

# Understanding Road Safety Activities, Priorities and Issues in BC Municipalities

Raheem Dilgir, TranSafe Consulting Ltd., Mavis Johnson, Canadian Traffic Safety Institute Ltd.,  
Dr. Kay Teschke, UBC School of Population and Public Health

## ABSTRACT

As part of the *British Columbia Road Safety Strategy 2015 and Beyond*<sup>1</sup>, the Safe Roads and Communities Working Committee conducted a survey of municipalities around B.C. Raheem and Mavis are co-Chairs of the Committee.

The survey was aimed at understanding where municipalities stood in terms of their road safety planning and the key road safety issues they were facing. Sixteen questions, some with multiple-responses and others with open-ended responses, were developed. These included an indication of what road safety plans and programs, if any, they had in place. The survey also asked municipal staff and elected officials to identify key issues, challenges and opportunities related to road safety in their jurisdiction, stakeholders whom they engaged, data sources they use, and indication of the level of funding dedicated to road safety.

Responses were received from 81 of 189 municipalities. Municipalities were categorized as small, mid-size and large based on population, and the responses were stratified by municipality size. The responses revealed that although road safety was considered important in most municipalities, very few have formally articulated mandates to improve road safety in their community.

Other key findings from respondents included that the top 3 issues in their jurisdictions were vehicle speeds, pedestrian safety and distracted driving; that there is a lack of internal staff and funding dedicated to road safety, and that the use of health-related data is limited.

It is necessary for communities to have access to the knowledge and resources to address road safety issues within their municipalities. As a result, the committee's mandate includes developing tools and resources that communities can use towards managing road safety. This was based on the Safer City concepts that the Insurance Corporation of B.C. launched in the mid 1990's and knowledge resources such as the Community Traffic Manual.

## BACKGROUND

Road safety partners in British Columbia have collaborated to produce the *British Columbia Road Safety Strategy*. Together, government ministries, the insurance sector, crown entities, the health sector, law enforcement agencies, non-profit organizations, road safety advocacy groups and academic researchers examined the situation in our province and suggested priorities for the first made-in-British Columbia

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<sup>1</sup> BC Road Safety Strategy 2015 and Beyond. BC Ministry of Justice, Office of the Superintendent of Motor Vehicles, Lacombe and Arason, August 2013.

road safety strategy. The British Columbia Road Safety Strategy is the result of the efforts of over 30 British Columbia stakeholder groups. The vision is that British Columbia will have the safest roads in North America and will work toward the ultimate goal of zero traffic fatalities and zero serious injuries.

The Safe Roads and Communities Working Committee of the BC Road Safety Strategy has been in place since the first draft of the Strategy in 2013. The committee’s role is to develop strategies for safer roads and safer communities in British Columbia. The committee’s vision is: “the reduction of serious injuries and fatalities on BC’s roads”. “Roads” refers to the physical and operational environment on or adjacent to roadways, and encompasses all types of roads including highways, municipal roads, and local roads. “Communities” refers to municipalities (e.g., cities, towns, districts, villages, and regions), first nations’ communities, and other jurisdictions whose leaders have the authority to develop and implement policies regarding road safety.

The mandate of the committee is to provide advice and make recommendations to the BC Road Safety Strategy (RSS) steering committee in support of the vision and targets set out in the BC RSS, which aims to achieve a year-to-year reduction in the frequency and rate per population of injuries and fatalities on BC roads, and ultimately to eliminate them. The committee’s mandate is to:

- Identify enhancements to existing road safety programs, policies and standards in BC; and
- Provide information and tools to communities in BC towards effective road safety management

To provide an evidence-based approach to the above tasks, the committee’s first task was to carry out a survey of communities across the province, to better understand the role and priority of road safety among municipalities and the issues they are facing, prior to providing information and guidance to them.

## OBJECTIVES AND SCOPE

The BC Communities Road Safety Survey was designed by the Safe Roads and Communities Working Committee of the BC Road Safety Strategy. The goal was to provide an overview of municipal road safety activities in BC and identify the challenges that may be limiting our collective progress.

A request to complete the survey was sent to representatives of 189 BC

municipalities. The survey was conducted on-line and was available for completion from mid-June to mid-July 2015. 81 BC municipalities responded (42.9% participation rate, covering 3.2

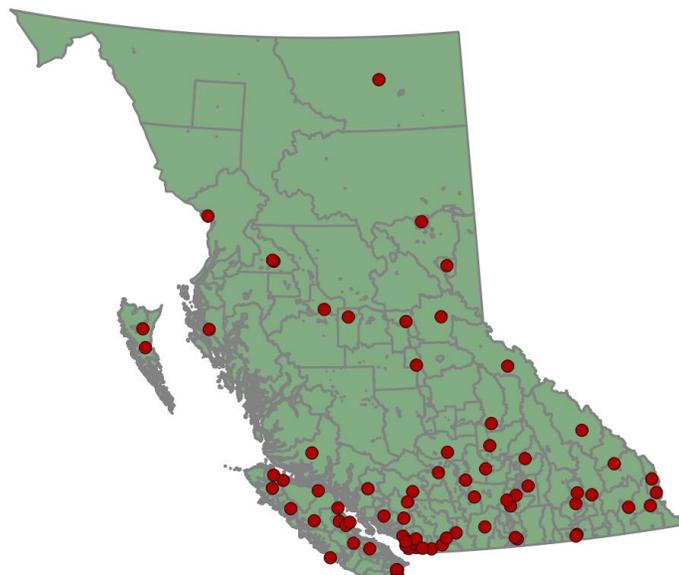


FIGURE 1 GEOGRAPHIC DISTRIBUTION OF SURVEY RESPONDENTS

million of 4.4 million people in the province). Four additional communities participated during survey development. The map illustrates the geographic distribution of the 81 participating municipalities.

A total of 16 questions were asked, covering the following themes:

- Road safety mandate and priority
- Existing programs and activities
- Road safety funding
- Issues contributing to collisions and injuries
- Data sources and issues
- Suggestions for furthering road safety progress

### SURVEY QUESTIONS AND RESPONSES

13 of the 16 survey questions - consisting mostly of multi-selection questions - are presented here. The final three questions were open-ended and contain a wide range of responses that could not be concisely summarized in this paper.

The results were summarized for all participating municipalities. Answers to closed-ended questions were tallied quantitatively. Answers to open-ended questions were reported as text only. For some questions, the results were compared by municipality size, categorized as follows:

- < 5,000 people (N=43 municipalities participating of 93 requests sent)
- 5,000 to < 20,000 people (N=19 municipalities participating of 56 requests sent)
- ≥ 20,000 people (N=19 municipalities participating of 40 requests sent)

Where there were significant differences, the results are presented by population size category. Questions and summary charts containing the responses are as follows:

*Question 1: Does your municipality have a formally articulated mandate to improving road safety?*

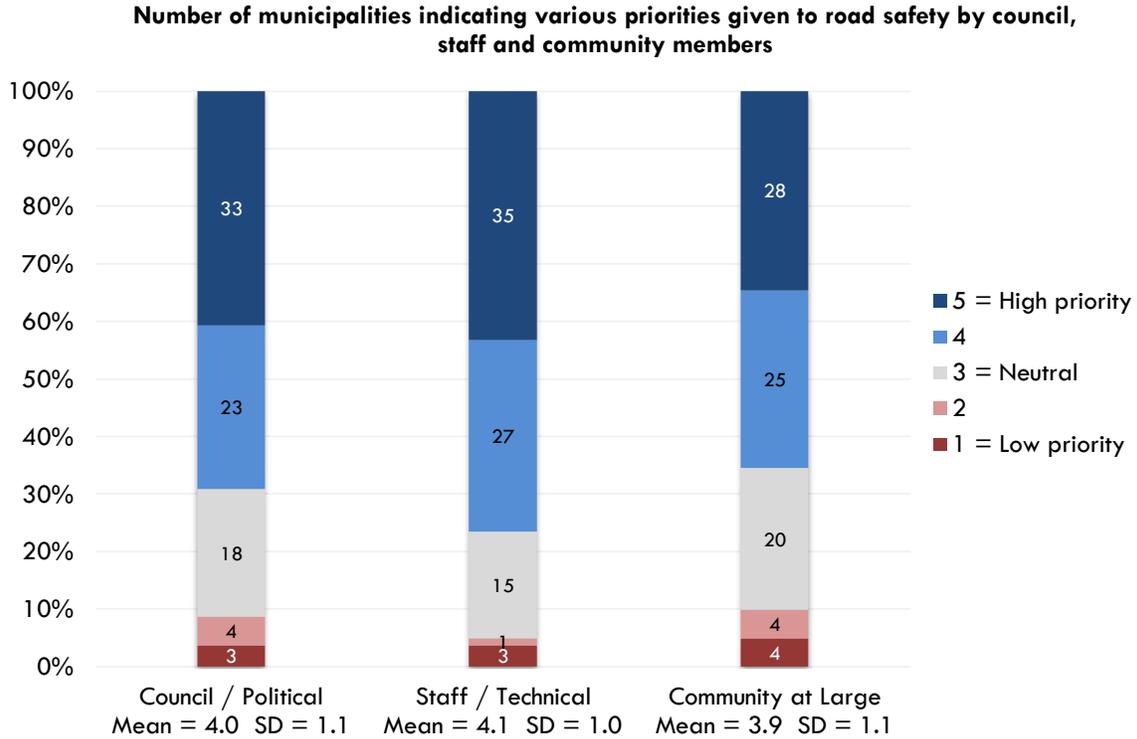
	Yes N (%)	No N (%)
All municipalities	23 (29.1%)	56 (70.9%)
Population < 5,000	6	36
Population 5,000 to < 20,000	4	15
Population ≥ 20,000	13	5

2 municipalities did not answer this question.

Only 29% of municipalities had a formally articulated mandate to improve road safety.

Larger municipalities were significantly more likely to have a road safety policy ( $p < 0.001$ ), including 72% of municipalities with at least 20,000 people.

Question 2: In your opinion, how much of a priority is road safety for each of the following:



Priority	1	2	3	4	5
Council / Political	3	4	18	23	33
Staff / Technical	3	1	15	27	35
Community at Large	4	4	20	25	28

Road safety was considered a priority in most municipalities, by all stakeholders, including councils, municipal staff and community members.

There were no differences in road safety prioritization by municipality population size.

Question 3: Does your municipality have any of the following in place or under development?

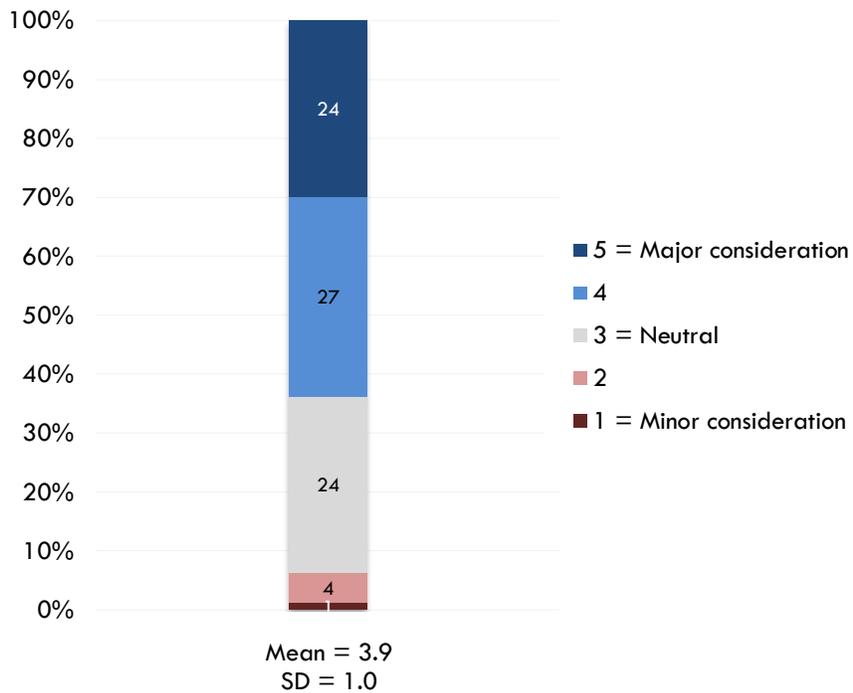
	In place	Under development	No
Road Safety Vision	11 (13.6%)	6 (7.4%)	64 (79.0%)
Population < 5,000	2	3	38
Population 5,000 to < 20,000	3	0	16
Population ≥ 20,000	6	3	10
Road Safety Plan	13 (16.0%)	11 (13.6%)	57 (70.4%)
Population < 5,000	3	4	36
Population 5,000 to < 20,000	4	1	14
Population ≥ 20,000	6	6	7
Road Safety Targets (e.g., fatality or injury reduction)	9 (11.1%)	6 (7.4%)	66 (81.5%)
Population < 5,000	2	2	39
Population 5,000 to < 20,000	2	1	16
Population ≥ 20,000	5	3	11
Committee / Working Group with Road Safety Mandate	23 (28.8%)	4 (5.0%)	53 (66.3%)
Population < 5,000	3	2	38
Population 5,000 to < 20,000	7	1	11
Population ≥ 20,000	13	1	4
Road Safety Improvement Program or Projects	33 (40.7%)	17 (21.0%)	31 (38.3%)
Population < 5,000	10	11	22
Population 5,000 to < 20,000	10	2	7
Population ≥ 20,000	13	4	2

Few municipalities had road safety visions, plans, or targets. Somewhat more had committees or working groups with a road safety mandate, and 41% had programs or projects in place.

Larger municipalities were significantly more likely to have each of these strategies in place ( $p < 0.05$ ), and 68% of municipalities with at least 20,000 people had committees or working groups with a road safety mandate and road safety improvement programs or projects in place.

Question 4: To what degree is road safety a consideration in the selection of transportation projects?

**Number of municipalities giving various degrees of consideration to road safety in selection of transportation projects / upgrades**



Degree of consideration	1	2	3	4	5
Road safety a consideration	1	4	24	27	24

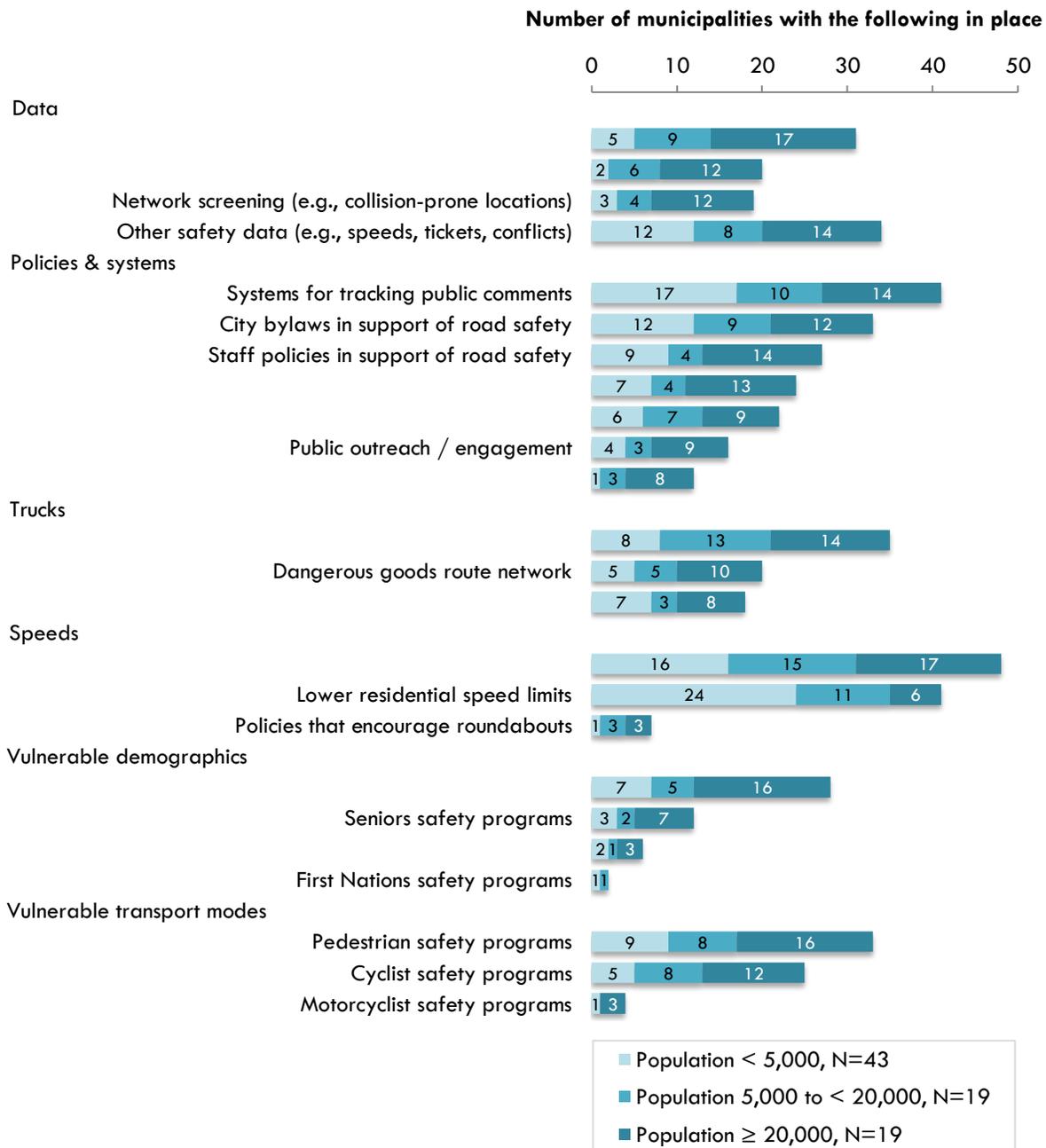
1 municipality did not answer this question.

Road safety received a high degree of consideration in the selection of transportation projects / upgrades in most municipalities. There were no differences by municipality population size.

*Question 5: Are you aware of any of the following in place in your community? Check items that are present in your community.*

The most commonly reported programs were speed reduction devices, lower residential speed limits, and public comment tracking systems. The least commonly reported programs were First Nations safety programs, motorcyclist safety programs, and policies that encourage roundabouts.

Larger municipalities were significantly more likely to have each of the above in place ( $p < 0.05$ ). The following items were the only ones with no significant differences by municipality size: commercial vehicles inspection programs; lower residential speed limits; policies that encourage roundabouts; disabled / medically unfit safety programs; First Nations safety programs; motor cyclist safety programs. Most of these were rarely implemented programs.



**Question 6:** List any other road safety programs or initiatives in your community

The responses to this open-ended question were diverse, with no particular initiative being dominant. Answers are categorized and summarized below.

## Speed Management

- Traffic calming
- Community speed watch
- Speed limit setting
- Roadside speed monitoring devices

## Vulnerable Road Users

- Bike rodeo
- Pedestrian crossing upgrades (with ICBC program)
- Pedestrian safety campaigns
- Supplementary oversized school zone signs
- Child seat checks

## Enforcement

- Annual performance plan
- By-law development

## Engineering

- Participate in ICBC Road Improvement Program
- Traffic signal timing analysis
- Asset management plan
- Road marking and signage review (with ICBC)
- Intersection/Roundabout education
- Emergency access route planning

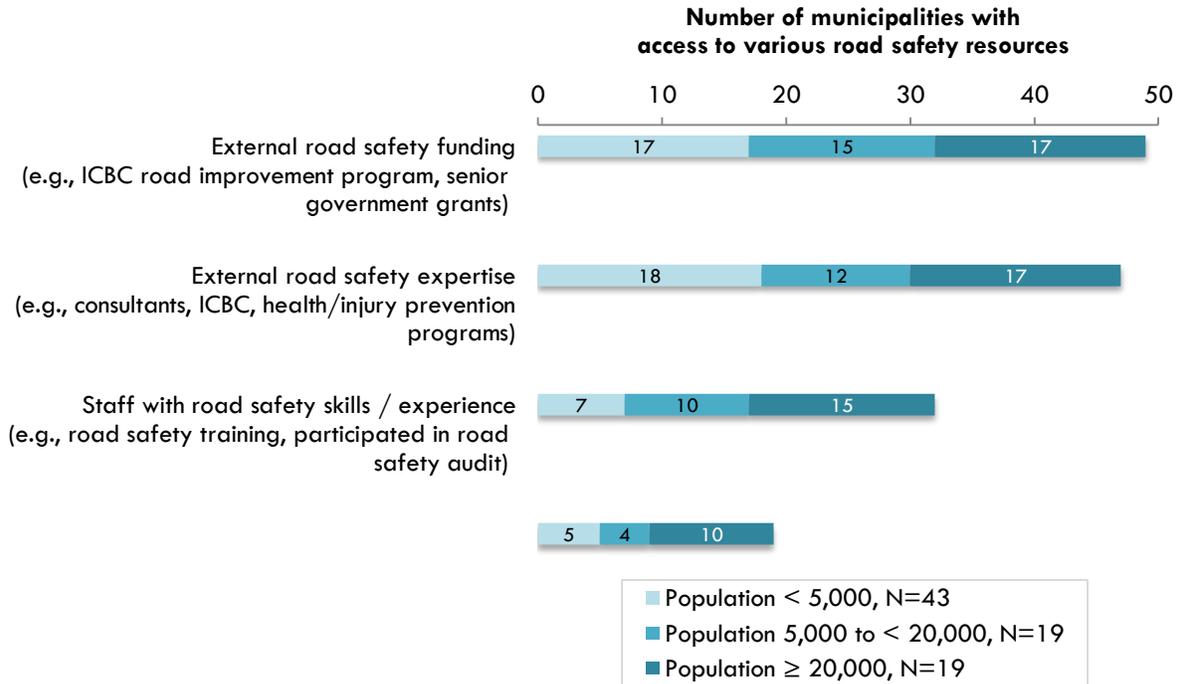
Partners – BCAA, RCMP, School District, BC Transit, post-secondary schools

Programs – Distracted driving, safe pedestrians, Alexa's bus, Counterattack, Operation Red Nose, School Safety, Hey Neighbour – Slow down!, 3- strikes you're out

## Other Responses:

- Response to complaints
- Lobby provincial government
- Road safety committee
- Safer City Program
- Innovation – Data drive approach to Crime and Traffic Safety

Question 7: What road safety resources does your municipality currently have access to?



Most municipalities reported access to external road safety funding (60%) and expertise (58%), but fewer reported access to internal staff (40%) or funding (23%).

Larger municipalities were significantly more likely to have access to each of these resources ( $p < 0.01$ ).

Other road safety resources mentioned:

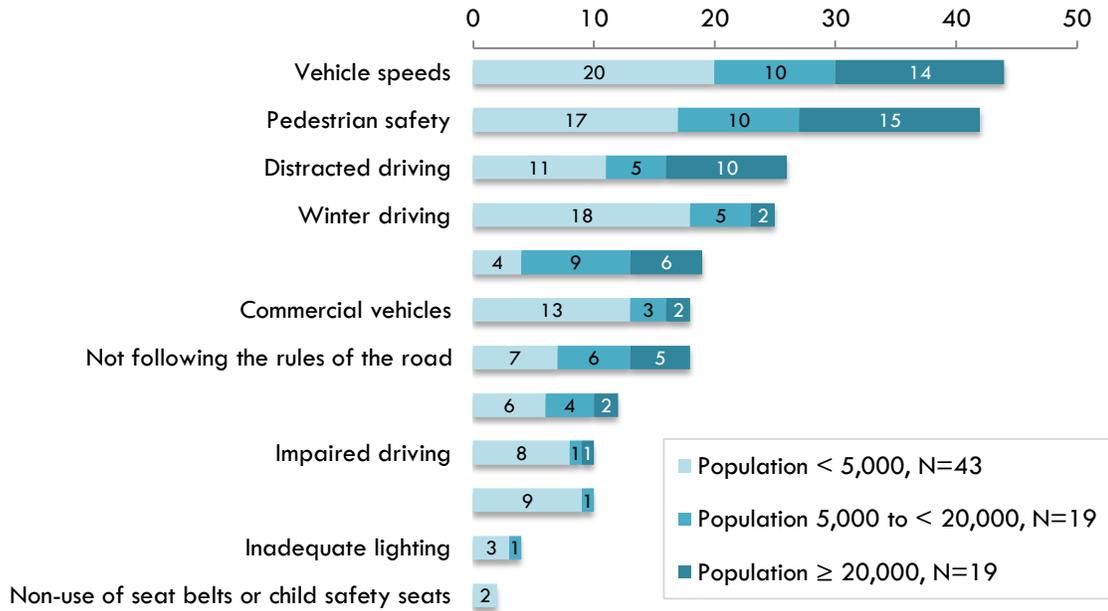
Close liaison with RCMP; specific capital funding on a project-by-project basis; specific funding is planned, funds available for safety improvements associated with other programs; Ministry of Transportation

Question 8: What would you identify as the top three road safety issues in your community?

The top safety issues, reported by just over 50% of municipalities as in their top three, were vehicle speeds and pedestrian safety. Distracted driving and winter driving were the next most frequently noted, reported by just over 30% of municipalities.

There were no differences by municipality size for the following issues identified as top safety issues: vehicles speeds; distracted driving; commercial vehicles; and not following the rules of the road. Larger municipalities were significantly more likely to identify the following as top safety issues ( $p < 0.05$ ): pedestrian safety; cyclist safety. Smaller municipalities were significantly more likely to identify the following as top safety issues ( $p < 0.05$ ): winter driving; wildlife collisions.

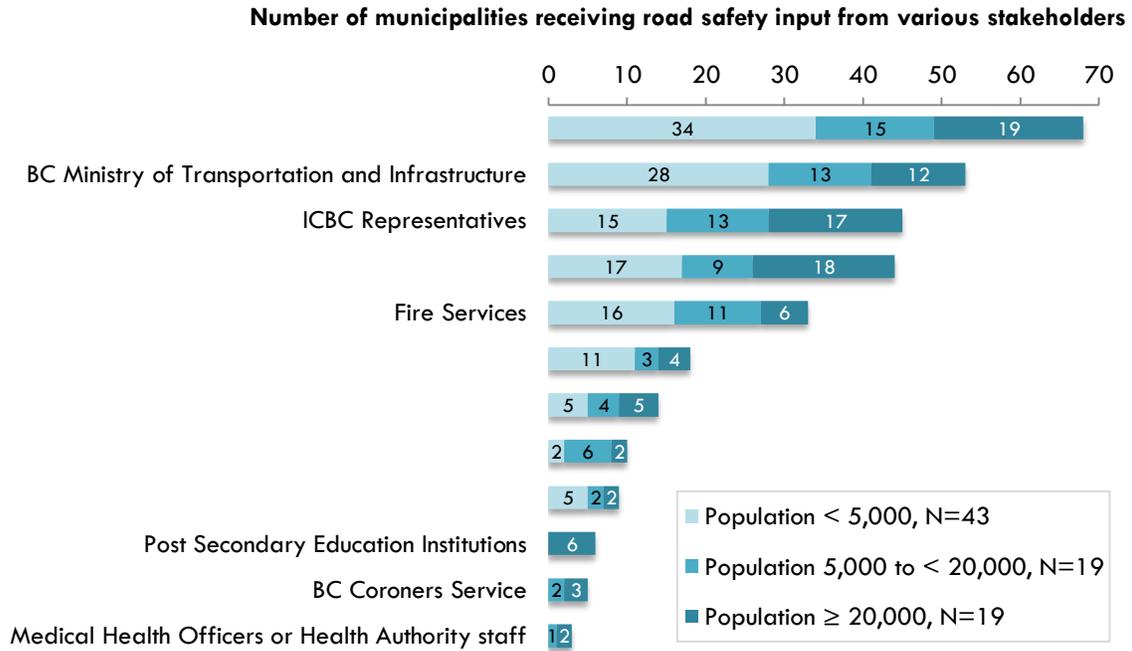
**Number of municipalities identifying item as a top three road safety issue**



Other issues listed:

Speed relative to road conditions; terrible road conditions; motorized scooter / wheelchair traffic; senior mobility; shoulder maintenance; road corridor vegetation management; settling pavement; poor traffic light modulation; parking pressures; angle parking.

Question 9: Which stakeholders below provide input on road safety issues in your community?



The key stakeholders with input on road safety in most communities were the RCMP / police, the Ministry of Transportation and Infrastructure, ICBC and school districts. There was relatively little input by health officials, including BC Ambulance, BC Coroners Service or Medical Health Officers and Health Authority staff.

There were no differences by municipality size in input from the following stakeholders: BC Ministry of Transportation and Infrastructure; BC Ambulance; regional districts; First Nations community; Medical Health Officers or Health Authority staff. Larger municipalities were significantly more likely to identify the following stakeholders as providing input ( $p < 0.05$ ): RCMP / police; ICBC representatives; school districts (K - 12); post-secondary institutions. Medium size municipalities were significantly more likely to identify the following stakeholders as providing input ( $p < 0.05$ ): fire services; other local governments.

Question 10: List other stakeholders (public, government or industry) who provide input on road safety issues

In addition to the list of stakeholders queried in Question 9, many other diverse stakeholders were reported as providing input at the individual community level. Answers to this question are categorized and summarized below.

#### Community

- Resident groups – seniors

- Parent advisory groups
- Active transportation policy council
- Speed watch volunteers
- Mothers Against Drunk Driving (MADD)

#### Business/Industry

- Industry reps
- Business improvement associations
- Tourism groups/operators
- Board of Trade

#### Transportation

- TransLink/BC Transit/Coast Mountain Bus
- Railways
- BC Trucking Association
- Commercial motor vehicle safety enforcement inspectors

#### Others

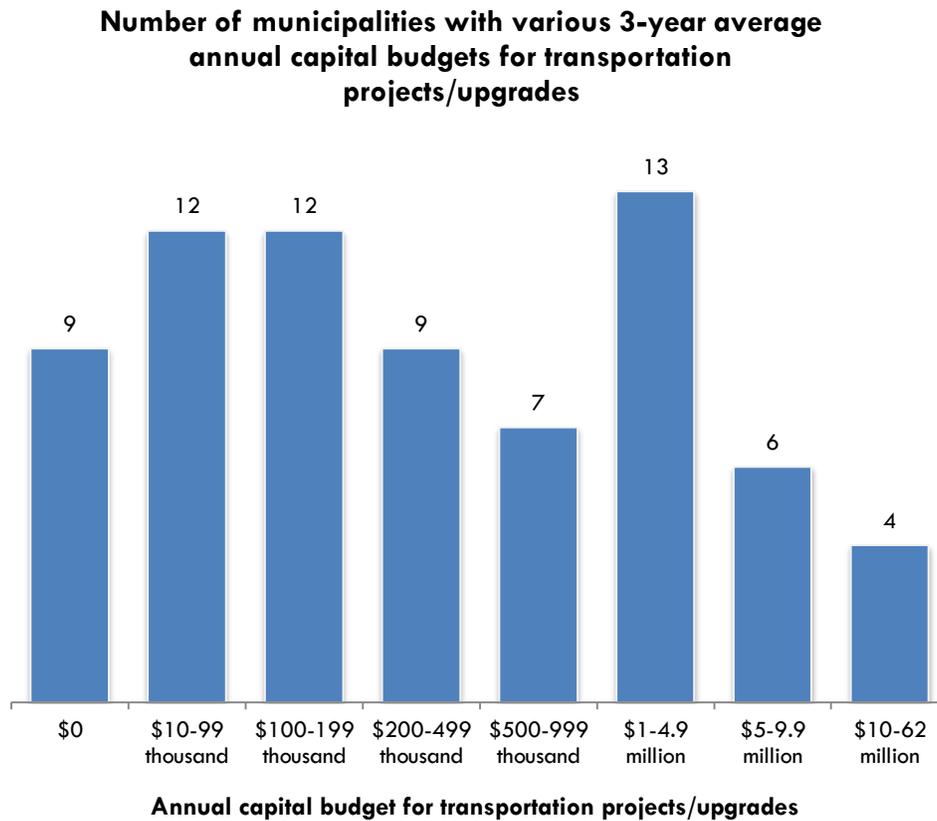
- Engineering consultants
- Bylaw and parking enforcement
- Watershed protection committee
- BC Automobile Association (BCAA)
- Media
- Road safety BC reps
- Canadian National Institute for the Blind (CNIB)
- HUB Your Cycling Connection
- Search and Rescue
- Corrections Canada

*Question 11: What was your agency's average annual capital budget for transportation projects/upgrades over the last three years?*

	Mean	SD
All Municipalities	\$3.11 million	\$10.0 million
Population < 5,000	\$0.19 million	\$1.4 million
Population 5,000 to < 20,000	\$0.98 million	\$2.1 million
Population ≥ 20,000	\$12.47 million	\$2.2 million

9 municipalities did not answer this question

As expected, transportation budgets were strongly related to population size, with larger municipalities significantly more likely to spend more on transportation projects and upgrades ( $p < 0.001$ ).



*Question 12: Approximately what percentage of your annual capital budget (over the past 1-3 years) was targeted to improve road safety?*

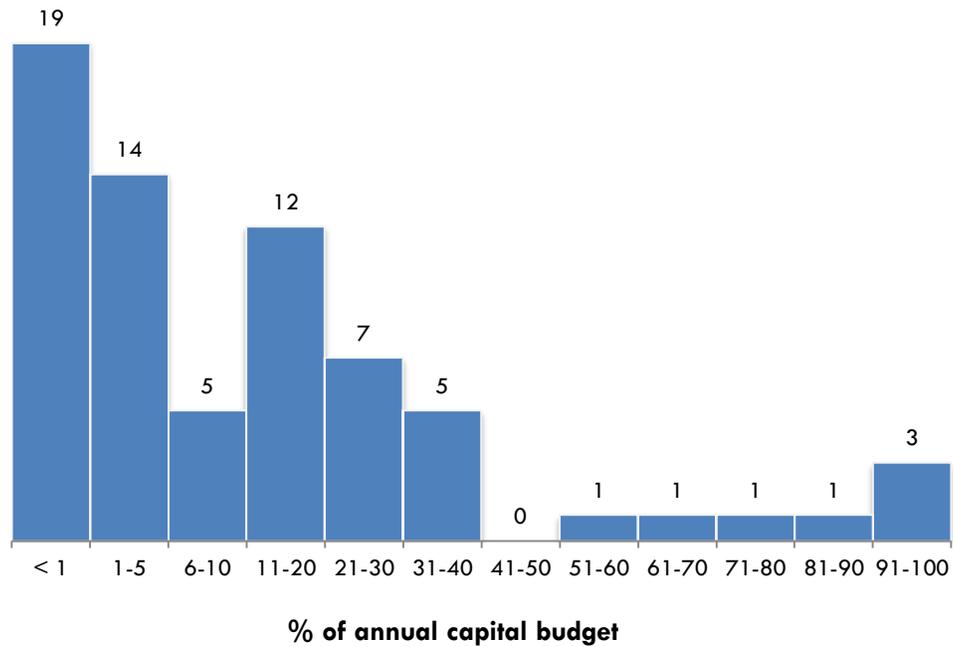
	Mean	SD
All Municipalities	18.2%	25.9%
Population < 5,000	13.7%	4.2%
Population 5,000 to < 20,000	17.1%	6.2%
Population $\geq$ 20,000	30.6%	6.6%

12 municipalities did not answer this question

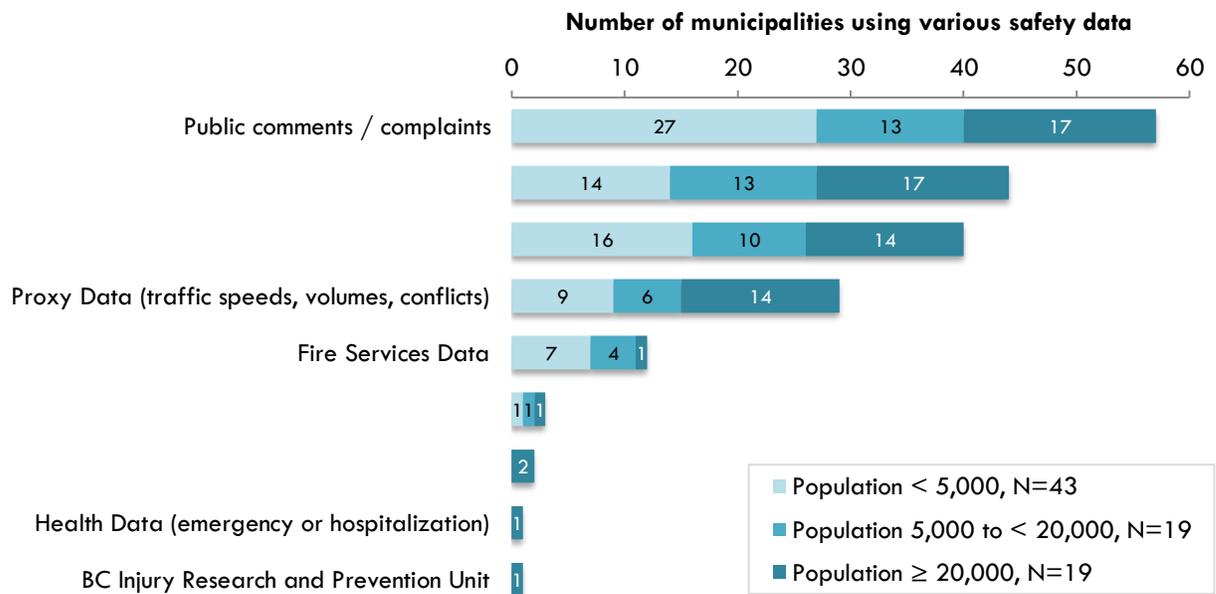
The proportion of capital budgets reported as targeted to road safety was highly variable, ranging from 0 to 100%. The proportion reported averaged 18%, though many reported less: half of municipalities reported allocating less than 8% of their budget to road safety.

Larger municipalities targeted a greater proportion of their transportation budget to road safety, but the differences were not statistically significant ( $p = 0.10$ ).

**Number of municipalities with various percentages of their transportation capital budgets targeted to road safety**



Question 13: What sources of safety data do you use?



Municipalities dominantly reported using public comments / complaints (70%), ICBC data (54%) and police data (49%) as sources of safety information. Health data was rarely used (i.e., Ambulance Service data, Coroners Service data, emergency or hospitalization data, or BC Injury Research and Prevention Unit data).

Larger municipalities were significantly more likely to use the following safety data sources ( $p < 0.05$ ): ICBC data; police data; proxy data; coroner's data. There were no other differences by municipality size.

Other data sources mentioned:

Radar speed reader data; our own surveys and observations; staff observations; consulting engineers; consultants recommendations; etc.

## **SURVEY CONCLUSIONS**

The survey conclusions are as follows:

Most municipalities indicated they want to address road safety issues. **Municipal councils, staff and community members consider road safety a priority**, and road safety is given priority when selecting transportation projects and upgrades. (Questions 2 and 4)

However, **formal road safety program components are rare**. Less than a third of municipalities (mainly those with at least 20,000 population) have a formal mandate to improve road safety. Few have developed road safety visions, plans or targets. Less than half have committees with a road safety mandate or road safety improvement programs or projects. Larger cities are more likely to have such components in place. (Question 1 and 3)

The proportions of transportation capital budgets allocated to road safety were highly variable, with a low of 0% and a high of 100%. The average was 18%, but **more than half of municipalities allocated less than 8% of their transportation budget to road safety**. More than half of municipalities reported having access to external road safety funding and expertise, but internal staff and funding were much less frequently available, with less than a fifth having internal funding specifically allocated to safety. **The most commonly reported challenges to implementing road safety activities were funding and staff with expertise**. (Questions 12, 7)

The **top two safety issues were vehicle speeds and pedestrian safety**, which were identified by more than half of municipalities. The next most important were distracted driving and winter driving, both identified by about a third of municipalities. (Question 8)

Through the use of check boxes, **we asked about 24 potential road safety program elements** and found that **only three were in place in more than half of the participating municipalities**: speed reduction devices; lower residential speed limits; and systems for tracking public comments. Few municipalities had programs for seniors, the disabled or medically unfit, First Nations, or motorcyclists. Larger

municipalities were more likely to have some of these elements in place, especially those related to safety data, truck routes, safe routes to school, and pedestrian or cyclist safety. (Question 5)

Similarly, **we asked about 12 potential road safety stakeholders that might provide input on road safety** and found that **police provided input to almost all participating municipalities**. Other organizations that provided input to at least half the municipalities included the BC Ministry of Transportation and Infrastructure, the Insurance Corporation of BC, and school districts. Few municipalities received input from health organizations (BC Ambulance Service, BC Coroners Service, Health Authorities). (Question 9)

**We asked about 9 potential sources of road safety data** and found that **most municipalities used public comments and complaints**. ICBC and police data were used by about half of municipalities. Almost no municipalities used health data (from BC Ambulance Service, BC Coroners Service, emergency departments, hospitals, or the BC Injury Research and Prevention Unit). (Question 13)

The survey responses will inform the strategies developed by the Working Committee. These have been identified in two areas: 1) Road Safety Knowledge Resources; and 2) Road Safety Funding Resources. An initiative is underway with RoadSafetyBC and the Safe Roads and Communities Working Committee to develop a road safety toolkit to describe the development of a road safety management framework, and to present practical engineering guidance to address issues raised in the survey, with emphasis on the top issues. An update and highlights of this issue will be shared during the presentation.

## **ACKNOWLEDGEMENTS**

We would like to acknowledge other members of the Safe Roads and Communities Working Committee, comprised of individuals representing the following agencies:

- Ministry of Transportation and Infrastructure
- Insurance Corporation of British Columbia
- University of British Columbia – Okanagan
- First Nations Health Authority
- Vancouver Coastal Health
- Fraser Health
- City of Vancouver
- City of Surrey
- City of Nanaimo
- City of Kelowna
- City of Dawson Creek
- Town of Smithers

We would also like to acknowledge RoadSafetyBC, under whose auspices and protocols the survey was carried out, and to thank municipalities across the province for participating in the survey.

## **AUTHOR'S INFORMATION**

Raheem Dilgir, P.Eng., PTOE, MBA  
President, TranSafe Consulting Ltd.  
908 – 1495 Richards Street  
Vancouver, BC, Canada V6Z 3E3  
Phone: (604) 563-9988  
E-mail: [raheem@transafe.ca](mailto:raheem@transafe.ca)

Mavis Johnson  
Canadian Traffic Safety Institute Ltd.  
8553 Flowering Place  
Burnaby, BC V5A 4B4  
Phone: (604) 421-6940  
E-mail: [mavis@ctsinsitute.com](mailto:mavis@ctsinsitute.com)

Dr. Kay Teschke  
Professor, School of Population and Public Health  
The University of British Columbia  
Vancouver BC V6T 1Z3  
Phone: 604 822-2041  
E-mail: [kteschke@mac.com](mailto:kteschke@mac.com)