Walk Wheel New Denver

A plan to support safe, connected & accessible human powered transportation in the Village of New Denver

February 2022

Acknowledgements

The Village of New Denver would like to thank everyone that contributed to the development of the Active Transportation Network Plan. Special thanks to all the residents, youth, community groups, organizations, and Village staff who provided their feedback and ideas in this process.

Prepared by Plan 54 Consulting,
Watt Consulting Group & TRUE Consulting

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Key Terms

Active Transportation

Any form of human-powered transportation, including walking, cycling, or rolling using a skateboard, in-line skates, wheelchair, or other wheel-based forms of human-powered transportation. It can also include winter-based modes, water-based modes, and increasingly includes emerging forms of technology, such as electric bicycles and scooters.

Active Transportation Facility

Features such as sidewalks, bicycle lanes, multi-use pathways, and pedestrian bridges that promote and enhance active transportation.

Active Transportation Network Plan

Long-term plan for developing an active transportation network along with supporting programs and policies.

Contents

PLAN HIGHLIGHTS

The Plan defines **8 strategic areas** for improvement to support the development of a safe, connected & inclusive active transportation network in the Village of New Denver.

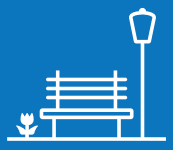
1. **MORE SIDEWALKS**
   Sidewalks along key corridor routes offers a safe and convenient way for residents to move around the Village.

2. **WALK WHEEL BRIDGE**
   A non-motorized, multi-use bridge provides a safe creek crossing and connects the Orchard and Village core.

3. **ACCESSIBILITY UPGRADES**
   New sidewalk ramps and trail access improvements facilitates active travel for residents of all ages and abilities.

4. **HIGHWAY CROSSINGS**
   New crossings and improvements address identified safety concerns, especially amongst older adults and children.

5. **TRAFFIC CALMING**
   Traffic calming slows shortcutting traffic and provides a safer school connection.



6. **BELLEVUE ST. GREENWAY**
   Upgraded pathway along Bellevue St. creates an accessible waterfront alternative to the Mori Trail.

7. **GREER PARK PATHWAY**
   New accessible, multi-use pathway links Greer Park to Slocan Lake and creekside trails.

8. **DENVER SIDING CONNECTOR TRAIL**
   Multi-use trail provides a needed link for residents traveling to the Village core, school, and an access to the Galena Trail.

1. Introduction

The Village of New Denver is working towards enhancing active transportation opportunities in the community by completing an Active Transportation Network Plan (ATNP). Its' purpose is to establish a long-term vision for active transportation and to identify steps that the Village can take both now and, in the future, to move towards this.

The New Denver ATNP creates a roadmap to guide strategic investments in active transportation, which can result in a more balanced transportation system that is accessible, cost-effective, and a more equitable approach to Village infrastructure investments. Other benefits of active transportation are:

Economic

Helps to draw visitors to travel to the Village core and discover more of the community. Supports attraction & retention of older adults and young families who prefer to spend less time driving or cannot drive.

Environmental

Reduces vehicle trips and lowers community GHG emissions from transportation. Implements the Village's energy plan.

Health

An affordable and accessible way to improve mental & physical health for both children and adults.

Social

Encourages social interaction by creating opportunities for face-to-face interactions amongst community residents. This is particularly important for youth and supporting healthy aging in older adults.

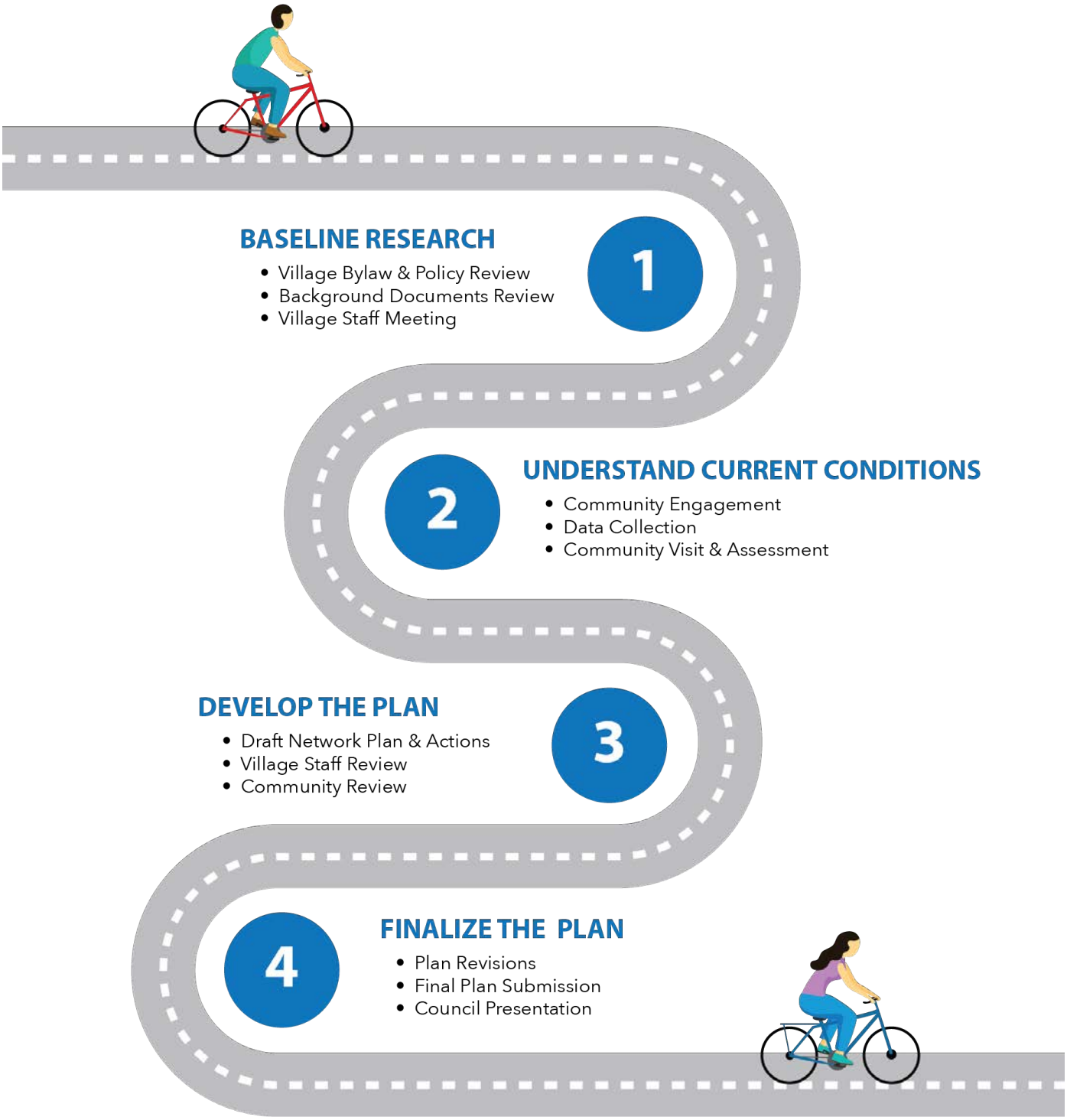
Safety

Makes roads safer by reducing the risk of collision for active transportation users. Helps alleviate safety as a barrier for residents choosing active transportation.

New Denver's ATNP builds on other planning projects and studies already completed by the Village and broader region. For a summary of those projects, and a better understanding of the planning and policy context in which this plan was developed, see Appendix A.

PLANNING PROCESS

The development of the New Denver ATNP followed a four (4) step planning process, as illustrated below.



2. Current Conditions

The Village of New Denver is situated in the West Kootenay region of southeastern British Columbia approximately 45 km west of Kaslo and southeast of Nakusp, and 100 km north of Nelson. New Denver is a member municipality of the Regional District of Central Kootenay (RDCK) and is surrounded by RDCK Electoral Area H – The Slocan Valley. According to the 2016 census, the Village of New Denver is home to 473 residents.

Founded in 1892 and incorporated in 1929, the Village has a dynamic history, including a mining boom in its founding days, a Japanese Canadian internment camp in the 1940s, and a residential facility for Doukhobor children in the 1950s. Following mining and forestry economic ups and downs, the village is now a small, vibrant community with a diverse population. World class outdoor amenities are a defining feature of the area and are enjoyed by both residents and visitors alike, including Slocan Lake, its beaches, parks, and trails.

GEOGRAPHY

The Village of New Denver 2.4 km^2 in size and sits at an elevation of 560 meters. Carpenter Creek runs west-east through the Village with Slocan Lake forming the western boundary. Provincial arterial Highway 6 runs north-south through the Village with Highway 31A branching off to the east.

The majority of New Denver's land use is single family residential. Commercial development, including most Village services, are concentrated in the walkable heritage downtown core. Public uses, such as Lucerne Elementary Secondary School, historic sites and the Slocan Community Health Centre are disbursed throughout the community.

New Denver has a four-season climate. Winters are cold and snowy with the daily average winter temperature of -1.7 and 57.6 cm January snowfall average. Summers are warm, with an average temperature of 19.1 degrees Celsius. Daylight hours are shorter in the winter and longer in the summer. The New Denver weather station reports 171 frost free days, typically between the end of April and middle of October.

The Columbia Basin Climate Source provides climate modeling for New Denver based on low carbon and high carbon emission scenarios and predicts an increase in mean temperature and total precipitation in both instances.

COMMUNITY SNAPSHOT

Available data and statistics from the 2016 census and previous Village studies provide insights into current demographic trends, local economy and travel patterns that influence active transportation in the community.

Mature Community

Residents 65 years and older make up 39% of New Denver's population compared with the BC average of 18%. New Denver's average age is 54 years, also higher than the BC average of 42 years.

Declining Population

New Denver's population declined by 6.2% between 2011 and 2016. During this time the proportion of residents over 65 years increased by almost 10% while all other age groups decreased.

Service Economy

Sales and service occupations make up the largest share of local occupations (33%), followed by health (15%) and trades, transport, and equipment operations (15%).

Entrepreneurial Spirit

New Denver has attracted small and home-based entrepreneurs. In 2016, 17% of all employed residents were working out of their home, double the BC average of 8.5%.

Walk to Work

29% of employed New Denver residents get to work by walking, while none reported biking or other active travel modes. 58% of those working report short travel times of less than 15 minutes.

No Reported Collisions

There have been no ICBC reported collisions with pedestrians or cyclists in New Denver between 2015 – 2020. However, New Denver RCMP and residents report concerns over near misses with pedestrians crossing the Highway.


Hwy 6
Bigelow Bay Regional Park
Hwy 31A
Galena Trailhead
Galena Trail
Denver Canyon Rd
Atlantic St
10th Ave
11th Ave
10th Ave
9th Ave
8th Ave
7th Ave
6th Ave
6th Ave
5th Ave
3rd Ave
2nd Ave
1st Ave
Galena Ave
Slocan Ave
Union St
Kootenay St
Columbia St
Bellevue St
Josephine St
Kildare St
Eldorado Ave
Carpenter Creek Bridge
Slocan Lake
Carpenter Creek
799 m
Boat Launch
Camp Site
Marina
Parking
Slocan Community Health Centre
Historic Site
Art Gallery
Schools
New Market Foods
Museum & Visitor Centre
Public Restroom
Playground
Cemetery
Galena Trailhead
Fire Station
New Denver RCMP
Municipal Office
Village Boundary
Road With Sidewalk on 2 Sides
Road With Sidewalk on 1 Side
Road With Sidewalk (historic or Poor Condition)
Road Without Sidewalk
Unpaved Road
Local Trails
Stairs
Cadastral
Commercial Core
Parks & Open Space
Village of New Denver
Active Transportation Network Plan
Existing Conditions Map
0 100 200 300 400 m
N
Reviewed by: SW
Revision #: 0
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Projection: Transverse Mercator (Zone 11)
Scale: 1:10,000
Issued for: review
Drawn by: RK
Date: 2/3/2022
Project Ref No. 1479-061
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Figure 1

EXISTING VILLAGE FACILITIES

New Denver has a total of 7.4 km of active transportation infrastructure that is owned and maintained by the Village. Table 1 summarizes these Village facilities, length of infrastructure, and current condition. The Existing Conditions Map shows the location of the facilities along with local destinations.

Table 1. Existing Active Transportation Facilities in New Denver

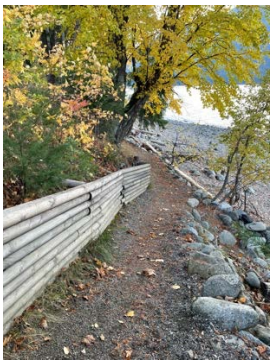
FACILITY	LENGTH	DESCRIPTION
Sidewalks	2.6 km	Of the 15 km of roads in the Village, 17% have sidewalks. This includes sidewalk on one side (1.3 km), both sides (0.3 km) and sidewalks that are historic or in poor condition (1 km). Current sidewalk challenges include: • Maintenance / snow & ice control • Poor condition (cracking / uneven surface) • Gaps in the network • Lack of accessible corner ramps
Trails	4.7 km	The Village maintains local trails that include Mori Trail (1.1 km) along Slocan Lake from Carpenter Creek to Bigelow Bay, a creekside trail along the north side of Carpenter Creek (1.7 km), and an orchard trail along the south side of Carpenter Creek (0.9 km). The Village has a total of 1 km of connector trails throughout the community. Current trail challenges include: • Narrow widths and rocky, uneven surface. • Steep trail access points & many in-town connector trails exceed 20% grades.
Stairs	48.5 m	Stairs provide access to the Mori Trail (one stone, one concrete) and on either side of the Carpenter Creek bridge (one concrete, one wood) to trails along Carpenter Creek. Current stair challenges include: • Slippery in winter (Village has signs and puts out grit boxes). • Not accessible for bikes and strollers.

Sidewalks

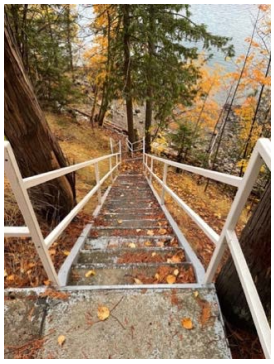



Trails



Stairs

The Village provides amenities that support the current active transportation network. These include bear proof garbage receptacles, benches, picnic tables, dog litter bags, bike racks, public washrooms, and trail signage. Below are examples New Denver's existing amenities.








Maintenance

The Village's Public Works department is responsible for the upkeep and maintenance of all Village services and infrastructure. Related to active transportation this includes:

- Bi-annual line painting of local roads.
- Spring road sweeping with sidewalks on 6th Ave and along Highway 6 corridor blown off prior to sweeping.
- Sand is used on local roads for ice control with grit boxes at a few key trail locations.
- A small, enclosed cab Kubota tractor is used to clear snow from sidewalks; however, this varies with the amount of snow accumulation. Local roads receive priority clearing.

- Trail maintenance is completed during the summer on an as needed basis and where there is staff available.

New Denver's limited tax base, staff capacity and aging sidewalk condition makes replacement, repairs, and maintenance a challenge for the Village. Typically, Public Works employs two full time positions, a seasonal position and summer students.

VILLAGE DESTINATIONS

New Denver residents move throughout the community to access a range of local destinations. Key community destinations are concentrated in the following areas:

Downtown

New Denver's heritage downtown contains most of the Village's shops and services, including retail stores, grocery store, Credit Union, restaurants, cafes, accommodations, post office, pharmacy, and the Village Office. Also included are:

- Bosun Hall (community gathering place)
- Reading Centre & Knox Hall
- Silvery Slocan Museum & Visitor Centre
- Youth Centre

Lucerne School

Lucerne Elementary Secondary School is the education hub in the community that offers a full range of academic and elective programs for both elementary and high school grades. This also includes:

- New Denver Nursery School (14 licensed spaces)
- Goat Mountain Kids Centre (46 licensed spaces)

Slocan Lake & Trails

New Denver's recreation amenities are concentrated around Slocan Lake, which is easily accessible from downtown. This includes Greer Park, Centennial Park and the Mori Lakeside Trail, which follows the lake's shoreline from Carpenter Creek to Bigelow Bay. There are trails along both sides of Carpenter Creek, providing access to recreation areas outside the Village boundary.

Health Centre

The Slocan Community Health Centre is the Village's health hub, providing a comprehensive range of health services. This includes 24/7 emergency services, community gym, laboratory services, medical clinic as well as The Pavilion, a long-term care facility with six private and 10 semi-private (double occupancy) rooms.

Centennial Park & Heritage Sites

Centennial Park is New Denver's main public park and the location of the municipal campground. Features include 49 campsites, boat launch, playground, playing field, , gazebo, concession building, and swimming area. Adjacent to Centennial Park is a marina and nearby is an off-leash dog area and creekside trail, which run along the south side of Carpenter Creek. Important heritage sites near or in Centennial Park include:

- Kohan Reflection Gardens – Public Japanese-style garden that honors the local Japanese Canadian and is located within Centennial Park.

- Nikkei Internment Memorial Centre – Located one block from Centennial Park, this National Historic Site tells the story of the Japanese Canadians' World Ware ll history. It contains original buildings, artifacts, interpretive displaces as well as Heiwa Teien Peace Gardens.

REGIONAL CONNECTIONS

The Village of New Denver is part of a larger regional network rich in trails, parks, and recreation opportunities. Within a 40-kilometer radius of the Village there are 11 provincial parks and protected areas, making the area a prominent tourist destination. The existing trails in New Denver form part of accessing this regional network. This includes:

- Bigelow Bay Regional Park – The Village's Mori Trail provides a lakefront connection to Bigelow Bay, located near the Village's northern boundary. It is designated as a Waterfront Access regional park and used for day-use beach recreation activities, such as boating, swimming, and nature appreciation.

- Galena Trail – New Denver is connected to the Rosebery to Three Forks Regional Trail, also known as the Galena Trail, which is a former CPR railway line. A 1.5 km portion of the 13 km non-motorized trail runs through the Village with a trailhead at the eastern terminus of Denver Siding Road.

- Informal creek trails along Carpenter Creek extending beyond the Village boundary.

COMMUNITY ENGAGEMENT

Involvement from New Denver residents and local organizations was essential to better understand local conditions and creating a "made in New Denver" plan. Community engagement activities aimed to collect input from a diversity of perspectives, including children, youth, seniors, and local organizations. A total of **193** engagement activities were completed that included:

149 Surveys

- Mailed to all Village households.
- Direct way for residents to share their experiences.
- $100 shop local prize offered.

31 Youth Maps & Drawings

- Activities for younger and older age groups provided a way for youth residents to get involved.
- Seven (7) drawings from 9- & 10-year-olds & 24 maps from Grade 6, 7 & 8 students were received.
- Teachers from Lucerne School helped with outreach.

13 Interviews

- One-on-one conversations with representatives from organizations provided further perspectives.
- Questions focused on challenges, improvements, and ways to better support active transportation in New Denver.

For a full copy of the engagement results are available in Appendix B (community survey), Appendix B (youth maps and drawings), and Appendix C (interviews).

SURVEY HIGHLIGHTS

Survey findings helped identify what activities residents enjoy, motivations, places they go, challenges and improvements. Below are top responses.

Top **Activities**

95% Walking & Hiking

65% Biking

16% Running

Top **Motivators**

88% Health & Fitness

75% For Fun

59% Environmental Benefits

Top **Places**

85% Slocan Lake

82% Village trails

80% Downtown

Top **Challenges**

54% Winter Conditions

42% Lack of Developed Sidewalks & Trails

41% Vehicle Speed

Top **Improvements**

49% More Developed Sidewalks & Trails

40% Winter Maintenance & Sidewalk Condition

40% Traffic Calming

The area between Denver siding & ND because it is right along the hwy, so there's no sidewalks and no streetlights. The communities are basically one but there's a real disconnect there.

- Survey Respondent

My route across the Highway is dangerous. I would like a light on 8th Ave so the cars don't go so fast.

- Youth Respondent

My husband has mobility issues that are progressive due to MS. He currently has difficulty accessing any beach in New Denver as there are no ramps, handrails and a lot of driftwood and exposed roots on paths.

- Survey Respondent

I love parking my car and walking everywhere.

- Survey Respondent

Summary of Key Challenges

While community input from the survey, youth activities and interviews were diverse, several overarching themes emerged from the engagement process.

RURAL CONNECTIONS

Desire for safe connections to Denver Siding & Silverton to better support residents traveling into New Denver, including youth, parents with young children & seniors.

ACCESSIBLE ACCESS

While getting active outside is a defining feature for many residents, it is not accessible for all, such as those with mobility limitations or caregivers pushing strollers.

HIGHWAY TRAFFIC

Speed of highway traffic, amplified in the tourist season, and lack of safe pedestrian crossings is a key concern, notably amongst school age children and seniors.

WINTER CONDITIONS & MAINTENANCE

Ice and snow keep many older residents inside during winter months. Snow removal, icy conditions and overall maintenance of existing sidewalks & roadways were identified as barriers to active transportation.

CROSSING THE BRIDGE

Many felt unsafe crossing Carpenter Creek Bridge due to limited shoulder space and inconsistent winter clearing. There is support for a separate foot & bike bridge to provide a safe creek crossing west of Highway 6.

NEW INFRASTRUCTURE

Many expressed interest in more sidewalk infrastructure in strategic locations to address safety concerns and improve connectivity.

3. Future Network

New Denver's future network plan sets out the overall long-term vision, active transportation facilities and supporting strategies based on findings from the existing conditions, community feedback (see Appendix E), input from Village staff, and best practices in active transportation.

While the Village faces key challenges to active transportation, there are several community strengths that the network and strategies build on. These include the compact townsite, lower traffic volumes on local roads, expansive trail network, and collaborative community spirit.

VISION

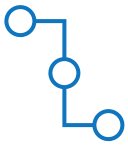
New Denver's active transportation network is intended to support safe & convenient movement around the community for all abilities and ages. Foundational elements shaping the overall network plan include:

9. IMPROVE SAFETY

Enable residents to safely move around New Denver, whether walking or wheeling. Notably, this includes improving Highway and bridge safety.

10. BE INCLUSIVE

Consider New Denver residents of all ages and abilities when investing in infrastructure. This includes year-round accessibility.



11. CREATE CONNECTIVITY

Provide strategic connections and fill network gaps to support residents in accessing key community destinations. This includes Slocan Lake, downtown, Lucerne Elementary Secondary School, and Slocan Lake Community Health Centre.

FOCUS CORRIDOR AREAS

As part of the development of the future network, five (5) key corridors were identified to prioritize movements by active transportation in the Village. The corridors pass through and surround the heart of the community, and as such, are the focus areas of the proposed improvements.

1

6th Ave. Main Street Corridor

The 6th Avenue corridor provides the main east / west Village connection that runs from Slocan Lake through the Village downtown core to New Market Foods.

2

Josephine St. / Kildare St. Improvement Corridor

The Josephine St. / Kildare corridor provides the main north / south connection through the Village that links the Orchard to Bigelow Bay via a new pedestrian / cycling bridge.

3

Lakefront Improvement Corridor

The lakefront corridor provides an accessible waterfront connection that links the creekside trails to Bigelow Bay Regional Park. This corridor builds on the existing amenities and lake views along Bellevue Avenue.

4

Lucerne School Corridor

The school corridor provides a safe route to Lucerne Elementary Secondary School and connection with Denver Siding. This includes traffic calming and traffic control changes.

5

Slocan Ave. Improvement Corridor

The Slocan Avenue corridor provides a secondary east / west route to connect creekside trails and new affordable housing development.


Bigelow Bay Regional Park
Hwy 6
Hwy 31A
Denver Canyon Rd
Denver Siding Rd
Union St
Kootenay St
Columbia St
Bellevue St
Josephine St
Kildare St
Eldorado Ave
11th Ave
10th Ave
9th Ave
8th Ave
7th Ave
6th Ave
Slocan Ave
5th Ave
3rd Ave
2nd Ave
1st Ave
Galena Ave
Lucerne Elementary Secondary School
Slocan Lake
Carpenter Creek
Carpenter Creek Bridge
6 Ave Main St Corridor
Josephine St / Kildare St Improvement Corridor
Lakefront Improvement Corridor
Lucerne School Corridor
Slocan Ave Improvement Corridor
Village Boundary
Commercial Core
Parks & Open Space
Village of New Denver
Active Transportation Network Plan
Focus Corridor Areas
0 100 200 300 400 m
Reviewed by: SW
Revision #: 0
Scale: 1:10,000
Issued for: review
Drawn by: RK
Date: 12/17/2021
Project Ref No. 1479-061
Datum: North American 1983
Projection: Transverse Mercator (Zone 11)
TRUE
Figure 2

NETWORK IMPROVEMENTS

New Denver's network improvements include the physical upgrades to create the envisioned active transportation network and travel corridors. These improvements are summarized below and illustrated on the Village of New Denver Active Transportation Map.

Table 2. New Denver Active Transportation Network Improvements

IMPROVEMENT	DESCRIPTION
Sidewalks	Construct missing sidewalk links along focus corridor areas and upgrade existing sidewalks that are in poor condition. Priority segments where no existing facility exists (regardless of quality) should be constructed as a separated sidewalk facility. They include: • Kootenay St. between 6th Ave. and Slocan Ave. • 8th Ave between Columbia St. and Highway 31A and Columbia St. from 7th Ave to 8th Ave. • Highway 6 between 11th Ave and proposed community garden. Sidewalks being upgraded or requiring small gaps to be completed should match the existing facility type.
Greer Park Multi-Use Pathway	New accessible, multi-use pathway links Bellevue St. Greenway to creek trails via Greer Park.
Denver Siding Connector Trail	Denver Siding Connector Trail provides a link for residents travelling to school, Village core, and an access to the Galena Trail.
Bellevue St. Greenway	Off-street multi-use path or on-street quick-build pathway connects Bigelow Bay Regional Park south to Greer Park as an accessible waterfront path alternative to the Mori Trail.
Pedestrian & Cycling Bridge	New pedestrian & cycling bridge over Carpenter Creek offers a safe alternative to the residents and visitors travelling the Highway.
Accessibility Improvements	Accessibility improvements include installing accessible sidewalk corner ramps throughout the Village in key focus area locations. Improvements also include upgrading existing trail access points and new covered stairs with seasonal ramp connecting New Market Foods to Kootenay St.

Highway Crossings	New highway crosswalks and safety improvements provide safe active travel across Highway 6 (Union St.) and Highway 31A (6th Ave.). These include: • Union St (Hwy 6) intersection that aligns with New Market Foods. • 6th Ave (Hwy 31A) & Kootenay St. to align with school connection. • Hwy 31A at 8th Ave (Denver Siding & Galena Trail connection). • Hwy 6 at 11th Ave (future community garden connection).
Traffic Calming	Traffic calming along Columbia St, 11th Ave, and 8th Ave slows shortcutting traffic and provides a safer school connection. Traffic control improvements could include mid-block curb extensions, speed humps, and a reduced corner radius at 8th Ave & Columbia St.


Bigelow Bay Regional Park
Hwy 6
Hwy 31A
Denver Canyon Rd
Denver Siding Rd
Banks St
10th Ave
11th Ave
10th Ave
9th Ave
8th Ave
7th Ave
6th Ave
5th Ave
3rd Ave
2nd Ave
1st Ave
Galena Ave
Slocan Ave
Kootenay St
Columbia St
Bellevue St
Josephine St
Union St
Kildare St
Eldorado Ave
Slocan Lake
Carpenter Creek
Carpenter Creek Bridge
799 m
Accessibility Improvement
Corner Ramp
Crossing Improvement
Proposed Crosswalk
New Sidewalk
Existing Sidewalk Upgrade
Pedestrian Connection
Existing Sidewalks
Centennial Park Trails
Denver Siding Connector Trail
Existing Trails
Commercial Core
Parks & Open Space
Village Boundary
Proposed Community Garden
Lucerne Elementary Secondary School
Bellevue St Greenway
Multi-Use Pathway
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Figure 3

DESIGN CONSIDERATIONS

SIDEWALKS

The BC Active Transportation Design Guide identifies five distinct pedestrian facilities, as illustrated below. The pedestrian facilities of most relevance to New Denver include:

- Off-street (multi-use) pathway
- Enhanced separated sidewalk
- Separated sidewalk
- Non-separated sidewalk
- Walkable Shoulders

Pedestrian Facility Spectrum from the BC Active Transportation Design Guide (Chapter C)

As an example, the sidewalks along Union Street (Highway 6) and 6th Avenue (Highway 31A) are considered "non-separated". The BC Active Transportation Design Guide defines these facilities as sidewalks located directly next to the roadway and are physically separated from the roadway by a curb. The Design Guide advises against non-separated sidewalks on collector, arterial, or industrial roads with motor vehicle speeds greater than 30 km/h. Higher motor vehicle speeds and volumes can negatively impact pedestrian safety and comfort.

The Design Guide defines a separated sidewalk as one where the furnishing zone (which provides space for utilities, street, furniture, landscaping, street trees, etc.) separates the sidewalk from the roadway. Many of New Denver's local road network have separated

sidewalks with a grass buffer. It provides a buffer and enhances pedestrian safety and comfort while providing space for sidewalk amenities and utilities.[1] The guide indicates that separated sidewalks:

- Increase the safety and comfort for people walking due to the larger buffer from motor vehicles.
- Provide space in the Furnishing Zone for utilities and sidewalk amenities such as benches, bicycle racks, street trees, and landscaping, while maintaining an unobstructed sidewalk.
- Provide an adequate slope area for driveway ramps between the curb and sidewalk.

A separated sidewalk is recommended in locations where new sidewalk is being built. Sidewalks being upgraded or requiring small gaps to be completed should match the existing facility type.

Highway 31A up the hill does not have any proper sidewalk infrastructure. This is a road that would benefit from a walkable shoulder or an off-street pathway. An off-street pathway could be constructed alongside the highway or along a new route connecting the Denver Siding and the lower parts of the Village. This would enhance connectivity and provide a safer route for active transportation users.

MULTI-USE PATHWAYS & GREENWAY

In addition to sidewalks, New Denver offers a series of parks and trails along Slocan Lake and Carpenter Creek. These paths are a mixture of asphalt, gravel, and worn paths. These elements could be integrated into a more extensive greenway trail network that provides community connections that reduce walking distances and create a more walkable environment throughout the Village.

Given the local context of the Village and the smaller population base, it is envisioned that any two-way separated active transportation facilities be multi-use paths (MUP). According to the BC Active Transportation Design Guide, MUPs are off-street pathways that are physically separated from motor vehicle traffic and can be used by any non-motorized user including pedestrians and cyclists as well as other forms of active transportation such as skateboards, in-line skates.

[1] Government of BC. (2019). Active Transportation Design Guide, Chapter C: Pedestrian Facilities. Available online at: https://tinyurl.com/y298s6lq

- **Desired Width**. According to Transportation Assocation of Canada (TAC), the recommended lower limit width is 3.0m, which provides comfortable width for one cyclist in each direction.

- **Constrained Limit Width**. 2.7m is the practical lower limit width, which is based on an operating envelope of a single cyclist (1.2m) and the operating envelope (1.5m) of two pedestrians walking abreast.

- **Surface Material**. The preferred surface type is asphalt, which can accommodate a wide range of users and trip purposes. It provides a smooth continuous surface that is accessible for all user groups and its resiliency and flexible material can last over a decade if appropriately installed and maintained.

- **Signage**. Both TAC and the BC Active Transportation Design Guide recommend the Shared Pathway sign (MUTCDC RB-93), which indicates that both people walking and cycling are permitted to use the pathway.

- **Pavement Markings**. A multi-use pathway symbol can supplement signage and enhance awareness of the shared-use function of the pathway.

Shared pathway sign recommended for multi-use pathways and example of pavement marking

As identified in the New Denver Active Transportation Network Improvements (Table 2), three initial multi-use pathway connections have been identified to improve the active transportation network in the Village. The Bellevue St. Greenway, the Greer Park Multi-Use Pathway, and the Denver Siding Connector Trail can all function as a shared MUP facility, to allow pedestrians, bicycles and other wheeled users to share the dedicated green space. In the case of Bellevue St. Greenway, an opportunity exists to undertake a quick-build on-street pathway, which could mean less upfront costs by using the existing roadway asphalt.

QUICK-BUILD ACTIVE TRANSPORTATION FACILITIES

Over the last 20 years, municipalities have been moving towards dedicating more road space to people walking, rolling, and cycling. Movements such as "Complete Streets," "Road Diets," Vision Zero," "Green Transportation" are ultimately supporting the same goal, enabling more transportation options in a safe and equitable way. Municipalities have passed motions or made changes to infrastructure to accommodate this change in mindset. A combination of these policies ensures that the transportation network will focus on improvements on the quality of life of our residents, prevention of traffic collisions, and reductions in GHG emissions.

Further, driven by the COVID-19 pandemic, municipalities have fast-tracked projects prioritizing walking, rolling, and cycling. Many of those municipalities that explored pilot projects throughout the COVID-19 pandemic have since transitioned into long-term solutions that have become part of the transportation network and even set ambitious targets such as designating 10% or more of the roadway to sustainable modes and pedestrian spaces.[2] Where possible, providing an interim or a "quick-build" approach is an efficient way of reallocating roadway space in an cost-efficient and timely manner that can be implemented within the existing paved width. See various example photos below.

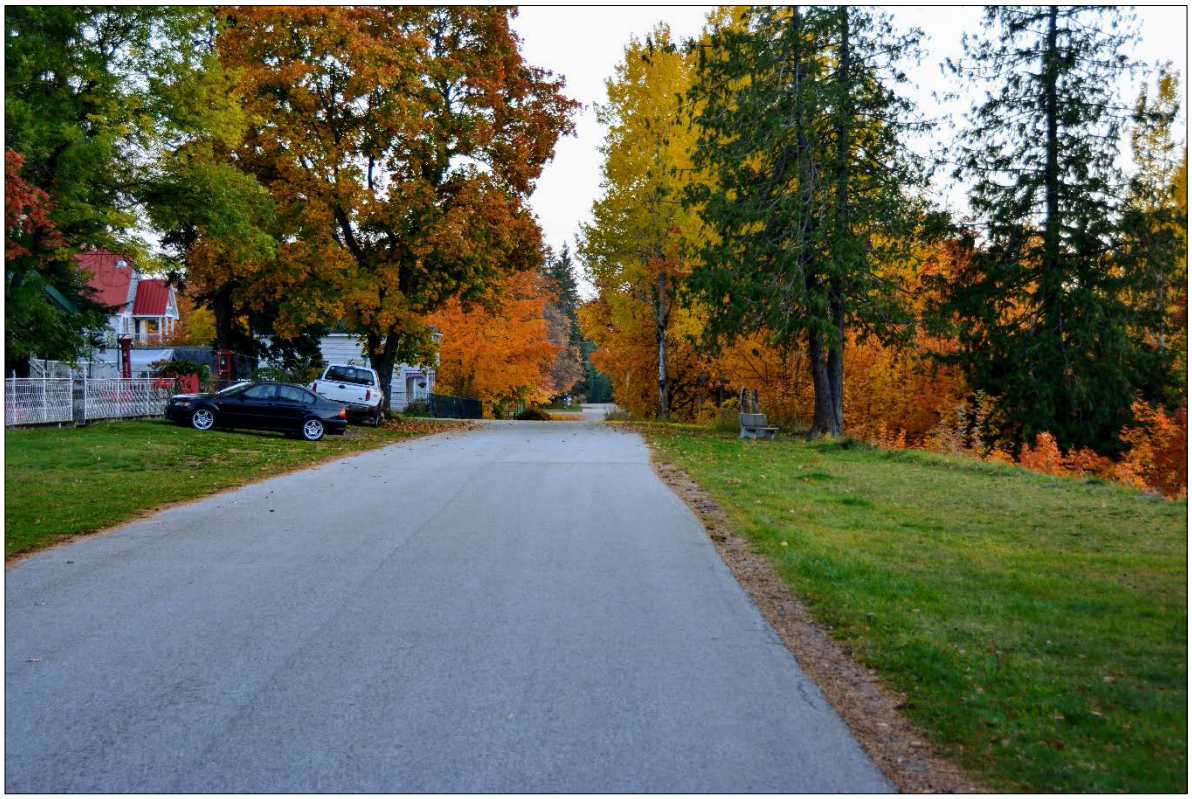
Example of a quick-build MUP in Kelowna, BC using line painting and pre-cast concrete barriers

Example of a quick-build MUP in Calgary, AB using rubber barrier curb and plastic delineators

The Village could also consider reallocating road space like this to people walking, rolling, and cycling in areas of high demand for active travel or where there may be a need for creating an accessible facility. As an example, the Village already has the Mori Trail, which

[2] City of New Westminster (2021). *Streets for People*. Available online at: https://www.newwestcity.ca/streets-for-people

offers its users impressive vistas of the Slocan Lake. However, it is not paved nor accessible for all ages and abilities. We are recommending that parallel to the Mori Trail, along Bellevue Street, which borders the lake and offers many similar view points, benches, and greenspace along the way to be an accessible greenway.

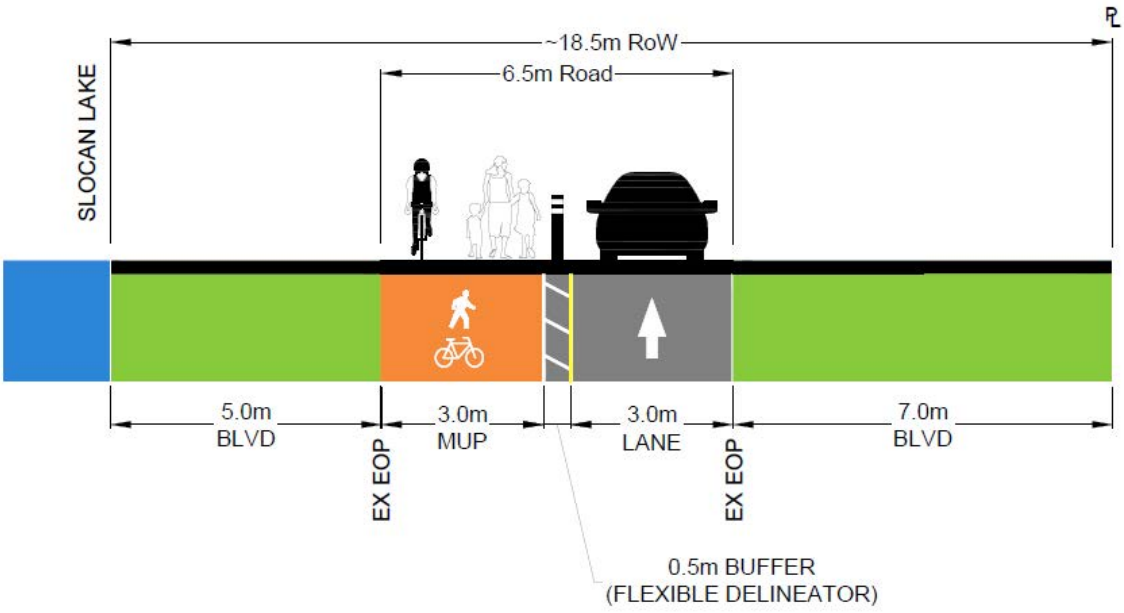


Bellevue Street, looking South towards 7 Avenue. A multi-use pathway could be constructed on the west side of the roadway in the greenspace, or placed in the roadway with a buffer to minimize costs.

Given that the roadway is only 6.5m wide, the Village may consider doing a one-way conversion of the road as a way to provide a dedicated, separated space on the road. One of the main benefits of temporary treatments is that they can be relocated if the design needs to be adjusted or modified later.

The use of temporary materials can allow quick-build facilities to be set up in the months of highest use and removed in the winter months to allow for proper winter maintenance. This could be beneficial in challenging situations and a way to test its usage before going permanent.

Proposed Cross Section for Bellevue Street: One-Way Vehicle Travel with Multi-Use Path



Proposed cross section for Bellevue Street between Bigelow Bay and 6th Avenue includes a multi-use pathway adjacent to a 3m wide northbound travel lane, utilizing existing roadway space.

There are various barrier types that can be used to separate vehicle traffic with pathway users. Table 3 summarizes some of the materials that are used typically in quick-build infrastructure and are considered appropriate for New Denver's context. Flexible delineators are often a low cost option that yields positive results from users in terms of actual and perceived safety.

Table 3. Examples of Quick-Build Barrier Types

Type	Delineators	Plastic Planters	Rubber Curb	Precast Curbs	Concrete Jersey Barriers
					
Height	90 cm	60 – 90 cm	10 cm	10 – 15 cm	60 – 80 cm
Installation	Epoxy surface mount OR Sub-surface base, twist lock delineator	Placed on surface, filled with soil and plants	Steel bolts or rebar with plastic or metal shield OR Construction adhesive	Forklift placement with rebar pin	Forklift placement
Cost	Low	High with routine maintenance	Low	Moderate	Moderate
Safety / Comfort	Moderate	Moderate	Low/Moderate	Moderate	High

ACCESSIBILITY IMPROVEMENTS & UNIVERSAL DESIGN

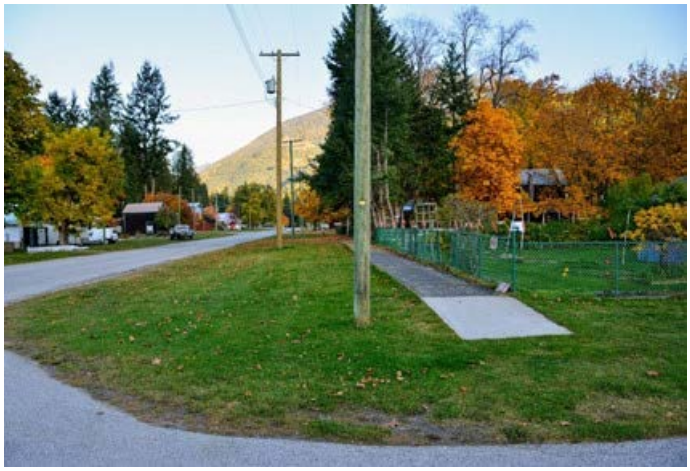
It is paramount that communities provide the ability to independently and safely access services for everyone. Most municipalities have already started planning their streets to accommodate the mobility needs of all ages and abilities, regardless of any type of physical or cognitive impairment. Universal design in active transportation facilities and particularly the pedestrian infrastructure considers impairments to mobility, vision, hearing, comprehension, strength and dexterity. This ultimately provides a pedestrian environment that is safe, comfortable and convenient for everyone. As an example, the provision of resting spots is critical for different groups. As such, benches and other types of seating options can be considered along pedestrian routes, urban centres, and areas where a higher proportion of people with mobility impairments live. Accessible ramps, smooth surfaces, tactile strips, visual cues, and audible pedestrian signals are only some of the elements that are part of the universal accessibility design toolbox.

Walking is a healthy, inexpensive mode of transportation, which most people do daily, whether it is walking to work, walking to catch a bus, or walking from a vehicle to the store. The walking environment influences people's opinions on what mode they will choose and where they are willing to park and walk.

The Village should strive to provide a barrier-free pedestrian and ultimately active transportation network to be inclusive for people of all ages and abilities. Infrastructure design should also promote accessibility and provide features that enhance pedestrian safety. Special considerations can be made for areas with a higher proportion of people with physical or cognitive impairments. Wide, connected sidewalks and pedestrian paths should be installed to improve access to shops, parks and other community amenities. The Village should consider developing guidelines or standards for streetscape that meet or exceed the BC Active Transportation Guide that include accessible ramps and minimum width of sidewalks.

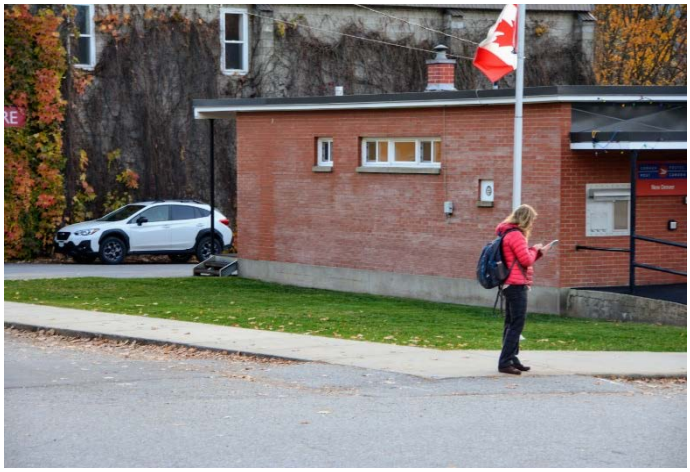
CORNER RAMPS

Deficient or lack of corner ramps are identified as one of the barriers to accessibility. Corner ramps, also referred to as "curb cuts," "corner ramps/letdowns," and "sidewalk letdowns" are a smooth, graded transition from the sidewalk to the road and are required for people using wheelchairs, power scooters, and other mobility devices, but also benefit people with strollers, baggage, and delivery carts. They are also used as a navigational tool by people with visual impairments.[3]



Example of a missing corner ramp at Josephine St. and Slocan Ave.

While corner ramps are provided on some of the major intersections in the Village, most of the sidewalks on local streets do not connect at all, and many do not meet the recommended design guidance in the BC Active Transportation Design Guide. The Plan recommends new corner ramps where they are missing, but the Village should also consider life cycling older deficient ramps when re-development or roadwork is being undertaken.



Example of deficient corner ramp at Josephine St. and 6th Ave.

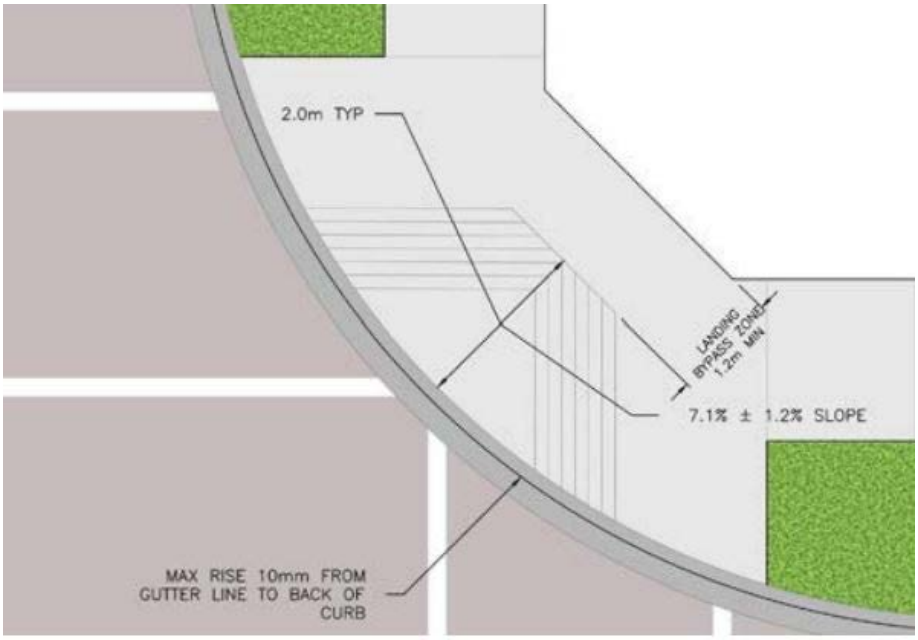
For example, some of the critical components of corner ramp design outlined in the BC Active Transportation Design Guide include:

- **Width.** The desired corner let-down width (exclusive of flared sides) is 1.8 metres, with a constrained limit width of 1.5 metres. The absolute minimum corner let-down width is 1.2 metres.

[3] Government of BC. (2019). Active Transportation Design Guide, Chapter G: Intersections + Crossings. Available online at: https://tinyurl.com/y4sxgfdo

- **Slope.** The maximum running slope of a corner let-down is 1:12 (8.3%). A running slope of 1:10 (10%) is acceptable in existing locations. The cross slope should be no steeper than 1:50 (2%) at intersections.
- **Landing.** The bottom landing area is the receiving space in the road at the base of a corner let-down. Steep counter slopes can be difficult to navigate for wheelchair users, as the counter slope may catch footrests or cause a loss in wheel traction. The maximum recommended counter slope is 1:20 (5%). The bottom landing area should be prioritized for maintenance to ensure that the surface remains in good condition and to prevent the accumulation of debris such as gravel and leaves.

To provide full universal access, changes to the corner ramp design used in New Denver may be required.



Example of a combined corner ramp. They allow people using wheelchairs to enter the crosswalk along a straight trajectory, unlike a single corner ramp that is located at an angle to the road. Source: BC AT Design Guide.

TOPOGRAPHY, RAMPS & STAIRCASES

Like many communities in the Slocan Valley, New Denver has mountainous topography. This can pose challenges in providing an accessible and connected pedestrian network. Some residents may avoid walking altogether because of the hilly terrain, lack of ramps, and challenging staircases.

Example of stairway from Highway 6 down to Carpenter Creek Trail

Stairways are effective in traversing significant vertical distances in a limited horizontal distance, making them a space-efficient means of accessing grade separated facilities.[4] While stairways can help maintain connectivity in the network they have limitations. Stairways are not universally accessible as those with mobility devices cannot utilize them. As outlined in the BC Active Transportation Design Guide, stairways can be made more accessible by increasing stairway width, stair rise and run, handrails, and the provision of landing areas. In addition, where possible, pedestrian ramps should be provided to allow those using a mobility device to comfortably access grade separated facilities and crossings.[5]

The BC Active Transportation Design Guide includes several mitigation strategies[6] for communities with steep topography, as follows:

- **Maintenance.** Ensuring sidewalks are clear of snow, ice, gravel and wet leaves as they can create more dangerous slipping hazards.
- **Rest Areas.** Providing frequent flat landing area with benches and seating to allow people to walk uphill in stages.
- **Railings.** Adding railings to help people when navigating steep slopes.
- **Switchbacks.** Curves or switchbacks can be added to the pedestrian facility if space permits to help minimize grade.

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[4] Government of BC. (2019). Active Transportation Design Guide, Chapter G: Intersections + Crossings. Available online at: https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructure-funding/active-transportation-guide-low-res/2019-06-14_bcatdg_section_g_rfs.pdf

[5] Ibid.

[6] Government of BC. (2019). British Columbia Active Transportation Design Guide. Chapter B: Setting the Context. Available online at: https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructure-funding/active-transportation-guide-low-res/2019-06-14_bcatdg_section_b_rfs.pdf

- **Accessible Ramps.** If the grade is steeper than 8.3%, an accessible ramp may be provided.
- **Stairways.** Stairways can maintain connectivity where standard sidewalks or accessible ramps are not feasible. While they are not accessible for people using mobility devices, they provide railings and intermittent landing areas that allow people to rest.

HIGHWAY CROSSINGS

The Village does not currently have a standard policy to determine the need to install signed and marked crosswalks. As a result, many crosswalks are installed inconsistently. The following photos show typical crosswalks in BC, the top two of which are located in New Denver.

Unmarked Crossing
At the intersection of any two roads with pedestrian facilities, all legs of the intersection are legally considered to contain crosswalks, regardless of whether or not they are marked with signage or pavement marking.

Marked Crossing
A marked crossing typically includes a twin parallel line crosswalk with two parallel while lines that delineate the crossing. Zebra crossings include wide white parallel lines and offer better visibility. They are often used at mid-block crossings, school zones, or school route crosswalks.

Overhead Pedestrian Flasher

These crosswalks include a traffic device installed to enhance warning and awareness for motorists of a crosswalk at intersections and mid-block locations. They are signed with an illuminated pedestrian crossing sign and a pedestrian-activated flashing amber beacons. Pavement markings are typically zebra crossings.

Rectangular Rapid Flashing Beacon

Rectangular Rapid Flashing Beacons (RRFBs) have flashing amber lights that alternate back and forth to attract motorists' attention and thereby increase yield behavior.

These types of crossings are based on best practices from the Transportation Association of Canada (TAC) and the BC Active Transportation Design Guide.

Expanding and improving active transportation corridors will continue to promote and encourage residents to walk and cycle within the Village. However, crossing busy highways provides real and perceived safety risks for residents. Some feel insecure with vehicles travelling at higher speeds and others feel invisible to distracted motorists trying to get to their destinations as fast as possible. Additional measures that focus on creating safer crossings of known barriers should be implemented to improve cycling safety and increase cyclist and pedestrian comfort, allowing people of all ages and abilities to navigate the network safely. The two highways (6 & 31A) running through New Denver are the busiest roads that experience considerable truck traffic. With those factors, the most challenging crossings all involve the highway. The Village can consider utilizing an assessment tool to evaluate potential crossings improvements and work with the MOTI to implement warranted improvements. Two warrant analysis tools are widely applied in BC along with qualified engineering judgement. They include:

- TAC - Pedestrian Crossing Control Guide (2018) – See Appendix F
- BC MOTI – Pedestrian Crossing Control Manual for British Columbia (1994)

As part of improving safety, the Village can continue to work with the Ministry of Transportation and Infrastructure to upgrade crossings to align with design recommendations in the BC Active Transportation Design Guide. Section G.3 (Pedestrian Crossings) and G.5 (Off-Road Pathway Crossings) of the guide provides guidance on unsignalized mid-block crossings. The common theme in all enhanced pedestrian crossing enhancements include:

- Enhanced visibility (additional overhead signage and signal treatments).
- Shorter crossing distances (curb extensions, refuse median).

Just northwest of New Denver, the Village of Nakusp has a similar context, with Highway 6 running through the community. Nakusp has done well with shortening crosswalk distances by adding curb extensions and zebra crosswalk markings across Highway 6.

Example of a curb extension adjacent to a crosswalk in New Denver. The length of crossing is not reduced as the crosswalk is pushed toward the intersection.

Example of a crosswalk with curb extensions in the Village of Nakusp, where the crossing is located away from the intersection and the distance is reduced by utilizing the curb extensions.

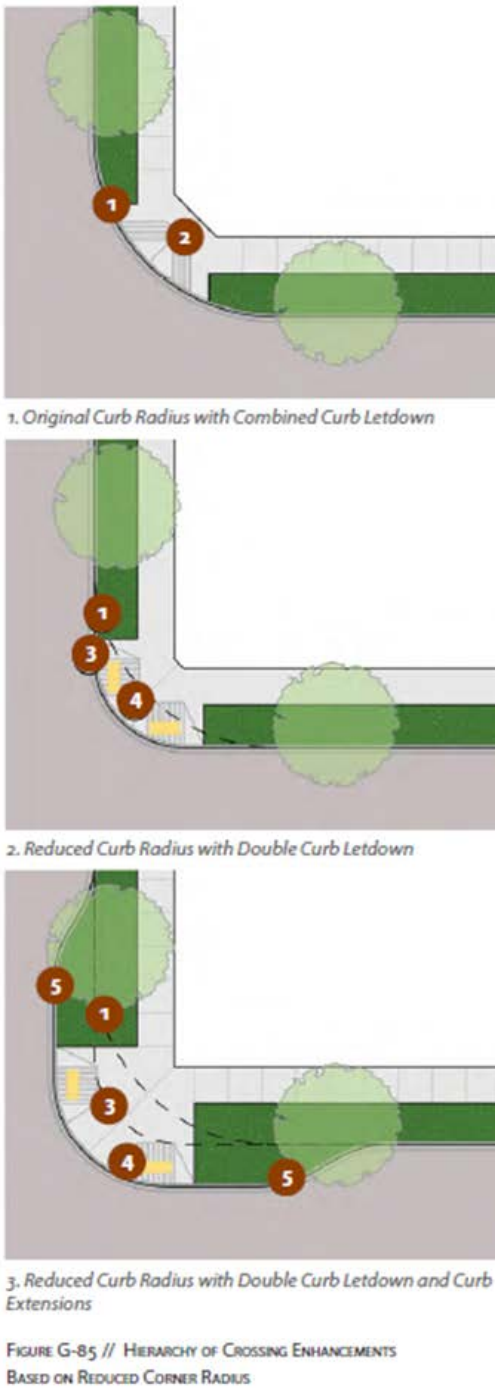


FIGURE G-85 // HIERARCHY OF CROSSING ENHANCEMENTS BASED ON REDUCED CORNER RADIUS

Example of a curb extension with enhanced curb ramps. The narrower roadway reduces crossing length for pedestrians/cyclists and provides a more accessible ramp. Source: BC AT Design Guide.

TRAFFIC CALMING

Traffic calming guides road users to use appropriate vehicle speeds, discourage cut-through traffic, and allow for other modes of transportation such as biking and walking to be safe and comfortable for residents. Currently, most of the local roadways in New Denver are considered to be safe and appropriate with respect to typical vehicle speed and volume. One issue that has been identified is vehicles shortcutting between Highway 6 and Highway 31A, using 11th Ave, Columbia St., and 8th Ave. Given that this is predominantly highway traffic passing through the community, efforts should be made to reduce the comfortable operating speed of the road to make the intersections safer while providing safety benefits to all the transportation users along 11th Ave, Columbia St. and 8th Ave.

Example of a typical speed hump

Example of a typical curb extensions

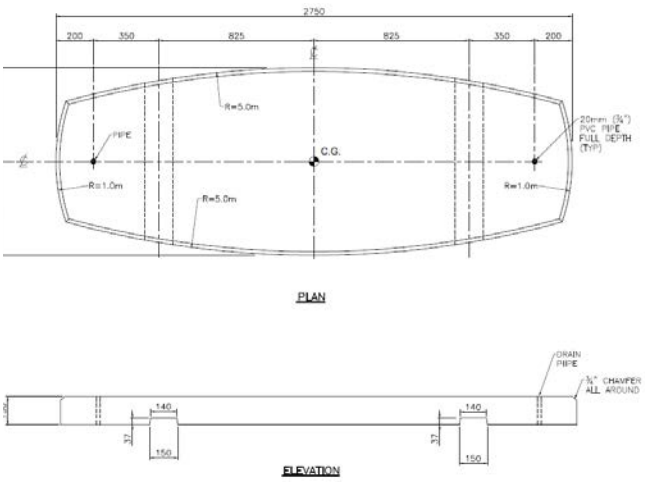
The Village may consider more traditional traffic calming techniques such as speed humps to slow vehicles or curb extensions to narrow the roadway and reduce corner radius using temporary traffic calming techniques or more permanent material.

Speed humps are raised sections of pavement (75mm height) that are typically well spaced along a corridor and aim to slow vehicle traffic travelling along it. Speed humps create a difference in road elevation to reduce vehicle speeds. Drivers who travel at higher speeds are forced to slow down, as the devices cause an uncomfortable upward motion to the vehicles travelling above the design speed of speed hump. A WA-50 speed hump sign with a 30km/h tab should also be provided at the approach for each direction of travel.

Curb extensions are another alternative and would be located at specific intersections and/or at mid-block. These curb extensions provide a physical narrowing of the roadway and a visual cue for vehicles to slow down and watch active transportation roadway users. The curb

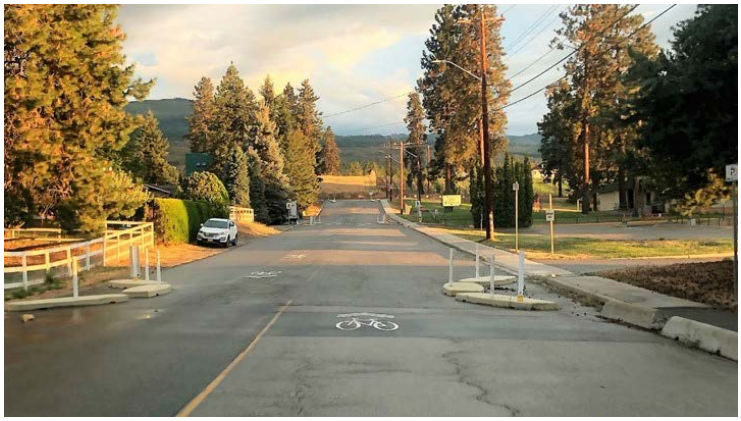
extensions can be constructed out of poured concrete, Traffic Calming Curb (TCC) or flexible delineator posts. TCC and delineator posts can be a permanent material or used as an interim material to pilot the traffic calming measure before installing permanent concrete curbing. Drainage concerns should be addressed as a part of the detailed design process and layout of these temporary traffic calming measures.

Interim curb extensions have been found to be a cost-effective measure to enforce traffic calming goals, create safer environments for people who walk and cycle and can be used for diversion or other directional closures. Using temporary traffic calming curbs that are designed with the safety of people walking and driving in mind. The placement of the traffic calming curbs will narrow the road at key crossings, reducing the crossing distance for people walking and cycling, and in turn making them more visible to people driving.



Temporary traffic curbs design detail

Temporary traffic curbs



Temporary traffic calming curbs used to narrow the roadway in Kelowna, BC

Example of corner radius reduction in Calgary, AB

As New Denver continues to grow, it is anticipated that additional road safety requests from residents will be made and will require a better process for evaluating and responding to requests, as well as potentially developing a policy to determine what warrants and does not warrant traffic calming.

A Traffic Calming Policy and Neighbourhood Request Policy would provide clear, step-by-step guidance for Village staff when assessing, justifying, planning, designing, administering, and implementing traffic calming measures. The Canadian Guide to Neighbourhood Traffic Calming (Second Edition), published by TAC / ITE in June 2017 provides educational and enforcement alternatives to physical treatments, arterial and rural road traffic calming measures as well as new traffic calming devices.

A Neighbourhood Request Policy is a way for the Village to consistently handle traffic complaint requests in and around the Village. By having a policy, requests can be dealt with efficiently, and prioritization for implementation, and budget can be better managed. Recommended procedure includes:

- Define a "benefiting area" or "neighbourhood" in regard to who will need consultation. Other jurisdictions have defined this as the area which benefits from traffic calming, or a certain number of parcels per area.
- Develop an official form which petition organizers must use to submit a formal request. It is recommended that this request be signed by 50% of the benefiting area, with only one vote per parcel allowed.
- Develop a traffic calming initiation process. This process may look similar to the below process:

Step 1: Initiate: Petition (Village or resident led) must be started with 50% or 10 residents (whichever is lesser) in agreement regarding the area of concern and are in support to investigate further.

Step 2: Assessment: Staff will undertake traffic study and will at minimum review the vehicles speeds, traffic volumes, road classification, and collision history for safety / speed related concerns. A minimum warranty threshold must be met for a traffic calming plan to move forward. If not met, staff will document findings and notify residents that the implementation will not be occurring.

Step 3: Plan Development: Staff develop the traffic calming plan, which may include consultation with the benefiting area and retaining a qualified consultant. 50% of all residents in the benefiting area must agree on the developed plan.

Step 4: Prioritization: Locations which are closet from schools and playgrounds will have the highest priority for implementation.

Step 5: Implementation: Upon receiving support from residents, staff shall inform Council of the residents supported traffic calming plan and the priority level. The implementation timing will depend on the priority level and budget availability.

Step 6: Funding: Upon receiving support from council to implement the traffic calming plan, the Village will determine a prioritization timing for the effective issue. The timing is subject to be moved if a greater issue comes up and requires Village funding. Residents have the option to agree to fund the traffic calming plan provided that a certain % of residents in the benefiting area agree.

SUPPORTING STRATEGIES

While the network improvements provide the physical active transportation infrastructure, there are supporting strategies that contribute to creating a complete network.

AMENITIES

Below are recommended amenity upgrades that complement the overall active transportation network. These can be phased in to replace existing models or be added as the network develops over time.

- **Accessible site furnishings.** Replacing or adding accessible site furnishings would accommodation persons with a broader range of physical abilities and better support New Denver's aging population. This includes benches, chairs, and picnic tables at strategic locations in the Village, such as the lake, downtown, popular walking routes, and Centennial Park. Examples of accessible site furnishings are provided below.



Photo: Wishbone Site Furnishings

- **Bike Racks.** While there are Village and privately owned bike racks in New Denver, they are the schoolyard style, which are not recommended due to only supporting the frame at one location and difficulty locking the frame to rack. The following bike racks follow current best practices regarding performance criteria and generally work for all types of bikes. Examples of recommended bike rack styles (inverted U and post and ring) are shown below.

Photo: Urban Racks

Photo: Matrix

Photo: Wishbone Site Furnishings

- **Signage (Wayfinding) Enhancements**. Coordinated signage builds off New Denver's existing trail signs and kiosks, helping to support users to better navigate and understand the network around New Denver. Below are examples of regulatory signs and creative pavement markings:

Photos: BC Active Transportation Design Guidelines

MAINTENANCE

Maintenance of new facilities is an important consideration at all stages of network development. With New Denver's limited staff capacity and budget this is especially important. Ideas for this are:

- **Policy.** Formalize the 2012 Draft Sidewalk Inspection & Maintenance Policy to guide Village staff, Council, and the community on maintenance and level of service.

- **Programs.** Encourage community volunteerism to help with snow and ice control. Examples include expanding winter grit boxes to downtown sidewalks and crossings. Promote a Snow Angels Program to connect volunteer groups with those who need assistance with winter snow and ice.

- **Planning.** Involve public works personnel in infrastructure planning with specific consideration given to level of service, maintenance procedures, and budget implications early in the design process. Include maintenance as part of future community engagement discussions.

PROGRAMS & EDUCATION

Programs to educate and encourage active transportation are an essential part in nurturing an active community culture. They are also a key part in building community capacity. Ideas for this are:

- Form a local Speed Watch (RCMP), a volunteer educational program aimed at reducing incidents of speeding designed to raise public awareness. Volunteers are trained by local RCMP, in partnership with ICBC.

- Share resources with Lucerne School, such as ICBC's road safety resources for teachers, which provides free learning resources to teach students road safety skills and awareness.

- Encourage mobility scooter orientation training for seniors with local RCMP to review rules of the road and safety. Support kid's bike safety skills like Learn2Ride or Bike Rodeo program.

- Encourage community participation in Go By Bike Week for Schools or Go By Bike Week, a provincially funded program.

- Endorse local applications from the school or non-profit groups, such as the Active School Travel Pilot Program.

VILLAGE POLICY + BYLAWS

Enabling Village policies and procedures that formalize support for active transportation creates the framework necessary to move forward with network improvements. Ideas for this include:

- Amend the Village's Official Community Plan to support the ATNP as the guiding document to create an active transportation network that is safe, inclusive, and connected.

- The development of the Village's Subdivision & Development Procedures Bylaw (currently underway) to include a bylaw provision where "the approving officer may require the dedication of public trails and pathways as part of future subdivision applications". In addition, include accessibility standards, such as accessible corner ramps, multi-use pathway, and trail standards.

- Development of a Traffic Calming Policy and Neighbourhood Request Policy to create a clear process for evaluating and responding to roadway safety requests.

4. Moving Forward

The implementation framework provides guidance to the Village of New Denver in taking the steps towards creating an active transportation network that improves safety, supports a diversity of users, and creates community connectivity.

The overall implementation approach focuses on the core infrastructure improvements necessary for network development. This includes getting projects "shovel ready" to qualify for grant funding and phased upgrades.

While the Village plays a role in developing an active transportation network, this is a shared responsibility. Participation and collaboration with community partners and stakeholders is at the heart of active transportation progress. This includes:

- Ministry of Transportation & Infrastructure (MOTI)
- Regional District of Central Kootenay
- New Denver RCMP
- Lucerne Elementary Secondary School
- Interior Health
- Local community groups & non-profits

In addition to the implementation steps outlined in Table 3, below are a few ways the Village can begin to take small steps immediately with minimal cost.

1. Village Council to pass a resolution in support of the New Denver Active Transportation Plan.

2. Share the plan with local and regional stakeholders, including local MLA and MP.

3. Host a meeting with the MOTI and RCMP to review plan findings and recommended highway upgrades.

4. Encourage the Regional District of Central Kootenay to consider completing a Trail Feasibility Study for a multi-use trail in the Regional District that connects New Denver & Silverton.

Table 3. Implementation Framework for Network Improvements

IMPROVEMENT	IMPLEMENTATION STEPS	WHO'S INVOLVED
Sidewalks & Accessibility Improvements	1. Complete a detailed design & construction of the 6th Avenue sidewalk extension to New Market Foods along with new covered stairs with seasonal ramp connecting New Market Foods to Kootenay St. 2. Phase in new sidewalk connections, improvements & accessible corner ramps along focus corridor routes as funding comes available. 3. Replace and upgrade existing sidewalks that are in poor condition along the focus corridors as re-development happens and/or funding comes available.	• Village • Engineering Consultant • Contractor • MOTI
Pedestrian & Cycling Bridge	4. Complete a detailed design for a dedicated walking & cycling bridge over Carpenter Creek. Once completed, share design, and associated costs with community for review.	• Village • Engineering Consultant • Community
Highway Improvements	5. Share New Denver's ATNP Plan with MOTI & explore: • Undertake crossing assessments and improve crosswalks as required. • Investigate upgrading the existing crosswalk at 7th Ave and Union St. to an overhead pedestrian flasher. • New accessible sidewalk corner ramps where crossings are improved . • Missing sidewalk gaps along Union Street and Highway 31A.	• Village • MOTI • RCMP • School

Traffic Calming	6. Develop Columbia Street traffic calming conceptual options for school and neighbourhood review. 7. Implement traffic calming measures on 11th Ave, Columbia St, and 8th Ave to reduce vehicle speeds and shortcutting volumes.	• Village • Consultant • Public Works • School • Community
Bellevue St. Greenway & Greer Park Multi-Use Pathway	8. Develop a conceptual design that includes accessible amenity improvements for a Bellevue St. Greenway (Bigelow Bay to Greer Park) and connecting multi-use pathway (Greer Park to creekside trail).	• Village • Consultant • Community • Residents on Bellevue Street
Denver Siding Connector Trail	9. Develop a conceptual design followed by detailed design and construction for the multi-use Denver Siding Connector Trail.	• Village • Community • Consultant

The timelines to construct the improvements depends on the Village's strategic priorities, capacity, and grant funding climate. Below is a high-level overview of a 10-year implementation schedule based on active transportation being a high priority for New Denver. Note that projects like the sidewalk and accessibility upgrades are ongoing projects.

STEPS	TIMELINE										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Sidewalk & Accessibility Upgrades											
Pedestrian & Cycling Bridge											
Highway Improvements											
Traffic Calming											
Bellevue Greenway & Multi-Use Pathway											
Denver Siding Connector Trail											

POST-CONSTRUCTION MAINTENANCE

A post implementation maintenance program of new active transportation facilities ensures infrastructure investments remain safe and comfortable for users. As each facility is built, corresponding policy and procedures should be updated that align with budget, staff capacity, and desired level of service. Below are a few considerations:

- Conduct annual or bi-annual maintenance in the spring to clean up debris and repair any damage that has occurred due to seasonal changes.

- Develop maintenance procedure for each facility throughout the seasons, such as surface quality, vegetation removal & snow / ice control. This may include eventually upgrading equipment or contract the service out.

- Establish maintenance inspection schedule & tracking. Note that maintenance budgets are necessary to meet maintenance targets (or adjust maintenance targets to match budgets).

- Communicate level of maintenance with community residents at intervals throughout the year.

FUNDING

With New Denver's limited tax base and small population, the availability grant funding, namely provincial and federal funding, is essential. The following grant funding is available to support the implementation of New Denver's ATNP:

- Active Transportation Fund is the Federal Government's program available for planning and design projects, as well as capital projects. Grants of up to $50,000 are available for planning, design, or stakeholder engagement. Grants of up to 60% are available for capital projects that build new or enhance existing active transportation infrastructure.

- Active Transportation Infrastructure Grant is a provincial funding program that provides cost-shares to a maximum of $500,000 per project. Based on New Denver's population the Village qualifies for up to 70% percentage of eligible funding.

- Small Communities Fund provides funding for infrastructure projects to small communities, which includes Highway, roads, and innovative projects. Funding is to a maximum two-thirds of the total eligible project costs.

- Columbia Basin Trust has a numerous programs related to economic development, community infrastructure and recreation. This includes trail enhancement grants, community development program, outdoor active recreation grants, and more.

- Enabling Accessibility Fund is a federal program that supports community accessibility improvement projects, including removing barriers to participating in activities, programs, services, or employment. Streams are small projects ($100,000 per project) and mid-size projects (up to 3 million).

- ICBC's Road Safety division has a variety of resources, programs, and funding to address road safety challenges. This includes:

    - Free school curriculum program to support teachers.
    - Road improvement program, a partnership program with municipalities and MOTI, regarding engineering aspects of road safety.
    - Community involvement program, which include Speed Watch, Citizens on Patrol, and the community involvement program.

Funding applications can be for stand-alone projects, or a value-added addition to applications already underway or in the future. Some ideas are:

- Create Village programs to support community sponsorship and donations, such as a memorial bench program (see Trail example).

- Look at opportunities to piggy-backing improvements as part of new projects, such as the new affordable housing project, new subdivisions, or the implementation of the Centennial Park Plan. This can also include opportunities created by improvements into utility, maintenance, and infrastructure upgrade projects.

- Leverage funding and resources from organizations where projects cross jurisdictions or achieve shared goals, such as Interior Health, ICBC, Ministry of Transportation & Infrastructure, Regional District of Central Kootenay, RCMP, Member of Parliament, and Member of Legislative Assembly.

Appendix A: Strategic Context

The BC government has taken a strong leadership role in supporting the creation of active transportation infrastructure in the province through the CleanBC plan. This includes the CleanBC Move. Commute. Connect. Active Transportation Strategy that sets a goal to double the percentage of trips taken by active transportation by 2030.

New Denver's ATNP aligns with this policy by creating a local plan that addresses New Denver's challenges and provides solutions to supporting residents in choosing active transportation more often.

Locally, the Village of New Denver has a range of related policies, initiatives, and plans that serve as the foundation for which the community ATNP connects with and builds upon. In many instances, New Denver's ATNP is a vehicle to implement policies and actions outlined in these broader frameworks. Key Village documents and the connection with the ATNP are highlighted below:

POLICIES

Village of New Denver Official Community Plan Bylaw No. 611, 2007

The Official Community Plan outlines New Denver's vision, objectives, and policies to guide future growth and development in the community.

- Active transportation is referenced in relation to future growth objectives (Section 3.1.2.3) as "*To provide opportunities for walking, cycling, kayaking, canoeing and sailing as alternatives to carbon-fuel based transportation*".

- Section 8 (Parks & Open Space) contains numerous objectives and policies that highlight the importance of trails & continued trail development, both along Slocan Lake and Carpenter Creek, as well as links within the larger system of regional trails and destinations.

- Core policy themes focus on ensuring public access to the lakefront / waterfront, trail network connectivity, reduced GHG emissions and strategic maintenance of sidewalks in critical areas of the community such as downtown, near schools and seniors' facilities.

- The New Denver's commitment to carbon neutrality identifies the important role of trails to achieving such neutrality (Section 12.2.1) "*Council policy is to continue to retain and improve the pedestrian trail network within the municipality in order to work towards carbon neutrality".*

Snow & Ice Control Policy

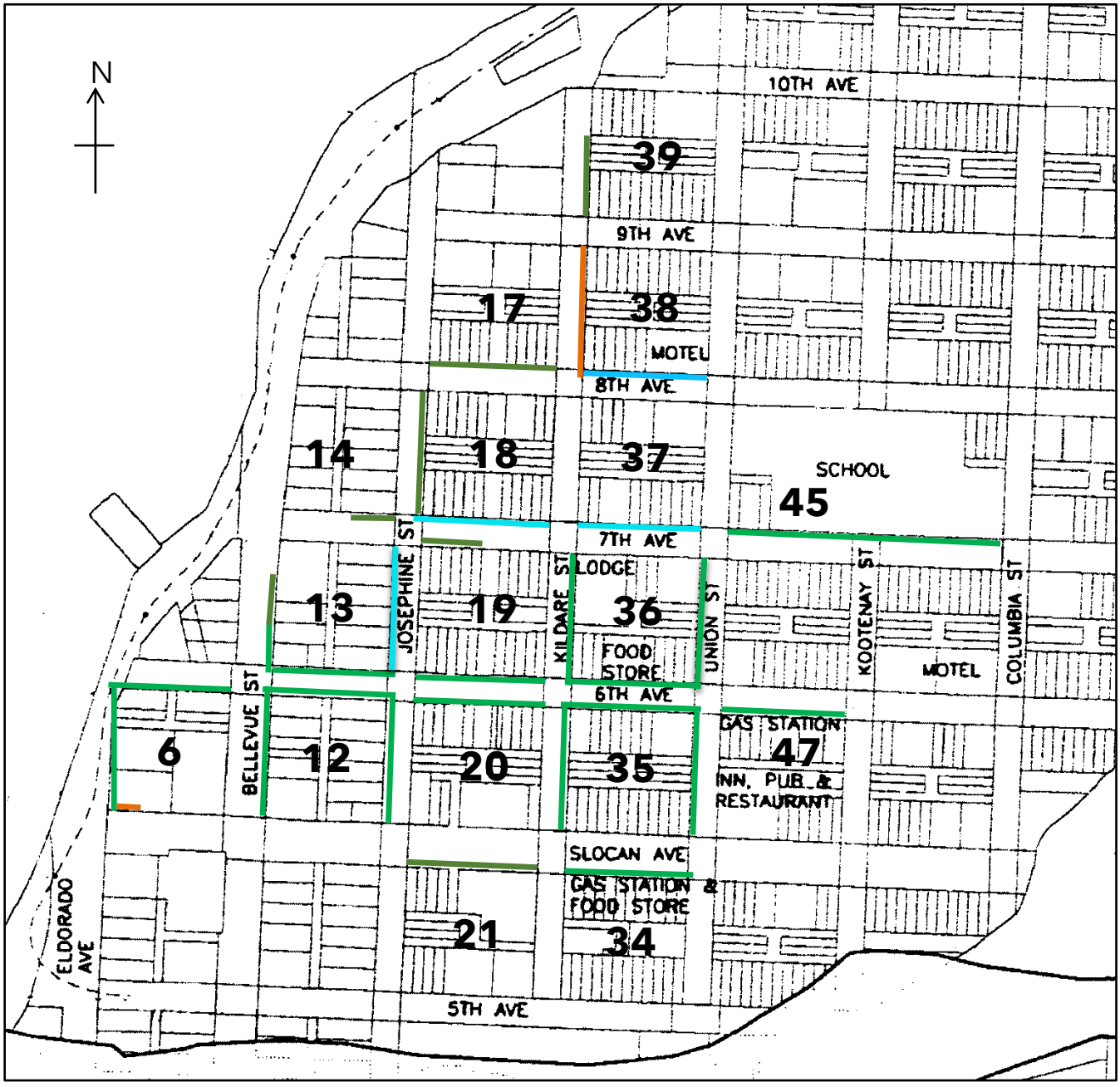
The Village's Snow & Ice Control Policy establishes guidelines for Administration to provide snow and ice control throughout the winter months. Gudelines state:

1. To plough and sand when snow accumulations reach 7.5 cm or more.
    - during weekdays (Monday through Friday)
    - on weekends including statutory holidays or at the discretion of public works.
2. To plough and sand the following routes as **first priority**.
    - Emergency service routes and Hospital routes.
    - School and bus routes will be ploughed or windrowed to the middle of the road and stored in designated locations.
    - Main street will be windrowed to the middle of the road and stored in designated locations.
    - Endeavour to have the emergency, hospital and school routes cleared by 8 am.
3. To plough and sand the following routes as **second priority.**
    - Alleys that provide the only access to driveways.
    - All streets, Arterials, and collectors.
    - Alleys
    - Village owned properties and parking areas.
4. Designated sidewalks and trails as time permits.
5. Snow will typically be ploughed and stored at dead end streets and alleys.
6. Snow storage piles will be periodically removed as time permits.
7. Intersections and areas where snow piles obstruct sightlines and visibility will be pushed back or removed.
8. If snow accumulates 7.5 cm or more throughout the day, Plough operators may need to revert to the first priority.

Sidewalk Inspection & Maintenance Policy

The Village of New Denver's Sidewalk Inspection & Maintenance Policy (2012 Draft) outlines the sidewalk inspection based on pedestrian traffic (see Draft of the New Denver Sidewalk Plan), types of defects/hazards and repair schedule. The Sidewalk Inspection Report is the accompanying form used to document sidewalk inspection, repair, and replacement, including wheelchair access defects and vegetation.

Draft of the New Denver Sidewalk Plan (November 2012)



Colour	Priority	Example
Green	A. Primary	
Blue	B. Secondary	
Orange	C. Tertiary	

INITIATIVES

- Municipal Boundary Expansion – A Village of New Denver municipal boundary extension was completed in July 2021. The purpose of the extension was to provide the Denver Siding area with a safe supply of drinking water. Properties already connected to Village water and those forming a logical final boundary were also included in the boundary extension.

- Subdivision Development Procedures Bylaw – Currently under development largely in keeping with MMCD recommendations.

- Multi-Use Footbridge Concept Plan – A concept plan and cost estimate has been developed for multi-use footbridge across Carpenter Creek, west of Union Street.

- Connector Trail Feasibility Assessment – Concept figures and cost estimates have been developed in support of a safe multi-modal connections between Lucerne Elementary Secondary School and New Market Foods.

- Sidewalk Plan – Concept figures and cost estimates have been developed in support of a new 87 m (285 ft) sidewalk to create a safe connection between Kootenay Street (east of New Market Foods area) and New Denver's business core.

- Active Transportation Community Core Connections – This project will involve the construction of a pedestrian sidewalk on 6th Avenue and will extend this sidewalk on Kootenay Street to a new covered stairway and a graveled trail on Village property adjacent to the Kootenay Street hillside.

PLANS

Age-Friendly Assessment (2010)

New Denver's Age-Friendly Assessment identifies age-friendly assets, needs, priorities and recommendations centred around the World Health Organization's framework. Findings that relate to New Denver's ATNP are:

- New Denver is a walkable (level), compact community that is easy to get around was identified as the 2nd top age-friendly asset.
- Sidewalks and roads maintenance, including snow, ice, and vegetation, was identified as the 5th top age-friendly need.

- Clear sidewalk across the bridge in winter was identified as the 5th priority for Council consideration.
- More focus should be given to the need for regularly maintaining sidewalks to prevent falls, amongst others.
- Recommendations include the need for a long-term accessibility plan for New Denver that includes sidewalks, trails, buildings, and services as well as a review of the Village's sidewalk and road maintenance practices, conducting a sidewalk audit with seniors and those with disabilities.

New Denver Resilience Action Plan (2010)

The New Denver Resilience Action Plan outlines actions for achieving a vision of community resilience. Active transportation is included in connection with transportation, which contributes to most of the energy used by the community and directly linked to air quality and overall GHG emissions (accounting for 82% of New Denver's community emissions).

Recommended actions that include active transportation are:

- Develop a Transportation Plan that focuses on enhancing New Denver's already highly walkable pedestrian environment, on creating multi-modal transportation, and on creating further pedestrian/cyclist connections between different areas of the Village (such as a footbridge across Carpenter Creek).
- Explore ways to improve pedestrian travel in winter by finding ways that streets could be plowed to give people safe ways of moving about town.
- Continue to work towards a pedestrian connection between New Denver and Silverton.
- Continue to support pedestrian connections (via rail trails) to the north towards Rosebery and Hills and to the east towards Sandon and Retallack.

Recreation Master Plan (2016)

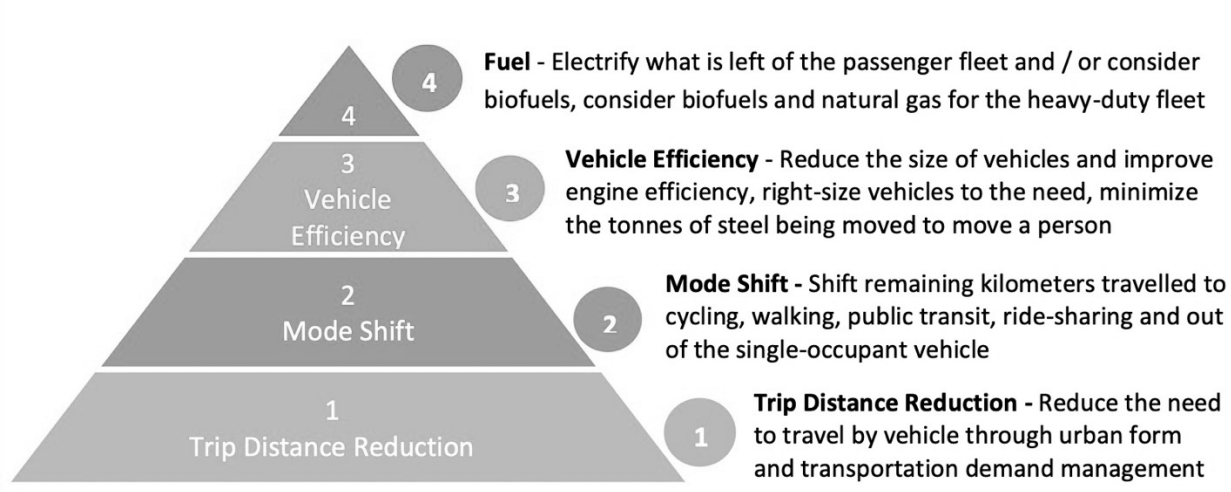
The Regional District of Central Kootenay: Area H & the Villages of Slocan, Silverton, and New Denver Recreation Master Plan is a document to guide future decision making and service delivery efforts of recreation stakeholders.

Key findings identify that recreation, especially outdoor recreation, is valued and important to resident quality of life. It also identifies the challenge of aging infrastructure and future investments and ranks trails and pathways as a top community priority.

Regional District of Central Kootenay Strategic Community Energy & Emissions Plan (2016)

The plan outlines actions to reduce community energy consumption and emissions for rural areas in the RDCK, including New Denver. The actions identify the need for active transportation planning and infrastructure improvements as two of the 50 listed actions.

The plan includes educational components on energy planning hierarchy, including the transportation sector. It suggests that the easiest step is to reduce vehicular trip distances through appropriate urban form (planning) and transportation demand management, as shown in the illustration below.



Appendix B: Survey Results

149 participants shared their experiences & reflections on active transportation in the community survey. The responses provided valuable insights into understanding what residents currently enjoy doing, places they go, and what they experience as challenges and would like to see as future development priorities. Survey results are provided below (percentages have been rounded).

Respondent Place of Residence:

85%	New Denver
7%	Silverton
5%	Elsewhere in RDCK Area H
3%	Hills & Rosebery

Respondent Age:

51%	65 years & older
34%	45 – 64 years
13%	20 – 44 years
2%	19 years & younger

Activities Respondents Currently Enjoy:

95%	Walking / hiking
65%	Biking
16%	Running
9%	Mobility aid
10%	E-biking
3%	Pushing a stroller
3%	Skateboarding

Other: Swimming in the lake (3), canoeing (3), kayaking (3), xc skiing (2), walking with groups of children, gardening, manual wheelchair

Motivations for Choosing Active Travel:

88%	Personal health / fitness
75%	It's fun
59%	Environmental benefits
54%	Convenience
53%	Spend time with family / friends
30%	Dog walking
24%	Save money
14%	I do not / cannot drive

Other: Everything is close (2), meet others and connect – otherwise I rarely see people, being outdoors, fresh air, spiritual benefits, seeing the sights, forest bathing, getting sun, beauty of nature, pleasure, challenging exercise, strength and focus, dining

Active Transportation Destinations:

85%	Slocan Lake
82%	Trails within the Village
80%	Downtown
70%	Trails & parks outside the Village
63%	Centennial Park
22%	Work

76%	Carpenter Creek	10%	School

Other: Shopping & errands (3), Kohan Garden (3), roads out of New Denver to Kaslo, Nakusp, Nelson, Creston (2), Highway 6 & 31A (2), visiting family and friends (2), New Denver to Silverton, walk to mail, Silverton to hills biking, Silverton/Sandon/Three Forks/Red Mtn, Old Sandon Road, soccer practice, off-leash dog park, roads in the area

Active Transportation Challenges:

54%	Winter conditions (snow/ice)	18%	Lack of lighting
42%	Lack of developed sidewalks & trails	15%	Challenging terrain
41%	Speed of vehicles	15%	Wildlife
33%	Poor condition of existing sidewalks	10%	Accessibility challenges
31%	Crossing the Highway	8%	Lack of signage
29%	Crossing carpenter creek bridge	8%	Feel unsafe
28%	Poor connectivity of routes	8%	Lack of secure bike storage
28%	Lack of cycling paths or infrastructure	6%	Crossing local streets
		3%	Distances too far

Other: Lack of path connecting New Denver & Silverton (3), thorny brush overhanging shoulder on Hwy 6 @ 1104 Union St home, debris on shoulders, leftover sand on corners in spring, broken pavement entering Village from North, reckless drivers & lack of understanding for cyclists, lack of bike paths & wide enough shoulders on highways, feel unsafe walking along the highway, lack of Highway 31A shoulder space access to Galena Trailhead in Denver Siding, lack of Hwy 6 sidewalk to orchard from 621 Union St, lack of Hwy 6 developed sidewalks, gravel in shoulder on bridge, road shoulders too narrow, rock & gravel on shoulders, need more infrastructure suited to kids/beginners

Active Transportation Improvements:

49%	More developed sidewalks & trails	23%	More benches & shelters
40%	Traffic calming	16%	More lighting
40%	Improve winter maintenance	15%	Accessibility improvements
40%	Improve condition of existing sidewalks	15%	Signage
36%	Cycling paths or infrastructure	11%	Secure bike storage
35%	Improve connectivity of routes	10%	Local street crossing improvements
27%	Carpenter Creek bridge improvements	9%	Safe route to school education
26%	Highway crossing improvements		

Improvement Areas:

- Safe off-highway walking & cycling path between Silverton & New Denver (23)
- Bridge over Carpenter Creek for pedestrians, cyclists (19) & wheelchairs (2)
- Lower vehicle speed limits (3)
- Off highway walking route (2) / improved access (5) between New Denver and Denver Siding, such as a biking/walking path along Highway 31A.
- Link to the Galena Trail (2)
- Trail improvements from Bigelow Bay to either Union St. or 11 Ave (2)
- Lighting (2)
- Sidewalks (2)
- RDCK fix the cable car on the galena (1)
- Better enforcement of dog leash laws
- A transparent dome-like shelter with solar panels where you can relax, read books, charge electronic devices and/or listen to music in inclement or very hot weather.
- More trails/routes suited to kids or beginner level cycling
- Keep bikes off Mori Trail
- More handicapped parking areas for accessibility to areas for short walks
- More Bear Smart/cougar initiatives
- Repair burnt out streetlights
- Too many drivers, especially in summer that pull U-turns
- Marked Hwy 6 crosswalks on all corners @ 6th Street
- Marked and signed cross walk at Galena trail crossing
- Walking/biking lanes along the highways
- Sweep rocks & gravel, wider shoulders
- Better bike spaces on Highway 6 - more shoulder space
- Improved winter maintenance of trails
- Accessibility especially for the physically challenged is a huge obstacle here.
- Beaches and the lake are non-existent for many with accessibility challenges.
- Vehicles not slowing for crosswalks & going through intersections without looking is dangerous for pedestrians
- No trails are accessible for electric wheelchair or scooters. RDCK and all Villages should be ashamed that there is not accessibility this day and age for those with mobility issues
- Crosswalk on 6th Avenue at the post office needs to be repainted. Visitors to New Denver do not realize that this is a busy intersection for pedestrians, and they drive too fast and don't stop because it's not visible. Also, maybe change some of the yield signs to stop signs as many drivers don't know what yield means. The 7th Ave and Kildare intersection is an accident waiting to happen - lots of school students use this route and at least one wheelchair and a few mobility scooters. We have watched people speed through there multiple times a day and seen many near misses
- Access to Bigelow Bay

- Walk along the lake front
- School to Mori Trail route
- Sidewalk from Knox Hall to Columbia and up to the school on Columbia. Safer crossing for school children at Columbia and 6th Ave.
- Hwy 31A & Kootenay St. crossing and street crossing to Grocery store from library side
- More attention to making walking routes in town less slippery in winter, including in town trails.
- A bike path along the lake and connecting surrounding communities.
- Highway shoulder (lack thereof) between New Denver and Silverton. For all the money spent on making this road safer for motorists, nothing has been done for cyclists/walkers. If a proper shoulder, or a separate trail, could be established this would be great for locals and tourists alike.
- In winter it's nice when the Carpenter Creek is plowed for walkers
- Safety improvements at corner of Hwy 6 & 31A.
- There are 2 difficult and dangerous curb cuts on the sidewalk along the south side of Main Street, in front of the insurance building and by the bulletin board across from the post office. Also, in winter they are often poorly cleared of snow and ice, along with the curb cuts at the highway. Clearing and sanding could be done more often. Clearing should be done over a wider area to accommodate wheelchair width.
- Improved maintenance of the Mori Trail.
- Significant traffic calming would make a huge difference, especially during the tourist season.
- The whole area needs to be improved for electric wheelchairs
- Accessing the Galena Trailhead @ YRB via downtown - 31A - cemetery lanes need improving as user traffic increases. Hwy 31A shoulder improvements and signage to direct users off the hwy thru the cemetery would be great.
- Trail along creek-to-creek mouth (by Marina)
- Work with D. of Highways to address speed thru town, sidewalks, more sweeping of shoulders for cycling safety.
- The pathway linking the campground sites either side of Centennial Park is all broken up and bumpy. It would be great if could be improved to the standard of trails on the north side of Carpenter Creek.
- I love to go to Centennial Park with my scooter and ride along by the lake. However, the small road I take behind the cook shack from one side to the other is in terrible shape and lessens some of my enjoyment. Would be great if it was smoother.

- 1) Traffic calming along Highway. 2) Sidewalk and snow removal needed along highway from the 'S' curve into town. 3) Regular snow removal on Highway 6 sidewalks and bridge needed. 4) More sand on icy streets after snow plowing.
- Accessible outdoor washrooms open year-round, including one at Centennial Park.
- A walking path along the highway or a better trail connecting Highway via 10th Ave.
- A connection b/w Mori Trail & Galena Trail @ north toward golf course.
- Sidewalks along the highway thru town. A crossing at north end @ the "S" bend for people to be more connected and encourage people to walk/bike more.
- Ramps/paths are needed @ carpenter creek bridge north and south to make it easier to travel thru with bikes or stroller.
- Mow tall grass at entrance of Carpenter Creek Trail (below dike) at side of path/trail as ticks hang out in long grass. Weed whack knapweed before flowering/going to seed on northeast section of dike.
- Would rather not have skateboarders using same sidewalks as pedestrians. As a senior can be dangerous to encounter them. Often clearing snow on sidewalks creates ice conditions. would rather walk in deeper snow - provides more traction for safety.
- Move the "directions mileage" to place sign to more prominent location or upgrade it. A traffic circle at Highway 6 & Union Street intersection
- I would love stairs from Kootenay St down to the New Market parking lot. I know longer feel comfortable on the steep rocky hill, which puts me on the Highway to get to & from store
- Improvement to 10th Ave from Victoria to Hwy 31a. A trail from the village water tank to the intersection of 31a & 8th
- Crosswalk & sidewalk on north side of Hwy to Kaslo between Valhalla & New Market
- The area between Denver siding & ND because it is right along the Highway, so there's no sidewalks and no streetlights. The communities are basically one but there's a real disconnect there
- Winter bridge crossing
- This one of the most active communities, more people walk/visit as they enjoy both the village & the scenery. Unfortunately, bikes are taking over they are inconsiderate and a hazard.
- Winter - the bridge is not always easy for walking across due to snow buildup on sidewalk. Better maintenance of the sidewalks north of the bridge along the highway
- Signage at Highway 31a graveyard crossing.
- Tell people Slocan Ave & 6th Ave is not a sidewalk
- Make sure intersections are clear of brush and trees
- Crossing the Highway to New Market

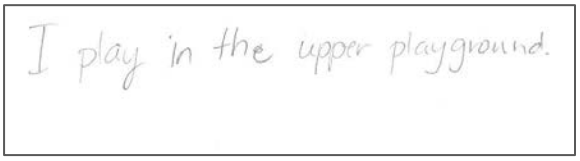
- A lot of corners have sand / gravel buildup. Please sweep all corners. My husband damaged his wrist on one.
- Would like a wheelchair trail from Pavilion, around the lakefront, across the mouth of Carpenter Creek to town. In winter, even for the general public, the sidewalk on the bridge isn't clear, making it a challenge to walk on the road safely.
- Broken sidewalks replaced. Main Street reduce to one way traffic or pedestrian traffic only - in a few core blocks.
- To avoid Highway 31A - Improve bike / walking trail downtown on north side of 1106 Highway 31A or continue trail (old highway) from Denver Siding to 9th St, below cemetery. Or highway sidewalk down from cemetery.
- Main Street appeal with flowers, seasonal decorations.
- Better connection between downtown & Galena Trail for bicycling (not on highway).
- Sidewalks on Main Street & Highway. Benches & flowers both sides of main street.
- Would like to see 2020 trees & wood piles clean up on both sides of bridge down to lake
- Post signs on Mori Trail "No bikes."
- Clean up the waterfront of driftwood and boulders to create some nice beaches. Check out the end of Becker Lane and turn it into a day park
- Noise bylaw for boats
- Better kayak / canoe storage
- Sidewalk from bridge to hospital with more benches to have a sit down & some flowering shrubs
- I'd like to see either signage or education so that cyclists on mixed use trails learn to signal with a bell or just a shout out when coming up behind walkers and/or dogs at speed.
- Nakusp has fixed up Broadway beautifully. Could New Denver do something as good on 6th Street. Plant flowering cherries to replace weed trees now sparsely there. More flowers and vegetation along the streets, such as in downtown Nakusp.

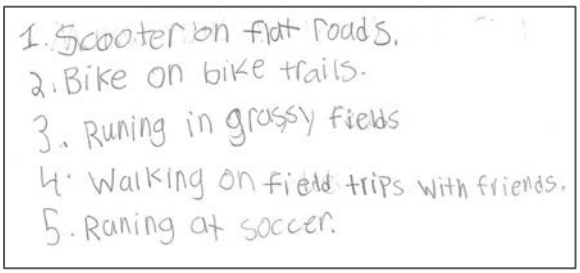
Most exciting thing about future active transportation in New Denver:

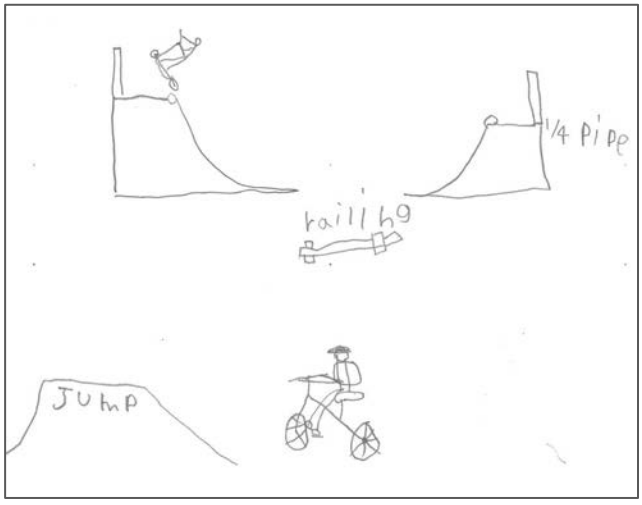
- Footbridge over Carpenter Creek (8)
- Safe movement (9) & freedom
- Fresh air (8) and views (2)
- Enjoying local beauty (8) & quiet (2)
- Convenient (6)
- Accessibility improvements (5) & inclusive for everyone, such as beach access for seniors and handicapped
- Health benefits (4), happiness (2) & social connection (2)
- Get people out of cars / less cars (4)
- Bike/walking path to Silverton (4)
- Biking (3)
- Wheelchair accessible trails throughout (2)
- Nature (2) & quick connection to nature
- Creation of bike paths (2) and lanes
- Short distances to services and lake
- Good traffic order, reduced speed & less traffic
- Spacious (2), intimate.
- Parks (2) & increase in park activity
- Reduced carbon footprint (2), fewer fires, environmental benefits (2)
- Diverse trails & paths (2)
- Trail connectivity (2), flow, loops
- Fun (2) and lifelong fitness
- Sidewalks
- Great potential (2)
- Trails
- Parking the car & walking everywhere
- Being active
- Able to walk year-round since the gym shut down
- Seeing and finding beautiful spots not seen before
- Diversity of opportunities
- More people out and about
- People love to use the trails
- Becoming a Village priority
- Sharing exercise with my wife
- Beautiful trails
- I can still do it
- I love this village and its residents
- Flattish, year-round trails in nature.
- Improvements! Process! Build-it-they-will-come!
- Wonderful walks - Mori Trail, lanes, Molly Hughes & biking, Galena Trail, Creek trails.
- Lakeview from all of Bellevue Street
- Interest in improvements by Council
- Exercise, people moving
- Well maintained
- 4-wheel scooter one day
- Lakefront trails & lake access
- Developing a route to connect communities (Hills, Rosebery, Silverton, Red Mtn Rd) to New Denver
- Animal life
- Feeling optimistic about helping to create an active transportation vision and plan.

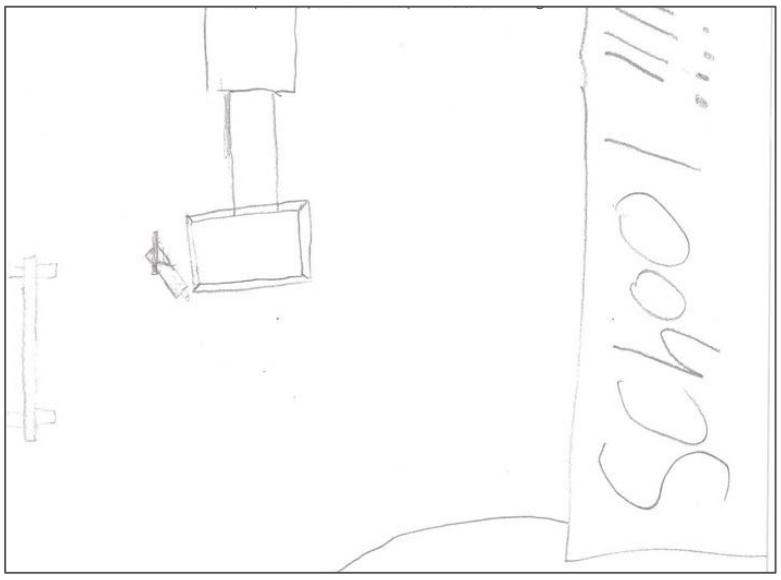
Appendix C: Youth Submissions

Drawings from 9- and 10-year-old residents illustrated their favourite places to go and activities they enjoy.








Schoo l !!!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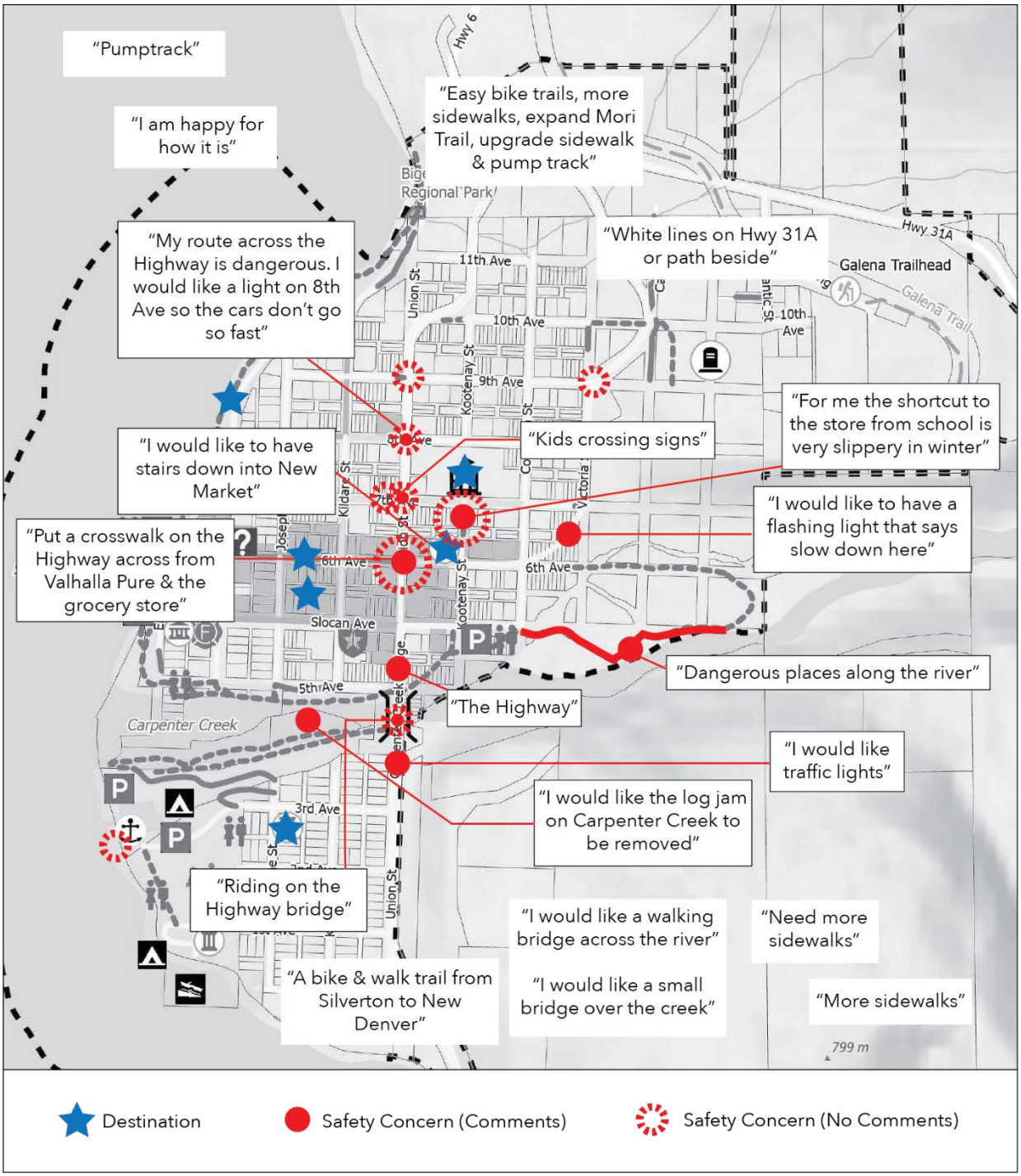
10
YOUR AGE

Below is a summary of youth mapping submissions received from Grade 6, 7 & 8 students that show key destinations in New Denver, safety concerns and their ideas for improvement.



Appendix D: Interview Results

13 individuals from the following organizations participated in the one-on-one interviews:

- Village of New Denver Staff (2)
- Slocan Valley Chamber of Commerce / Visitor Centre
- New Denver & Area Healthy Housing Society
- The Pavillion - Long Term Care
- Hospice Society
- North Slocan Trails Society
- Slocan Lake Early Learning Society (New Denver Preschool)
- New Denver & Area Youth Centre Society
- Ministry of Transportation & Infrastructure
- Regional District of Central Kootenay
- Healthy Community Society of the North Slocan Valley
- New Denver RCMP
- Goat Mountain Kids Centre
- Lucerne Elementary Secondary School

A summary of the one-on-one interview responses are provided below:

Current Challenges:

- The Pavillion residents spend a lot of time around the areas close to the residents as the accessible van lacks licensed drivers and there is a limited availability of volunteers to take them out. Although there is access to the wheelchair bike, not all residents like it.
- There is no safe connection between New Denver & Silverton. This is important as New Denver has most services accessed by Silverton residents.
- Link to Silverton has been an ongoing discussion. However, private property owners are a barrier to creating an off-highway route as well as completing a Mori to Galena loop.
- Lack of sidewalks/broken sidewalks for strollers is a challenge.
- No crosswalk near New Market Foods area – very busy street.
- No lights across the Highway crossing near 7th Avenue (there's a crosswalk there with signage above the road but a button for a flashing light would be very helpful.
- Preschoolers take regular walking trips to the forest along Carpenter Creek and walk down Columbia towards New Market Foods but then do a mid-block highway crossing due to safety concerns of vehicles.
- Currently, parents of young kids don't let them walk/bike from Silverton or Denver Siding to New Denver.

- When preschoolers visit The Pavillion (pre-Covid) or Centennial Park the section between Mountain Berry – bridge – Hwy turnoff is a concern due to no sidewalk & little shoulder. As a result, tend of avoid taking kids across the bridge.
- Kids play on Columbia Street but vehicles use as a cut throw and go too fast.
- Access to Carpenter Creek trail is very steep in places and is a challenge for strollers.
- New Denver does not have great indoor recreation facilities. As such, outside trails are a critical part of our wellbeing.
- Trail maintenance is a challenge for Village maintenance staff.
- The lack of a safe connection to neighbouring areas (i.e. Silverton, Hills) restricts youth from participating in activities in New Denver. This results in some youth biking or walking the unsafe Highway or parents not allowing kids to bike/walk into the Village.
- Safety concerns restrict active transportation use amongst residents, especially on areas along the Highways. This is a major barrier.
- Carpenter Creek Bridge only has sidewalk on one side and shoulders are not swept regularly.
- There are many tourists that stay in Centennial Campground and bring all the outdoor toys. There should be a way to encourage these visitors to access trails around New Denver.
- Many trails are not accessible. As an aging community there are many who are either unable or do not feel safe venturing out due to their ability limits
- Regional links are needed, as between Silverton & New Denver there is no shoulders or walking path. Not a safe choice to walk in winter.
- Seniors riding e-scooters need more room on the road. Crossing the bridge is risky because approaches are steep and there are no shoulders. Risk of tipping.
- Sidewalk network needs repairs (rough areas are difficult). One person has tip off sidewalk
- Increased safety is key for wheel mobility
- Many residents are living with low-income and don't own a vehicle
- Many residents do not drive due to age and ability – there are limited options when getting outside due to no safe accessible infrastructure
- Lack of clear direction on sidewalk improvements
- No safe link & connection between Silverton & New Denver.
- Winter snow clearing
- Trails are informal
- Village gets some complaints about snow clearing personal driveways
- In front of Valhalla on Hwy gets snow piled up.
- New boundary includes connection to Galena Trail and Denver Siding neighbourhood. Trail Society looking at this.
- Mori Lake trail not accessible but is flat and connects to Bigelow Bay
- Safety on Columbia Street due to vehicles speeding through and kids playing.
- Challenges w/yield signs

- School is a key destination, yet the Highway is unsafe for younger kids.
- Village maintenance staff capacity limits the level of upkeep
- Not all roads need a sidewalk as maintaining existing infrastructure is a challenge
- Trails have topography/environmental challenges / Lack of accessible trails
- Highway lacks sight lines and is unsafe for active transportation
- Tourist vehicles speed through town
- Numerous complaints of kids almost getting hit when crossing the highway. Need another crosswalk on other side of the school
- Seniors on scooters are a popular yet make drivers nervous
- Shortage of RCMP to do speed patrol
- Waterfront trail keeps getting washed out but is an amazing trail
- Low volume highway but leads to pedestrians crossing everywhere
- Concern about sign clutter in the Village
- Steep "suicide" path between New Market Foods and School needs upgrading.
- Main Hwy intersection to grocery store is dangerous.
- Concerns with school kids not looking properly or using crosswalk when crossing the Highway to school.
- Youth living in Denver Siding have expressed concerns about almost getting hit by cars regularly on the segment of Highway going uphill out of New Denver towards Kaslo. That they would like a white line at the Highway shoulder with room to move over to beyond it when they are skateboarding or on their bike.
- Youth have expressed a desire for keeping vehicles to speed limits, especially to slow tourist traffic on Main Street (6th). It was pointed out that most youth feel comfortable riding, walking, and skateboarding within the Village proper.
- There is inconsistency in sidewalk snow clearing. Some businesses do it while others do not.

Improvements:

- Safe walking and biking connection between New Denver & Denver Siding.
- Connection between Mori & Galena route.
- Look at creative ways to provide information about local trails to visitors staying at Centennial Park, such as painted indicators to guide them to trails, signage, etc.
- An accessible walking loop around the hospital would be an asset for The Pavillion residents and their families.
- Carpenter Creek walking / biking bridge would improve safety.
- Safe route for kids to get from Silverton to the school in New Denver.
- Pump track in Centennial Park for youth, covered outdoor space for youth to hang-out.
- Safe Carpenter Creek crossing needed.

- Create an easier, safer entrance to Carpenter Creek trails so strollers can access.
- Sidewalks needed on common routes to increase safety.
- Traffic calming needed around Highway and Columbia.
- Improve sidewalk connectivity as it's currently a patchwork.
- Routes that avoid the Highway.
- Traffic calming on routes used drivers to avoid the Highway (i.e. Columbia Street).
- Highway traffic calming, especially in tourist season.
- Make trail from Bigelow Bay and Mori Trail more accessible.
- Sidewalk repairs (off downtown).
- Grocery store access. A key location for improvement as seniors enjoy this as a daily trip. Need a sidewalk from intersection to grocery store.
- Bridge improvements.
- Slow vehicle speed through Village.
- Carpenter pedestrian crossing bridge conceptual plan underway.
- More Village maintenance staff for higher level of trail / sidewalk maintenance.
- Lack of a community connection to the Galena Trail.
- Opportunity to strengthen trail connections w/boundary connection (to / from Galena trail off-highway).
- Opportunity to use old road dedications (cemetery) for trails
- Work w/property owners on new trail planning process to identify and address concerns early
- Vision of a shoreline pathway (Slocan / Carpenter Creek). Lots of foreshore uses.
- Highway shoulder improvements needed to improve connections with signage to watch for bikes (dangerous curves).
- Wayfinding signage.
- Plan for amenities to support active transportation (i.e. charging station, bike racks)
- Pedestrian bridge over Carpenter Creek would be nice
- Upgrade junction of Hwy 6 as currently only has a flashing yellow light
- Build on Village's work with MOTI on coordinating upgrades to improve sidewalk connectivity

Ways to Support Active Transportation:

- Village can work in partnership with Slocan Trails Society and RDCK to formalize carpenter creek trail and connection to trail network beyond Village boundary.
- Interior Health can look at ways to create an accessible walking loop around the hospital.
- Involve youth in planning amenities and upgrades.
- Cyclist / driver education.
- Temporary speed bumps (i.e. Columbia Street).

- Highway traffic calming
- Look at ways to incentivize active transportation in New Denver, such as encouraging bike racks, walking to meetings, etc.
- Plan for scooters and mobility devices as rising trends
- Educational senior scooter component needed to increase safety
- Local groups can organize volunteers.
- Consider diverse abilities in planning.
- BC Hydro switching over to LEDs (warm or bright lighting). Opportunity to add poles to address dark areas, yet being mindful about dark sky / rural setting
- Could create a bylaw to require/encourage owner sidewalk clearing.
- Focus on education for drivers, scooters, and cyclist. Bike rodeo for kids is an idea.
- ICBC educational campaigns could help (currently underused)
- Village does not have sidewalk clearing equipment to clear sidewalks
- Work w/MOTI on Highway traffic calming and to address pedestrian safety
- New wood funding (mass timber funding) available.
- New Centennial Park Plan to create two accessible lake options w/ramp and accessible pathways.
- Potential to use speed reader to get data & publish
- Park + Ride opportunity with charging stations / e-bike charges / campground
- Plan for future trends (e-bikes).
- Consider future maintenance of trails and sidewalks in planning
- Village and RDCK to work together on key accessibility improvements (i.e. Mori – Bigelow Bay).
- Look for creative ways to involve community in infrastructure maintenance and snow / ice control.
- Develop conceptual plan for a New Denver to Silverton connection with consideration given to route design, topography, and landowners.
- E-bike charging station (i.e. Kimberly solar powered charging and bathroom combination).
- Opportunity for community speed watch with radars would be great.
- Collaborate w/MOTI & Village on Hwy traffic calming solutions.
- 10-unit affordable housing project approved at 602 Slocan Ave. New development is an opportunity to consider active transportation connection to downtown/trails.
- Commit to another sidewalk on north side (connecting to grocery store)
- City of Nelson – Bike route decided to go off-highway and "Big Orange Bridge" crossing improvements by adding a signal activated light.
- City of Castlegar – developed ATNP and was successful in grant funding.

Appendix E: Draft Review Results

41 participants provided their feedback on the draft plan, which was available both online and in paper formats. Poll results are provided below.

Do you think the draft Active Transportation Plan is heading in the right direction?

97.4%	Yes (38 responses)
2.6%	No (1 response)

What improvement (big or small) would you like to see happen first?

- Foot bridge connecting the orchard to central ND.
- Bridge over Carpenter Creek, as many crosswalks over Hwy. as possible should force drivers to slow down.
- Pedestrian bridge across the creek and sidewalks wherever needed.
- Pedestrian bridge across Carpenter creek west of the highway bridge. This would create a nice loop walk/bike.
- Clean up lakefront and make better beach accessibility for residents and physically challenged.
- Pedestrian bridge separate from highway.
- Walking connection to Galena Trail in Denver Siding.
- Cycling / foot bridge at Carpenter Creek.
- Accessibility improvements, and safe pedestrian crossing.
- Sidewalks from N side of Hwy 6 to NW Foods with accessibility ramps.
- Bridge over carpenter creek.
- Hwy 6 and Hwy31A intersection and sidewalk improvements east of Hwy 6 along Hwy 31A.
- New pedestrian/cycle bridge carpenter creek,
- The crosswalk/sidewalk on Union to New Market Foods
- Sidewalks including winter maintenance on sidewalks
- New Denver-Silverton bike path
- I would very much like to see 8th Avenue and Columbia safer by, instead of a 4 way stop, closing 8th avenue access to Hwy. 31 so through traffic stops using Columbia as a "short-cut" to and from Hwy. 31. In the past, the Village CAO said that closing off 8th at Hwy.31 was not possible. If that is still the case, I see that you have made a suggestion of “traffic calming” on Columbia Street. Perhaps stop signs on Columbia Street at 9th Avenue, instead of yield signs on 9th Avenue as exist now. Many people

in this neighbourhood feel unsafe with the traffic, especially in the summer. At all times of the year, people walk, and many children ride bicycles on Columbia Street.
- Covered stairway by New Market.
- Pedestrian bridge over Carpenter Creek.
- Improvements on 6th Ave - sidewalks & pedestrian crossings (Hwy 31A & 6) & more regular bridge sidewalk maintenance.
- Covered stairs from Lucerne to New Market
- Foot bridge over Carpenter Ck.
- New Market Stairway. Please include a bike trail, so bikers can walk their bicycles down or up.
- Lucerne School Corridor.
- Pedestrian bridge - highway sucks. Especially in winter.
- Sidewalk on north side of Hwy 6 to New Market Foods.
- Trail and sidewalk improvements.
- Denver Siding trail link.
- Pedestrian bridge to the orchard.
- Safe road crossings.
- Traffic Calming on Columbia St (AKA Highway 31B).
- Safe Highway crossing connecting the school to Carpenter Creek.
- Improving the width of the Highway shoulders/corners and any connecting side trail access between town and Denver Siding/Galena trailheads.
- Pedesrian & cycling bridge over Carpenter Creek.

Three items we have gotten right:

- Off Hwy. access between Village & Orchard. School safety for kids.
- More sidewalks, pedestrian bridge over the creek, and, in general, the goal of improving the safety and convenience of pedestrians and bicyclists.
- Considering lakefront improvements.
- 4-way stop at 8th/Columbia - new market stairs -accessible corner ramps.
- Curb cut-outs, need for better winter accessibility, pedestrian bridge from one main parks area across the creek to the trails.
- Comprehensive and well put together!
- Covered stairs and seasonal ramp, fixing sidewalks and corner ramps, Hwy 6 and 31 crosswalks.
- Pedestrian bridge, Hwy 6 and Hwy 31a intersection improvements, covered walkway from hwy31a to Lucerne.
- New pedestrian/cycle bridge, sidewalk improvements at 6th Ave and Highway 31A, sidewalk north side of 31A near New Market.

- Union crosswalk, safe school connection.
- Sidewalks, crosswalks, school zone speed limits.
- Sidewalks etc. around New Market Connect Bigelow to Orchard Better snow clearing
- Pedestrian bridge, Denver Siding crossing, and 6th & 11th crossing.
- Pedestrian/cyclist bridge across Carpenter Creek; pedestrian crossings at 8th & 11th.
- Better, safer connections school - businesses Including new housing development Denver Siding Trail Location
- Slowing traffic thru town and village streets pedestrian crossings at Hwys.
- New Market Path much needed. Denver Siding Connection very exciting! Pedestrian Bridge would be fabulous.
- You've got it all right!
- Pedestrian/cycle bridge is great. Newmarket connecting sidewalks critical.
- Highway crossing improvements Walking bridge over Carpenter Creek, walking corridors around town.
- Trail link to Denver Siding. Lakefront improvement corridor. Ramp accesses to trails and sidewalks.
- Pedestrian bridge, sidewalks on hwy.
- Pedestrian crossing on Carpenter Creek, Traffic calming on Columbia / #6 North / South
- Traffic calming, sidewalk corner ramps, new sidewalk infrastructure.
- Accessibility, winter safety, and connectivity between identified residential and recreational zones via proposed pedestrian bridge construction, stairways, and or existing trail improvements.
- Focusing on 5 key transport corridors, connecting the orchard to the Village, prioritizing safety and accessibility.

Three items you feel should be changed:

- Couldn't decipher the map...too complicated and squishy.
- Clean up sidewalks from overgrowth.
- Proposing 4 news crosswalks on the highway is excessive, focus on separated paths, perhaps utilizing low volume back lanes.
- No mention of blinking overhead crossing lights, perhaps a good idea for any Highway 6 crossing.
- Better accessible toilet options amongst the public spaces, Centennial Park in particular (though I believe that is on the slate for the centennial upgrade).
- Stop sign on Columbia Ave.
- 4-way stop on a steep hill (8th and Columbia) is dangerous and unnecessary.
- Pedestrian should attach to existing bridge remove fewest trees possible.
- Pedestrian bridge is too $$ intensive. Support a walking trail between ND & Silverton.

- I'm afraid sidewalks along Hwy 6 will get covered in snow from the YRB plows meaning they are unusable till cleared by village.
- I like it the way it is.
- Scrap separate pedestrian bridge - too costly for benefits. Improve a Kildare corridor N of creek to access highway bridge sidewalk or pedestrian bridge in this location and continue through park trails to Kohan. Many proposed sidewalks - separate snow clearing? Why not widen roads, mark offside walk strips and plow them in winter?
- Need safe pedestrian access to Denver Siding.
- Upgrades to connect 31A to 10th Ave, upgrade trail Bigelow Bay to Union / 11th Ave, another route to Denver Siding
- 4-way stop at Columbia.
- Nothing appearing very obvious at this time.
- Paving and installing stairs on Kooteney St. unnecessary change, Slocan Ave corridor / sidewalk installation unnecessary expense, sidewalk on north side of 6th Ave between Hwy 31A and Kootenay St.

Other comments:

- What sort of controls can be implemented to prevent another logging truck spill; recent one was a very close call? Many drivers aren't respecting the yield signs within the Village streets. Lots of massive RV's getting stuck trying to explore the Bigelow Bay access; don't need more traffic down there. How can the chip trucks be made to slow down? Only 3 small, windy, mountain roads in & out of the Village; how can they be made more disaster ready in case Village needs a quick evacuation? I know, some of this is Provincial domain, but still, would like to see some more in-depth articles in the Village Voice about Village initiatives, plans, etc. to encourage more resident participation, etc.in solving some big world problems.
- I don’t see any comments on having a bike/hiking trail connecting the Galena trail to safe access to New Denver. Maybe connecting to the Molly Hughes trail. Basically, a safe way to go from Rosebery to New Denver as the highway is not safe it is too narrow.
- Thank you for the energy to improve the life and health of the residents in our community.
- A walking and cycling path between New Denver and Silverton is also needed and would be a HUGE benefit and greatly improve safety.
- Take all levels of physical capabilities into consideration.
- Kids walk to school from Denver Siding. Don’t make them keep walking down the highway.
- Awesome ideas

- I just want to make sure that when it comes to accessibility you are receiving advise from a qualified consultant. There are many ways to do accessibility WRONG - even a simple curb cutout, paint on accessible parking space placement, signage placement (and style) can appear correct to an able-bodied person but miss the boat regarding accessibility. I didn't see much detail in the accessibility improvement descriptions, so don't know how far you have looked into it, but please bring someone in who will really have a handle on those details. It is much easier to do it correctly in the first place, rather than having to alter things later.
- Thank you!
- Very good overall plan. Thank you...
- Great overall plan, not sure of the grades of proposed trail going east of Hwy 31A into Denver siding. I strongly approve of that link to Denver siding for school students and other pedestrian traffic.
- Get er done
- Stop sign on the top of Columbia Ave will create a problem in the winter. Proper bridge maintenance will eliminate the need for a walking bridge.
- Thanks for taking this challenge on!
- Appreciate that this is moving forward!
- I've lived on Columbia St. for 15 years. I walk it twice a day and drive it most days as well. I don't see a need for any major traffic calming measures. The traffic I see is all local.
- Add a solar powered, LED motion sensor light on the south dyke midway between the steps & Kildare St for pedestrians at night (safer than on hwy 6) not a standard street light. Address Hwy 31A speeding into/from town, pressure MOTI for regular speed reader usage. Priority* - Close off 8th & 11th Ave to prevent shortcut use between Hwy 31A & Hwy 6 by locals & tourists through residential neighbourhood (kids playing & biking). Failing that, use removable speed bumps in shoulder & summer seasons. Sidewalks on Hwy 31A in front of the Domes & on other side of the street (sorry if this is already in the plan & I missed it) Thank you for making walkers & wheelers a priority.
- I'm worried about the cost and engineering feasibility of the pedestrian bridge. If all wheels skill track couldn't go on the north side of the creek because of land instability, how can a giant bridge go on it without the risk of the land changing due to the changing creek and growing flood risk? Perhaps attaching a pedestrian bridge to the existing bridge will save costs, will be easier for engineering purposes and safer for the long term? Although that's disappointing, the bridge will cost a fortune, money I'd rather see spent on other things in our community personally - like better welcome signage at the main street/Highway intersection as indicated in the First Impressions Report from 2017 or 2018. Or fencing to preserve part of the off-leash dog park - a much needed amenity as off leash dogs aren't welcome anywhere else.

- Our only concern is the pedestrian bridge. A great idea but for a small community the capital and ongoing maintenance cost would be onerous on a small tax base. Should the community grow then yes this could be looked at years down the road. Available funds would provide more value expended elsewhere. For less than the bridge capital and maintenance the village could hire someone to specifically maintain the highway bridge sidewalk in the winter. Tourists and residences alike would be attracted to and remember a scenic trail to Silverton, but a bridge over Carpenter Creek is unlikely to provide the same bang for the buck.
- Until the footbridge is built, could council get the highway bridge sidewalk regularly cleared.
- The need for a 4-way stop at 8th and Columbia would be negated if the entry point to 8th Ave was closed to vehicle traffic. The proposed path from Denver Siding could then continue as pedestrian only access on 8th Ave to the school and would significantly increase safety with reduced traffic on 8th, 9th, 10th.
- Thank you for addressing "Active Transportation".
- Seems like using Josephine to Bigelow would make more sense than having the jog onto Kildare and being closer to the highway. Especially considering the proposed pedestrian bridge location.
- You got it right!
- Ice condolence is vital around town.
- I suggested, in a previous survey, sidewalks on Hwy 31A in front of the Domes & across the street - with further thought, I withdraw that suggestion. Am wondering about a campaign to encourage walking or biking for errands in town. New Denver is a small town where distances are not excessive, but it seems to me the number of people who drive downtown to shop at the grocery store or go to the post office is quite large. I realize there are people who have disabilities/health conditions which prevent this; or are picking up heavy loads or come from out of town, but many journeys could be done on foot/bike, rather than driving a car or truck. Thank you.
- Very poor survey. We are being asked to take simplistic positions without explaining reasons. My negative vote largely relates to inclusion of the proposed Josephine St. pedestrian bridge - totally impractical location. ND to Silverton trail deserves higher priority but was ignored.
- Highways aren't safe for pedestrians/cyclists.
- Street lighting to support year-round active transportation.
- This is a great step forward in the future planning and development of our growing community in effort to encourage increased use and accessibility. Thanks!
- Add pedestrian, cyclist (all access) crossing at the bridge.
- Addition of sidewalks along highway (missing links between 7th and 8th along Hwy 6) as a lot of pedestrians use that corridor and it’s dangerous without proper sidewalks and lighting.

Appendix F: TAC Pedestrian Crossing Guide

The TAC Pedestrian Crossing Control Guide (2018)[7] can be used to determine if improvements/upgrades are required to these crosswalks utilizing existing traffic volumes and projected traffic volumes. The Pedestrian Crossing Control Guide recommends that the average hourly pedestrian volumes at a given location be equal to or greater than 15 pedestrians per hour when assessing the establishment of a signed and marked crosswalk. Pedestrian volumes are expressed as Equivalent Adult Units (EAUs) to account for pedestrian age and physical ability of at risk pedestrians as follows:

Adults:	1.0 EAUs
Children 12 years and younger:	2.0 EAUs
Older pedestrians age 65 and older:	1.5 EAUs
Pedestrians with impairment:	2.0 EAUs

To aid transportation practitioners with crosswalk treatment selection, the Pedestrian Crossing Control Guide provides a Decision Support Tool (DST) - Treatment Selection Matrix, shown on the next page, which specifies the type of treatment system for a given location based and on the speed limit, number of lanes, and the presence of raised pedestrian refuge.

The available data for each site can be used to cross referenced to the DST to confirm if upgrades/improvements to the crosswalks are justified. As per the DST, higher order treatment systems may be substituted for lower order treatment systems, but the rationale for substituting higher order treatments should be consistent throughout the jurisdiction. Accordingly, to augment the DST, existing pedestrian volumes should be counted at each site to confirm the current average hourly pedestrian volumes exceed 15 pedestrians per hour. It is recommended that future crosswalk assessments in New Denver use the TAC Pedestrian Crossing Control Guide's minimum vehicle and pedestrian volumes as well as the DST to warrant the implementation of new or improvements to existing crosswalks.[8]

[7] Transportation Association of Canada: Pedestrian Crossing Control Guide (2018)
[8] Transportation Association of Canada: Pedestrian Crossing Control Guide (2018), pg. 38-39.

Table 1: Decision Support Tool – Treatment Selection Matrix

Average Daily Traffic	Speed Limit [2] (km/h)	Total Number of Lanes [1]				
		1 or 2 lanes	3 lanes (two-way)	3 lanes (one-way)	2 or 3 lanes/direction w/ raised refuge	2 lanes/ direction w/o raised refuge
1,500 < ADT ≤ 4,500	≤ 50	GM	GM	GM	GM	GM+
	60	GM+	GM+	OF	RRFB or OF [3]	RRFB
	70	RRFB	RRFB	OF	OF	OF
4,500 < ADT ≤ 9,000	≤ 50	GM	GM	GM	GM	RRFB
	60	GM+	GM+	OF	RRFB or OF [3]	OF
	70	RRFB	OF	OF	OF	TS
9,000 < ADT ≤ 12,000	≤ 50	GM	RRFB	OF	RRFB or OF [3]	OF
	60	RRFB	RRFB	OF	RRFB or OF [3]	TS
	70	OF	OF	OF	TS	TS
12,000 < ADT ≤ 15,000	≤ 50	RRFB	RRFB	OF	RRFB or OF [3]	OF
	60	RRFB	OF	OF	RRFB or OF [3]	TS
	70	OF	TS	TS	TS	TS
> 15,000	≤ 50	RRFB	OF	OF	RRFB or OF [3]	TS
	60	RRFB	TS	TS	TS	TS
	70	OF	TS	TS	TS	TS

[1] The total number of lanes is representative of pedestrian-exposed crossing distance. The following can help determine the applicable number of lanes for a given roadway:

- Travel lanes, two-way left turn lanes, other turning lanes, and part time parking lanes should each be considered as one lane.
- Full time parking lanes on one or both sides of the roadway should be considered as one lane. Curb extensions may be constructed to reduce the total crossing distance and hence, the number of lanes.
- Engineering judgement based on local conditions should be used to determine the lane equivalent associated with bicycle lanes.

[2] At roundabouts, the maximum design speed of entering or exiting vehicles is often lower than the approaching roadway speed and can be used in place of the roadway speed limit.

[3] If three lanes per direction use OF.

Additional notes:

Treatment systems are hierarchical (GM → GM+ → RRFB → OF → TS). Higher order treatment systems may be substituted for lower order treatment systems. The rationale for substituting higher order treatment systems should be consistent throughout the jurisdiction. Remain consistent in application of DESIRABLE components of the GM+ system as best as possible.

Raised refuge may be a pedestrian refuge island or raised median. Raised refuge should be a minimum of 2.4 metres wide to accommodate groups of pedestrians, bicycles, and mobility aids such as wheelchairs and scooters.

A TS treatment system should be selected: (1) for cross-sections with greater than six lanes where a raised refuge is present; (2) for cross sections with greater than four lanes where no raised refuge is present; and (3) for speeds greater than 70 km/h.

Always ensure adequate sight distance at the site as per the TAC *Geometric Design Guide for Canadian Roads*, and if it is insufficient, create it by applying available tools.

A crossing location with a very wide (7m or more) pedestrian refuge area between opposing directions of traffic may be considered to divide the crossing into two independent sections and may be treated as two separate crosswalks. This may occur at locations with a wide raised refuge or offset crosswalk.

Passive crossing treatment systems		Active crossing treatment systems		Traffic signal systems
GM Go to Table 2	GM+ Go to Table 3	RRFB Go to Table 4	OF Go to Table 5	TS go to Table 6 (pedestrian signal) or Table 7 (full signal)