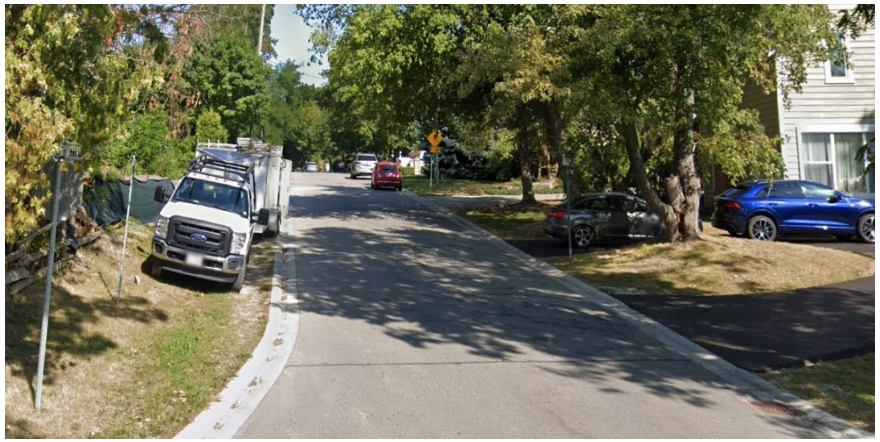
Welcome

Napier Street: Traffic Operations and Road Safety Study

Public Information Session

November 23, 2021



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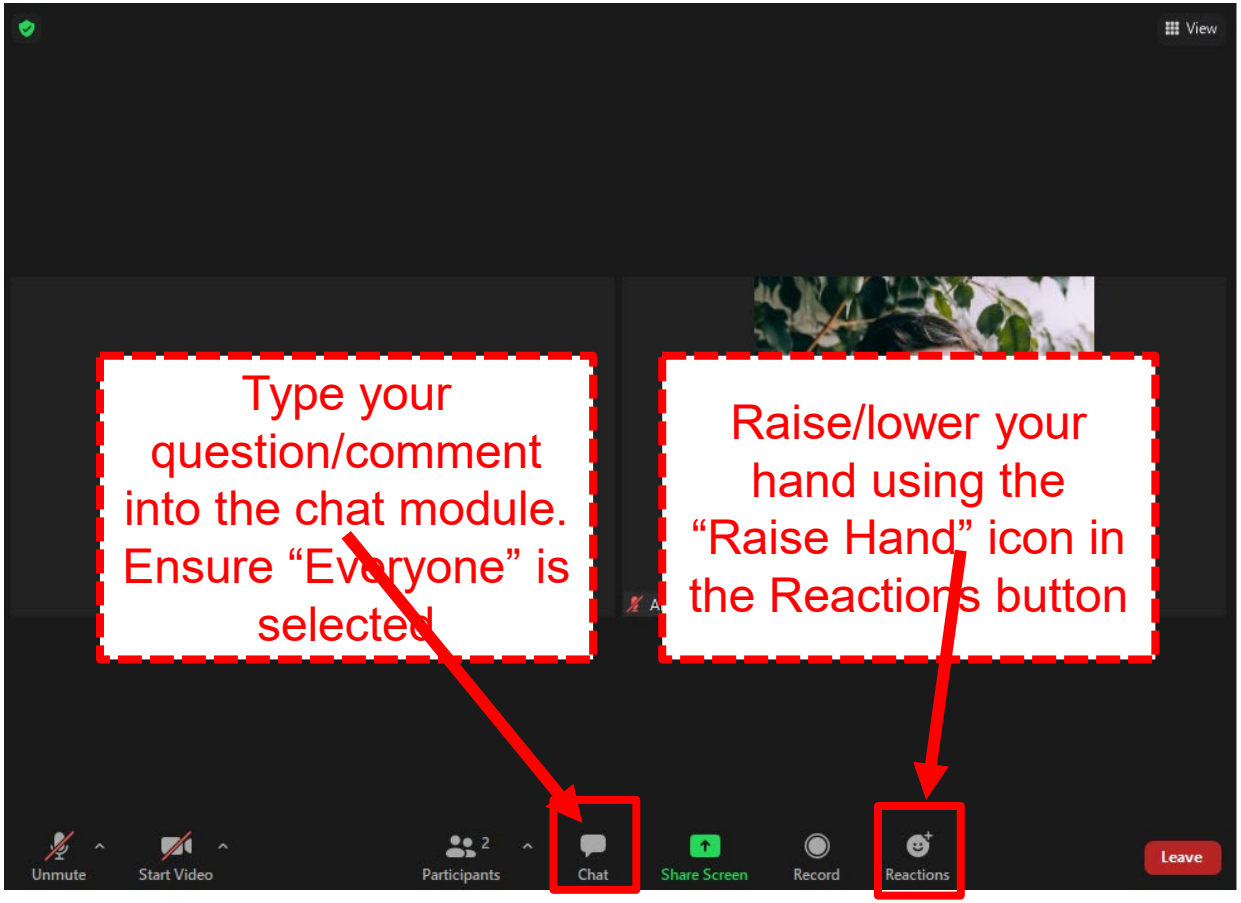
Land Acknowledgement

- 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.

Housekeeping



When using the phone:

***6 Unmute/Mute**

***9 Raise/Lower Hand**

This meeting is being recorded

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Introductions

City of Vaughan

- Peter Pilateris, Transportation and Fleet Management Services
- Margie Chung, Transportation and Fleet Management Services
- Mark Ranstoller, Transportation and Fleet Management Services
- Paul Grove, Development Engineering

Facilitation and Engagement Reporting

- James Knott, LURA
- Emily Summers, LURA
- Liz McHardy, LURA

Consulting Team

- Adrian Soo, Paradigm Transportation Solutions Ltd.
- Gene Chartier, Paradigm Transportation Solutions Ltd.

Agenda

- Session Overview: 7:00pm to 7:10pm
- Presentation: 7:10pm to 7:35pm
  - Study Overview/Background
  - Traffic Operations and Road Safety Review
- Questions and Feedback
  - Questions of Clarification: 7:35pm to 7:50pm
  - Facilitated Discussion: 7:50pm to 8:25pm
- Next Steps & Closing Remarks: 8:25pm to 8:30pm

Opportunities to get Involved

- Lots of time to participate:
  Please Complete Study Survey and Return by December 17
- Visit Project Website vaughan.ca/**NapierStreet**

- We will do our best to answer your questions
- Follow up questions can be sent to NapierTrafficStudy@vaughan.ca

Introduction

Council has directed staff to review and prepare a report on the feasibility of closing part of or all of the Napier Street at Stegman's Mill Road intersection.

Purpose of this Community Meeting is to:

- Present the study findings and analysis
- Identify solutions to address the identified issues and concerns
- Obtain your comments for the evaluation of solutions

Study Process

Background

What We Heard:

- Area residents have raised concerns with unsafe vehicle movements exiting from Napier Street to Stegman's Mill Road
- Concerns were also received from residents regarding speeding and traffic infiltration (i.e., non-local cut-through traffic) via Napier Street

Measures Taken to Date:

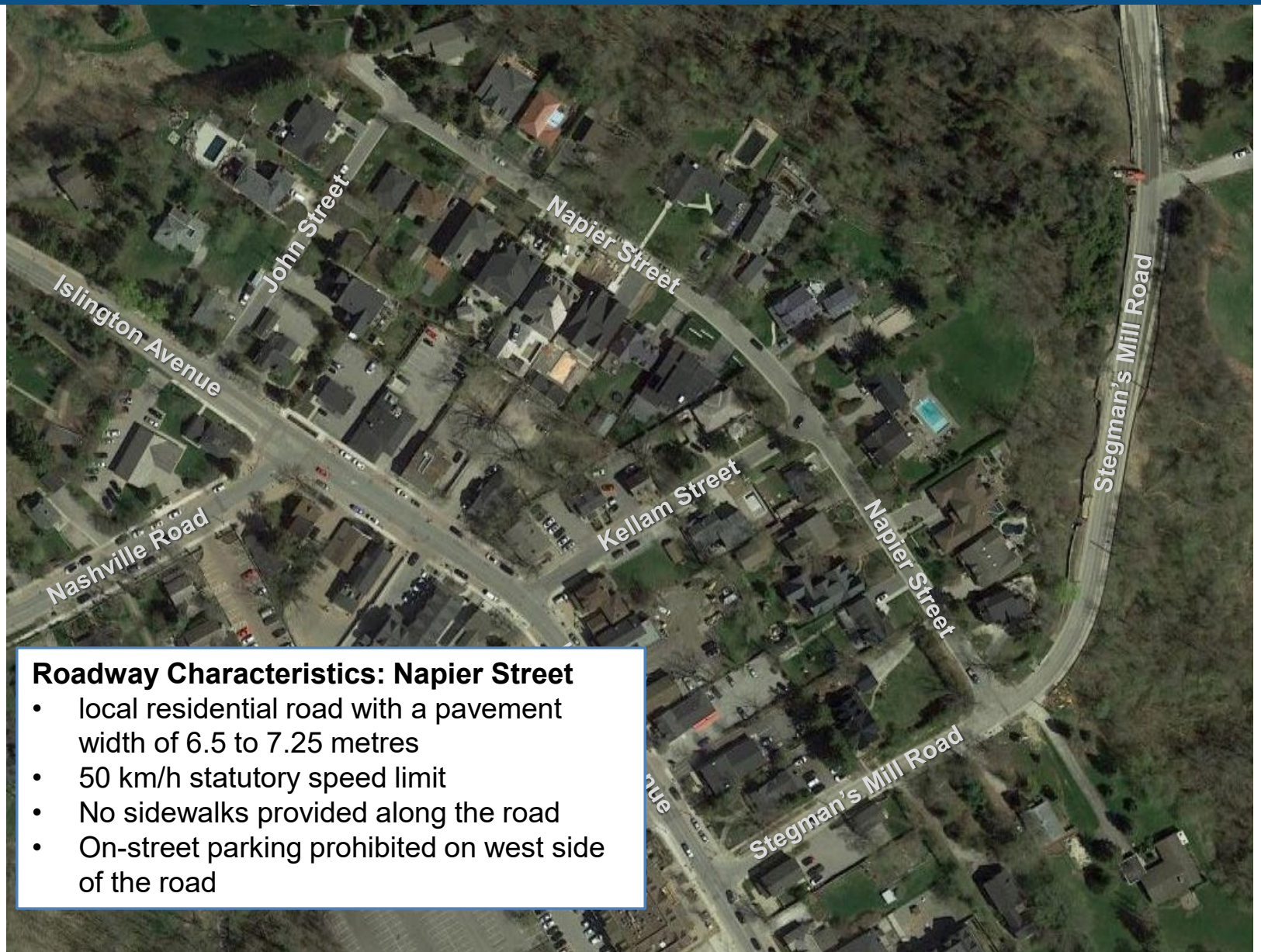
- A convex mirror implemented at the intersection of Napier Street and Stegman's Mill Road to improve the sight visibility and safety for outbound motorist movements
- Signage implemented on Stegman's Mills Road to inform motorists about the intersection
- Study findings showed that travel speeds and the magnitude of infiltrating traffic to be low.

Traffic Operations and Road Safety Review

The City has retained an independent consultant to review existing operational and safety conditions along with a review of the existing traffic circulation/flow and potential traffic calming opportunities.

- A safety review of the Napier Street/Stegman's Mill Road intersection was conducted.
- Vehicle operating speeds within the study area were assessed.
- The use of Napier Street and adjacent local streets by non-local traffic was assessed.
- The applicability, feasibility, and appropriateness of potential traffic calming and other mitigation measures were reviewed and assessed.

Location Map and Road Characteristics



Roadway Characteristics: Napier Street

- local residential road with a pavement width of 6.5 to 7.25 metres
- 50 km/h statutory speed limit
- No sidewalks provided along the road
- On-street parking prohibited on west side of the road

Napier Street/Stegman's Mill Road Intersection Safety Review

The available sight distance at the Napier Street/Stegman's Mill Road intersection was assessed using the methodology contained in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads.

- Departure and Approach sight distances were assessed.
- Available sight lines and obstructions were documented.

Stegman's Mill Road, eastbound approaching Napier Street

Napier Street/Stegman's Mill Road Intersection Safety Review

Safety Review Findings:

- Departure sight distances from Napier Street are confirmed deficient.
- Obstructed sight lines exist.

Stegman's Mill Road, westbound approaching Napier Street

Speed and Volume Data – Napier Street and Adjacent Roads

John St. between Napier St. & Islington Ave.
EB: 95 veh, 28 km/h, 39 km/h
WB: 137 veh, 28 km/h, 40 km/h

Napier St. between John St. & Kellam St.
NB: 126 veh, 27 km/h, 41 km/h
SB: 93 veh, 24 km/h, 37 km/h

Kellam St. between Napier St. & Islington Ave.
EB: 115 veh, 26 km/h, 39 km/h
WB: 84 veh, 27 km/h, 39 km/h

Islington Ave. between Lester B. Pearson St. & John St.
NB: 2,106 veh, 47 km/h, 55 km/h
SB: 1,816 veh, 48 km/h, 56 km/h

Napier St. between Kellam St & Stegman's Mill Rd
NB: 130 veh, 31 km/h, 43 km/h
SB: 130 veh, 29 km/h, 40 km/h

Islington Ave. between Kellam St. & Stegman's Mill Rd.
NB: 3,777 veh, 33 km/h, 40 km/h
SB: 3,471 veh, 30 km/h, 39 km/h

Stegman's Mill Rd. between Napier St. & Islington Ave.
EB: 1,844 veh, 41 km/h, 47 km/h
WB: 2,045 veh, 37 km/h, 44 km/h

Legend:
GREEN = 24-Hour Volume
BLUE = Average Speed
RED = 85th Percentile Speed (Operating Speed)

Speed and Volume Data – Napier Street

Speed Findings:

- The collected speed data indicates non-compliance with the posted and/or statutory maximum posted speed limits is occurring on Islington Avenue (north of John Street) and Stegman's Mills (east of Islington Avenue).

- The 85th percentile speeds (operating speeds) along Napier Street are reported as 37 – 43 km/h
- The 85th percentile speeds (operating speeds) along Kellam Street and John Street are reported as 39 – 40 km/h

- The 85th percentile speeds (operating speeds) along Islington Avenue between John Street and Lester B. Pearson Street are reported as 55 – 56 km/h. Between Kellam Street and Stegman's Mill Road speeds are reported as 39 – 40 km/h

- The 85th percentile speeds (operating speeds) along Stegman's Mill Road between Islington Avenue and Napier Street are reported as 44 – 47 km/h

Infiltration Review

Infiltration Review

Traffic Infiltration Findings:

- Similar to the past findings reported by City staff, there is non-local traffic infiltrating through the neighbourhood; however, the overall volume and infiltration traffic are considered low.

- There is no sidewalks to promote walkability for pedestrians and accessibility is a concern.

- Further to the traffic infiltration concerns, review of the Kleinburg Village Parking Strategy Review report noted the greatest parking demand was for on-street parking areas along Islington Avenue between John Street and Kellam Street, and along Nashville Road between Lester B. Pearson Street and Islington Avenue.

- Due to the lack of signage indicating where off-street parking lots are located, it has likely contributed to motorists infiltrating and circulating the adjacent streets of Napier Street, John Street, and Kellam Street to locate on-street parking along Islington Avenue.

Mitigation Measures - Options

Sight Distance/Sight Lines at the Napier Street/Stegman's Mill Road Intersection:

- Option #1 – Full Closure of the Napier Street approach.
  - Option #1A – Full closure of the Napier Street approach via implementation of a cul-de-sac to facilitate turn-around manoeuvres. Potential alternative designs for investigation/feasibility may include a T-shaped hammerhead and/or P-loop (i.e., offset bulb cul-de-sac).
    - ***Determined Not Feasible. Due to spatial and property requirements.***
  - Option #1B – Full closure of the Napier Street approach via curb reinstatement along with bollards or other similar permanent traffic barrier for the removal of the Napier Street access to/from Stegman's Mill Road resulting in a dead-end.
    - ***Determined Not Feasible. Due to operational and additional safety issues it will create.***
  - Option #1C – Full closure of the Napier Street approach via a traffic/barrier gate (Emergency access only). The gate would be remained closed at all times unless access is required. i.e., emergency vehicle access, waste collection vehicle access, snow plow access.
    - ***Determined Not Feasible. Due to operational requirements.***

Mitigation Measures - Options

Sight Distance/Sight Lines at the Napier Street/Stegman's Mill Road Intersection:

Option #1A: Feasibility is impacted by spatial and land constraints.

Option #1B: May impact emergency services, waste collection, and snow plowing due to closure and lack of turnaround space.

May Impact drainage

Option #1C: Allows for closure of the intersection, cuts off the traffic infiltration route, allows emergency and service vehicles to retain access. Impact to Operational Services e.g. Snow operations, and waste collection

Mitigation Measures - Options

Full Closure Options – Safety Perspective

	Advantages	Disadvantages
Option #1A Cul-de-Sac	Mitigates the safety issue of poor sight distances Reduces potential traffic infiltration	Not feasible for implementation due to spatial requirements. Restrict access to residents and non-residents alike
Option #1B Dead-End	Mitigates the safety issue of poor sight distances	Waste collection vehicles and snow-plows would have to reverse a 120 metre section. Not feasible from an operational perspective. Creates another safety issue.
	Reduces potential traffic infiltration	Restrict access to residents and non-residents alike
Option #1C Gated Emergency Access Only	Mitigates the safety issue of poor sight distances	Restrict access to residents and non-residents alike
	Reduces potential traffic infiltration	Logistics of operations (i.e., gate access for multiple service providers)
	Retains access for emergency and service vehicles	

Mitigation Measures - Options

Sight Distance/Sight Lines at the Napier Street/Stegman's Mill Road Intersection:

- Option #2 – Partial Closure of the Napier Street approach along with installation of a larger convex mirror to further improve motorist visibility.
  - Option #2A – Modify intersection to a "3/4" Access. Permit inbound left and right turn movements from Stegman's Mill Road to Napier Street. Permit outbound right turn movements from Napier Street to Stegman's Mill Road. Restrict left turn movements outbound from Napier Street to Stegman's Mill Road.
  - Option #2B – Restrict movements to "Right-In/Right-Out" only.
  - Option #2C – Restrict all outbound movements. Inbound movements will continue to be permitted through the provision of a curb bump out.

    Determined Not Feasible. Due to operational requirements.

Mitigation Measures - Options

Sight Distance/Sight Lines at the Napier Street/Stegman's Mill Road Intersection:

Option #2A: Implementation of a physical island to restrict outbound left turn movements. May not fully mitigate situation as motorists may still continue to perform illegal movements.

Option #2B: Implementation of a physical island to restrict inbound and outbound left turn movements. May not fully mitigate situation as motorists may still continue to perform illegal movements.

Option #2C: Implementation of a curb bump out. Restrict outbound movements. Allow inbound movements only.

Mitigation Measures - Options

Partial Closure Options – Safety Perspective

	Advantages	Disadvantages
Option #2A '3/4' Access	Partially mitigates the safety issue of poor sight distances. The critical left turn departure movement is restricted Reduces potential traffic infiltration in one direction (outbound)	Motorists may perform illegal movements. Safety issues still present. Safety of right out dependent on adjacent operating speed. Potential to restrict access for residents and non-residents alike.
Option #2B Right-In/Right-Out Access	Partially mitigates the safety issue of poor sight distances. The critical left turn departure movement is restricted Reduces potential traffic infiltration in one direction (outbound)	Motorists may perform illegal movements. Safety issues still present. Safety of right out dependent on adjacent operating speed. Potential to restrict access for residents and non-residents alike.
Option #2C Inbound Only Access	Mitigates the safety issue of poor sight distances Reduces potential traffic infiltration in one direction (outbound) Retains partial access for emergency and service vehicles	Restrict access for residents and non-resident alike. Potential to result in U-turn movements on Napier Street If illegal movements occur, safety issues are still present. Operational challenge –Waste collection and snowplow will have to reverse

Mitigation Measures - Options

Travel Speed:

To address travel speeds along the north section of **Islington Avenue** for vehicles entering and exiting the village of Kleinburg.

- Option #3 – Line Paintings to influence drivers' perceptions of the roadway environment. Application of longitudinal edge lines (pavement markings) to artificially narrow the roadway and travel lanes.
- Option #4 – Line Paintings to influence drivers' perceptions of the roadway environment. Application of transverse speed limit markings. Regulatory speed limits will be stenciled on the roadway to increase driver awareness.
- Option #5 – Implementation of "Rumble Strips" as a measure to alert motorists and as a physical means to reducing travel speed. There are currently speed humps in place along Islington Avenue; however, the current spacing results in short speed decreases but with motorists speeding up between speed hump locations.
- Option #6 – Flexible bollards with line paintings, i.e., "Flexposts" at locations forcing motorists to "thread the needle" resulting in slower travel speeds
- Option #7 – Lowering posted speed limit between Highway 27 and Lester B. Pearson Street from 50 km/h to 40 km/h along Islington Avenue for consistency with the rest of the corridor
- Option #8 – Increased signage along corridor (i.e., slow pedestrians) and installation of speed boards

Mitigation Measures - Options

Travel Speed:

To address travel speeds along the north section of **Islington Avenue** for vehicle entering and exiting the village of Kleinburg. This will require input from the larger community.

Option #3: Artificially narrowing the roadway results in lower travel speeds.

Option #4: Provides a visually prominent marking to visibly enforce posted signage.

Option #5: A physical measure used to alert motorists and a deterrent to reduce travel speed. May not be practical as this may cause damage to vehicles if motorists continue to ignore the speed limits. May also result in additional road noise for adjacent residents.

Mitigation Measures - Options

Travel Speed:

To address travel speeds along the north section of **Islington Avenue** for vehicle entering and exiting the village of Kleinburg.

Option #6: Flexible bollards to artificially narrowing the roadway. The new road space perception incites drivers to slow down. Will seek input on aligning with community character.

Option #7: Lower the posted speed from 50 km/h to 40 km/h matching the rest of the corridor for consistency.

Option #8: Increased signage and installation of speed boards to raise awareness of the environment.

Mitigation Measures - Options

Travel Speed:

To address travel speeds along **Napier Street** and the adjacent local roadways of **John Street** and **Kellam Street**.

Option #9: Given the local roadway cross sections, large presence of pedestrians and lack of sidewalks along these local residential roads, the presence of adjacent businesses resulting in opportunities for non-local traffic to circulate, the designation of "Neighbourhood Area" for this community is considered appropriate.

40km/h Neighbourhood Area- New Speed Limit Area

Mitigation Measures - Options

Travel Speed Options – Safety Perspective

	Advantages	Disadvantages
Option #3 Edge of Pavement Markings	Inexpensive traffic calming measure without slowing down emergency vehicles	Maintenance of pavement markings
Option #4 Transverse Speed Limit Markings	Maximum speed limit will be clearly delineated	Maintenance of pavement markings
Option #5 Rumble Strips	Physical deterrent to reduce travel speeds	Road noise
Option #6 Flexible Bollards	Inexpensive traffic calming measure without slowing down emergency vehicles	May require further discussion with the larger community for alignment with historical character of the community
Option #7 Lowering Posted Speed Limit	Lowering from 50 km/h to 40 km/h will result in a consistent maximum posted limit throughout the Islington Avenue corridor	Require enforcement
Option #8 Increased Signage	Raises awareness of the environment	Maintenance of Signage

Mitigation Measures - Options

Traffic Infiltration:

To address non-local traffic infiltration along Napier Street and the adjacent local roadways of John Street and Kellam Street to by-pass congestion along Islington Avenue.

- The aforementioned Full Closure of the Napier Street connection with Stegman's Mill Road (Option #1A, #1B, or #1C) would eliminate non-local cut through traffic infiltrating the local residential roads. By closing the Napier Street/Stegman's Mill Road intersection this eliminates the travel route non-local traffic utilizes to by-pass traffic on Islington Avenue and delays experienced at the Islington Avenue/Stegman's Mill Road all-way stop controlled intersection.
- The aforementioned Partial Closure would also partially mitigate traffic infiltration by removing a portion of the by-pass route.

- Option #10: Turning movement prohibition. At the intersections of Islington Avenue with John Street and Kellam Street, left turn movements to be restricted.

Mitigation Measures - Options

Traffic Infiltration:

To address travel speeds along Napier Street and the adjacent local roadways of John Street and Kellam Street.

Option #10: Prohibition of left turning movements from Islington Avenue to John Street and Kellam Street during peak hours would deter cut-through traffic. However, without significant enforcement the travel route may continue to be utilized by non-local traffic.
This will also restrict access for residents and non-residents alike.

Mitigation Measures - Options

Traffic Infiltration Options – Safety Perspective

	Advantages	Disadvantages
Option #1 Full Closure of the Napier Street/Stegman's Mill Road Intersection	Eliminates the by-pass route utilized by non-local traffic	Restrict access for residents and non-residents alike, increase volume on other streets Operational and Service impacts. Not feasible for implementation due to spatial requirements.
Option #2 Partial Closure	Partially eliminates by-pass route utilized by non-local traffic	Restrict access for residents and non-residents a like, increase volume on other streets, requires enforcement
Option #10 Prohibition of Left Turn Movements	Low implementation cost	Restrict access for residents and non-residents a like, increase volume on other streets, requires enforcement

Summary of Options

To address Intersection Safety:

- *Full Closure of Napier Street connection with Stegman's Mill Road (Options 1A, 1B, 1C)*
  - Fully addresses sight distance deficiencies (1A, 1B, 1C)
  - Mitigates traffic infiltration issues (1A, 1B, 1C)
  - Operational concerns (1A, 1B, 1C)
- *Partial Closure of Napier Street connection with Stegman's Mill Road (Options 2A, 2B, 2C)*
  - Partially addresses sight distance deficiencies (2A and 2B)
  - Fully addresses sight distance deficiencies (2C)
  - Operational concerns (2C)
  - Does not fully address potential traffic infiltration

To address Operating Speeds:

- Pavement markings, rumble strips, bollards, lowering posted speed limit, increased signage
- Designation of the Napier residential community as a "Neighbourhood Area"
  - All identified feasible options will be assist in mitigating operating speeds

To address Traffic Infiltration:

- Full/partial closure of the Napier Street connection with Stegman's Mill Road
- Turn restrictions from Islington Avenue to the Napier residential community
  - All identified feasible options will assist in mitigating traffic infiltration

Summary of Options

Based upon the issues identified:

- Safety concerns for outbound movements from Napier Street;
- Speeding/Operating Speeds; and
- Traffic infiltration

Considering these issues from both a *safety AND operational perspective*, the preferred solutions to best address the problems are:

- Partial Closure (Option 2A or 2B) of Napier Street;
- Artificial lane narrowing via pavement markings (Option 3);
- Transverse speed pavement markings (Option 4);
- Lowering posted speed limit to be consistent with adjacent roadway sections on Islington (Option 7);
- Increased signage (Option 8);
- Designation of the Napier residential community as a “Neighbourhood Area” (Option 9)

Additional Mitigation Measures
Passive Traffic Calming Measures

Education, Awareness, and Enforcement

The following can be quickly implemented to assist in managing travel speed within the study area.

- Radar Speed Boards: To educate and raise awareness of motorist travel speed using boards 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.
- Signage: To raise awareness of the presence of pedestrians.
- #SlowDownVaughan: To encourage motorists to obey speed limits

Questions of Clarification

Do you have any questions of clarification?

Discussion

What local transportation issues and/or concerns have you noticed?

Discussion

Regarding options for the full closure of Napier Street, do you have any feedback on Options 1b and 1c?

Option #1B

Option #1C

Discussion

Regarding options for the partial closure of Napier Street, do you have any feedback on Options 2a, 2b, and 2c?

Option #2A

Option #2B

Option #2C

Discussion

What is your most preferred option?

Discussion

Do you have any feedback on the proposed traffic mitigation options (Options 3 to 10)?


Option 3 – Edge of Pavement Lines

Option 4 – Speed Limit Markings


Option 5 – Rumble Strips


Option 6 – Flexible Bollards

Option 7 – Lowering Speed Limit

Option 8 – Increased Signage

Option 9 – "Neighbourhood Area" Designation

Option 10 – Left-Turn Movement Prohibitions

Discussion

Do you have any additional comments you would like to make about the study?

Study Process

Opportunities to get Involved

- Please Complete Study Survey and Return by December 17
- Visit Project Website vaughan.ca/**NapierStreet**
- Contact: NapierTrafficStudy@vaughan.ca

Thank You for Attending

Visit: vaughan.ca/**NapierStreet** for study updates and session information.