

CROWSNEST PASS

the space between



UNIVERSITY OF CALGARY
SCHOOL OF ARCHITECTURE,
PLANNING AND LANDSCAPE

PLAN 630. Advanced Professional Planning Studio | Winter 2021 | SAPL | University of Calgary
Anil Yadav. Binderya Oyunbaatar. Diba Mohebzadeh

Acknowledgment

We would like to thank the steering committee, residents of the Municipality of Crowsnest Pass, and guest speakers for their constant support and guidance throughout the project. We are also thankful to Peter Peller (SANDS) for his assistance and our studio instructor Professor Francisco Uribe Alaniz for making this project possible, without his constant and professional guidance, this report would not have been possible.

Steering committee

Terry Hrudey (Chair Municipal Planning commission)
Ian Crawford, Cam Davidson (Bellecrest Community Association)
Joey Ambrosi (Frank Slide Interpretive Centre)
Sacha Anderson (Chamber of Commerce)
Stephen Brunell, John van der Bank, Katherine Mertz (Municipality of Crowsnest Pass)

ETH Zürich Lecturer

Manuel Sudau

Community members who attended the workshop



Prepared by:

Binderya Oyunbaatar
Anil Yadav
Diba Mohebzadeh

Faculty instructor
Prof. Francisco Alaniz Uribe





THE TEAM



Binderya Oyunbaatar

Binderya is a soon-to-be graduate from the SAPL at the University of Calgary as a planner. Having a background in Geography and Environmental Sciences, she has a passion for nature conservation, parks and protected areas, and regional development. Binderya has prior experience in international nature conservation NGO where she was involved with extensive eco-regional assessment, policy development, stakeholder engagement, training and capacity building for public and private sectors. She would like to extend her knowledge and experience in adaptability and resilience of communities and regional developments.



Anil Yadav

Anil has a keen interest in planning and designing for environmental sustainability. He previously worked extensively on research and planning for urban water and waste management in India, Asia and across the global south. He is also an active urban sketcher and likes to draw live and vibrant places. He has Bachelor's degree in Physical Planning from the School of Planning and Architecture, New Delhi, India and is currently pursuing Master of Planning from the University of Clagary.



Diba Mohebzadeh

Diba's journey began by studying B.Arch with the hope of building empathic architecture. After working in Malaysia and Dubai, she came across the term Urban design, which led her to study M.Plan. Through both degrees, she would like to introduce innovative yet functional memorable journeys for her visitors.

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EXECUTIVE SUMMARY

The Advanced Professional Planning Studio in the Winter term of 2021 has selected the Municipality of Crowsnest Pass in the Southwest of Alberta to undergo a planning academic exercise. The project involves extensive research and synthesis on various planning and design parameters to understand the issues and opportunities of community development. The analyses and community feedback guided the creation of design concepts to achieve the economic and sustainability goals of the municipality under the regional and provincial provisions.

The study area expands across 365 sq. km of land and is the richest archeologically zone within the Canadian Rockies. Only 4 percent of the total area of the municipality is urbanized, including the 5 main hamlets of Hillcrest, Bellevue, Frank, Blairmore, and Coleman, which

constituting about 5000 people.

After careful research, analysis, site visits, and stakeholder engagement sessions, we identified key issues in transportation services, housing diversity and affordability, aging infrastructure, and lack of businesses. Also, the closure of resource extraction industries and the global pandemic lead to an economic downturn in the Pass. Despite these issues, the municipality attracts a high volume of tourists due to its rich landscape resources and the affordability in recreational activities such as mountain biking, skiing, fly fishing, golfing and hiking, etc. The Pass also has rich cultural resources of national importance such as the Old Coleman Downtown, Frank Slide, and Crowsnest Pass Museum.

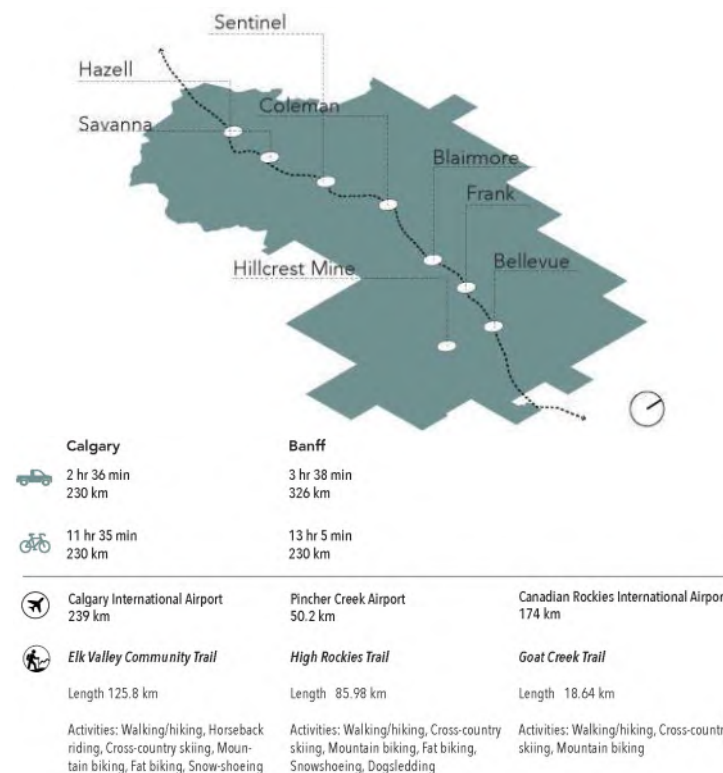
The purpose of the design concepts, strategies, and guidelines was developed to:

- Provide diverse and affordable housing typologies such as row housing, apartment, rental units, and tiny houses, etc.;
- Improve the quality of the public realm by redesigning the main streets;
- Increase the capacity of tourist accommodations by providing a variety of options;
- Achieve sustainability in transportation by introducing a free bus service and improved pathway system for walking and biking;
- Enhance existing parks and open spaces by maximizing the potential of public spaces and extending the community trail; and
- Improving accessibility, affordability, and service infrastructure for its residents and tourists.

These development proposals will support and facilitate future growth to achieve sustainable development goals by reducing carbon footprint to mitigate the effects of climate change. We believe that minimizing the impact on natural areas and increasing the density in the built-in areas of the Pass, will utilize the existing infrastructure to deliver more efficient servicing and provide a vibrant downtown growth to improve social connectivity. Smaller communities will retain their unique identities, but also retain a sense of place under a larger unified identity as Crowsnest Pass.



PROJECT UNDERSTANDING



Crowsnest pass is one of the most important historical and prehistoric areas in the Canadian Rockies, where the first native settled during the last centuries of ice age. It is a fringe community bordering Alberta and British Columbia consisting of 8 townships, starting from the east with Bellevue, Hillcrest mines, Frank, Blairmore, Coleman, Sentinel, Savanna and Hazell. Due to its geographical location, it is nestled between a chain of mountains such as Crowsnest Mountain, Mountain Coulthard, Mountain Tecumseh and the famous loop peak. The municipality originally came in existence -

due to the discovery of coal in 1900s. Crowsnest Pass is home to exceptional mining sites and the historic communities that grew up around them. The area once hummed with activity, enriched by the many languages and cultural traditions brought by immigrants that included those of German, Italian, Scottish, Irish, Polish and French descent.

During recent years, the decline in population and increase in aging population shows economic downturn and limited employment opportunities for future generations



Entrance towards Blairmore, January 2021
Photo by Binderya Oyunbaatar

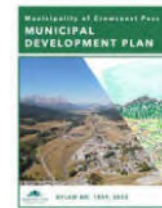
LEGAL FRAMEWORK

This report will consider the existing legal and planning framework that will guide our design and implementation strategies, which will influence the local development directly and indirectly.



The South Saskatchewan Regional Plan (SSRP) (2014-2024)

The South Saskatchewan Regional Plan focuses on the long-term vision for the SSR and aligns provincial policies at the regional level to balance.



Municipal Development Plan(MDP) (2020)

The Municipal Development Plan states the objectives and the long-term goals regarding future growth. This plan will guide for growth and change in the Municipality of Crowsnest Pass (MCNP) over the next 20 years.



Land Use by Law(LUB) (2019)

The Land Use Bylaw is a document which implements the policies set by the MDP. These Bylaws have a direct impact on the development type and their prescribed uses



Area Structural Plan (ASP) (2015)

An area structure plan (ASP) is a long-range planning document and is the first step in obtaining planning approval for a new community.

VISION

We envision Crowsnest Pass as a destination for tourists who seek appreciation of its rich heritage and explore the endless outdoor adventures. Our goal is to promote tourism and enhance the existing unique features of each community for its residents and welcome more residents and visitors to the Pass.

APPROACH



- Enhancing the existing open spaces
- Provide dog parks and activity areas
- Propose new trails connecting to major historical nodes



- Connecting the five communities
- Making highly accessible for all
- Promoting sustainable and low cost solutions



- Pedestrian oriented design
- Introducing green spaces
- Celebrating the existing heritage



- Range of housing options in size and price
- Reach sustainable medium density by intensification and infill
- Innovative housing design



Crowsnest Lake, January 2021
Photo by Binderya Oyunbaatar

METHODOLOGY

Project planning and initial research

Initial research

The initial phase of the project will primarily focus on the background study of Crowsnest Pass that incorporate learning about its deep history, characteristics, demographics, and identifying key issues and opportunities.

Generating base maps of the project:

- Physical map showing terrain and drainage areas
- Infrastructure map showing road networks, transmission lines, power lines, and treatment plants
- Land use map showing block patterns, parcel sizes, and building footprints
- Mapping of historical and archaeological areas
- Demographics & socio-economic characteristics

Photo inventory/Site visit

The site visit will enhance the initial understanding of the project site from research and base mapping. This will also allow the team to create photo inventory of the project that will be critical reference for the project process.

Review of legal framework and existing plans

The existing planning policy documents will be reviewed and will guide the development of the project strategy. The legal framework includes the following:

- South Saskatchewan Regional Plan (SSRP), 2014-2024
- Municipal Development Plan (MDP), 2001 and 2020
- Area Structural Plan (ASP)
- Land Use Bylaw (LUB)

Project Proposal

Final deliverables of this phase will be developing the Project Proposal which outlines our work plan, schedule, methods and approaches

Site analysis

Historical analysis

For a comprehensive understanding of the municipality, chronological study of Urban Planning history dating from the completion of Canada Pacific Southern line in 1898.

- Historical timeline
- Inventory of heritage sites for conservation

Environmental analysis

This involves research and evaluation of the project site in terms of landscape resources, which will include the following maps:

- Terrain and drainage (Elevation, topography, water bodies, streams etc.)
- Land cover (Vegetation, forest types, urban forest, soil etc.)
- Hydrological analysis (Floodplains, riparian areas & wetlands)
- Key biodiversity zones (Wildlife inventory, critical wildlife habitats and their connectivity)

Economic analysis

Economic analysis will review the existing model of economic growth.

- Economic gap analysis
- Employment
- Existing business licenses and permits
- Opportunities and constraints

Land use and functional analysis

Land use analysis will be primarily be developed through mapping residential, commercial, industrial, institutional, agricultural, and natural areas.

- Land use compatibility
- Study of land parcels

Housing and building typology

Housing inventory will be a guide to what the current housing status is and what needs to be imposed based on the socio-demographics of the current and future population growth.

-
- Mapping by house typologies (Single detached, year of built, building material used (if possible)
- Analyze potential/proposed growth by existing developments
- Demand and supply gap

Urban design guidelines

- Image-ability and legibility
- Morphology
- Public realm qualities

Infrastructure analysis

Study of existing physical and social infrastructure of Crowsnest Pass.

- Transportation
- Institutional
- Power
- Water and waste

Analysis of natural disaster and calamities

Study of previous disaster and potential threat to development

Demographic and socio-economic characteristics

Community profile from the Census data 2016 will be used in the planning process to understand the impact of planning activities on population size, composition, and distribution

- Age, nationality, language, type of family, occupation, income, etc.
- Population projections Housing and building typology

Public engagement- Round 1 workshop

The Workshop will take place on February 12th, 2021 with the steering committee of Crowsnest Pass to review the findings of the analysis phase of the project. This will include the following:

- Presentation and discussion on key findings based on analysis
- Recommendation and suggestions for conceptual design

Concept Design Development

Following the public engagement process the team will start formulating the conceptual design guidelines and strategic steps in order to address the key issues and achieve the goals identified throughout the analysis process and feedbacks from community members. The concept design will consist of the following parts:

- Open space and natural areas
 - Define growth areas based on the slope and floodplain analysis
 - Define critical areas for conservation to preserve the integrity of the natural biodiversity in order to protect wildlife habitat and corridors and support economic developments based on recreation and tourism
- Land Use identifying potential growth areas of development (Commercial, housing, recreational and heritage preservation)
- Transportation, connectivity & mobility (walk ability and public realm)
- Tourism and recreational facilities (new infrastructure planning and update)
- Physical infrastructure (water and waste) and social infrastructure (institutions)
- Urban design guidelines (for better public realm, 3d modeling)

Public engagement - Round 2 open house

The draft conceptual design of the project will be presented to the council and to the public during an open house to get feedback on the conceptual design.

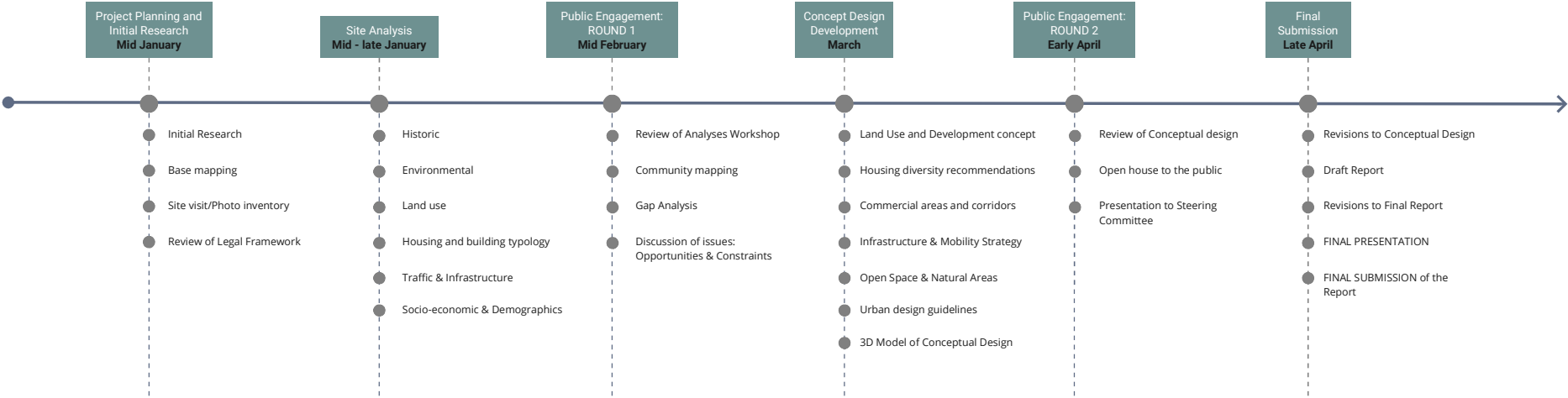
Revision of Concept Design

Based on the feedback and recommendations from the community members the team will revise the concept design and prepare the draft report.

Final Report Submission

Final report will be submitted by late April.

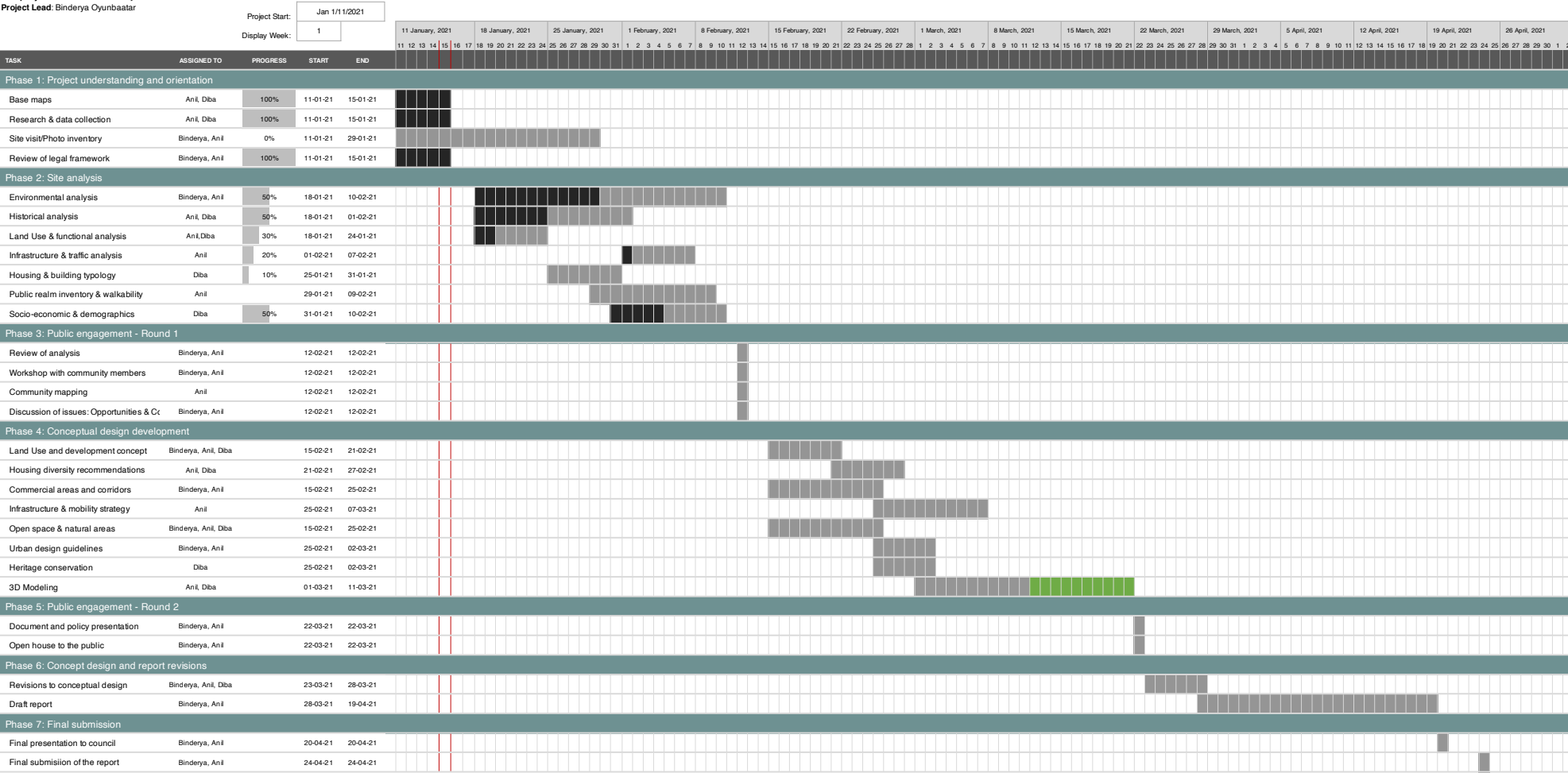
METHODOLOGY SUMMARY



GANTT CHART

Crowsnest Pass: The Space Between

Company Name: Una Consultancy
Project Lead: Binderya Oyunbaatar



PROJECT BUDGET

	SENIOR		JUNIOR		TECH			
PROJECT TASKS	HRS	SALARY	HRS	SALARY	HRS	SALARY	OTHER	TOTAL
PROJECT UNDERSTANDING AND ORIENTATION								
Site visit	20	\$ 3,300.00	20	\$ 2,300.00		\$ -	\$ 343.40	\$ 5,943.40
Initial meeting	3	\$ 495.00	3	\$ 345.00		\$ -		\$ 840.00
Photo inventory		\$ -	1	\$ 115.00	2	\$ 110.00		\$ 225.00
Review of legal framework	3	\$ 495.00	5	\$ 575.00		\$ -		\$ 1,070.00
Base mapping		\$ -	3	\$ 345.00		\$ -		\$ 345.00
Project management	5	\$ 825.00		\$ -		\$ -		\$ 825.00
SUBTOTAL	31	\$ 5,115.00	32	\$ 3,680.00	2	\$ 110.00	\$ 343.40	\$ 9,248.40
SITE ANALYSIS								
Data collection		\$ -	10	\$ 1,150.00	10	\$ 550.00	\$ 700.00	\$ 2,400.00
Context analysis	2	\$ 330.00	16	\$ 1,840.00	16	\$ 880.00		\$ 3,050.00
Historical evolution, timeline		\$ -		\$ -	2	\$ 110.00		\$ 110.00
Environmental analysis	8	\$ 1,320.00	40	\$ 4,600.00	20	\$ 1,100.00		\$ 7,020.00
Infrastructure analysis	1	\$ 165.00	8	\$ 920.00	16	\$ 880.00		\$ 1,965.00
Land use and functional analysis	1	\$ 165.00	20	\$ 2,300.00	26	\$ 1,430.00		\$ 3,895.00
Community profile: socio-demographics		\$ -	40	\$ 4,600.00	8	\$ 440.00		\$ 5,040.00
Project management	5	\$ 825.00		\$ -		\$ -		\$ 825.00
SUBTOTAL	17	\$ 2,805.00	134	\$ 15,410.00	98	\$ 5,390.00	\$ 700.00	\$ 24,305.00
PUBLIC ENGAGEMENT: Round 1								
Review of analysis & workshop	2	\$ 330.00	2	\$ 230.00		\$ -	\$ 500.00	\$ 1,060.00
Community mapping		\$ -	2	\$ 230.00	2	\$ 110.00		\$ 340.00
Discussion of issues: opportunities & constraints	2	\$ 330.00	2	\$ 230.00		\$ -		\$ 560.00
Project management	5	\$ 825.00		\$ -		\$ -		\$ 825.00
SUBTOTAL	9	\$ 1,485.00	6	\$ 690.00	2	\$ 110.00	\$ 1,200.00	\$ 3,485.00
CONCEPTUAL DESIGN PRODUCTION								
Land use and growth	10	\$ 1,650.00	40	\$ 4,600.00	40	\$ 2,200.00		\$ 8,450.00
Housing	2	\$ 330.00	8	\$ 920.00	10	\$ 550.00		\$ 1,800.00
Recreational facilities & Amenities	1	\$ 165.00	2	\$ 230.00	5	\$ 275.00		\$ 670.00
Infrastructure	1	\$ 165.00	8	\$ 920.00	10	\$ 550.00		\$ 1,635.00
Open space and natural areas	8	\$ 1,320.00	40	\$ 4,600.00	16	\$ 880.00		\$ 6,800.00
3D Model		\$ -	20	\$ 2,300.00	48	\$ 2,640.00		\$ 4,940.00
Project management	5	\$ 825.00		\$ -		\$ -		\$ 825.00
SUBTOTAL	27	\$ 4,455.00	118	\$ 13,570.00	129	\$ 7,095.00	\$ -	\$ 25,120.00
PUBLIC ENGAGEMENT: Round 2								
Open house	8	\$ 1,320.00	8	\$ 920.00		\$ -		\$ 2,240.00
Project management	5	\$ 825.00		\$ -		\$ -		\$ 825.00
SUBTOTAL	13	\$ 2,145.00	8	\$ 920.00	0	\$ -	\$ -	\$ 3,065.00
FINAL REPORT & PRESENTATION								
Draft final report development	10	\$ 1,650.00	40	\$ 4,600.00	40	\$ 2,200.00		\$ 8,450.00
Review & finalize final report	8	\$ 1,320.00	16	\$ 1,840.00		\$ -		\$ 3,160.00
Final report and presentation	2.5	\$ 412.50	2.5	\$ 287.50		\$ -		\$ 700.00
Project management	5	\$ 825.00		\$ -		\$ -		\$ 825.00
SUBTOTAL	25.5	\$ 4,207.50	58.5	\$ 6,727.50	40	\$ 2,200.00	\$ -	\$ 13,135.00
							Subtotal	\$ 78,358.40
							GST	\$ 3,917.92
							7% Disbursements	\$ 5,485.09
TOTAL								\$ 87,761.41

Project team salaries	
Binderya Oyunbaatar, Senior Planner hourly rate	\$165
Anil Yadav, Junior Planner hourly rate	\$115
Diba Mohebzadeh, Technician hourly rate	\$55



01 ANALYSIS

- 1.1 Cultural Landscape
- 1.2 Natural Environment
- 1.3 Land Use Zoning and Built Form
- 1.4 Infrastructure
- 1.5 Summary of findings

Pass Powderkeg Ski Hill, March 2021
Photo by Anil Yadav

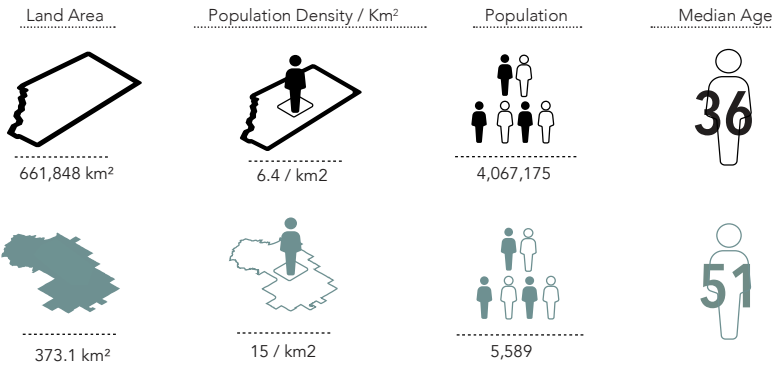
1.1 CULTURAL LANDSCAPE

1.1.1 Population demographics

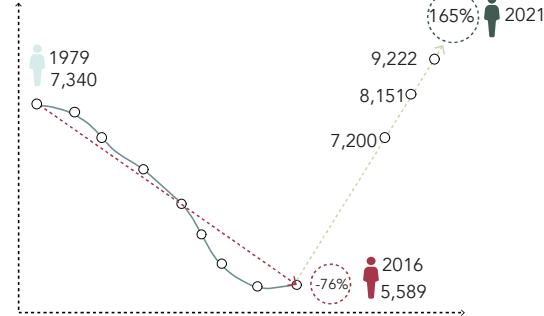
The current population of the pass is 5,589 people which is distributed between the towns of Blairmore and Coleman. The Pass has seen a 24% of population decline from 1979 till today due to its disasters, lack of job opportunities, and the aging population.

In Crowsnest Pass, 28% of the population are within their early senior years while in Alberta, only 19% are within the same group leaving the majority being in their early adulthood.

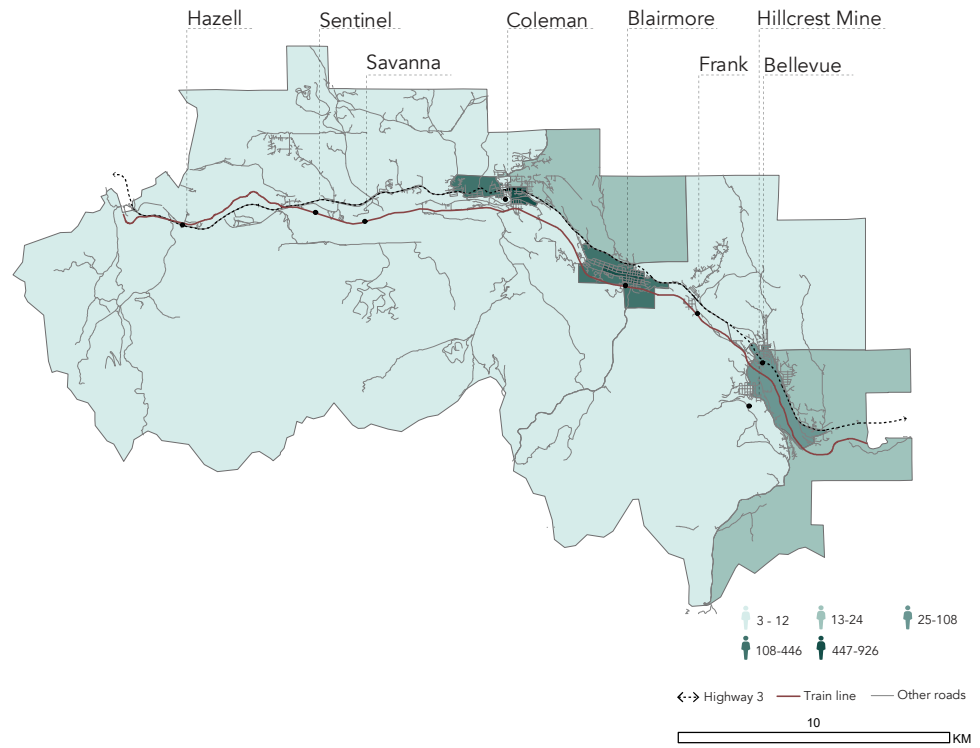
Census data



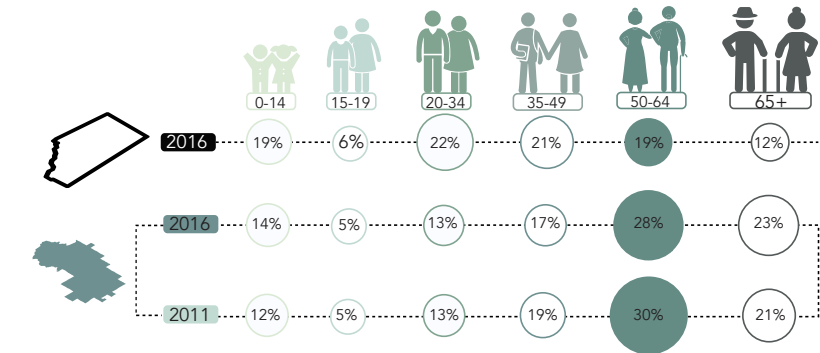
Population Projection



Population / Sq kilometre (2016)



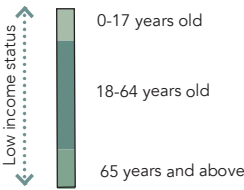
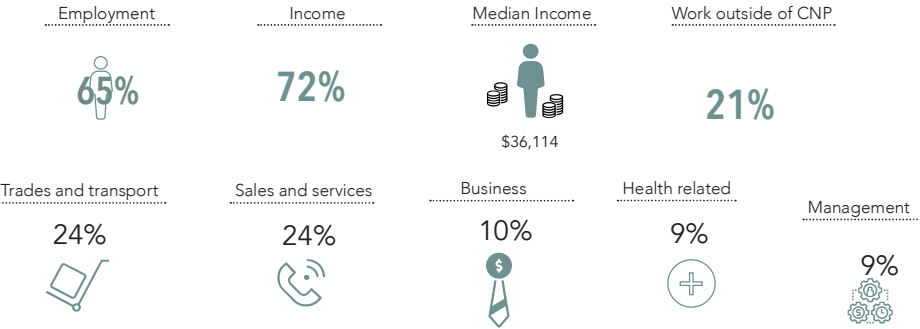
Age range (2016)



1.1.2 Income and occupation statistics

Currently, 65% of the population 15 years and above are employed which 79% work within the Pass and 21% outside. The median income is \$36,000 which is earned by working mostly within the tertiary services.

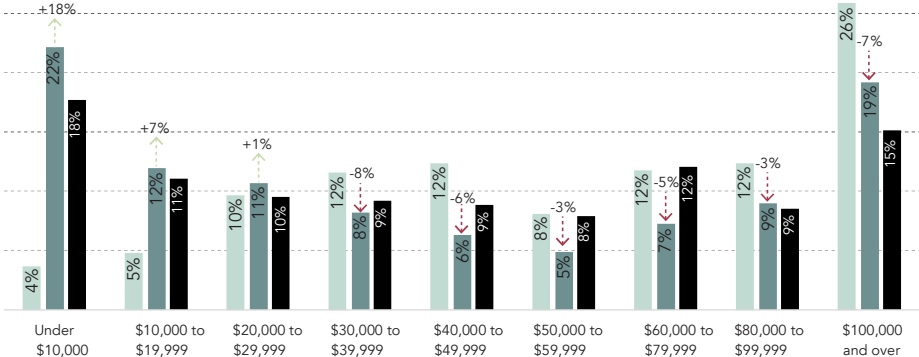
Crowsnest pass occupation structure



While comparing to Alberta, Crowsnest pass has a high gap in low-income and high-income households. The pass has more families who are within the under \$10,000 of household income by 18% while it is only 7% behind in Alberta in terms of earning \$100,000 and over.



Household income distribution



Alberta (2016)



Crowsnest Pass (2016)



Crowsnest Pass (2011)

Based on the census data, the majority of the high-income families live within Blairmore, while a majority of the low-income families live within the eastern sides of Coleman.

1.1.3 Ethnicity and martial status

The next generation of settlers after the indigenous was comprised of 51% of eastern Europeans who came to the pass before 1981 to work within the coal and mining industry. The images at the right, illustrates the cultural clothes of some of the immigrants in the pass. Today, they are proud Canadians who have settled in the Pass and have begun their families.

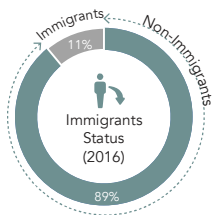
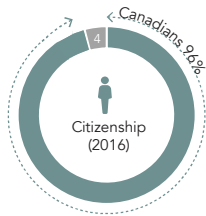
Based on the community feedback, family is an important element for the residents of Crowsnest, which is why the percentage of families, common laws as well as widows are higher in comparison to the rest of Alberta.



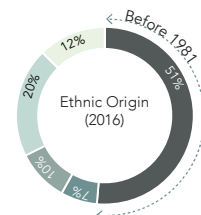
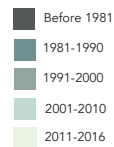
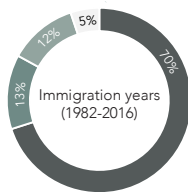
Photographs of ethnic backgrounds of the Pass.
(Source : SANDS digital library)

Ethnicity

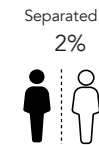
ETHNICITY



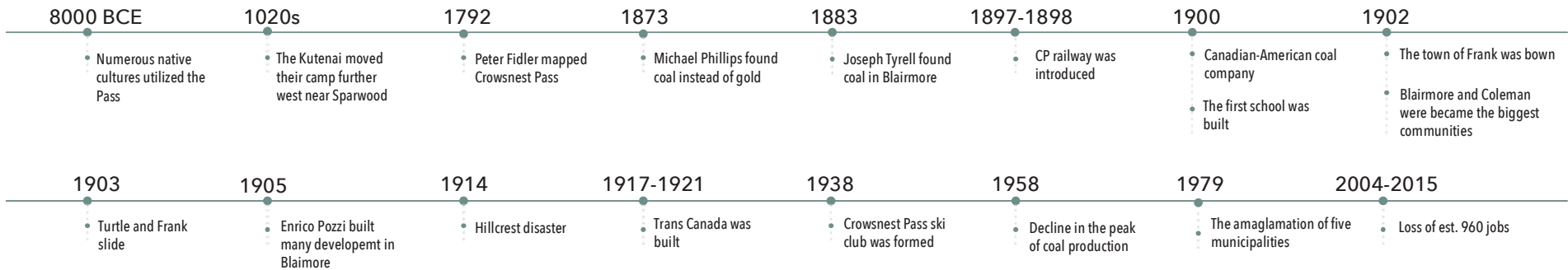
Year of immigration



Family distribution



1.1.4 Historical timeline



The pass is the result of a history that dates back to 8000 BCE with numerous native cultures such as the Kutenai. In 1792, Peter Fidler decided to expand the maps and include the Pass. As a result of curiosity, Michael Phillips decided to go to the pass and look for gold.

He came across a much more precious object which marked the popularity of the Pass. Coal was later on found in the majority of the hamlets within the Pass. As a result of that, the CP railway was introduced and many of the large coal companies decided to invest within Crowsnest Pass.

However, many eventful incidents happened, such as the Turtle slide followed by many other disasters which finally led to the decline of coal. It was the strength of the hamlets that Crowsnest Pass began as a municipality, but their major source of coal was not as strong as before.

1.1.5 Historical evolution

The earliest aerial photographs dating back to 1922 where the initial boundaries of the hamlets are shown in red, through the transitions of population growth, natural disasters, sun radiation, and flood zones the boundaries were adjusted and begun growing until they have reached their current state in 2019

It is interesting to note that Frank, Blairmore, and Coleman are divided into two sections of North and South due to the train line crossing in between these towns. However, the most noticeable change within the boundary changes is seen within Frank.

On April 29th, 1903, at 4:10 am, 110 people were a victim of the Frank slide. Due to an avalanche, 82 million tonnes of limestone sheered off the east face of Turtle Mountain and the roadside of Frank. It is estimated that another slide may happen however, the town has made adjustments such as growing towards the North of the community rather than the south to stay away from disaster.[1]

- ||||| Train line
- Community shape
- Additional development

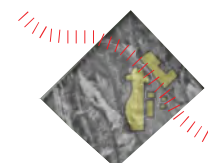
Historical evolution of the 5 targeted hamlets
(Source: SANDS digital library)



1960



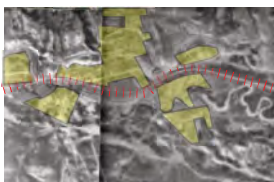
1951



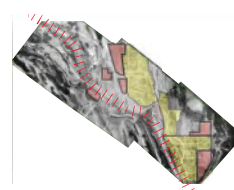
1922



1948



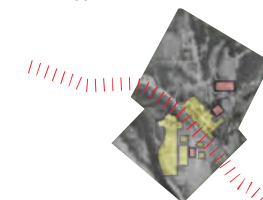
1922



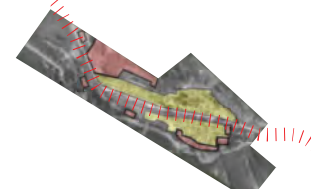
1965



1965



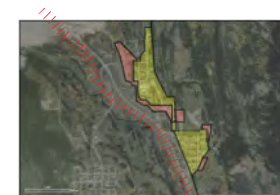
1965



1965



1965



2019



2019



2019



2019



2019

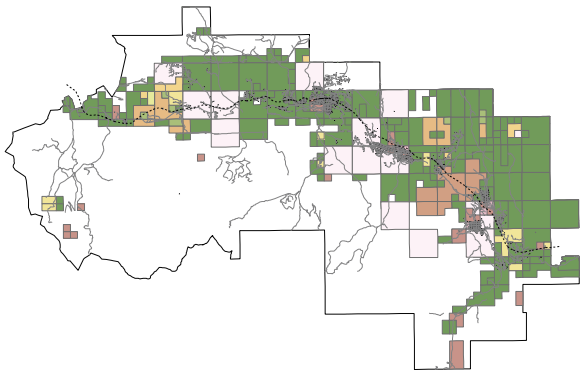
1. Annalise Klingbeil, Calgary Herald. "Turtle Mountain Will Fall Again but Scientists Hope High-Tech Monitoring Will Prevent a Deadly Frank Slide Repeat," Calgaryherald, Calgary Herald, 2 June 2016, calgaryherald.com/news/local-news/turtle-mountain-will-fall-again-but-scientists-hope-when-it-does-high-tech-monitoring-will-prevent-a-deadly-frank-slide-repeat.

1.1.5 Historical evolution

As a result of these boundary changes, the pass has a total of 105 historical inventory. Display are some of the selected monuments which include: [2]

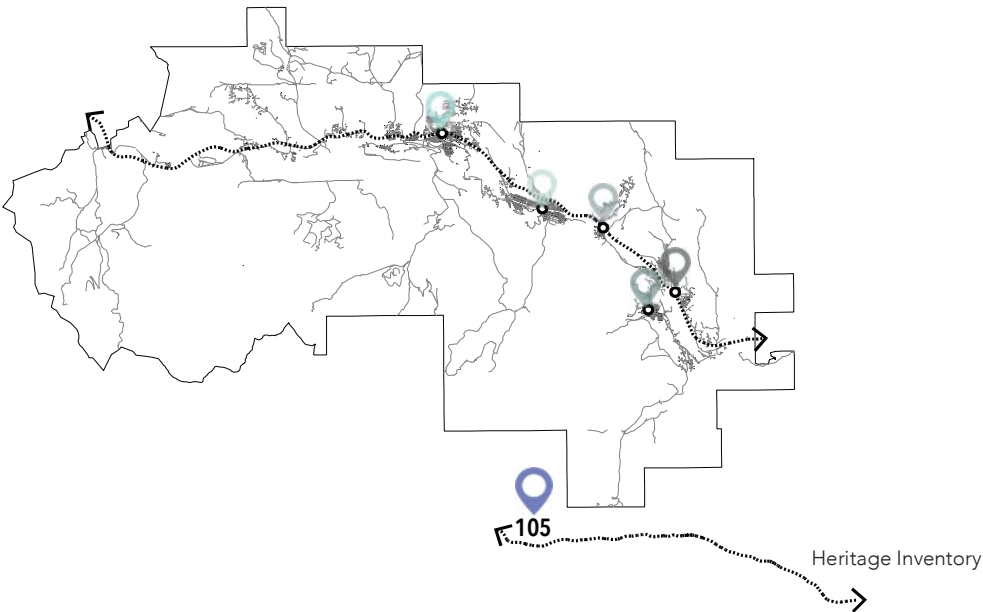
- Bellevue post office
- Alberta provincial police barracks
- Pozzi residence
- Hillcrest united church
- Franks train station
- Cosmopolitan hotel
- Lethbridge brewing company
- Coleman fire station

Historical Site Categories



The pass also benefits from 10 varieties of historical site categories with 70% falling under the archaeological sites. The towns of Hillcrest and Bellevue share categories of Paleontological, archaeological, cultural while frank has an interesting historical period due to the slide. The town of Blairmore is fully on and surrounded by historical period while all of Coleman is an archaeological site.

Location of historical sites



Coleman Fire Station



Lethbridge Brewing Company (1907)



Cosmopolitan Hotel (1912)



Frank Train Station



Hillcrest United Church (1911)



Pozzi Residence (1928)



Alberta Provincial Police Barracks (1908)

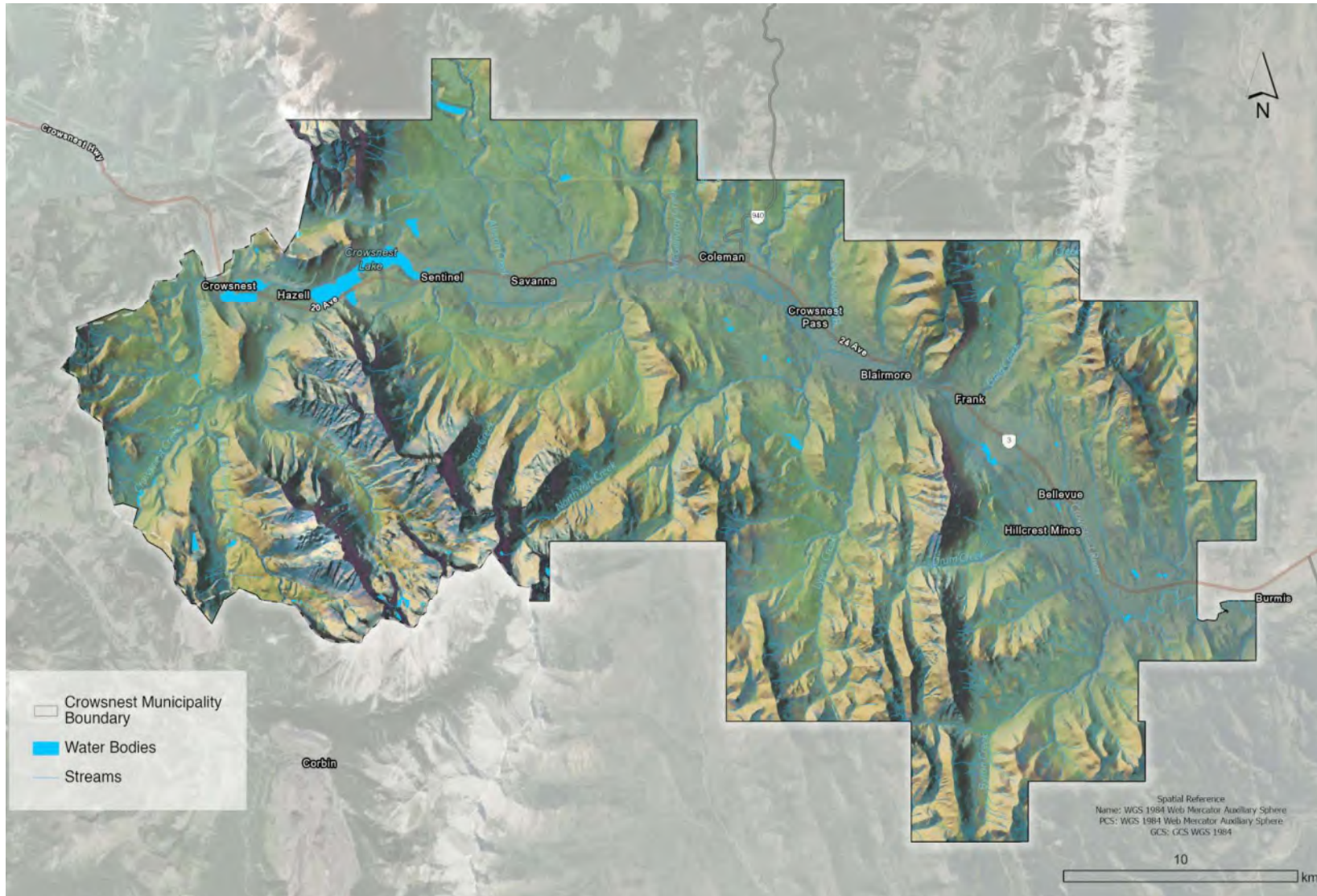


Bellevue Post office (1918)

Archaeological	Archaeological, Historical Period	Historical Period	Geological, Historical Period	Palaeontological
Archaeological, Cultural	Archaeological, Palaeontological	Historical Period, palaeontological	Cultural	Archaeological, Cultural, Palaeontological

2. "Heritage Inventory Project - Phase 2." Municipality of Crow's Nest Pass, Sept. 2014. All images are retrieved from the above PDF.

1.2 ENVIRONMENTAL ANALYSIS



An environmental analysis involves research and evaluation of the project site in terms of its landscape resources. This critical in an analysis phase as it allows to understand the physical components of the site that will help delineating the conservation areas and guide the team to develop strategies for potential growth and development.

All the maps included in the environmental analysis were produced by the student, expect the Fire Hazard Map on page...

GIS data sources:

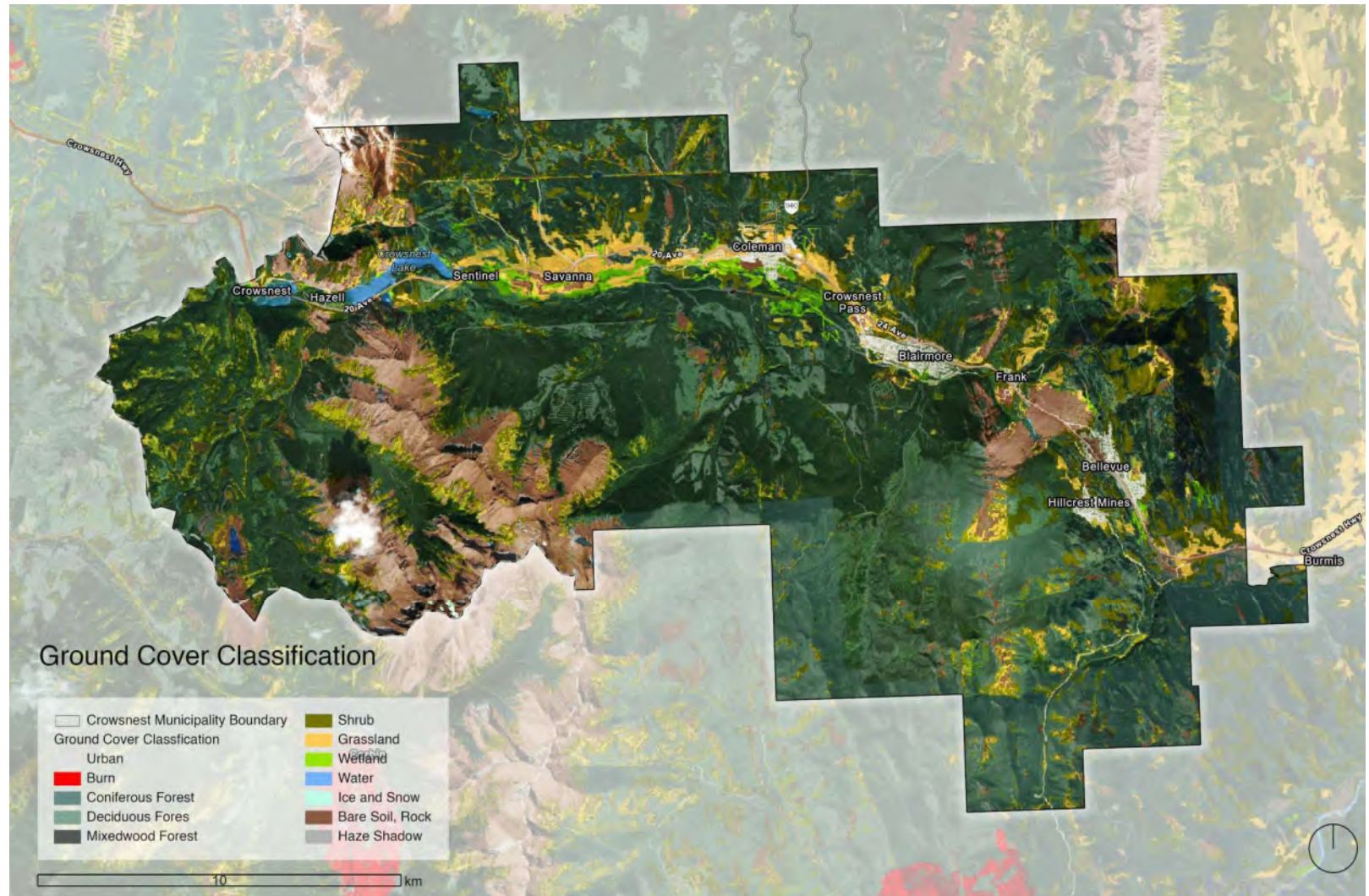
- Government of Alberta Open Data
- Municipality of Crowsnest Pass
- ORRSC GIS
- SANDS, University of Calgary

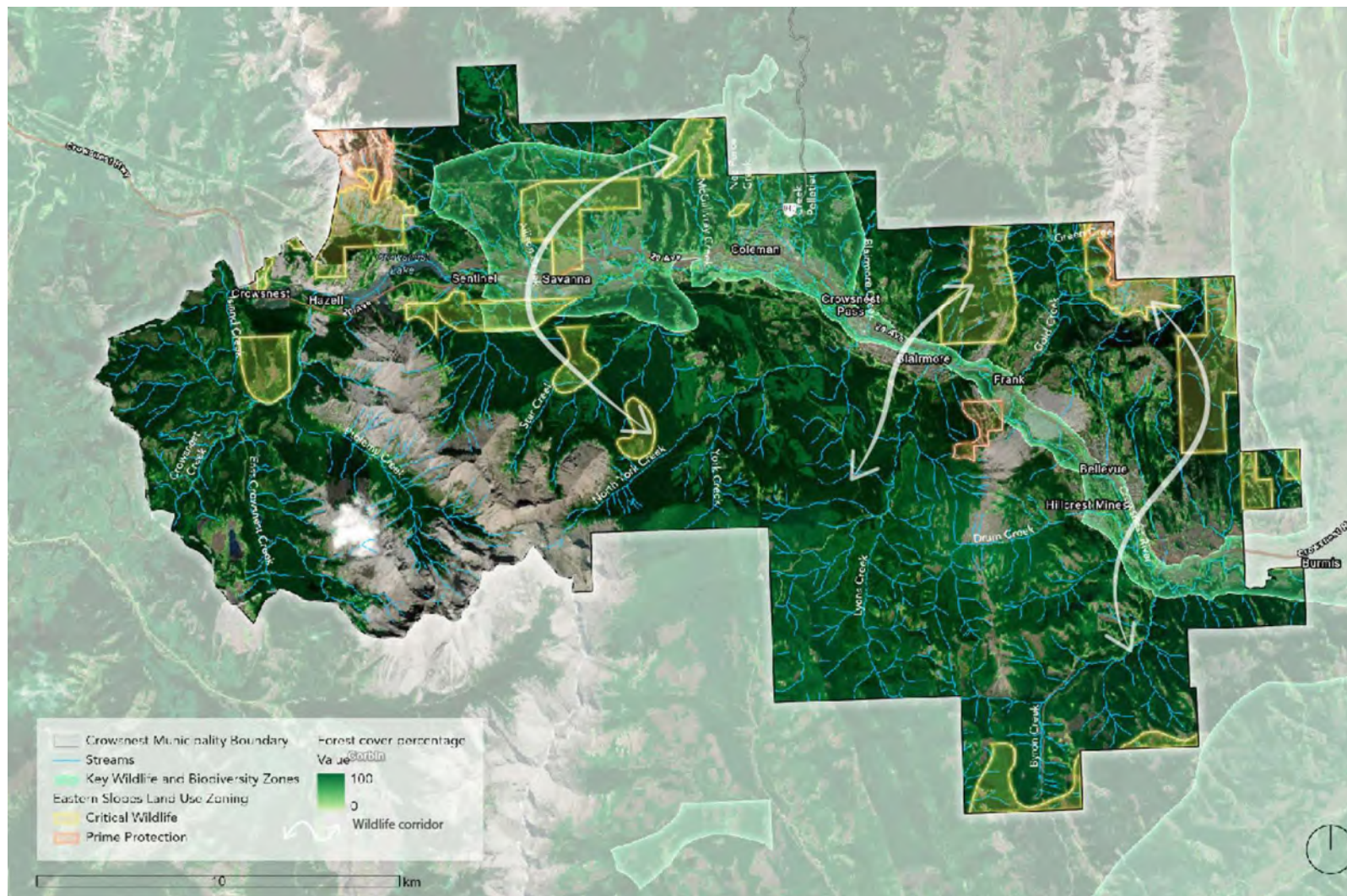
1.2.1 Ground Cover Classification

Crowsnest Pass Municipality contains portions of all three natural subregions of Rocky mountain natural region: Alpine, Subalpine and Montane. The elevations within the Municipality of Crowsnest Pass vary significantly, ranging from approximately 1200 metres in the valley bottom of the Crowsnest River to 2,549 metres along the summit of Mount Tecumseh (Oldman River Regional Services Commission, 2020).

Vegetation is typical of Montane Natural Subregion: forests on north and east facing slopes, grasslands on south and west facing slopes, shrubs of willows on wetter soils within the valley, and riges of pine trees throughout the landscape.

The Municipality of Crowsnest Pass is home to over 300 rare plant species, 140 of which are endemic to this natural region (Oldman River Basin Commission Services, 2020).





1.2.2 Ecologically sensitive areas

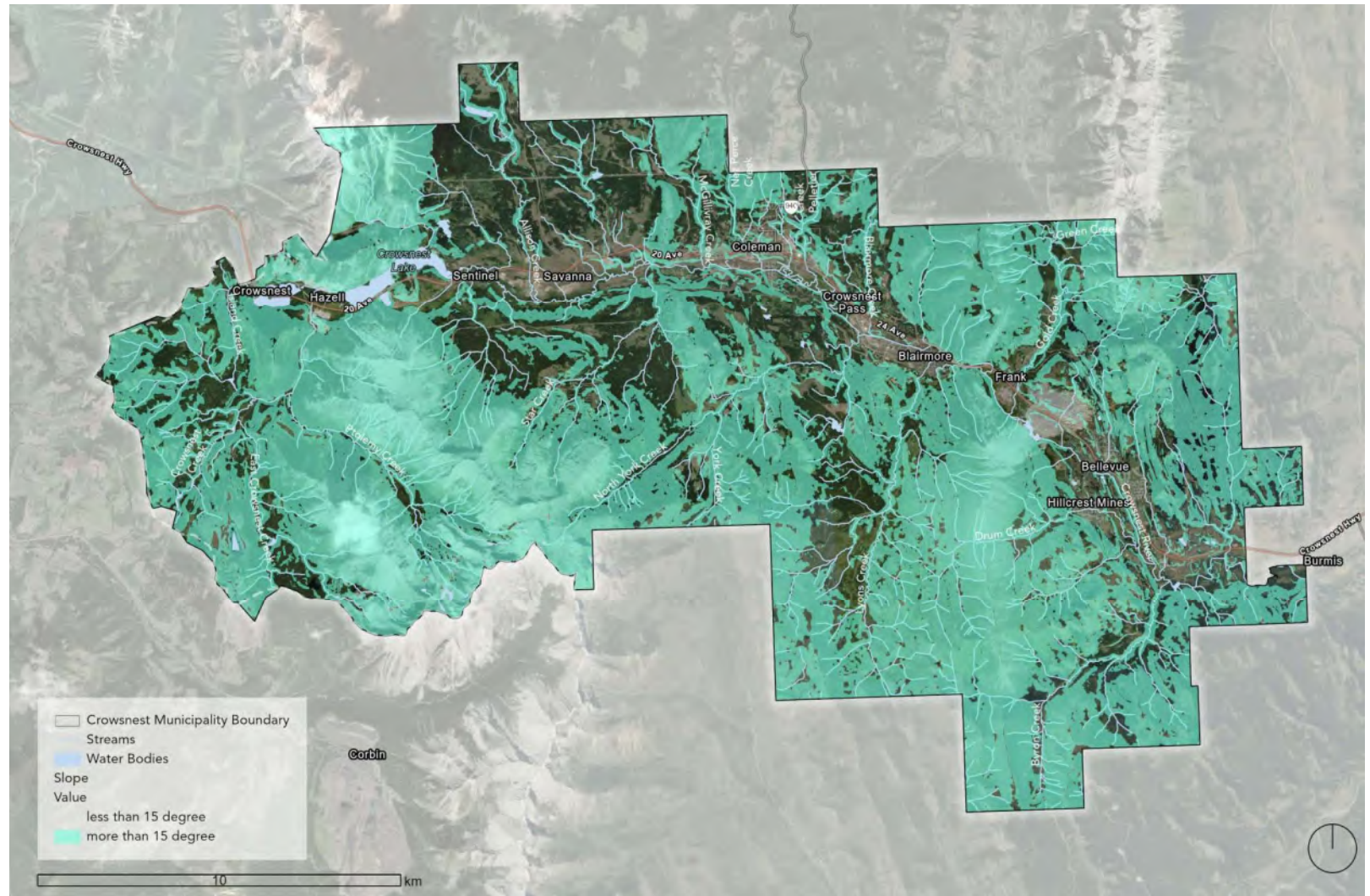
Crowsnest pass is home to many wildlife such as Mountain goats, bighorn sheep, wolf, cougar, and elk etc. But the most famous species is the grizzly bear, which is a keystone species and indicator of a healthy physical landscape.

Wildlife can be spotted throughout the MCNP, however three major corridors have been identified which are shown by these arrows on the map: west, central and east corridors and Preserving these wildlife movement corridors is critical.

It is recommended to preserve these critical wildlife corridors and enhance the animal movement by adding wildlife crossings at these locations.

1.2.3 Topography

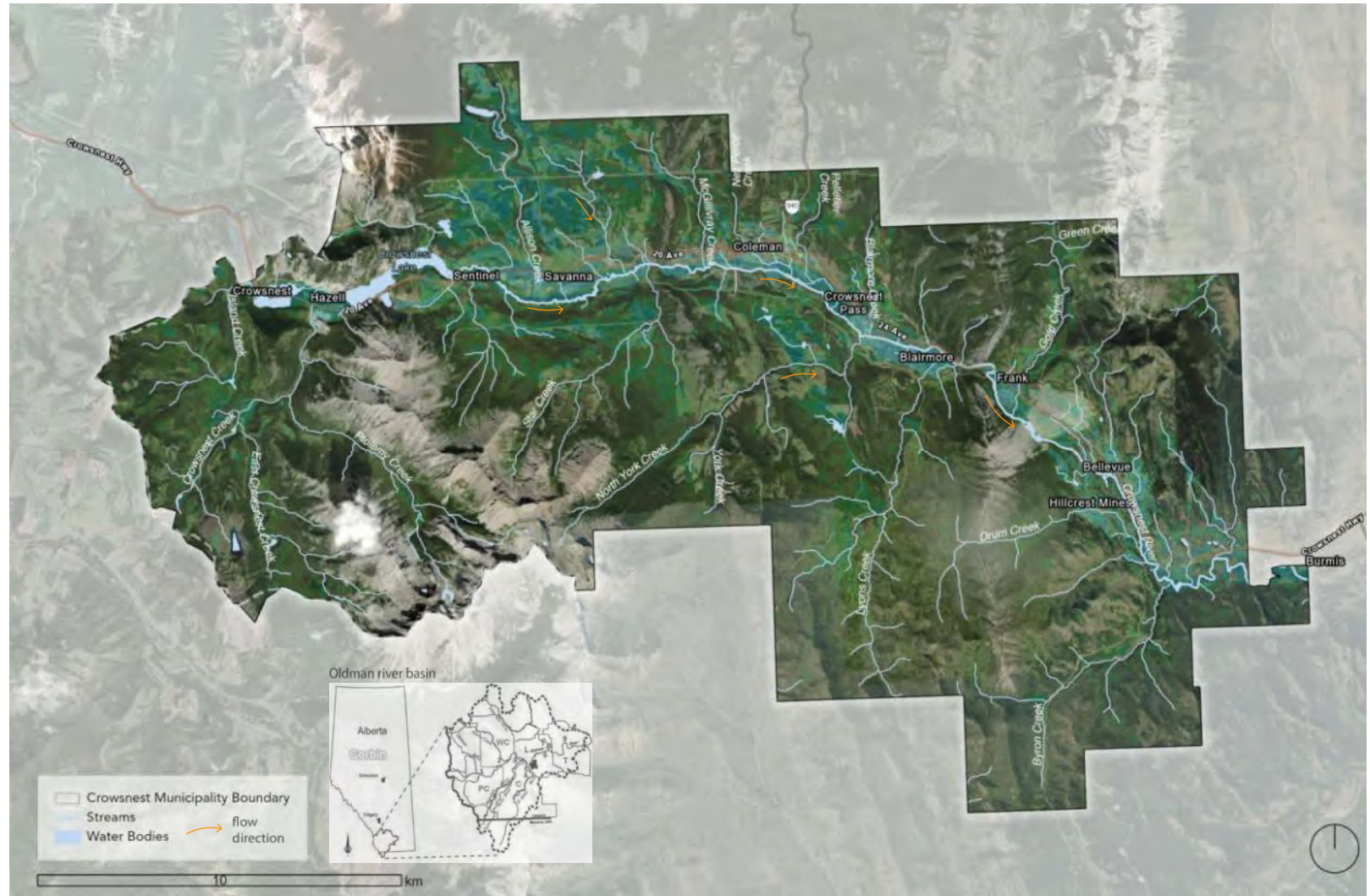
Slope analysis was used to determine the potential areas for development that fall below 15 degrees. the black shows the lower slopes that could be developed and green shows higher slopes.



1.2.4 Hydrology

The Crowsnest River is an important headwater tributary within the South Saskatchewan watershed. The 53 km watercourse begins at Crowsnest Lake and travels east through Crowsnest Pass.

Having a rocky mountain watercourse is a major amenity. However, as the pressure on water resource in the basin is increasing the Municipality need to make sure to maintain the health of the river system.



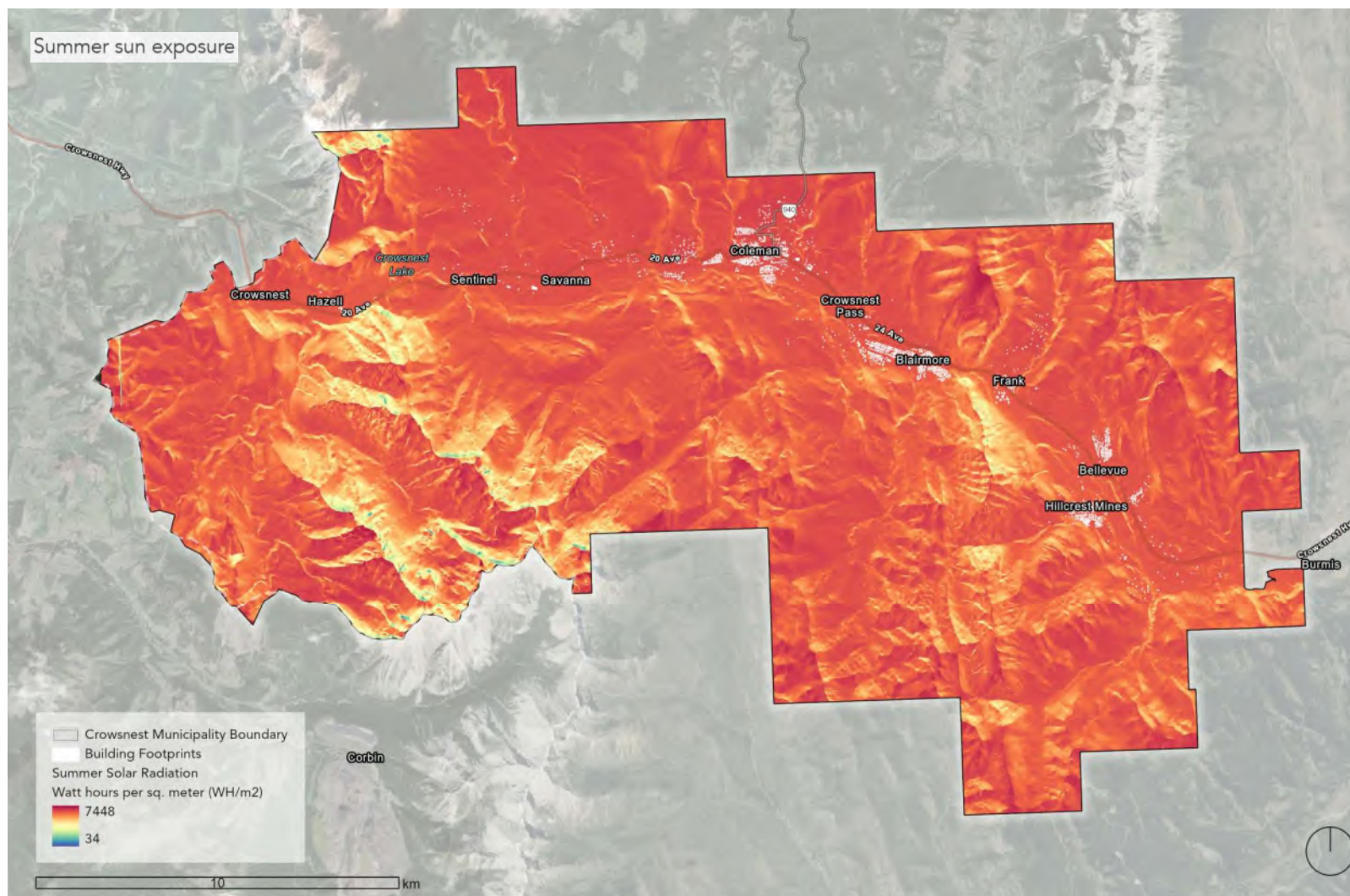
1.2.5 Climatic considerations

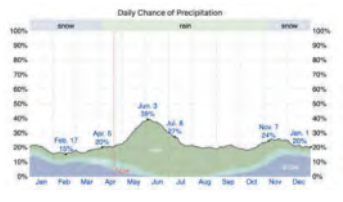
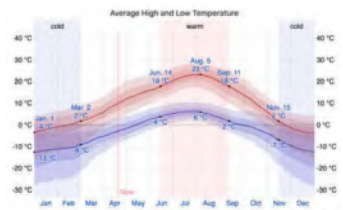
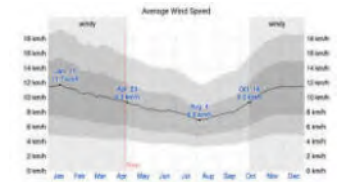
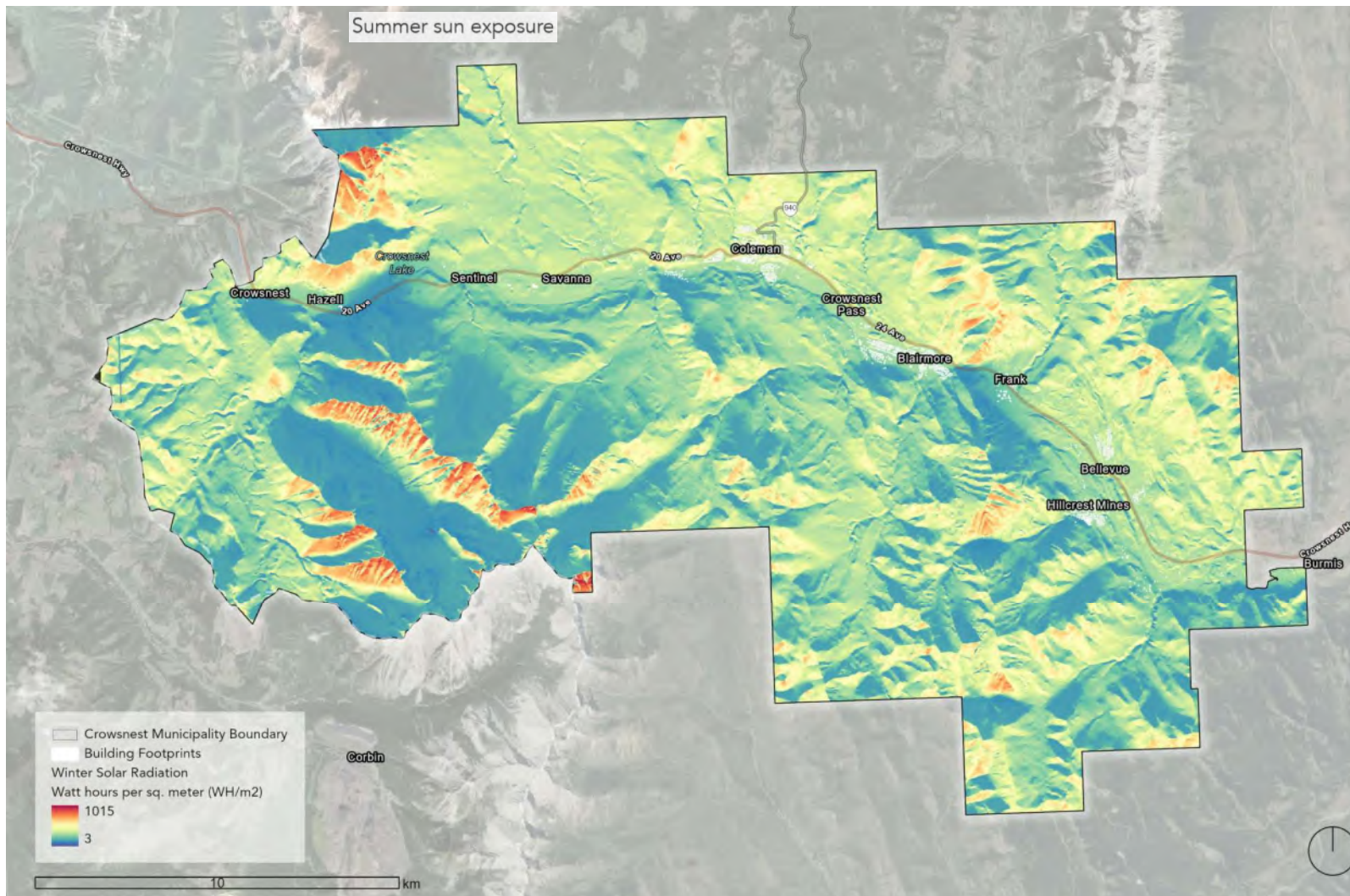
The summers are short and comfortable, the winters are freezing and snowy, and it is partly cloudy year around. Over the course of the year, the temperature typically varies from -13°C to 23°C and is rarely below -28°C or above 28°C (Weather Spark, 2021).

The predominant wind direction is from the west throughout the year. The windier part of the year lasts for 6.3 months, from October 14 to April 23, with average wind speeds of more than 9.3 kilometres per hour. The calmer time of year lasts for 5.7 months, from April 23 to October 14, with average wind speeds of 6.9 kilometres per hour.

In spite of the high elevations, Crowsnest Pass receives good sun exposure all year around, winters are warmer than in most of Canada. Also, Frequent Chinook winds that move through the Front ranges make the Pass a destination for four-season outdoor recreational activities.

Based on the rainless days with perceived temperatures between 18°C and 27°C , the best time of year to visit Crowsnest Pass for general outdoor tourist activities is from early July to mid August, with a peak in the last week of July.



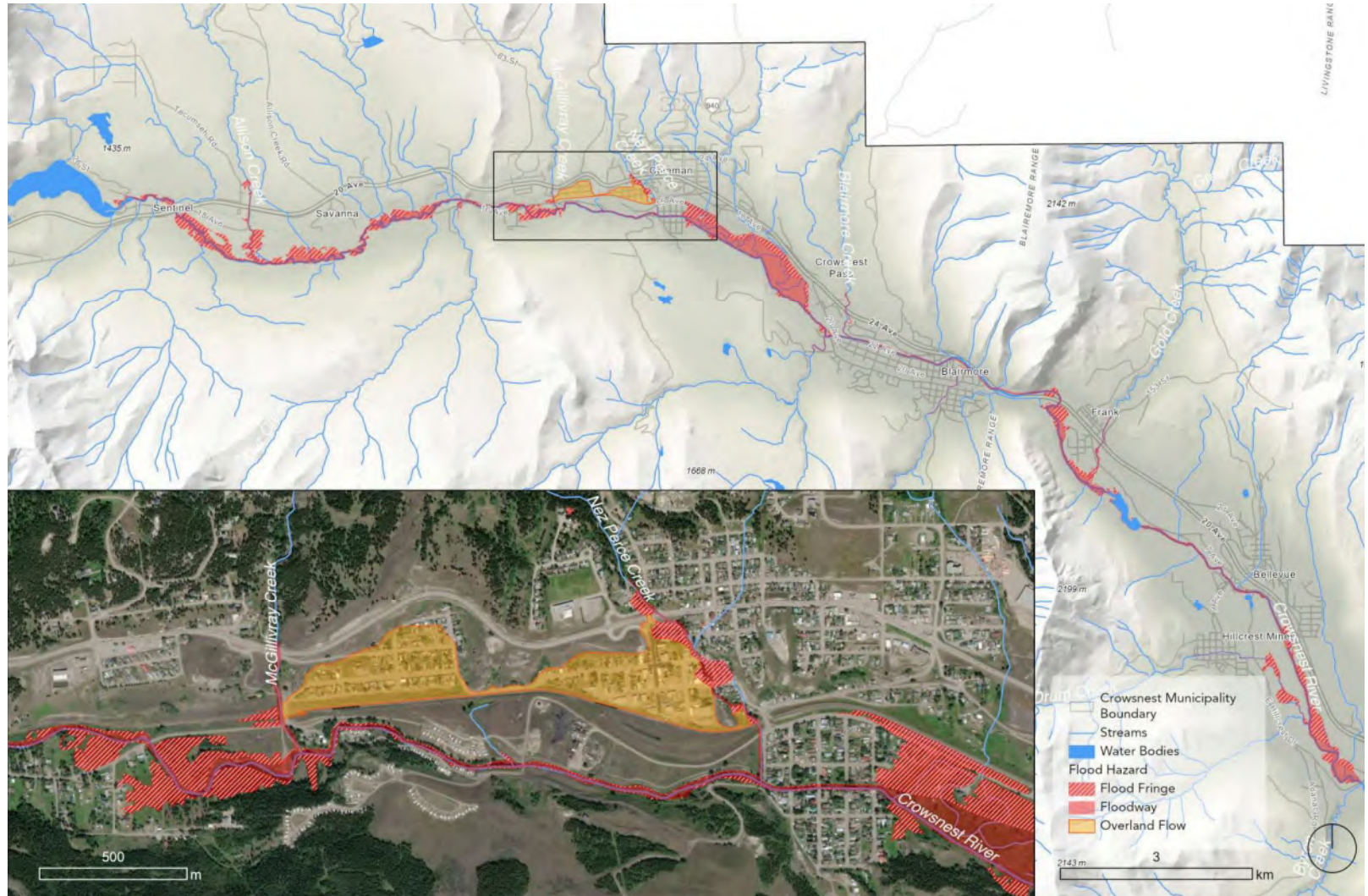


WeatherSpark.com

1.2.6 Flood hazard

Crowsnest Pass river flows along HWY 3 through urban and rural communities and create risks associated with flooding events which can compromise public safety and create damage to properties.

The map at the bottom shows Coleman that could face the highest flooding risk.

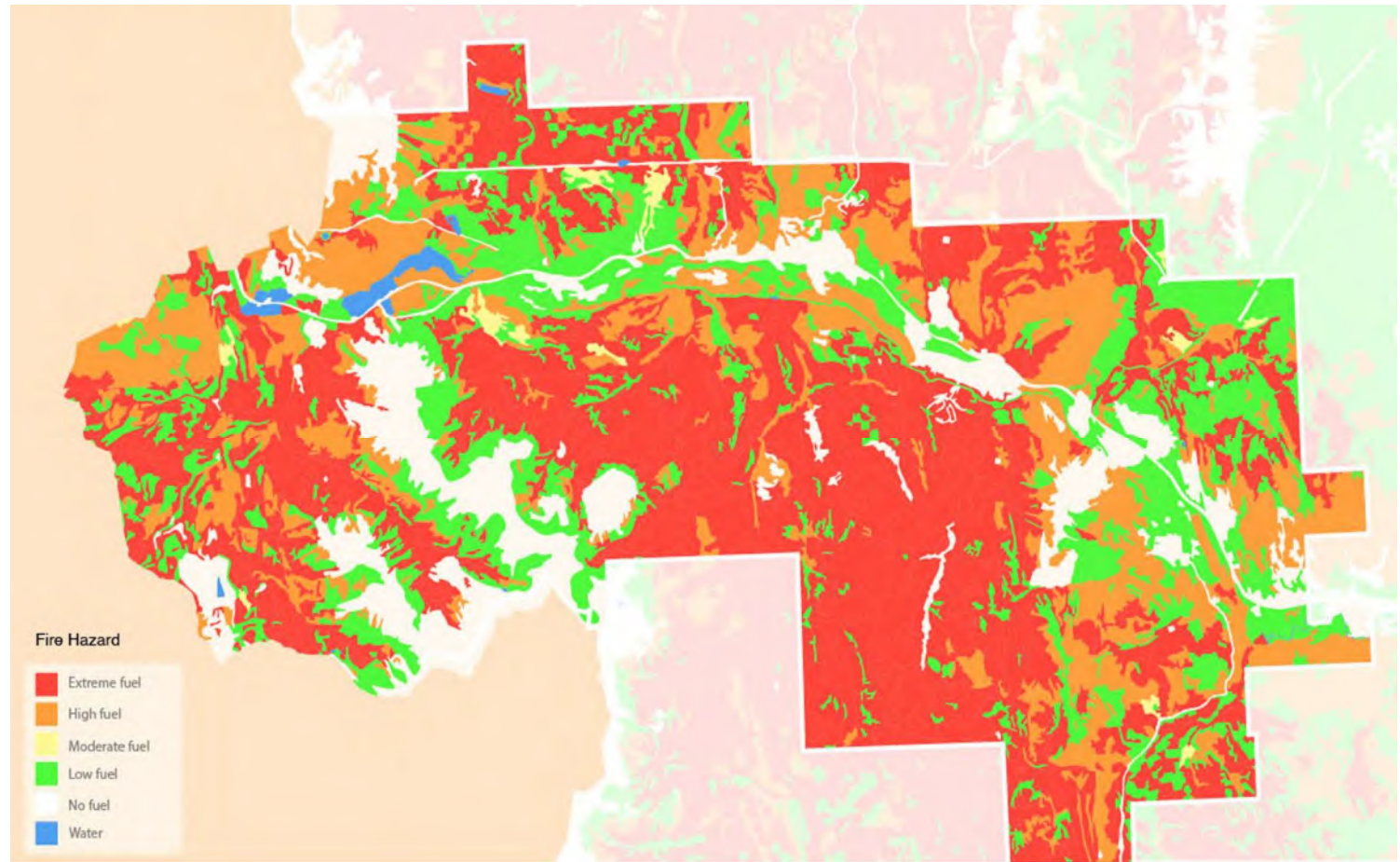


1.2.7 Fire Hazard

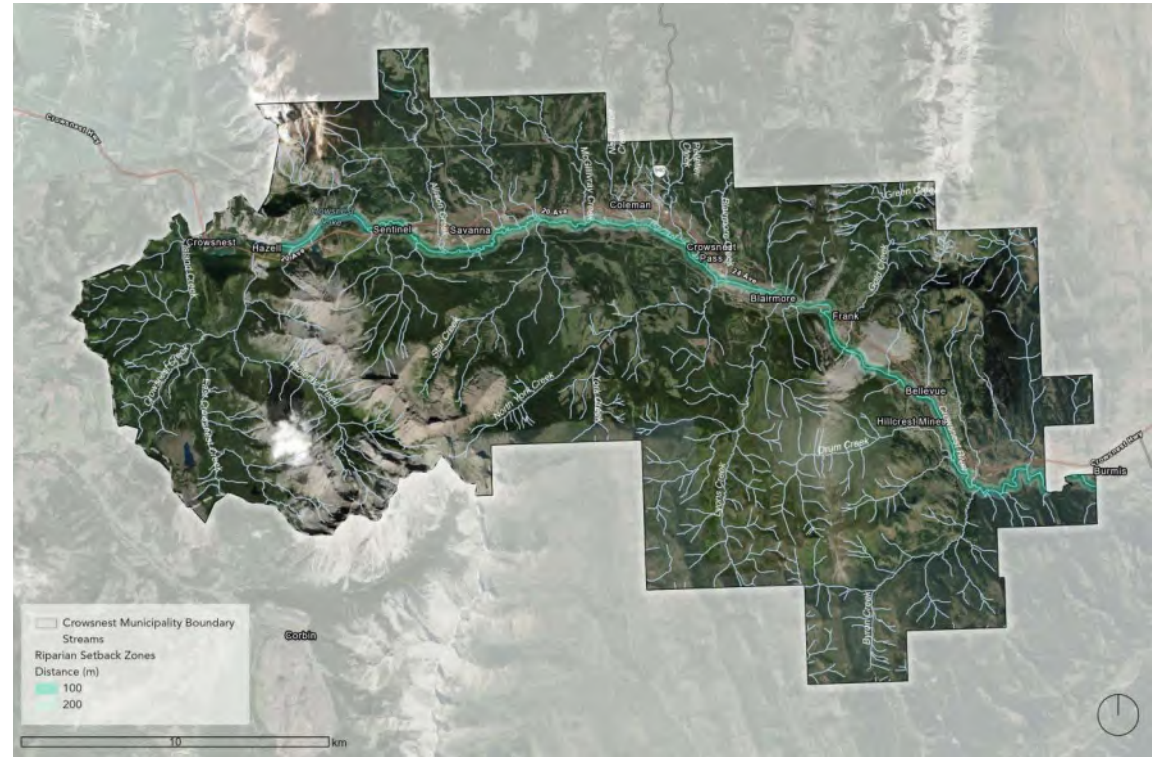
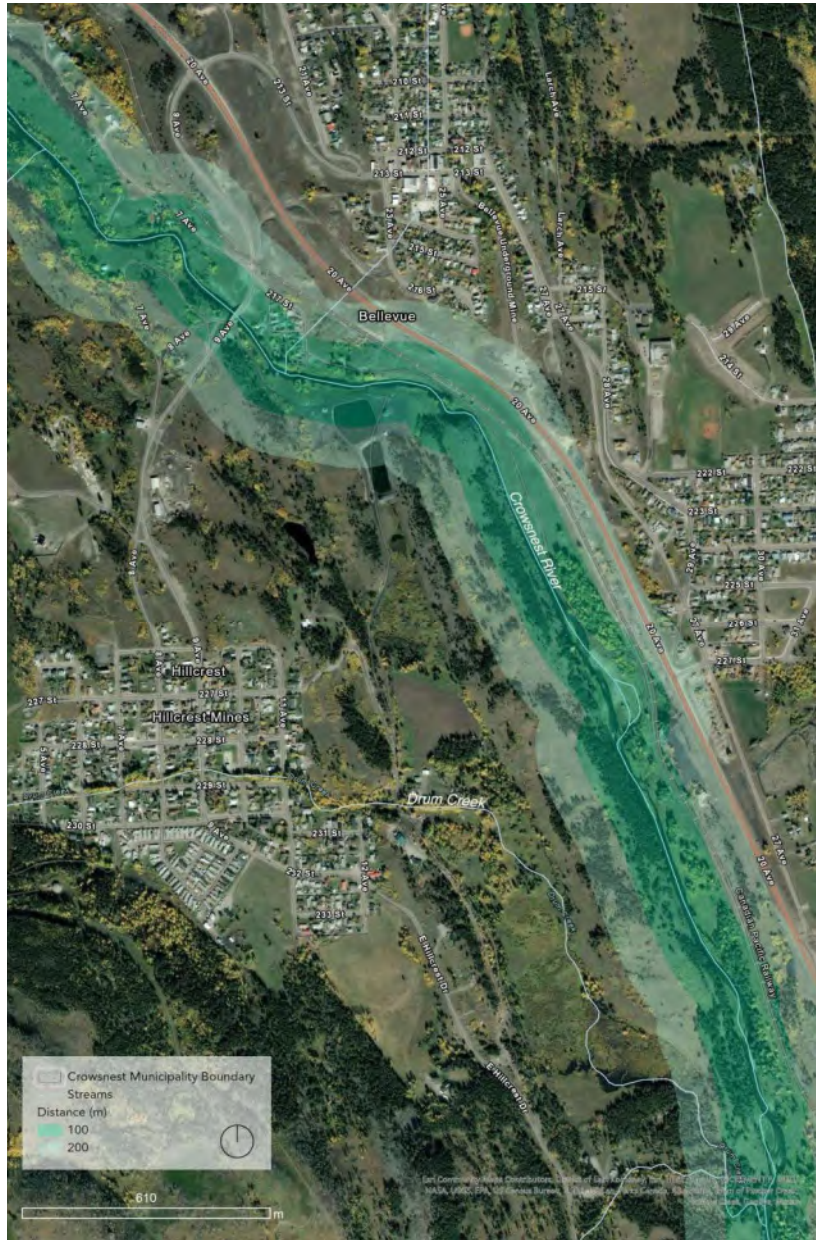
The Crowsnest valley is bounded by the rocky mountain forest reserve. While this is certainly one the assets it also brings an elevated risk of wildfire.

Each urban community within CNP is located less than 1 km from an exteme or high fire hazard area.

due to climate change there will be more extreme weather events so Both flooding and fire hazards need to be considered in the future planning and land use decisions.



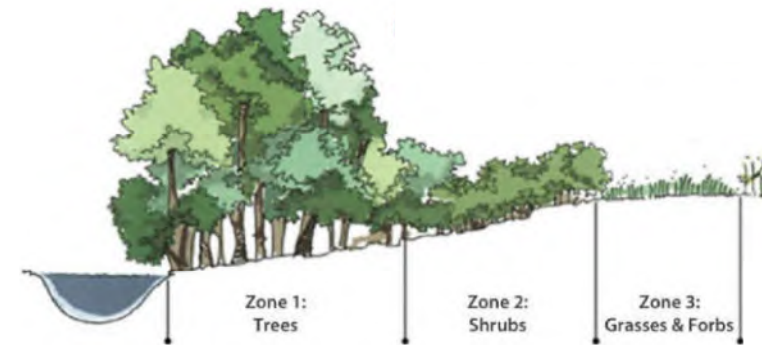
(ORRSC GIS)



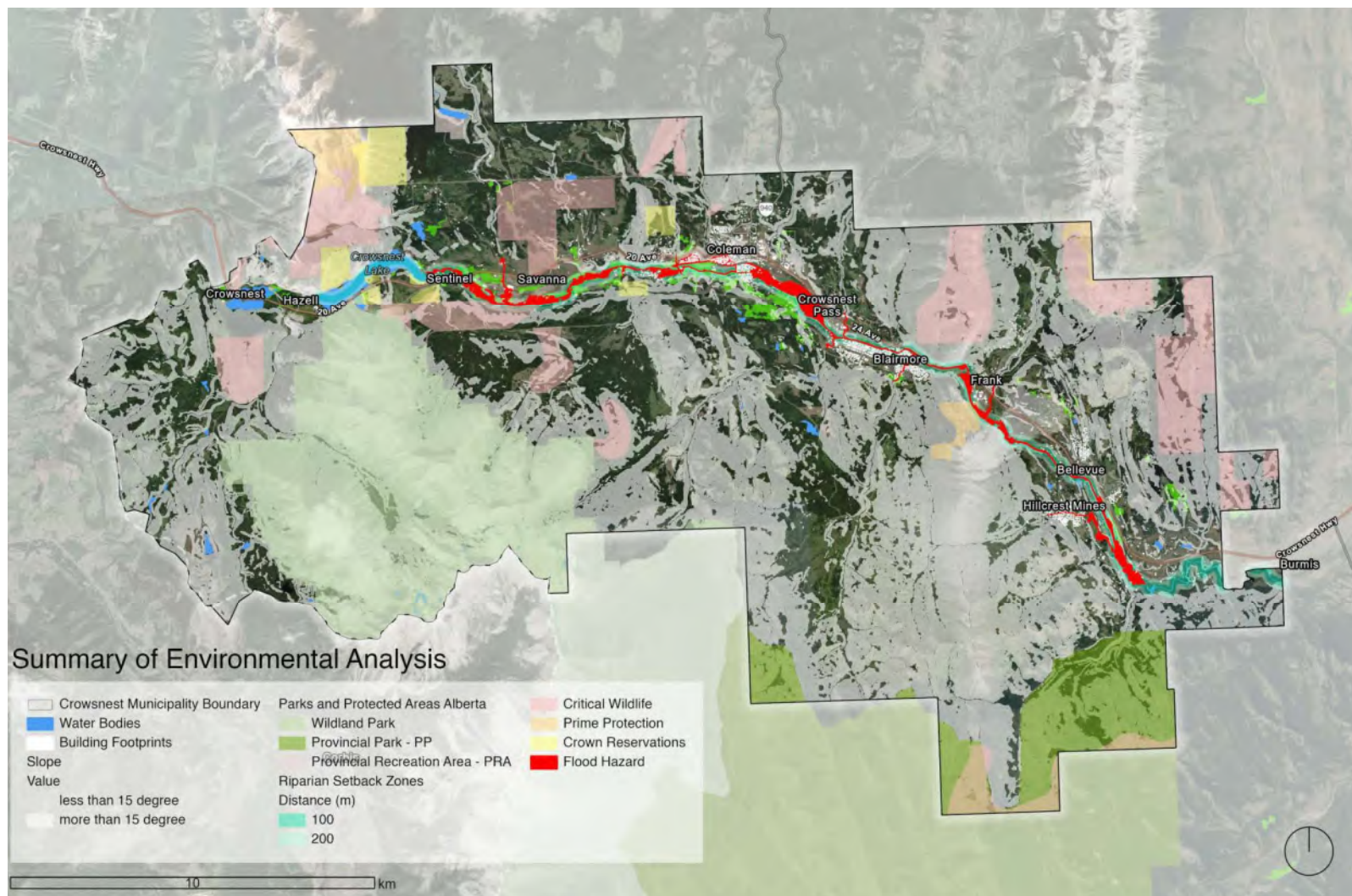
1.2.8 Riparian setback

Healthy riparian areas preserve the water supply quantity and quality, protect against flooding events, stabilize slopes, and also provide wildlife habitat and corridor.

The map on the left shows the 100 metres and 200 metres setback zones that is being proposed for the riparian areas of Crownsnest River that will maintain healthy waterways.



Source: Corey Wilson,



1.2.9 Summary of environmental analysis

Summary of environmental analysis map overlays all the significant areas of protection in terms of hydrology, vegetation, wildlife habitat and other public protected areas.

Areas that do not have overlays on them represents the areas for potential development. The rest of the areas that are highlighted represent the areas where the development should be avoided.

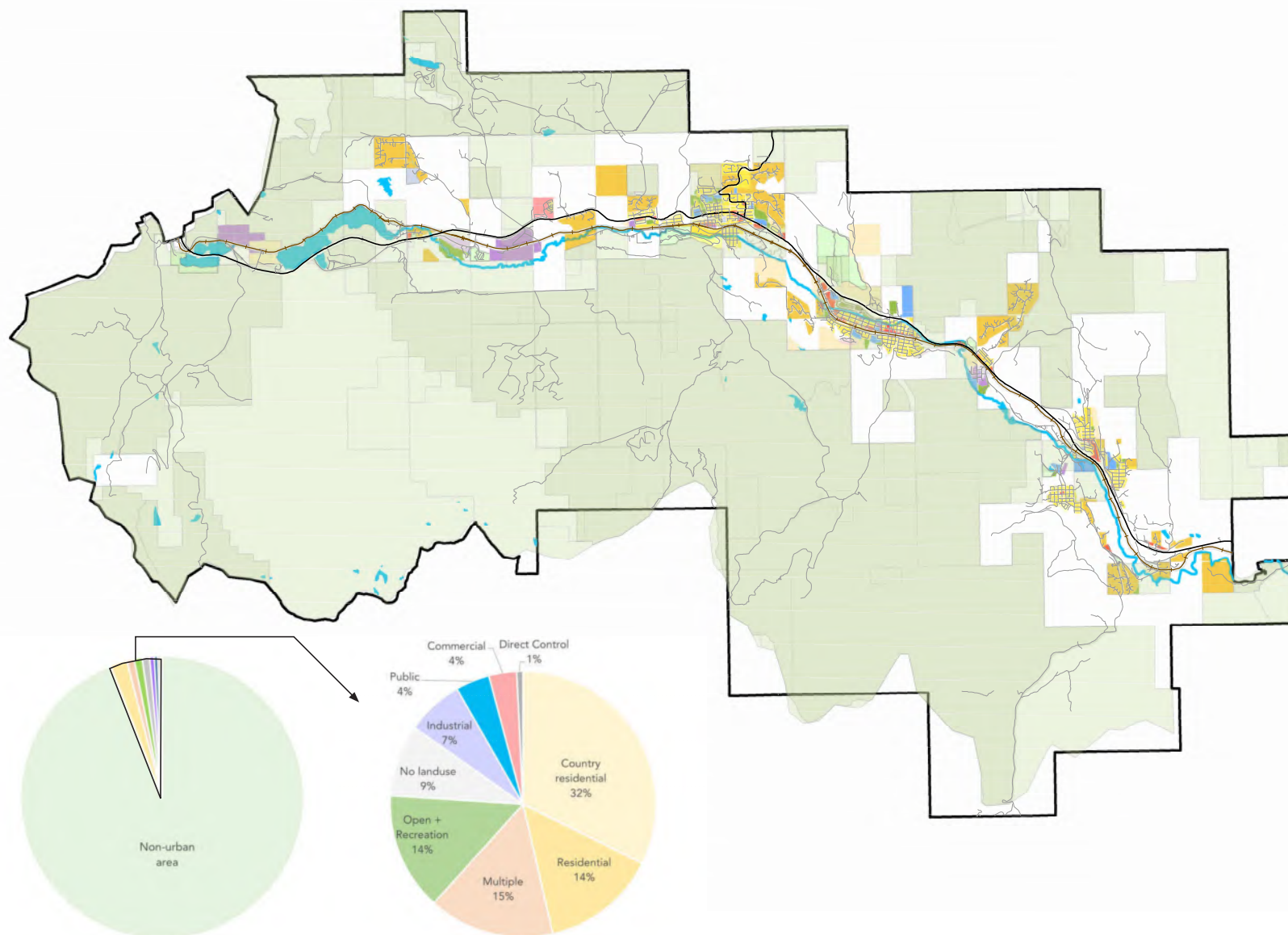
Areas prone to flood and erosion need to be avoided and areas of wildland-urban interface need to special considerations for future development.

The direction for future growth should remain within built up areas of the Municipality to have lower footprint to environmentally sensitive areas and do not compromise the current state of the natural landscape.

1.3 LAND USE, ZONING AND BUILDING FORM

1.3.1 Land use zoning

94% of the total land area in the municipality is natural areas that includes protected areas and environmental reserves. This non-urban areas are largely owned by the municipality, which is a huge asset to grow recreational tourism in the Pass. Out of the 6% area developed, almost half is dedicated to residential communities with single detached and country residential houses. Other major land uses are commercial, public and recreational commercial.



Source: Municipality of CNP

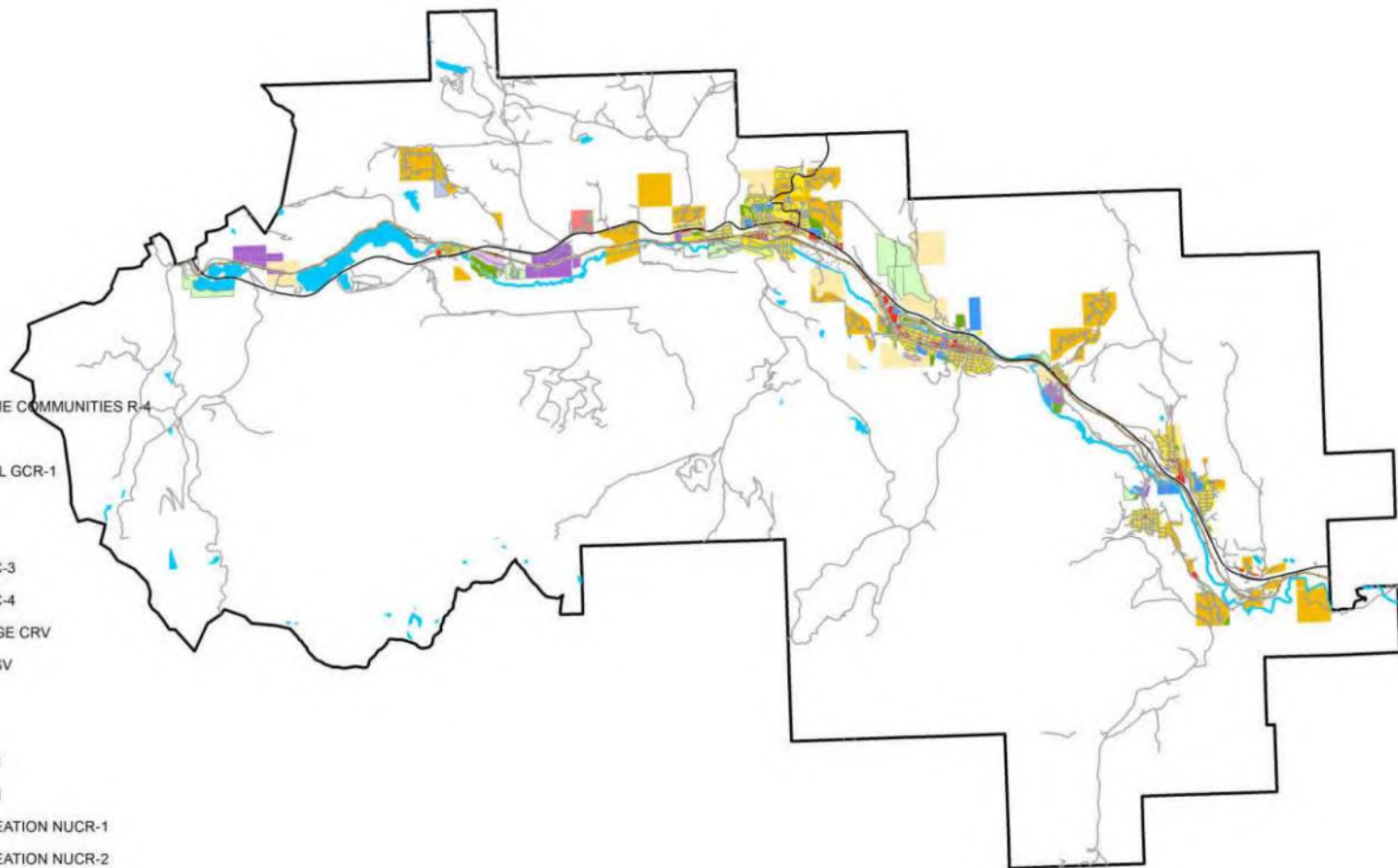
Current zoning

Legend

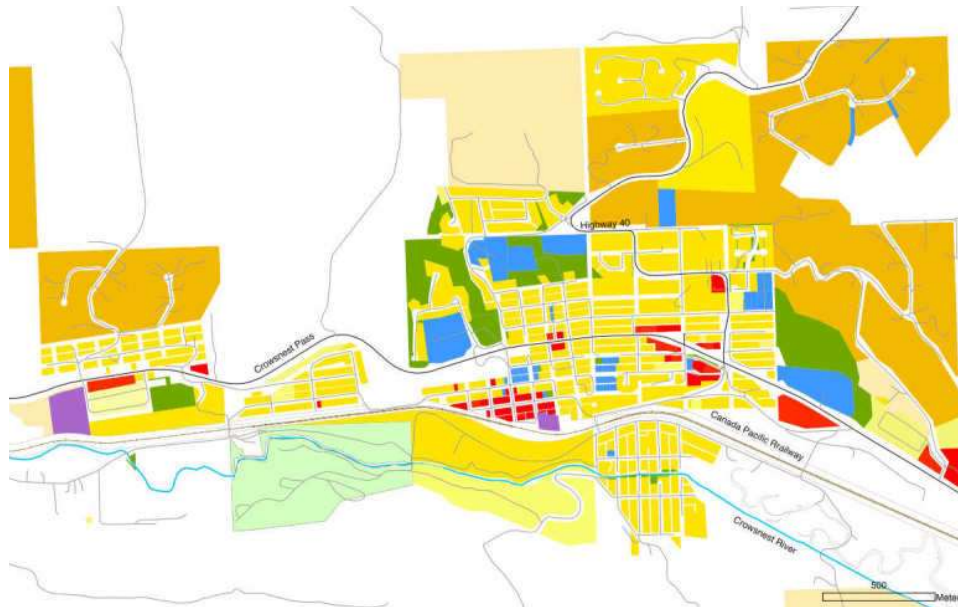
- Highway
- Local
- Railway

Land use

- RESIDENTIAL R-1
- RESIDENTIAL R-1A
- DUPLEX RESIDENTIAL R-2
- MULTIPLE RESIDENTIAL R-2A
- MULTIPLE RESIDENTIAL R-3
- MANUFACTURED / MODULAR HOME COMMUNITIES R-4
- NARROW LOT RESIDENTIAL R-5
- GROUPED COUNTRY RESIDENTIAL GCR-1
- RETAIL COMMERCIAL C-1
- DRIVE-IN COMMERCIAL C-2
- COMPREHENSIVE COMMERCIAL C-3
- CANNABIS RETAIL COMMERCIAL C-4
- COMPREHENSIVE RESORT VILLAGE CRV
- COMPREHENSIVE SKI VILLAGE CSV
- PUBLIC P-1
- INDUSTRIAL I-1
- SENTINEL INDUSTRIAL PARK SIP-1
- RECREATION & OPEN SPACE RO-1
- NON-URBAN COMMERCIAL RECREATION NUCR-1
- NON-URBAN COMMERCIAL RECREATION NUCR-2
- DIRECT CONTROL DC-1
- DIRECT CONTROL DC-4
- MULTIPLE LANDUSE
- Non-urban
- NON-URBAN AREA NUA-1
- Crowsnest River
- Municipal Boundary



5 Kilometers



85% Single detached homes



Country-residential homes on large lots

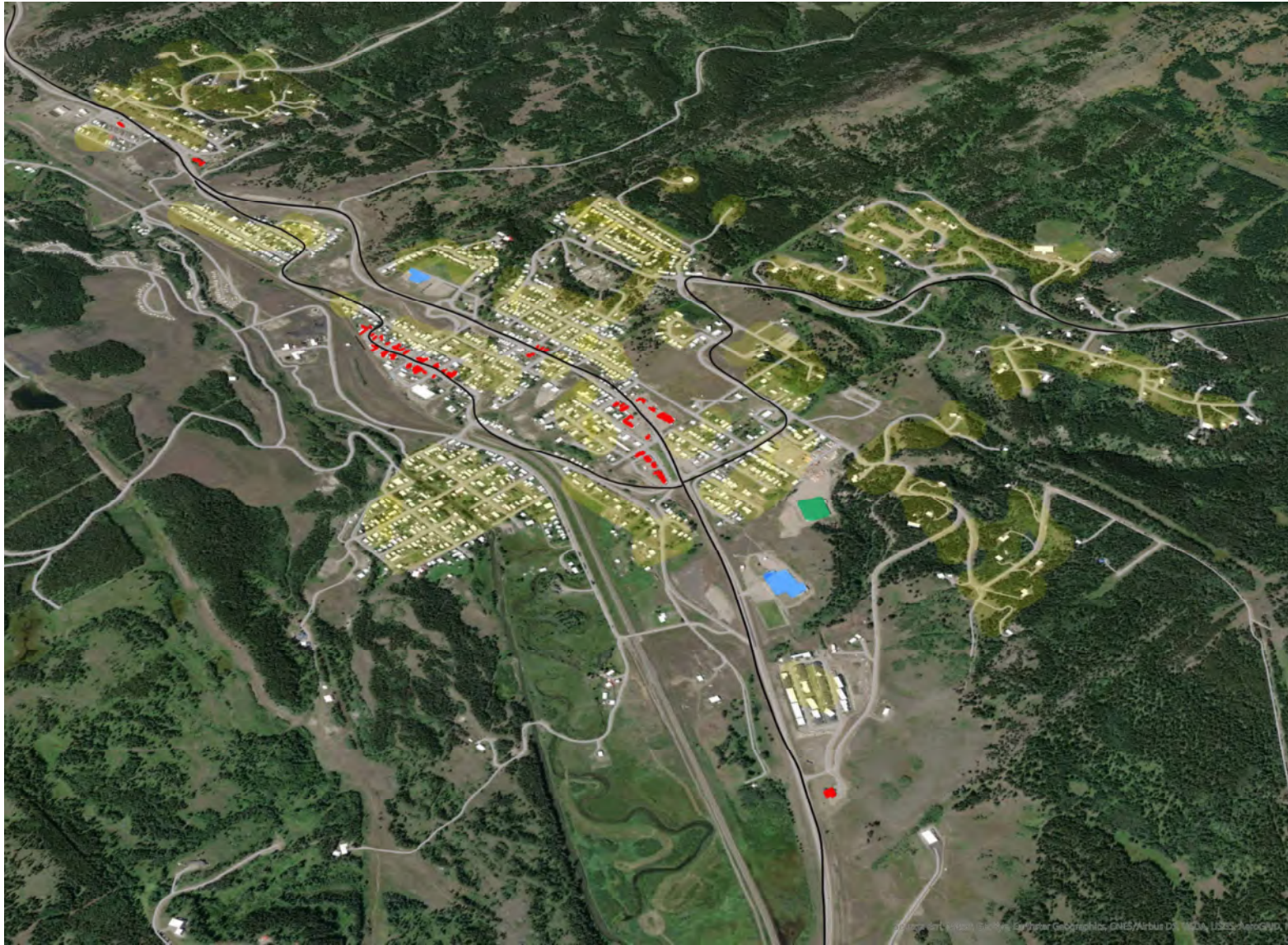


1% Retail commercial (few vacant)

Coleman

Coleman is the second largest community of the Pass which has 85% of the land use as single detached properties. Large share of low density housing is costly for the municipality to maintain and service. According to Statistics Canada Census 2016, more than 60% of the existing population falls under low income category. Although Coleman has the highest number of multi-residential housing in the whole, there is still a noticeable shortage of affordable multi-residential housing. Single detached housing typologies on large lots is not affordable to a large number of people.

Commercial land use is limited to only 1%, clustered in downtown Coleman and on Highway 3. Coleman is lacking efficient commercial areas to service the community of this size, which leaves no option but to travel to these two locations. Coleman also houses the only High School of the Pass, thus making it a busy and important location for kids, youngsters and seniors as well.

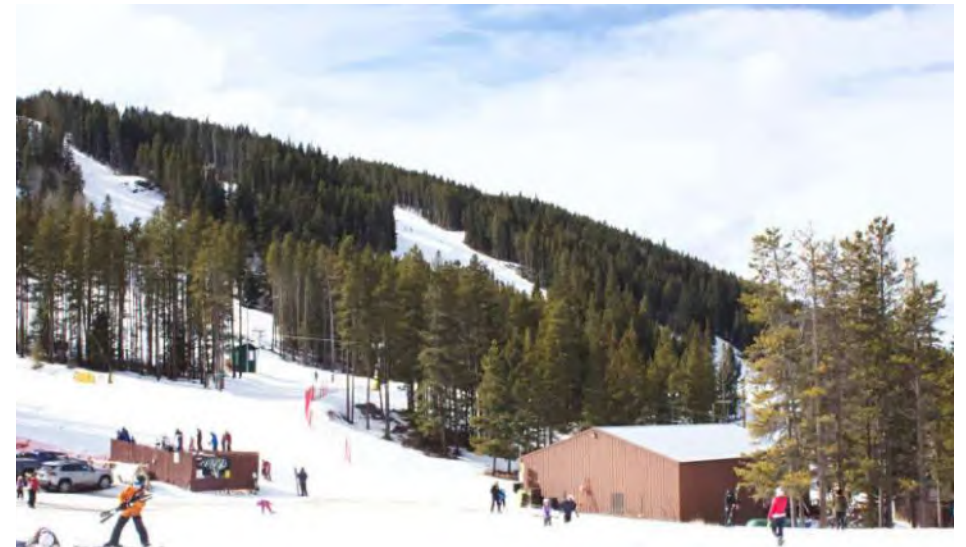
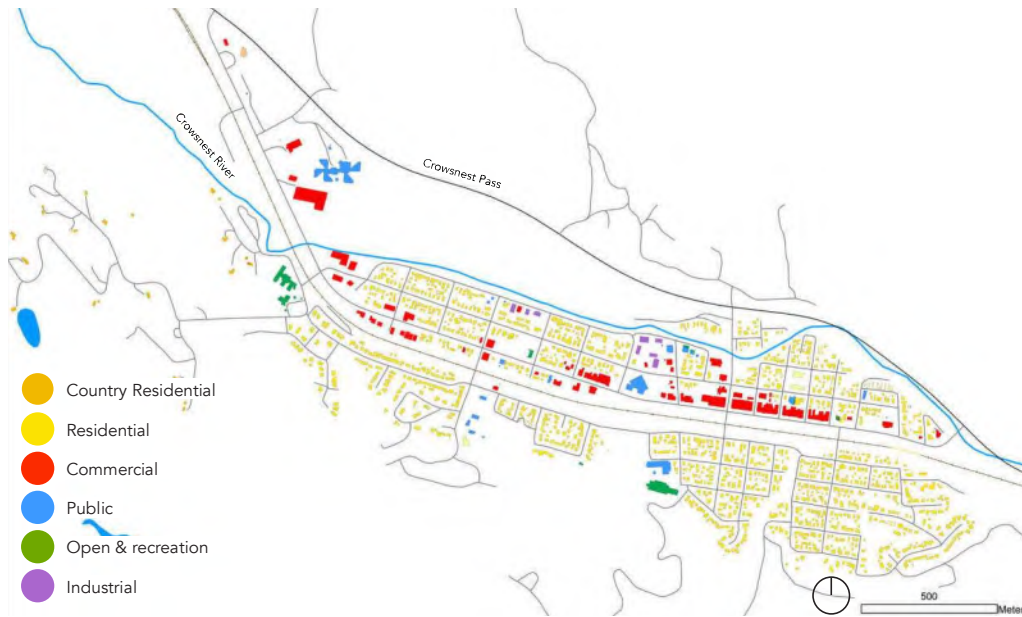




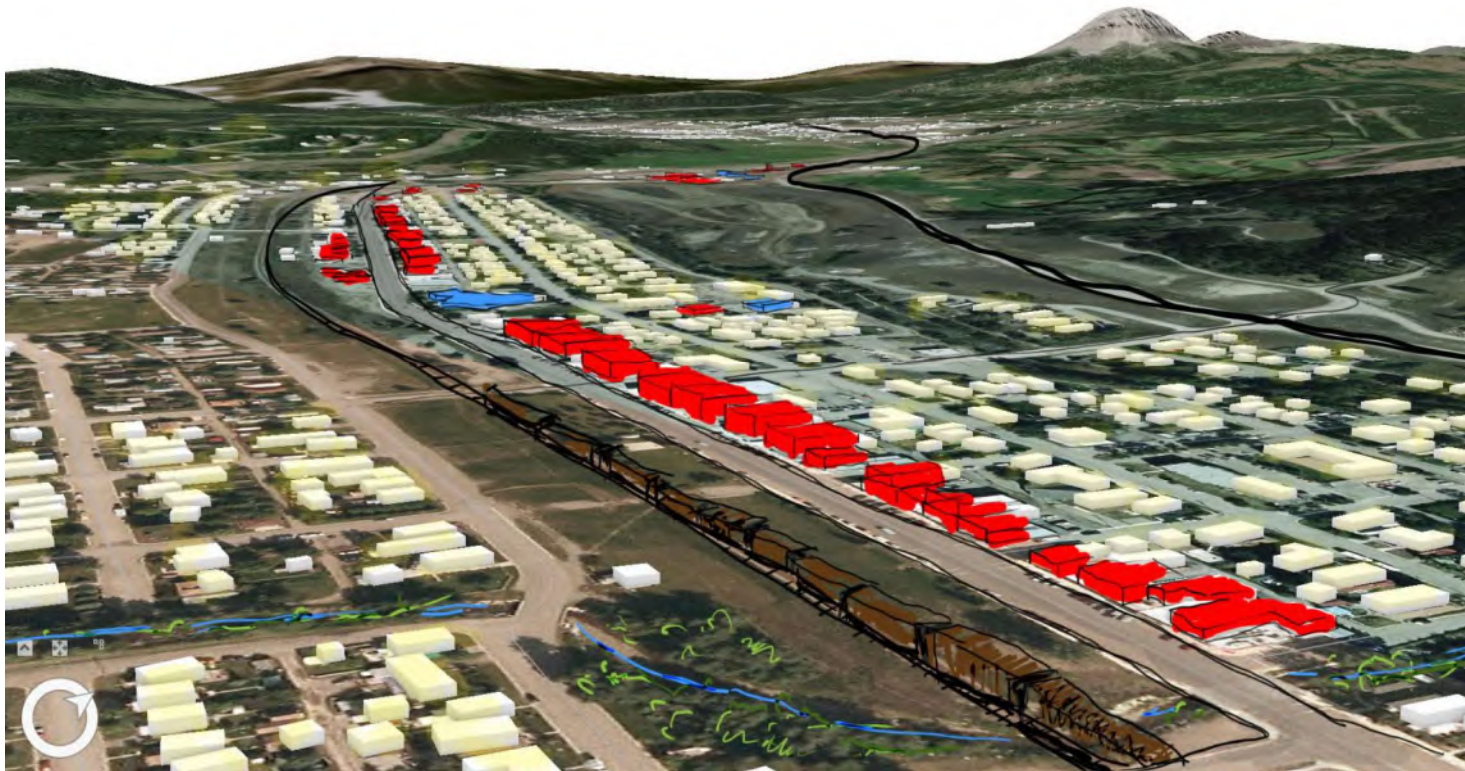
Blairmore

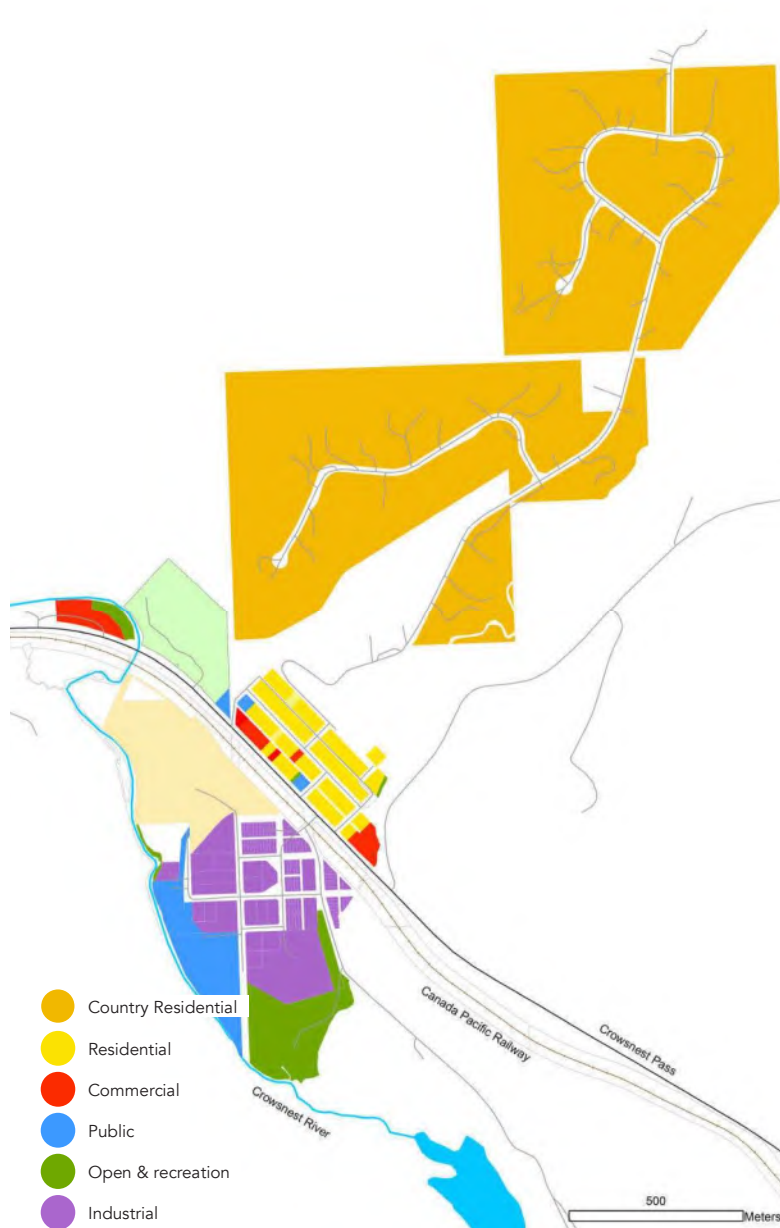
Blairmore is the largest community and the central business district of the Pass. Having major commercial centres, it attracts visitors from all communities of the Pass. Commercial land use is reachable within 500 metres to all residents due to its central location on 20th Ave. 9% out of the total area is open/recreational space, which is slightly on the lower side of what is preferred. Blairmore has high potential for growth due to the presence of large commercial areas and public buildings such as

the Golf Course, Pass Powderkeg Ski Hill and the Health Care Centre. Light automobile industrial activity can be observed on the northern edge. Similarly with other communities, 80% of dwelling units in Coleman are single detached houses, the highest percentage in the municipality. The main street commercial area in Blairmore has 20 vacant buildings. These vacant buildings have good opportunity to fulfill the gap towards providing more commercial and office spaces.



Major commercial and recreation centre of the pass





Frank

The southern part of the community largely consists of industrial establishments. The future Twinning of Highway 3 will have significant impact on Frank, and the parcels fronting onto Highway 3 are expected to be acquired for highway right-of-way. There is no land available for new development in Frank and also due to Turtle Mountain Restricted Development Area.







Bellevue

In addition to large share of single detached houses, Bellevue have an important cultural heritage sites and commercial street that attract visitors. Two separate clusters of the communities presents an opportunity to bridge the gap through downtown as the main attraction. The existing park areas not adequate for the growing population in Bellevue. However, there are public lands that can be further utilized to expand the parks and open space network in the community.

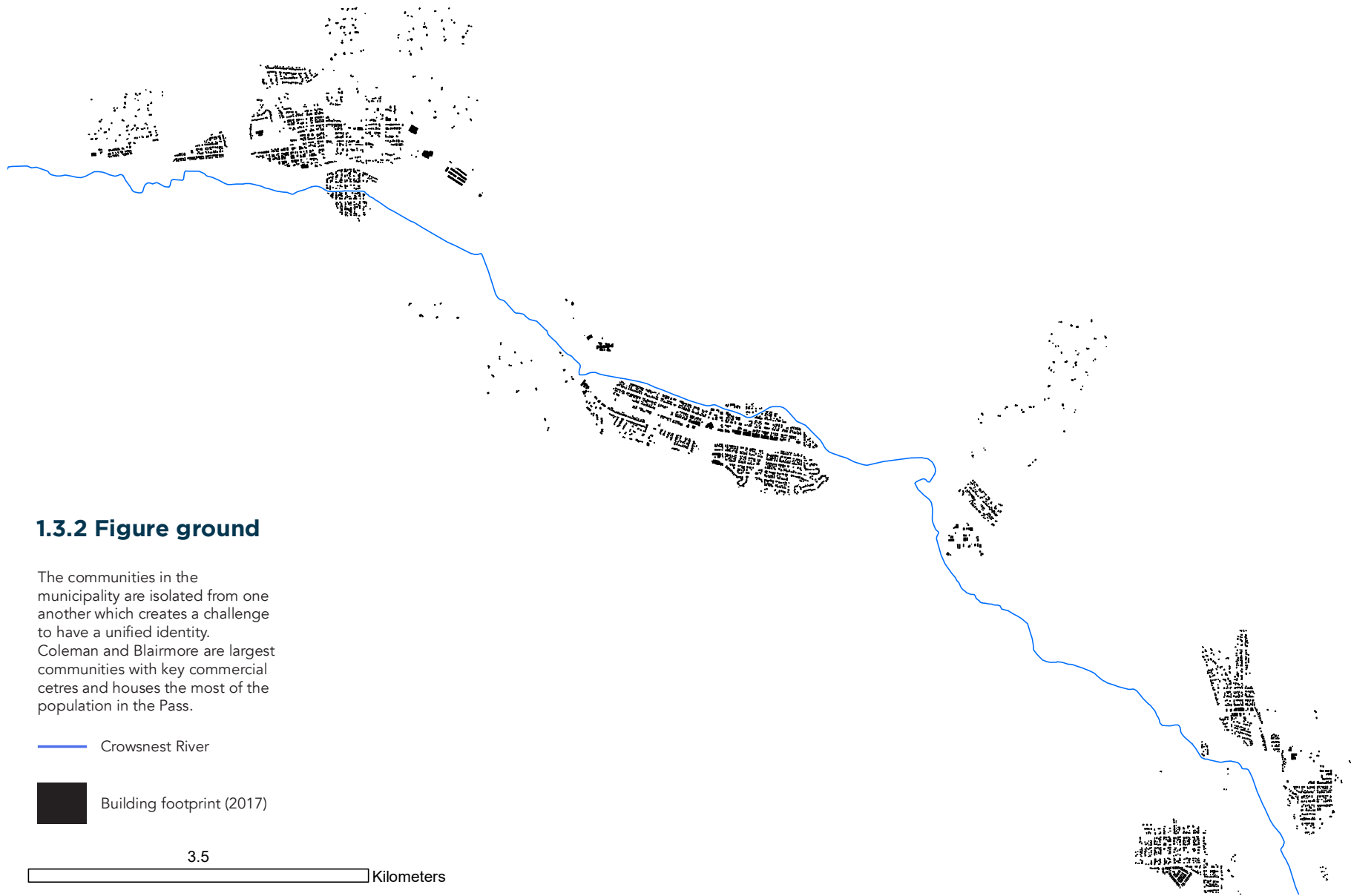




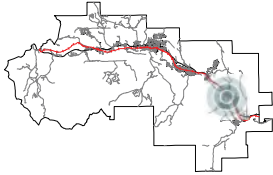

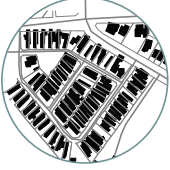

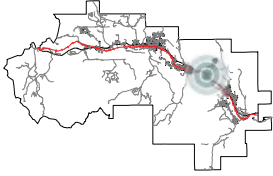

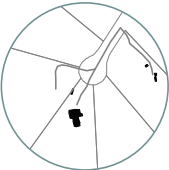
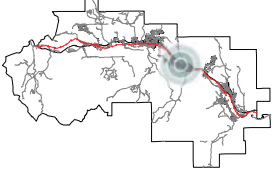
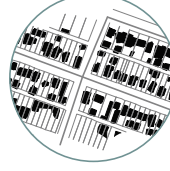

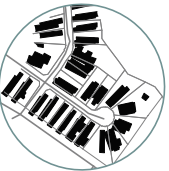
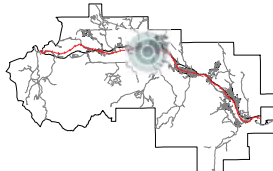



Hillcrest

Hillcrest is a small community with single detached and modular houses. Having no major commercial buildings, dwellers are dependent on other communities. The municipal waste water treatment facility and Ball Diamond are important infrastructures located in Hillcrest. Hillcrest mines is a national heritage site that attracts tourists but currently lacking commercial activities.

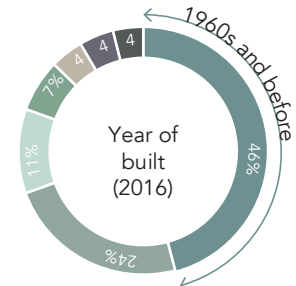
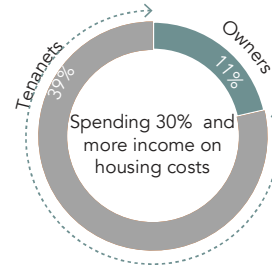
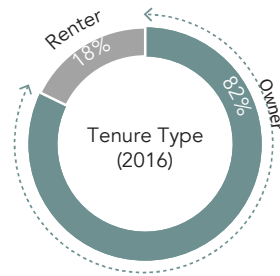
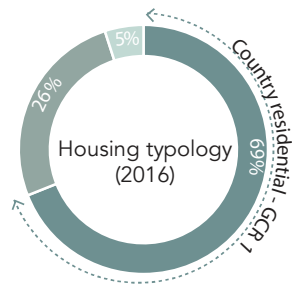




1.3.3 Street typology

		Grid Iron	Warped-Parallel	Loop-Lollipop
Bellevue and Hillcrest Mines				
Frank				
Blairmore				
Coleman				

1.3.4 Housing typology



Average value of dwelling: \$285,000
Average monthly rent: \$970

Single detached

84%



Duplex

0.6%



Semi-detached

0.40%



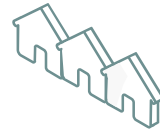
< 5 storeys

4.5%



Row houses

2.1%



Other attached

8%



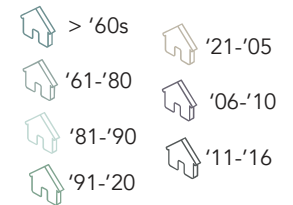
Other single detached

0.40%



> 5 storeys

0%



Single-detached housing R-1



Country-residential GCR-1



Multi-residential R-3



Modular home R-4



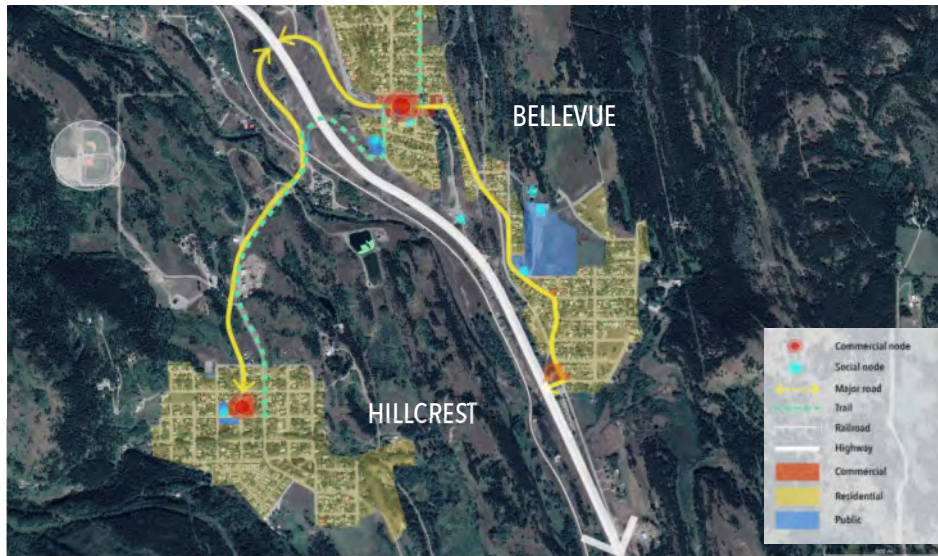
1.3.5 Functional analysis

While entering Highway 3, the community at the left side would be Hillcrest, with majority residential, and a public and commercial area within its 228th street.

By taking the underpass from Hillcrest mines, the community towards the right would be Bellevue, with 78% of residential and surrounding the MDM community Centre, 213st street also known as the

commercial street. Together they form Belle-Crest.

Frank the town of history, has a series of residential towards the north of the hamlet due to the slide, with the major industrial zones towards the south.



1.3.5 Functional analysis

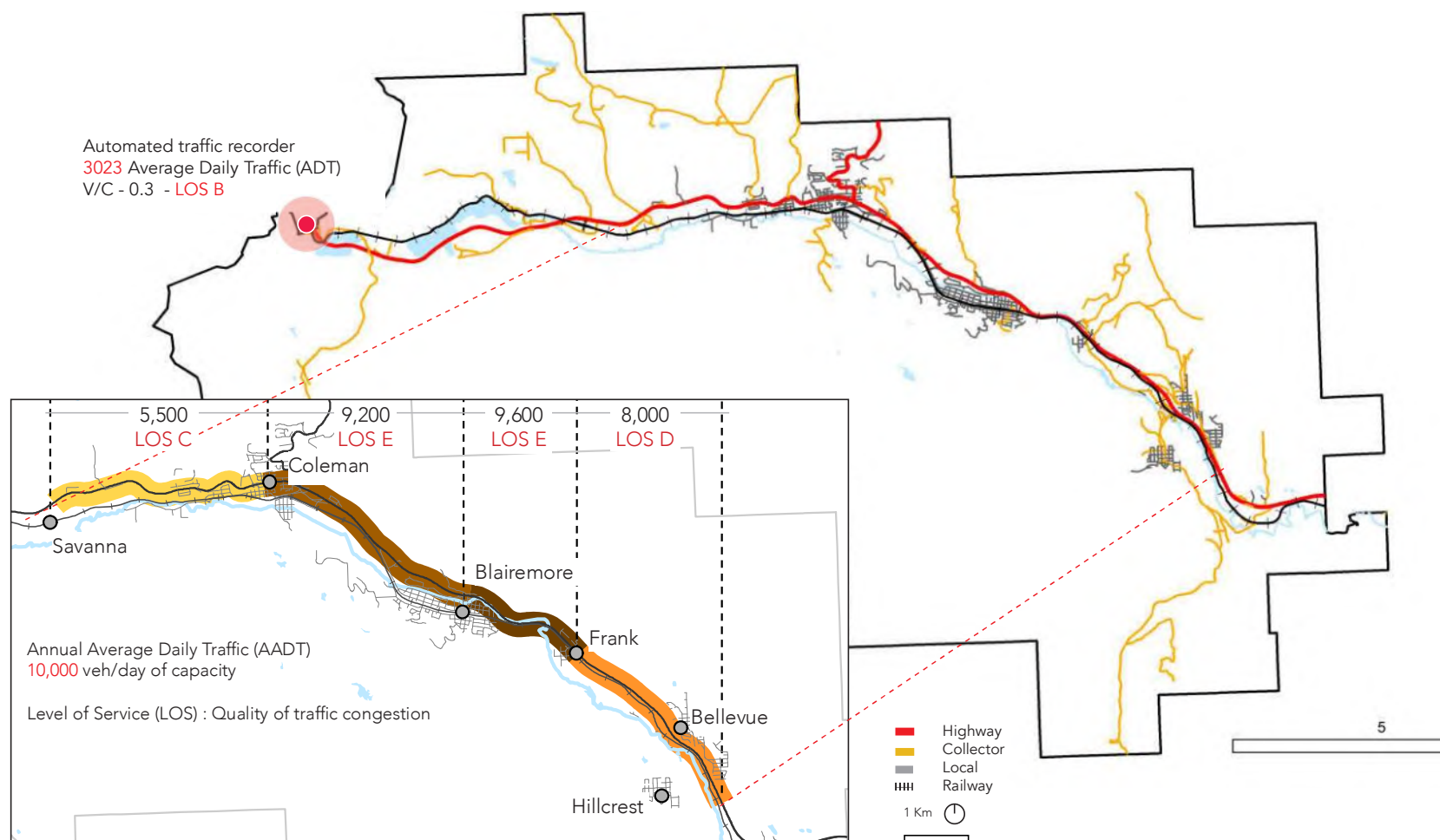
Blairmore the hub of the Pass benefits from a variety of land uses and open spaces. It functions from both North to South and East to West by providing access by the 129th street, from the golf course to the ski hill as well as, 119th street and 133rd street. Its major commercial areas are adjacent to highway 3.



Coleman being the last hamlet benefits from an interesting road network. Highway 40 from the north of the hamlet merges as 28th avenue and to several sub-roads to the south. Coleman has three major public lands such as the Crowsnest Consolidated high school, Horace Allen school soccer field, and the Crowsnest pass sports complex.



1.4 INFRASTRUCTURE ANALYSIS



1.4.1 Transit corridors

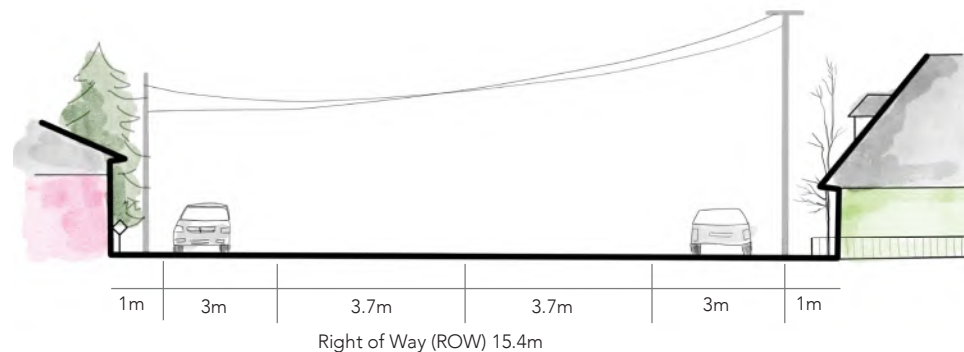
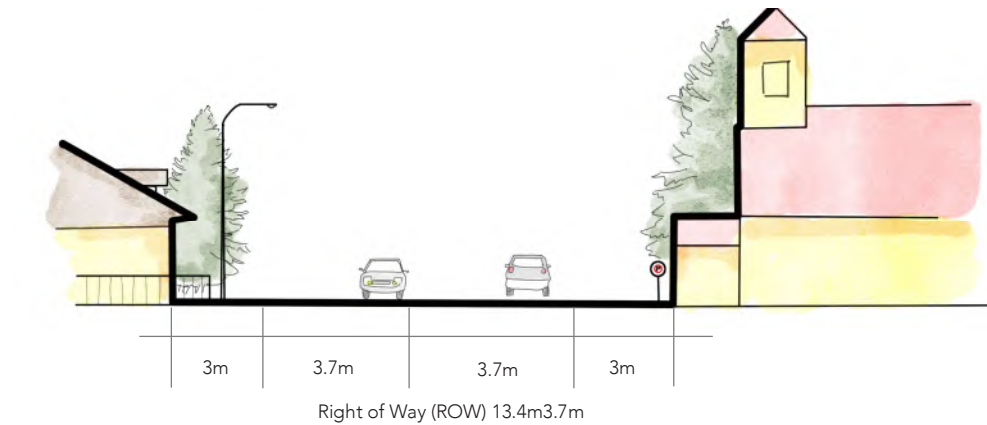
The Canadian Pacific Railway (CPR) running parallel to the highway 3 is existing since 1898. The construction of CPR led to the initial boom of the towns in the Pass.

The Pass has 3 different hierarchy of roads, these are highway, Collector and local. Later in year 1903, Highway 3 was constructed which today is an important route for movement of goods and services in Canada and also internationally. In addition to these, Highway 40 is another important link connecting the Pass with the North.

Sharing border with British Columbia making the Pass a key logistics hub. Highway has a capacity of 10000 vehicles per day. However, today, the traffic volume count has reached its limit resulting in congestion of heavy traffic passing through the Pass. The Average Daily traffic increases as one move towards east. The highest volume count is between Coleman and Frank which is very close to its maximum capacity.

Level of Service (LOS), an indicator of traffic congestion is C or higher for the Crow's Nest Pass Highway. In general, LOS A or B are considered to be good. Overall, the poor LOS indicates that the Highway 3 has reached its capacity and needs improvements for a safer experience.

1.4.2 Cross section



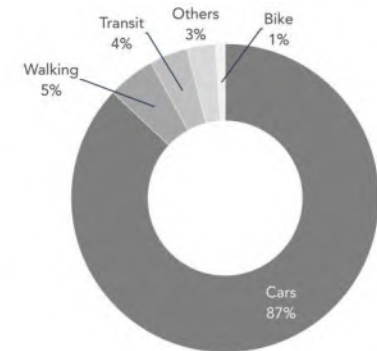
Highway 3

The existing ROW of the Crowsnest Pass Highway has two lanes of 3.7m and shoulders of 3m. Heavy truck traffic and inconsistent ROW (varying from a maximum of 45m to 13m) passing through the community of Coleman completely discourages walking or biking on the main street due to poor design and unsafe conditions.

Local access road

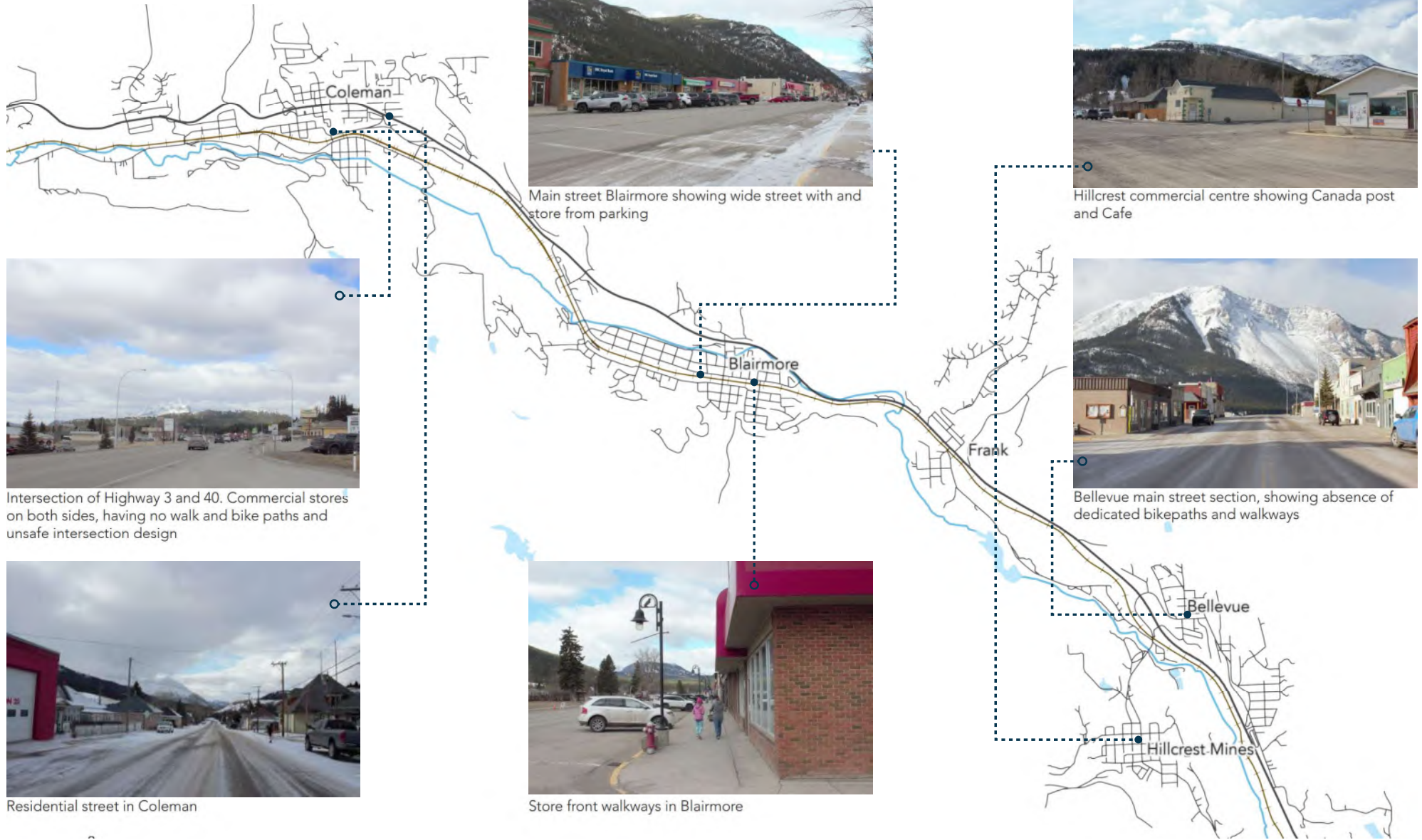
Existing local roads in most parts of the five communities are about 15m wide. This includes 2 lanes, parallel street parking and a meter of side walks shared with utilities. The ROW is primarily used for the movement of privately owned cars. Wide street and narrow walkways shows less important is given to walking and biking, thus, most of the trips are generated on vehicles. This is an unsustainable practice as cars occupy more space, are noisy and leads to poor walkability due to large spaces occupied for parking.

Modal share

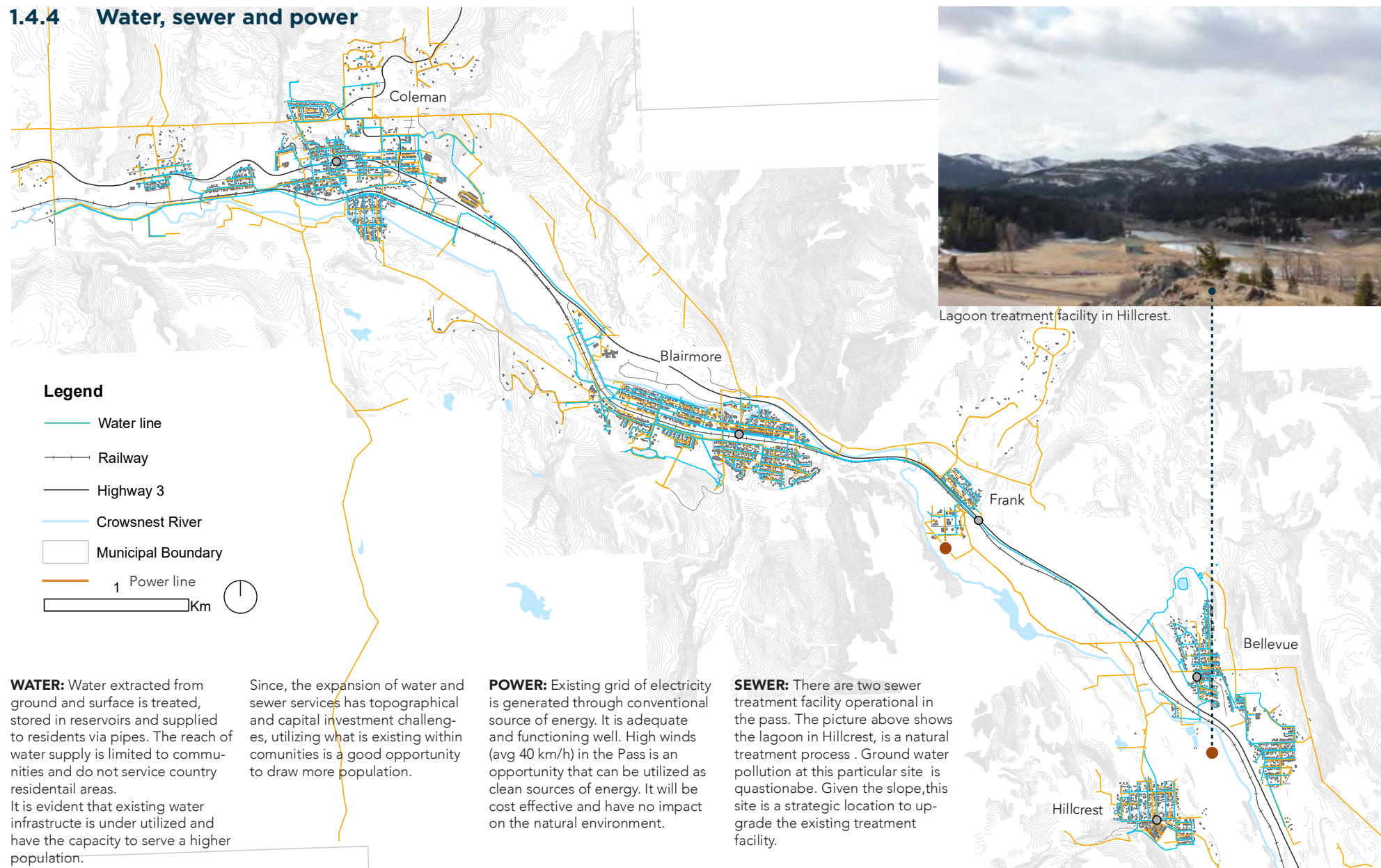


Privately owned cars are extensively used and are the primary mode of commute throughout the pass. Almost 90% of average daily trips are by cars despite the smaller sizes of communities where everything is reachable within walking distance. Existing public transit service is not of interest to many and is limited for only two days a week. Biking and walking makes up to only 6% of the share showing lack of supportive infrastructure in the pass.

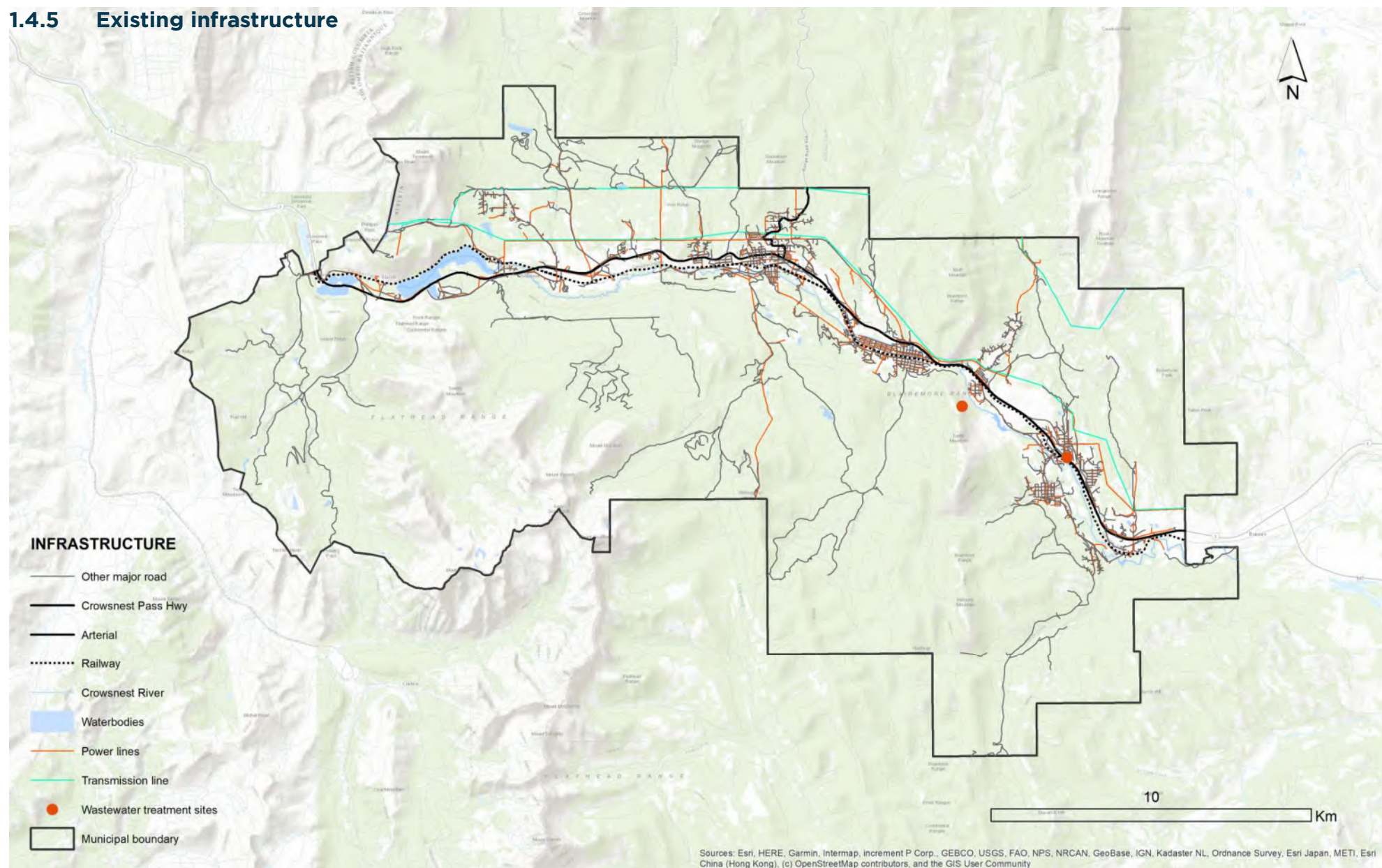
1.4.3 Current state of existing infrastructure



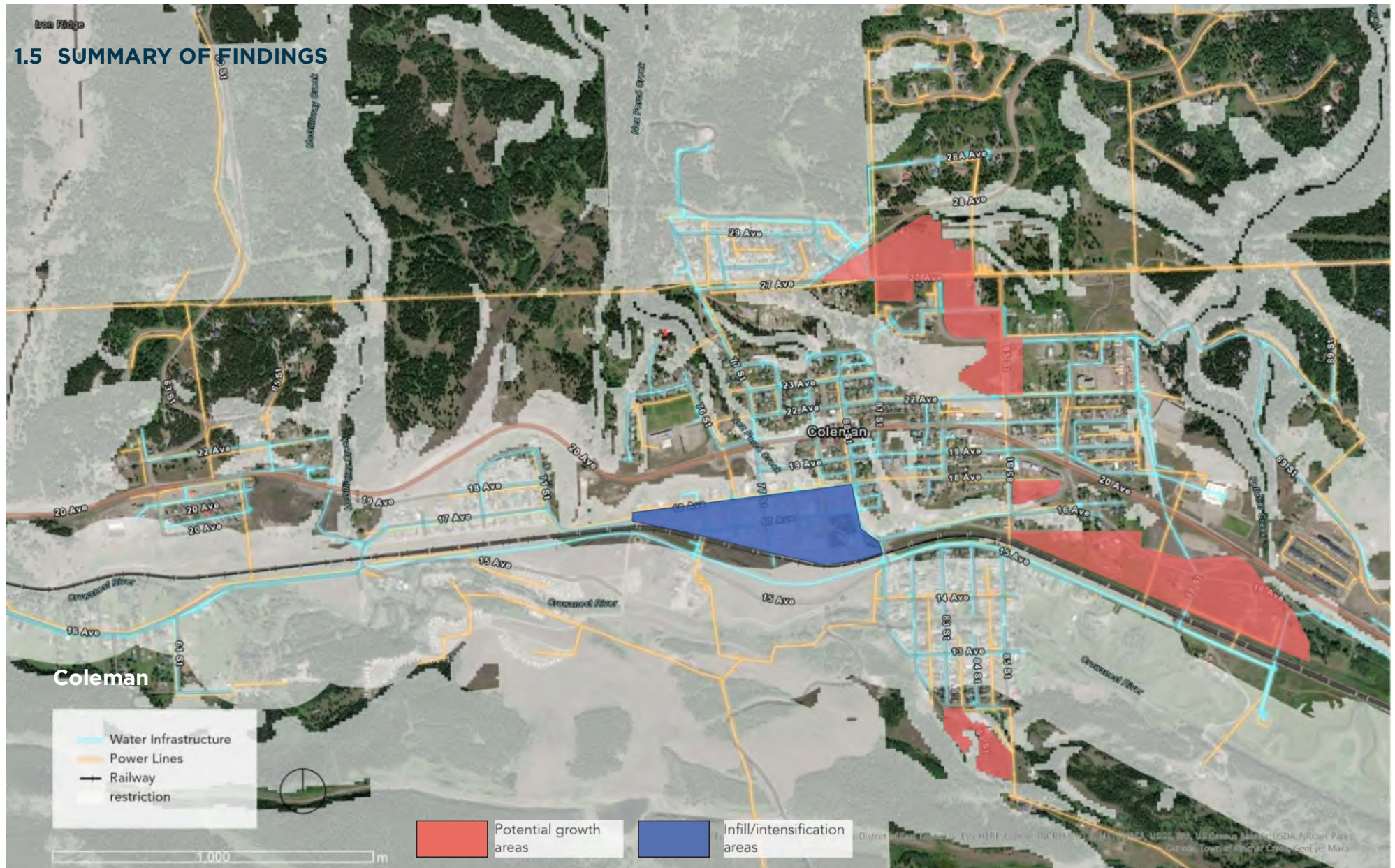
1.4.4 Water, sewer and power

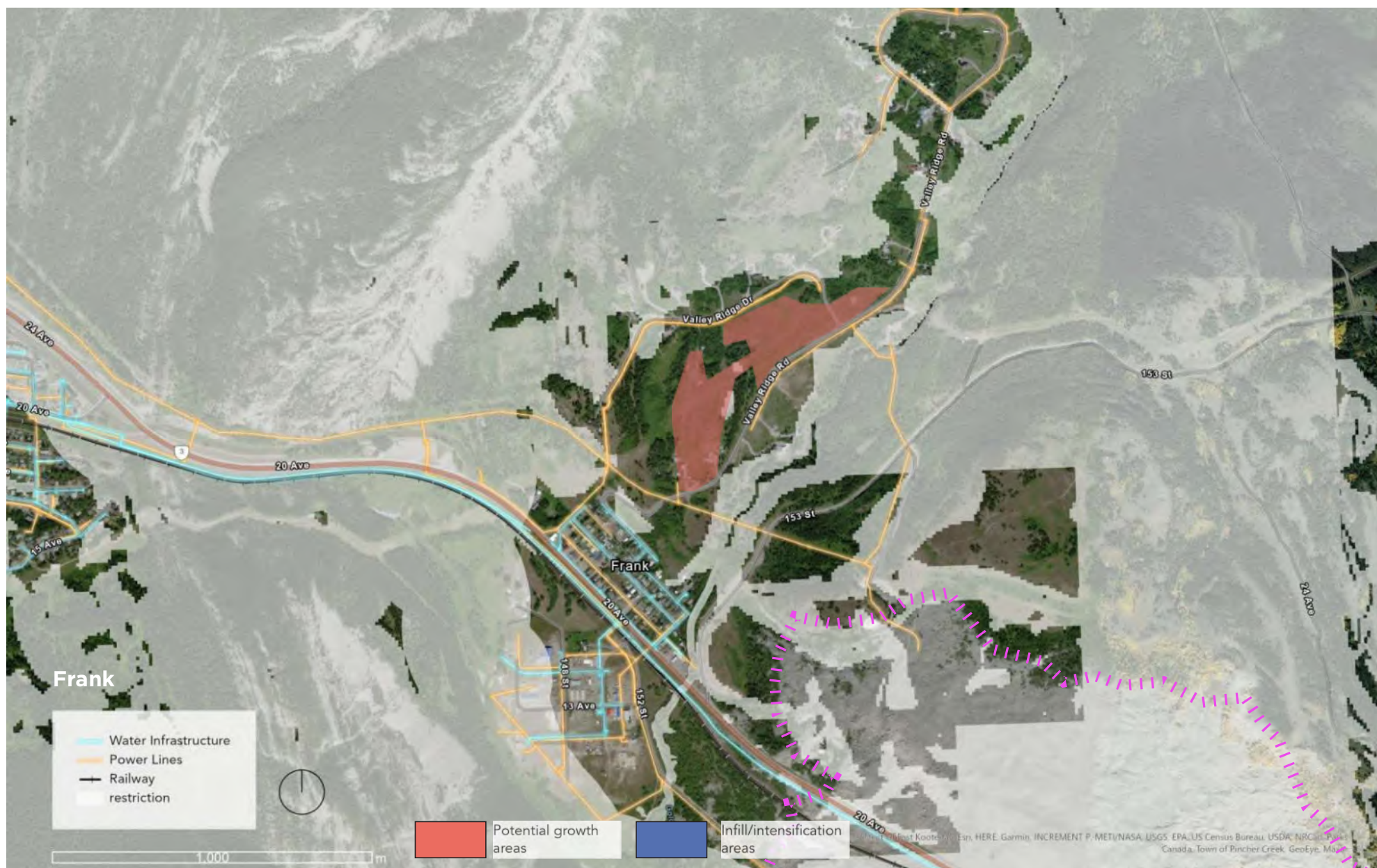


1.4.5 Existing infrastructure



1.5 SUMMARY OF FINDINGS









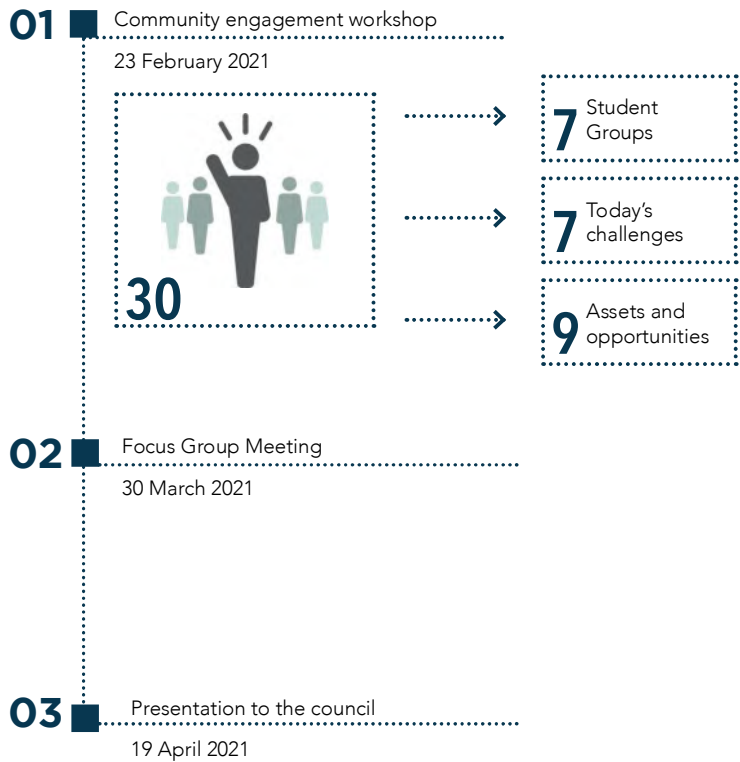
A black and white aerial photograph of a small town in a winter setting. The town is nestled at the base of a large, snow-covered mountain. The foreground shows residential houses and streets covered in snow. The middle ground is dominated by a dense forest of evergreen trees. The background features a large, rugged mountain peak partially obscured by mist or clouds. The overall scene is serene and cold.

02 SUMMARY OF PUBLIC ENGAGEMENT

Coleman lookout, January 2021
Photo by Anil Yadav

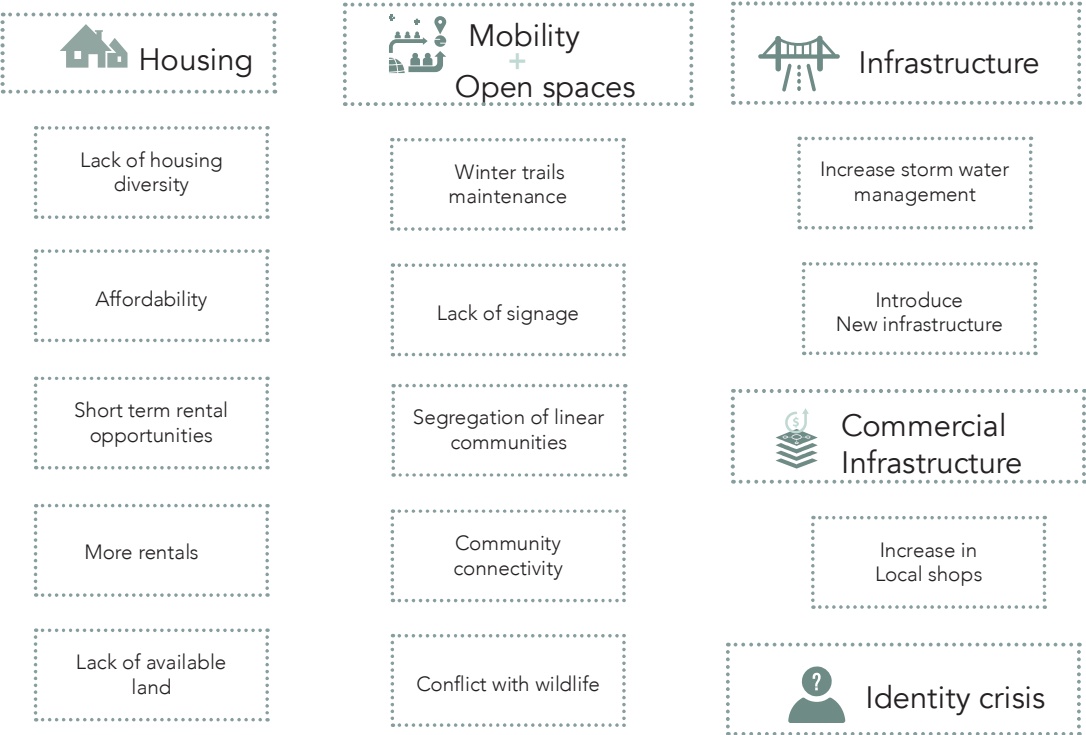
Summary of public engagement

Throughout the project, the team had the opportunity to meet with the residents as well as the steering committee of Crowsnest pass. The following meetings took place as followed:



The summary of discussed topics are based on the comments and feedback of the community.

1.1 Summary of discussed topics





03 CONCEPTS, STRATEGIES AND GUIDELINES

3.1 Mobility

3.2 Open space and trails

3.3 Housing

3.4 Design guidelines

Frank Trail, January 2021
Photo by Anil Yadav

3.1 MOBILITY

What we heard

- Lack of adequate public transit system for residents and visitors
- Unsafe intersections and pedestrian crossings
- Absence of safe and reliable walking and biking pathways for all
- Expensive rental cabs.

What we are proposing **sustainable and low cost solutions**



Connectivity

Linking all five communities and areas of interest through free public transit and dedicated trails



Accessibility

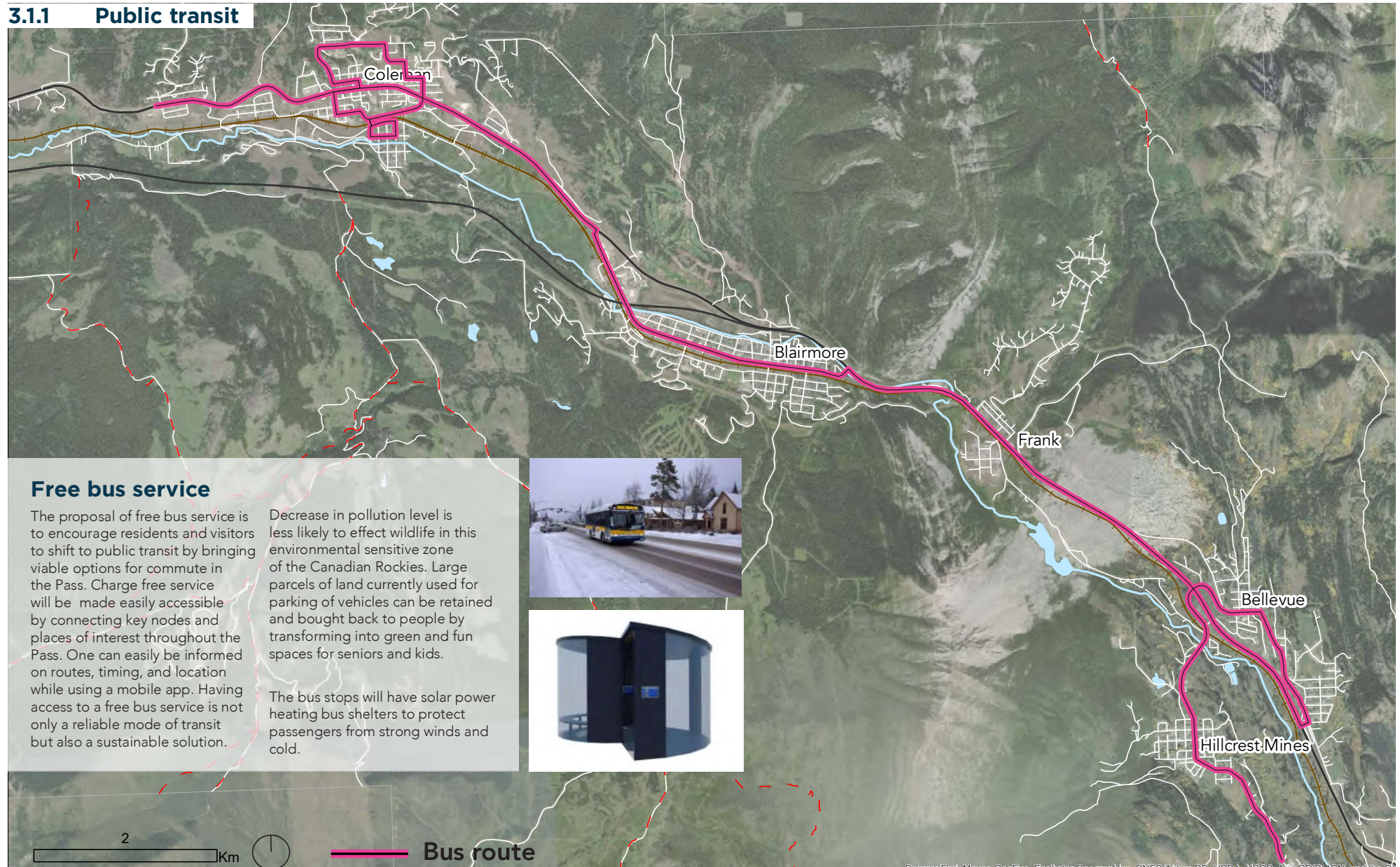
Making key commercial nodes and historic route easily and highly accessible for all

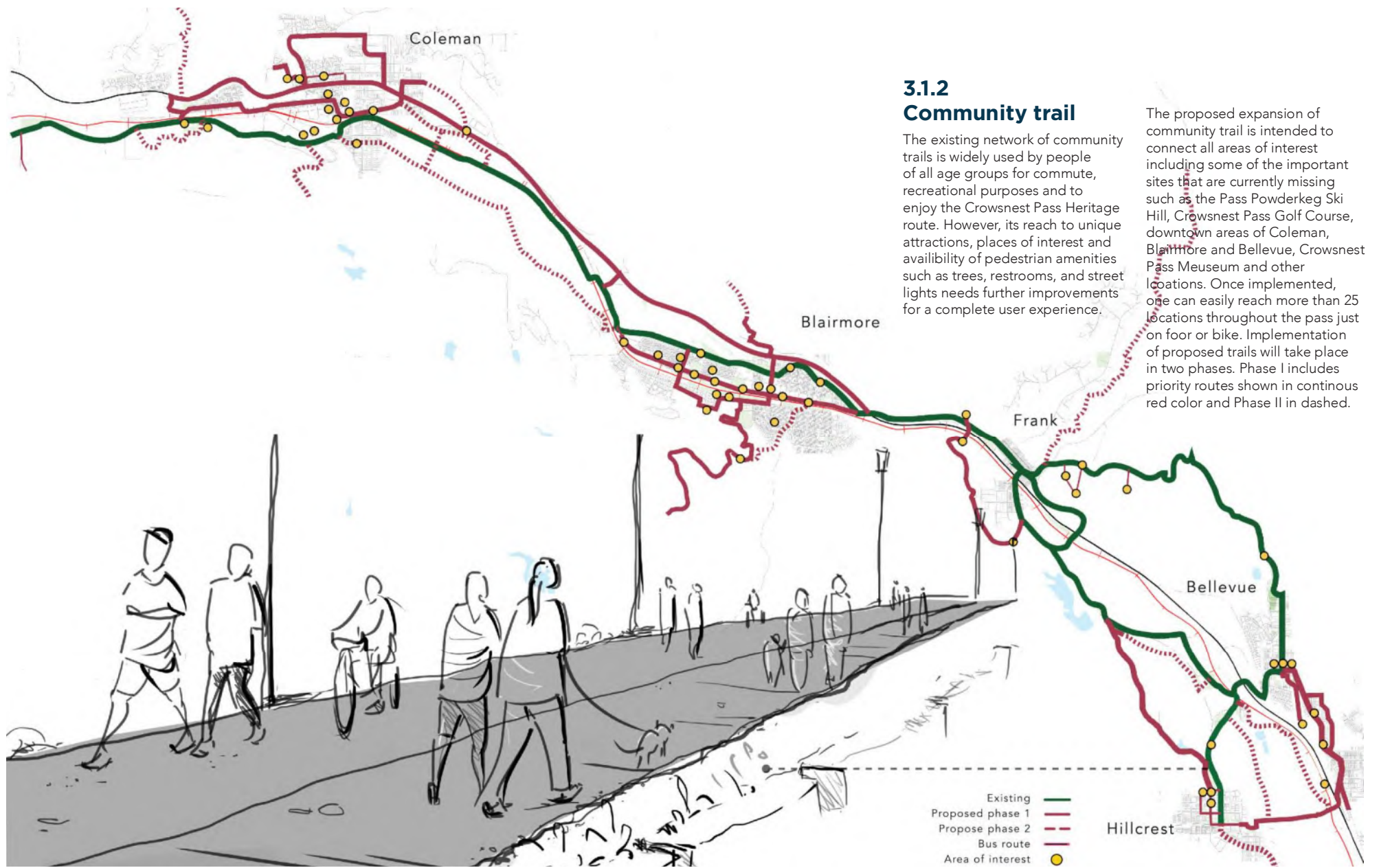


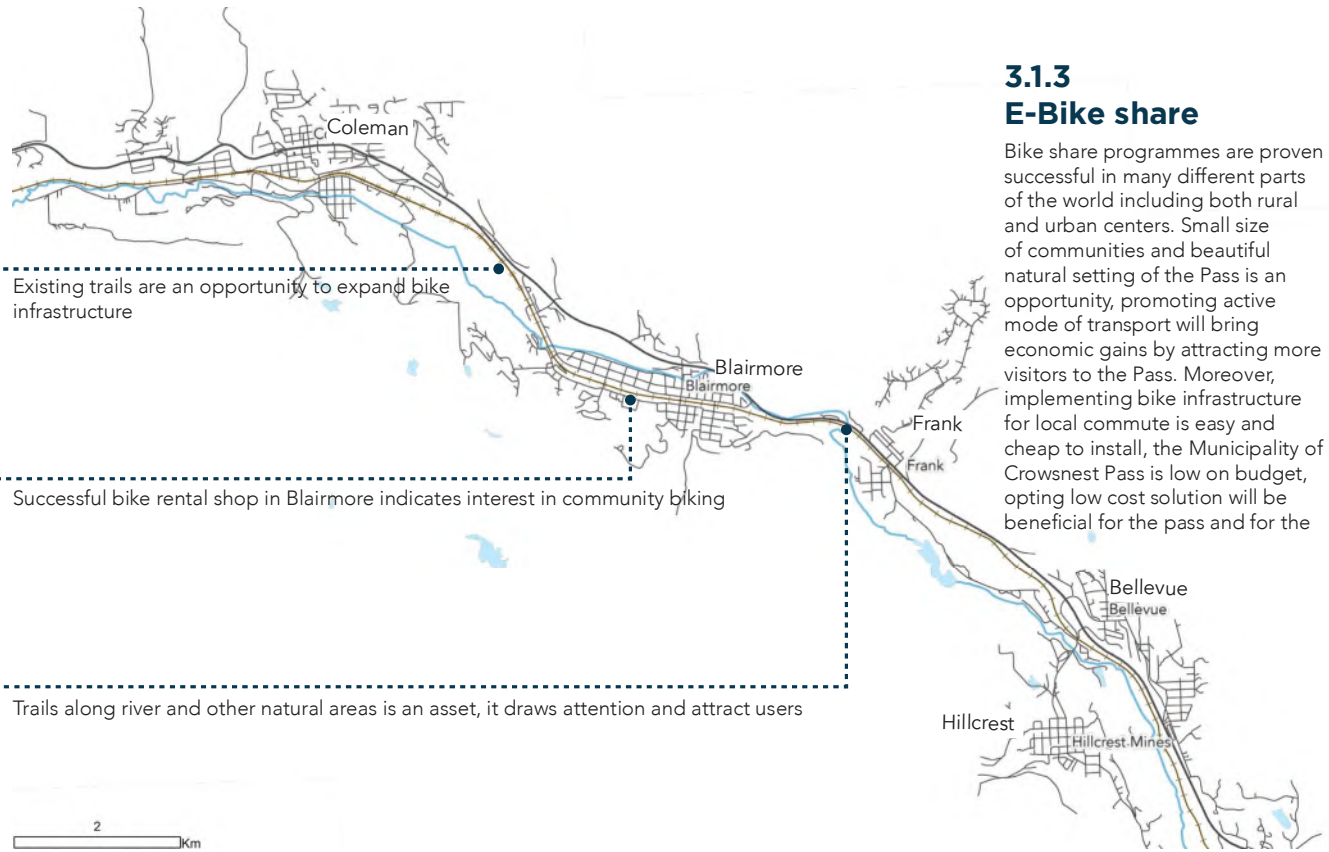
Green commute

Enhancing trips on walking, biking and transit to reduce environmental impact

3.1.1 Public transit







3.1.3 E-Bike share

Bike share programmes are proven successful in many different parts of the world including both rural and urban centers. Small size of communities and beautiful natural setting of the Pass is an opportunity, promoting active mode of transport will bring economic gains by attracting more visitors to the Pass. Moreover, implementing bike infrastructure for local commute is easy and cheap to install, the Municipality of Crow's Nest Pass is low on budget, opting low cost solution will be beneficial for the pass and for the



3.2 OPEN SPACES AND TRAILS

What we heard

- Lack to no trail signage
- Minimum winter trail maintenance
- The highway is not accessible by walking and biking
- Lack of pedestrian safety
- Lack of dog parks and linear parks
- Lack of lighting

Current park status

Source: Census 2016



What we are proposing **accessible open areas for everyone**



Enhancement

- Improving the existing parks based on the needs and demands
- Provide safety and CPTED (Criminal Prevention Through Environmental Design) methods



Activity Nodes

- Provide parks with different annual and age range activities
- Introduce a journey through parks to promote movement of the residents

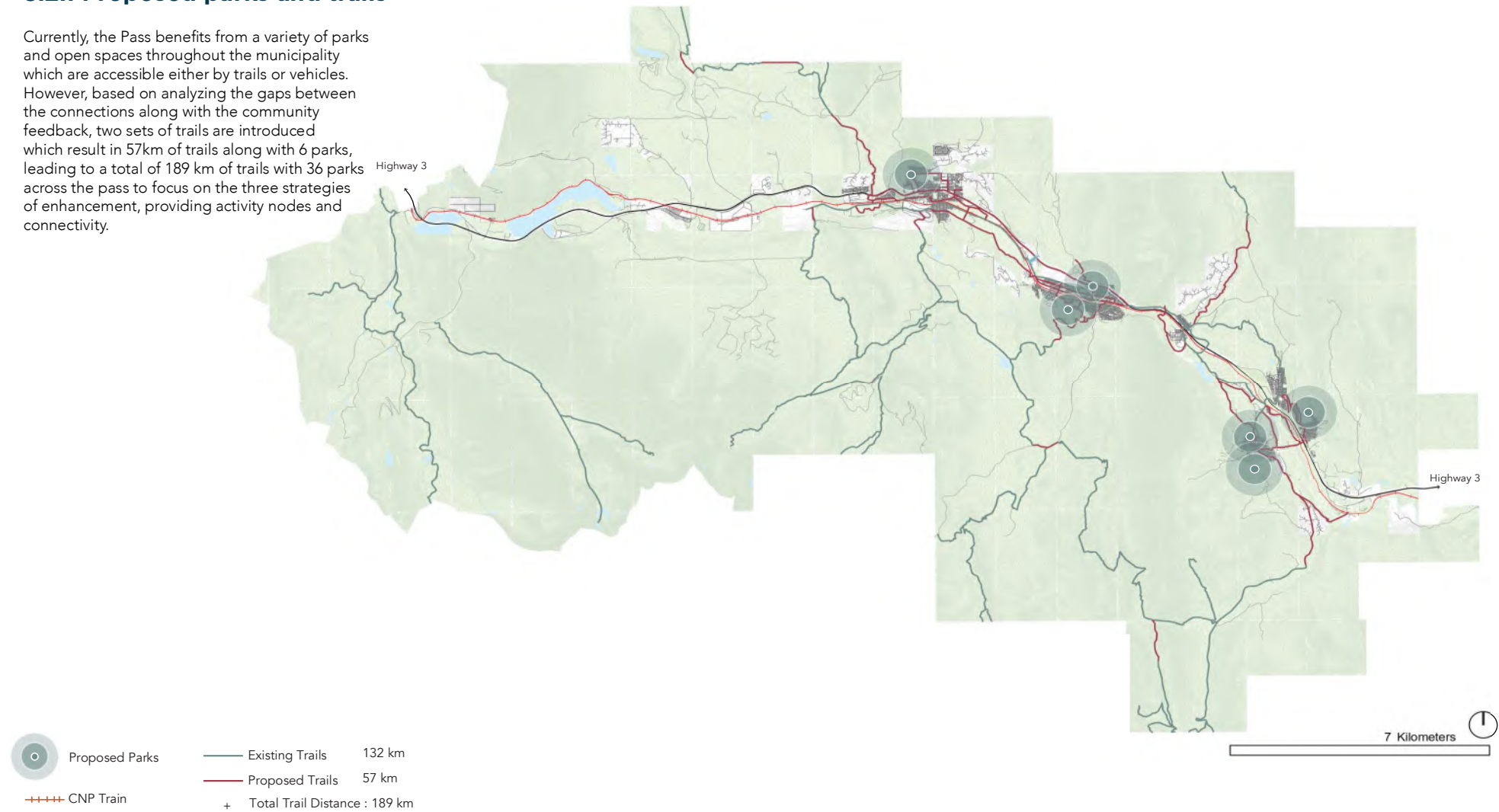


Connectivity

- Provide paths to historical locations for a historical timeline for better tourist promotion
- Extend paths between hamlets for pedestrian safety

3.2.1 Proposed parks and trails

Currently, the Pass benefits from a variety of parks and open spaces throughout the municipality which are accessible either by trails or vehicles. However, based on analyzing the gaps between the connections along with the community feedback, two sets of trails are introduced which result in 57km of trails along with 6 parks, leading to a total of 189 km of trails with 36 parks across the pass to focus on the three strategies of enhancement, providing activity nodes and connectivity.



Hillcrest and Bellevue trails

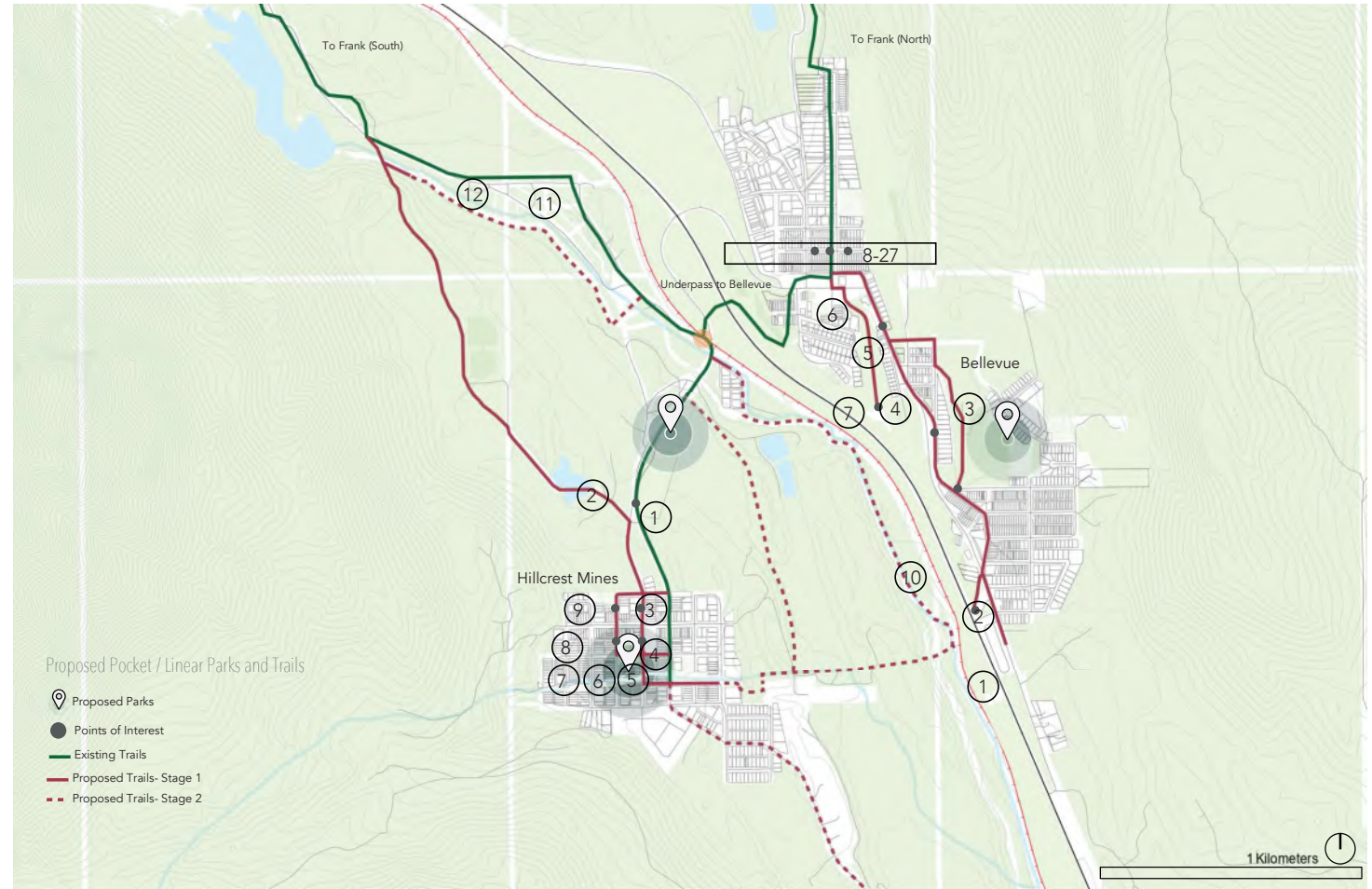
Hillcrest and Bellevue are currently connected using an underpass pedestrian and bike pathway. By analyzing the existing pathways, with the help of contour lines, existing roads, and points of interest, two sets of trails are introduced in Hillcrest and Bellevue which connect to Frank and across using the solid line and the dashed from the parallel side of the road.

In Hillcrest Mines, the proposed trails will provide a connection to:

1. Silent Policeman
2. Hillcrest Mine Disaster Memorial Cemetery
3. Mine Manager's House
4. MacLean Trading Company
5. Hillcrest Trading Company
6. Barbour's Pharmacy / B.C Cafe
7. New Canada Cafe / Loyal Order of the Moose Hall
8. Hillcrest Miner's Co-op
9. Hillcrest United Church
10. Hillcrest Mine
11. Winnipeg Fuel and Supply Company Lime Kilns
12. Lime City

In Bellevue, the proposed trails will provide a connection to:

1. Maple Leaf Mohawk Tipple
2. Wayside Chapel
3. Saudino Dairy and Livery Barn
4. Pagiali Grocery Store
5. Maple Leaf School
6. Chiavrovano Home
7. Bellevue Mine / Tours
8. Commercial / Main street



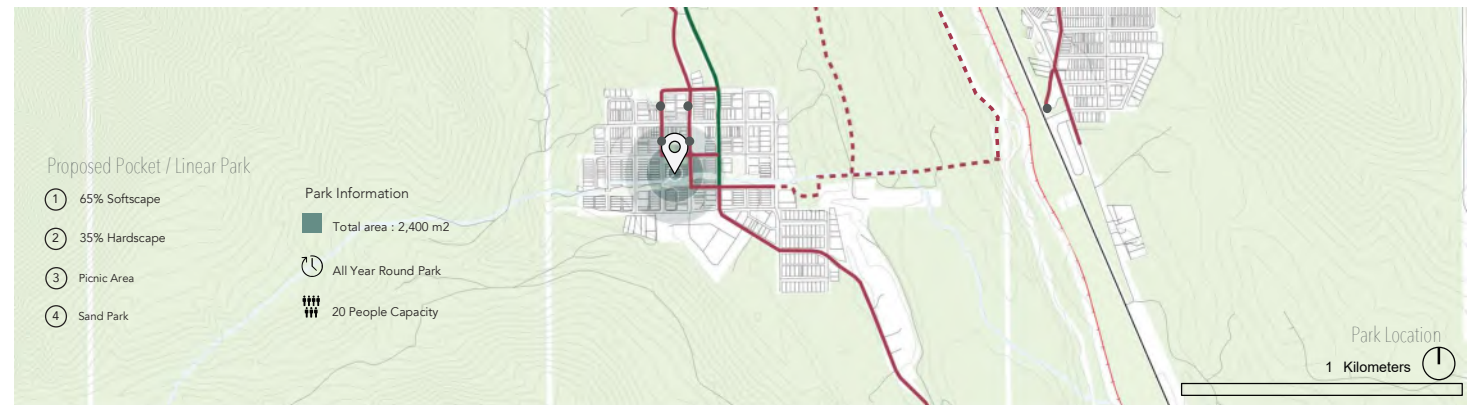
Hillcrest

Proposed linear / pocket park

The first park proposed in Hillcrest mine is a revitalization to the existing pocket park within 228 street and 7th avenue adjacent to the miners club. The park area is 400 m², which allows up to 20 people to enjoy a variety of activities for different ages throughout the year.

Some of the amenities of this park includes:

- 65% softscape
- 35% hardscape
- Picnic area
- Sand park



The current site of this park enjoys a grassland with a beautiful mountain view harmonized by the birds chirping by the creek. However, this park could be the social hub of the neighborhood by introducing seating and BBQ areas, and walkable pathways.

Pathways and trails have been adjusted based on the required measurements to allow a cyclist and a pedestrian to enjoy the fresh air at the same time.



Current Situation



Proposed Render



Section AA
Scale 1:400

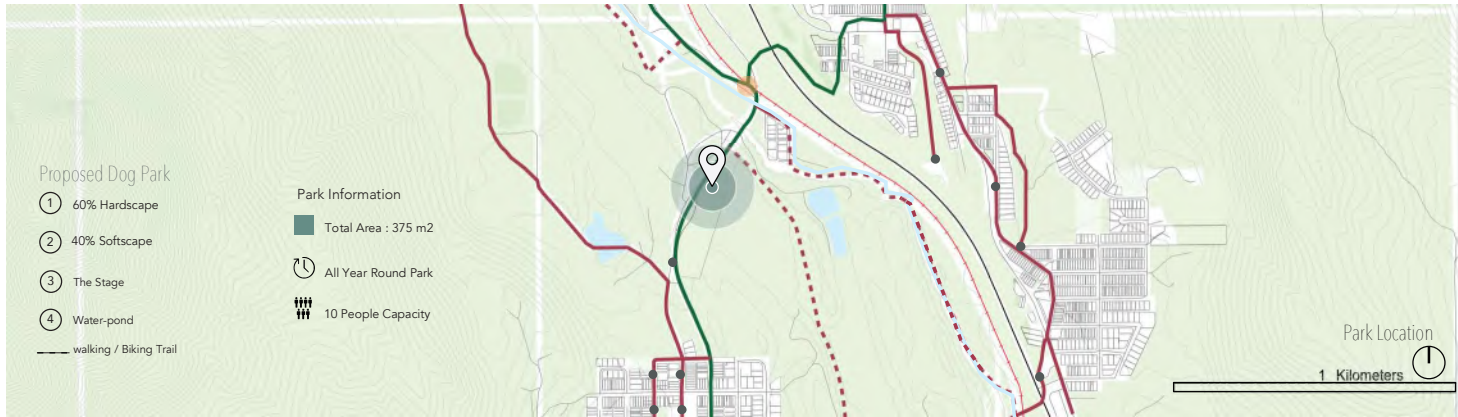
Hillcrest

Proposed dog park

If we walk further towards the North of the community, the Hillcrest animal shelter is where our friendly fur babies are re-homed into a new family or go on a temporary vacation. By introducing a dog park right next to this shelter, all the dogs in the community could benefit from fresh air and a little play date time! The park is located adjacent to 9th avenue with improved walking and biking pathways. By providing 375 m² and an all year around dog park.

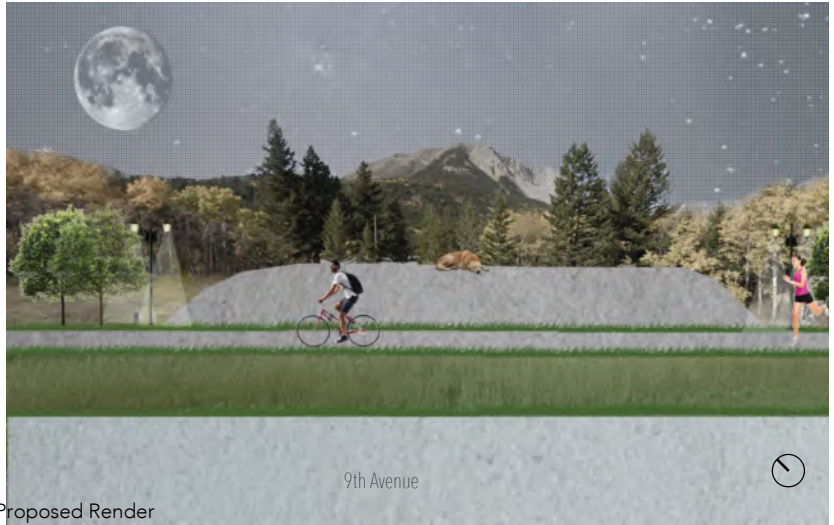
Some of the amenities of this park includes:

- 60% hardscape
- 40% softscape
- The dog stage
- Water-pond



Along with the basic needs of safety such as lighting to provide unique and important attention which your dogs while playing fetch by the elevated stage.

Pathways and trails have been adjusted based on the required measurements to allow a cyclist and a pedestrian to enjoy the fresh air at the same time.

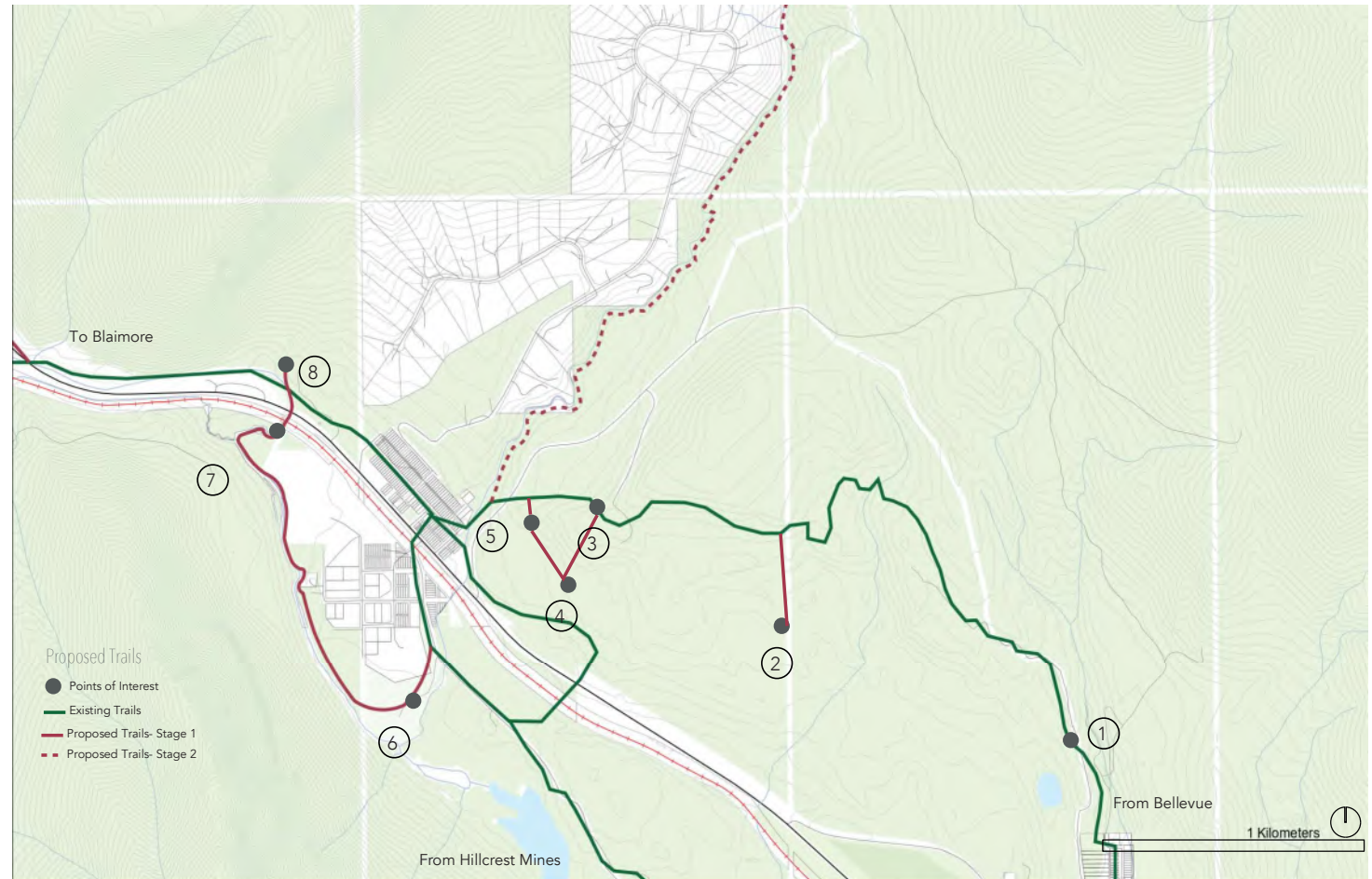


Frank trails

Reaching towards the smallest hamlet within the pass, the proposed trails will be an extension to the Frank interpretive center and the surrounding to allow the visitor to understand one of the pass's important historical disasters. Even though Frank has gone through a sad story, its fast-growing residential lands towards the north have little accessibility by walking or biking trails. However, residents could soon be able to connect to the north of Frank as well as join the Alberta trails based on phase 2 proposed trails.

In Frank, the proposed trails will provide a connection to:

1. Fire Man's Park
2. Frank Slide
3. Frank Slide Interpretive Centre
4. Frank Slide Interpretive Loop Trail
5. Frank Slide Memorial
6. Turtle Mountain
7. Frank Picnic Shelter
8. Goat / Bluff Mountain

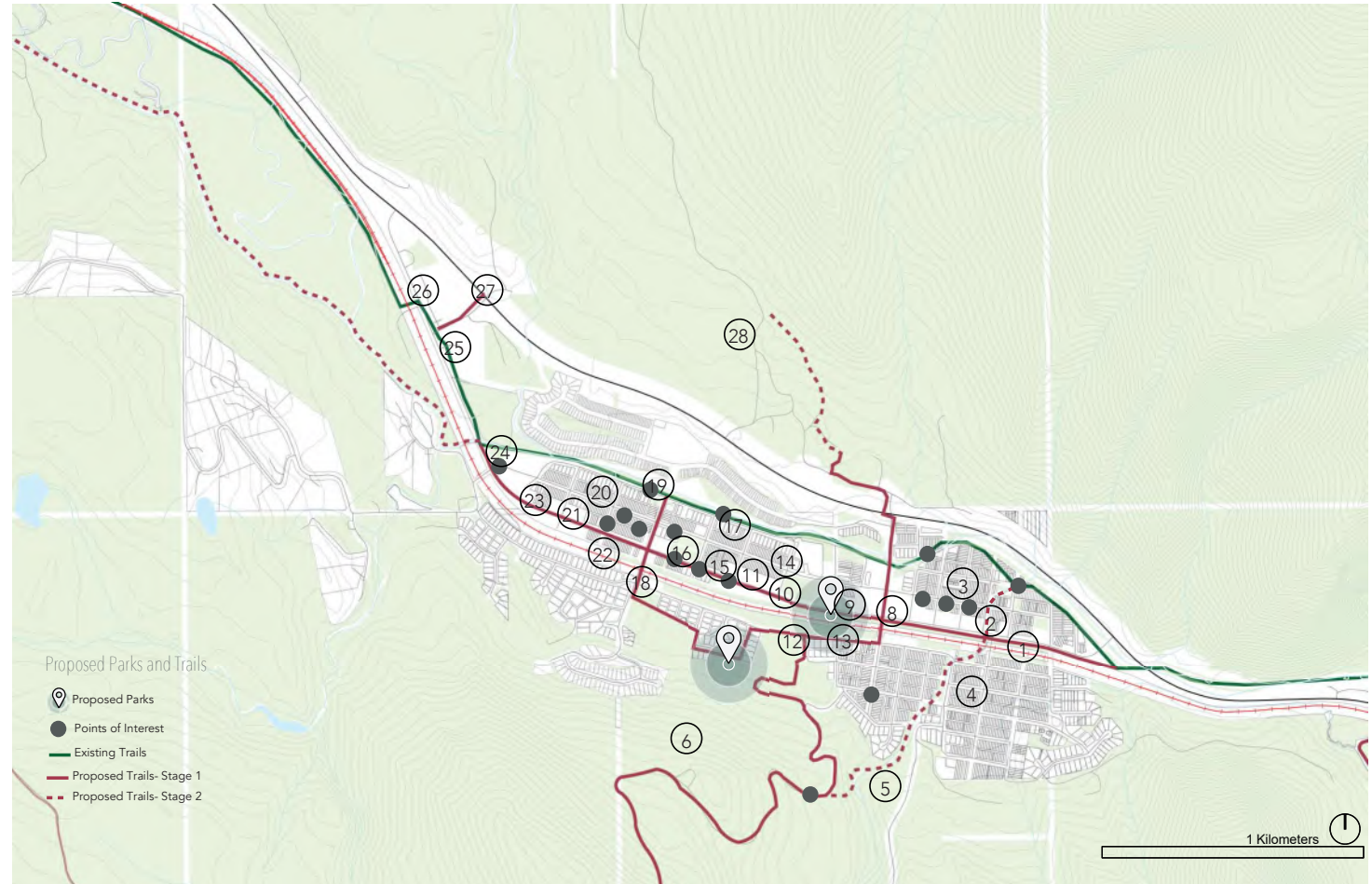


Blairmore trails

Blairmore as the most populated hamlet will have a new proposed trail that passes through 20th avenue to provide better walkable and bike trails which will connect to the majority of the nodes.

In Blairmore , the proposed trails will provide a connection to:

1. Tim Buck Boulevard
2. Blairmore Courthouse
3. St.Luke's Anglican Church
4. Gushul Studio
5. Blairmore South Mine
6. Blairmore / Pass Powderkeg Ski Hill
7. Olivia Block
8. Orpheum Theatre
9. Morency Plumbing
10. Thompson's Store
11. Lethbridge Brewing and Malting
12. Cosmopolitan Hotel
13. Gazebo Bandstand
14. Blairmore Cash and Trading Company
15. Blairmore Hotel
16. Union Bank
17. Blairmore Legion No.7
18. Mine Locomotive
19. Greenhill Grill / J.E Upton Building
20. Thompson Grocery
21. West Canadian Collieries Office
22. Greenhill Hotel
23. West End Confectionery
24. Mine Rescue Building
25. McLaren/ Blairmore Sawmill
26. Old Crowsnest Hospital
27. Crowsnest Pass Golf and Country Club
28. Greenhill Mine



Blairmore

Community park enhancement

The community park is located within downtown Blairmore is a great gathering location where the kids could run and play, adults could sit and talk, and artists and sports lovers could perform their talents. The park allows a vast 12,120 m² of area to allow 50 users.

Some of the amenities of this park includes:

- 80% softscape
- 20% hardscape
- Performance stage
- Bicycle rack
- Water Feature



The site benefits from a curved pathway that allows different views and facilities for the passengers throughout each corner, as well as proposed canopies throughout the park, to allow a cool eventful afternoon with the family.

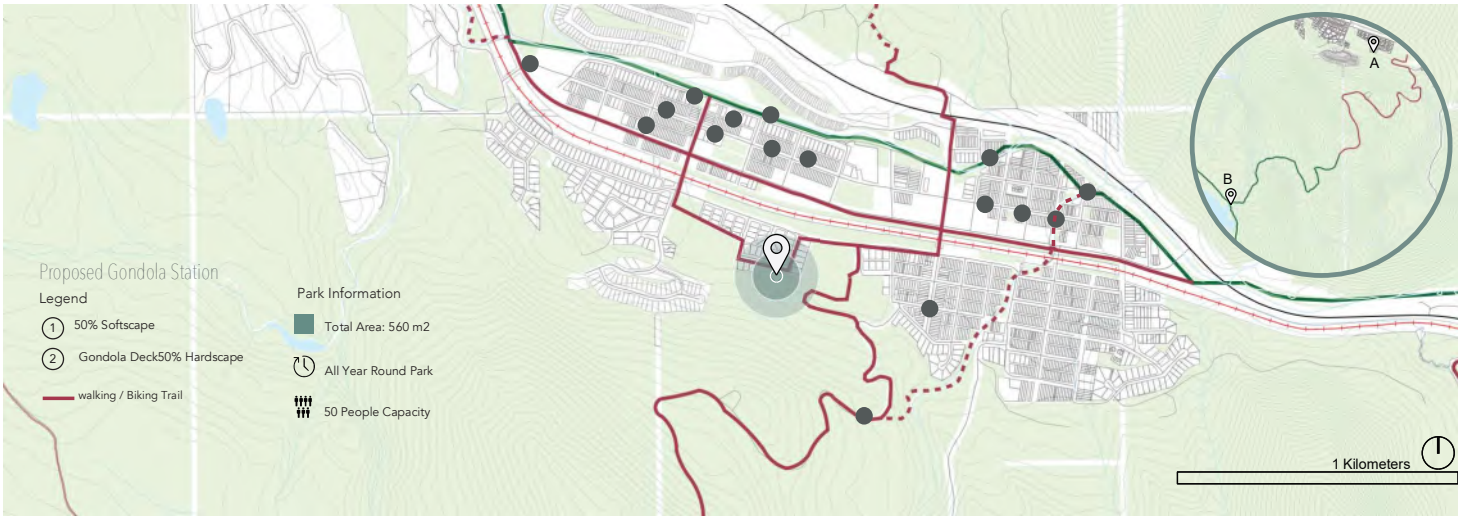
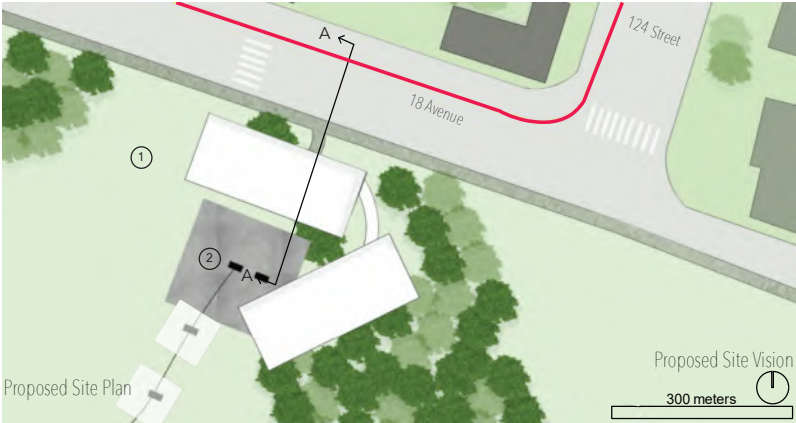


Proposed gondola station

We also listened to our adventure seeker friends, who love the pass due to the sports facilities it will provide. As a result of attracting more tourists and servicing a unique experience, our team decided to take the leap of faith to the elevations and introduce a new gondola located within 18th avenue in Blairmore, which takes 50 visitors in total divided into 25 cabins from point A the gondola station to point B a beautiful lake view at the top of the ski hill.

Some of the amenities of this park includes:

- 560 m² total area
- 50% softscape
- 50% hardscape



The Gondola will allow users to not only enjoy the view while being in the cart but also walk and experience the height from a roof top and walking trails.

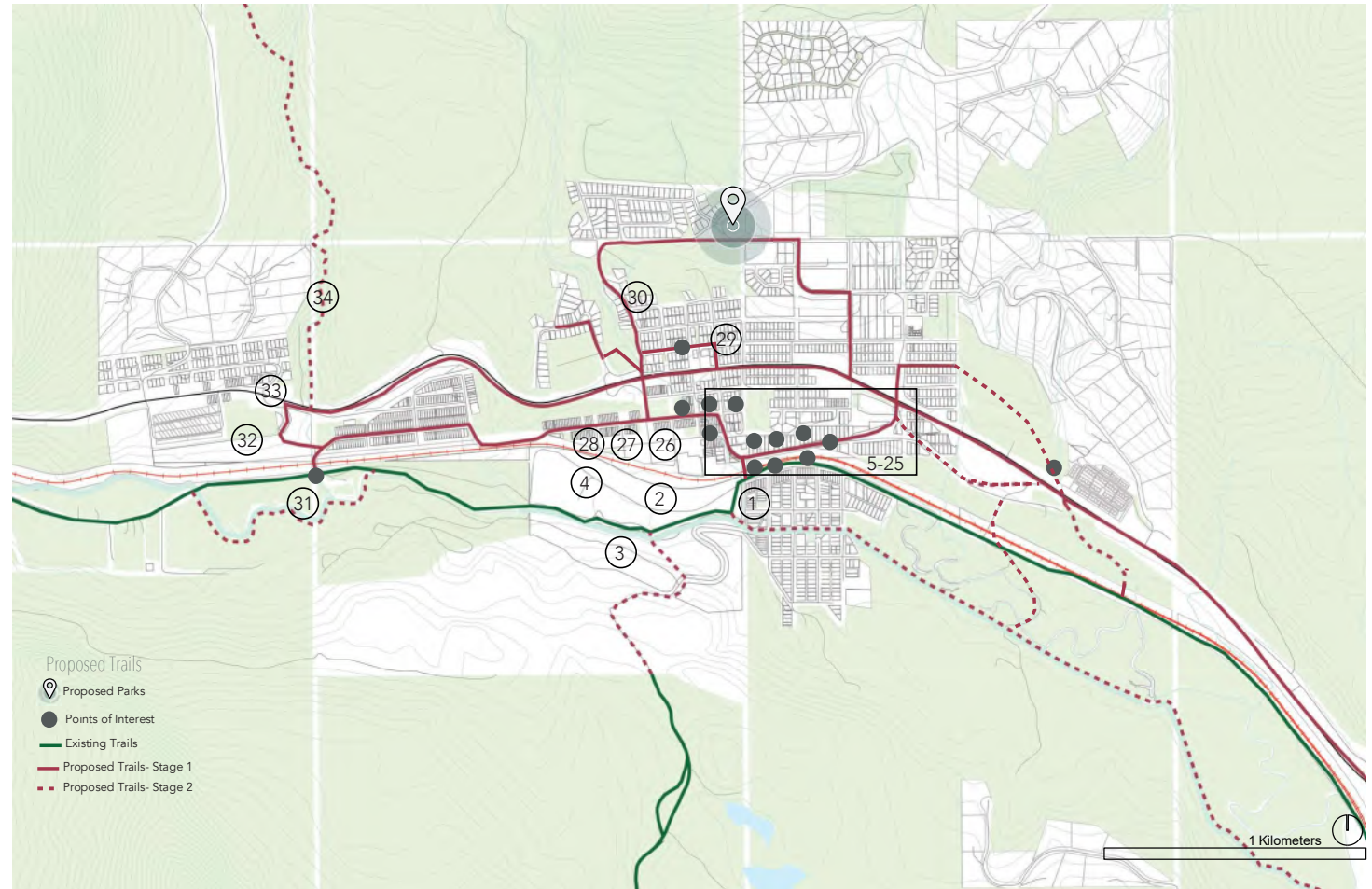


Coleman trails

Our last location is in Coleman, a hamlet of the watch-outs. The majority of the existing trails in Coleman are located within the southern part of the community with little access to the north.

In Coleman, the proposed trails will provide a connection to:

1. Polish Hall
2. International Coal and Coke Ovens
3. International Coal and Coke Surface Plant
4. Coleman Collieries Tipple
5. Coleman Legion
6. Chinese Laundry
7. Janostak's Grocery
8. Evan's Boarding House
9. Grand Theatre / Texaco Motordome
10. Grand Union Hotel
11. Coleman Mercantile Store
12. Coleman Hardware
13. Palace Theatre
14. P.Burns Meat
15. Coleman Journal
16. A.P.P Barracks
17. Miner's Hospital
18. Coleman High School
19. Coleman National Historic Site Monument
20. Canadian Imperial Bank of Commerce
21. St. Paul's United Church
22. Coleman Fire Station
23. International Coal and Coke Office
24. Eagle's Hall
25. Italian Hall
26. Wes Johnston Residence
27. Edmund Disney Residence
28. Toppiano Store
29. Flumerfelt Park
30. Miner's Path
31. Graham's General Store
32. Cameron School
33. McGillivray Mine Office
34. McGillivray Mine Entrance



Coleman

Proposed dog park

We have many fur-loving friends within the pass who would like to have a short walk to a dog park at the west side of the community rather than going to the east. As a result, the proposed location will include a series of multi-residential buildings to allow an affordable way of generations, living with one another while being able to enjoy some outdoor activities right at their back yards.

The dog park along with the multi-residential building provides a total area of 37,400 m².

Some of the amenities of this park includes:

- Green area
- Sitting area
- Park feature



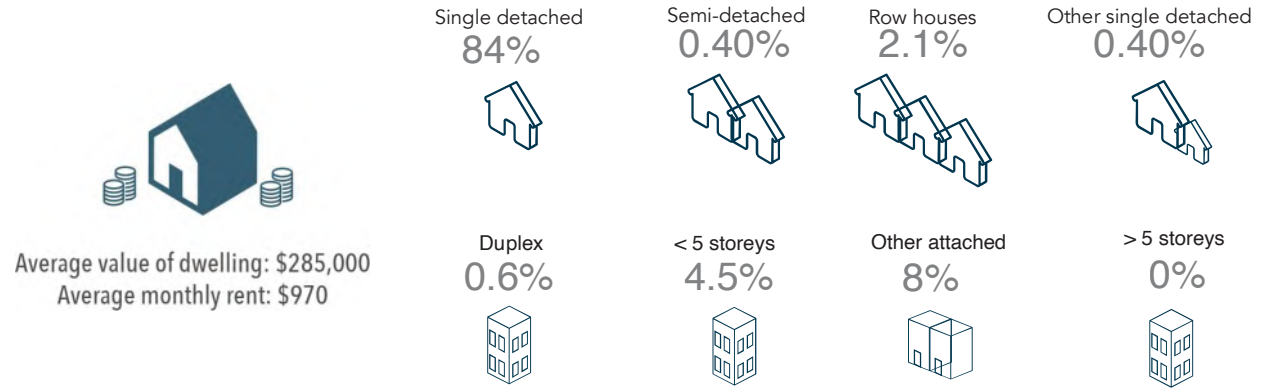
This dog park will allow you to understand what your dog has been missing out on throughout all their time and how conquering hills and water features could have never been such a happy experience.



3.3 HOUSING

What we heard

- Lack of affordable housing options
- Less variety of housing in forms of semi-detached, duplex, row housing and apartment buildings
- Large share of low density country-residential houses with large lots
- Significant population only reside during the weekends (weekenders)
- Aging and vacant buildings and lands
- Lack of accommodation for seniors, low-income families, single-parents, youth, working families and tourists.



Source: Census 2016

What we are proposing **inclusive and diverse housing for everyone**



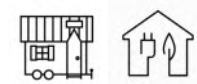
Affordability

- Accessory dwelling units
- Incentives and tax breaks
- Public-private partnership
- Flexible zoning and development regulation
- Mixed-use buildings



Diversity

- Range of housing options in size, style and price
- Accessible seniors housing
- No more than 70% single detached
- Housing options for visitors



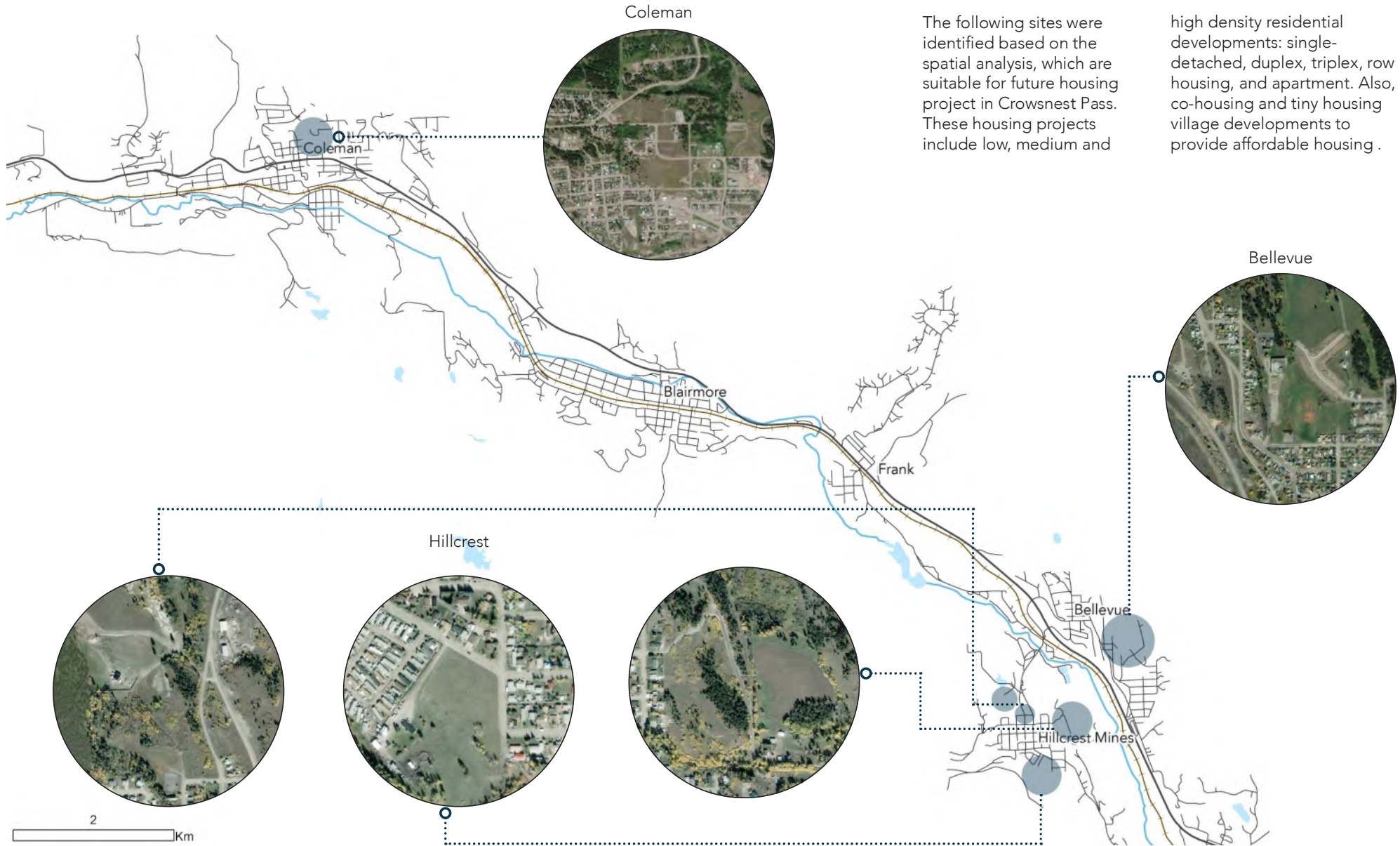
Sustainability + Innovation

- Sustainable medium density
- Intensification/infill developments
- Lower footprint + high efficiency
- Tiny house/cluster house village
- Sustainable design and materials
- Re-purposing historical buildings

3.3.1 Housing proposal locations

The following sites were identified based on the spatial analysis, which are suitable for future housing project in Crowsnest Pass. These housing projects include low, medium and

high density residential developments: single-detached, duplex, triplex, row housing, and apartment. Also, co-housing and tiny housing village developments to provide affordable housing .





3.3.2 Summary of site analysis

The proposal sites were chosen based on the overlay analyses of environmental and existing infrastructure.

All four sites don't overlap with conservation areas and avoided slopes higher than 15 degrees for suitability of developments. Also, these sites 1, 2 and 3 are all areas with existing infrastructure. Site 4 will require extension of power and water infrastructure in the future if Hillcrest need to add more residential developments.

The entrance through 8 and 9 Ave are the potential corridors for mixed-used development. Vacant patches of land in the northern edge are ideal to accommodate more population due to the presence of existing infrastructure and services.



3.3.3 Hillcrest concept design

Hillcrest concept design includes 4 sites, 1 Resort and 3 housing neighbourhood proposal. The community also has great opportunities for mixed-use developments at the community's gateway off 9th ave.

The population of the Pass is expected to rise in the near future as it the municipality is undergoing a huge strategic changes in their economic development to welcome more residents and attract tourists. According to our site analyses, Hillcrest could accommodate a large portion of the expected population increase in the Pass as it is ideal for seniors and families who enjoy living distant from the highway, quiet and surrounded by natural beauty.

This future development will generally be directed to growth nodes and infill locations to make efficient use of infrastructure and concentrate development within and adjacent to urban built up areas.

This proposal plan is the future full extent of development for Hillcrest that is estimated to be fully completed in 2050 with its last Phase V. The details of the phasing estimation schedule can be found under the legend of the map.



Hillcrest Site 1: CRV Commercial Resort Village Hillcrest resort

Crowsnest Pass has a world-class scenic golf course, fly fishing, and many other tourist attractions that have regular visitors all year round. According to the hotels inventory and community's feedback, the Municipality is currently lacking hotels and accommodations for tourists. The tourists have been increasing in the Pass, especially after the Pandemic Covid-19 as other nearby famous tourist destinations such as Banff and Canmore has become too overcrowded.

We identified this area as a potential resort location due to its privacy right next to the forested natural area, removed from the highway, close to the Crowsnest River, Frank Slide pathway along the river, and historical monument sites.

Hillcrest is the quietest community in the Pass and lacking active commercial areas in the community. Introducing a resort would improve the economic activity in Hillcrest and revitalize the main street by providing opportunities for local shops, cafes and restaurants. These commercial areas will service the Hillcrest community and attract the other residents in the Pass and visitors to Hillcrest, which will complement the greater Crowsnest Pass as a whole.



Hillcrest Site 2:



MU-1 Mixed-use
Multi-residential
with commercial

Crowsnest Pass is currently lacking diversity in housing typologies. There is a high interest for smaller, affordable units and this mixed-used multi-residential development could present a proposition for working-age families and have some commercial spaces on the ground floor.

This is located in between 8th and 9th Avenue and adjacent to already existing R-1 Single detached houses, and will not require any additional infrastructure.








Concept

Hillcrest site 3:

Residential Neighbourhood with mixed housing typologies

-  R-1 Single-detached
-  R2-A Duplex/Triplex
-  R3 Row housing




This housing neighborhood to the south of Hillcrest has mostly single detached homes with small addition of row houses at the periphery.



Current



Proposed Land Use

-  R1 Single-detached
-  R-2, R-2A Duplex/Triplex
-  R3 Row houses

Precedents



Garden Village, Chelmsford, UK



Belsteads Lane, near Chelmsford



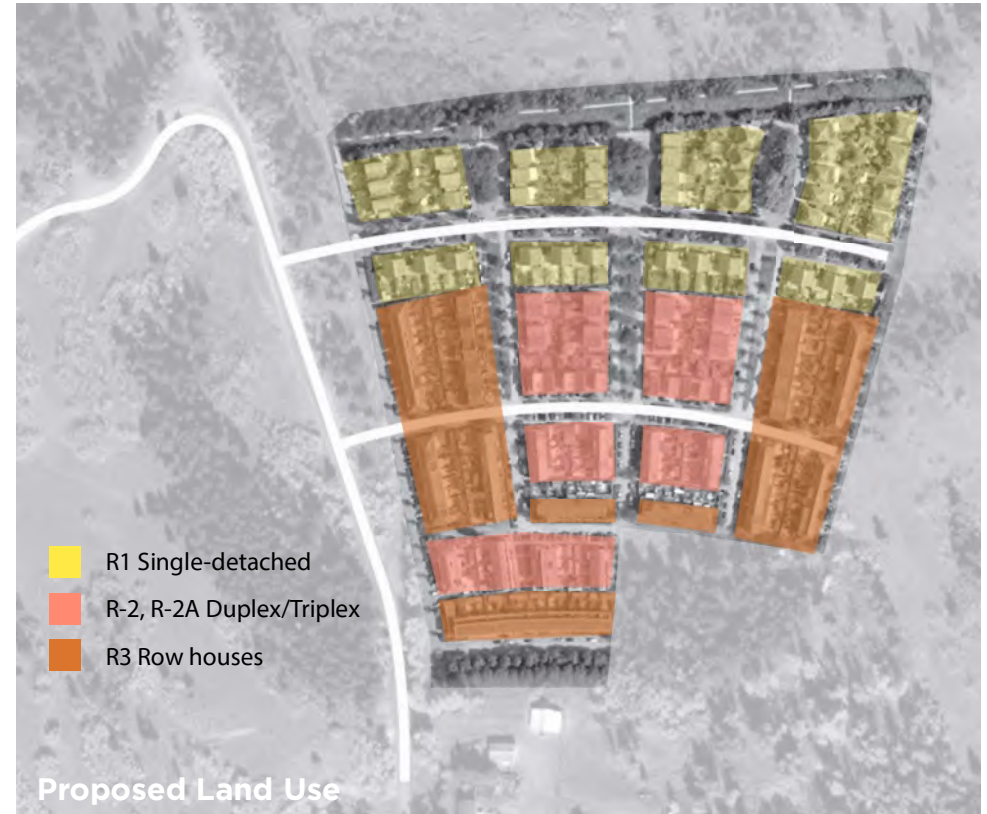
Channels, Chelmsford, UK



Newton, Nottinghamshire, UK






Concept



Proposed Land Use

Hillcrest Site 4:

Residential Neighbourhood with mixed housing typologies

-  R-1 Single-detached
-  R-2-A Duplex/Triplex
-  R3 Row housing

This site is a great location to extend the residential housing capacity and welcome new residents to the Pass. This neighborhood will also have mostly single homes with a variety of semi-detached and row housing.



Current

Precedents



Brainport Smart District, Helmond



Brainport Smart District, Helmond



Nevada City Co-housing, CA



Langerak, Utrecht, Netherlands



3.3.4 Bellevue housing proposal



R2-A Duplex/Triplex

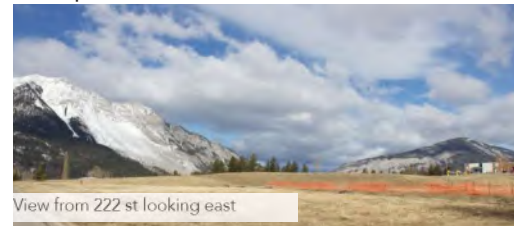
We are proposing a co-housing development along the main street on municipal lands next to the Fire Station in Bellevue. This co-housing will provide the autonomy of private dwellings to its residents with an advantages of shared common spaces, resources and community living. We believe that this type of housing could complement large population of seniors, youth, single-parents and low-income families to enjoy quality of life in diverse, socially integrated community with a lower cost. To fulfill the high demand for affordable housing, we analyzed and identified land for development near the



R3 Multi-residential /Row housing

Bellevue MDM community center. This 3d illustration of the area adjacent to Bellevue MDM community centre shows proposed group housing clusters for new families and to attract the young generation. Conveniently located along the Bellevue main street offering access to services such as soccer field, parks and commercial establishments for a more walkable experience. This new development will increase density in the area and attract new businesses. Bellevue is the eastern hub of the pass and hold great importance for CNP's economic growth.

Site photos



Proposed housing precedents





Bellevue Housing Proposal



3.3.5 Coleman housing proposal



R2-A, R3 Multi-residential

Coleman takes up a large area and it is the second largest community in the municipality. As the majority of future developable land is available in Coleman there is potential that the population in Coleman may grow faster than the other communities.

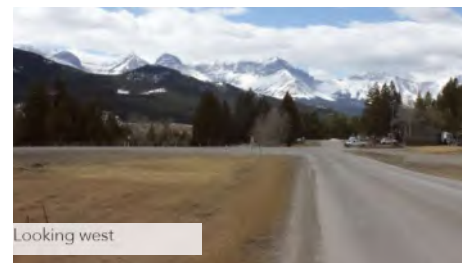
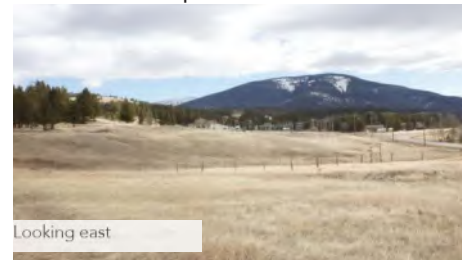
Crowsnest Pass already attract a lot of people who wants to live, work and retire among these pristine natural environments that offer endless outdoor adventures. Unfortunately, the Pass has no viable housing options that meet their needs. Therefore, we are proposing a medium

to high density multi-residential development to provide affordable and diverse housing option to welcome new working-families, younger professionals and seniors. The proposal also includes a dog park on the west edge of the site.

Being on a higher slope, the site has a stunning view of the mountains. It has direct access to Highway 40 and 3, connecting the main commercial areas reachable by walking or biking within minutes.



Current site photos



Precedents



3.4 MAIN STREETS



3.4.1 Eastern circuit

The special topic for our team is to enhance the existing historic route by revitalizing the Bellevue main street and improving the connection to Hillcrest and Frank Interpretive Centre. Being in close proximity to the Frank interpretive centre, we believe the circuit will function as a bridge to bring more people to Bellevue and Hillcrest main streets by improved trail system, making it a eastern hub of the Pass.

This circuit will take people along the historic route which is now connected to series of public spaces including the ice cream plaza, playground and the downtown street that provides an exciting public realm qualities and vibrant urban space. Visitors arriving in Bellevue downtown will have the opportunity to visit the shops and open squares, and stay in a hotel accommodation.

Bellevue concept design



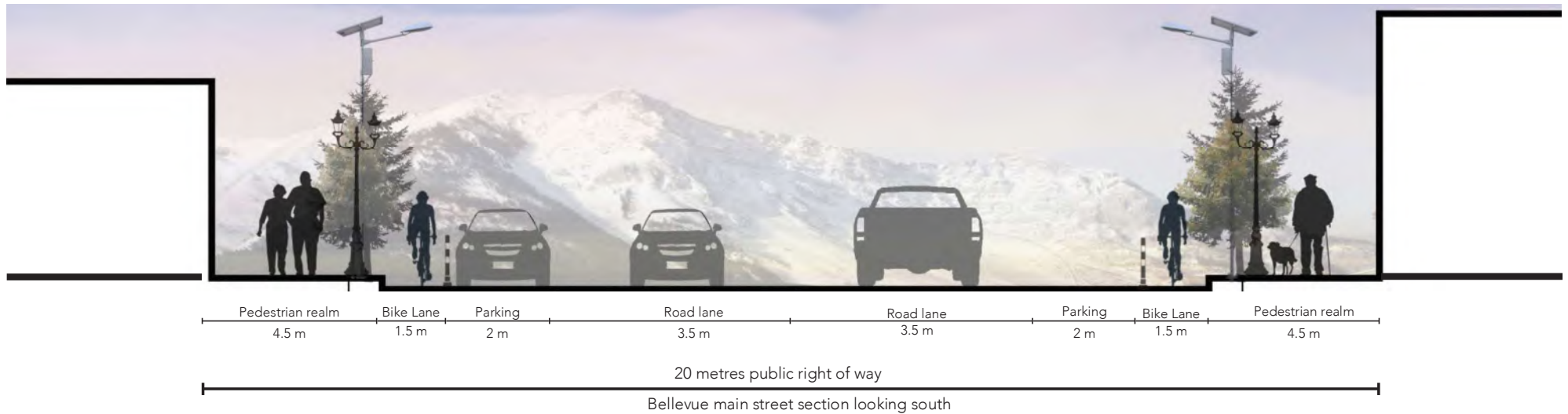


Current state





Bellevue main street cross section



Ice cream plaza

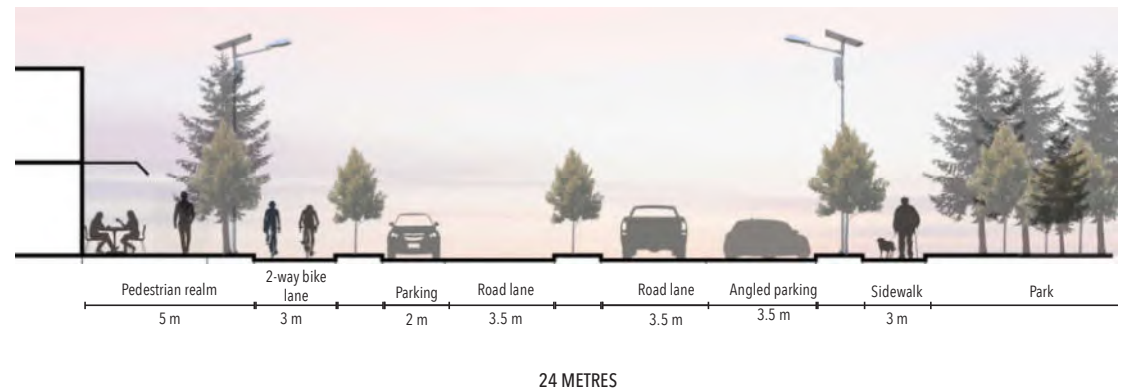


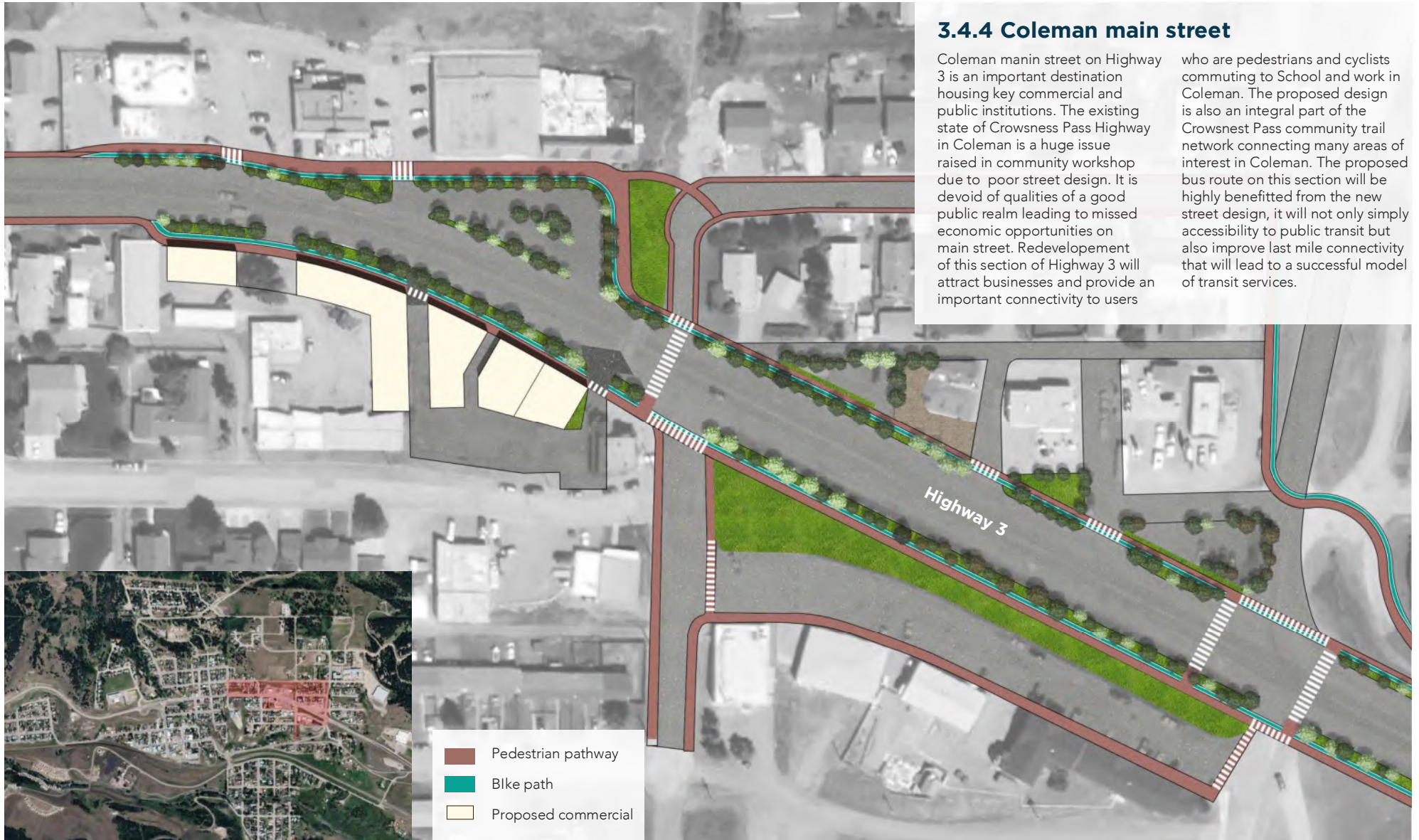


3.4.3 Blairmore main street

Future growth will be focused on intensification of existing developed areas and infill development, supported by pedestrian-friendly cross-sectional design that includes wide walkways and bikeways to support an active edge condition. The vacant buildings in Blairmore are proposed to be utilized and redeveloped with retail, office commercial, rental or tourist accommodations. Proposed land use designations is to promote mixed-use development.

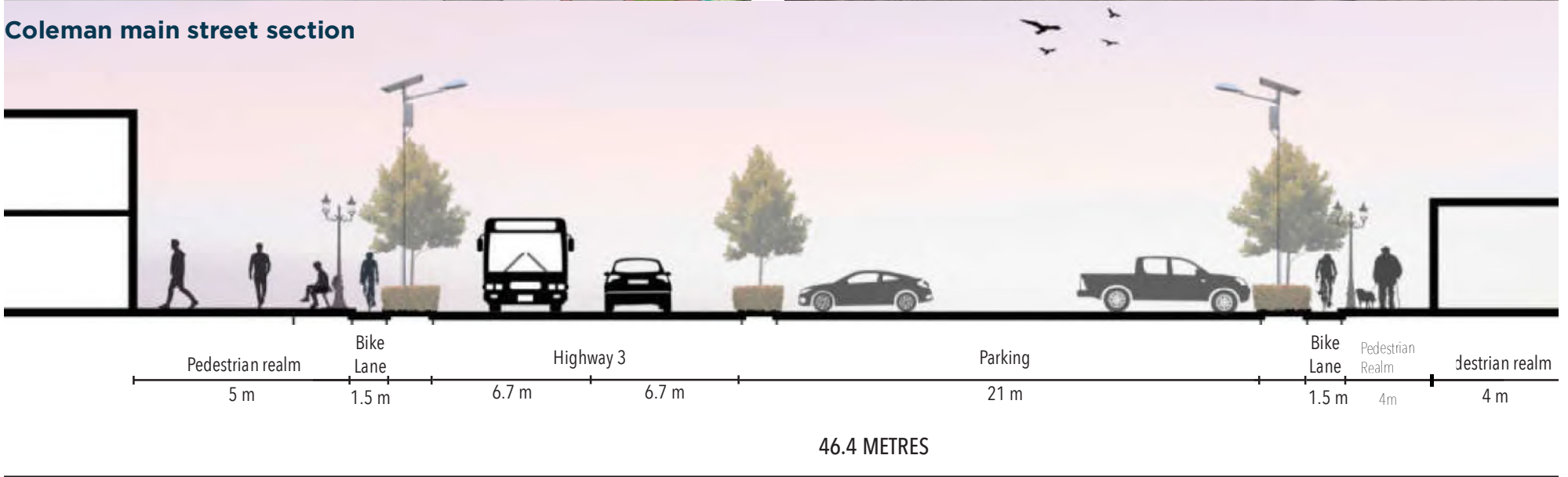
Cross section







Coleman main street section



COLEMAN MAIN STREET SECTION LOOKING EAST



Reimagining main street

Standing right in front of petro Canada looking towards east in Coleman. This illustration shows extension of existing hotel with commercial stores on the ground floor and tourist accommodation on the second floor. The proposed street design includes segregated bike and walkways along active store frontages with high permeability, and porosity. Street trees, pockets of green spaces and pedestrian amenities are to enhance user experience and also as safety measure.

3.5 DESIGN GUIDELINES

Parks and open spaces

- Provide walkable pathways which will be adjusted based on the minimum of 1.2 metres.
- Open spaces should provide safety. If an open space is proposed to an adjacent road or a sloped area, trees should provide a boundary marker.
- Trails and bike lanes should be proposed based on understanding the roads, closeness to natural habitats as well as contour lines.
- Setbacks should be considered while proposing a park.
- Lighting should be proposed in areas which are further away from the main streets of the hamlets.

Main street

- Quality public realm and high visual standards and streetscapes
- Safe crossings by shortening the crossing by adding bulb outs and change in material to visually make it obvious for vehicles to slow down for pedestrians
- Promote mixed-use buildings by encouraging the development of new mixed-use buildings and change single commercial land use zoning to mixed-use zoning in the downtown areas for vacant buildings.
- Traffic calming measures to minimize speeding - bulb outs, road bumps
- Design features to promote walkability (street trees, street furniture, lightening and seating)

Housing

- Single-detached housing percentage should not exceed 70% of total municipality's housing stock.
- Set a density target for new housing developments to achieve medium to high density residential neighbourhoods to avoid developments in natural areas.
- Support increase in density and take advantage of existing lot sizes to provide detached accessory dwellings
- Developable sites adjacent to urban areas should provide range of housing options including smaller house, duplexes, triplexes, row houses, and apartments that are affordable and accessible for seniors, working families, and younger professionals.
- Encourage developers to build sustainable and innovative housing designs that can be affordable such as tiny homes, modular homes, prefabricated homes, co-housing, cluster homes, etc.
- No front driveways and street facing garage entrances for new housing developments on arterial roads
- Tax breaks and incentives for development proposals for affordable and diverse housing.
- Higher taxes for vacant lands/properties with owners that do not reside in Crowsnest Pass
- New development should be added in brownfield/built-in areas of the municipality as infill and avoid development in natural areas.

- Flexible zoning and regulations for developing innovative housing designs that are sustainable, affordable and efficient.
- Develop public-private partnership to create affordable housing for the lower income residents in the Pass.
- More housing options for seniors that easy to maintain and allows aging in place with social integrity. Create social mix by providing accessible units in new residential developments.

Mobility

- Seamless integration of nodes at bus stations.
- Phone application for the bus transit to update status, live locations, and timing.
- Safe and efficient movement of people with high levels of pedestrian priority.
- A well-designed transit station for a high quality user experience.
- Strategic parking management (back side of stores).
- A vibrant and mixed-use environment with higher land use intensity.
- An attractive public realm.
- Designated bike and walk paths that connects all cultural heritage sites and other points of interest.
- Road and trail signages and wayfinding maps and phone applications and
- Year-round, high-frequency service of bus transit system.
- Traffic lights and safe crossings for all major intersections.

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