



Active commuting to school in Cochrane

October 2021

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"It is really interesting that the exercise you get from transporting yourself to school reflects on your ability to concentrate for about **four hours into the school day**," says Professor Niels Egelund, of Aarhus University, who is responsible for the research design.

Professor Niels Egelund, of Aarhus University

20,000 school children aged 5-19
Danish Mass Experiment 2012

Effectiveness of active school transport interventions: a systematic review and update

Richard Larouche, George Mammen, David A. Rowe & Guy Faulkner 

BMC Public Health 18, Article number: 206 (2018) | [Cite this article](#)

Consistent evidence shows that children and adolescents who engage in active school transport (AST) are more physically active than those who travel by motorized vehicles [1, 2]. Cycling to and from school can also increase cardiovascular fitness [1] and is associated with a better cardiometabolic health profile [3]. At the population level, replacing motorized travel by AST could reduce exhaust and greenhouse gas emissions [4, 5]. Additional benefits of AST include positive emotions during the school trip [6], better way-finding skills [7] and superior school grades [8].

1. Larouche R, Saunders TJ, Faulkner GEJ, Colley RC, Tremblay MS. Associations between active school transport and physical activity, body composition and cardiovascular fitness: a systematic review of 68 studies. *J Phys Act Health*. 2014;11(1):206–27.
2. Schoeppe S, Duncan MJ, Badland H, Oliver M, Curtis C. Associations of children's independent mobility and active travel with physical activity, sedentary behaviour, and weight status: a systematic review. *J Sci Med Sport*. 2013;16(4):312–9.

funding from the US government [14]. Recent analyses concluded that New York City's SRTS program led to a 33-44% reduction in injuries among school-aged children and the program was cost-effective even when disregarding any potential benefits related to increased physical activity and decreased congestion and pollution [15, 16]. In other jurisdictions, school travel plans (STP) have been



Programmes combining infrastructure changes and
Two large SRTS interventions found that interventions including both educational activities and infrastructure changes resulted in greater increases in AST than interventions using only one of these strategies [42, 43]. These results are consistent with social-ecological models that posit that behavior is determined by multiple levels of influence including individual, interpersonal, community, policy and built environment factors [52, 53].

Active transportation to school is a win-win situation

- Kids **concentrate** better
- They are more **active**
- It is **cost effective**
- And parents in Cochrane **want** their kids to be able to do so



Bike Cochrane Schools Survey 2021

Aimed to capture both broad and deep insight into who is and isn't using active transport for school commute, motivations and barriers.

Distributed by schools to students and parents. Also publicized in local papers and social media.

269 responses

Which school do you attend?

Which grade are you in?

What neighbourhood do you live in?

Demographics questions

How do you normally get to school? (You can choose more than one option if your transport is mixed).

Transport behaviours

Do you ever use active transportation (walk, bike, run, scooter, skateboard....) to get to school?

- Yes, all the time
- Yes, often throughout the year
- Yes, often during warmer months
- Yes, when I can't find other options
- Yes sometimes, when the weather is nice
- Yes, a few times a year
- No, never
- Other: _____

If you never (or rarely) use active transportation to get to school, why is this?

- Too far/take too long
- Too much uphill
- Unsafe
- Don't like it
- Never think of it
- Other: _____

Do you ride a bike for recreation? This includes mountain biking, biking around town, BMX riding....

- Yes, often
- Yes, infrequently (e.g. on vacation)
- No, never

Do you have access to a bicycle that you could ride to school on?

- Yes
- No
- No, but I would like to

Bike access?
Keen bike people or
broader spread?

Do you know of a safe route to bike to school from your home?

- Yes
- No
- Sort of, but I have some concerns

Would you bike to school if there was a safe route?

- Yes
- No
- Maybe/sometimes

Please tell us about any specific issues on your route to school that make you feel unsafe.

Beliefs around safe travel

How long do you think it would take you to bike to school?

- 0-10 mins
- 10-30 mins
- 30-60 mins
- Over 1 hour

Do you feel there is adequate and safe bike parking at your school?

- Yes
- No - inadequate
- No - it doesn't feel safe to leave my bike there
- I'm not sure, I've never looked for bike parking at school

If you biked to school (or presently bike to school), would you do it alone, or with a parent/older sibling/friend?

- Would bike alone
- Would bike with a parent/guardian/caretaker
- Would bike with another student

Additional details

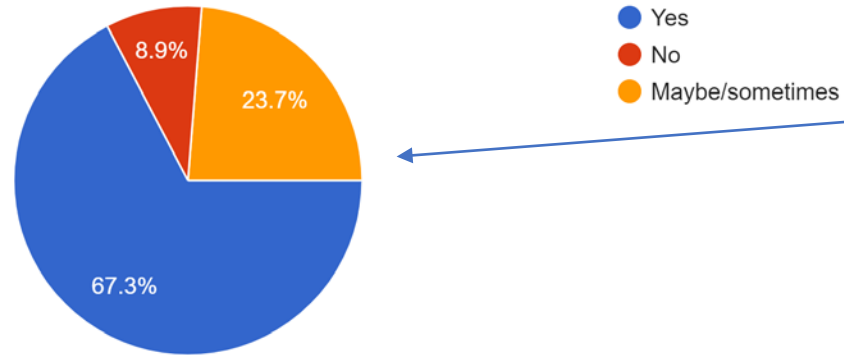
Do you have any other comments about walking and biking to school? We want to hear from you!



Open field captured lots of detail

Would you bike to school if there was a safe route?

257 responses



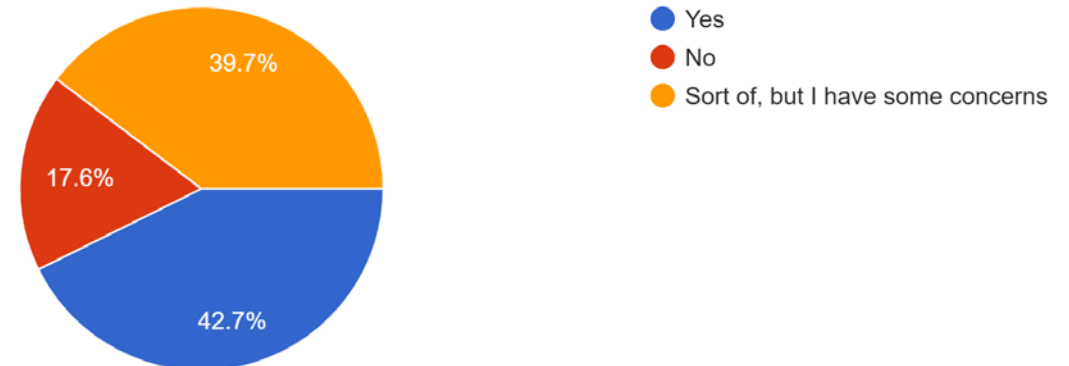
91% of survey respondents **WOULD bike to school if there were a safe route.**

This potentially removes a large number of **private vehicles** from roads and importantly **removes them from the areas around schools.**

Schools active transportation survey results

Do you know of a safe route to bike to school from your home?

267 responses

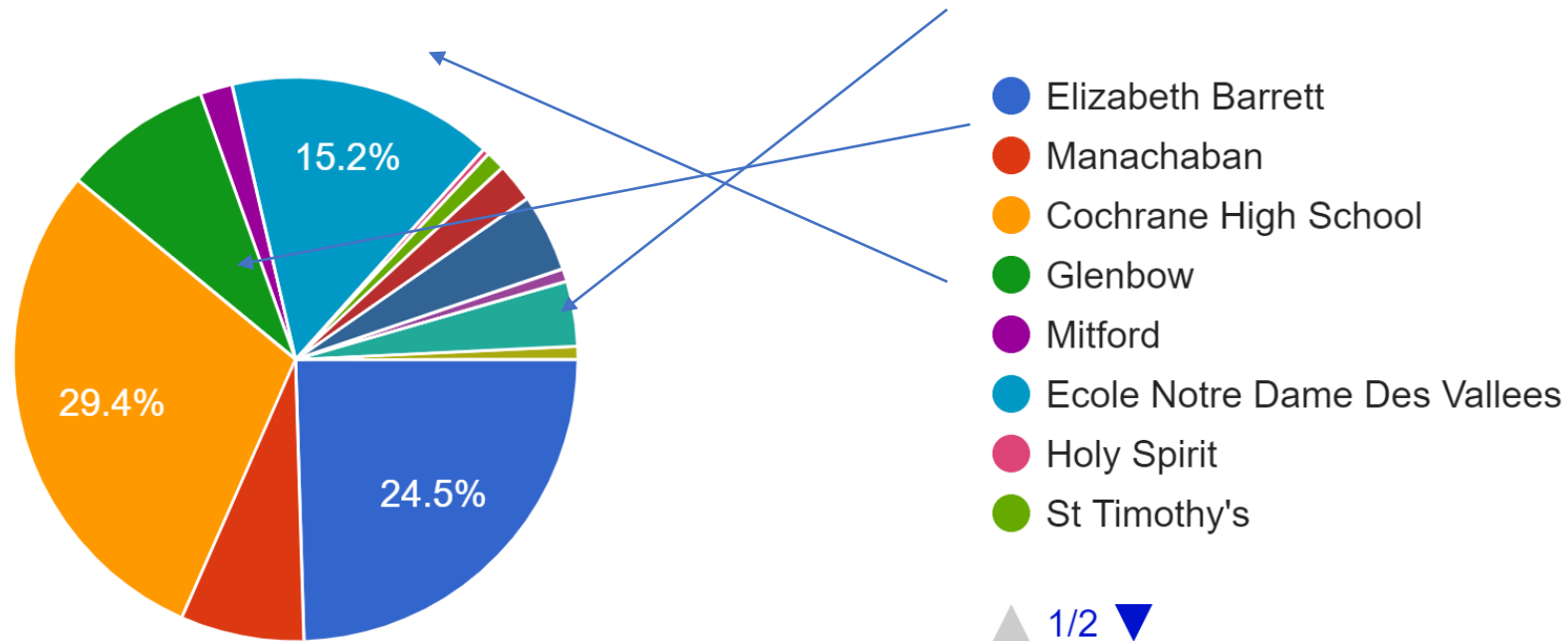


Data validation – responses from a good range of schools

Which school do you attend?

269 responses

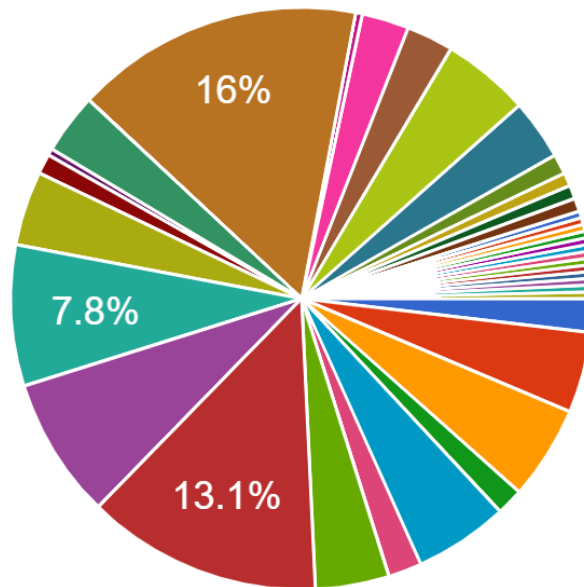
- Bow Valley High School
- Cochrane Christian Academy
- Fireside
- Rancheview
- School online



Data validation – responses from a good range of neighbourhoods

What neighbourhood do you live in?

268 responses



- Bow Meadows
- Bow Ridge
- Cochrane Heights
- Cochrane Lake
- Downtown
- East End
- Fireside
- Glenbow

▲ 1/6 ▼

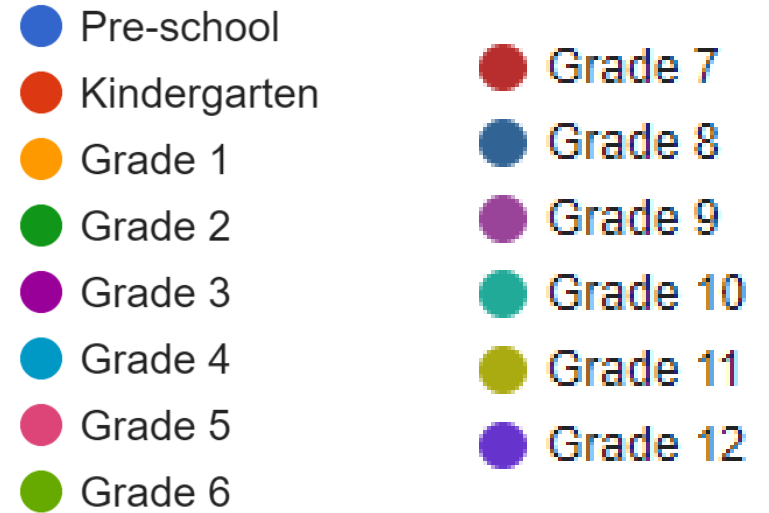
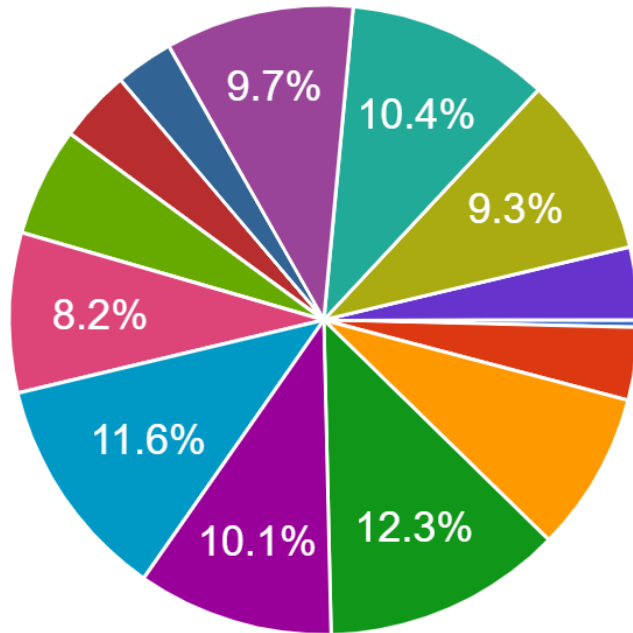
- Blue Ridge
- Ghost Lake
- Calgary
- The retreat road
- Monterra
- South of cochrane
- Sunterra
- Montenaro Bay
- On a farm
- View ridge estates
- Rural area
- Watermark
- GlenEagles
- Greystone
- Heartland
- Heritage Hills
- Jumping Pound Ridge
- Precedence
- Rivercrest
- Riversong
- Riviera
- Riverview
- Rolling Range Estates
- Southbow Landing
- Sunset Ridge
- Towers Trail
- The Willows
- West Pointe
- West Terrace
- West Valley
- Bearspaw
- Monterra
- Rocky View County
- Bears paw
- Sunterra ridge
- Mount View Bay (near Montara)

Some clusters of neighbourhoods combined for subsequent analysis. E.g. West Valley/West Point/West Terrace -> “West Cochrane”

Data validation – responses from a good range of grades

Which grade are you in?

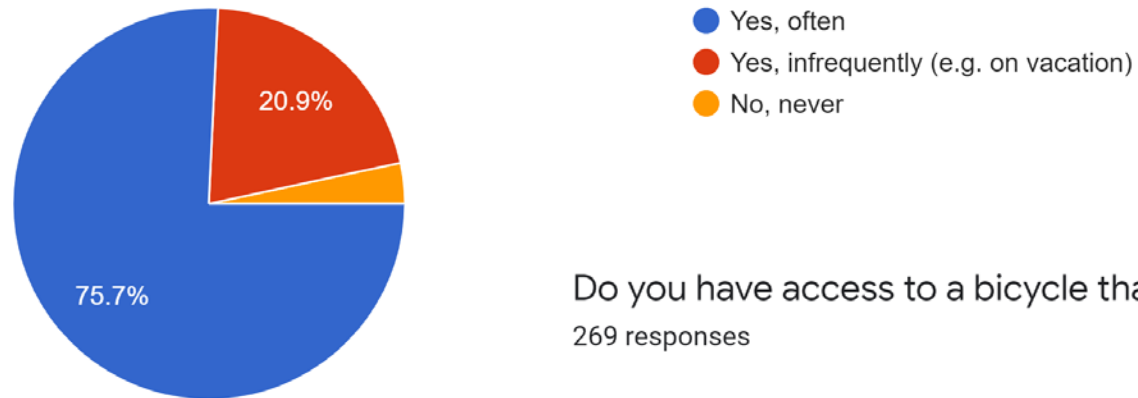
268 responses



Data validation – Are we capturing more than just the keen biking families?

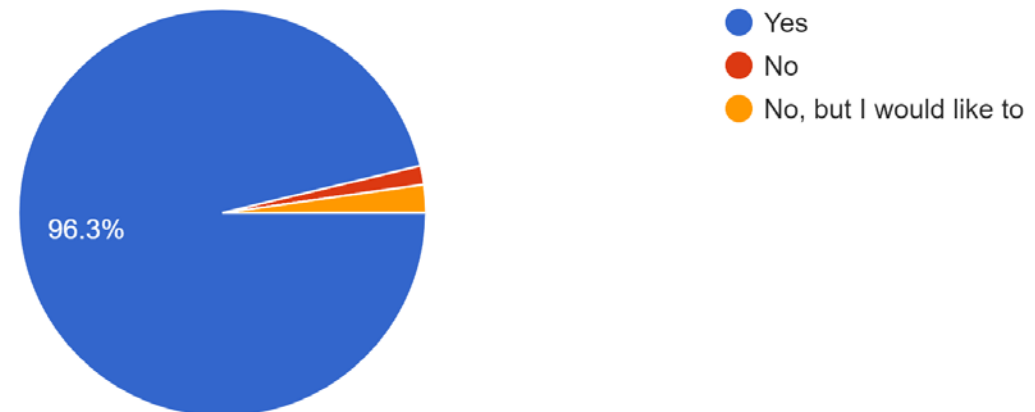
Do you ride a bike for recreation? This includes mountain biking, biking around town, BMX riding....

268 responses



Do you have access to a bicycle that you could ride to school on?

269 responses

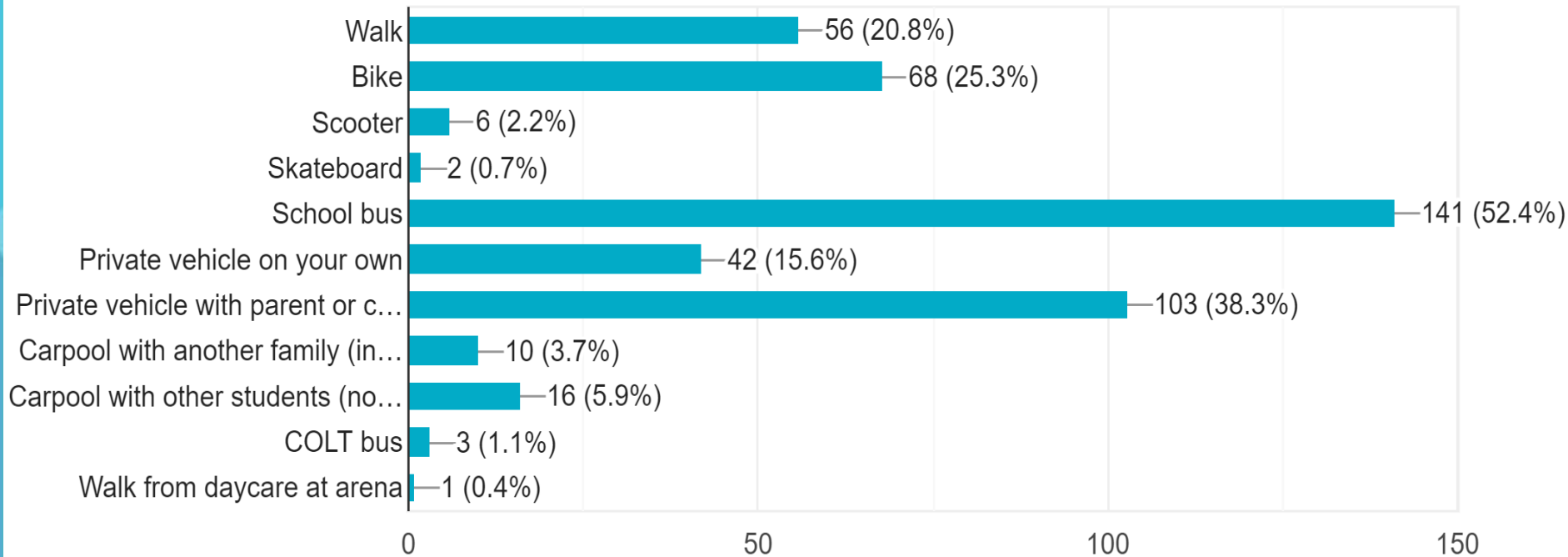


- Not all respondents are 'biking' people
- Sending the survey via schools captured data from a broader population and reduced bias.

How do you normally get to school?

How do you normally get to school? (You can choose more than one option if your transport is mixed).

269 responses



- High **bus** usage
- High **private car** usage
- -> These contribute to congestion around schools
- These data mirror what school board have told us
- More than 100% total – respondents could choose more than one option

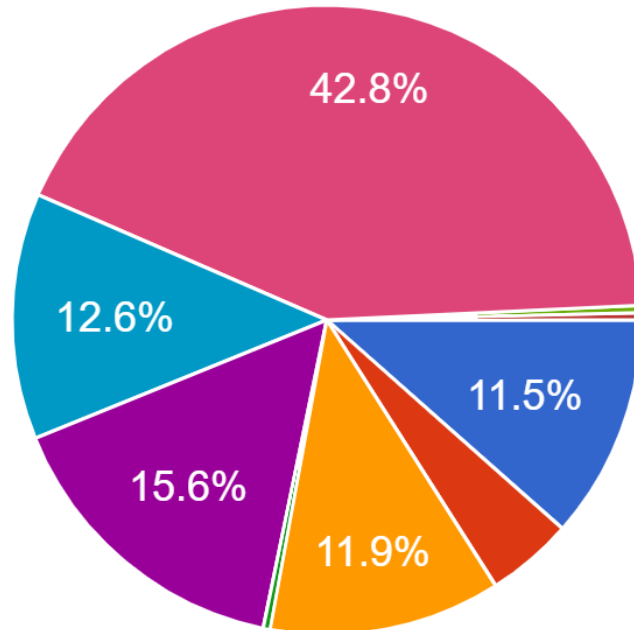
Do you ever use active transportation?

Do you ever use active transportation (walk, bike, run, scooter, skateboard....) to get to school?

269 responses

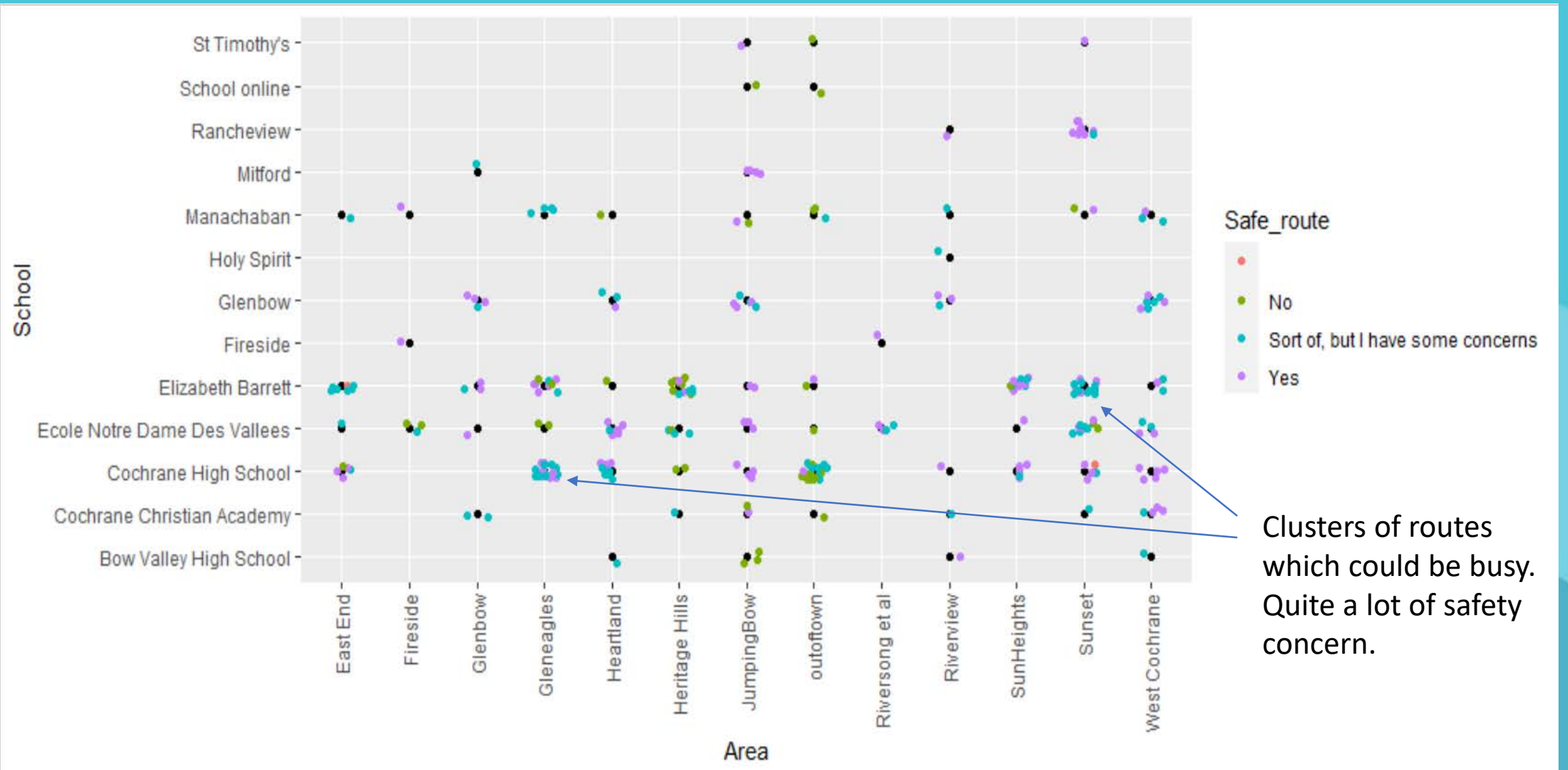
43% never use active transportation for their commute

But they have told us they would like to...



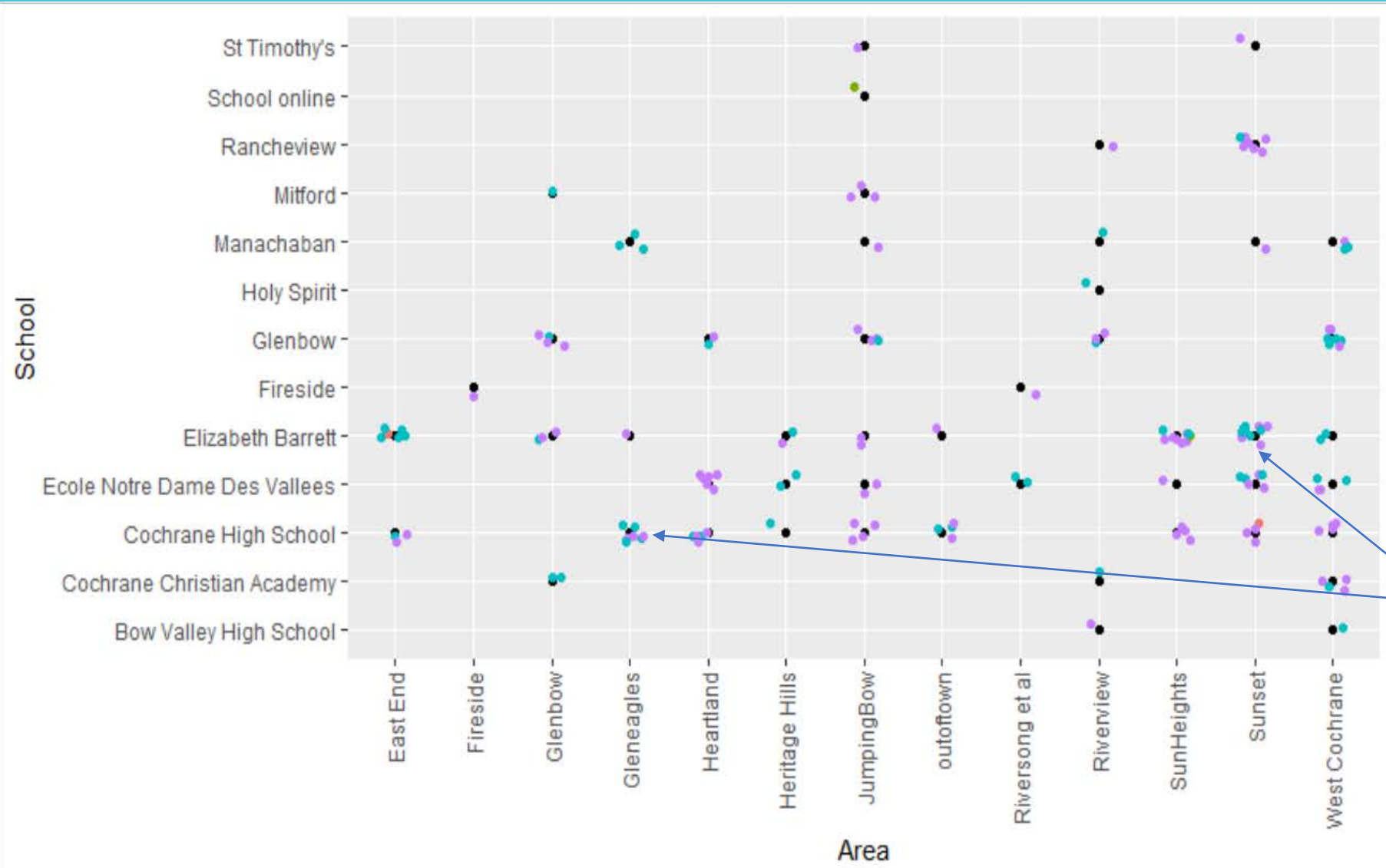
- Yes, all the time
- Yes, often throughout the year
- Yes, often during warmer months
- Yes, when I can't find other options
- Yes sometimes, when the weather is nice
- Yes, a few times a year
- No, never
- With mum sometimes
- Used to

Across all respondents, which area are they travelling from and to which school? Do they perceive their route as safe for active transportation?

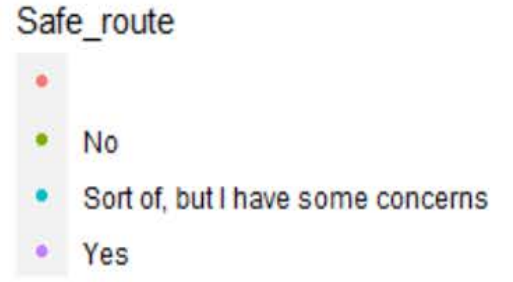


Clusters of routes which could be busy. Quite a lot of safety concern.

Of respondents who always/seasonally/occasionally use active transportation to get to school, how do they perceive their route?

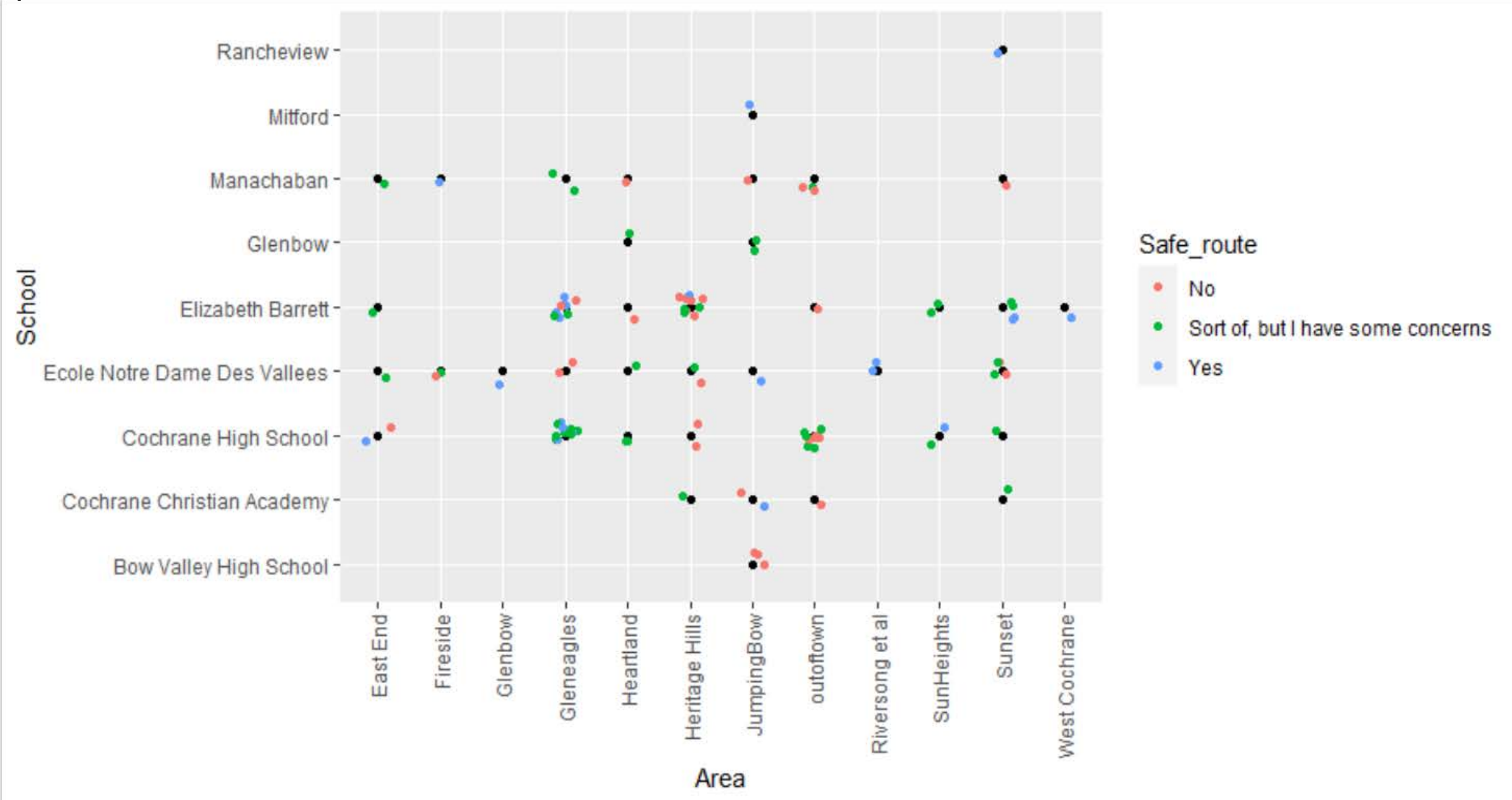


Unsurprisingly, fewer of these respondents describe their route as unsafe, but **many have concerns** (teal dots). These are worth **paying attention to**, as they are presented by **people actively using the routes and familiar with them**.

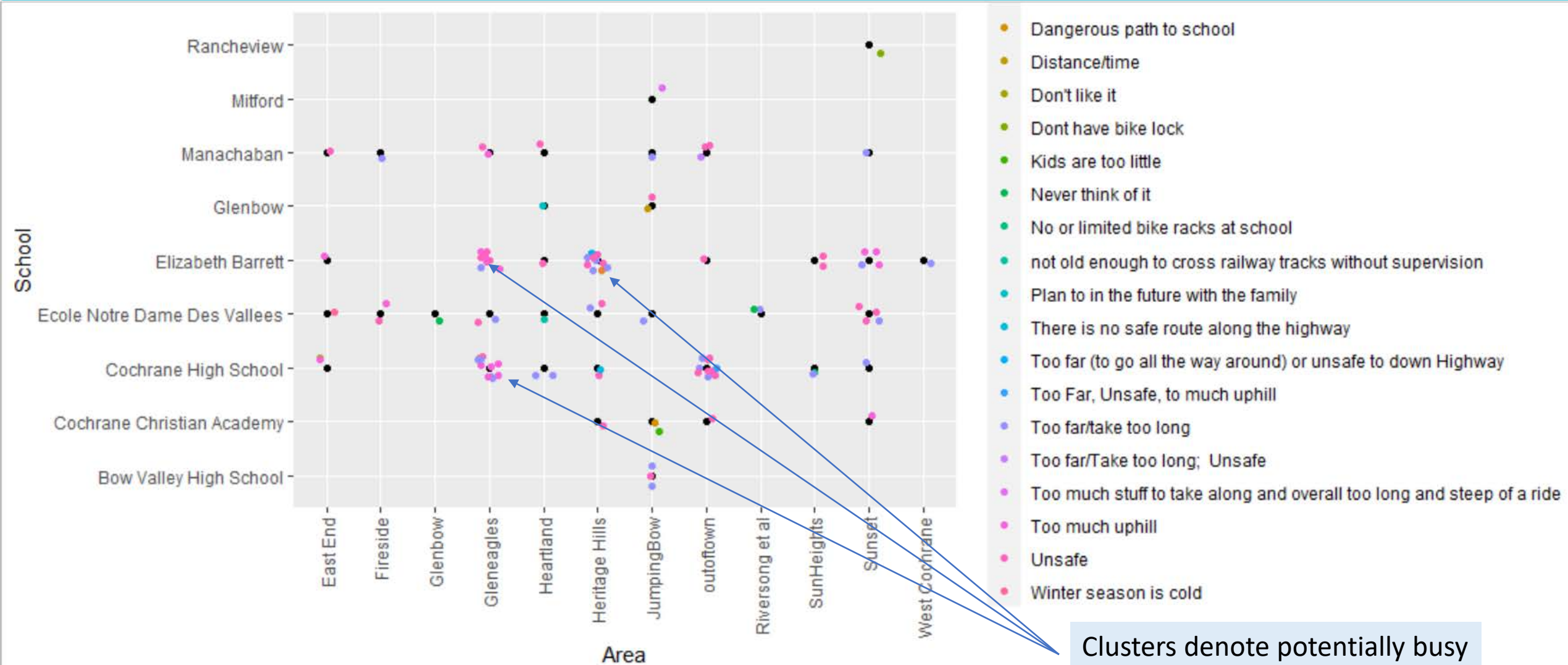


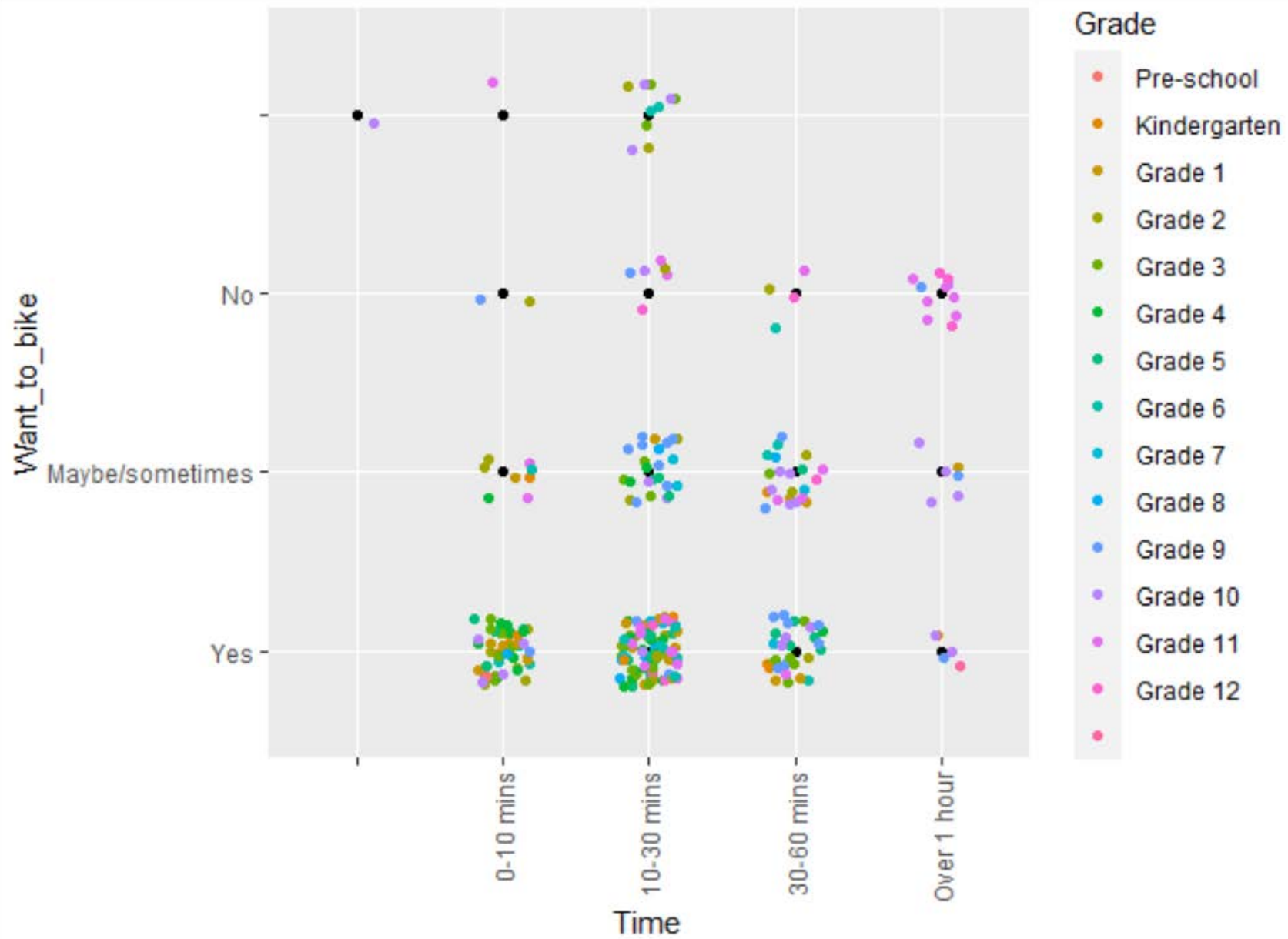
Clusters of routes which **are** busy. These safety concerns are grounded in experience.

Students who **never** use active transportation, but say they **would like to** always or sometimes. This is a **big group**. Many perceive their routes as **unsafe**.



Students who never use active transportation, but say they would like to always or sometimes. Why don't they?





Who wants to be able to use active transportation?

Primarily students with journeys under 30 minutes, but not exclusively. There is a good spread across grades, with interest expressed in both the younger grades and from independent high schoolers.

Students who never use active transportation, but say they would like to always or sometimes. Their comments:

- | | | |
|---|---|--|
| [1] Too far/take too long | 22] Too far/take too long | 41] Unsafe |
| [2] Kids are too little | [23] Too far/take too long | [42] Too much stuff to take along and overall too long and steep of a ride |
| [3] Plan to in the future with the family | [24] Unsafe | [43] Too far/take too long |
| [4] Too much uphill | [25] Too far/take too long | [44] Unsafe |
| [5] Unsafe | [26] Unsafe | [45] Dangerous path to school |
| [6] Unsafe | [27] Unsafe | [46] Unsafe |
| [7] Unsafe | [28] Too far/take too long | [47] Too far/take too long |
| [8] Unsafe | [29] Too much uphill | [48] Too far/take too long |
| [9] Too much uphill | [30] Too far/take too long | [49] Unsafe |
| [10] Too far/Take too long; Unsafe | [31] Unsafe | [50] Too far/take too long |
| [11] No or limited bike racks at school | [32] Too far/take too long | [51] Too much uphill |
| [12] Too much uphill | [33] not old enough to cross railway tracks without supervision | [52] Too much uphill |
| [13] Too much uphill | [34] Unsafe | [53] Unsafe |
| [14] Too much uphill | [35] Winter season is cold | [54] Never think of it |
| [15] Unsafe | [36] Both a little too far and unsafe. | [55] Too Far, Unsafe, to much uphill |
| [16] Too much uphill | [37] Too far (to go all the way around) or unsafe to down Highway | [56] Too far/take too long |
| [17] Unsafe | [38] Too far/take too long | [57] Unsafe |
| [18] Unsafe | [39] Dont have bike lock | [58] Too much uphill |
| [19] Unsafe | [40] Too much uphill | [59] Unsafe |
| [20] Unsafe | | [60] Too far/take too long |
| [21] Unsafe | | [61] Too far/take too long |

Students who never use active transportation, but say they would like to always or sometimes. Their comments:

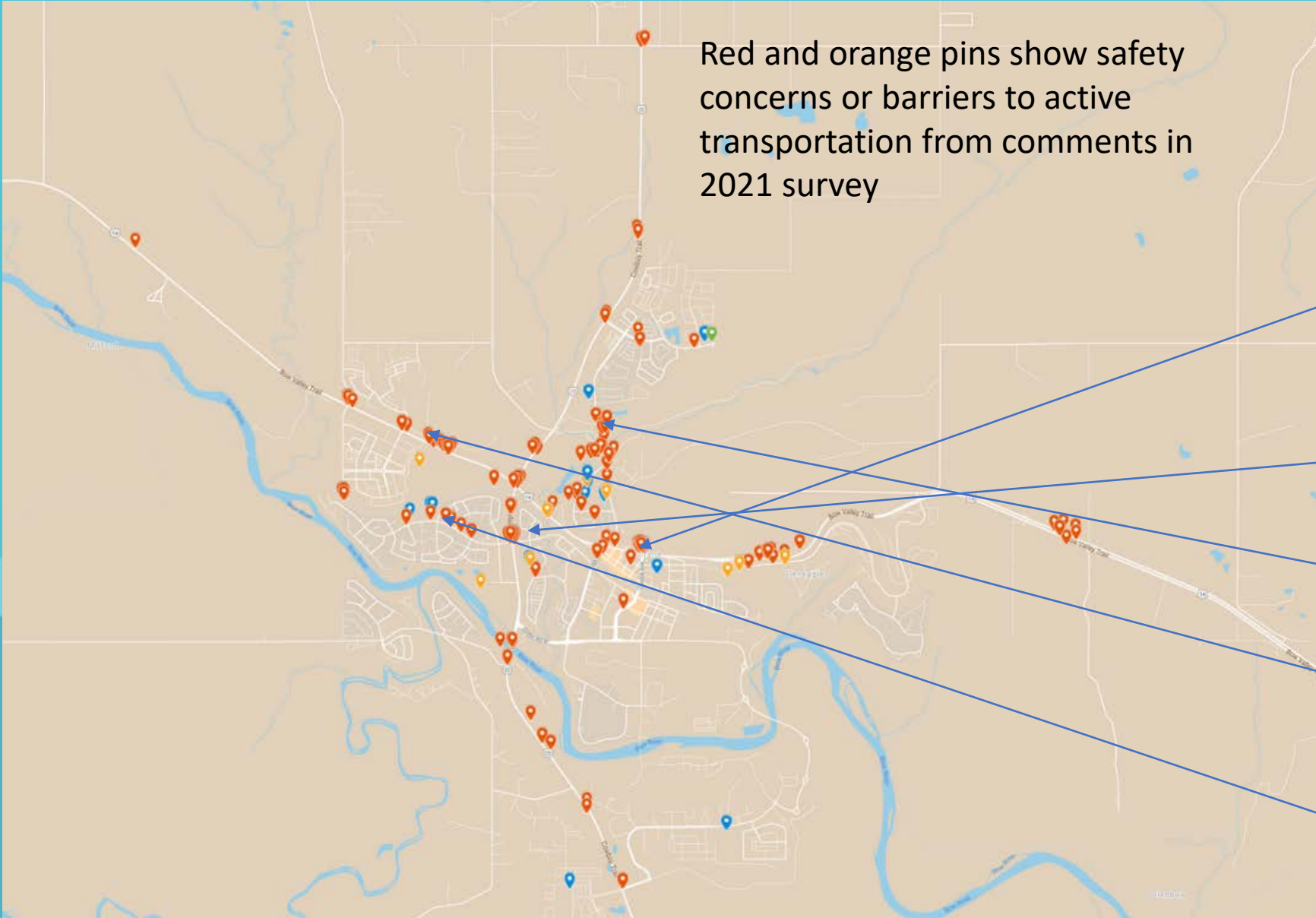
- [62] Unsafe
- [63] Never think of it
- [64] Unsafe
- [65] Unsafe
- [66] Too far/take too long
- [67] Too far/take too long
- [68] Too far/take too long
- [69] Too much uphill
- [70] Don't like it
- [71] Too far/take too long
- [72] Because I have a car to drive but I would if I couldn't drive
- [73] Too far/take too long
- [74] Too far/take too long
- [75] Unsafe
- [76] Too far/take too long
- [77] Too much uphill
- [78] Unsafe
- [79] Too much uphill
- [80] Too far/take too long
- [81] Too far/take too long
- [82] Too far/take too long
- [83] Unsafe
- [84] Distance/time
- [85] Unsafe
- [86] Too far/take too long
- [87] Too much uphill
- [88] Unsafe
- [89] Unsafe
- [90] Too far/take too long
- [91] Unsafe
- [92] Unsafe
- [93] Unsafe
- [94] Too much uphill
- [95] Too far/take too long
- [96] Too much uphill
- [97] Unsafe
- [98] There is no safe route along the highway
- [99] Too far/take too long

"A bike/walking path on the north side of 1A that crosses under highway 22 would make this a reasonable walk or bike ride."
"A pedestrian bridge over the hwy would be good"
"Biking to school would be a fabulous way to incorporate exercise into the school day for my children. However, it just doesn't feel possible with the lack of more direct access from heritage hills to get to the ranche house area and then to the school. "
"During warmer days, I drop my sons bike off at school, then pick him up with mine and we bike back home to Riviera. I wish he could ride in but it would take about 30 minutes. Maybe when he's older. "
"I think buses within Town limits should be discontinued. The money saved could be used to improve infrastructure and/or enhance bike parking infrastructure."
"I think having kids (especially boys) get 20-30 mins of exercise in before school would help them settle into classroom learning without the feeling of needing to get energy out. "
"I think it's a great way to go around places and it's a great source of exercise "
"I wish there were safer bike trails, walking trails that were also more direct. We've only just gotten safe access to town last year and Heritage Hills has been a community for over ten years. \nI really wish more planning was made with this in mind. "
"I would totally bike to school if it wasn't so far. This is a great idea though!"
"If there was a safe trail from fireside we would do it when weather is good enough "
"It would take a long time as to get there you need to go up a very big hill"
"More protective bike storing system "
"Need a safe close route to cross over the 22 and 1A as well as walking paths on both the 1A and the 22 that are close enough to streets with out having to walk through town "
"Our family would love to bike to school but there is no safe/feasible/reasonable way currently. We have biked as a family to the Spray Lakes Arena in the past."
"Please add a safe way to cross highway 1a and the train tracks. "
"The crazy drivers around the school are the biggest concern. Plus our climate isn't necessarily supportive of this kind of commute. "
"The farging hill up to EB is kind of a non-starter for me, and I can't imagine there is anything you can do to help with that :)"
"The hill is steep to ride my bike up"
"There are no lockers at school in use so everything has to be carried which would be too much on a bike. Our community is at the top of the hill leading out of Cochrane and the return trip would be too difficult and, as a parent, I would not want my daughter to bike alone."
"This route would be for this year. Next year she would attend Mitford and that ride to school would be more challenging."
"Time value heading home too! all uphill "
"We'd love to bike to school. "
"Would love to have both my kids be able to bike or walk but feel there are not enough barriers for the heavy traffic on the highway and downtown cochrane"
"The more often kids are on an active transportation pathway system the safer I feel compared to sidewalks and roadways within town. "

Further comments from respondents who want to use active transportation but never do.

Clusters of concern

Red and orange pins show safety concerns or barriers to active transportation from comments in 2021 survey



1. Crossing 1A from downtown heading towards tri-schools

2. Crossing HW22 at Quigley

3. Path through Ranche

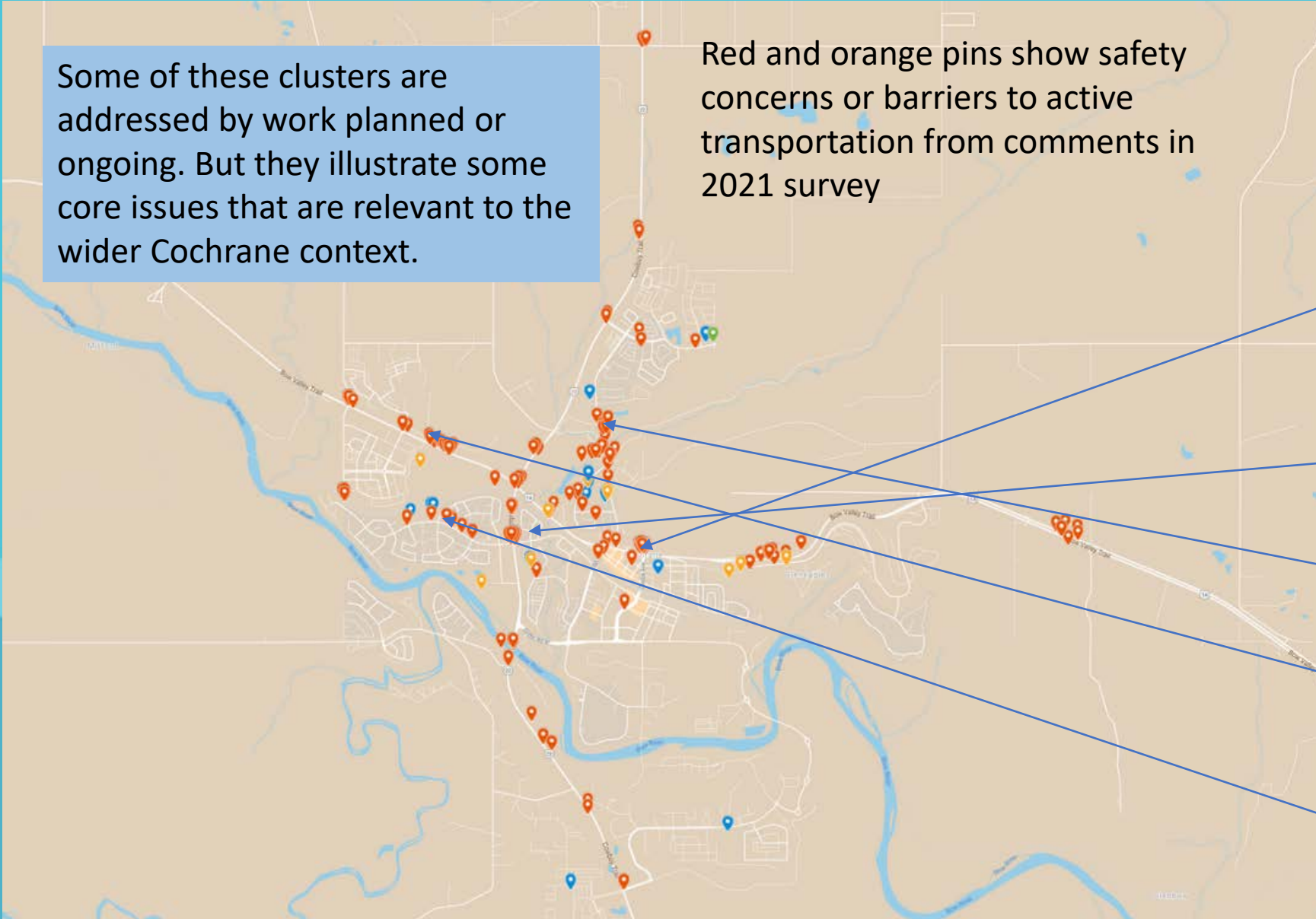
4. No direct route to town from Heritage Hills and Heartland

5. Quigley Drive

Clusters of concern

Some of these clusters are addressed by work planned or ongoing. But they illustrate some core issues that are relevant to the wider Cochrane context.

Red and orange pins show safety concerns or barriers to active transportation from comments in 2021 survey



May be remedied by current 1A works

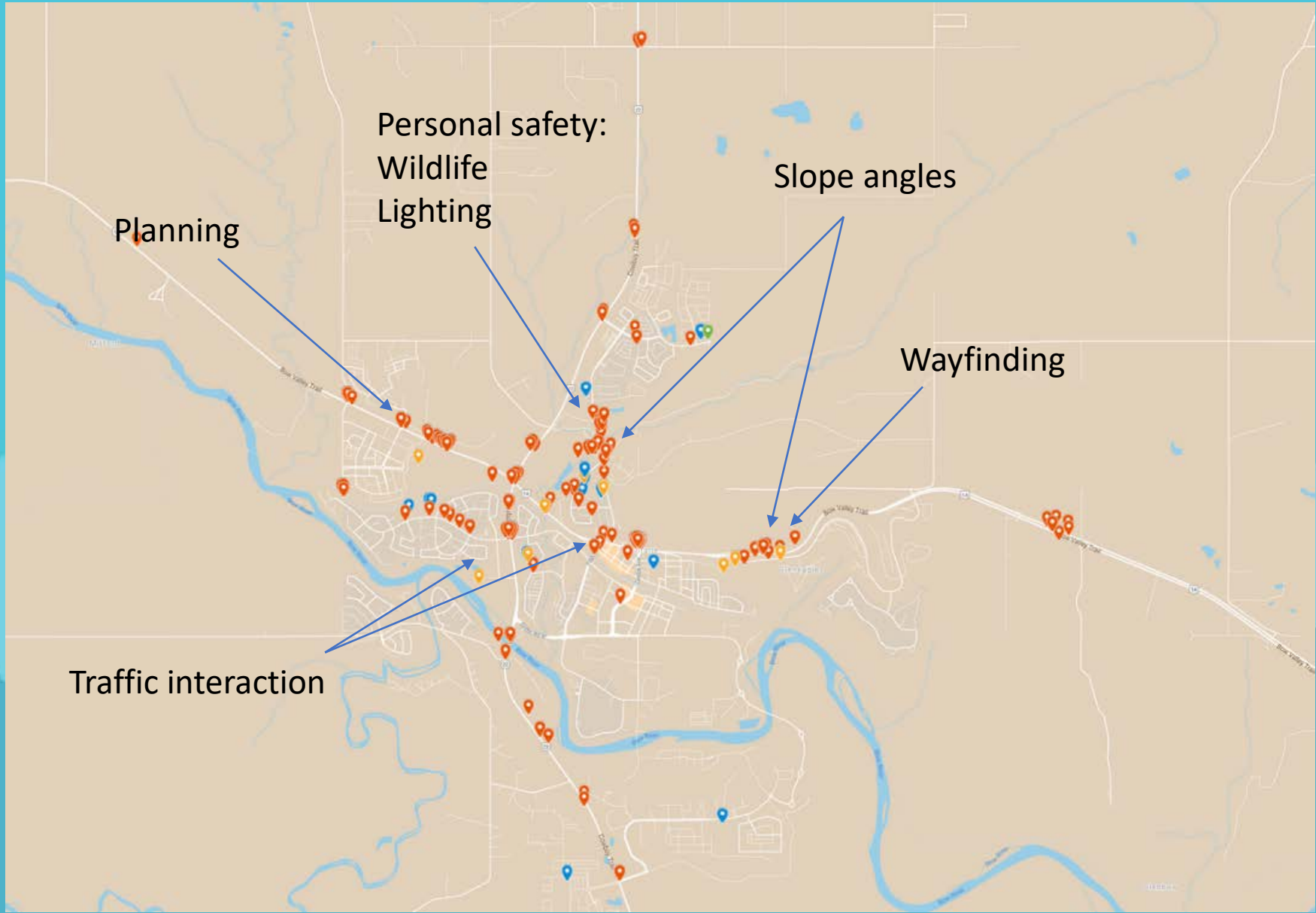
Requires input from Town and AB transportation

Path through Ranche

1A work includes plans for pathways here.

Scheduled for reworking in next few years.

Opportunity to re-design.



Traffic interaction

The less confident the rider, the more separation they need from traffic.

Rachel Road Rider

Goals/Objectives

- Rachel bikes to Cochrane to 'get out of the city'
- Often bikes along the highway shoulder (1A and 22)



Why does Cochrane care?

- Brings money into local economy
 - Stop for a latte, ice cream, bike repair
 - Cycling visitors tend to spend more on average per trip than other visitors (\$255/trip vs \$171/trip per Tour by Bike 2017)

Gordon Gravel Biker



Goals/Objectives

- Gordon values being able to ride his bike away from cars and truck traffic
- Lives an active lifestyle

Why does Cochrane care?

- Brings money into local economy
 - Stop for a latte, ice cream, bike repair
 - Cycling visitors tend to spend more on average per trip than other visitors (\$255/trip vs \$171/trip per Tour by Bike 2017)

Monty Mountain Biker



Goals/Objectives

- Monty wants to recreate in Town
 - More than **50% of respondents** to Bike Cochrane 2021 survey said **they left Cochrane at least once a week to ride their bikes elsewhere**
- Being able to have a fun **‘lunch time ride’** is a **HUGE** benefit for active employees
 - ‘Knowledge Economy’ employees value this very highly
 - Not having to drive somewhere means you can actually have a quick bike ride during lunch
 - Join other local riders during lunch with similar goals/objectives

Why does Cochrane care?

- In addition to servicing the 30,000 Cochrane residents’ recreation needs, we have ~1.5M residents within a short drive
 - Tourism potential
 - Weekend visit potential
 - Economic benefit
 - Hosting events
- Opportunity for high school MTB team development
- Extension to excellent Cochrane BMX club

Cathy Casual Rider

Goals/Objectives

- Cathy wants to bike to recreation activities at Spray Lakes, pickleball courts, tennis courts
- Might be using an e-bike to help with hills in town
- Would like to try longer rides with future Canmore to Cochrane trail
- Likely a member at Spray Lakes rec center

Why does Cochrane care?

- 34% of Cochrane residents are 50+ (Stats Can 2017 Census) and many choose to live in Cochrane to remain active



Freddy Family Biker



Goals/Objectives

- Freddy rides his bike to take his kids to school
- Cares about safety of all riders, no matter what age
- Wants a protected all-year route to get to schools, Spray Lakes, parks, playgrounds, grocery stores
- May choose to bike for shorter trips to avoid needing a 2nd vehicle
- Wants to improve his fitness level and may join a local club

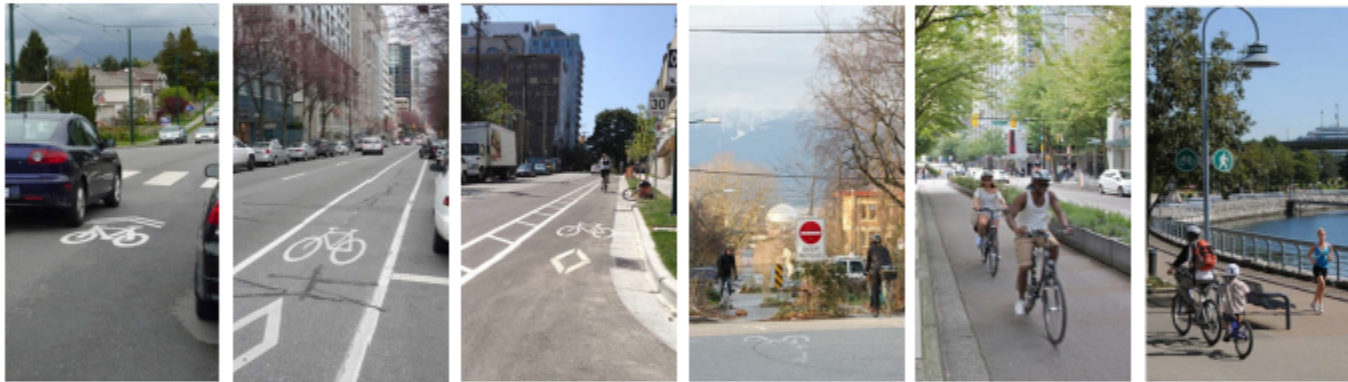
Why does Cochrane care?

- Quality of life
 - Calgary Avenue 2020 magazine rated best neighborhoods as having a high proportion of park space, good access to pathway system, and a high walk score
 - This brings new residents to Cochrane and encourages present residents to use their bikes for transportation
- Safety of kids in traffic
- Biking to work reduces CO₂ emissions

Cycling trails/routes

Rule #1:

Build the types of cycling facilities that feel comfortable for all



Major Street Shared Use Lane Painted Bicycle Lane Paint Buffered Bike Lane Local Street Bikeway Protected Bike Lane Off-street Pathway

Unsuitable for AAA facility

Suitable for AAA facility

Many types of traditional bike facilities only appeal to people who are comfortable riding in traffic. However, bikeways on quiet streets, protected bike lanes, and off-street pathways appeal to people who are interested in cycling but concerned for their safety.²

The general approaches to creating AAA cycling routes on city streets are:

- Ensuring low motor vehicle speeds and volumes on local streets, or
- Providing physical separation on busy streets

Rachel is comfortable here

Gordon is comfortable here

Cathy, Monty, and Freddy are comfortable here
This accounts for 69% of population

Collisions involving cyclists/pedestrians in Cochrane area (from AB Transportation)

- Most recent 5 year period (2013-2017)
 - Total of 33 collisions involving bicyclists
 - 27 injury collisions, 6 property-only
 - Total of 31 collisions involving pedestrians
 - 24 injury collisions, 4 fatal collisions, 3 property damage collisions
- Location data can't be released if less than 5 incidents happened (due to FOIP)
 - No 'reported collision hotspots' per AB Transportation
 - A few locations had multiple collisions
 - Sunset Circle and Sunset Drive (active crosswalk)
 - Glenbow Drive and Glenpatrick Road (active crosswalk and bike lane location)
 - **1st St, Centre Ave, Glenbow Drive, Quigley Drive,** River Heights Drive, Springbank Road

Traffic Safety

Edmonton Vision Zero

WHAT IS VISION ZERO?

Vision Zero Edmonton is the long-term goal of zero traffic fatalities and serious injuries. Vision Zero recognizes that striving towards zero traffic fatalities and serious injuries is the only ethical goal.

Principles that guide Vision Zero are:

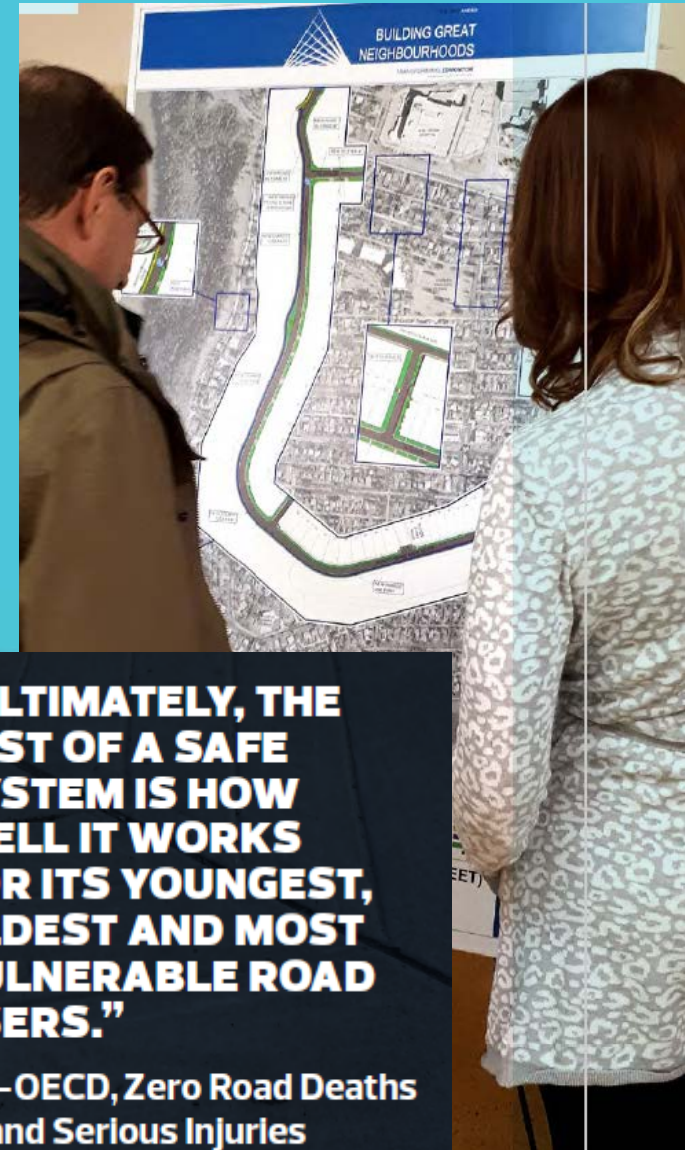
- No loss of life is acceptable
- Traffic fatalities and serious injuries are preventable
- We all make mistakes, but these mistakes shouldn't cost our lives
- We are physically vulnerable when involved in motor vehicle collisions
- Eliminating fatalities and serious injuries is a shared responsibility between those who design and maintain our roadways and all road users.

When will we reach Vision Zero?

People make mistakes. Kids run onto the road, people drive too fast for the conditions, and drivers turn corners without checking for pedestrians. Although we may not prevent all collisions, we've made human life a priority. We recognize our choices matter to the lives of others.

Vision Zero is bringing a culture shift to those who design, build and maintain the roads, and to road users. We design our roads and set our speed limits to prevent serious injuries and fatalities. Change is not instant. Change is not easy. To reach our goal will take brave and consistent action. Reaching zero traffic fatalities and serious injuries will take the municipality, industry and all Edmontonians working together. Together, we can do it by:

2032

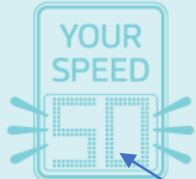


“ULTIMATELY, THE TEST OF A SAFE SYSTEM IS HOW WELL IT WORKS FOR ITS YOUNGEST, OLDEST AND MOST VULNERABLE ROAD USERS.”

—OECD, Zero Road Deaths and Serious Injuries

YEAR TWO HIGHLIGHTS

40 more Driver Feedback Signs



Protected bike lanes



43 Junior high school zones



164 Standalone playground zones



Vision Zero Street Team



Traffic Safety Culture Survey
Data (Insight Community responses) posted in Open Data

School Safety Committee



given away before Halloween

Proclamations:
School Patroller Safety Day in Edmonton

Motorcycle Safety Month

Council Protocols:
Community Traffic Safety Award

Vision Zero Recognition

Reports released:

Traffic Safety Culture Survey

Year one Annual Vision Zero Report

Annual Collision Report

Awards:

International Association of Business Communicators (IABC) Award of Excellence for the 2015 annual collision report—Category: Communication Skills, Publications



6TH ANNUAL Run Walk Ride for Vision Zero

Automated Enforcement locations posted online, then on Open Data



9th International Conference on Urban Traffic Safety

Edmonton Vision Zero

Infrastructure & education

Edmonton Downtown Bike Network



- Separated bike lanes
- Low cost pre-cast concrete barriers
- Vertical poles for visibility
- Green paint at every intersection
- Traffic signals reconfigured

2017 COMPARED TO 2016



275
PEDESTRIAN
INJURIES

-7.4%



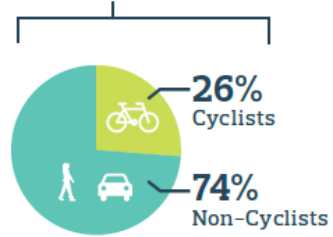
120
CYCLIST
INJURIES

-17.2%



7,002

People Engaged:
by Bike Education
Street Team



83%

of cyclists felt confident travelling on the Downtown Bike Network.

29%

of non-cyclists felt confident travelling beside the Downtown Bike Network.

44%

of non-cyclists would consider cycling due to the Downtown Bike Network.



79%

of conversations with all users were positive.



The Protected Bike Routes And Snow Clearance Survey

People were surveyed online to understand the use of protected bike routes and snow clearance in winter



37%

of respondents are cycling more this winter; 9% are cycling less.

80%+

are satisfied with the protected bike routes and snow clearance.



29%

said they would only cycle in the winter on protected bike routes that are cleared of snow/ice.



Edmonton Downtown Bike Network

People feel safe in protected lanes

People **use** infrastructure they feel safe in

Engagement and education with cyclists and motorists

Slope angles

Some of Cochrane's bike pathway network is **much steeper than what is useful and safe** for bikes, strollers, wheelchairs, and other users

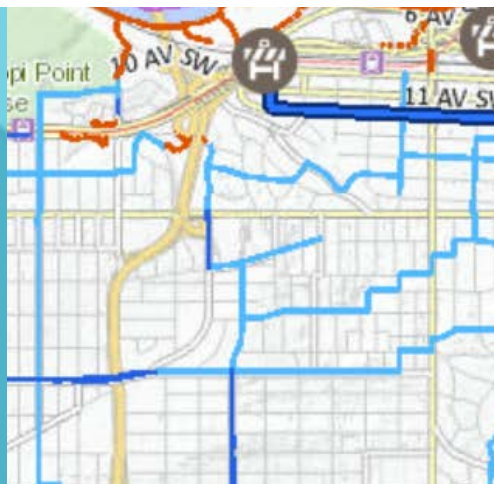
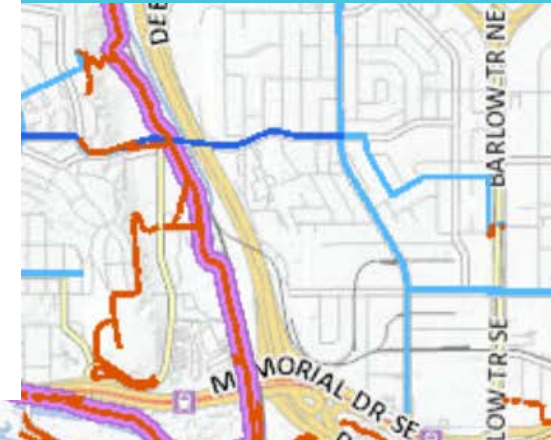


6.1.2.6 Criteria for Bicycles

- 1) Maximum Grades:
 - Over 8%: Re-route or provide stairs.
 - 5% to 8%: Not longer than 50 m (keep bicycles and pedestrians separate and avoid curves and constrictions).
 - 3% to 5%: Not longer than 200 m.
 - Under 3%: Acceptable.
- 2) Design Speed:
 - Flat terrain: Do not exceed 35 km/hr.
 - Downgrades: Do not exceed 50km/hr.
- 3) Super-elevation:
 - On curves: 2%.
 - Maximum: 5%.
- 4) Stopping Sight Distances (SSDs):

A SSD of 35.0 m is considered to be a standard guideline, but SSDs can be calculated as follows:

City of Calgary pathway design guidelines



REVISED!

6.1.2.1 Surface Materials and Pathway Widths

- 1) Regional and local pathways are hard-surfaced, typically of asphalt pavement, to accommodate multiple users.
- 2) Width shall be:
 - a) 2.5 m minimum for local pathways.
 - b) 3.0 m minimum for regional pathways, 2.5 m where constrained.
 - c) 4.0 m minimum for river pathways, 3.5 m where constrained.
 - d) 3.0 m minimum pedestrian pathways and 3.0 m minimum bicycle pathway for twinned pathways, 2.5 m where constrained.

REVISED!

City of Vancouver guidelines*

Rule #9 → Keep grades below 3% as much as possible

Local Street

Bikeway

Protected Bike
Lane

Off-Street
Pathway

Steep hills can be very challenging, particularly for young riders, seniors, people who are new to cycling, and some people with disabilities. Most people can maintain a speed of 10 km/hr—a speed that helps to maintain balance—on a grade of 4% or less. Other research suggests a grade of 3% or less is desirable for longer distances. For grades between 4% and 8%, people are more likely to weave to maintain balance on a bike. At grades above 8%, speed drops to a point where many people have a hard time keeping their balance and have to dismount.⁵



Image: Chris and Melissa Bruntlett

Some people have to weave to get up steeper hills

Considerations:

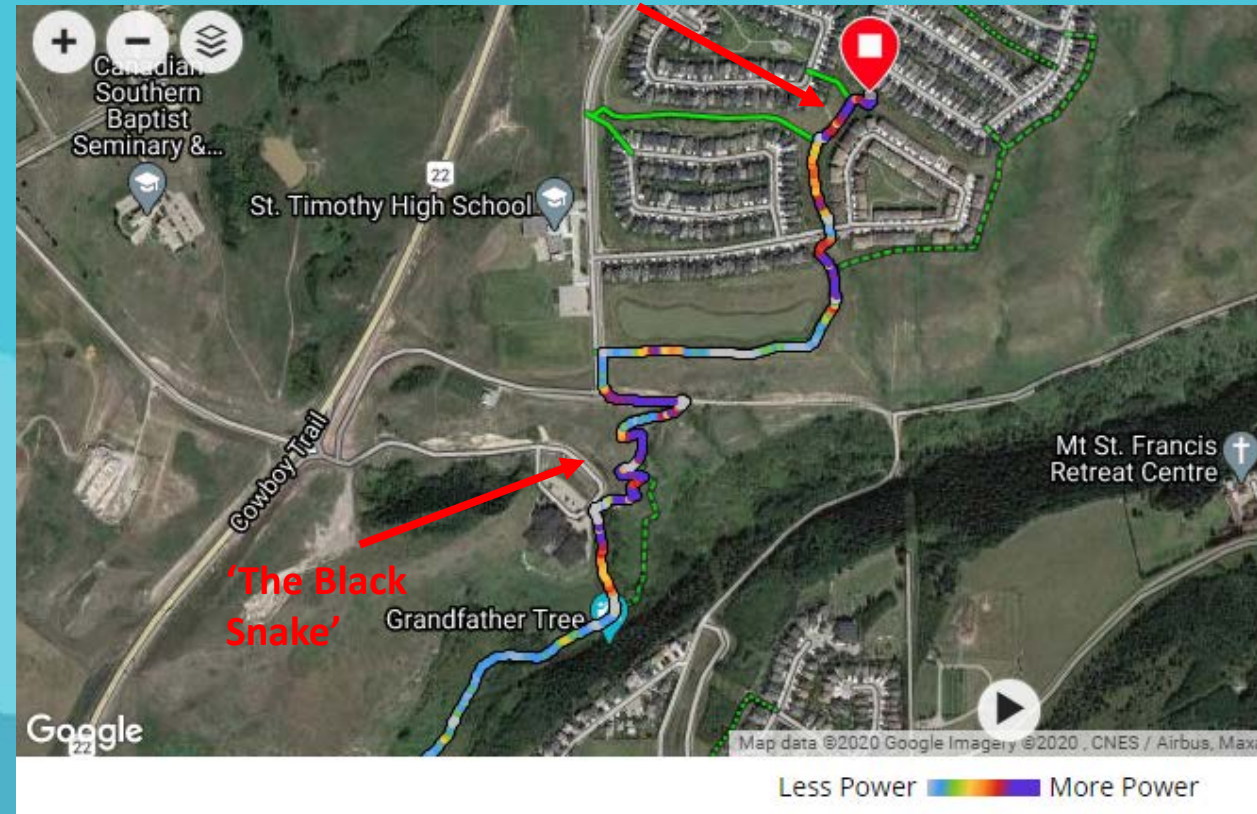
- For new bridges and ramps, start with concepts using a 3% grade. If the concepts are not feasible, grades up to 5% may be acceptable.
- Since it is not always possible or practical to avoid a hill, routes with grades up to 5% may be considered AAA and above 5% for short distances:
 - i. Less than 500m, for grades between 5% and 7% .
 - ii. Less than 150m (about a block), for grades between 7% and 8%
 - iii. Less than 30m, for grades above 8%.
- For routes with grades of 5% or higher:
 - i. Consider mitigation measures for people riding uphill, such as flat landings at regular intervals (-every 100m) for resting and a wider bike path to accommodate weaving.
 - ii. Consider mitigation measures for people riding downhill, including higher design speeds, improved sightlines, and other safety measures.
 - iii. Sign a flatter alternate route if possible.
 - iv. Identify hills on cycling route maps.

* **Vancouver design-guidelines-for-all-ages-and-abilities:** <https://vancouver.ca/files/cov/design-guidelines-for-all-ages-and-abilities-cycling-routes.pdf>

Bike Cochrane testing of Cochrane's pathways

- Climbing from Ranche House to Sunset was tested using a set of Garmin Vector 3 Power Pedals
 - Measuring power exerted in Watts allows a sense of 'how hard is it' to bike
 - Competitive cyclists train using power rather than heart rate
- Tested with a mountain bike pulling a Chariot with a 40 lb 3 year old

'Climb to Sunset View'



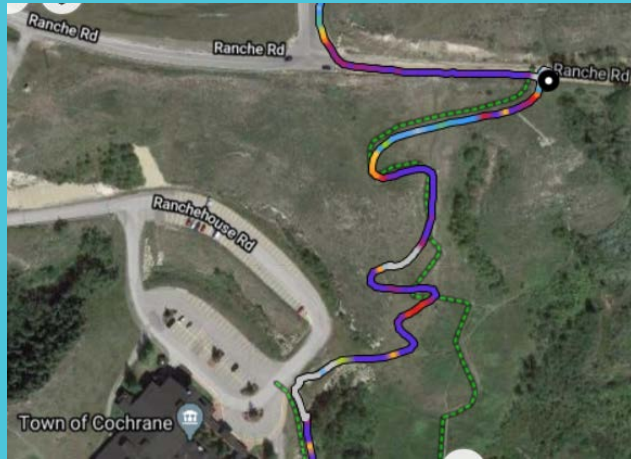
Power benchmarking to Pro Cyclists

- Average Tour de France rider generates $\sim 350\text{-}375\text{W}$ on big climbs*
 - Big climbs average $>10\%$ grade
- An ordinary rider on the same hill climb averages $\sim 175\text{-}200\text{W}$ *
- Most e-bikes capped at 600W



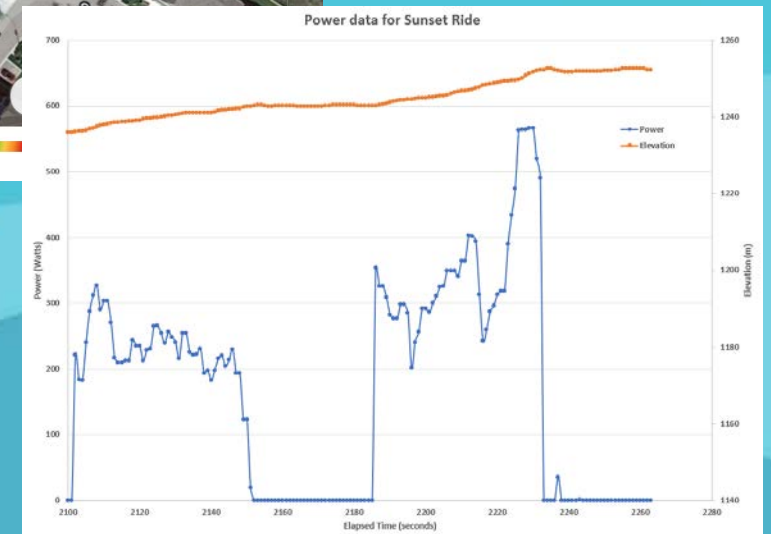
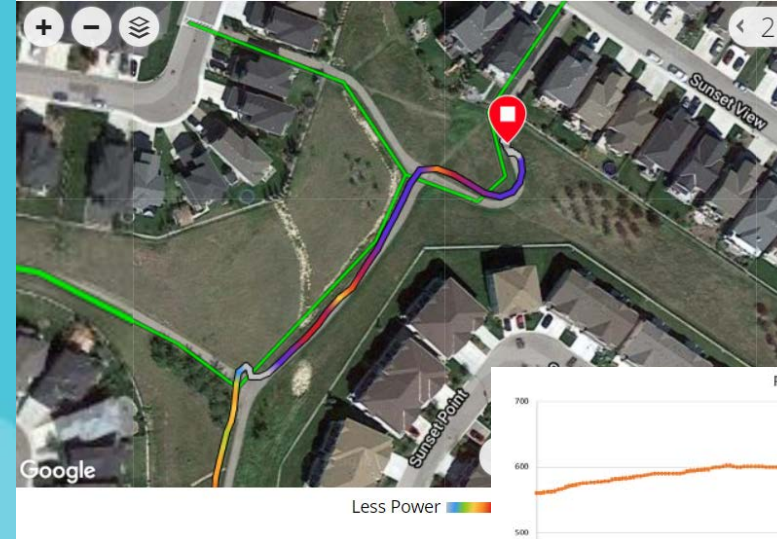
* Bicycling.com review of Tour Cyclists: <https://www.bicycling.com/racing/a20037750/you-versus-a-tour-de-france-pro-cyclist/>

Black snake (Ranchohouse park)



Peak power output 400-500W
with highest peak power at
highest slope angles of pathway
(range of **6-13%**)

Sunset View climb



Peak power output 560W with
highest peak power at highest slope
angles of pathway (range of **6-20%**)

Results of Testing

- Snapped rear derailleur hanger on last section of climb to Sunset View
- Had to carry bike and trailer



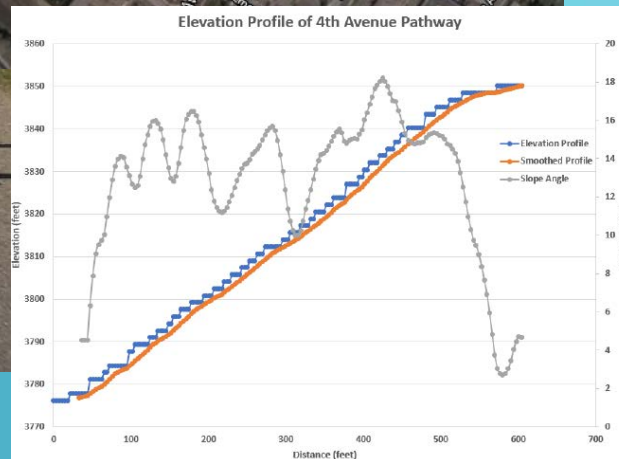
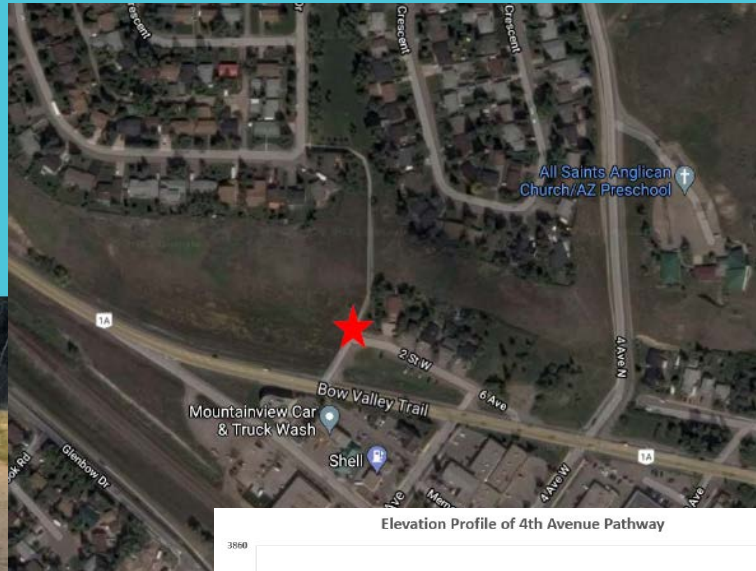
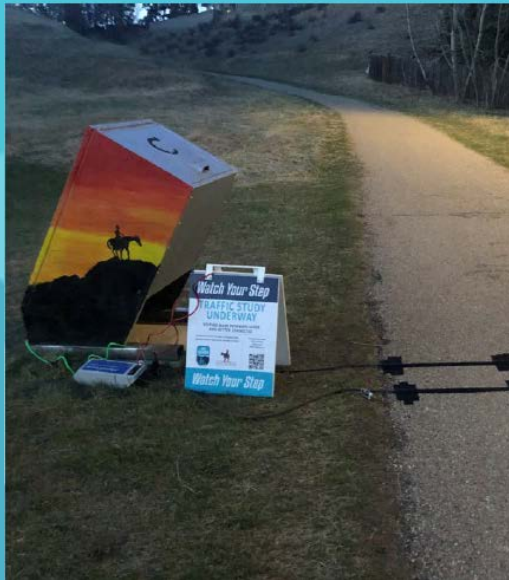
4th Avenue pathway

Bike counter May 2021

Total: 62 bikes during the month

Timings not consistent with commuting

Why? It's steep. 10-16% grade, peak of 18%. Sidewalk is significantly less steep and so a more appealing route to most users.



Wildlife, lighting, planning



Wayfinding

Comments indicating people don't know that safer routes are available

RODEO GROUNDS	0.3km	5 min. 2 min.	➔
COMMERCIAL CORE	0.5km	10 min. 5 min.	➔
HISTORIC DOWNTOWN	0.9km	12 min. 7 min.	➔
COCHRANE RANCHE PARK	0.9km	12 min. 7 min.	⬆
COCHRANE RANCHEHOUSE	2.0km	26 min. 9 min.	⬆
SPORTS CENTRE	3.2km	35 min. 12 min.	➔



- Plan to in the future with the family
- There is no safe route along the highway
- Too far (to go all the way around) or unsafe to down Highway

1.3 JOURNEY APPROACH

Sequential Order of Destination Identification

When visitors approach Jasper the signage will be laid out in a progressive order based on the order of their approach. This will allow visitors to identify entrances, destination choices, and directions correctly to effectively reach their desired destination with ease.

The order in which the signage is approached by a visitor will be based on their mode of arrival (i.e. train, bus, bicycle or car), but in all cases the information provided will follow the standards/guidelines outlined in the Program for effective wayfinding.

The journey approach will require information presented in a sequential order.

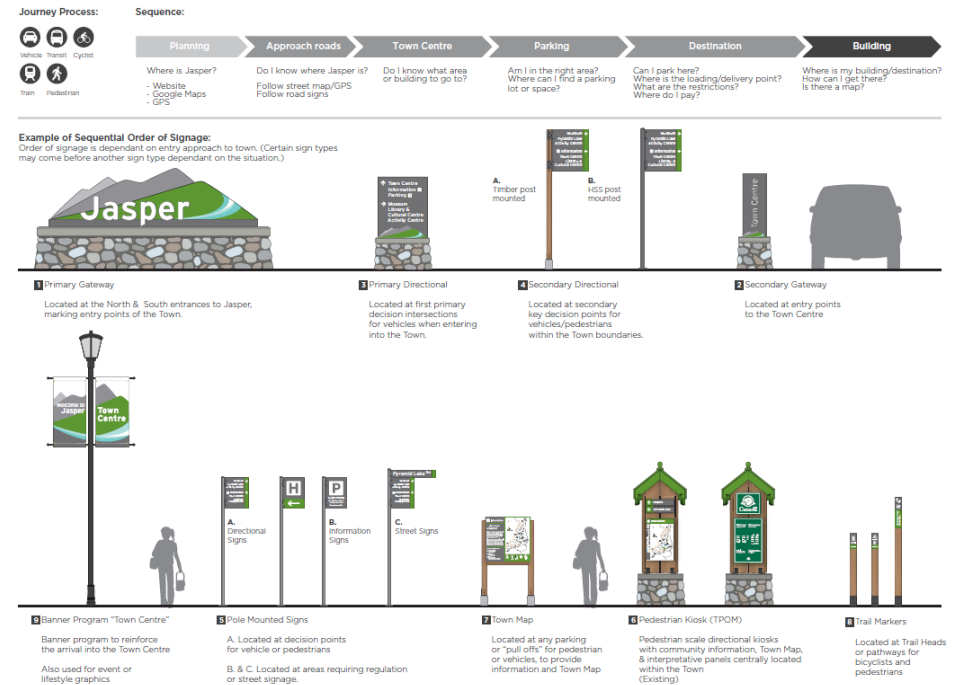
What is read first, second, third and so forth needs to be prioritized to support the journey to the desired destination.

1. Primary Information
Primary level information regarded as a priority. Assists users with orientation and providing general direction to key destinations. (i.e. Sign Types 1, 2*, and 3).

2. Secondary Information
Secondary level information to key destinations or areas presented in a progressive order. (i.e. Sign Types 2*, 4, 5, 7, 9).

3. Tertiary Information
Tertiary information supports services and marked destinations. (i.e. Sign Types 6 and 8)

*Note:
Order of signage is dependant on entry approach to town. (Certain sign types may come before another sign type dependant on the situation.)



FILE NAME: 15002 MOJ W&S 1.3 Journey Approach

Where do we go from here?

- Kids in Cochane **want** to walk and wheel to school
- Both those who do and those who don't currently use active transportation have some major **safety concerns**
- But these are **not** insurmountable problems
- Cochane already has some great plans with real vision for active transportation in town (Connecting Communities, Bicycle Network Plan)
- Implementing these plans helps a **variety of user groups from the very young in strollers to the seniors on mobility scooters**
- There is an appetite among Cochranites for these plans to be implemented





Bike To School
Workshop:
Bicycle Friendly
Communities

October 5, 2021

Bicycle Friendly Communities (BFC)



Subha Ramanathan, Ph.D.

Manager of Programs & Partnerships

Share the Road Cycling Coalition



BFC Program Overview

- ▶ Partnership-based awards program in the United States and Canada
 - ▶ League of American Cyclists (1995)
 - ▶ Share the Road (2010)
 - ▶ Vélo Québec (2015)
- ▶ Application form is a roadmap to assess cycling assets for all ages and abilities



BFC Designations

- ▶ Five designations: Bronze, Silver, Gold, Platinum, Diamond
 - ▶ Honourable Mention - many building blocks of a BFC in place
 - ▶ 5 Platinum in N. America: Davis, CA; Boulder, CO; Fort Collins, CO; Portland, OR; Madison, WI
- ▶ BFC awards are “process awards” valid for four years
 - ▶ Growing cycling network, expanding programming, increasing ridership, etc.



BFC Intake Rounds

- ▶ Two application rounds per year
 - ▶ Fall 2021: deadline Friday, October 8th
 - ▶ Spring 2022: deadline Friday, April 8th



BFC Resources

- ▶ Visit [Share the Road's website](#) to view the following:
 - ▶ Word and PDF versions of the application
 - ▶ Use the application as a tool to 'take stock' in Cochrane
 - ▶ Past BFC Yearbooks
 - ▶ BFC Lunch n' Learn Webinar recordings and slides



BFC Application Form: Core Content



Engineering: policies, design documents, infrastructure



Education: cycling skills training for all ages, sharing the road



Encouragement: signature events, maps, programs, services



Evaluation & Planning: committees, funding, monitoring

Create a BFC Task Force

- ▶ Diverse stakeholders
 - ▶ Municipal staff
 - ▶ Local cycling advocates (e.g., Bike Cochrane)
 - ▶ Public health
 - ▶ Police services (e.g., Bike Index)
 - ▶ Active School Travel/Safe Routes to School managers
- ▶ Identify knowledge/data gaps and invite new stakeholders



Online Application Platform

- ▶ Create an account within the online platform

<https://veloquebec.secure-platform.com/a/page/home/STR>



Welcome Subha
Ramanathan

Home

My Applications

All (3)

Incomplete (2)

Expired (1)

My Judging
Assignments

My Profile

Change Password

Admin Panel

Log Out


bfc@sharetheroad.ca

[Home](#) / [My Applications](#) / [3214 - New Application](#)

Bicycle Friendly Community - STR Fall 2021

[Application Introduction](#) → [Contact Information](#) → [Engineering](#) →

[Education](#) → [Encouragement](#) → [Evaluation & Planning](#)

 [Manage Collaborators](#)

In which province your community is located? *

(select)

Community Name: *

Save

Save and Next

The BFC Application

- ▶ BFC Application Form
 - ▶ Multiple choice, drop-down menus, open-ended responses
 - ▶ File upload: photos, maps, campaigns, signs, etc.
- ▶ Local Reviewer Form: 3 individuals
 - ▶ Anyone with knowledge of cycling and resides within the applicant community
 - ▶ Examples: members of the Active Transportation Committee, local advisory groups, municipal staff, bike shops, cycling clubs
 - ▶ Reviews must be submitted before the application deadline



Showcasing your Community

- ▶ Bonus Questions: open space at the end of each core section
- ▶ Supplementary Materials: high-quality photos
 - ▶ Bike rodeos
 - ▶ Safe routes to school maps for walking or wheeling
 - ▶ School campaigns
 - ▶ Wayfinding/trail signs
 - ▶ Bicycle parks



Adjudicating Applications

- ▶ Local Reviews (3) completed by residents within an applicant community
- ▶ Auto Scores: computer assigns to closed-ended responses
- ▶ Judge Scores: judging panel (3) assigns to open-ended responses based on:
 - ▶ Level of progress (re-applicants)
 - ▶ Depth and relevance of information
 - ▶ Inclusion of supplemental information (i.e., Bonus Points, photos)
- ▶ Judge Meeting: 2-hour call to discuss discrepancies and finalize designations

Award Notification

- ▶ Following the application deadline...
 - ▶ 5-6 weeks: notification of results
 - ▶ 6-10 weeks: BFC Sign (winners)
 - ▶ 8-10 weeks: BFC Feedback Report (all applicants)
 - ▶ Community Strengths
 - ▶ Application Highlights
 - ▶ Promising Efforts
 - ▶ Key Steps to become more bicycle friendly



Bicycle Friendly Communities

- ▶ No Fee to apply for a BFC designation
- ▶ Currently 65 Bicycle Friendly Communities in Canada
 - ▶ 13 Bicycle Friendly Communities designated by Vélo Québec
 - ▶ 52 Bicycle Friendly Communities designated by Share the Road
 - ▶ Calgary (Bronze, 2021-2025)
 - ▶ Canmore (Silver, 2021 - 2025)



Benefits to Becoming a BFC

- ▶ Assess your Assets: identify community strengths and weaknesses for cycling and active transportation in general
- ▶ Strengthen relationships and build new relationships with stakeholders
- ▶ BFC 16Feedback Report is customized for your community
- ▶ Stimulus to reassess and celebrate progress at least every 4 years



Questions?

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Share the Road Cycling Coalition

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www.sharetheroad.ca

