

Calgary



La Vision Zéro à Calgary Forum Vision Zero Ville Québec et Montréal 24-25 octobre, 2017

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City of Calgary, Leader of Traffic Safety





Canadian Association of Road Safety Professionals (CARSP)



CARSP provides a network for road safety professionals to share information and best practices about road safety

CARSP is Multi-sectoral: government, academia, non-governmental organizations, consultants, engineers, police services, etc.

CARSP is multidisciplinary: expertise in research, policy, and programs covering safety of road users, vehicles, and road infrastructure

CARSP has about 350 members covering all regions of Canada as well as some international members

Board of Directors represents various regions of country (Including Quebec!), sectors and disciplines





Overview of the Calgary Safer Mobility Plan



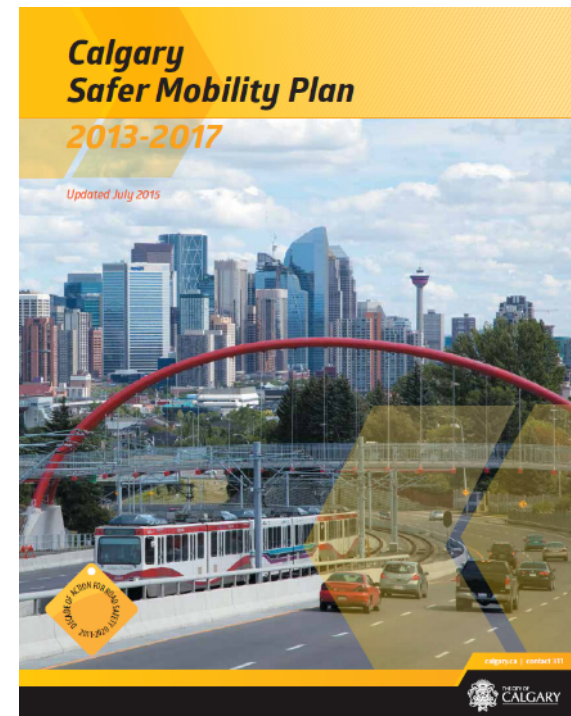
- Five year plan
- Based on Calgary Data
- Targets in five Focus Areas
- 11 Strategies with actions
- Partnership & Collaboration

Vision:

- Safe Mobility for all Users

Mission:

- Striving for zero... pursuing transportation completely free of fatalities and injuries.



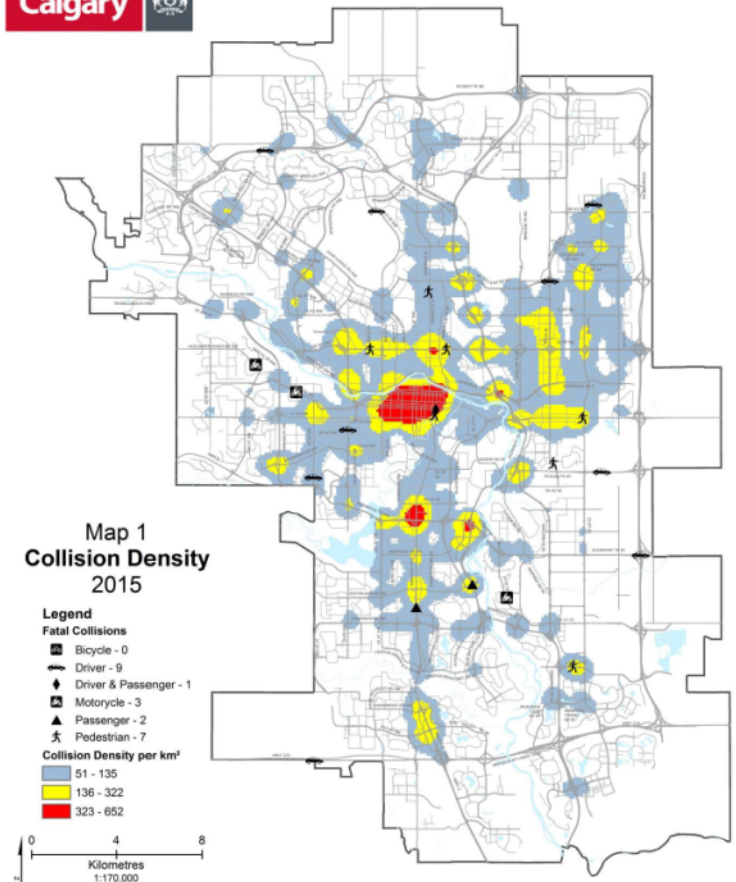
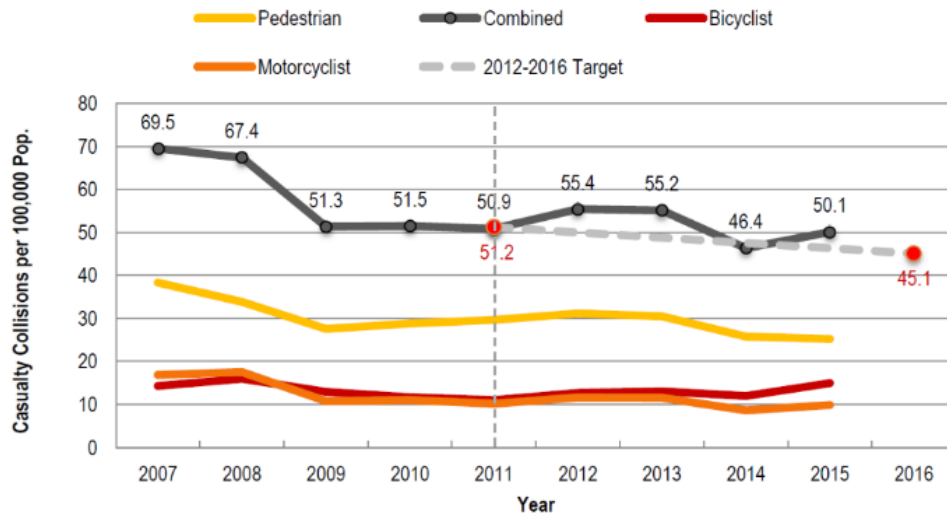
Available on Calgary.ca
2018 plan will include larger focus on Vision Zero



Collisions in Calgary in 2015

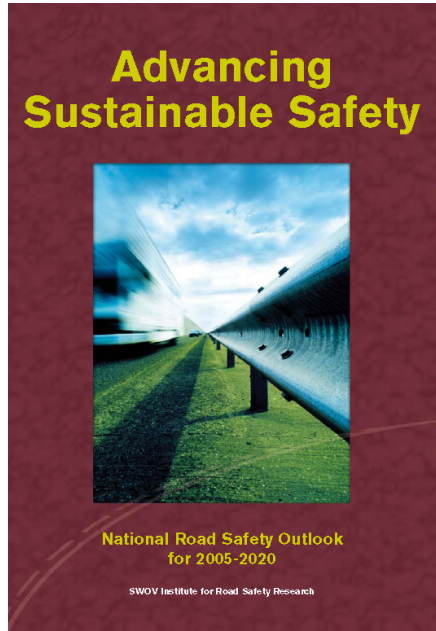


- Societal cost estimate of \$1.02 B
- 22 Fatal, 2,504 Injury, 34,279 non-injury Collisions
- 205 casualty collisions / 100,000 pop. (National: 316/ 100,000 pop.)





Approaches to improve traffic safety



Common themes to all approaches (3 E's)

Human fallibility and physical tolerances

All three aim to minimize/eliminate harm



Approaches to improve traffic safety Vision Zero



Ethical Statement: life and health can never be exchanged for other benefits

In every way a human should fail the system should not

Shared responsibility among all system administrators and participants rather than victim blaming, managing energy (Human tolerance)

Vision is not a target or a goal

Vision Zero is about all road users



Vision Zero Network in U.S.



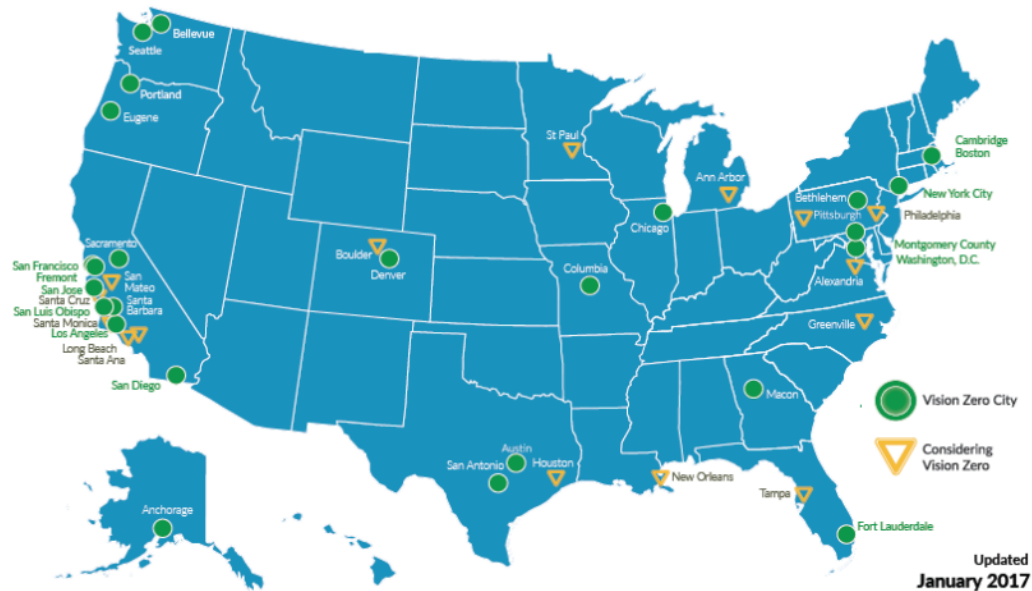
Interest in similar network in Canada

VISION ZERO NETWORK

MOVING FROM VISION TO ACTION:

Fundamental Principles, Policies & Practices to Advance Vision Zero in the U.S.

February 2017



A VISION ZERO CITY MEETS THE FOLLOWING MINIMUM STANDARDS:

1. Sets clear goal of eliminating traffic fatalities and severe injuries
2. Mayor (or top official) has publicly, officially committed to Vision Zero
3. Vision Zero plan or strategy is in place, or Mayor has committed to doing so in clear time frame
4. Key city departments (including Police, Transportation and Public Health) are engaged.



So what are we doing in Calgary? Harmonization of times for reduced speed zones



- Uniformity of times (07:30 to 21:00)
- Conversion of School Zones to Playground Zones
- Reduced speeds & Collisions Increase compliance and simplicity





Engaging communities



Druh Farrell @DruhFarrell

ICYMI: Ward 7 Pedestrian & Traffic Safety Open House. Feb 16 6:30-8:30pm. Red & White Club 1833 Crowchild Tr NW. #yycwalk #yycbike

Retweets 12 Likes 3

10:35 AM · 9 Feb 2017

crosscanhighwayyc, Brentwood Calgary, Titewood Community and 7 others



Ward 8 Traffic Safety Meeting

March 9th - 7pm

Doors open @ 6:45pm

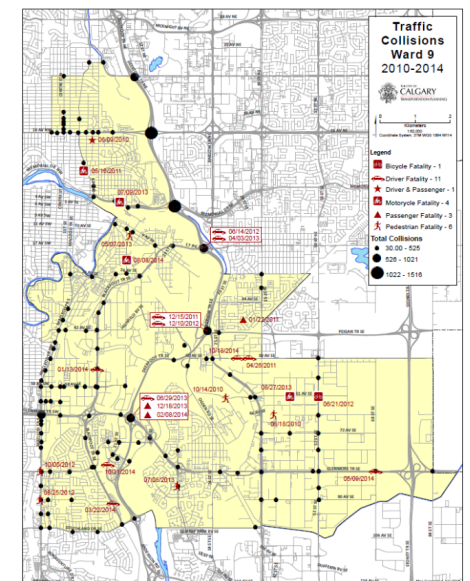
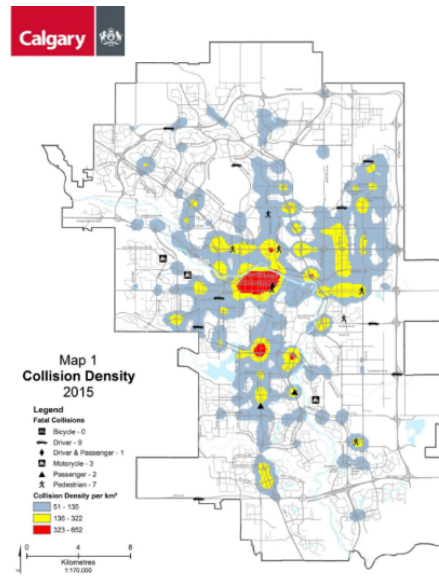
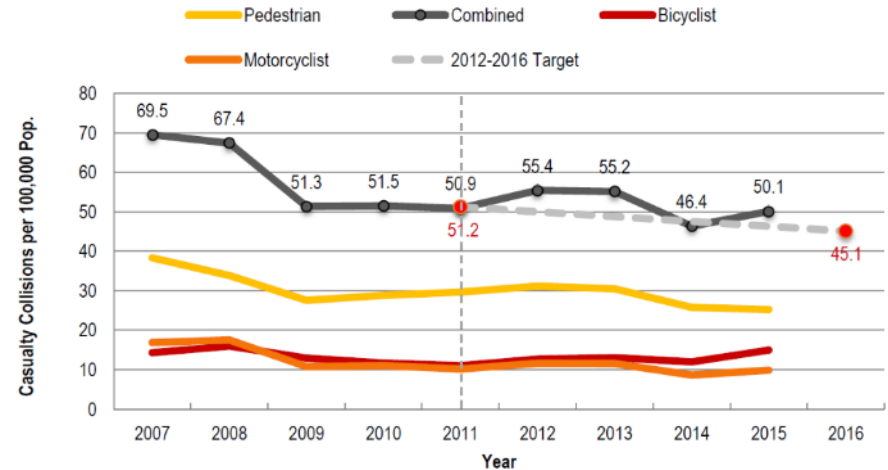
Good Companion Activity Centre Killarney

2609 19 Ave SW





Engagement - sharing information about targets and actions





Engagement - focused information about speed

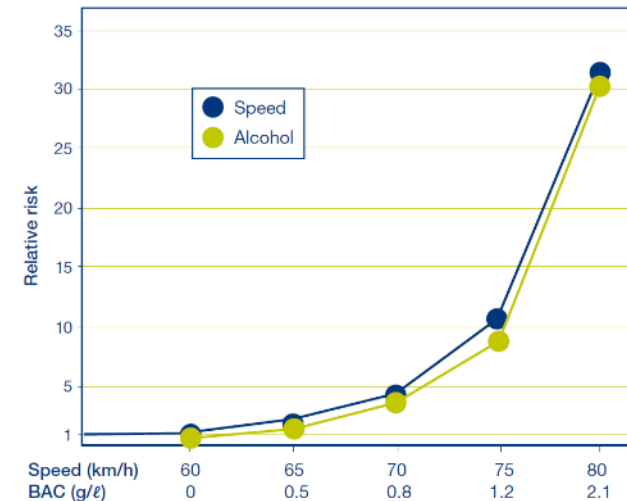
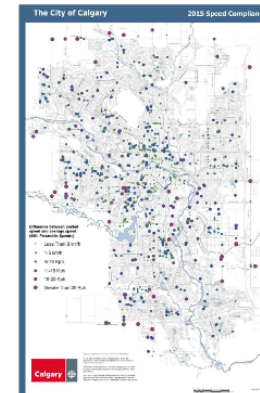
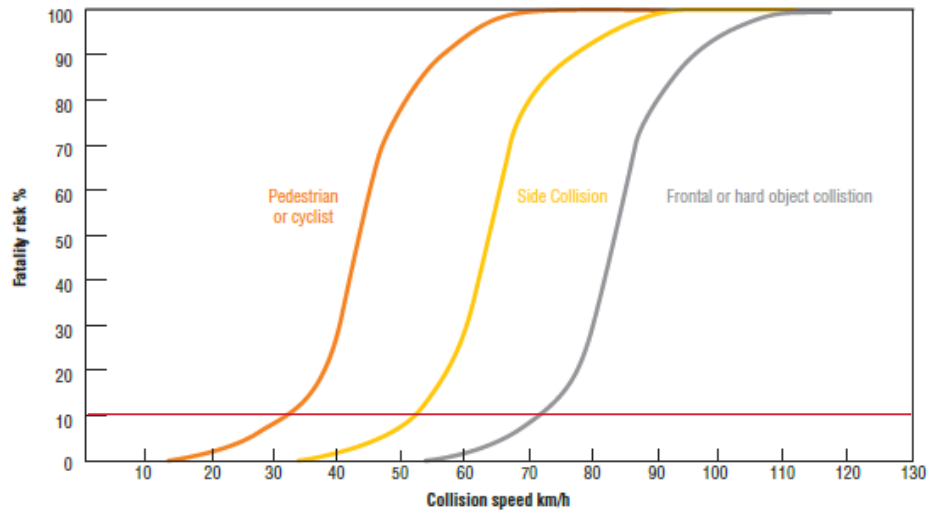


- Dispelling myths about speeding but acknowledging complex system and City influence.
- Simple physics and human bio-mechanics: Kinetic Energy = $\frac{1}{2}$ Mass x Velocity²

1% increase in speed → 2% increase in collisions, 3% increase in injuries, 4% increase in fatal collisions (~ Nilsson's Power model)

Relative risk of Impaired Driving and Speeding (Kloeden et al.)

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



Citizen awareness of city programs



Speed
Limit
Observation and
Warning
System



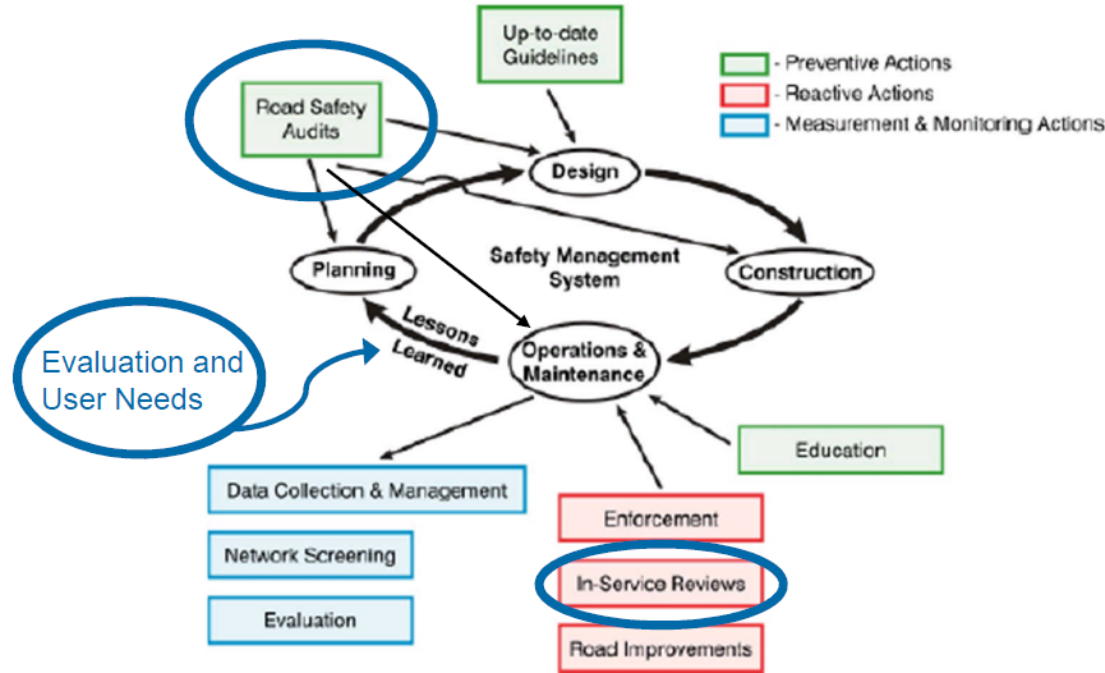
Community
Speed Watch



Contact 311 or visit [Calgary.ca/trafficsafety](https://calgary.ca/trafficsafety)



Is it a Road Safety Audit or an In-Service Road Safety Review?



Source: The Canadian Guide to In-service Road Safety Reviews 2004, Transportation Association of Canada (TAC)

Data/Reactive – In-Service Road Safety Review (Fix our problems)

Principles/Proactive – Road Safety Audit (Do it right the first time)



Forgiving roadsides and intersections



Yes, we still want people in cars to be safer too!

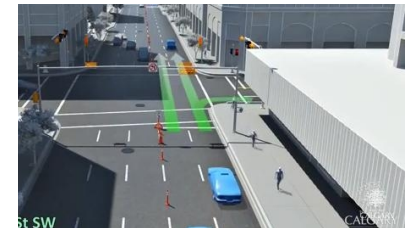
- Roadside design

Median Barriers, Clear zones

- Safer intersection designs

Roundabouts (Yes – safer for pedestrians!)

Diverging Diamond Interchange, predictive signals, protected left turns, turn restrictions





Making cycling safer in Calgary



Cycle Strategy to Cycle Track!



Fast facts about the cycle track pilot

2% of 300 km of downtown travel lanes used for **6.5 km** of cycle tracks



1.2 million bicycle trips



90 seconds longest delay to people driving



\$7.1M Council approved budget
\$5.45M Pilot cost (to date) (\$1.65M under budget)

130 net increase of parking stalls created downtown to offset the loss of parking along cycle track routes.

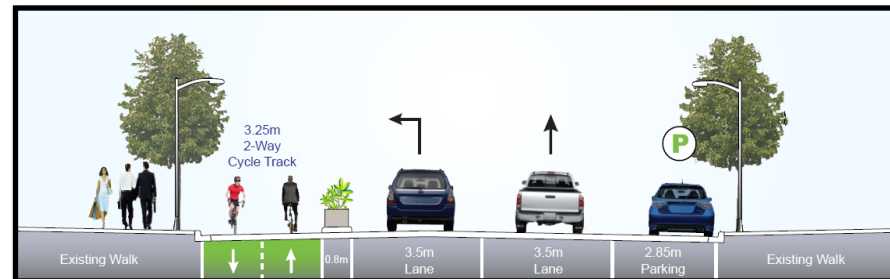
30% of people riding cycle tracks are women, up from 22% before cycle tracks.



Unlawful sidewalk riding has decreased from an average of 16% (pre-cycle tracks) to **2%**

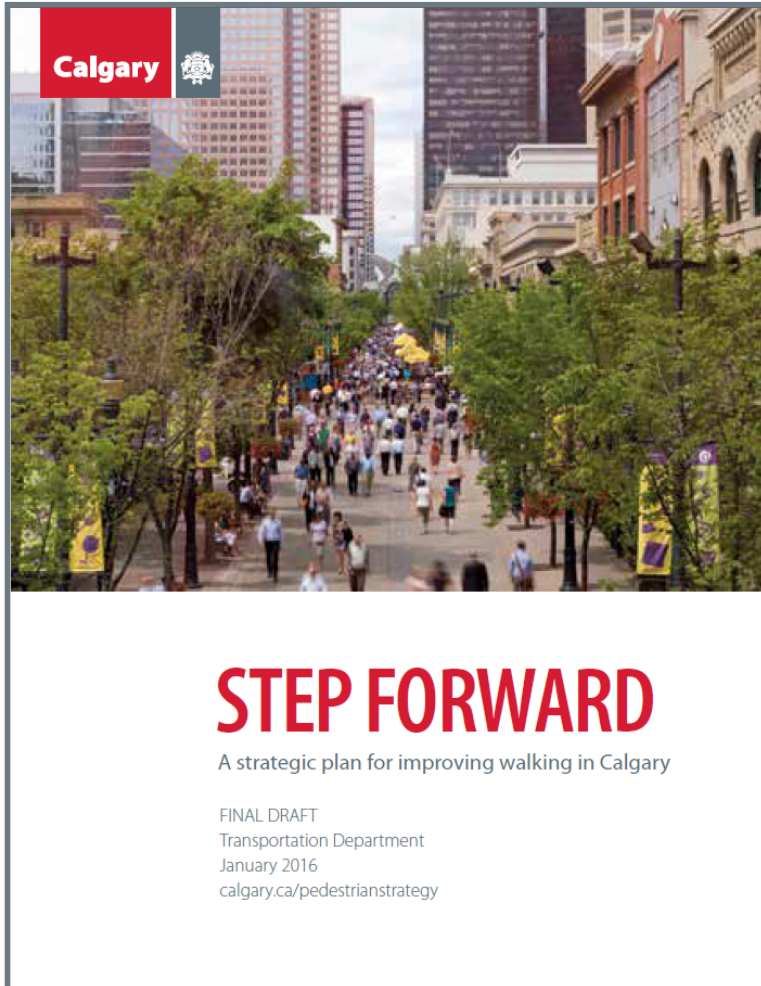
67% of Calgarians support the pilot project. (2016 Ipsos survey)

100+ adjustments [made to improve traffic, loading and parking during the pilot.]

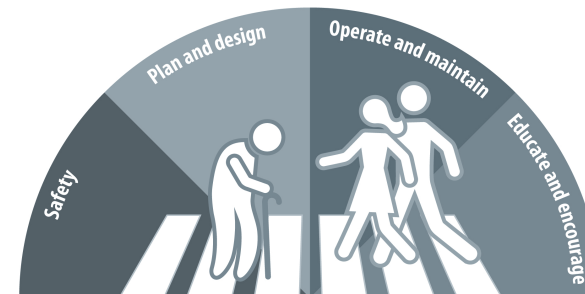




Pedestrian Strategy 2016



- 100s of concerns, 37 “themes”
- Organized into 4 focus areas:
 - Safety
 - Plan & Design
 - Operate & Maintain
 - Educate & Encourage



Safety	Plan and design	Operate and maintain	Educate and encourage
1. Speed limit	10. Universal accessibility	26. Sidewalk snow and ice control	32. Pedestrian education
2. Signals and signs	11. Bridges	27. Sidewalk condition and repair	33. Driver education
3. Street crossings	12. Under/overpasses	28. Sidewalk closures and detours	34. Healthy lifestyles and sustainability
4. Train crossing	13. Car parking	29. Engineered walkways	35. Walking culture
5. Schools	14. Driveways	30. Street names and wayfinding	36. Visibility campaigns
6. Turning vehicles	15. Sidewalk obstacles	31. City work co-ordination	37. Research and innovation
7. Lighting	16. Missing sidewalks		
8. Distracted walking and driving	17. Pathway and sidewalk connections		
9. Feeling secure	18. Separated pathways		
	19. Shared public areas		
	20. Redevelopment		
	21. Land use		
	22. Derelict properties		
	23. Street furniture		
	24. Streetscape		
	25. Tactical urbanism		

Bold: top concerns from public engagement



Engagement is critical!



CALGARY
POLICE
SERVICE



Alberta Health
Services



Calgary Board of Education



CALGARY CATHOLIC
SCHOOL DISTRICT



safe healthy active
people everywhere



FEDERATION OF
CALGARY COMMUNITIES



Rivers • Parks • Sports

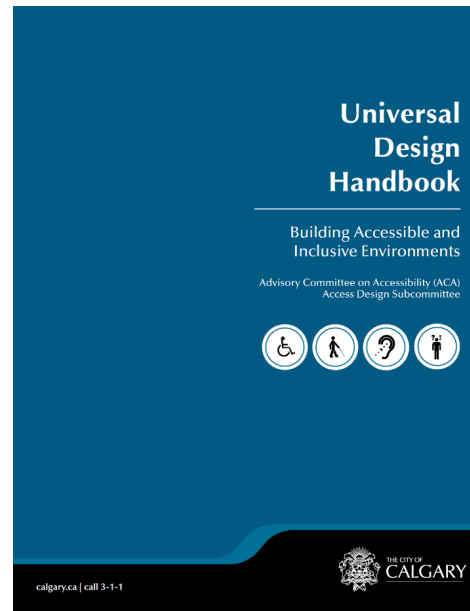


Accommodating all users



• Making the system functional and safer for all users

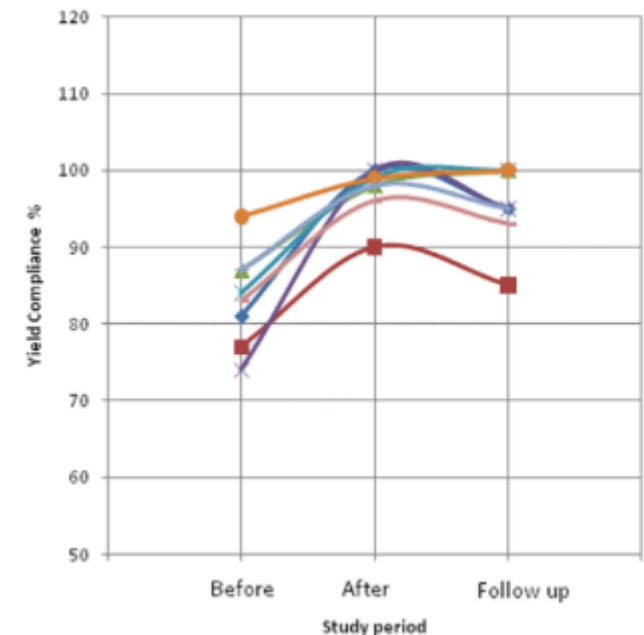
- Wheelchair ramp standards
- Audible pedestrian signals
- Urban Braille





Rectangular Rapid Flashing Beacons

- Calgary has been a leader in development and adoption nationally
- Strong improvement in compliance, lower cost than overhead flashers
- Installing at more than 70 locations this year
- Using prioritization tool while national warrant is being developed

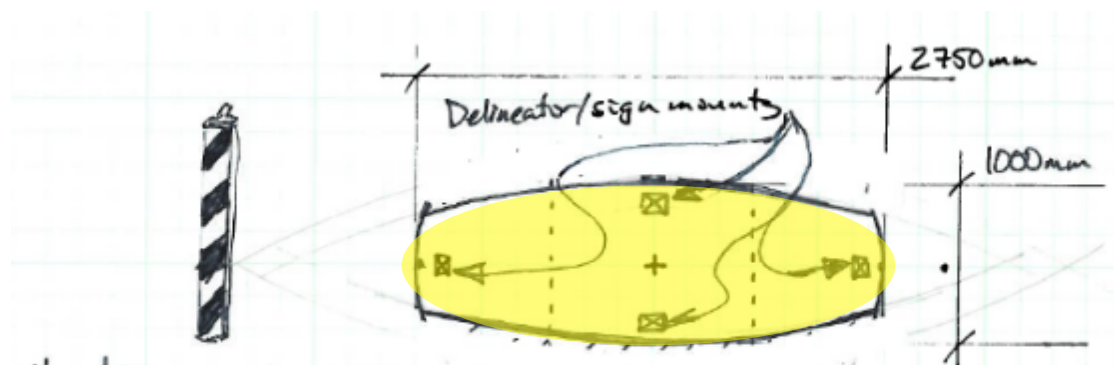
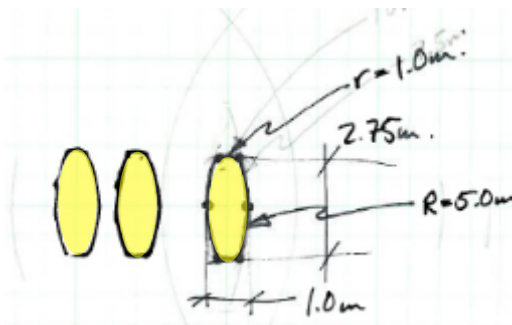




Pre-cast concrete Traffic Calming Curbs



Traffic Calming Curb (TC Curb)



Mounting brackets for flexible delineators as used on cycle track with object marker retro-reflective tape. (e.g. SB on street termination @ 17 Avenue.)

(Count on it getting run over!)

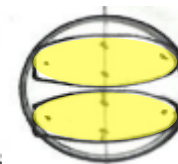
Slings lifting using drain opening

Sulphate resistant cement (50), yellow pigment, adequate cover / steel treatment for high salt.

Challenges:

- Design
- Installation
- Maintenance
- Accessibility
- Aesthetics

Two together: Effectively creates a mini-roundabout w/ d of 3.00m. with 6 sign mounting positions.



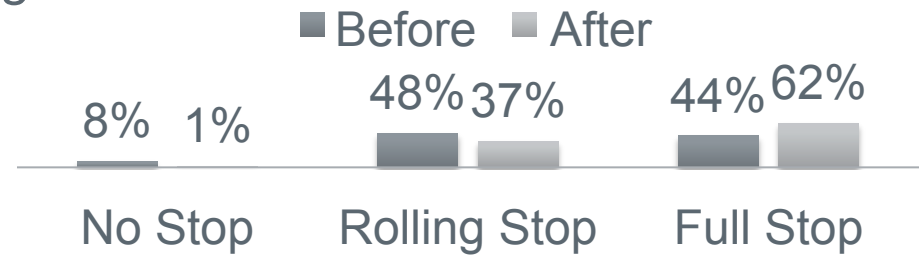


TC Curbs to improve stop compliance



- Wide undefined approach
- Large pavement area promoting high speeds
- Large crossing distances
- Right angle collisions

McKenzie Towne LI & McKenzie Towne GA
SE
STOP Compliance



Geometric changes at a low cost



Traffic Calming Curbs
 Deployed in six hours with two staff
 Cost as placed \$18,000



Traditional curb & gutter design
 Construction period in weeks
 Cost as placed: \$120,000



Potential future applications





Vision Zero and traffic safety



Vision Zero has gained popularity as an approach to improving traffic safety, and is here to stay

We have lots of engineering tools that help move us toward Vision Zero that can be applied quickly

Vision Zero needs to be presented in a way that all road users and system participants support it – avoid damaging representations and victim blaming

Update to the Calgary Safer Mobility Plan is underway and will include an increased focus on Vision Zero principles

Calgary



Thank You!

