



Supplemental Report on Neighbourhood Speed Limits and Vote on a Question

Strategic Meeting of Council C2021-0146 | 1 February 2021



Recap of Speed Limits Review

1982 Feasibility Report of implementing 40 km/h speed limit on residential streets

September 24, 2018 – Notice of Motion *Street Safety and Neighbourhood Speed Limits* approved.

November 2, 2020 Combined Meeting of Council:

- TT2020-1036 Neighbourhood Speed Limit Review presented to Council
- Public hearing for Bylaw to establish a lower standard speed limit
- Referral to consider Vote of the Electors
- Motion Arising: Direction to develop lower speed design standards for Neighbourhood roadways.



Review of Potential Questions

Administration developed four versions of a potential question:

A. Currently, the unposted speed limit within Calgary city limits is 50 km/h. Should the City of Calgary reduce the unposted speed limit to 40 km/h unless otherwise posted?

B. The City of Calgary is considering reducing the unposted speed limit inside Calgary's residential neighbourhoods from 50 km/h to 40 km/h to reduce the frequency and severity of traffic collisions. Do you support this approach?



Review of Potential Questions

C. To improve safety, The City of Calgary is considering reducing the unposted speed limit to 40 km/h. This would be applied to all Residential roadways, and to Collector roadways where and when the design makes that limit appropriate. Do you support this approach?

D. Are you satisfied with the speed that vehicles travel when they are moving along the street in front of your primary residence?

We recommend that council make a decision not to proceed with the Vote on a Question.

Vote on a Question

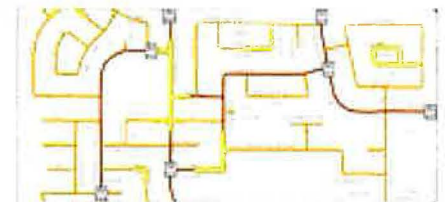
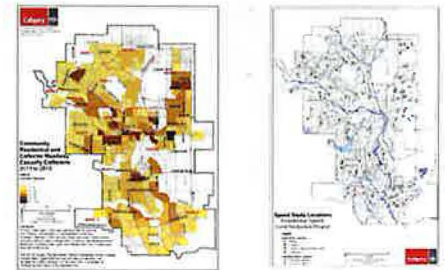
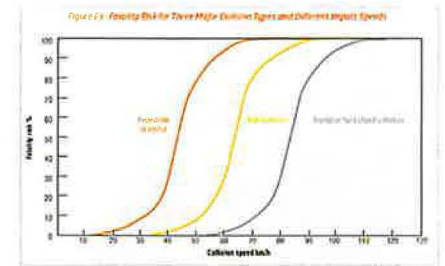
Three key rationale to highlight from the report to support not using this tool:

- Complex Issue
- Public Safety Issue
- Equity/Consistency Issue



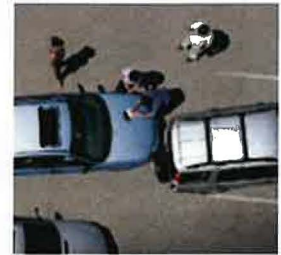
This is a Complex Issue

- Recurring issue at Council
- Complex questions, detailed answers
- Desire for evidence-based decision making
- Traffic Safety has many factors and is strongly influenced by roadway design and operations



This is a Public Safety Issue

- The evidence is clear that people are being hurt or killed on Neighbourhood roadways and that slower speeds improve public safety
- City of Calgary Engineers have a professional responsibility for public safety



Equity/Consistency Issues

- New standards development underway
- Everyone in Calgary is exposed to risk but not all can vote, not all who can vote will
- City policy and budgets support safer mobility
- Consistency among Alberta's largest cities





Recommended Option

Unposted speed limit through Bylaw: 40 km/h
Residential: 40 km/h Collector: 50 km/h

- ✓ Reduce collisions by 90-450 per year
- ✓ Low capital cost
- ✓ High compliance
- ✓ Bylaw consistent with Edmonton
- ✓ Commitment to improving safety

Implementation Plan



Implementation for effective date of March 1, 2022 will include:

- Education and awareness
- Develop evaluation plan
- Supporting signage changes (including roadway review process)
- Design guideline update and work to build and retrofit to safer standard
- Present implementation plan to Council no later than Q4 2021.



Administration Recommendation:

1. That Council give three readings to proposed Bylaw 1H2020, the City of Calgary Standard Speed Limit Bylaw, to change the unposted limit from 50 km/h to 40 km/h within the city limits, with an implementation date of March 1, 2022.
2. That Council direct Administration to post 50 km/h speed limit signs on existing Collector roadways unless or until a credible environment for a slower speed limit is provided.
3. That Council direct Administration to develop an implementation plan, including communications and the development of an evaluation process for Collector roadways as above, returning to Council as a briefing no later than Q4 2021.



Supplementary Slides

Neighbourhood Roadways

‘Neighbourhood’ is the term we use to refer to the areas where people live, mostly along Residential and Collector roadways

Residential roadway

- Road in front of most houses
- No centre line (typical)
- Less traffic

Collector roadway

- Residences, school sites, malls, transit routes, snow routes, centre line or with median
- More traffic

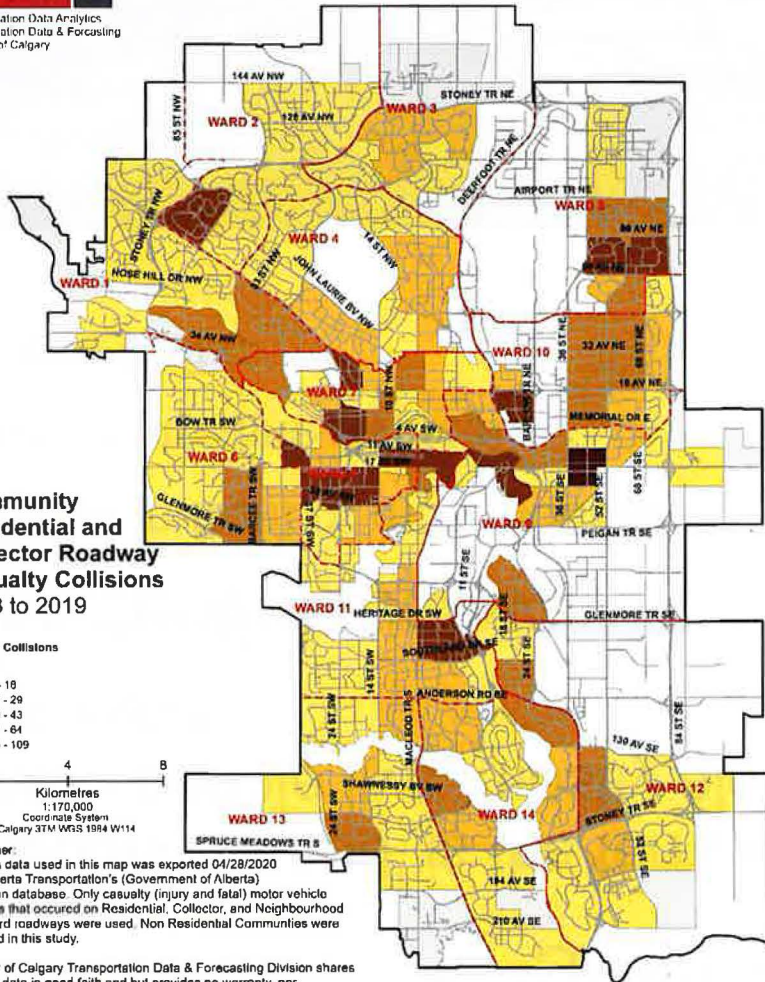


Photo Source: Google Street View

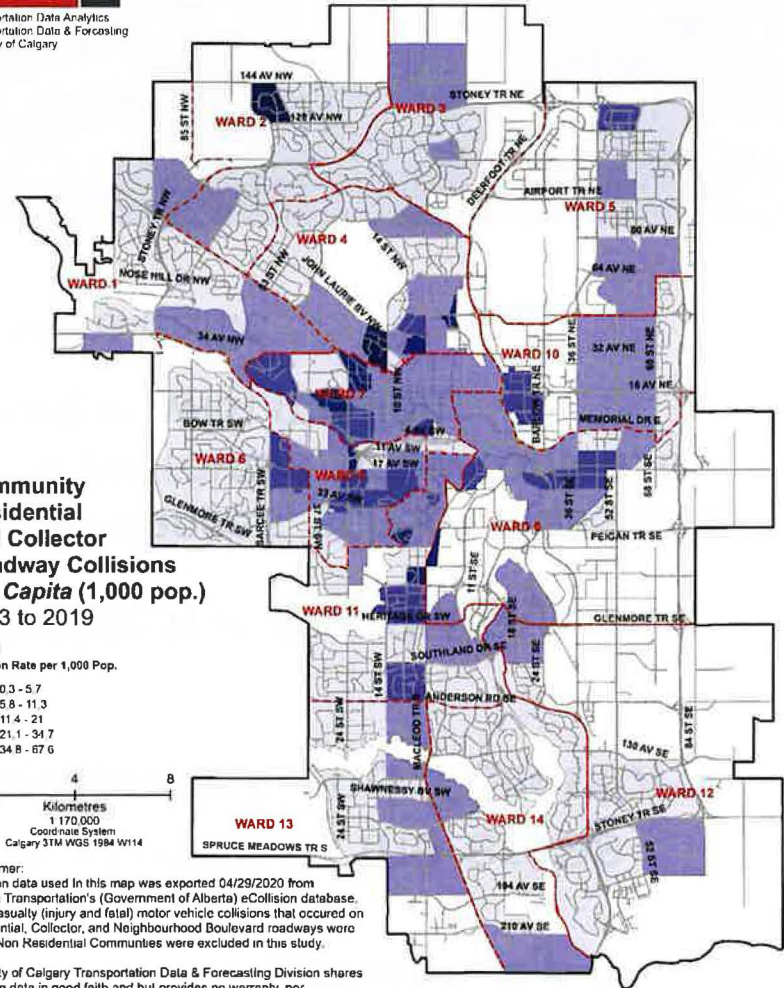


Neighbourhood Collisions

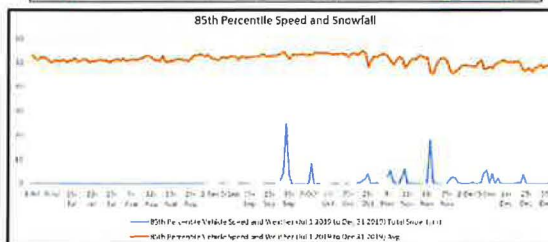
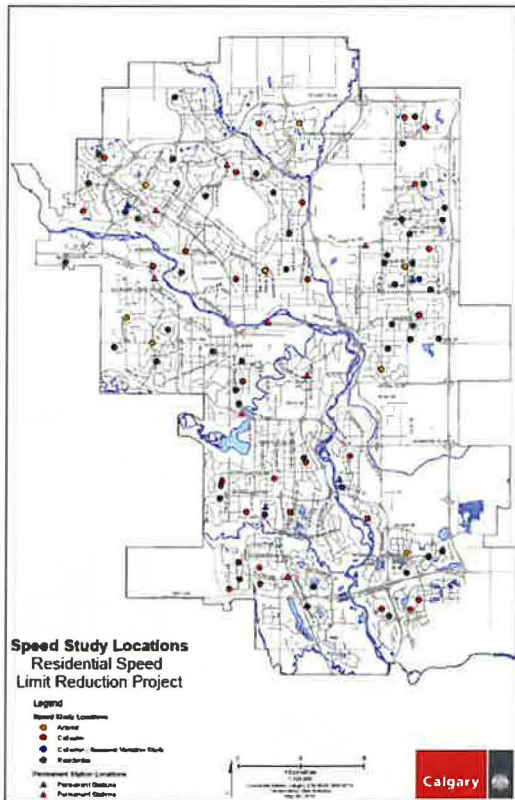
Transportation Data Analytics
Transportation Data & Forecasting
The City of Calgary



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Transportation Data & Forecasting
The City of Calgary



Neighbourhood Speeds



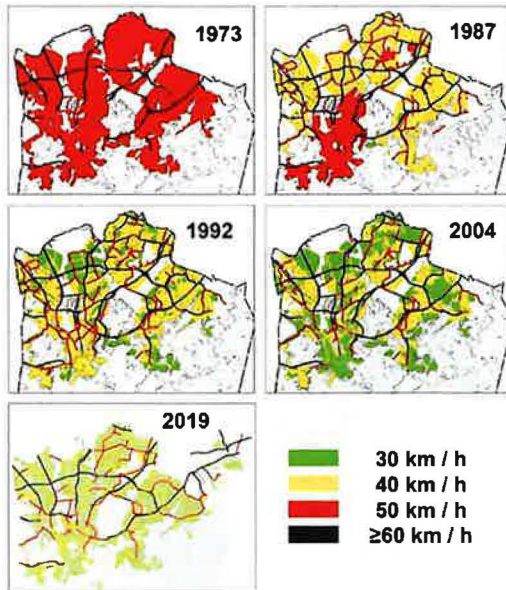
Spot speeds collected at 91 sites and 4 permanent speed observation sites

In general, Collector roads observed have operating speeds consistent with expected traffic speeds in a 50 km/h speed limit area.

In general, Residential roads observed have operating speeds consistent with expected traffic speeds in a 40 km/h speed limit area.

We know we have roads that are worse and have historically focused on those but they do not address system wide issues.

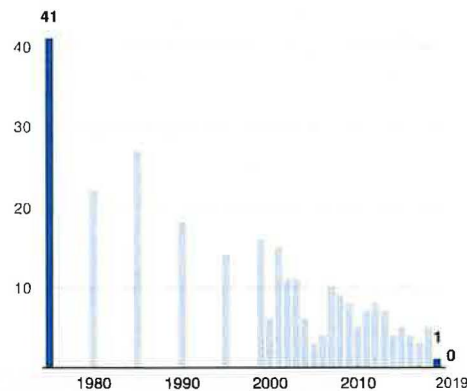
Global and Local Scan



Edmonton is proceeding with 40 km/h bylaw public hearings November 4

Montreal, Vancouver, Surrey, and Toronto are all working on lower neighbourhood speeds.

United Nations has endorsed vehicle speeds of 30 km/h where vulnerable road users interact with Vehicles



Helsinki and Oslo:
The first European capital cities to achieve zero pedestrian and cyclist fatalities



Six Scenarios

	Residential Street	Collector Road
Scenario 1	30 km/h	30 km/h
Scenario 2	30 km/h	50 km/h (posted)
Scenario 3	40 km/h	40 km/h
Scenario 4	30 km/h	40 km/h (posted)
Scenario 5	40 km/h	50 km/h (posted)
Scenario 6	Maintain existing	Maintain existing

Updating Design Standards



Images: NACTO 2020

Establishing design standards for Collector Roads at 40 km/h and Residential Roads at 30 km/h will ensure that as we build the city, we will be building the safe and comfortable environments that residents are asking for.



Engagement to Date

Citizen Feedback

- Pedestrian Strategy input
- Citizen Survey results
- Traffic Calming requests
- Feedback to individual Councillors
- Citizens voting with their feet

Council

- Meetings and drop-in sessions

Internal Stakeholders

- Transit, W&R, Fleet, etc.
- Understand possible impacts

Technical Advisory Team

- External experts
- Verify and refine project work



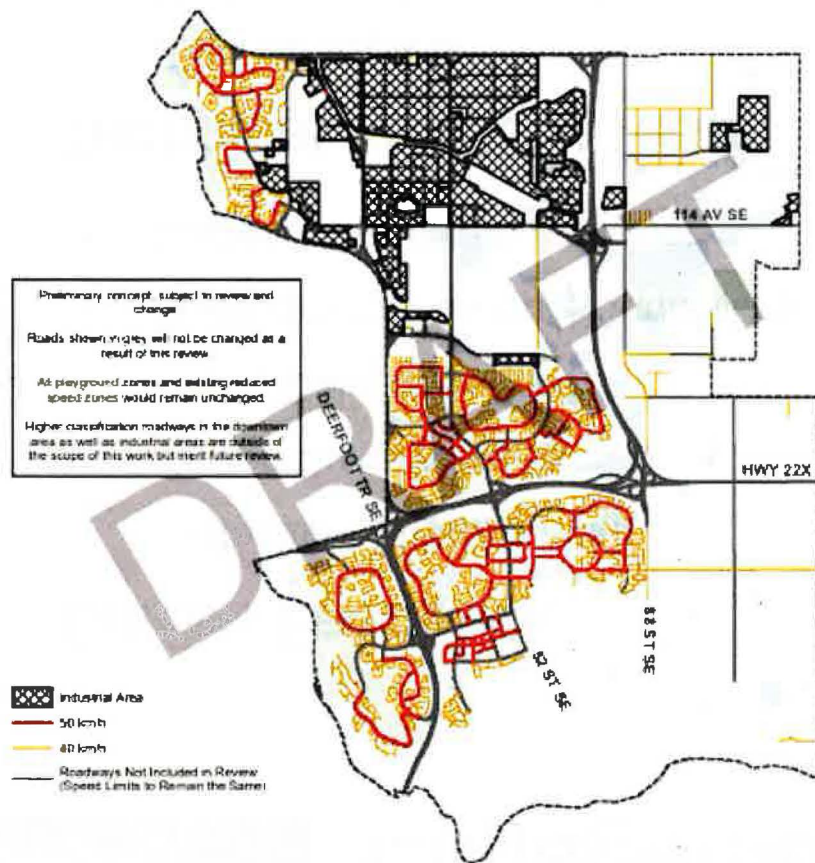
Implementation

Neighbourhood Speed Limit Review

Ward 12

Recommended Option

40 km/h default speed limit, most collectors posted 50 km/h



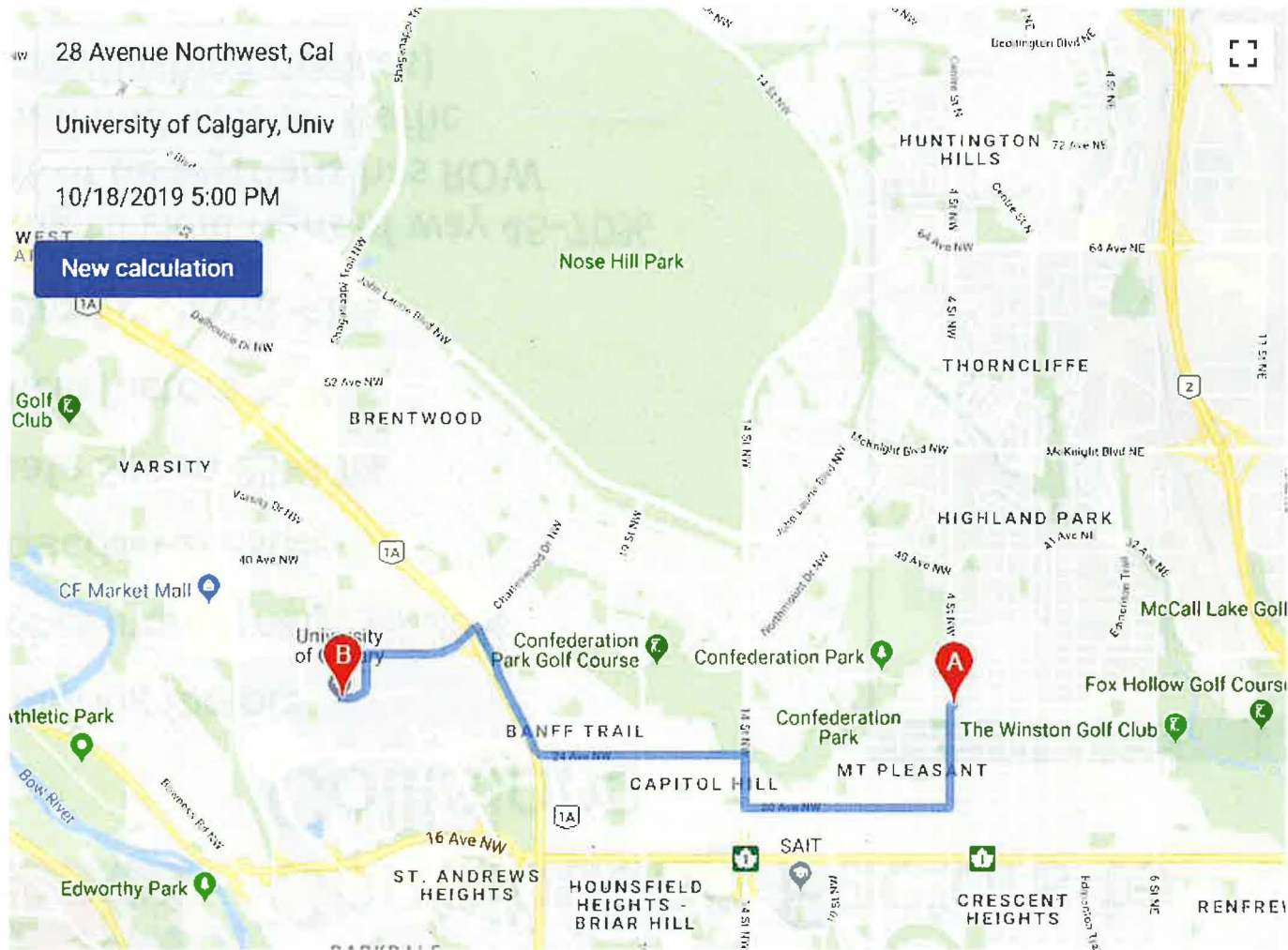
Distance: 7.1 km

Duration for current speeds: 13 min.

ETA for scenario 1: 15 min with 3.8 km impacted.

ETA for scenario 2: 14 min with 0.4 km impacted.

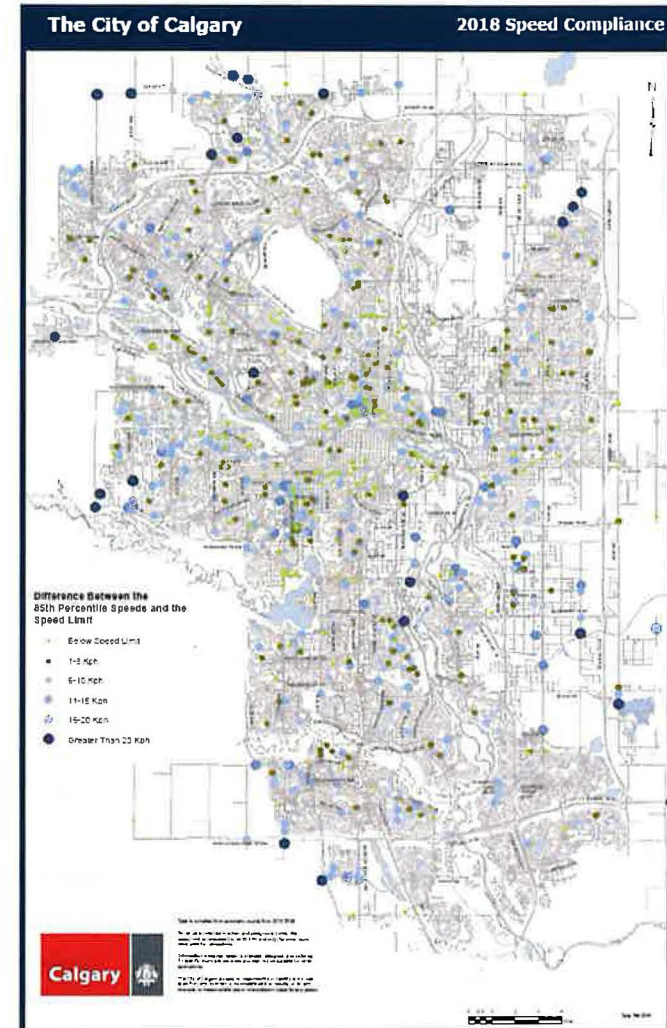
ETA for scenario 3: 14 min with 3.8 km impacted.



Contributing Factors to Collisions

Contributing factors

- Alcohol impairment 13-20%
- Distraction 20-30%
- Unsafe Speed 25-40%
- Vehicle factors ~1%
- Medical incident <1%
- Failing to yield right of way 45-70%
(70% of pedestrians has ROW overall and 90% at traffic signals/flashing devices)
- Speed is the major factor for collision severity, regardless of contributing factors



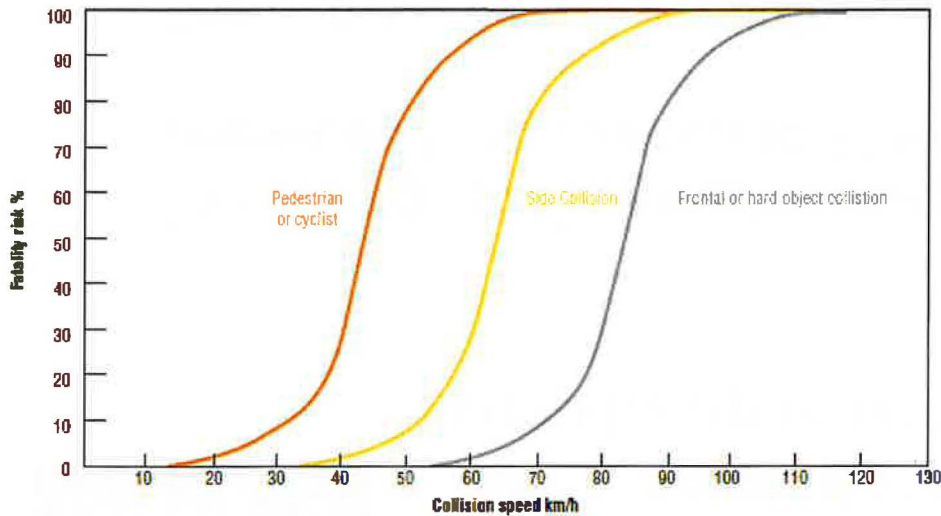


Controlling Impact Energy

1% increase in speed → ~ 2% increase in collisions, ~3% increase in injuries, ~4% increase in fatal collisions. (power model , i.e. exponential, relationship)



Figure E1: Fatality Risk for Three Major Collision Types and Different Impact Speeds





Harmonizing Regulations and simplifying motorist expectations PGZ

The average traffic speed in playground zones decreased from 36 km/h to 30 km/h.

The number of injury collisions involving pedestrians within playground zones decreased by 33%, with a 70% decrease between 5:30 p.m. and 9:00 p.m.

The collision rate decreased from 0.049 to 0.011 collisions per million vehicle kilometers of travel.

More than 80% of the respondents find it easier to remember the zone times with single zone type that is consistent throughout the year.



Playground zones:
30 km/h
7:30 a.m. to 9:00 p.m.,
7 days a week, year-round.



Societal disbenefit of collisions

- Societal cost of collisions (2018):
 - Fatal \$7,121,750
 - Injury \$172,950
 - Property Damage Only \$13,930
- Total value of collisions 2018 \$1.19 Billion

Jurisdictional Scan

- Montreal 40 km/h speed limit since 1999, currently evaluating reduction to 30 km/h in many areas
- Hamilton, ON, moving to 40 km/h in neighbourhoods over next 3 years
- Many smaller communities in Alberta have lower speed limits (e.g. Airdrie 30km/h, Okotoks 40 km/h, Sylvan Lake 40 km/h)
- Vancouver, BC is advancing 30 km/h pilot on neighbourhood roads
- Edmonton evaluating 40 km/h default with 30 km/h in core zone
- London, Ontario investigating speed limits of 40km/h or lower
- Boston, USA reduced speed limit to 25 mph (~40 km/h) without changing environment and found negligible operating speed change
- Cities in Sweden, United Kingdom and the Netherlands have implemented 30 km/h (20 mph in UK) in neighbourhoods with physical changes and are leaders with respect to urban traffic safety. Safety improvements on known studies illustrate large collision reductions from small speed change
- Auckland, NZ moving to 30 km/h in CBD and 40 km/h on many roads



Background & Methodology

Background

The City of Calgary surveys citizens about their opinions, preferences and attitudes in order to help support data-driven City decision-making. The Citizen Perspectives Survey is one of the ways by which data are collected and is conducted multiple times throughout the year. This report presents the results of citizen perspectives and awareness of proposed speed limit changes in Calgary.

Please note: overall results of this survey may be slightly impacted by effects of the COVID-19 pandemic, including less road travel overall (private automobiles, ride sharing, public transit, etc.)

Methodology

The survey was conducted by Leger from December 10 - 18, 2020 with 500 Calgarians (aged 18 years or older) via phone using random digit dialing (RDD).

The survey was conducted using numbers from both landlines (48% of completed surveys) and cell phones (52%) to obtain a random and statistically representative sample of Calgarians. The survey averaged 14.6 minutes in duration. The margin of error (MOE) for the total sample of n=500 is ± 4.4 percentage points, 19 times out of 20.

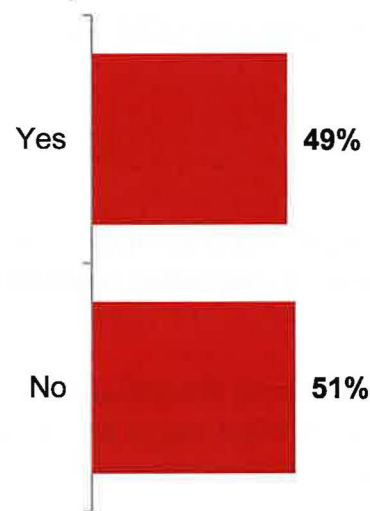
To ensure the data were gathered from a representative group of Calgarians, sample quotas were set by age, gender, and city quadrant of the general population aged 18 and older. Data were then weighted to the 2016 Civic Census for age and gender.



Recall of Speed Limit Discussion

Overall, survey respondents are evenly divided on whether they have recently read, seen, or heard anything about speed limits in Calgary.

Recently Read, Seen, or Heard Anything about Speed Limits in Calgary



Have you recently read, seen, or heard anything about speed limits in Calgary?

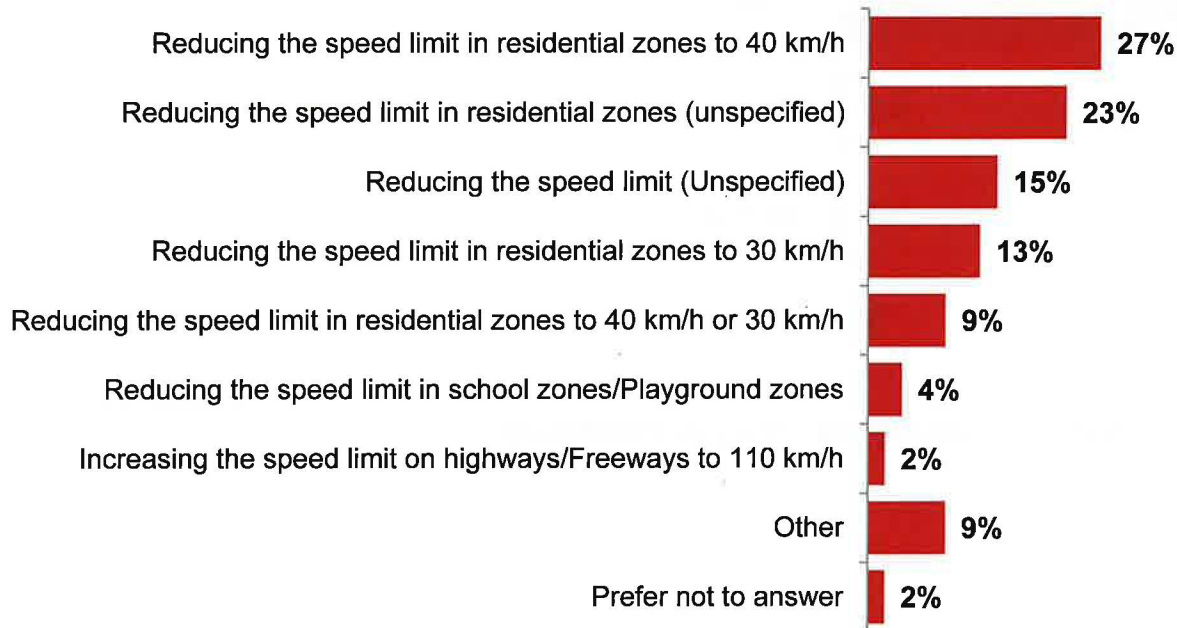
Base: All respondents (n=500)



Specifics of Speed Limit Recall

Of those survey respondents who have recently read, seen, or heard anything about speed limits in Calgary, almost three-in-ten recall specific topics about “reducing the speed limit in residential zones to 40 km/h” while three-quarters say they recall “reducing the speed limit in residential zones” in general.

Topics Recalled about Speed Limits in Calgary



And what exactly do you recall about the topic of speed limits in Calgary?

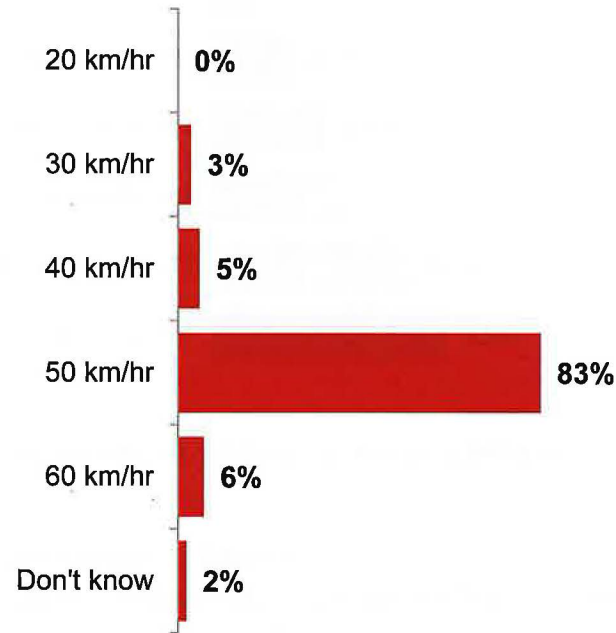
Base: Those who have recently read, seen, or heard anything about speed limits in Calgary (n=267)



Awareness of Unposted Speed Limit

A large majority of survey respondents know the unposted speed limit in Calgary is 50 km/hr.

Awareness of Unposted Speed Limit in Calgary



And to the best of your knowledge, what is the unposted speed limit within Calgary city limits? That is, when there is not a sign indicating what the speed limit is, what is the speed limit in Calgary? Is it...

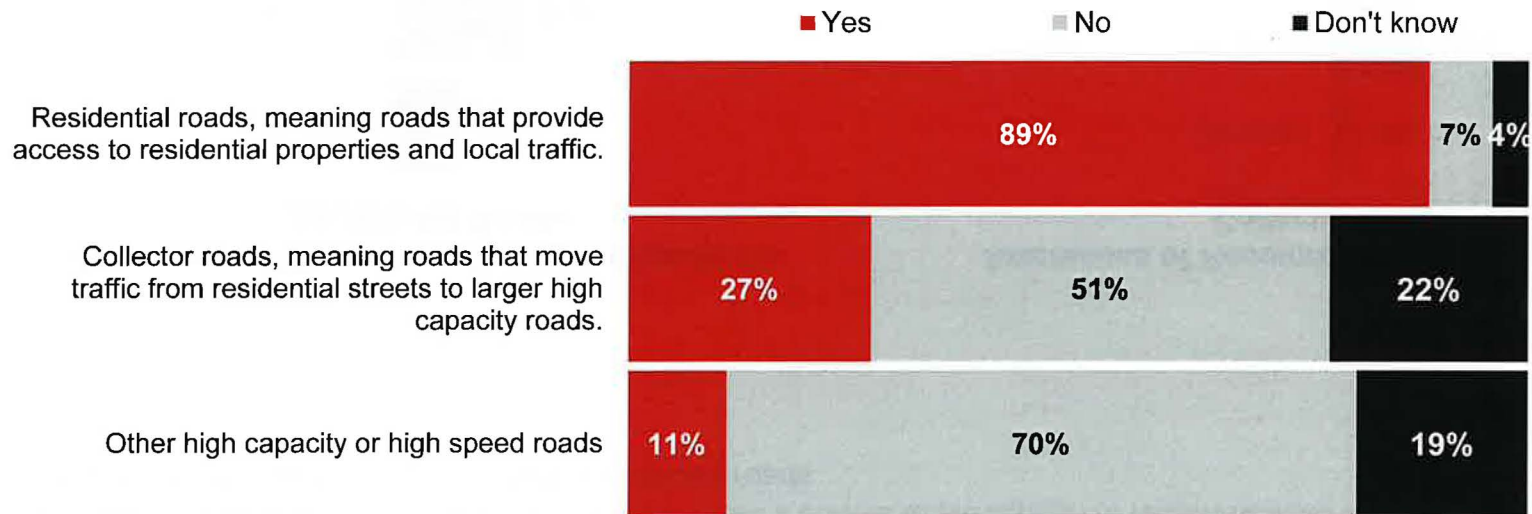
Base: All respondents (n=500)



Awareness of Roads Recommended for Reductions

Although a majority of survey respondents cite residential roads as roads that will see speed limit reductions, a sizeable proportion “don’t know” if reductions will take place on collector roads or other high capacity roads.

Perception of what Types of Roads will have Reduced Speed Limits

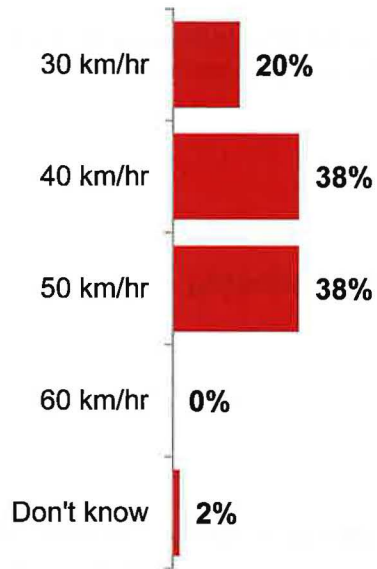


And to the best of your knowledge, what roads is The City considering reducing speed limits on? Is The City considering reducing speed limits on...
Base: Those aware The City is reviewing options to reduce speed limits on certain types of streets in Calgary (n=350)

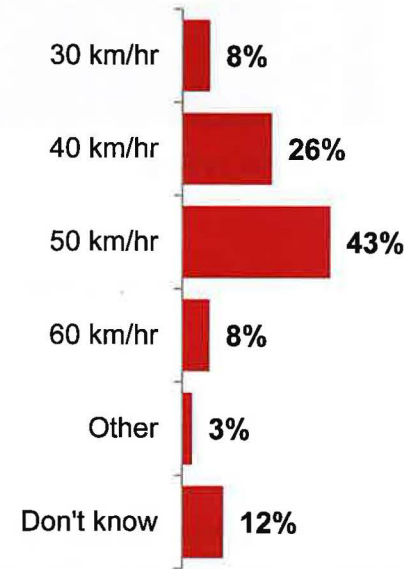
Awareness of Specific Speed Reductions

Although survey respondents are fairly divided when it comes to perception of recommended speed limits for residential roads, they are less so when it comes to collector roads.

Awareness of Recommended Speed Limits for Residential Roads



Awareness of Recommended Speed Limits for Collector Roads



And to the best of your knowledge, what is The City's recommended speed limit for ...

Base: Those who think The City is reviewing options to reduce the speed limit on residential (n=314) and/or collector (n=95) roads