble strips where they determined appropriate for context and use



Potential Mitigation Measures – Speed Management



▶ Narrowing

- Used to psychologically make drivers adjust their speeds because they cannot travel the desired speed with a narrowed lane
 - Shoulder widening to narrow travel lanes
 - Vertical centreline treatments

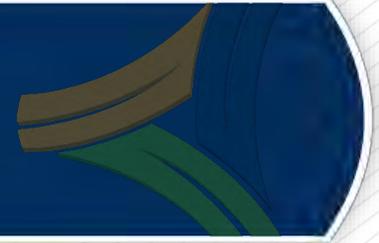


▶ Gateway Markers

- A treatment that is placed off the roadway to alert motorists that they are entering a community or a transition area
 - Community gateways



Potential Mitigation Measures – Speed Management



▶ Pavement Markings

- Markings on the pavement to alert drivers of a speed change or of the maximum speed limit, or to provide motorists a sense of feeling that are speeding up (artificial)
 - Transverse lane markings (optical speed bars, converging chevrons, etc.)
 - Surface treatments (regulatory speed limits stenciled, etc.)



▶ Traffic Control Signage

- Custom signage to drawing more attention advising motorists to slow down
 - Dynamic speed displays and vehicle-actuated signs
 - Photo-radar reinforcement (if determined applicable)
 - Light-emitting diodes (LEDs) in pavement markings or signage



Potential Mitigation Measures – Heavy Vehicles



It is our understanding there are various investigations and studies underway on how best to address truck volumes and travel patterns within the immediate and adjacent areas to the study area corridors.

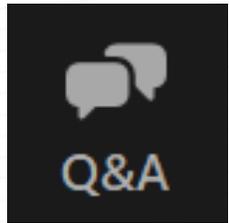
City staff have and will continue to coordinate with York Region, City By-law and Enforcement, and York Region Police (YRP) to manage heavy vehicle movements and land use activities.

Questions of Clarification



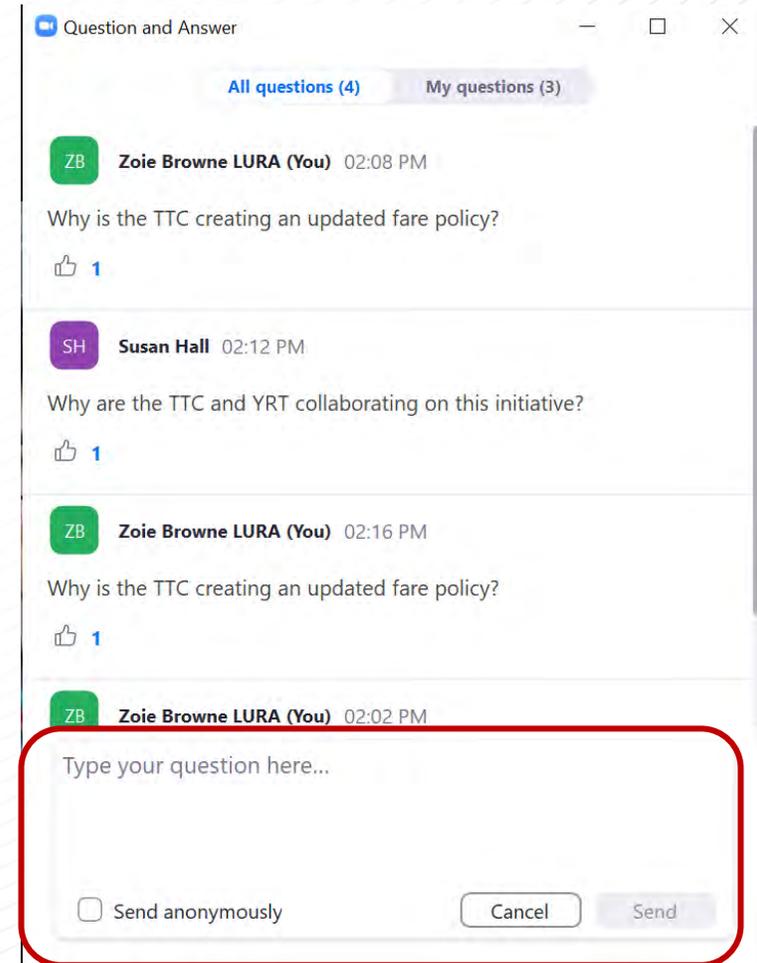
- ▶ **Are there any questions about the material that has been presented thus far?**
 - Please submit via Q&A or raise your hand

Zoom Webinar Controls – Q&A



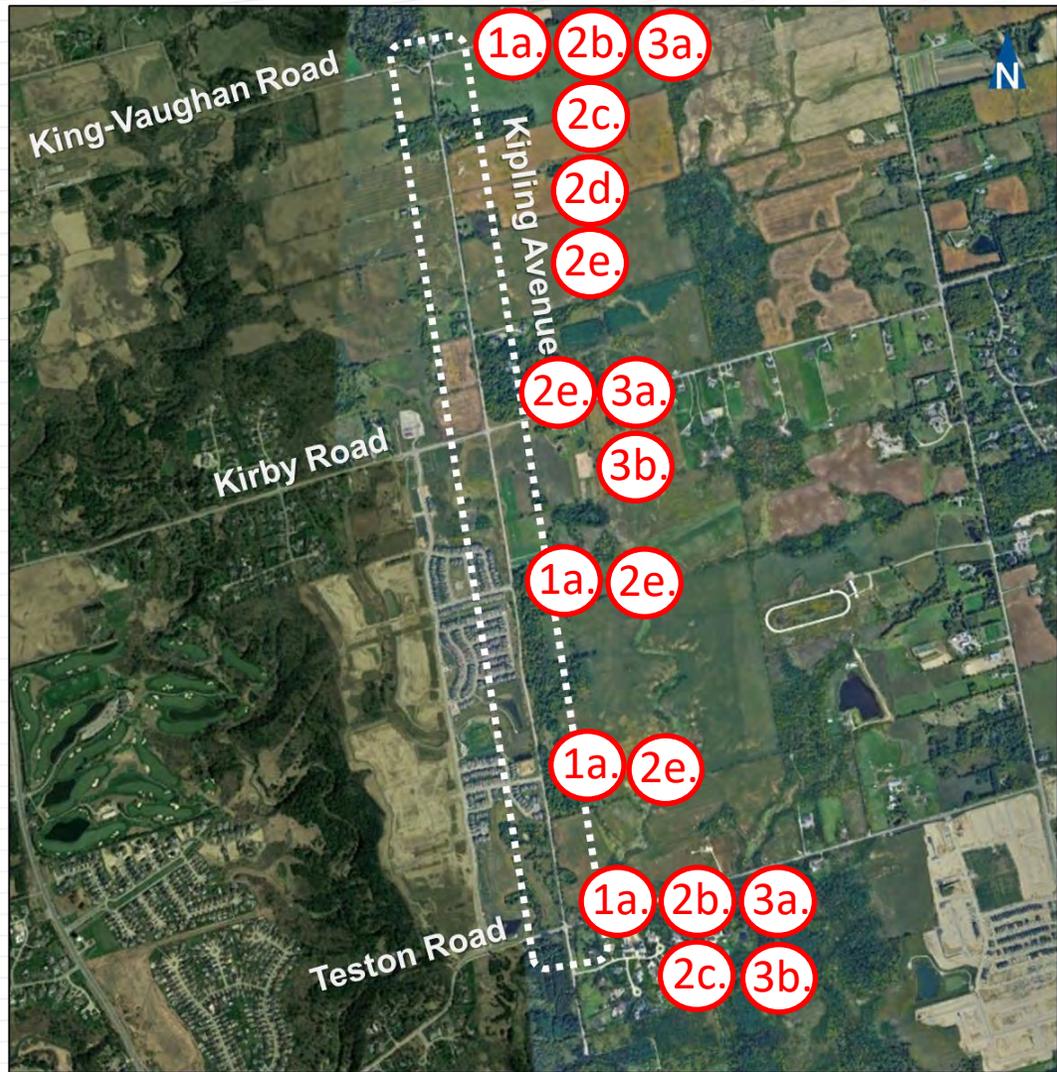
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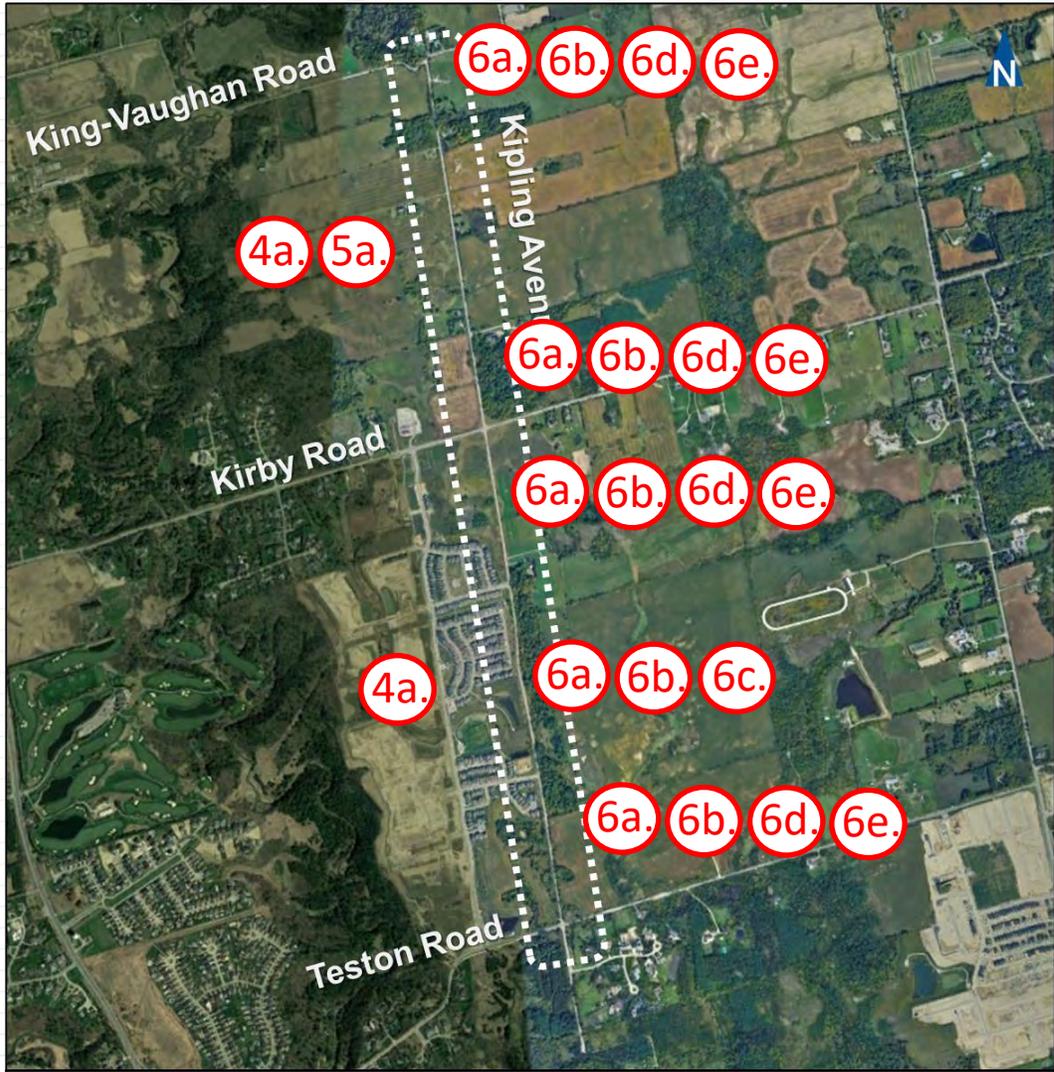
Screening, Evaluation, Findings and Preliminary Recommendations

Kipling Avenue between Teston Road and King-Vaughan Road



Kipling Avenue Corridor: King-Vaughan Road to Teston Road

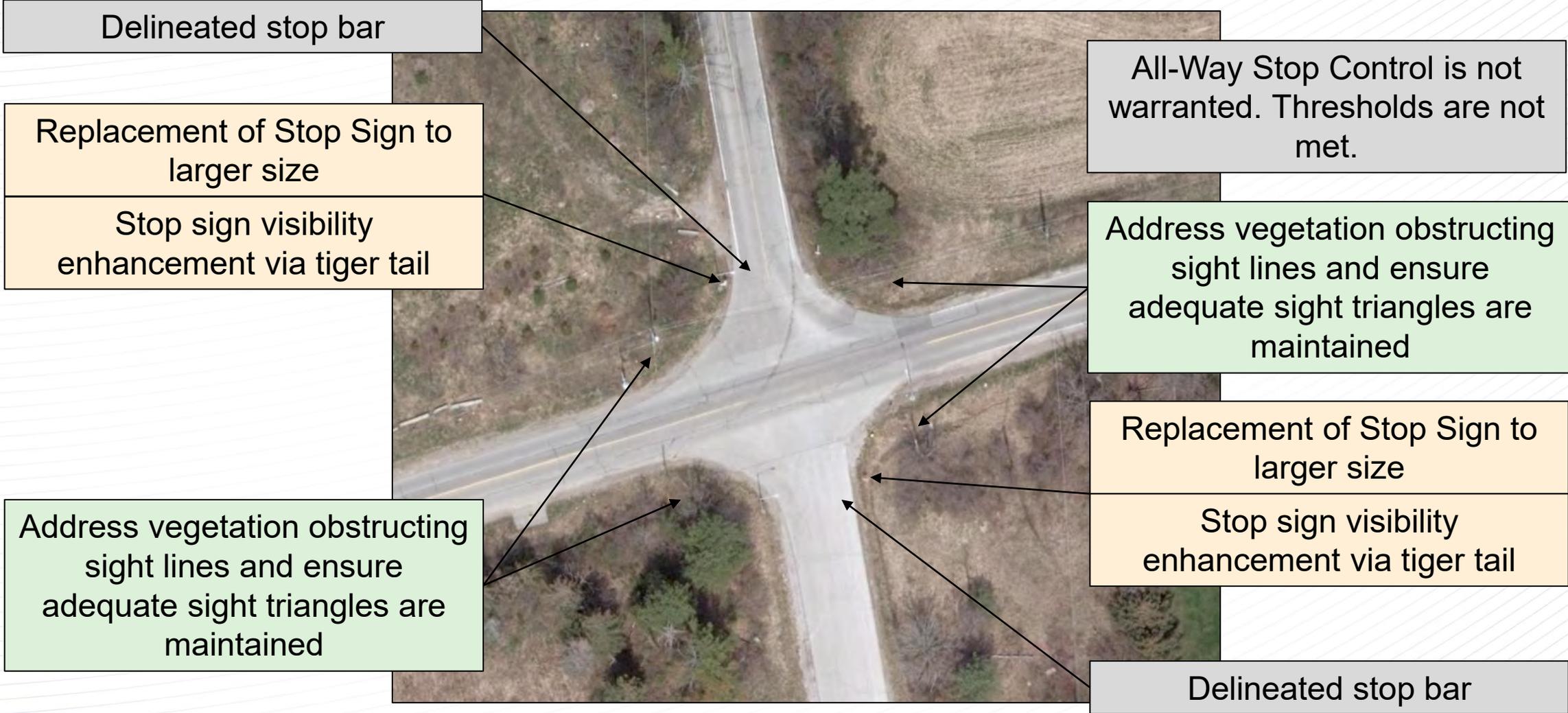
Analysis and Findings	Preliminary Recommendations
<p>1. Intersection sight distance and obstructed sight lines</p>	<p>1a. Vegetation to be removed where sight lines are obstructed and increased maintenance of roadside vegetation</p>
<p>2. Signage Improvements</p>	<p>2a. Replace damaged signage (i.e., no longer retroreflective) 2b. Increase signage size 2c. Install tiger tails beneath stop signs 2d. Supplementary red flashing beacon for stop sign 2e. Additional signage to improve and/or address fixed, moving, and situational hazards</p>
<p>3. Pavement Marking Replacement/ Rehabilitation</p>	<p>3a. Replacement of markings no longer effective (i.e., retroreflectivity) and periodic inspections during service life 3b. Stop bars</p>



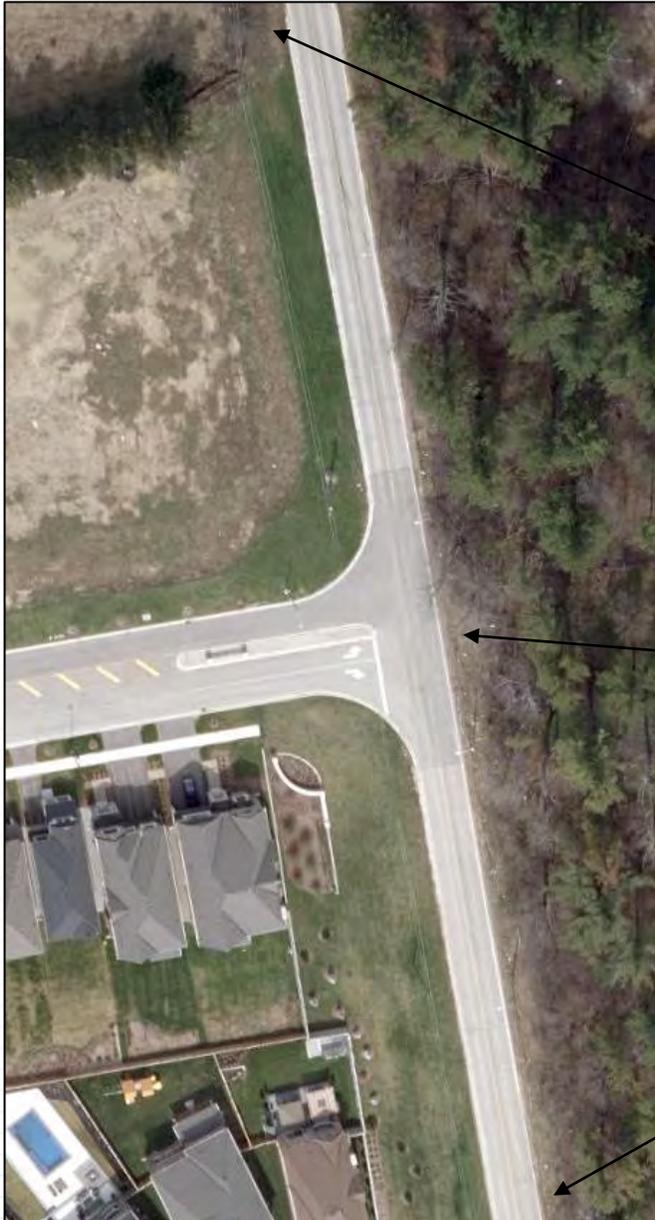
Kipling Avenue Corridor: King-Vaughan Road to Teston Road

Analysis and Findings	Preliminary Recommendations
4. No dedicated active transportation facilities	4a. Paved shoulders for cyclists and pedestrians
5. Illumination	5a. Provision of roadside illumination
6. Operating speeds exceeding maximum posted limits	6a. Transverse lane markings. Specifically, optical speed bars at along the roadway edges. 6b. Regulatory speed limits stenciled on pavement surface 6c. Bollards along the centreline 6d. Light-emitting diodes (LEDs) in speed limit signage 6e. Photo-radar enforcement

Teston Road/Kipling Avenue



Pierre Burton Boulevard/Kipling Avenue



HIDDEN

Short-Term Improvements

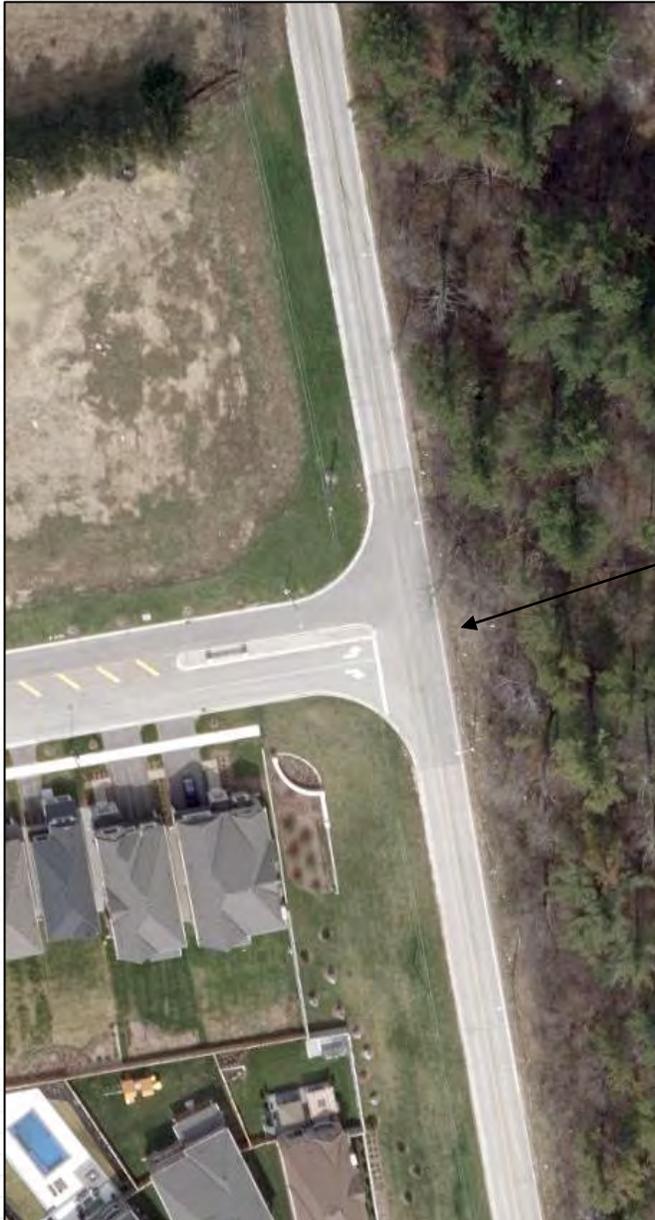
Provision of "Intersection Sign – Controlled" and further accompanied by a "Hidden Intersection" Tab Sign in the southbound direction approaching Pierre Burton. Located a minimum advance distance of 160 metres

Address any vegetation obstructing the temporary traffic mirror



Provision of "Intersection Sign – Controlled" in the northbound direction approaching Pierre Burton. Located a minimum advance distance of 160 metres

Pierre Burton Boulevard/Kipling Avenue

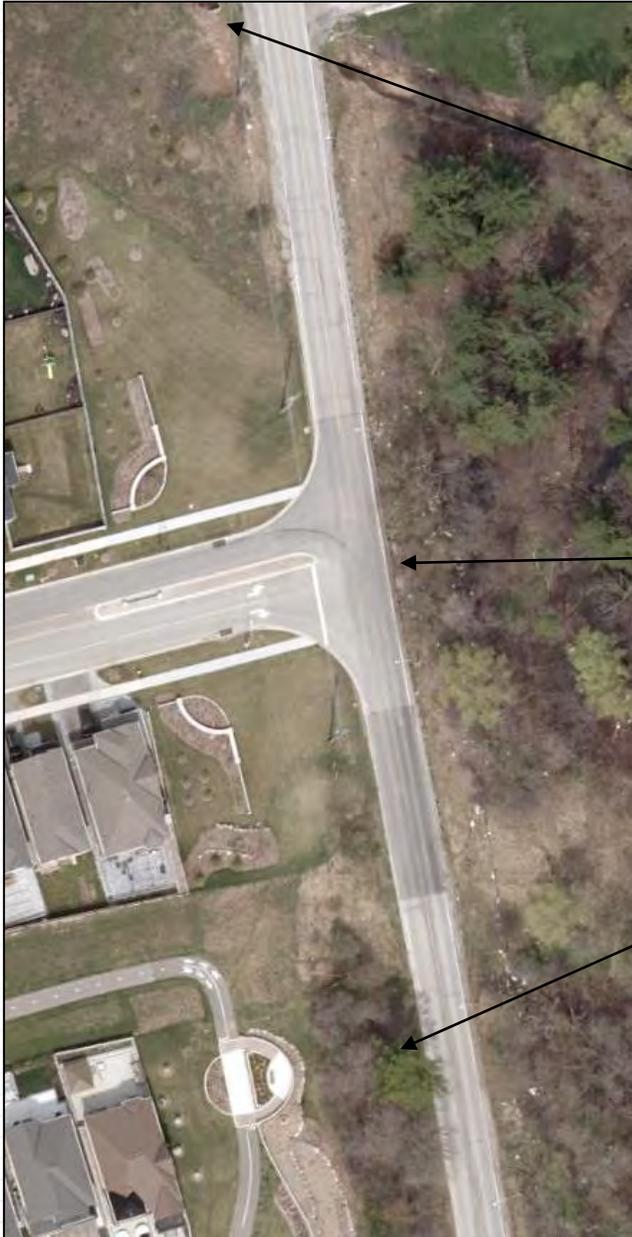


Long-Term Improvements

Address the original issue requiring the use of a temporary traffic mirror.

To achieve TAC Intersection Sight Distance (ISD) and Stopping Sight Distance (SSD) requirements the constraining vertical deflections along Kipling Avenue need to be addressed.

McMichael Avenue/Kipling Avenue



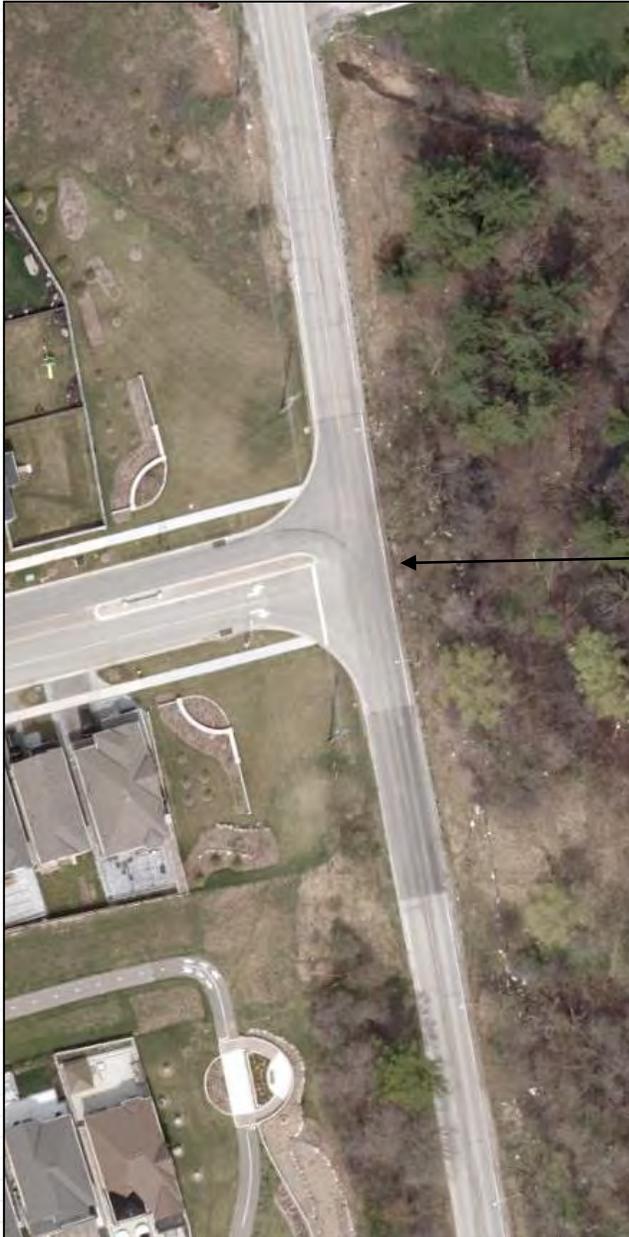
Short-Term Improvements

Provision of "Intersection Sign – Controlled" in the southbound direction approaching McMichael. Located a minimum advance distance of 160 metres

Address any vegetation obstructing the temporary traffic mirror

Address vegetation obstructing sight lines and ensure adequate sight triangles are maintained

McMichael Avenue/Kipling Avenue



Long-Term Improvements

Address the original issue requiring the use of a temporary traffic mirror.

To achieve TAC Intersection Sight Distance (ISD) and Stopping Sight Distance (SSD) requirements the constraining vertical deflections along Kipling Avenue need to be addressed.



Kirby Road/Kipling Avenue

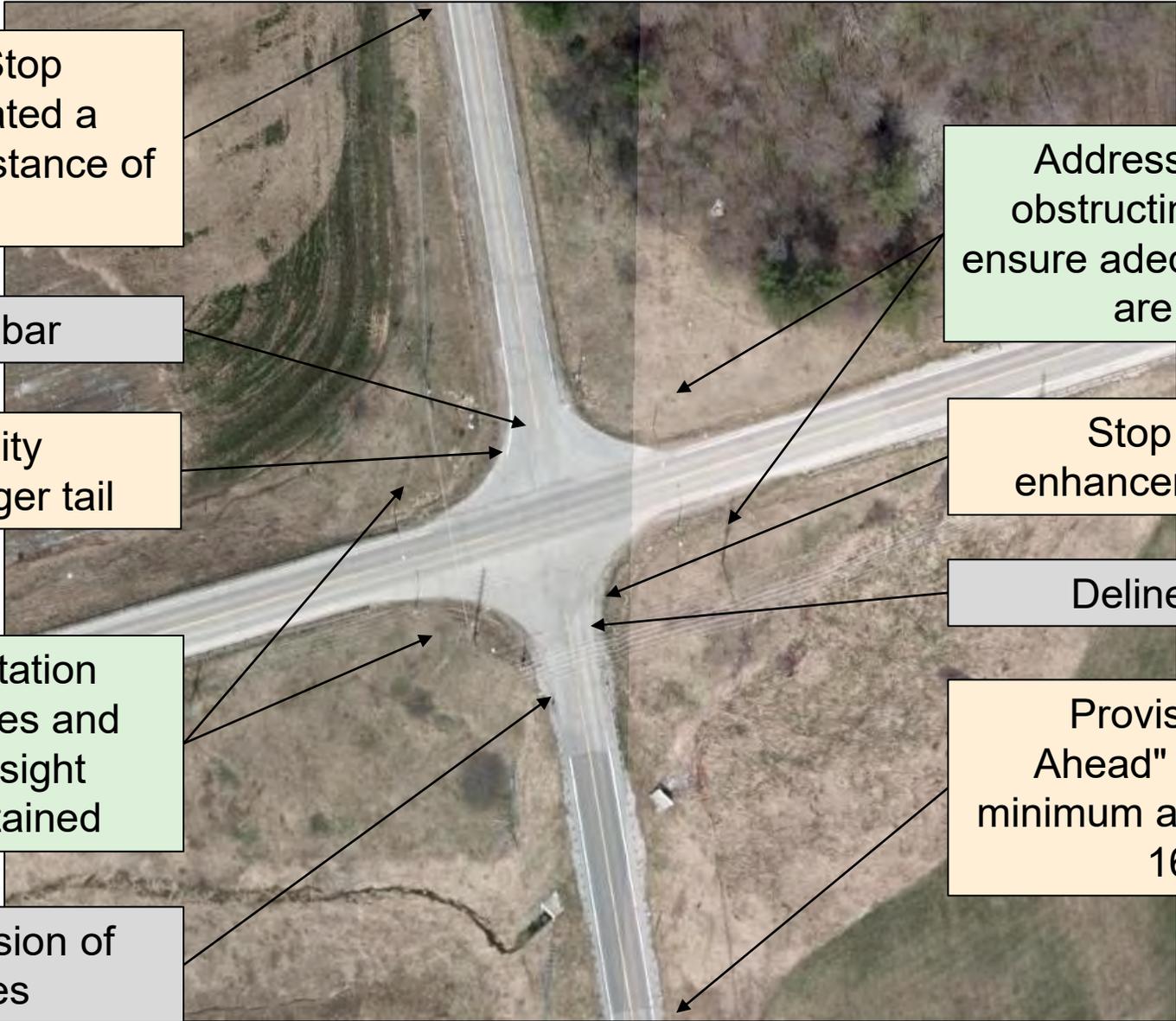
Provision of a "Stop Ahead" Sign. Located a minimum advance distance of 160 metres

Delineated stop bar

Stop sign visibility enhancement via tiger tail

Address any vegetation obstructing sight lines and ensure adequate sight triangles are maintained

Replacement/provision of white edge lines



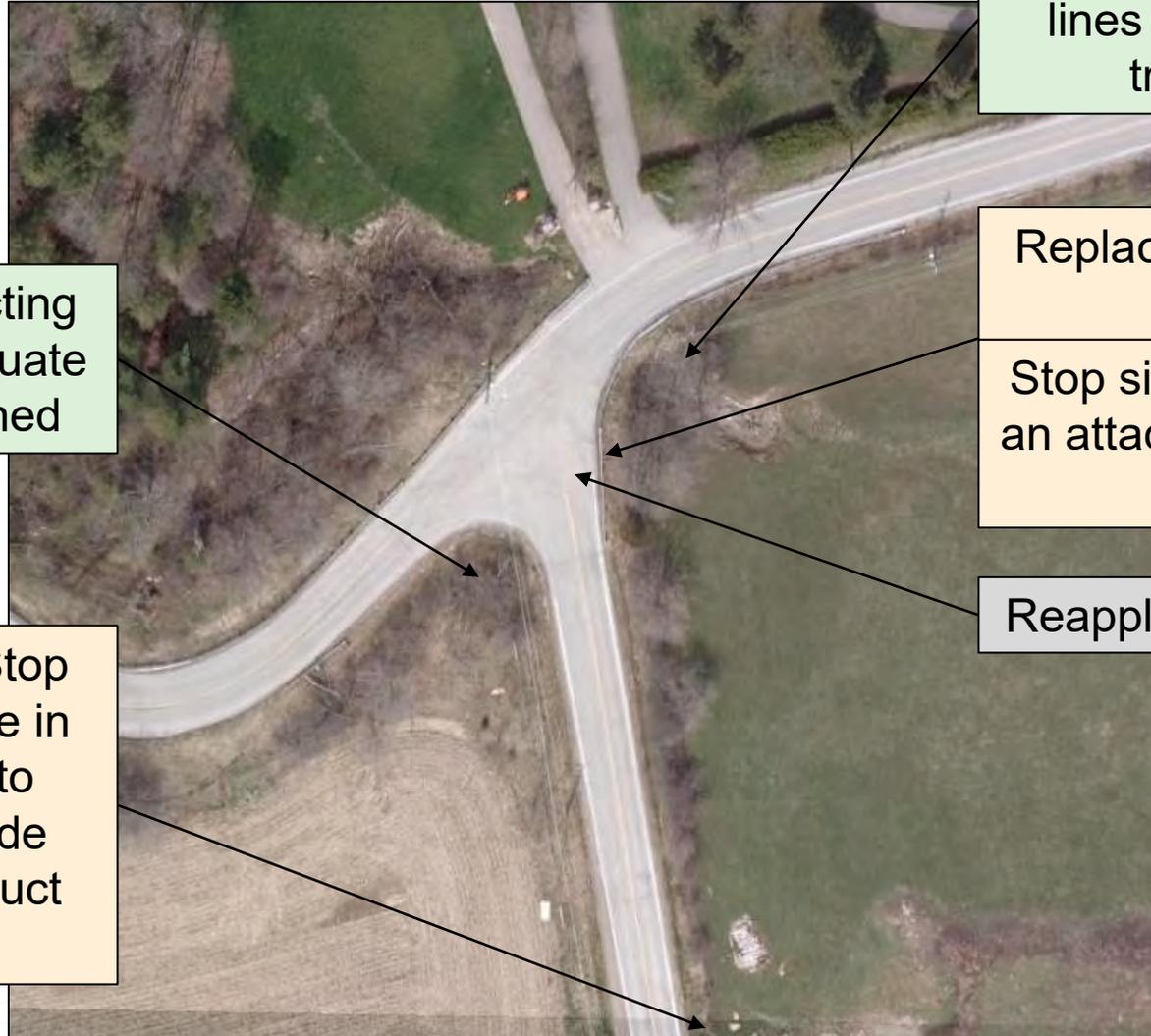
Address any vegetation obstructing sight lines and ensure adequate sight triangles are maintained

Stop sign visibility enhancement via tiger tail

Delineated stop bar

Provision of a "Stop Ahead" Sign. Located a minimum advance distance of 160 metres

King-Vaughan Road/Kipling Avenue



Address vegetation obstructing sight lines and ensure adequate sight triangles are maintained

Address vegetation obstructing sight lines and ensure adequate sight triangles are maintained

Replacement of Stop Sign to larger size

Stop sign visibility enhancement via an attached flashing red beacon and tiger tail treatments

Reapplication of delineated stop bar

Replacement of existing "Stop Ahead" Sign to a larger size in the northbound direction to mitigate impacts of roadside vegetation that could obstruct the sign face.



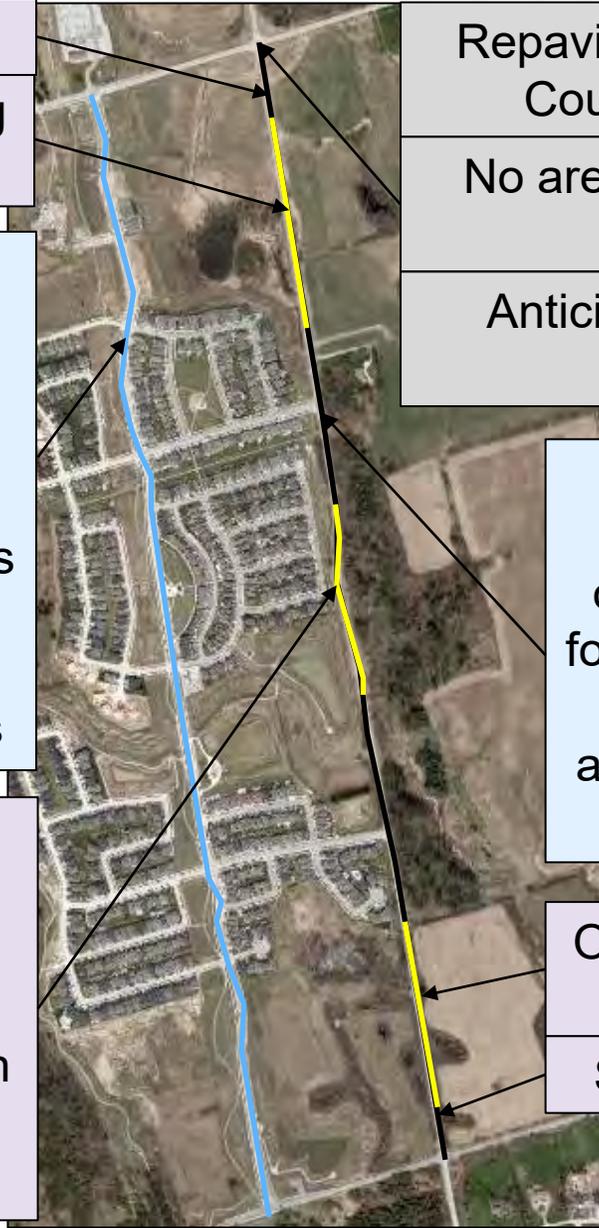
Kipling Avenue between Teston Road and Kirby Road

Speed limits stenciled on roadway surface

Optical speed bars to slow vehicle operating speeds

The adjacent residential neighbourhood is served by Kleinburg Summit Way and provides sidewalks and a multi-use trail between Teston Road and Kirby Road. Given the existence of these facilities it would be advantageous to direct pedestrians and recreational cyclists to utilize the adjacent infrastructure which provides a safer environment for vulnerable road users

Bollards along the centreline where the horizontal curvature exists. The vertical centreline treatment provides a sense of friction to ensure traffic is separated and assists in reduction of speed carried through the area by forcing drivers to travel the horizontal curve at an appropriate speed



Repaving of Kipling Avenue between High Valley Court and Kirby Road is planned for 2024.

No areas with significant degradation that would require immediate attention

Anticipated that all pavement markings will be replaced

With the upcoming repaving of Kipling Avenue, this project should consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section as vulnerable road users are currently accommodated within the travelled roadway or a narrow shoulder where available

Optical speed bars to slow vehicle operating speeds

Speed limits stenciled on roadway surface

Kipling Avenue between Kirby Road and King-Vaughan Road

Speed limits stenciled on roadway surface
Optical speed bars to slow vehicle operating speeds

No immediate plans for repaving. When the corridor section is to be repaved, the project should consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section

No pavement areas with significant degradation that would require immediate attention within corridor
Provision of roadside illumination for the corridor



Provision of "Share the Road" Sign and accompanying "Share the Road" Tab Sign to better accommodate cyclists (Southbound direction)



Optical speed bars to slow vehicle operating speeds
Speed limits stenciled on roadway surface

Other Preliminary Recommendations

- Speed limit signage supplemented with radar-actuated LEDs around the sign border
- Passive Traffic Calming Measures:
 - Education, awareness, and enforcement
 - Radar Speed Boards: To educate and raise awareness of motorist travel speed to improve road safety
 - Road Watch: A community driven program that provides citizens with a means to report dangerous or unlawful driver behaviour such as speeding
 - #SlowDownVaughan: To encourage motorists to obey speed limits

Kipling Avenue Corridor

Discussion

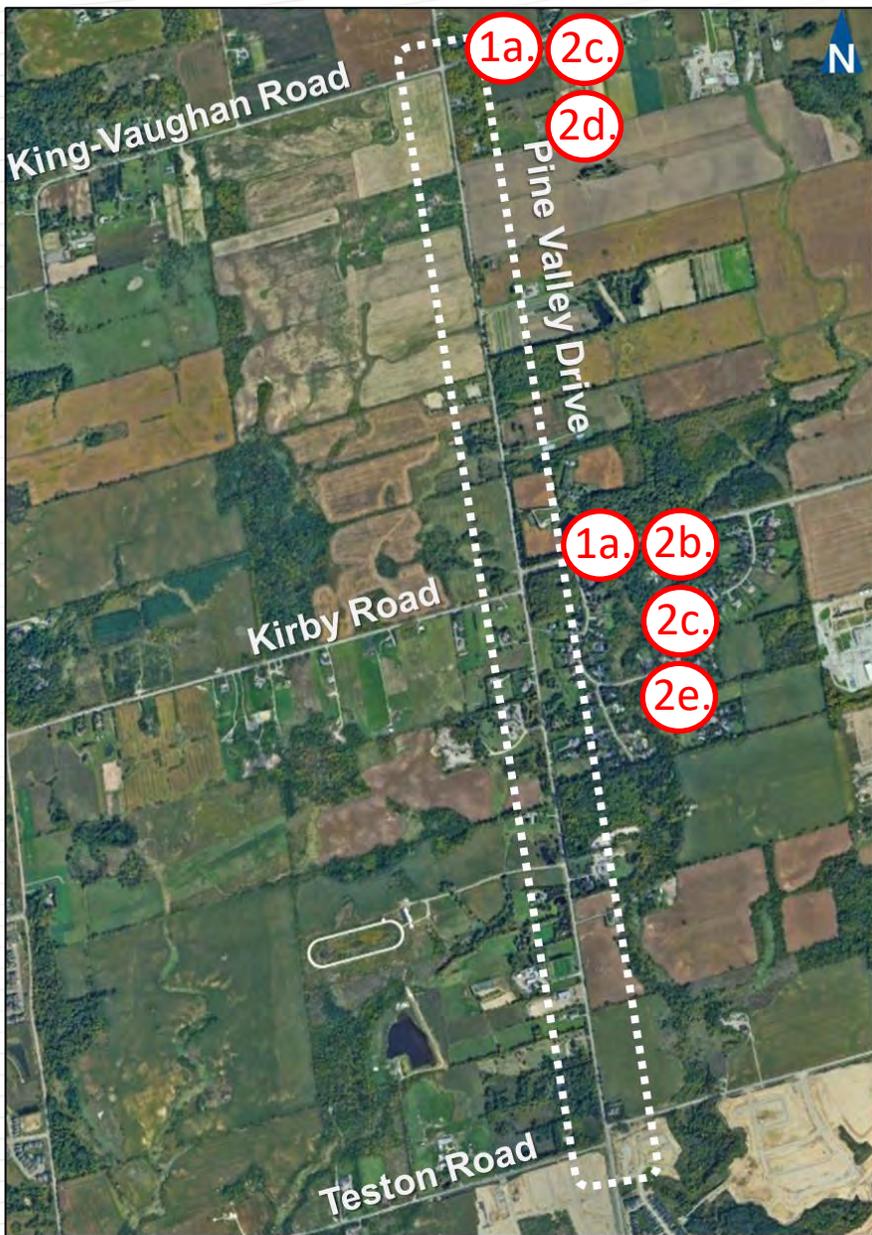
Discussion Questions



- ▶ **To what degree do you think the proposed suite of preliminary recommendations will help address the needs of the community?**
 - Completely, mostly, somewhat, not at all, unsure
- ▶ **How, if at all, might the proposed suite of preliminary recommendations be strengthened or refined?**



Pine Valley Drive between Teston Road and King-Vaughan Road



Pine Valley Drive Corridor: King-Vaughan Road to Teston Road

Analysis and Findings

Preliminary Recommendations

1. Poor intersection sight distance and obstructed sight lines

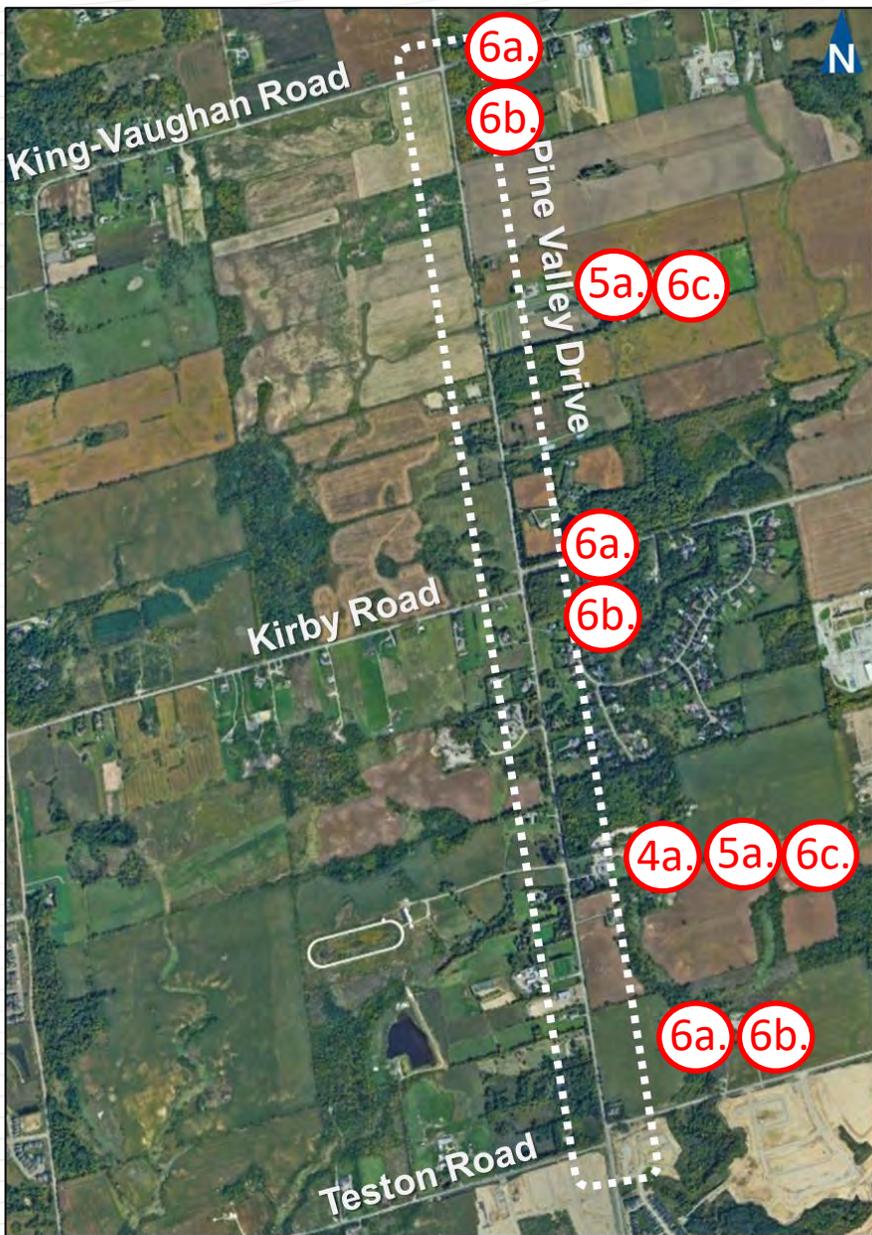
1a. Vegetation to be removed where sight lines are obstructed and increased maintenance of roadside vegetation

2. Signage Improvements

2a. Replace damaged signage (i.e., no longer retroreflective)
 2b. Increase signage size
 2c. Install tiger tails beneath stop signs
 2d. Supplementary red flashing beacon for stop sign
 2e. Additional signage to improve and/or address fixed, moving, and situational hazards

3. Pavement Marking Replacement/ Rehabilitation

3a. Replacement of markings no longer effective (i.e., retroreflectivity) and periodic inspections during service life
 3b. Stop bars



Pine Valley Drive Corridor: King-Vaughan Road to Teston Road

Analysis and Findings

Preliminary Recommendations

4. No dedicated active transportation facilities

4a. Paved shoulders for cyclists and pedestrians

5. Illumination

5a. Provision of roadside illumination

6. Operating speeds exceeding maximum posted limits

6a. Transverse lane markings. Specifically, optical speed bars at along the roadway edges.

6b. Regulatory speed limits stenciled on pavement surface

6c. Light-emitting diodes (LEDs) in speed limit signage

Teston Road/Pine Valley Drive

The offset Teston Road intersection legs are currently being realigned as part of Teston Road reconstruction works



Kirby Road (South and North Legs)/Pine Valley Drive

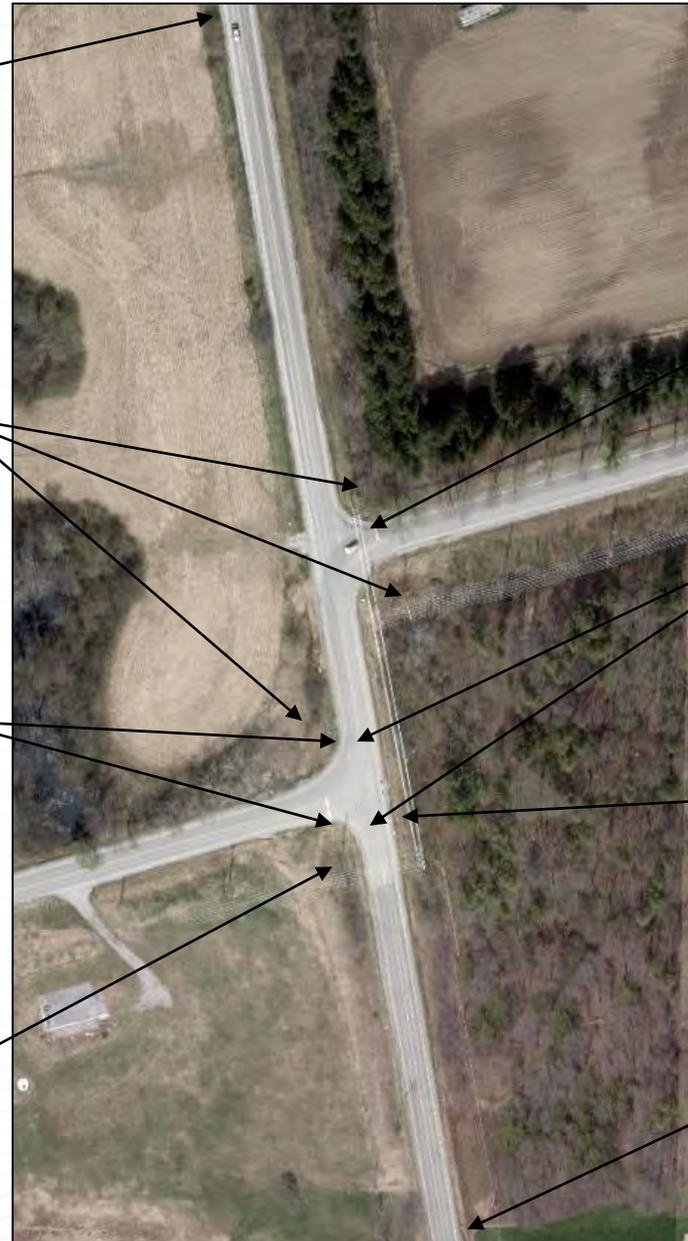
Short-Term Improvements

Replacement of "Stop Sign Ahead" with a larger sign size

Address vegetation obstructing sight lines and ensure adequate sight triangles are maintained

Replacement of Stop Sign to larger size
Stop sign visibility enhancement via tiger tail

Address vegetation obstructing sight lines and ensure adequate sight triangles are maintained



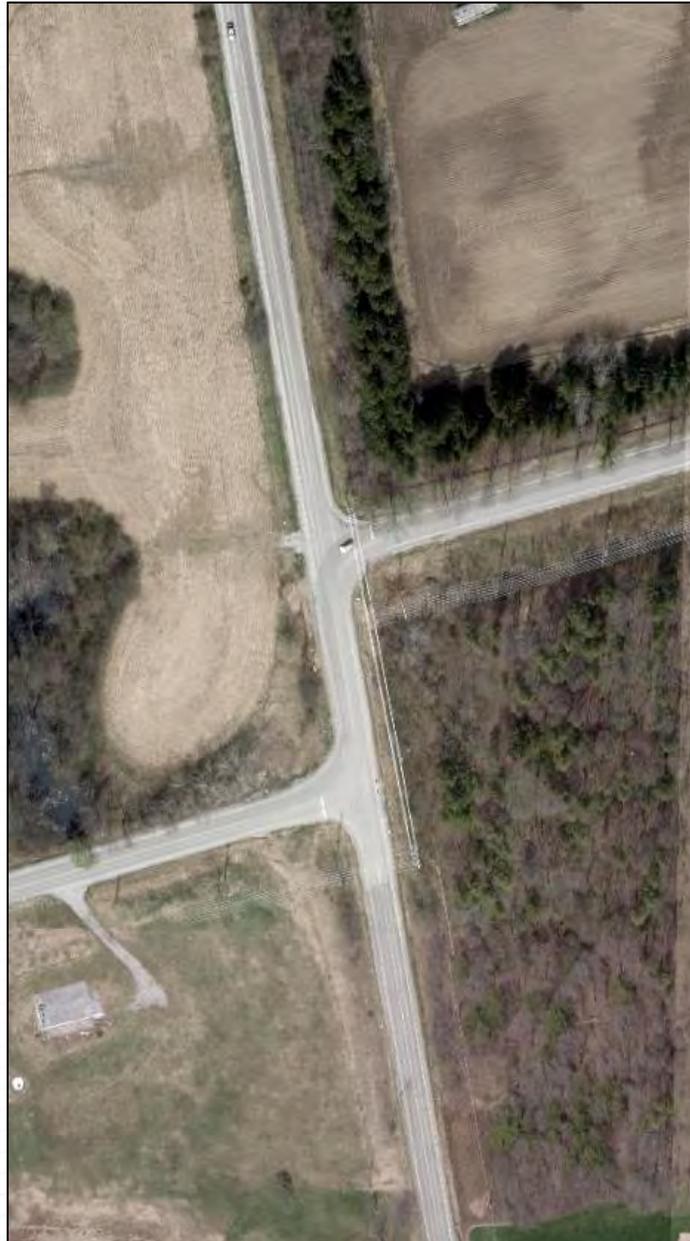
Replacement of Stop Sign to larger size
Stop sign visibility enhancement via tiger tail

Repaint delineated stop bar

Replacement of Stop Sign to larger size
Stop sign visibility enhancement via tiger tail

Replacement of "Stop Sign Ahead" with a larger sign size

Kirby Road (South and North Legs)/Pine Valley Drive



Long-Term Improvements

The offset Kirby Road intersection legs to be realigned removing the offset

Pine Valley Drive between Teston Road and Kirby Road

Speed limits stenciled on roadway surface

Optical speed bars to slow vehicle operating speeds

With the upcoming repaving of Kipling Avenue, this project should consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section as vulnerable road users are currently accommodated within the travelled roadway or a narrow shoulder where available



Repaving of Pine Valley Drive between Teston Road and Kirby Road is planned for 2024.

No areas with significant degradation that would require immediate attention

Anticipated that all pavement markings will be replaced

Optical speed bars to slow vehicle operating speeds

Speed limits stenciled on roadway surface

Pine Valley Drive between Kirby Road and King-Vaughan Road



Speed limits stenciled on roadway surface

Optical speed bars to slow vehicle operating speeds

No immediate plans for repaving. When the corridor section is to be repaved, the project should consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section

No pavement areas with significant degradation that would require immediate attention within corridor

Provision of roadside illumination for the corridor

Optical speed bars to slow vehicle operating speeds

Speed limits stenciled on roadway surface

Other Preliminary Recommendations

- When pavement resurfacing is planned, consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section for cyclists and pedestrians
- Provision of roadside illumination for the corridor
- Speed limit signage with radar-actuated LEDs around the sign border

- Passive Traffic Calming Measures:
 - Education, awareness, and enforcement
 - Radar Speed Boards: To educate and raise awareness of motorist travel speed to improve road safety
 - Road Watch: A community driven program that provides citizens with a means to report dangerous or unlawful driver behaviour such as speeding
 - #SlowDownVaughan: To encourage motorists to obey speed limits

Pine Valley Drive Corridor

Discussion

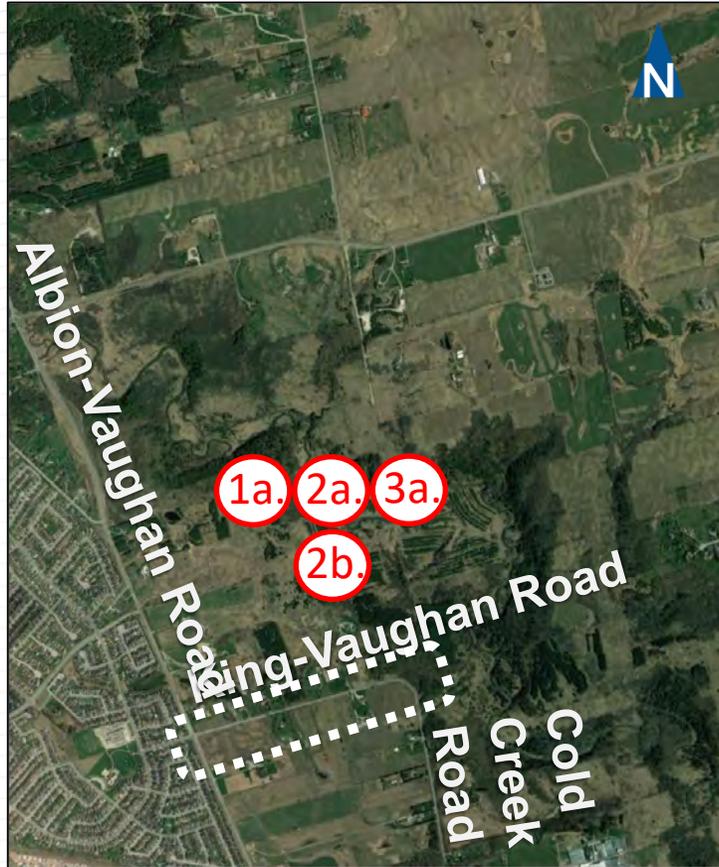
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- ▶ **How, if at all, might the proposed suite of preliminary recommendations be strengthened or refined?**



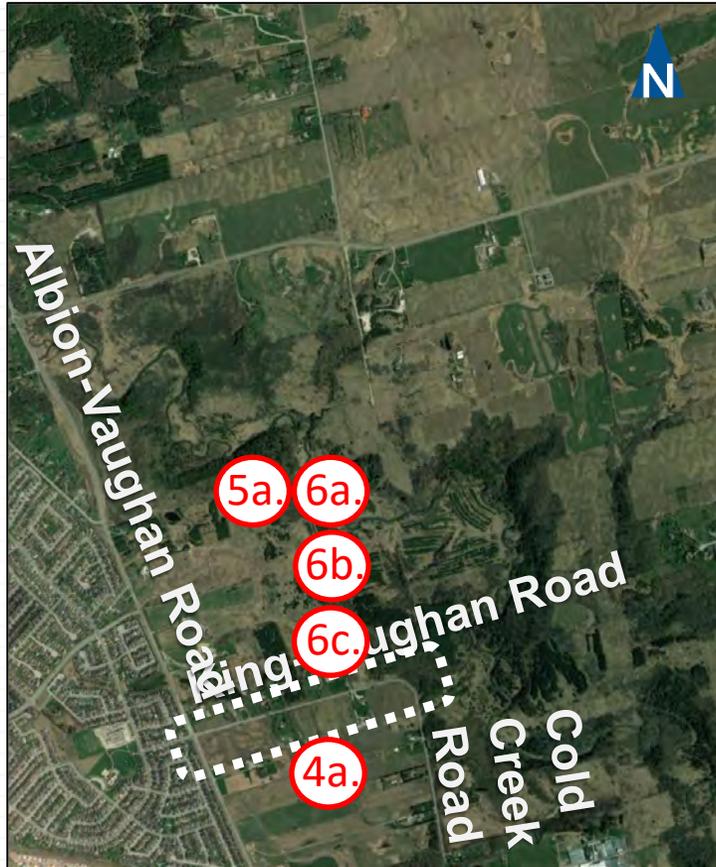
King-Vaughan Road between Albion-Vaughan Road and Cold Creek Road, and between Concession 10 and Pine Valley Drive



King-Vaughan Road Corridor: Albion-Vaughan Road to Cold Creek Road

Analysis and Findings	Preliminary Recommendations
1. Obstructed sight lines	1a. Vegetation to be removed where sight lines are obstructed and increased maintenance of roadside vegetation
2. Signage Improvements	2a. Supplementary LEDs on existing chevron signs 2b. Additional signage to improve and/or address fixed, moving, and situational hazards
3. Pavement Marking Replacement/ Rehabilitation	3a. Replacement of markings no longer effective (i.e., retroreflectivity) and periodic inspections during service life

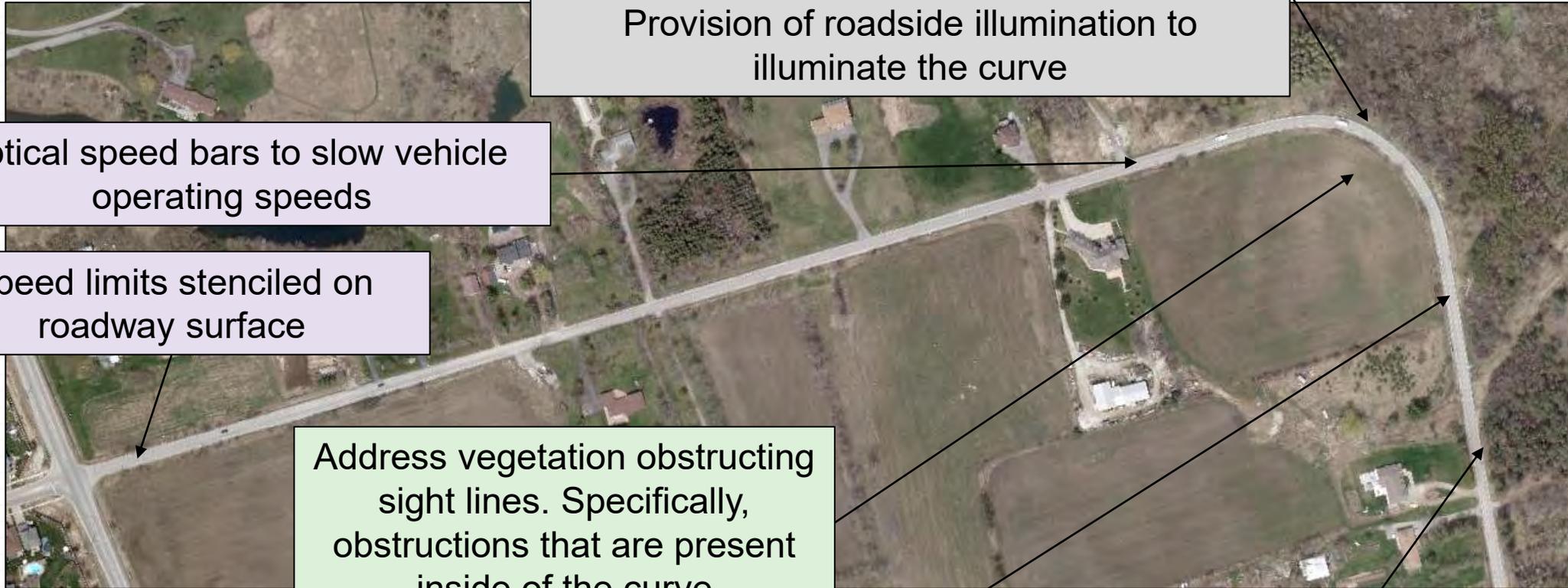




**King-Vaughan Road Corridor:
Albion-Vaughan Road to Cold
Creek Road**

Analysis and Findings	Preliminary Recommendations
4. No dedicated active transportation facilities	4a. Paved shoulders for cyclists and pedestrians
5. Illumination	5a. Provision of roadside illumination
6. Operating speeds exceeding maximum posted limits	6a. Transverse lane markings. Specifically, optical speed bars at along the roadway edges. 6b. Regulatory speed limits stenciled on pavement surface 6c. Light-emitting diodes (LEDs) in speed limit signage

King-Vaughan Road Corridor: Albion-Vaughan Road to Cold Creek Road



Optical speed bars to slow vehicle operating speeds

Speed limits stenciled on roadway surface

Address vegetation obstructing sight lines. Specifically, obstructions that are present inside of the curve

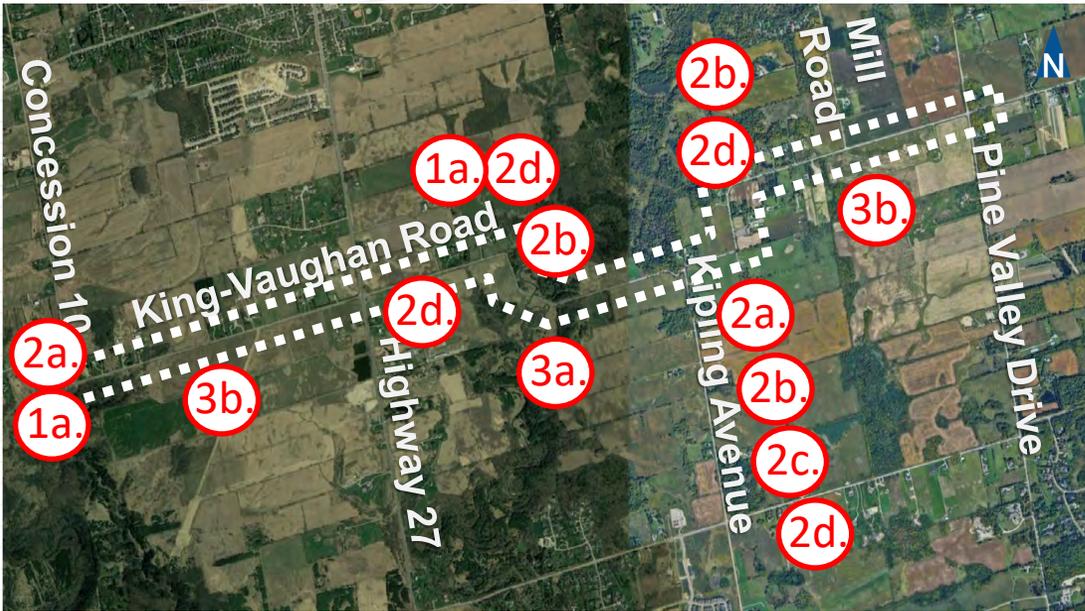
Optical speed bars to slow vehicle operating speeds

Provision of LED's on the existing "Chervon Alignment" Signs signage posts
Provision of roadside illumination to illuminate the curve

Provision of "Share the Road" Sign and accompanying "Share the Road" Tab Sign in advance of the curve (northbound direction)

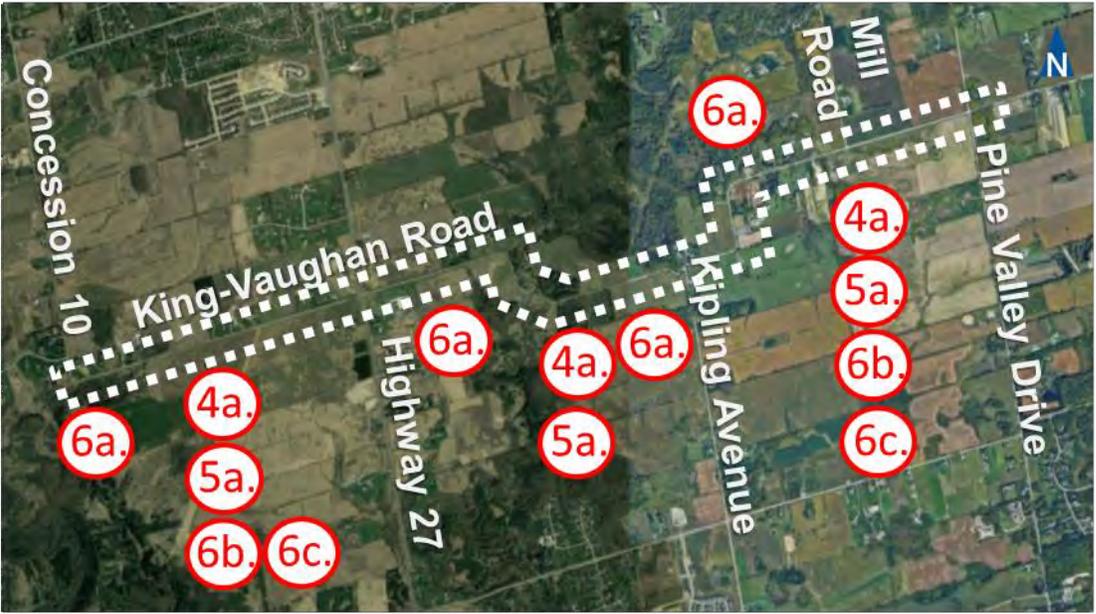
Other Preliminary Recommendations

- When pavement resurfacing is planned, consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section for cyclists and pedestrians
- Provision of roadside illumination for the corridor
- Speed limit signage supplemented with radar-actuated LEDs around the sign border
- Passive Traffic Calming Measures:
 - Education, awareness, and enforcement
 - Radar Speed Boards: To educate and raise awareness of motorist travel speed to improve road safety
 - Road Watch: A community driven program that provides citizens with a means to report dangerous or unlawful driver behaviour such as speeding
 - #SlowDownVaughan: To encourage motorists to obey speed limits



King-Vaughan Road Corridor: Concession 10 to Pine Valley Drive

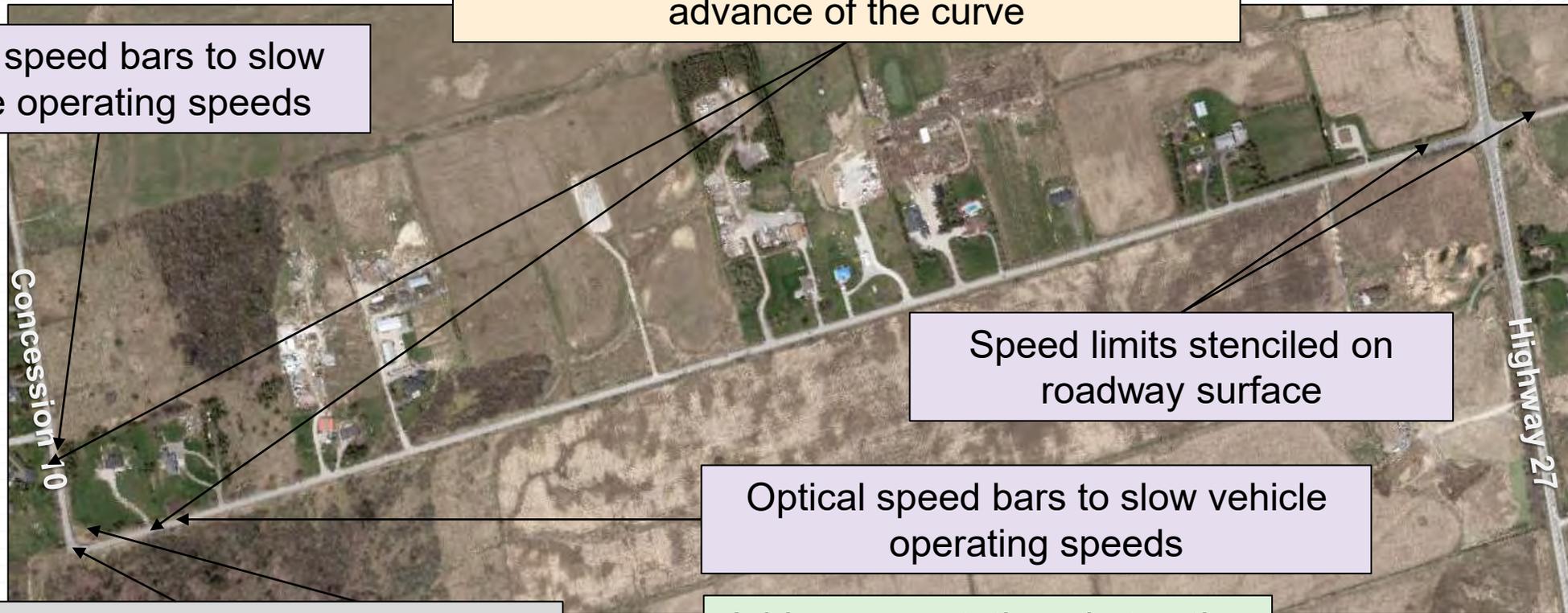
Analysis and Findings	Preliminary Recommendations
1. Obstructed sight lines	1a. Vegetation to be removed where sight lines are obstructed and increased maintenance of roadside vegetation
2. Signage Improvements	2a. Wa-9 Chevron Alignment Signs 2b. Supplementary LEDs on existing chevron signs 2c. Replacement of damaged signage 2d. Additional signage to improve and/or address fixed, moving, and situational hazards
3. Pavement Marking Replacement/ Rehabilitation	3a. Provision of white edge lines to delineate travel lanes (Hwy 27 – Kipling) 3b. Replacement of markings no longer effective (i.e., retroreflectivity) and periodic inspections during service life



**King-Vaughan Road Corridor:
Concession 10 to Pine Valley Drive**

Analysis and Findings	Preliminary Recommendations
4. No dedicated active transportation facilities	4a. Paved shoulders for cyclists and pedestrians
5. Illumination	5a. Provision of roadside illumination
6. Operating speeds exceeding maximum posted limits	6a. Transverse lane markings. Specifically, optical speed bars at along the roadway edges. 6b. Regulatory speed limits stenciled on pavement surface 6c. Light-emitting diodes (LEDs) in speed limit signage

King-Vaughan Road Corridor: Concession 10 to Pine Valley Drive (1/3)



Provision of "Share the Road" Sign and accompanying "Share the Road" Tab Sign in advance of the curve

Optical speed bars to slow vehicle operating speeds

Speed limits stenciled on roadway surface

Optical speed bars to slow vehicle operating speeds

Provision of "Chevron Alignment" Signs in the westbound direction

Provision of LED's for the "Chevron Alignment" Signs signage posts

Address vegetation obstructing sight lines. Specifically, obstructions that are present inside of the curve

King-Vaughan Road Corridor: Concession 10 to Pine Valley Drive (2/3)

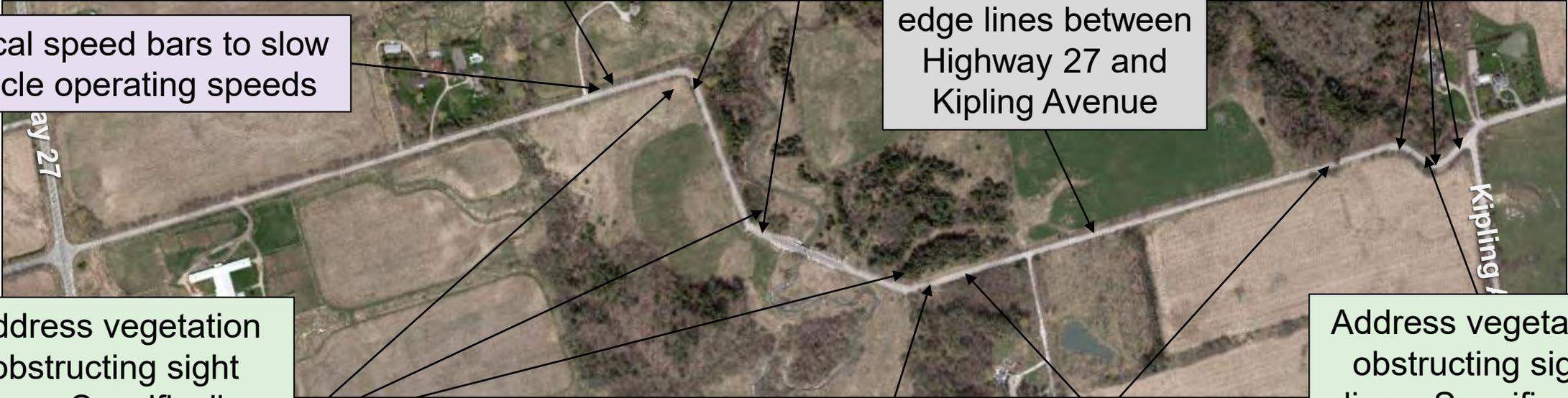
Provision of "Share the Road" Sign and accompanying "Share the Road" Tab Sign in advance of all curves

"Speed Advisory" Tab – 20 km/h missing and to be replaced (Westbound)

Provision of LED's for the "Chervon Alignment" Signs signage posts

Optical speed bars to slow vehicle operating speeds

Provision of white edge lines between Highway 27 and Kipling Avenue



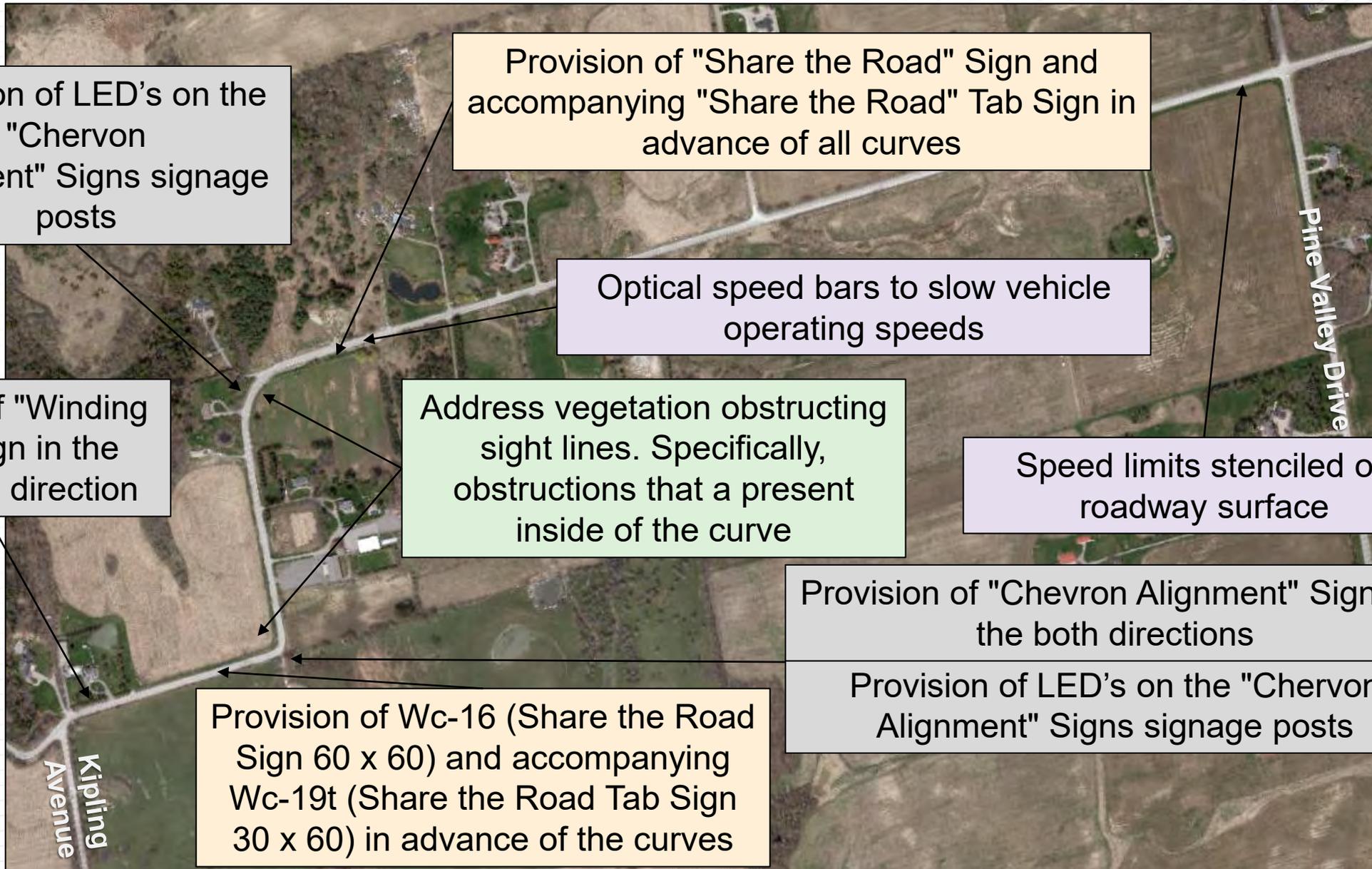
Address vegetation obstructing sight lines. Specifically, obstructions that are present inside of the curve

Provision of "Share the Road" Sign and accompanying "Share the Road" Tab Sign in advance of all curves

Optical speed bars to slow vehicle operating speeds

Address vegetation obstructing sight lines. Specifically, obstructions that are present inside of the curves

King-Vaughan Road Corridor: Concession 10 to Pine Valley Drive (3/3)



Provision of LED's on the "Chervon Alignment" Signs signage posts

Provision of "Share the Road" Sign and accompanying "Share the Road" Tab Sign in advance of all curves

Optical speed bars to slow vehicle operating speeds

Provision of "Winding Road" Sign in the westbound direction

Address vegetation obstructing sight lines. Specifically, obstructions that a present inside of the curve

Speed limits stenciled on roadway surface



Provision of "Chevron Alignment" Signs in the both directions

Provision of LED's on the "Chervon Alignment" Signs signage posts

Provision of Wc-16 (Share the Road Sign 60 x 60) and accompanying Wc-19t (Share the Road Tab Sign 30 x 60) in advance of the curves

Other Preliminary Recommendations

- When pavement resurfacing is planned, consider opportunities to widen and pave shoulders for the rural / non-urbanized cross-section for cyclists and pedestrians
- Understood that King-Vaughan Road is a popular corridor for cyclists, recommend installation of Wc-24 (Shared Use Land Single File Sign) and accompanying Wc-24t (Single File Tab Sign) within the corridor
- Provision of roadside illumination for the corridor
- Speed limit signage with radar-actuated LEDs around the sign border
- Passive Traffic Calming Measures:
 - Education, awareness, and enforcement
 - Radar Speed Boards: To educate and raise awareness of motorist travel speed to improve road safety
 - Road Watch: A community driven program that provides citizens with a means to report dangerous or unlawful driver behaviour such as speeding
 - #SlowDownVaughan: To encourage motorists to obey speed limits

King-Vaughan Road Corridor

Discussion

Discussion Questions



- ▶ **To what degree do you think the proposed suite of preliminary recommendations will help address the needs of the community?**
 - Completely, mostly, somewhat, not at all, unsure
- ▶ **How, if at all, might the proposed suite of preliminary recommendations be strengthened or refined?**



Preliminary Recommendations for Implementation



▶ Preliminary Short-Term Recommendations:

- Addressing sight distance/sight lines
- Addressing roadside illumination
- Confirming or maintaining/improving traffic control at intersections (i.e., unsignalized two-way to all-way stop, or all-way/unsignalized two-way to traffic signal control)
- Maintaining/improving roadside signage or increasing visibility
- Maintaining/Improving pavement markings
- Increase vegetation clearing
- Speed management initiatives

▶ Preliminary Long-Term Recommendations:

- Revising roadway design to accommodate other road users (pedestrians, cyclists)
- Addressing any horizontal curve or vertical deflection through roadway redesign
- Urbanization of intersections and corridors
- Aligning offset intersection legs

Closing & Next Steps



- ▶ **Paradigm will continue to finalize the technical analysis and documentation and preparation of a final recommendation plan for each corridor**
 - Will be posted for public comment
- ▶ **Target completion: Fall 2023**
- ▶ **Implementation timing of preliminary recommendations is defined by the City's budget review process**

Thank You!

Project Website Link

<https://www.vaughan.ca/about-city-vaughan/projects-and-initiatives/transportation-projects/movesmart-mobility-management-strategy/corridor-reviews>

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City of Vaughan | Transportation and Fleet Management Services



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