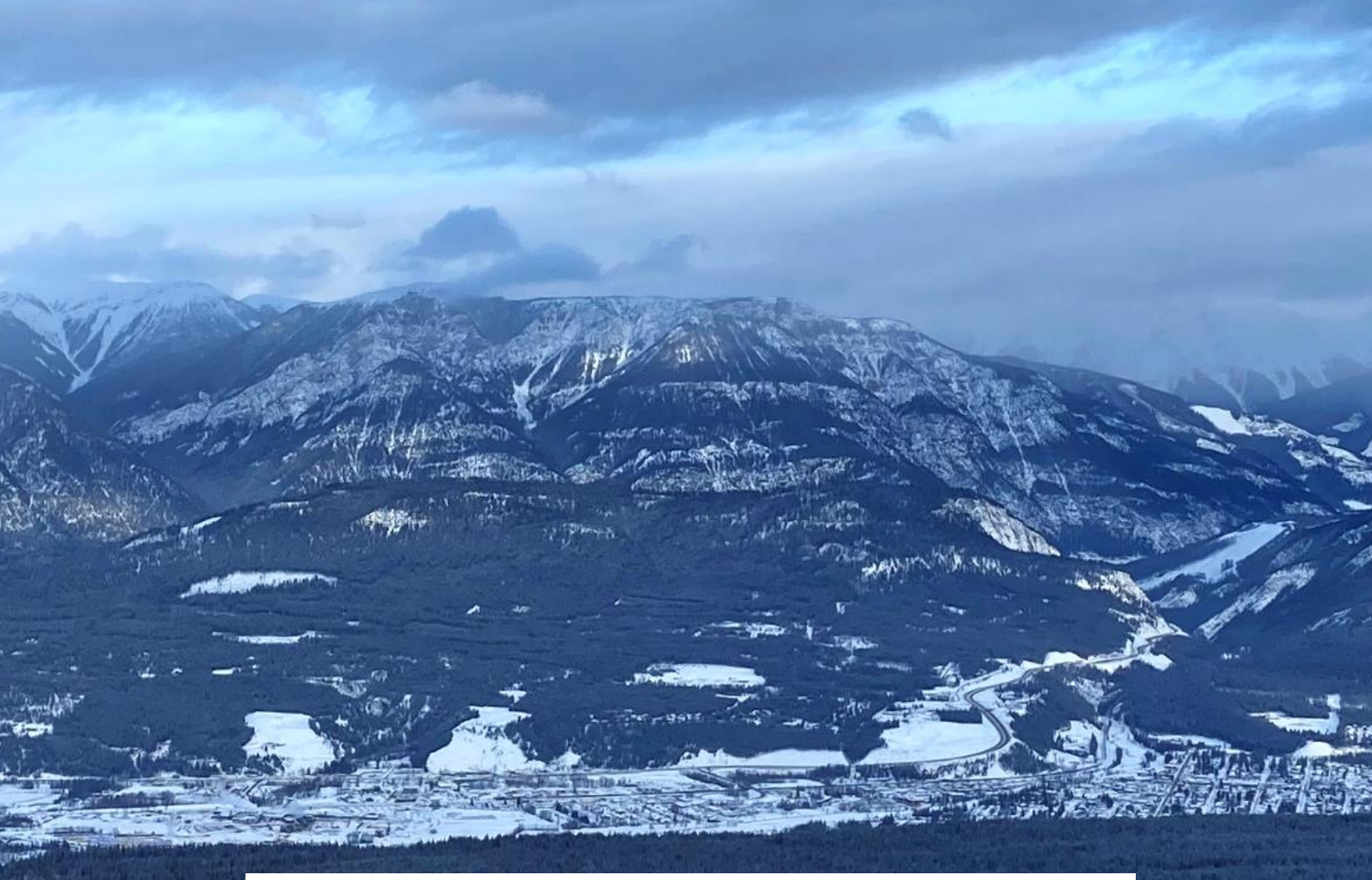

GOLDEN TRANSPORTATION PLAN – FINAL

TOWN OF GOLDEN

April 26, 2023

PREPARED FOR:

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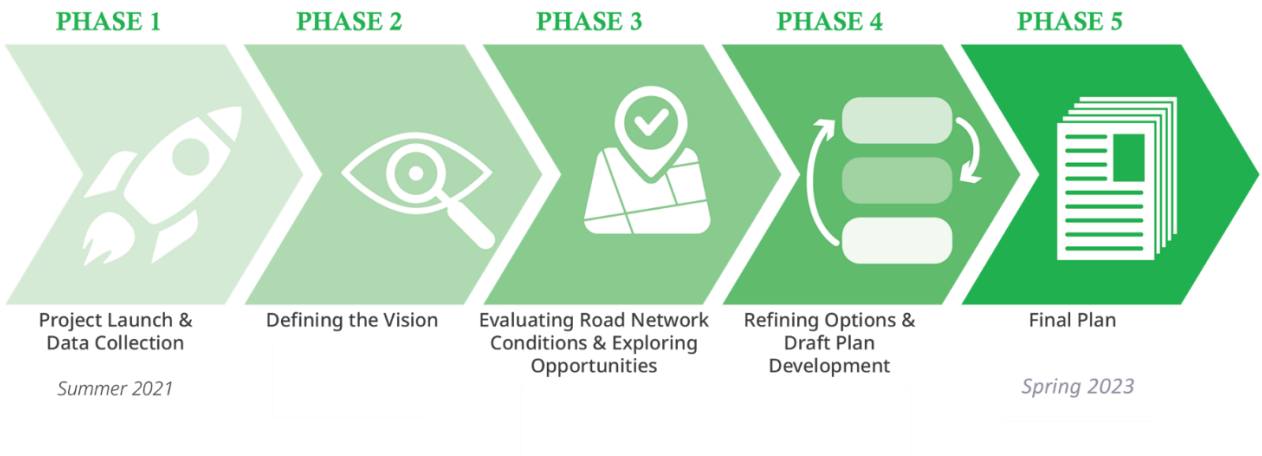
EXECUTIVE SUMMARY

PURPOSE OF THE PLAN

The Town is committed to making the transportation network safer and more connected for all ages and abilities. The Golden Transportation Plan (GTP) was developed in combination with the Golden Active Transportation Network Plan (ATNP) to help establish an integrated transportation system. Both documents will assist in connecting residents and visitors of all ages and abilities to community destinations, downtown businesses, Kicking Horse Mountain Resort, resort amenities, and year-round attractions. The GTP and ATNP will guide Golden's investments in transportation over the next 20 years to accommodate projected growth and anticipated developments in the Town.

The Town developed the GTP over a 12-month period starting in July 2021, with a draft plan in August 2022. The Plan is based on Canadian best practices, local expertise, and public input.



COMMUNITY ENGAGEMENT

Ensuing the Town heard from a diverse range of voices through a robust engagement process was key to developing a Plan that is inclusive, forward-thinking, and reflects the needs and desires of the community. Golden residents were given the opportunity to help shape the development of the plan through three rounds of engagement. Through this process we engaged with hundreds of community members and stakeholder through a series of online events and engagement opportunities.

Vision and Goals

A clear vision sets the stage to identify goals, objectives and targets that help make the vision a reality. Golden's vision of its transportation network is as follows:

> *"Residents and visitors of the Town of Golden enjoy an **active lifestyle** situated between the Rockies and the Purcells.*
>
> *The **integrated** and **accessible multi-modal** transportation network enhances this lifestyle, fostering a **vibrant** and **sustainable** community."*

From this transportation vision, three goals were developed using themes presented in the Town's Official Community Plan (OCP). The goals include:

- **Health and Safety:** the goal to provide a safe network for all road users and support the health of both people and the environment by encouraging active transportation and reductions in vehicle emissions.
- **Integrated:** the goal to provide an integrated network with various options for moving within and beyond the Town.
- **Accessible:** the goal to provide an accessible network that allows people to move throughout the community regardless of age, ability, and income.

The Future of Transportation In Golden

Opportunities to enhance transportation in Golden were identified into six themes for the plan. The six themes, as follow, are intended to help support the Town achieve the vision and goals.

- **Active Transportation** – the plan includes an active transportation network that identifies new sidewalks, bicycle routes, multi-use pathways, and trails. In addition to the network recommendations, there were 26 actions aimed at enhancing the experience of walking, biking, and rolling in Golden to encourage more trips being made by active modes. This included actions to improve safety, accessibility, and equity.
- **Traffic Calming –** it is recognized that traffic calming measures can create conditions that help to encourage active transportation use along corridors. This includes reducing motor vehicles speeds and volumes. The GTP includes a toolkit that outlines the different traffic

calming features that can be used on local roads and roads identified as active transportation corridors. These features include curb extensions, traffic circles, and speed humps.

- **Maintenance -** while capital projects are often seen as the top priority for improving transportation, ongoing rehabilitation and maintenance of existing and new infrastructure needs to be an equally important focus. Maintenance needs to be considered at all stages of the planning and the design process. There are several actions identified in the GTP and the ANTP that focus on ensuring the transportation network is in good condition and maintained year-round.
- **Parking –** the actions under this theme focus on mitigating the challenges associated with the seasonal demand for motor vehicle parking in Golden and ensuring that there is adequate safe and secure bicycle parking available to encourage more trips by bicycle. The recommendations under this theme focus on increasing education and enforcement efforts during peak tourism times, installing wayfinding signs for long term parking locations, and supporting the installation of more short- and long-term bicycle parking and end-of-trip facilities throughout the community.
- **Transit Service –** Through community engagement it was heard that many survey respondents (78%) would support reintroducing some type of transit service in Golden. The GTP presents transit service options that can be studied and considered as the community continues to grow and evolve.
- **Emerging Technologies –** New transportation modes have emerged from changing technologies, such as the electrification of transportation (electric cars and e-bikes), autonomous vehicle technology, and mobility-as-a-service (MAAS) platforms which include ride hailing, carshare, bike share, scooter share, and micro-transit. The GTP and ATNP provide considerations regarding the impacts of these new technologies and modes and plan for how the Town can accommodate them.

Infrastructure Projects

Both the GTP and the ATNP recommend infrastructure projects that will ensure that the transportation network in Golden is safe, accessible, integrated, and efficient.

Through technical analysis (which included the development of a Travel Demand Forecasting Model, operational analysis and a review of collision data) and input from community members a list of roadway improvement projects was identified. These projects are listed below in **Table E.1** and can be seen in **Figure E.1**.

To implement many of these projects, the Town will need to advocate to the Ministry of Transportation and Infrastructure (MOTI) and the Ministry of Forests.

Similarly, the proposed long-term active transportation network was developed through discussion with Town staff and consultation with the public. The proposed active transportation network is made up of sidewalks, multi-use paths, trails, active transportation corridors, and crossing improvements, as seen in **Figure E.2**.

Implementation

The strategies, actions, and infrastructure projects identified as part of the GTP are intended to guide Golden's policy, planning and capital investment decisions as well as on-going operations and maintenance activities in support of transportation into the future. Implementing the plan will require financial investment, staff resources, and an implementation strategy to prioritize improvements as short-term (within 8 years), medium-term (8 to 20 years) and long-term (20 years and beyond). The GTP also includes a monitoring strategy to ensure that the plan is implemented as intended and that progress towards the goals is being made.

There are some segments of projects in the proposed active transportation network (**Figure E.2**) that will be implemented through development and/or will require land acquisition, as a result, their alignment and timeline for implementation is less certain. Due to this uncertainty, these projects have not been included in the implementation strategy. These projects have been highlighted in *Figure 9* of the ATNP, in **Appendix H**.

THE TOWN OF GOLDEN WOULD LIKE TO THANK ALL COMMUNITY MEMBERS FOR THE VALUABLE INPUT PROVIDED DURING THE GTP PLANNING PROCESS. THANK YOU!

Table E.1 List of Improvement Projects

#	ROADWAY IMPROVEMENT PROJECTS
1	Improve traffic conditions on Selkirk Hill (ex. reduce speeds, improve safety for all modes).
2	Improve traffic conditions on Golden Donald Upper Road (ex. turning lanes at intersections and accesses, multi-use pathway or bicycle accessible shoulders; improve facility for all modes).
3	Improvements to the intersection control at 10 Avenue N and 7 Street N (ex. signal or restrict turns) – would require some discussion with BC Ministry of Transportation and Infrastructure.
4	Advocate to BC Ministry of Forests to improve roadway conditions on Bowle-Evans Drive.
5	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic operations on a new Dogtooth Bridge (Kicking Horse Drive Bridge - access to Kicking Horse Mountain Resort, golf course, CBT/Moonrackers bike trails).
6	Advocate to BC Ministry of Transportation and Infrastructure (MoTI) to implement a new Highway 95 bridge across the Kicking Horse River (project design currently underway). Town to work with BC MoTI to ensure design improve safety for all modes.
7	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic control and pedestrian area at Highway 95 (10 Avenue S) and 11 Street S intersection.
8	Advocate to BC Ministry of Transportation and Infrastructure to improve signage and lane markings along Highway 95 (10 Avenue S) at 9 Street S to provide more clarity on through lanes and turning lanes, as well as confirm vehicle turning movement paths.
9	Advocate to BC Ministry of Transportation and Infrastructure to improve signal timing for cross streets along Highway 95 (10 Avenue S) during the morning and afternoon school hours.
10	Advocate to BC Ministry of Transportation and Infrastructure to re-evaluate the Highway 95 (10 Avenue S) cross section from where project #6 ends to 15 Street S and consider implementing a Road Diet to reallocate and balance the space for pedestrians, cyclists and motor vehicles. Bicycle infrastructure can be installed initially as painted bicycle lanes and transition over time to include protected barriers in the buffer space. Aligning implementation with other road works and/or lifecycle replacements.
11	Advocate to BC Ministry of Transportation and Infrastructure to implement permanent measures on Highway 95 (10 Avenue S) south of 15 Street S that would encourage drivers to slow down as they enter the Town (ex. speed feedback sign, additional features to indicate that you have entered a community, reduce roadway width, etc.)
12	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic flow for southbound vehicles at the Highway 95 (10 Avenue S) and Reflection Lake Road intersection by widening the intersection to provide for a southbound to eastbound left turn lane.

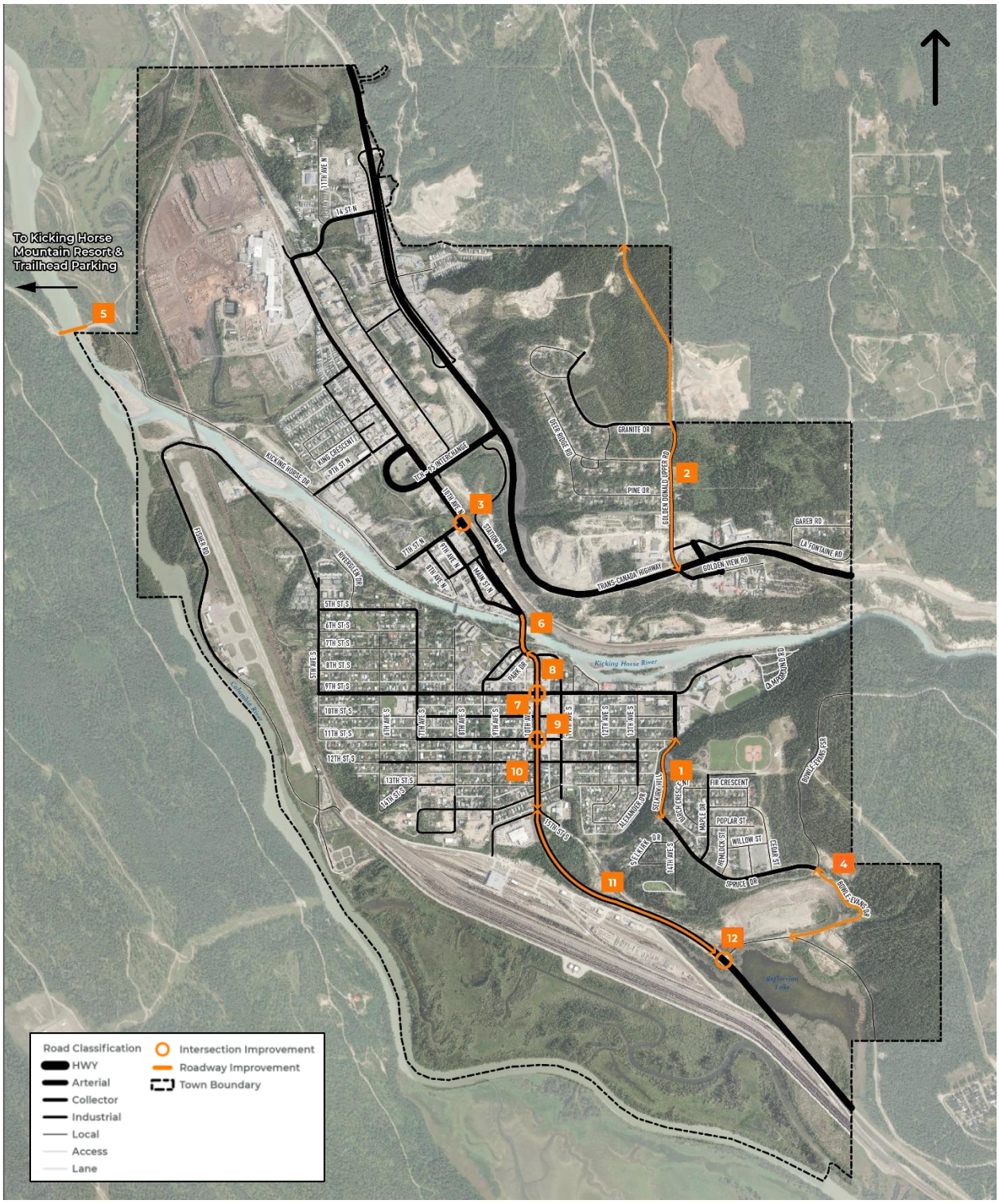


Figure E.1 Potential Transportation Network Improvements

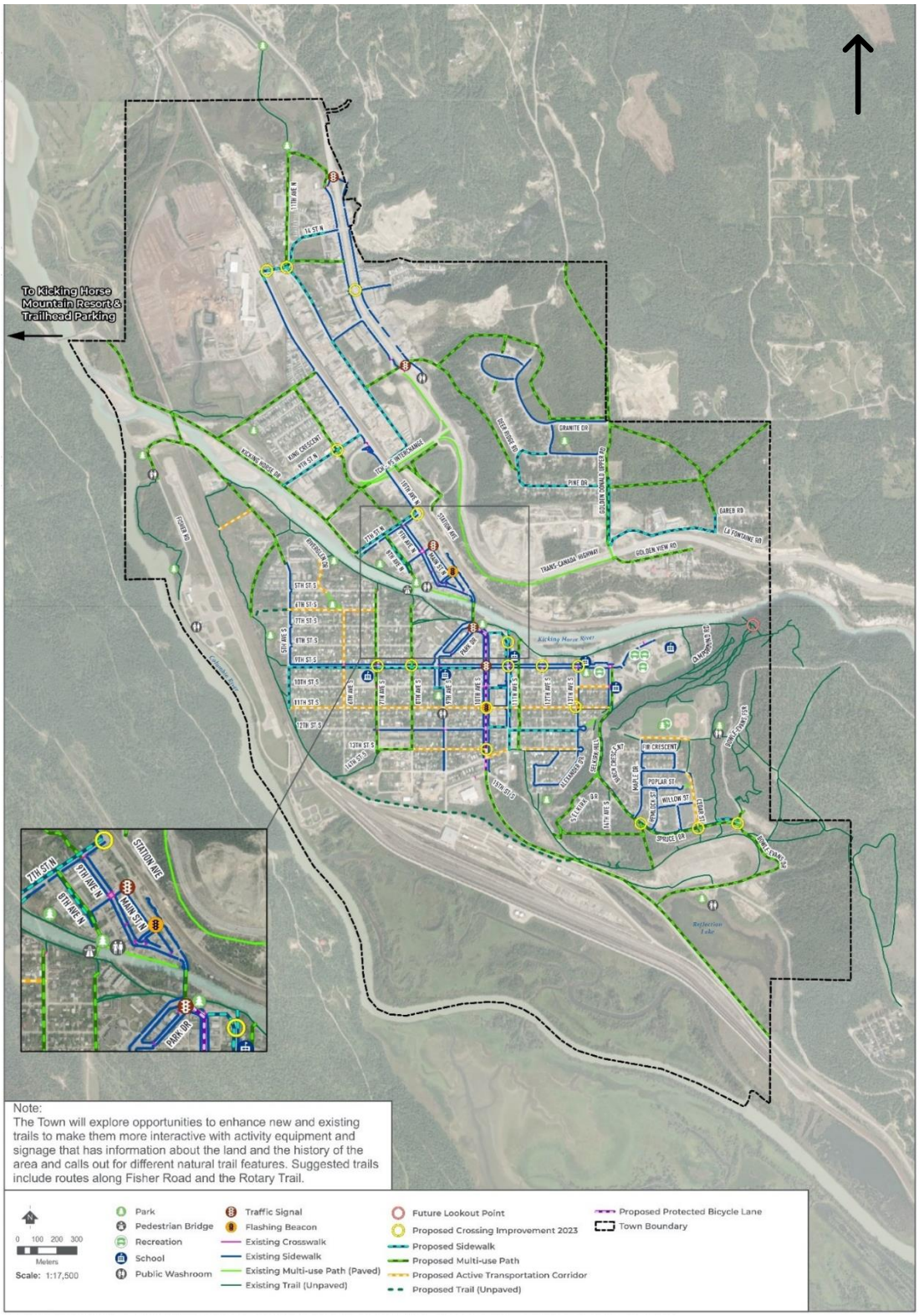


Figure E.2 Proposed Active Transportation Network

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1.0 INTRODUCTION

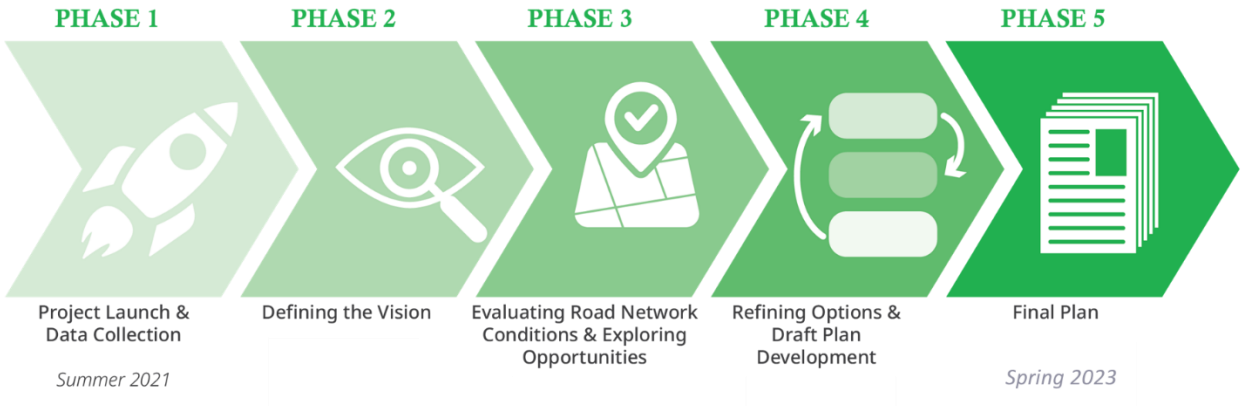
The Town of Golden (Town) is a small community of 3,708 residents, and 3,155 residents in the surrounding rural area. Golden is located on the traditional and ancestral territory of the Ktunaxa and Secwepemc Nations. The Métis Nation Columbia River Society also calls Golden home. As a resort community, the Town of Golden is a major tourist destination in British Columbia, attracting a broad range of residents and visitors.

The Town is committed to making the transportation network safer and more connected for all ages and abilities. The Golden Transportation Plan (GTP) was developed in combination with the Golden Active Transportation Network Plan (ATNP) to help establish an integrated transportation system. Both documents will assist in connecting visitors and residents of all ages and abilities to Golden's year-round attractions, and community destinations. The GTP and ATNP will guide Golden's investments in transportation over the next 20 years.

1.1 Plan Process

The Town developed the GTP over a 10-month period starting in July 2021. The Plan is based on Canadian best practices, local expertise, and public input. The GTP process includes five phases:

- **Phase 1: Project Launch and Data Collection (Summer 2021)** involves collecting relevant background information and data and conducting traffic counts,
- **Phase 2: Defining the Vision (Fall 2021)** involves defining a direction or vision for the future of Golden's transportation network through the development of a vision statement and corresponding goals and objectives to help achieve the Vision.
- **Phase 3: Evaluating Road Network Conditions and Exploring Opportunities (Winter 2021)** involves
    - reviewing the collected data, establishing projected growth, and developing the base transportation demand model.
    - Exploring possibilities for improvements and strategies to enhance the transportation network before developing an integrated plan that reflects the aspirations and directions of the community.
- **Phase 4: Refining Options and Draft Plan Development (Winter 2022)** involves
    - Incorporating public input and refining potential solutions to ensure they are in line with the Plan goals and objectives,
    - Prioritizing projects and developing an implementation and funding strategy that will ensure that the Plan is affordable and practical.
- **Phase 5: Final Plan (Spring 2022)** involves gathering and incorporating final input to ensure the Final Plan meets the needs of the community.



1.2 COMMUNITY ENGAGEMENT

Golden residents and visitors were given the opportunity to shape the development of the GTP. Three rounds of engagement took place.

- **Round 1: Understanding Concerns (September 13-26, 2021)**
  The first round of engagement involved a survey with 29 questions and an interactive map to gather feedback from residents and visitors on what the GTP should focus on and collect input on existing issues and opportunities of the transportation network.

  There were 296 responses to the survey and 497 points placed on the interactive map. The detailed results and summary are provided in the What We Heard Report dated October 19, 2021, in **Appendix A**.

- **Round 2: Level of Support (January 26-February 11, 2021)**
  The second round of engagement included two virtual public sessions and one online survey. The first session was held on January 26, 2022, to provide on overview of the preliminary content of the GTP and ATNP including a draft vision statement, goals and recommended road and active transportation network improvements. A survey was launched after the presentation that included 31 questions on the content presented in the January 2022 session. The survey was available from January 27 to February 13, 2022.

  One of the main purposes of the survey was to gain an understanding of what the priority projects and actions were for the community prior to compiling the draft plans. The second public information session was held on February 7, 2022, as a follow up to the first with an open discussion forum. It included two breakout rooms, one to discuss road network improvements and one to discuss active transportation network improvements.

- **Round 3: Final Round (August 2022)**
  The purpose of the third, and final, round of engagement was to share the draft GTP and ATNP with the community, understand if the community had final input about the plan before it was finalized and gain an understanding of the level of satisfaction the community had about the level of engagement throughout the planning process. An online survey was the engagement activity for this round. There were 61 participants that provided their inputs, as well, additional feedback was submitted directly to the Town for considerations.

The detailed results from the three rounds of engagement, and other input received during the planning process, are documented in the What We Heard Reports included as **Appendix A** of the Golden Transportation Plan. The input that was gathered during these public engagement events helped to shape the development of the GTP and ATNP.

1.3 Golden Transportation Plan Structure

The GTP report summarizes the study process outlined in **Section 1.1**. Following this introductory section, the GTP includes a review of the Town's current conditions, issues, and opportunities and offers insights into how these, along with the overarching policy context, influence Golden's transportation network. The GTP provides strategies and actions to build a transportation network that meets the vision and goals of the plan, and is organized into the following six sections:

- **Section 1: Introduction** provides an overview and purpose of the GTP, the study process, and the structure of this report.
- **Section 2: Community Context** summarizes the local and regional elements that shape transportation in Golden, including land use and demographic patterns, the policy context, and travel patterns trends.
- **Section 3: Vision, Goals and Objective** investigates what is important to the Town of Golden and apply this to the development of the plan's vision, goals and objectives.
- **Section 4: Existing Conditions** summarizes the existing transportation network and conditions in Golden and identifies if, and where, improvements are required.
- **Section 5: The Future of Transportation in Golden** outlines the expected population and employment growth in Golden. Then it evaluates the impact of the expected growth on the transportation network and provides recommendations to mitigate the impact and help achieve the vision of the GTP. These recommendations include both infrastructure improvements and policy implementation.
- **Section 6: Implementation Framework** provides an approach to the implementation of the policy and infrastructure improvements, and a plan to measure the progress.

2.0 COMMUNITY CONTEXT

Golden is an active and healthy community with a deep appreciation for the outdoors and maintaining its natural environment. Because of Golden's beautiful natural surroundings and proximity to Calgary, Revelstoke, and the Trans Canada Highway, many tourists and recreationalists visit the Town year-round for mountain biking, hiking, skiing, and many more outdoor activities. Golden has a deep history as an industrial logging and railway town. With the development of the Kicking Horse Mountain Resort and a growing tourism sector, Golden is entering a new era with more of its residents employed in the service industry than any other industry.

A review of the Town's existing demographics, land uses, and transportation infrastructure is part of the first step in understanding the Town's existing travel behaviour. Reviewing the relevant studies and statutory plans, such as the Official Community Plan, the Housing Needs Assessment, and the Zoning Bylaw is also key in understanding the future direction of development and growth in the Town.

2.1 Demographics

The Town of Golden, British Columbia (BC) has a permanent population of approximately 3,708 people (at the time of the 2016 Census) while the surrounding area has an additional 3,155 residents. The community is an approximately 2.5-hours drive west of Calgary, AB; 90-minutes east of Revelstoke, BC; and one hour north of Radium Hot Springs, BC. The community's desirable location makes it a great place for a vacation, a recreational home, and is a retirement option for many. With a "resort municipality" designation, Golden's population can fluctuate as tourists, seasonal workers, and short-stay recreationalists travel in and out of the Town.

The 2016 Census indicates the average age of the population of Golden is slightly less than the provincial average of 42.3 years at 41.0 years. The majority (69%) of the population is between 15 and 65 years of age while Golden's seniors make up approximately 16% of the population. **Figure 2.1** provides a summary of the age distribution.

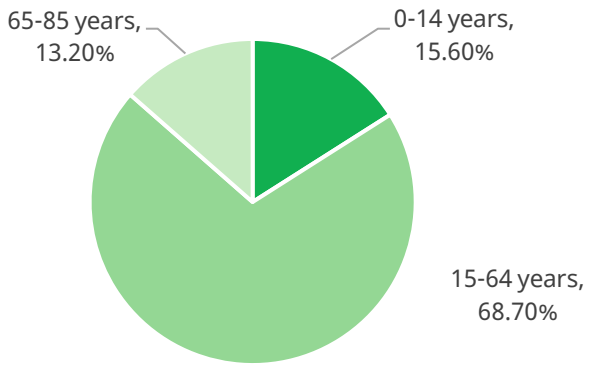


Figure 2.1 Golden's Population (Source: 2016 Census)

Initial results from the 2021 Census[1] released in early 2022, indicated that the Town of Golden's has a population of approximately 4,000 people (3,986 people), an increase of 7.5 percent (approximately 1.5 percent per year) from the 2016 Census information. The detailed demographics and travel pattern information for the 2021 Census data has not yet been released, and so the travel behaviours and trends for the GTP are based on the 2016 Census data.

2.2 Land use

At less than 12 square kilometres, Golden is a relatively compact community despite being composed of primarily single-family residential neighbourhoods. Most of Golden's residents live south of the Kicking Horse River on a peninsula that is surrounded by the Columbia River, forests,

[1] Statistics Canada. 2022. (table). *Census Profile*. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released April 27, 2022.

and mountains. North of the river, there is low density residential development northwest of downtown Golden and south of Highway 1, the railway, and the industrial area. There are also areas of low density residential developments north of Highway 1; including, behind the highway commercial near Hospital Creek, and areas off of Golden Donald Upper Road and Lafontaine Road.

Golden provides both residents and visitors with numerous amenities, including trails and parks, including the Spirit Square and the river paths/Rotary Trails, and abundant recreational activities as the Town is nestled between the Rockies and the Purcells. **Figure 2.2** displays the key community destinations in Golden.

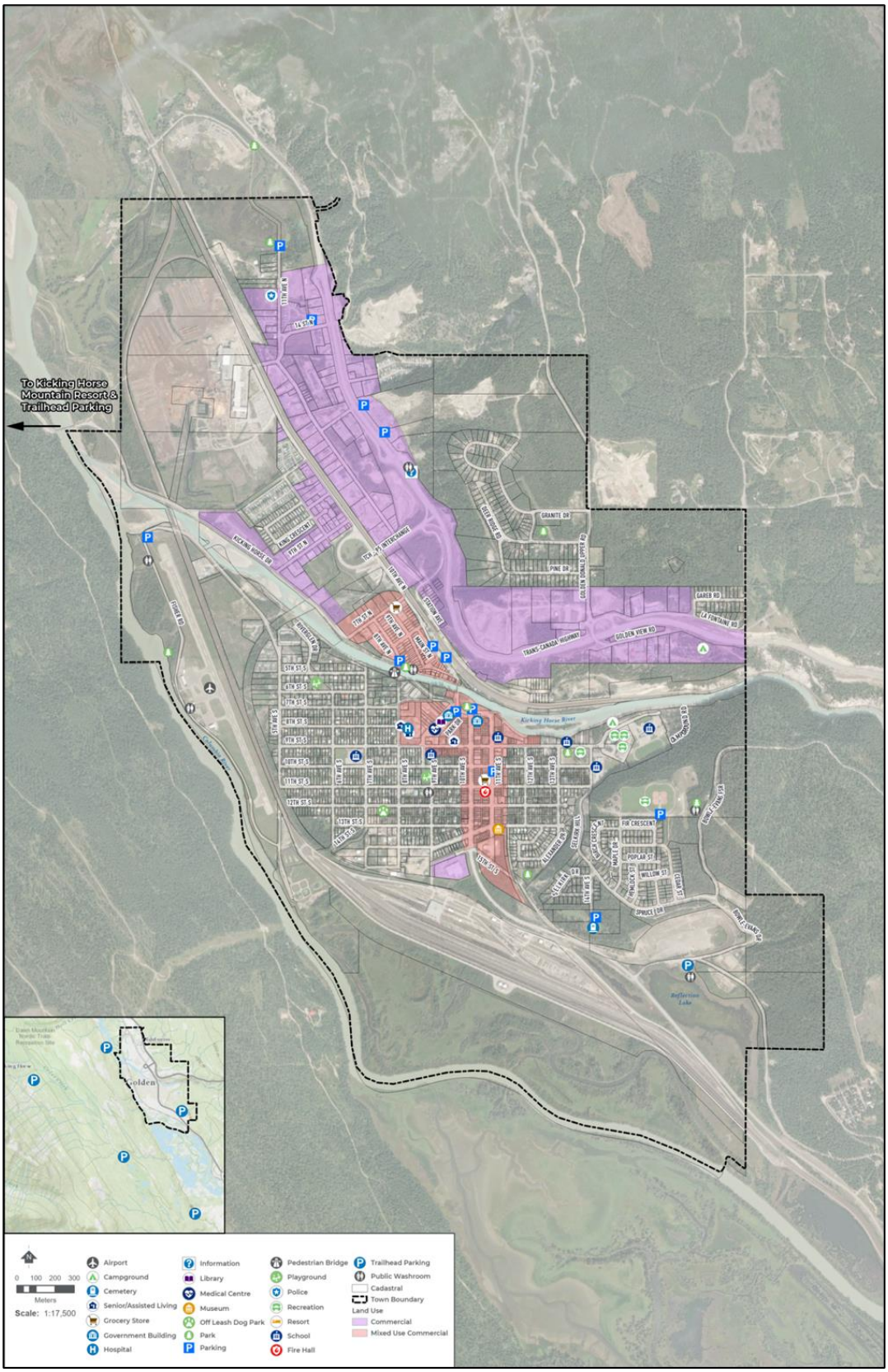


Figure 2.2 Community Destinations

2.3 POLICY CONTEXT

The Town's existing community plans, policies and bylaws were reviewed prior to the development of the GTP. These plans and bylaws helped to set the foundation of the GTP by highlighting the Town's values and priorities, and were used to gain an understanding of projects and initiatives that are already underway. The following documents were reviewed to help inform the development of the transportation plan:

- Official Community Plan (2008)
- Housing Needs Assessment (2021)
- Affordable Housing Strategy (2021)
- Subdivision and Development Servicing Bylaw (Bylaw 1223, 2008)
- Zoning Bylaw (Bylaw 1294, 2011)
- Age Friendly Community Plan (2014)
- Resort Development Plan (2019-2022)
- Surface Condition Report (2018)
- Infrastructure Replacement Priority Plan(2018)

Summaries of each of these documents along with details on how they were used to help shape the development of the GTP is provided in **Appendix B**.

It should be noted that public engagement identified a strong desire by the community for the GTP to incorporate policies, actions and plans related to active transportation, where possible. The ATNP attached in **Appendix H** outlines a recommended network and supporting policies and programs to improve and encourage active transportation in Golden.

2.4 TRANSPORTATION PATTERNS

Mode Share

The 2016 Census provides travel patterns within Golden to give an idea of what the current trends may be in Town. Based on this data in 2016, 74% of commuter trips made by Golden residents are by motor vehicle (driver 69%, passenger 5%). Active and sustainable transportation make up approximately 24% of daily trips made by Golden residents, including walking (14%) and cycling (10%). See **Figure 2.3**, for the 2016 mode share for commuting travel in Golden.

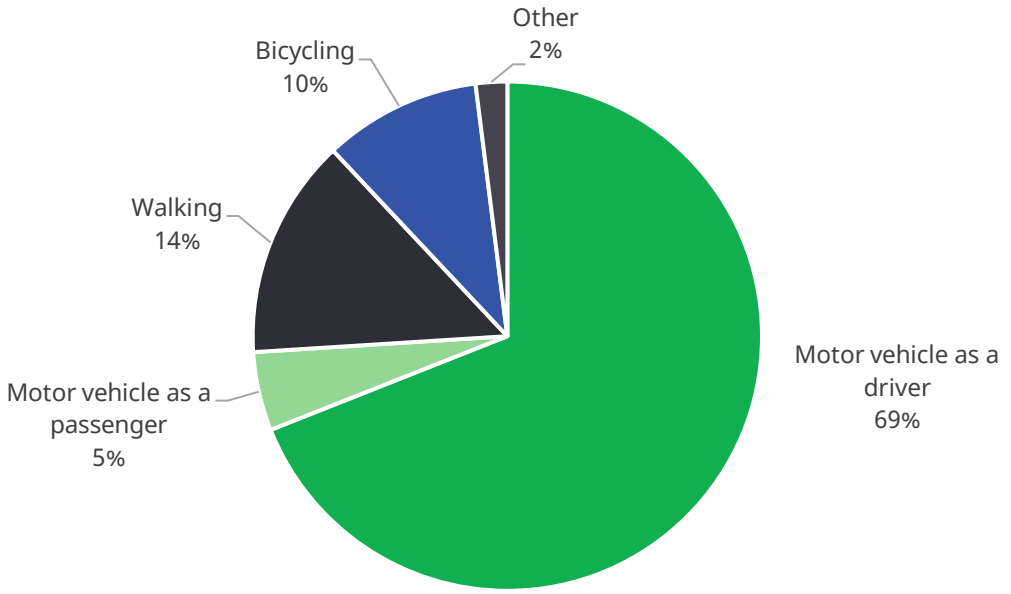


Figure 2.3 Golden's Journey to Work – Mode Choice (Source: 2016 Census)

Commuting Destinations

Although 74% of Golden residents commute to work in a motor vehicle, 88% of the working population of Golden commutes within the Golden (the census subdivision). This implies that a large portion of the population is traveling short distances (less than 10 minutes) to get to work. Shorter commutes are more viable for travel using active modes. **Figure 2.4** summarizes the commuting destinations within Golden.

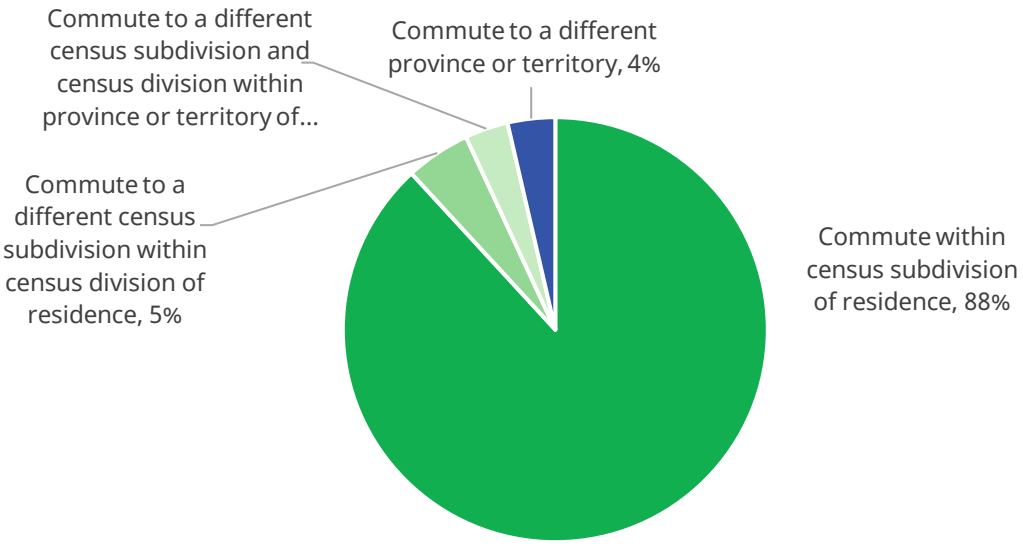


Figure 2.4 Golden's Journey to Work – Location (Source: 2016 Census)

The census division indicated in the above chart represents the Columbia-Shuswap Regional District, which includes Revelstoke, Salmon Arm, Sicamous, first nation bands, and rural areas. As shown, travel to areas outside of Golden but within the census division represents another 5% of commuters.

According to the first online engagement survey, respondents also indicated they have short commute to work or school; with almost 60% of commutes being less than 10 minutes, and another 20% being between 10 and 20 minutes. It should be noted that respondents to the survey included 25% living outside of Golden but within the census division.

Travel Challenges

Respondents of the first online survey provided input on some of the challenges for the different mode shares, the following are the top three concerns noted for each mode:

- Walking
    - Lack of sidewalks/pathways
    - Condition of sidewalks/pathways
    - Personal safety
- Wheelchair/motorized scooter
    - Lack of accessible ramps to/from sidewalks/pathways
    - Lack of accessible sidewalks/pathways
    - Condition of sidewalks/pathways
- Bicycling
    - Lack of trails, bicycle lanes, and bicycle routes
    - Lack of bicycle parking
    - Volume, speed, size and/or noise of traffic
- Driving/Carpooling
    - Difficult to find parking
    - Too much congestion during rush hour
    - Roads are not well-maintained

In the past, between 2008 and 2011, there was a transit system in Town that was a partnership between the Town, Columbia Shuswap Regional District, and BC Transit. The bus service completed a morning and afternoon trip to/from the Town to Donald, Blaeberry, and Parson. However, the service was canceled due to very low ridership and costs. Most respondents to the survey (78%) indicated that they would like the following transit services re-explored:

- On-demand transit
- Private shuttle services to/from Kicking Horse Mountain Resort
- Regional transit in Golden and Area A

The key themes of transportation barriers or challenges that were raised by respondents for the open-ended questions from the first survey included:

- **Lack of regional transit.** Respondents found it difficult to travel to and from work and/or medical appointments without a vehicle if they were coming from locations outside of Golden.
- **Lack of accessibility.** Respondents shared that there are not enough accessible pathways for those with disabilities or small children in strollers.
- **Safety concerns.** Respondents highlighted their concerns regarding carpooling, cycling on the road, and moving through the community at night.

Some top priorities for the GTP will be to improve road safety for all road users, reduce environmental impacts and improve accessibility.

3.0 VISION, GOALS AND OBJECTIVES

The Golden Transportation Plan (GTP) and Active Transportation Network Plan (ATNP) have developed a shared vision and set of goals and objectives for Golden's transportation networks. The vision was based on a combination of the Town's existing commitments and plans, and feedback from Town staff.

3.1 Vision

A transportation vision is created to provide a picture or an idea of the Town in the future. A clear vision sets the stage to identify goals, objectives and targets that help make the vision a reality.

Golden's vision of its transportation network is as follows:

> "Residents and visitors of the Town of Golden enjoy an **active lifestyle** situated between the Rockies and the Purcells.
>
> The **integrated** and **accessible multi-modal** transportation network enhances this lifestyle, fostering a **vibrant** and **sustainable** community."

3.2 Goals and Objectives

3.2.1 GOALS

The goals of the GTP were developed using themes presented in the Town's Official Community Plan (OCP). They are intended to direct the Town to realize their vision.

Health and Safety:

Provide a safe network for all road users.

Support the health of both people and the environment by encouraging active transportation and reductions in vehicle emissions.

Integrated

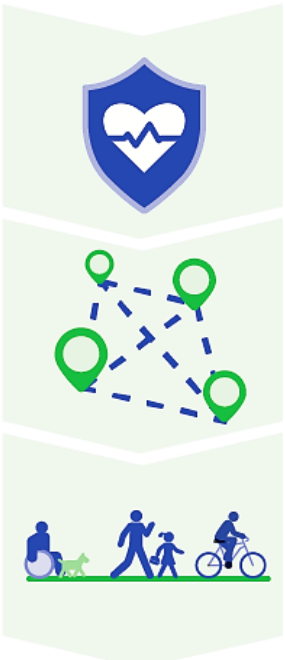
Provide an integrated network with various options for moving within and beyond the Town.

Accessible

Provide an accessible network that allows people to move throughout the community regardless of age, ability, and income.

3.2.2 OBJECTIVES

Objectives are specific actions and measurable steps that help reach the goal. The following objectives were developed to work towards achieving each of the identified goals:



Health and Safety

- Review and update transportation planning policies and design standards to align with latest research and best practices
- Implement intersection improvement recommendations to improve safety and efficiency, considering all road users

Integrated

- Close identified gaps in transportation network
- Revise road classifications to better suit the desired road operation and adjacent land uses
- Support efforts to explore implementing local or on-demand transit service (ex. Shuttle service to kicking horse)[1]
- Collaborate with BC transit to explore potential future transit initiatives[1]

Accessible

- Collaborate with community groups and businesses to understand how to improve accessibility of the community

1 Based on a recent review, it was determined that providing transit service in Golden is currently not viable. Transit improvements would be considered only once significant growth in the community is experienced.

3.2.3 TARGETS

The Town has developed measurable targets that align with the GTP's objectives and other municipal objectives. These targets are a great way to ensure the Town is on track to achieving the GTP's vision. The established targets centre around the goals three themes and are detailed below with corresponding performance indictors that will help the Town measure how well they are achieving their targets.

GOALS	 **Health and Safety**	 **Accessible**	 **Integrated**
PERFORMANCE INDICATOR	Number of collisions that result in injury or fatality	Number of new kilometres and/or projects implemented of accessible facilities (ie. sidewalk, pathway, etc.)	Percentage of commuting trips to work and/or school using active transportation
TARGET	Year over Year		
	Decrease ↓	Increase ↑	Increase ↑

4.0 EXISTING CONDITIONS

A review of Golden's existing transportation network and traffic volume patterns was completed to understand and evaluate what, if any, improvements are currently required, and to set the baseline for the future direction of the transportation network. As part of the existing conditions review, traffic counts were collected at key intersections, and the intersection operations were evaluated. A high-level review of the available Insurance Corporation of British Columbia (ICBC) historical collision information was also completed.

4.1 TRANSPORTATION NETWORK

4.1.1 ROAD NETWORK

The Town of Golden's existing transportation network is comprised of expressways, arterial roads, collector roads, local roads, lanes, sidewalks, multi-use trails and pathways. The roadways focus on the movement of people in motor vehicles, and sidewalks, multi-use trails and pathways focus on the movement of people walking and cycling. More information on these facilities can be found in Golden's Active Transportation Network Plan (**Appendix H**).

A classification system is used to separate the roads comprising the motor vehicle network, based on traffic service and land access. These road classes are identified in the Town's Subdivision and Development Servicing Bylaw (1223-2008) and generally defined as follows[2]:

Expressway/Highway	Traffic movement is the primary consideration with no land access, preventing traffic from slowing or stopping on the roadway. Average Daily Traffic (ADT) volumes are greater than 10,000 vehicles per day (vpd). Design speeds are typically between 80 km/h to 110 km/h. Parking is not permitted on expressways/highways.
Arterial Street:	Traffic movement is the primary consideration with rigid access control, reducing the need for traffic to stop. Average Daily Traffic (ADT) volumes range from 5,000 to 20,000 vpd for minor arterials and 10,000 to 30,000 vpd for major arterials. Major arterial roadways typically have a four-lane cross section when the daily traffic volumes are at the higher end of the range. Design speeds are typically between 50 km/h to 100 km/h. Parking is usually restricted on arterial roads.
Collector Street:	Traffic movement and land access are of equal importance on a collector road. Motor vehicle flows are frequently interrupted due to more closely spaced intersections. ADTs typically range from greater than 1,000 to 8,000 vpd for residential collectors and greater than 1,000 to 12,000 vpd for commercial or industrial collectors. At the higher daily traffic volume range, the roadway will typically have four-lane cross sections and/or dedicated turn lanes. Design speeds are between 50 km/h to 80 km/h. Parking is usually permitted on collector roads.

[2] Transportation Association of Canada (TAC), *Geometric Design Guide, 2017: Chapter 2, Table 2.6.5*

Local Street:	Traffic movement is a secondary consideration on a local roadway, with a focus on land access. Driveways and intersections frequently interrupt traffic flow. ADTs are less than 1,000 vpd. Design speeds are 30 km/h to 50 km/h.
Lane:	Land access is the only function of lanes. Lanes can facilitate access to residential or commercial development. For residential development ADTs are less than 500 vpd, for commercial development ADTs are less than 1,000 vpd. Design speed is 30 km/h to 40 km/h.

For more information on the recommended design parameters and cross-sections for each of these road classes, refer to the Town's Subdivision and Development Servicing Bylaw 1223-2008. The existing road network is illustrated in **Figure 4.1**.

The Town of Golden's key roadways in the transportation network are described as follows:

6 Street N	A local road that runs northeast southwest starting at 10 Avenue N/Highway 95 and extends through downtown. It is a well used entrance to and exit from downtown.
7 Street N	This roadway is a collector road on the north edge of downtown. It extends from 10 Avenue N/Highway 95 to Kicking Horse Drive. Several developments are either under construction or recently approved to be constructed along the corridor.
9 Street S	This collector is the main east-west connection across Town. It provides connections to six different schools, a recreation centre and a hospital. The road extends from 5 Avenue S in the west to beyond 14 Avenue S in the east, ending Street parking is permitted on both sides of the roadway.
13 Street N/11 Avenue N/ 14 Street N	An arterial roadway located in the industrial area that transitions to 10 Avenue N at its west end and connects to the Trans-Canada Highway at its east end.
9 Avenue N	This collector roadway is the main north-south connection through downtown Golden. It extends from 7 Street N to 10 Avenue N/Highway 95. Many stores front onto this roadway which includes angled parking on the west side and parallel parking on the east side.
10 Avenue/Highway 95	An arterial road that extends north to south across Town. The northern portion of the roadway is a collector roadway that begins at 13 Street N, next to the at-grade CP rail crossing in the industrial area, stretching to the Highway 95 ramp where it transitions to an

	arterial roadway. The road stretches past the south end of Town, providing a connection to various other communities including Nicholson, Parson, Radium, Invermere and beyond. The roadway south of the Highway 95 ramp is under the province's jurisdiction. It also includes the Kicking Horse Bridge which is planned to be replaced within the next 2-3 years (pending funding approvals). This bridge replacement will be combined with several road improvements in the area including intersection control improvements and signage.
11 Avenue N	A north-south industrial roadway that provides access to several industrial businesses, accommodating large trucks. Connects to 13 Street N/11 Avenue N at the north extent and dead ends in the industrial area to the south, just north of Highway 95.
14 Avenue S	A north-south arterial roadway that provides access to an elementary school and daycare. It extends from 9 Avenue S to the south where it transitions to Selkirk Hill/Spruce Drive.
Highway 1/Trans-Canada Highway	Generally, this highway runs in an east-west direction across the country. In Golden the roadway curves toward the north just before it intersects with Highway 95. It is the main route taken by tourists/travelers to get into/out of Golden. It is also used by many motorists passing through.
Frontage Road East/West	These roads are industrial service roads that parallel the Trans-Canada Highway and provide access to the businesses along it. They are located north of Highway 95 on either side of the Trans-Canada.
Golden Donald Upper Road	An arterial road that extends north-south between Highway 1 and north past the Town's boundary. Past the Town's boundary, the road connects to Golden Landfill, rural residential, the Golden Skybridge and the rural areas north of Golden.
Granite Drive	A collector road that extends east-west from Golden Donald Upper Road to provide access to the residential area north of Highway 1.
Kicking Horse Drive	A local road on the north side of the Kicking Horse River that extends from the west edge of town to 7 Avenue N, at the north end of downtown. At the west end, it also provides the only motor vehicle crossing of the Columbia River in Golden. The crossing provides access to the Kicking Horse Mountain Resort, Golden Golf Club and mountain bike trails on the south side of Columbia River.

Selkirk Hill	Designated as an arterial road, Selkirk Hill extends north-south starting from 14 Avenue S to Spruce Drive. It is the main access to the Selkirk Hill/Bear's Paw Height community at the top of Mount 7. The grades and curve of this road create limitations for accommodating all road users. A separate study was recently completed that provides recommendations for the roadway.
Spruce Drive	Designated as an arterial road, this road extends from west (Selkirk Hill) to east (Bowle-Evans Dr), servicing the Bear's Paw Height community. Current traffic volumes are minimal on this road but are expected to increase as development continues.
Maple Drive	A collector roadway that extends north-south connecting Spruce Drive to Keith King Memorial Sports Field.
Bowle-Evans Drive (Forestry Service Road)	An unpaved local roadway that provides a secondary connection to the communities on Mount 7. Its surface condition, grades and curves limit its use.
Reflection Lake Road	A local roadway that connects Bowle Evans Drive to 10 Avenue S /Highway 95 at the south end of Town and extends south to the Town boundary.

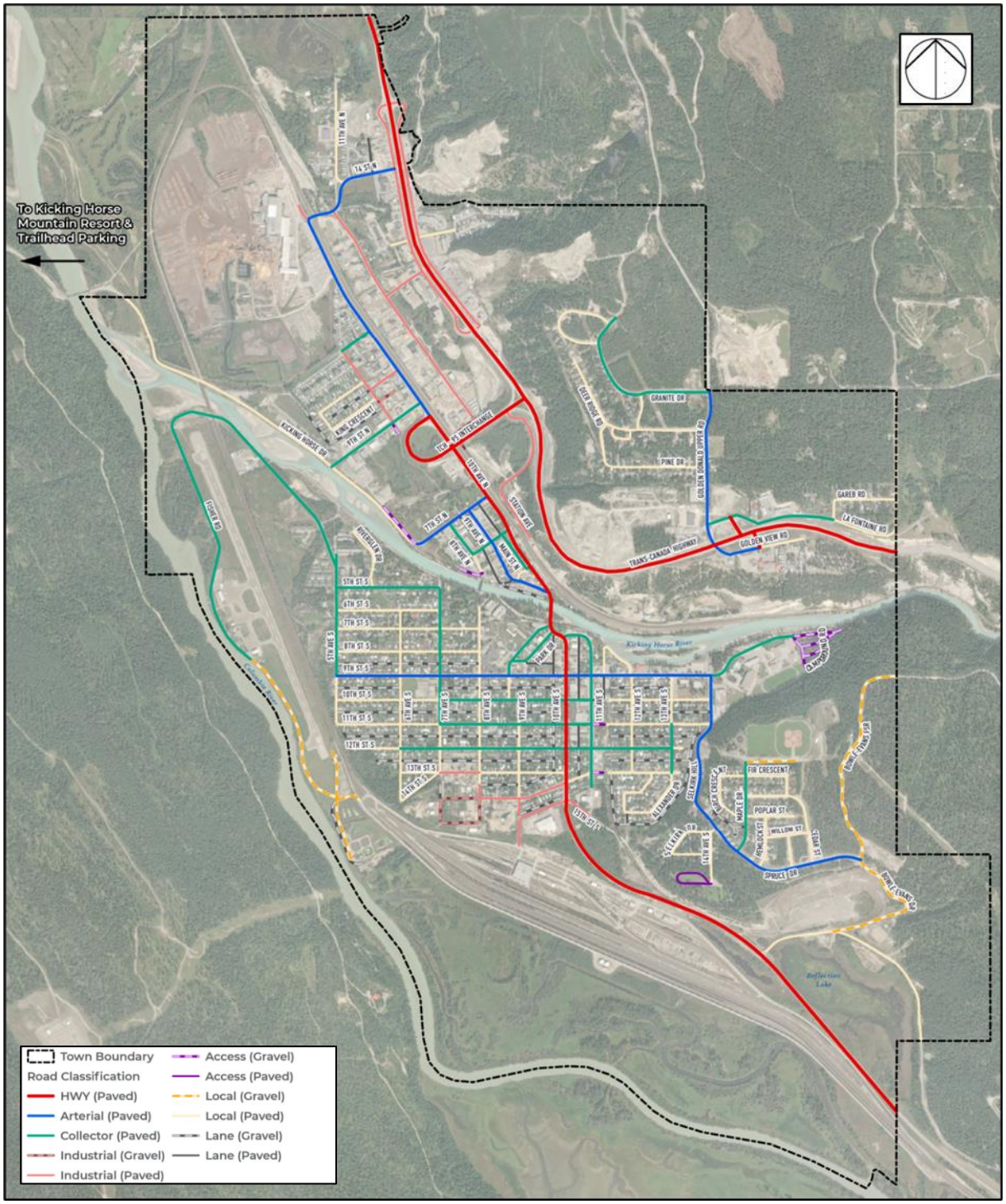


Figure 4.1 Existing Road Network

The Town of Golden has designated roadways for trucks but are currently reviewing the routes as part of the MOTI Highway 95 Kicking Horse River Bridges 1 and 2 project. These roadways allow trucks to complete turning maneuvers without encroaching onto the curb or sidewalk. The existing truck route network map is shown in **Figure 4.2**. While trucks should generally stay on these roadways, they are permitted to use other roads for deliveries and services to residents and businesses unless otherwise signed.

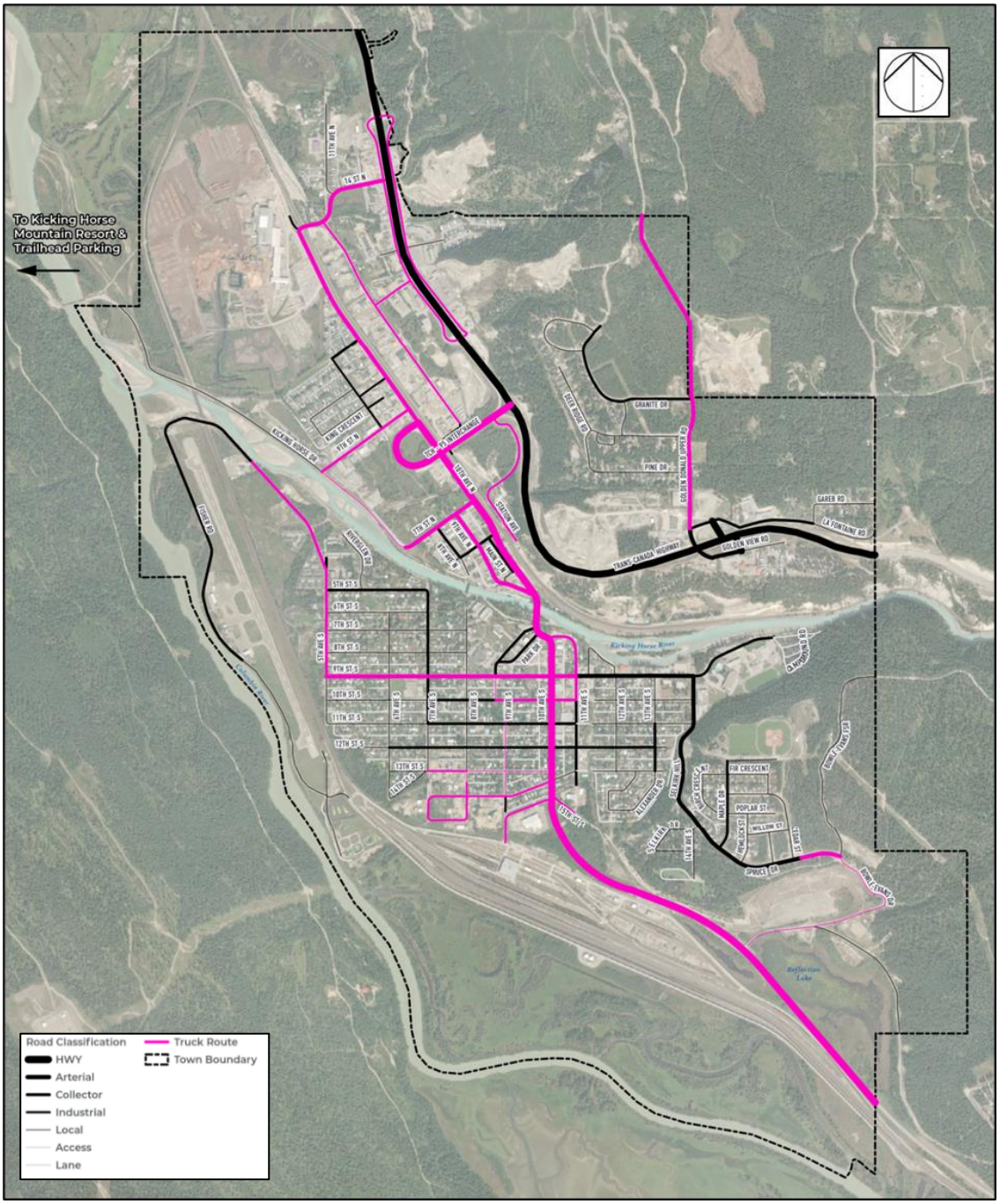


Figure 4.2 Truck Route

4.1.2 ACTIVE TRANSPORTATION NETWORK

Golden's existing active transportation network consists of sidewalks, multi-use paths, walking paths, and trails (**Figure 4.3**). Golden has over 24 kilometres of unpaved trails and 21 kilometres of sidewalks, as well as 1.7 kilometres of paved multi-use trails.

The bulk of the sidewalks in Golden are situated in the mixed-use commercial areas such as downtown and along 10 Avenue South, where there are sidewalks on both sides of the street for much of the corridor. There are also sidewalks on both sides of the street along 9 Street South connecting to three of Golden's four schools. The Kicking Horse Pedestrian Bridge at 8 Avenue North intersects with the walking trail that circles the Town and provides an active transportation connection over the Kicking Horse River to downtown Golden.

While Golden has some of the best mountain biking trails in the province, there is limited on-street cycling bicycle facilities within the Town. There are currently no marked or designated on-street bicycle facilities in Golden, with cyclists having to share the lane with motor vehicles or use the limited network of multi-use trails and unpaved trails. The quality of the trail networks and the gap within Town has residents expressing a desire for better connections beyond and within Golden, especially between residential and commercial areas. For more details, refer to the Active Transportation Network Plan in **Appendix H**.

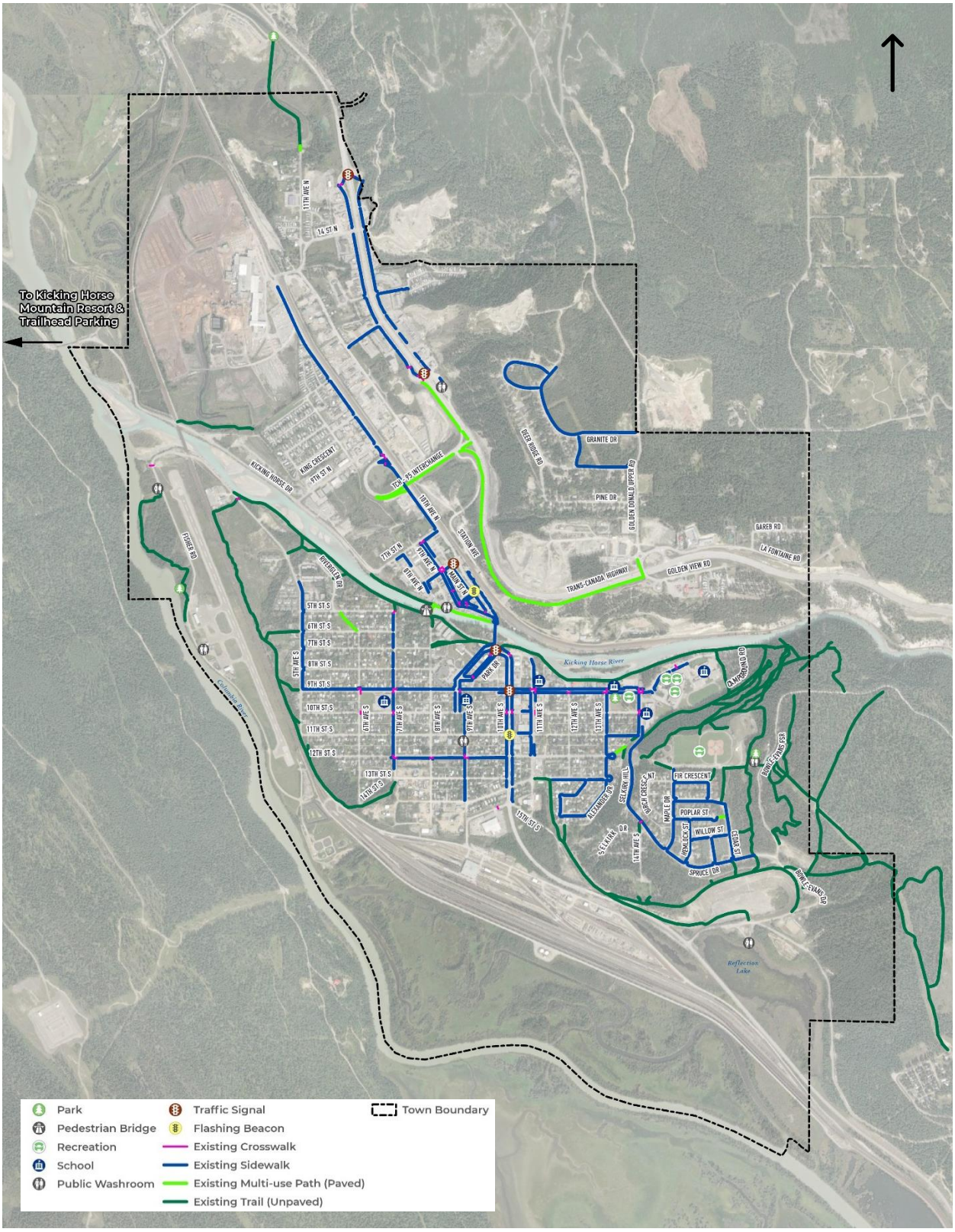


Figure 4.3 Existing Active Transportation Network

4.2 Traffic Conditions

The following section provides baseline conditions for traffic operations on the existing vehicle network. The conditions were used to determine the impact of the expected growth within Golden on the transportation network.

4.2.1 VOLUMES

The following intersections were identified as the key study intersections to be reviewed for the development of the GTP. Focus was placed on locations where arterial and collector roadways intersected. The study intersections are shown in **Figure 4.4**.

1. 9 Street S and 5 Avenue S	**10. Maple Drive and Spruce Drive**
2. 9 Street S and 8 Avenue S	**11. Golden Donald Upper Road and Granite Drive**
3. 9 Street S and 14 Avenue S	**12. Kicking Horse Drive and 9 Street N**
4. 9 Street S and 10 Avenue S	**13. Highway 95 and Reflection Lake Road**
5. 6 Street N and 10 Avenue N	**14. Highway 95 and 10 Avenue N**
6. 6 Street N and 9 Avenue N	**15. Highway 1 and Frontage Road East**
7. 7 Street N and 10 Avenue N	**16. Highway 1 and Frontage Road West**
8. 12 Street S and 10 Avenue S	**17. Highway 1 and Highway 95**
9. 13 Street N and 11 Avenue N	

Turning movement counts (TMC) were collected at all study intersections in August, 2021. TMCs were adjusted to account for the impacts of COVID-19 and for increases in traffic due to tourists to achieve typical Fall, weekday traffic volumes. The resulting study intersection traffic volumes for the Fall weekday AM and PM peak hours are illustrated in **Figure 4.5** and **Figure 4.6**, respectively.

Further, 24-hour two-way roadway volumes were collected continuously over five days at five locations (the location of these counts are also detailed in **Figure 4.4**). These 24-hour counts help in understanding the daily fluctuations in traffic volumes throughout Golden. Where two-way roadway volumes were not available, existing average daily traffic (ADT) volumes along the study corridors were estimated by applying a factor of 10 to the Fall PM peak hour two-way volumes to achieve the ADTs. This factor was confirmed to be appropriate based on the 24-hour two-way roadway traffic volume data that was collected in August. The ADT volumes along the study corridors are summarized in **Figure 4.7.** Additional information on how the existing traffic counts were adjusted, and the 24-hour traffic count data are provided in **Appendix C**.

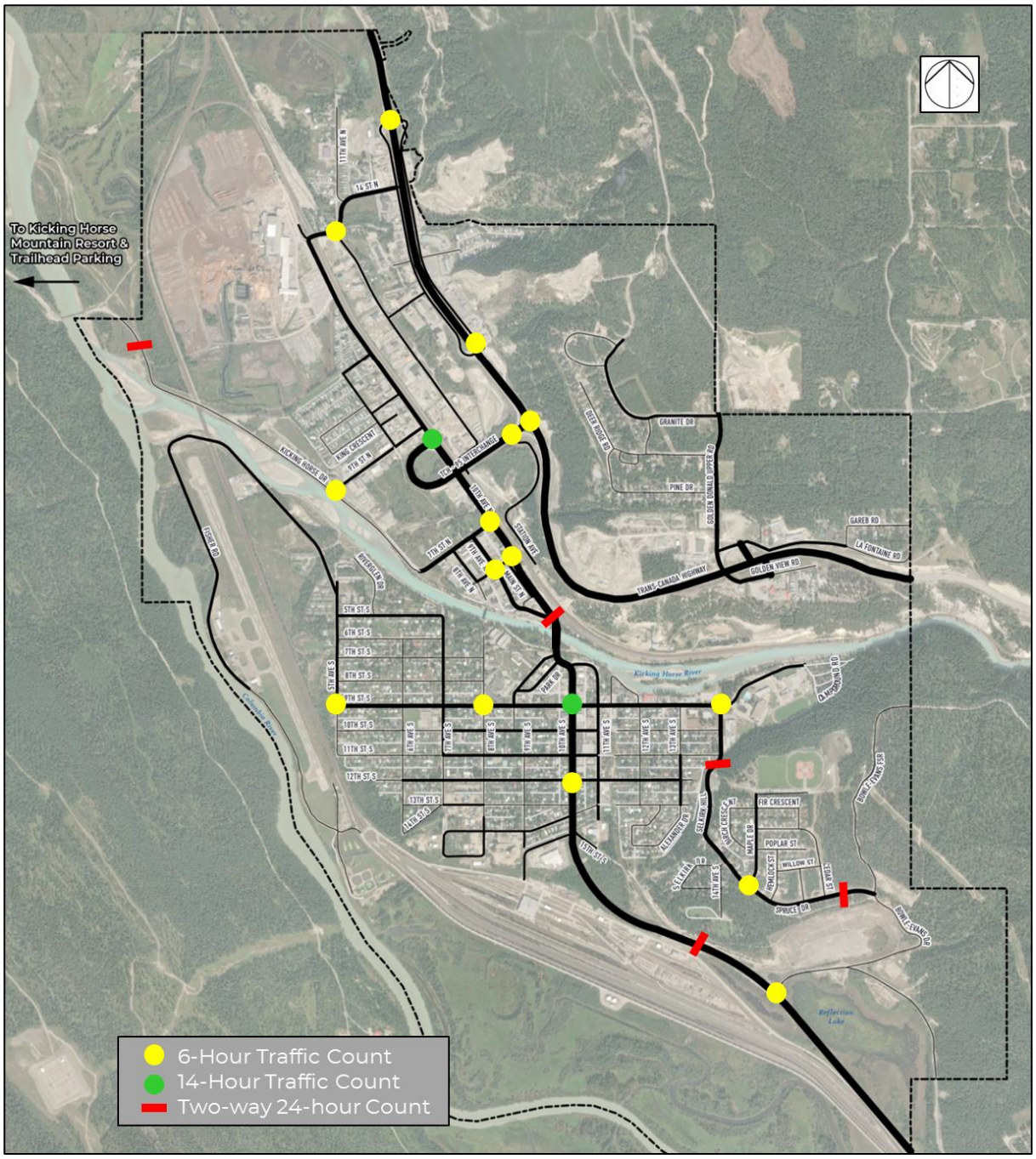


Figure 4.4 Study Intersections

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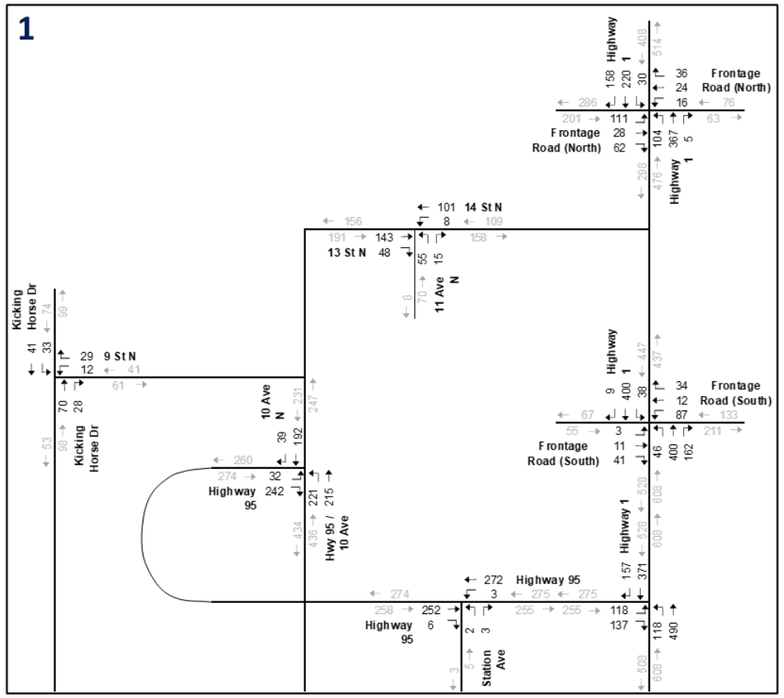

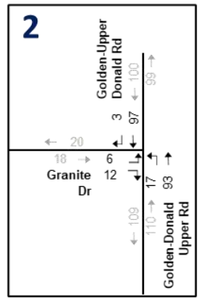

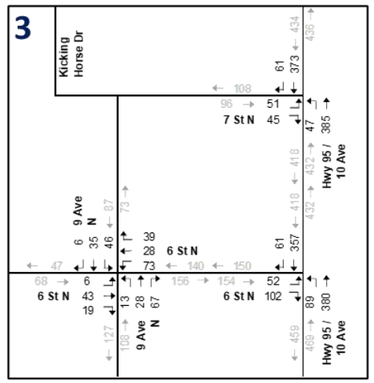

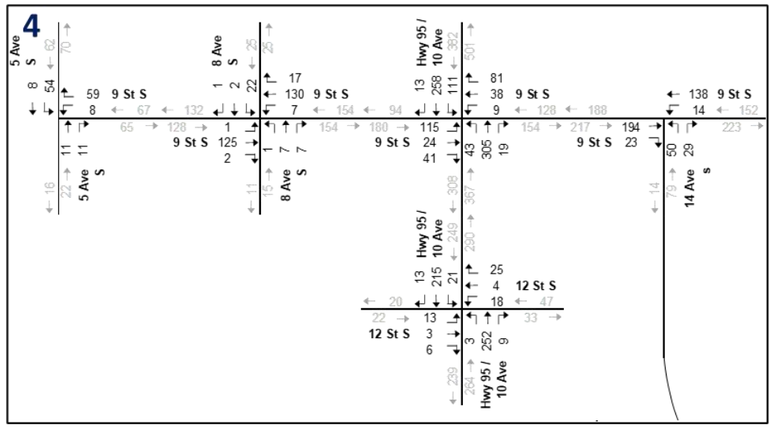

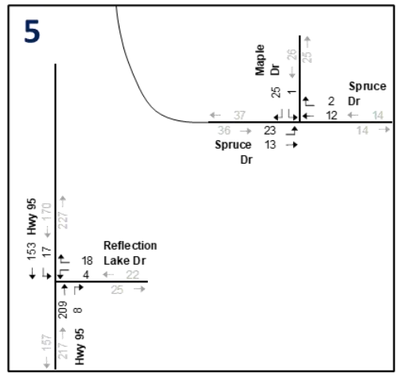

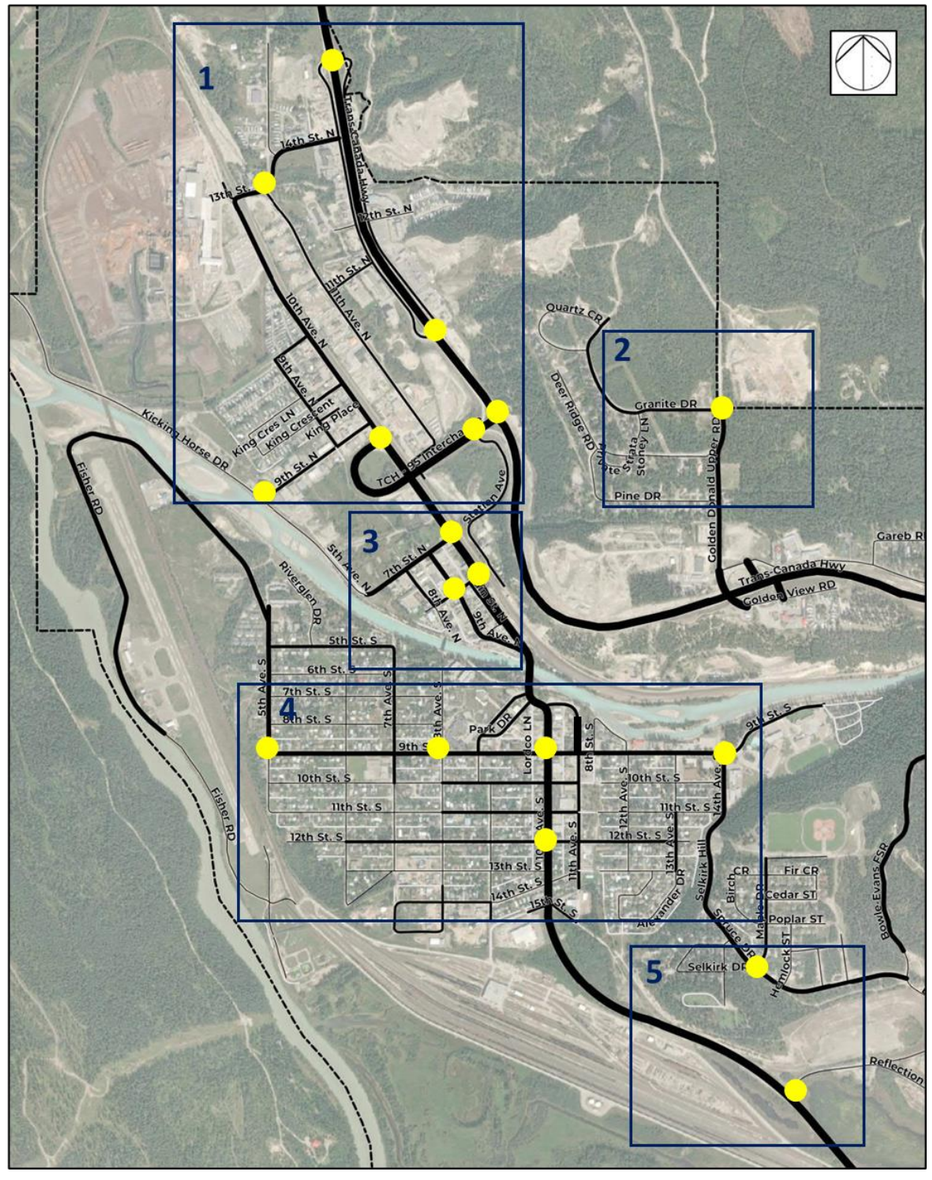

Figure 4.5Fall Weekday AM Peak Hour Traffic Counts

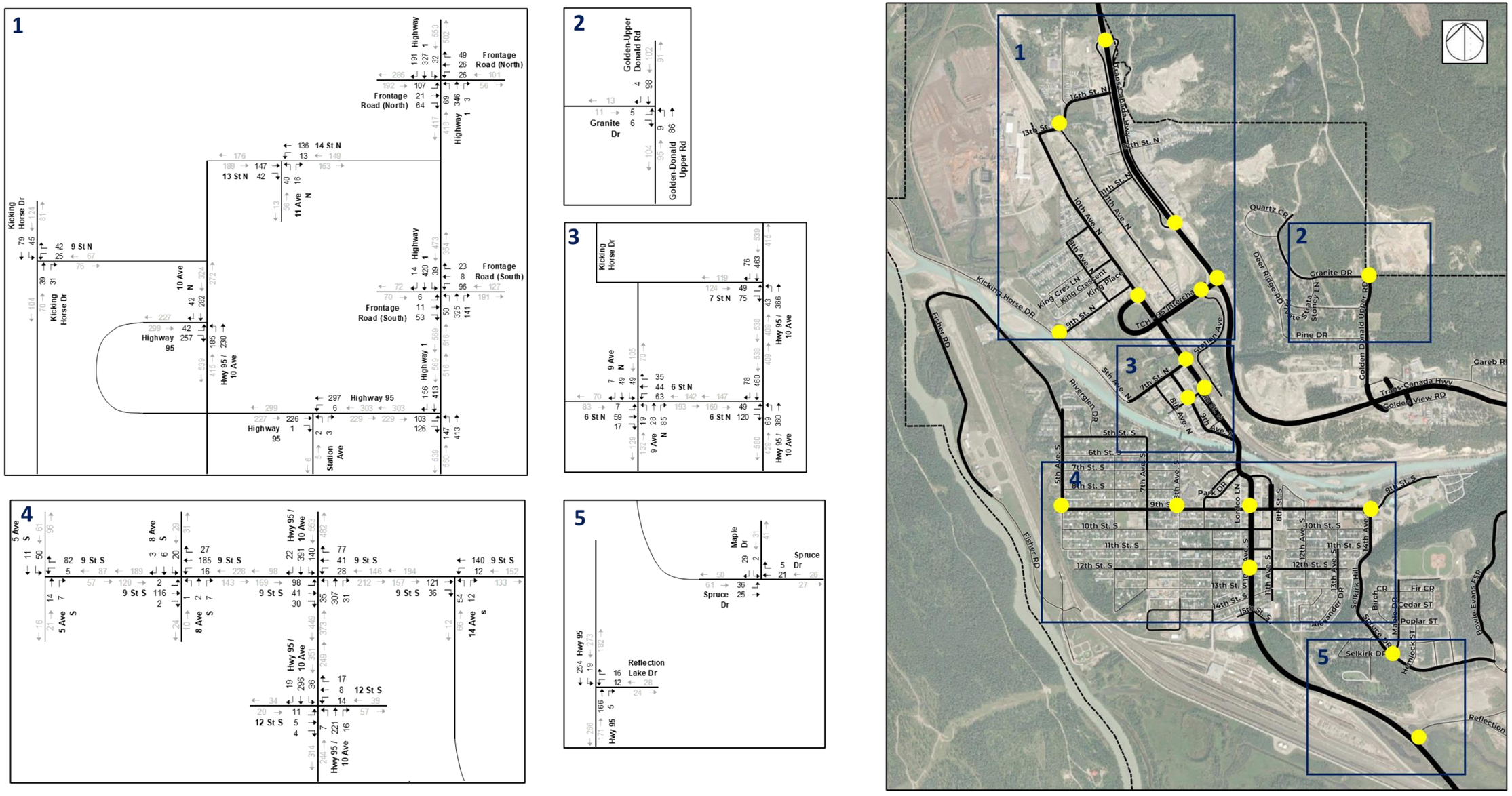

Figure 4.6 Fall Weekday PM Peak Hour Traffic Counts

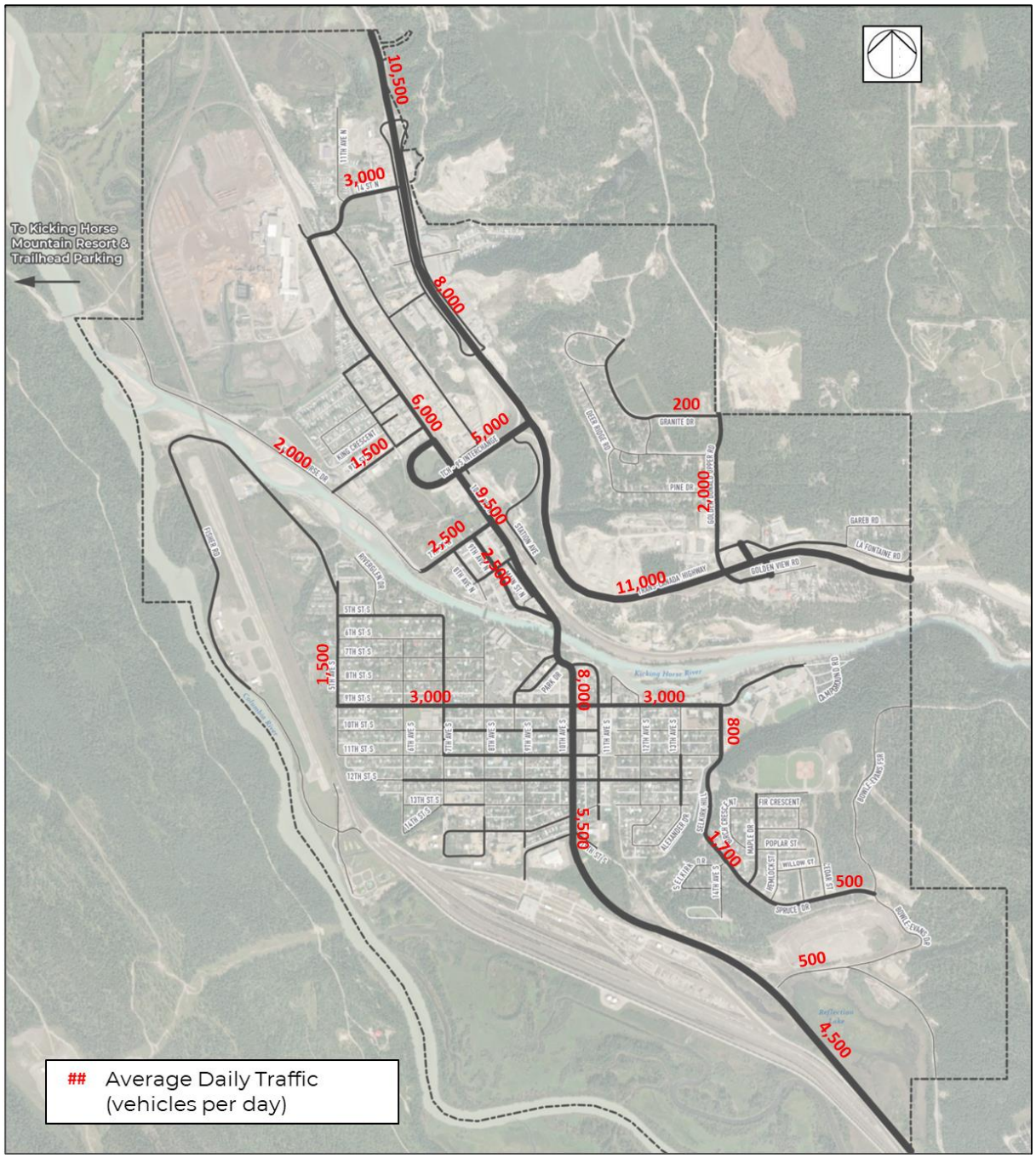

Figure 4.7 Existing Average Daily Traffic Volumes

4.2.2 ANALYSIS

Intersections

The resulting traffic volumes (**Figure 4.5** and **Figure 4.6**) representing existing conditions were used to analyze the study intersections. The operations of intersections are measured by the average delay experienced at intersections and for each movement, commonly referred to as Level of Service (LOS). The LOS assigned to a signalized intersection or movement can range between A and F. LOS A through C generally indicate that the intersection experiences a low level of delay during the analysis hour and operate well, whereas LOS F suggests the average delay is significant (greater than 60 seconds per vehicle) and that the intersection or movements operate at the lowest level of service. Poor level of service can contribute to drivers taking risks and proceeding unsafely into an intersection. For unsignalized intersections, the level of service is measured for the critical movements that cross free-flow traffic, such as from minor streets or left turns onto the main street. LOS E or better is generally acceptable for these critical movements at unsignalized intersections.

All the study area intersections operate at an overall Level of Service (LOS) of B or better during the AM and PM peak hours. All individual movements operate at LOS B or better except for the intersection of Highway 1 and Highway 95, where the northeast to westbound left turn movement experiences higher delays. Despite these delays, the queues for this movement are reasonable (less than 60 metres).

The existing operating performance of the study intersections are illustrated in **Figure 4.8**. A detailed summary of the analysis for each of these movements and resulting intersection operations is provided in **Appendix D**.

Roadway Capacity Review

The estimated roadway volumes, as shown in **Figure 4.7**, were compared to the assigned road classifications from **Figure 4.1**. This comparison showed that several roads have volumes that do not correspond to their classification. However, it is expected that future development will increase volumes on some of these roads. A detailed summary of the comparison of assigned road classification and operating classification is provided in **Appendix D**.

Further comment on reclassification of existing roads is provided in **Section 5.1.3** with the review of the estimated future traffic volumes.

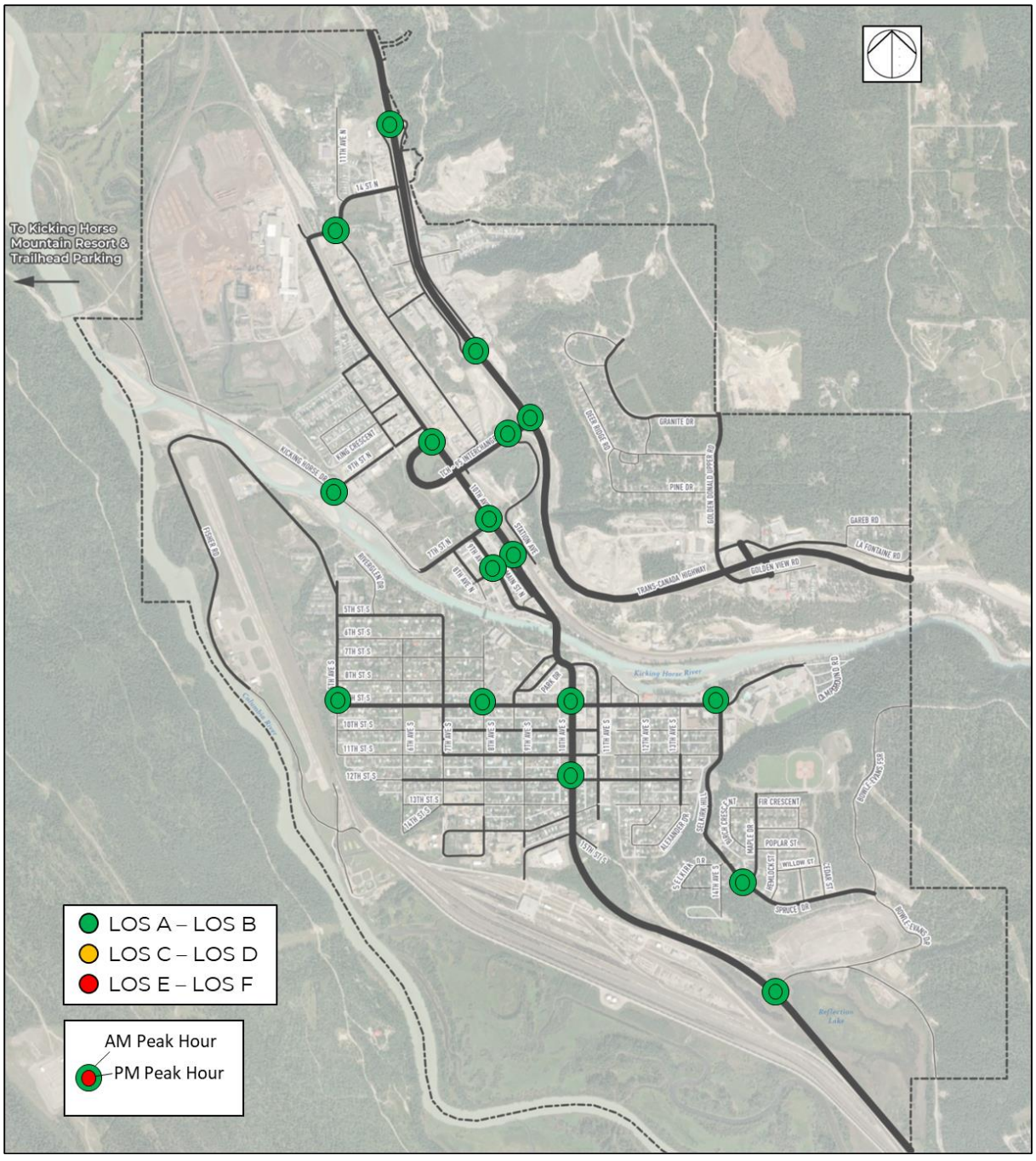

Figure 4.8 Existing Intersection Operations

4.2.3 COLLISIONS

The number of motor vehicle collisions within Golden's municipal boundaries was investigated using data obtained from the Insurance Corporation of British Columbia (ICBC). The data included collisions from 2011 to 2020. During this time, there were 2,473 collisions reported to ICBC, of which 15 were fatal, 450 collisions involved an injury and 2,008 collisions resulted in property damage. The 15 fatal collisions were primarily on Highway 1 (11 collisions) and Highway 95 (3 collisions), with one unknown location and one on a residential road. **Figure 4.9** summarizes this data. Note that parking lot collisions were excluded from the data review.

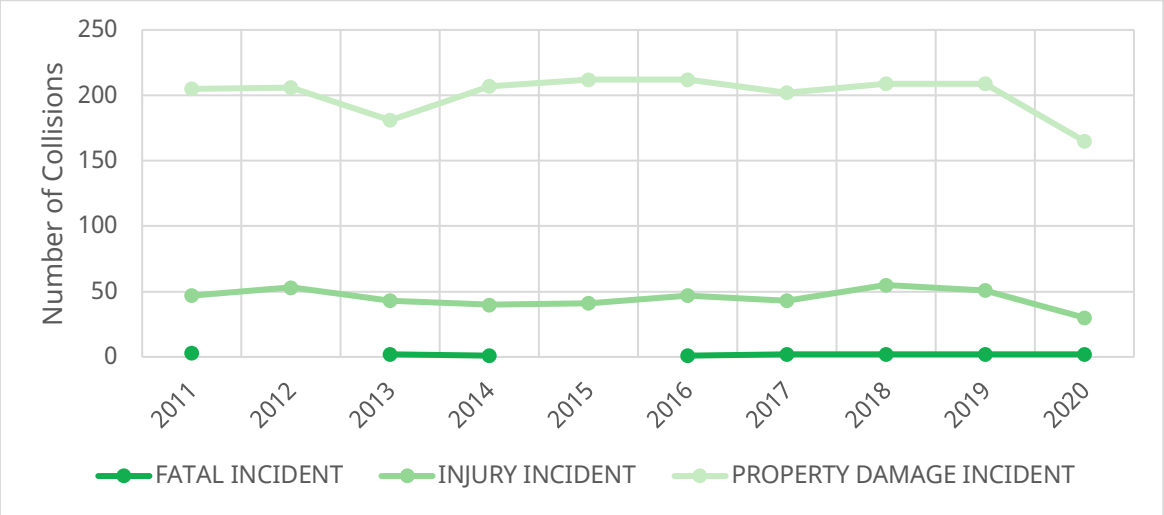

Figure 4.9 Number of ICBC Reported Collisions from 2011-2020

ICBC also provides online information for intersection collisions. The data included collisions from 2016 to 2020. During this time, there were 209 collisions reported to ICBC, of which 52 involved casualties (which are defined by ICBC as collisions resulting in injury or fatality), and 157 involved property damage only or PDO (which are collisions resulting in material damage only).

The ICBC data also provided general location information on the collisions. The following intersections were identified as the locations where the top four number of collisions from 2016 to 2020:

- Highway 1 and Highway 1 Frontage Road intersection (northwest Town limit) – 17 collisions (4 casualties; 13 PDOs)
- 10 Avenue S and 9 Street S – 14 collisions (6 casualties; 8 PDOs)
- Highway 1 and Highway 95 – 9 collisions (5 casualties; 4 PDOs)
- 10 Avenue N and 9 Avenue N – 8 collisions (3 casualties; 5 PDOs)

As noted above 'casualty' is defined by ICBC as collisions resulting in injury or fatality.

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5.0 THE FUTURE OF TRANSPORTATION IN GOLDEN

The future requirements of the transportation network in Golden will need to consider the anticipated future growth and development in the Town. The rate of growth and location of the developments will provide direction on where the potential impacts are to the existing transportation network, and where improvements will be required.

5.1 Projected Growth

5.1.1 TRANSPORTATION DEMAND MODEL

To evaluate the future traffic operating conditions and develop a base-case for recommending future improvements, a transportation demand model was developed. The model includes the 2031 (10-year) and 2041 (20-year) horizons and was developed for the weekday afternoon (PM) period.

For the model, estimated population and employment needed to be developed for each future horizon. To obtain the population and employment for each future analysis horizon, a review of the Housing Needs Report for the Golden area was completed. According to the Housing Needs Report, the annual linear growth rate for region is projected to be approximately 1.5% and was based on BC Statistics (for the Town of Golden and Electoral Area A).

This growth rate was applied to the number of people living in Golden and the number of people working in Golden based on the 2016 Census data. The forecasted populations were then cross-referenced with the anticipated development areas to confirm their validity. When taking this into consideration, the resulting annual growth rate was slightly higher for the short term at approximately 2% and approximately 1.8% for the 10- and 20- year horizons.

The transportation demand model was developed prior to the initial release of the 2021 Census information (released in February 2022). The information released thus far in the 2021 Census data indicates a similar annual growth rate of 1.5% used in the analysis. The COVID-19 pandemic has created an atypical trend due to more people working from home, creating fewer commuting trips and the ability for individuals to move to more desirable municipalities (like Golden) but is not anticipated to continue at the same rate. As such, the resulting annual linear growth rates for the future population growth that was developed for the transportation demand model is deemed appropriate and considered slightly conservative. The employment growth is projected from maintaining a similar labour force to participation ratio as indicated by the 2016 Census data.

The location and area for the population and employment growth were based on discussions with the Town on active developments and known interests in redevelopments. The transportation demand model forecasted the future traffic volumes on the roadway network using the projected land use for each future horizon year. The assumptions for the transportation demand model and the land use for the 10- and 20-year horizons are included in **Appendix E**.

5.1.2 FUTURE TRAFFIC VOLUMES

It was determined that traffic volume growth from the existing condition was dependent on location and ranged from 1.5% to 2%. In several areas of the Town, where existing traffic volumes are low, and significant development is expected in the future, there may be higher traffic growth. Further, other areas are expected to experience marginal densification on brownfield development

sites. The resulting growth locations, illustrated in **Figure 5.1**, were assigned the following linear annual growth rates (note that the numbers in the list correspond with the numbers in the figure):

1. Along Trans-Canada Highway and Highway 95: 1.5% to 2%
2. Downtown: 1.5% to 2%
3. 9 Street S west of Highway 95: 5%
4. 9 Street S east of Highway 95: 1% to 1.5%
5. 5 Avenue S, north of 9 Street S currently has very low traffic volumes. However, development is planned in this area which will result in a growth rate of up to 10% per year, tripling the existing traffic volumes.
6. (not pictured) Remaining network: 0.5% to 1%

The resulting traffic volumes for the 2031 and 2041 horizon years are illustrated in **Figures 5.2** to **5.5**.

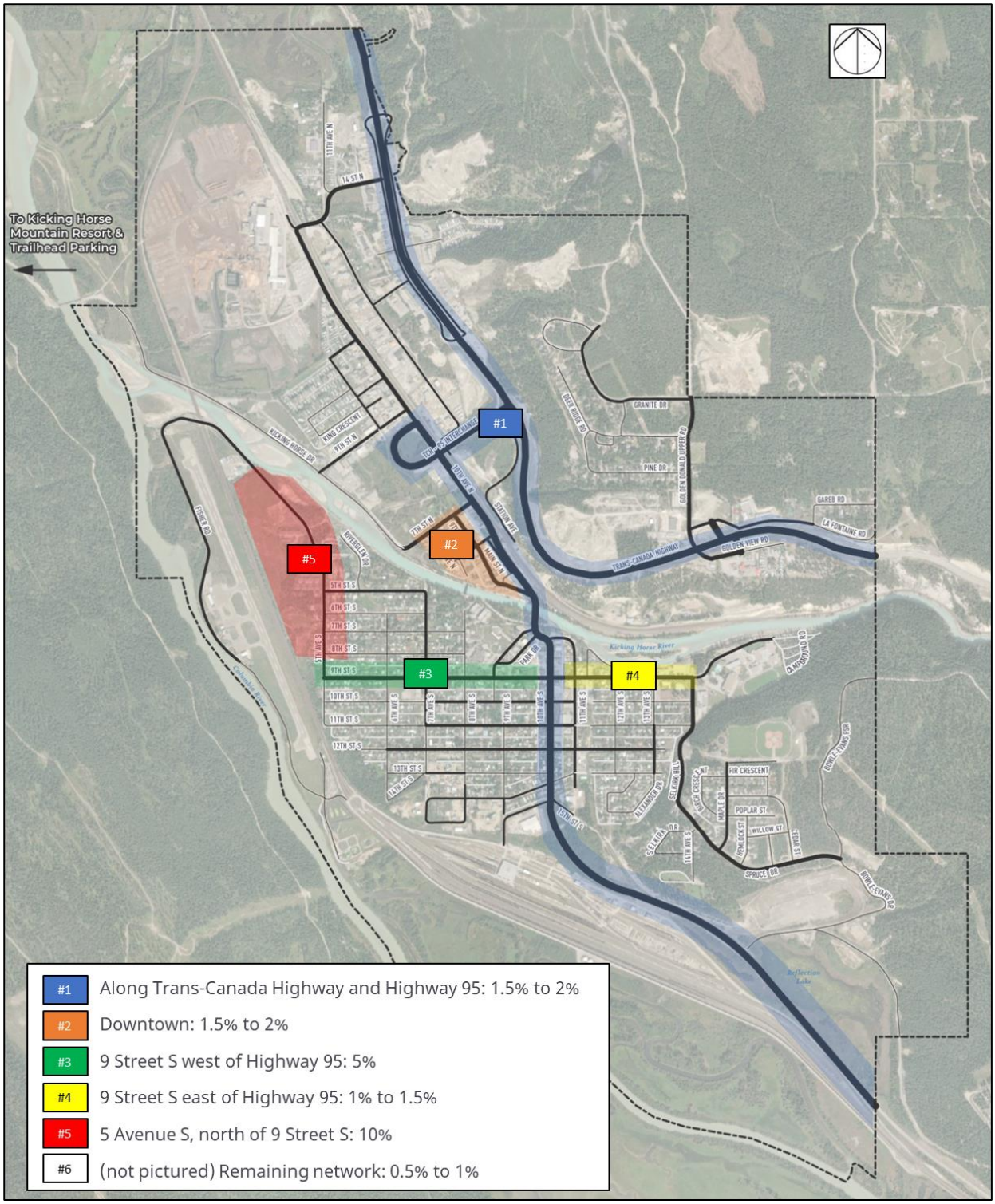

Figure 5.1 Growth Areas

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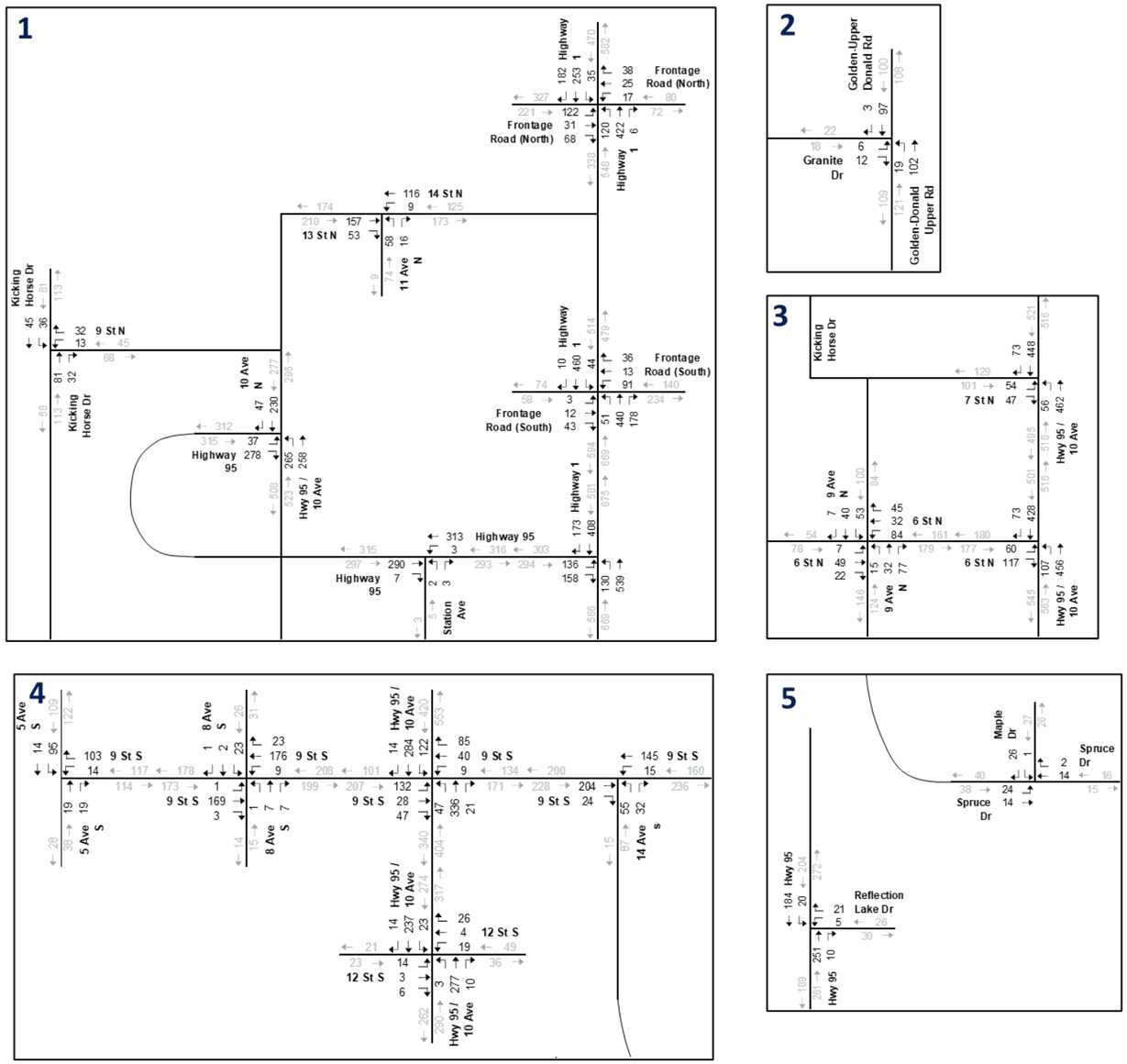


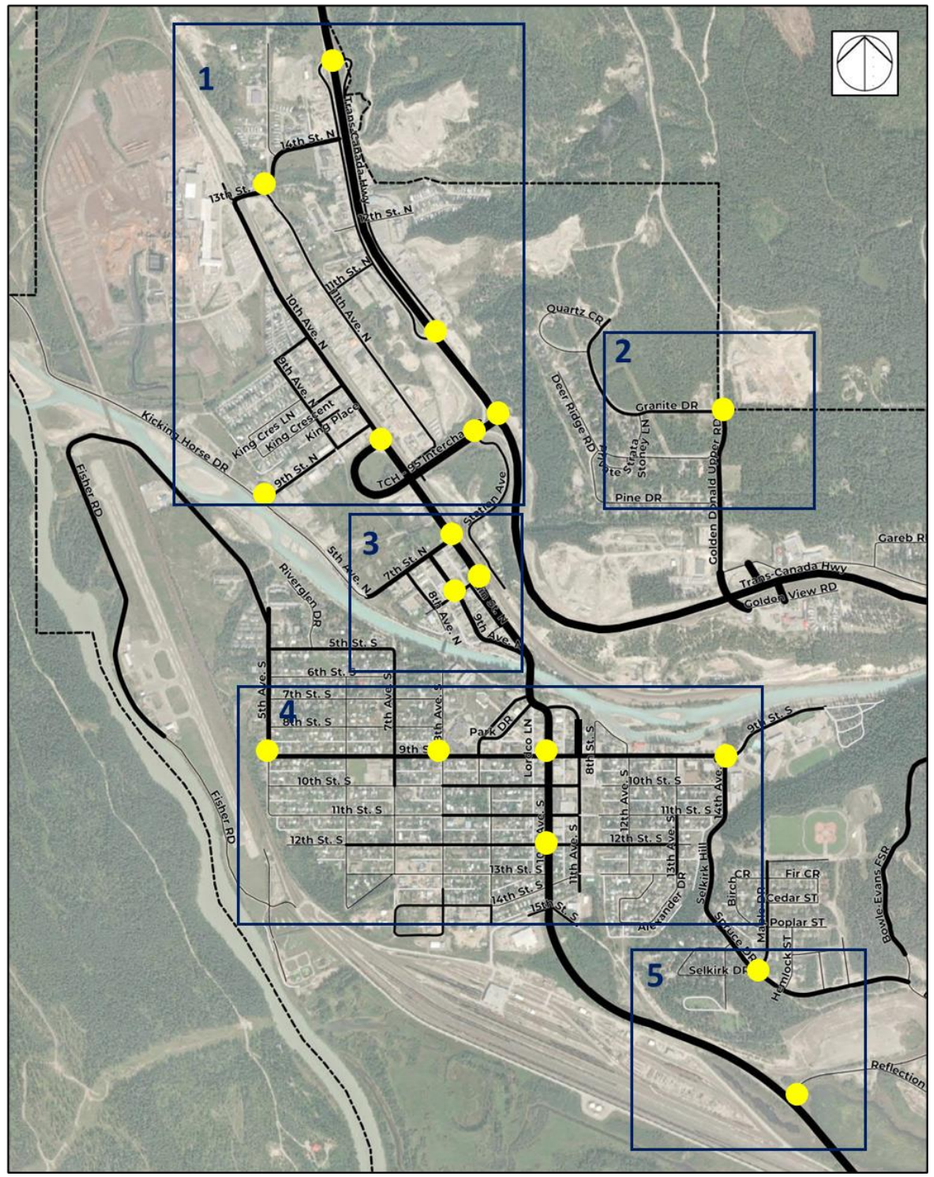


Figure 5.2 2031 (10-years) Traffic Volumes – Weekday AM Peak Hour

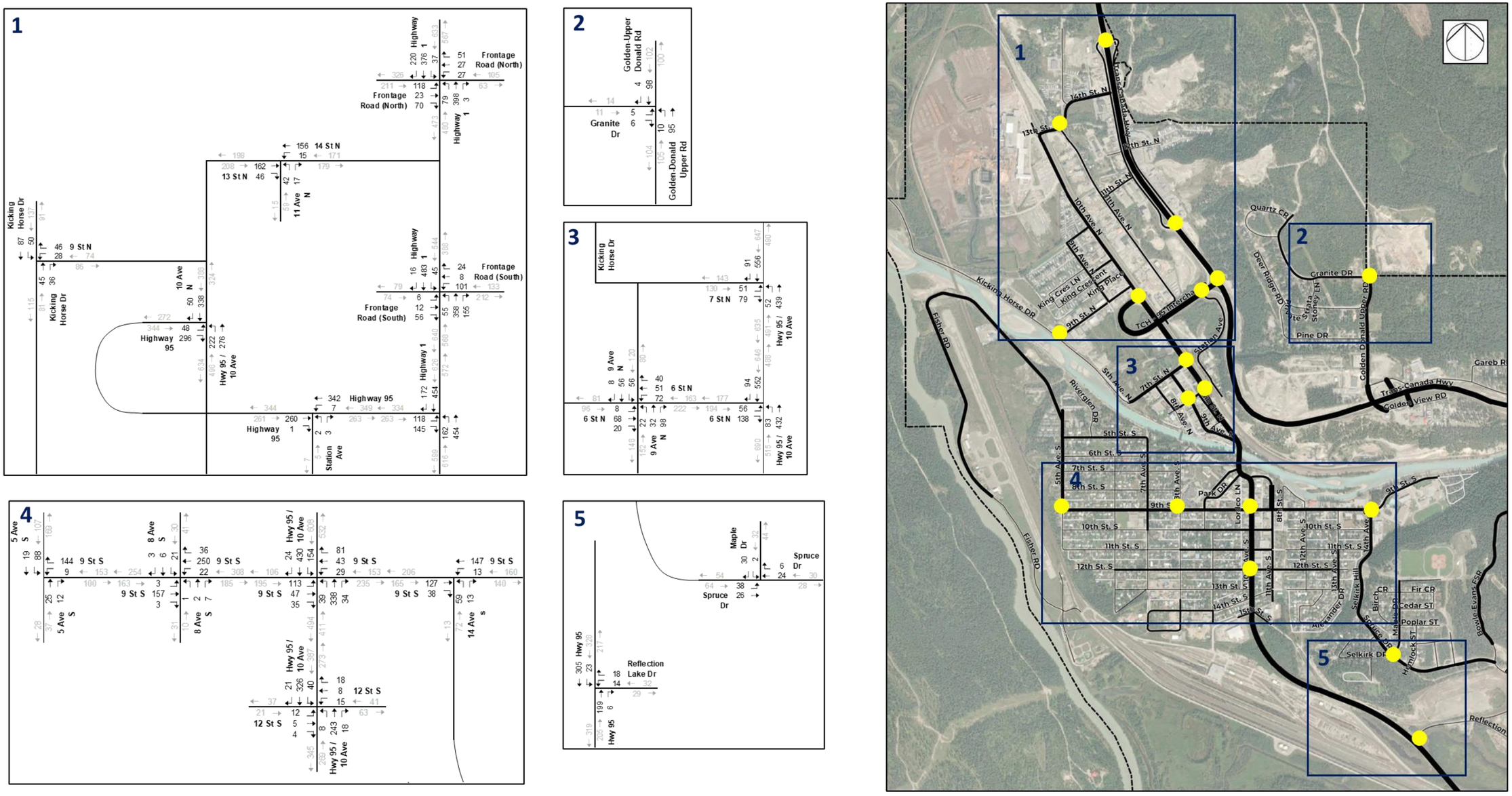
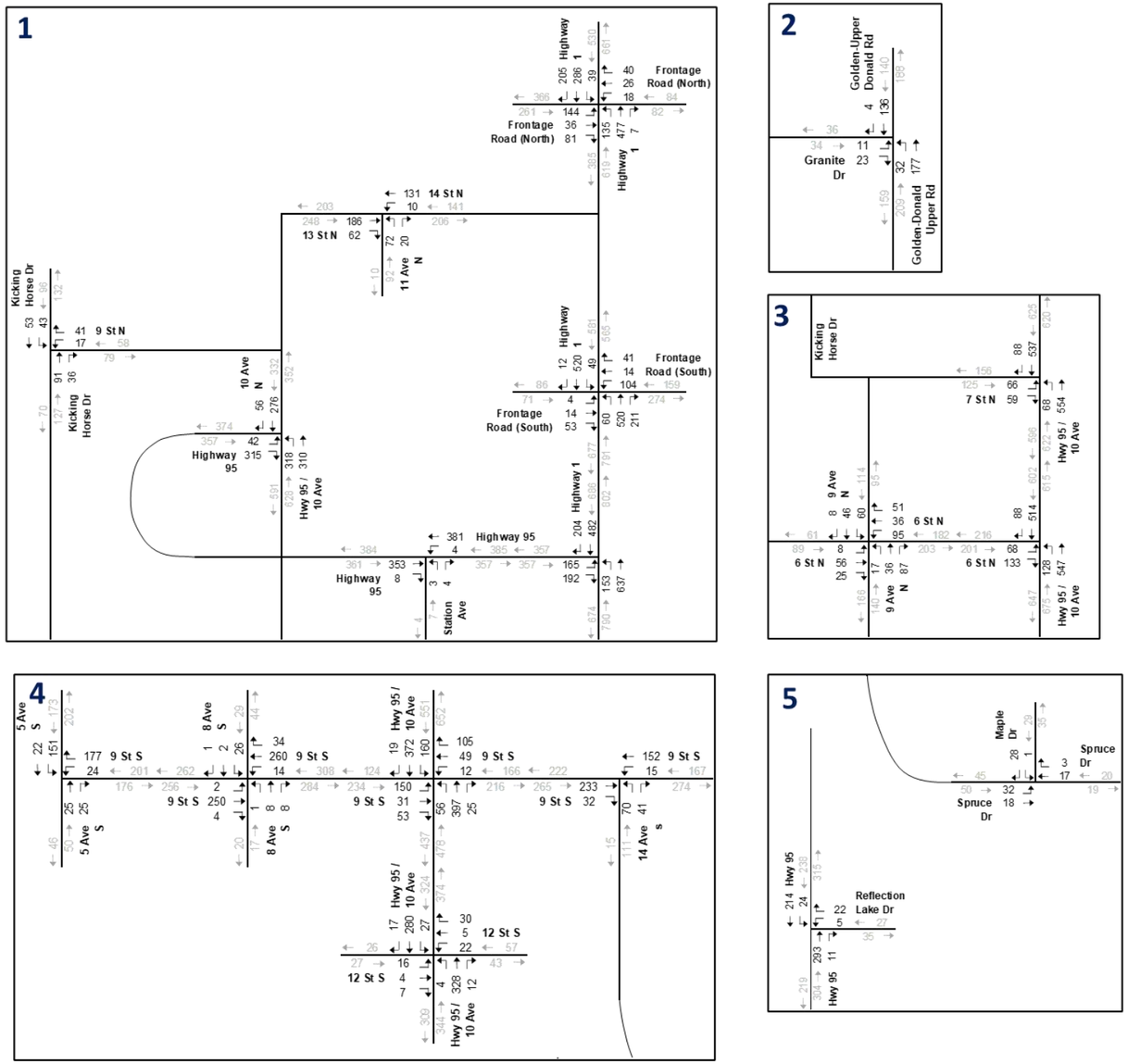


Figure 5.3 2031 (10-years) Traffic Volumes – Weekday PM Peak Hour



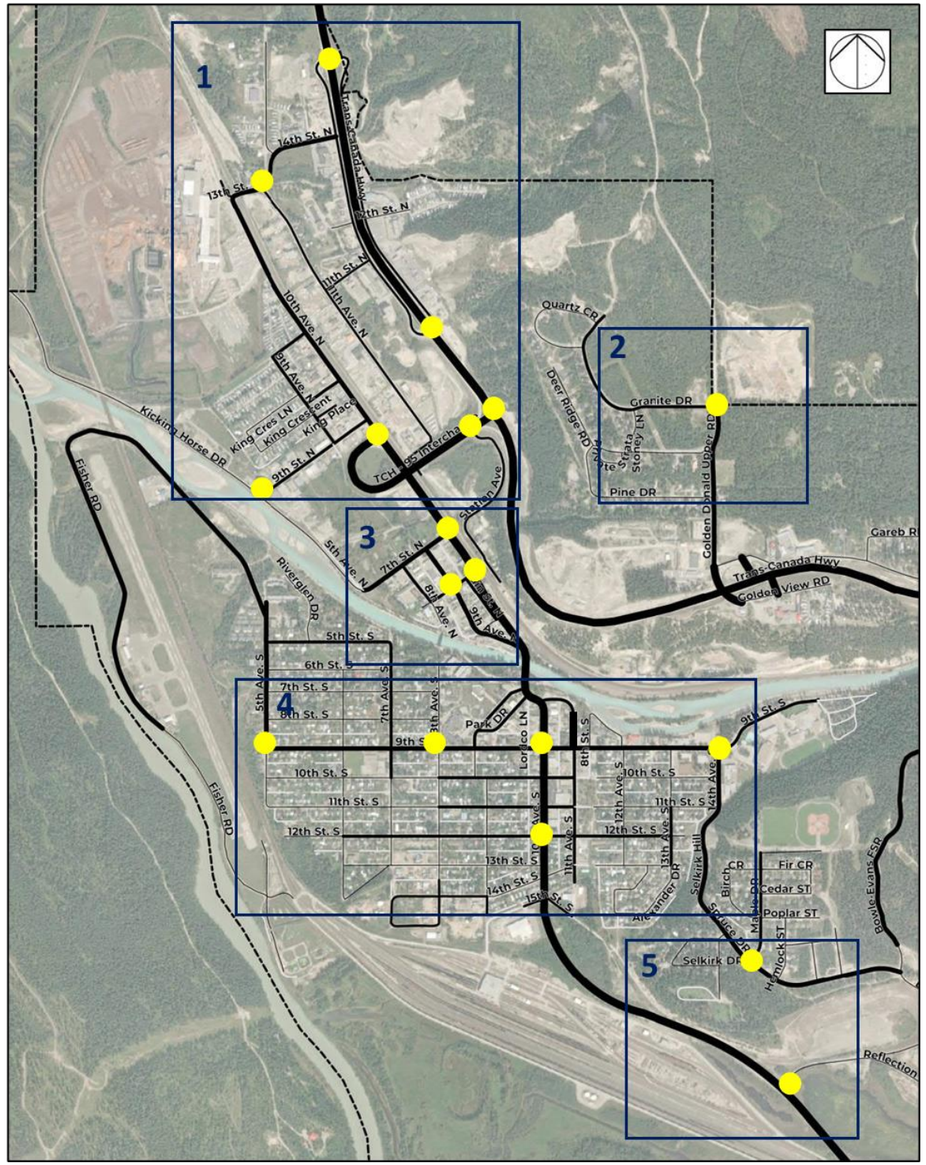


Figure 5.4 2041 (20-years) Traffic Volumes – Weekday AM Peak Hour

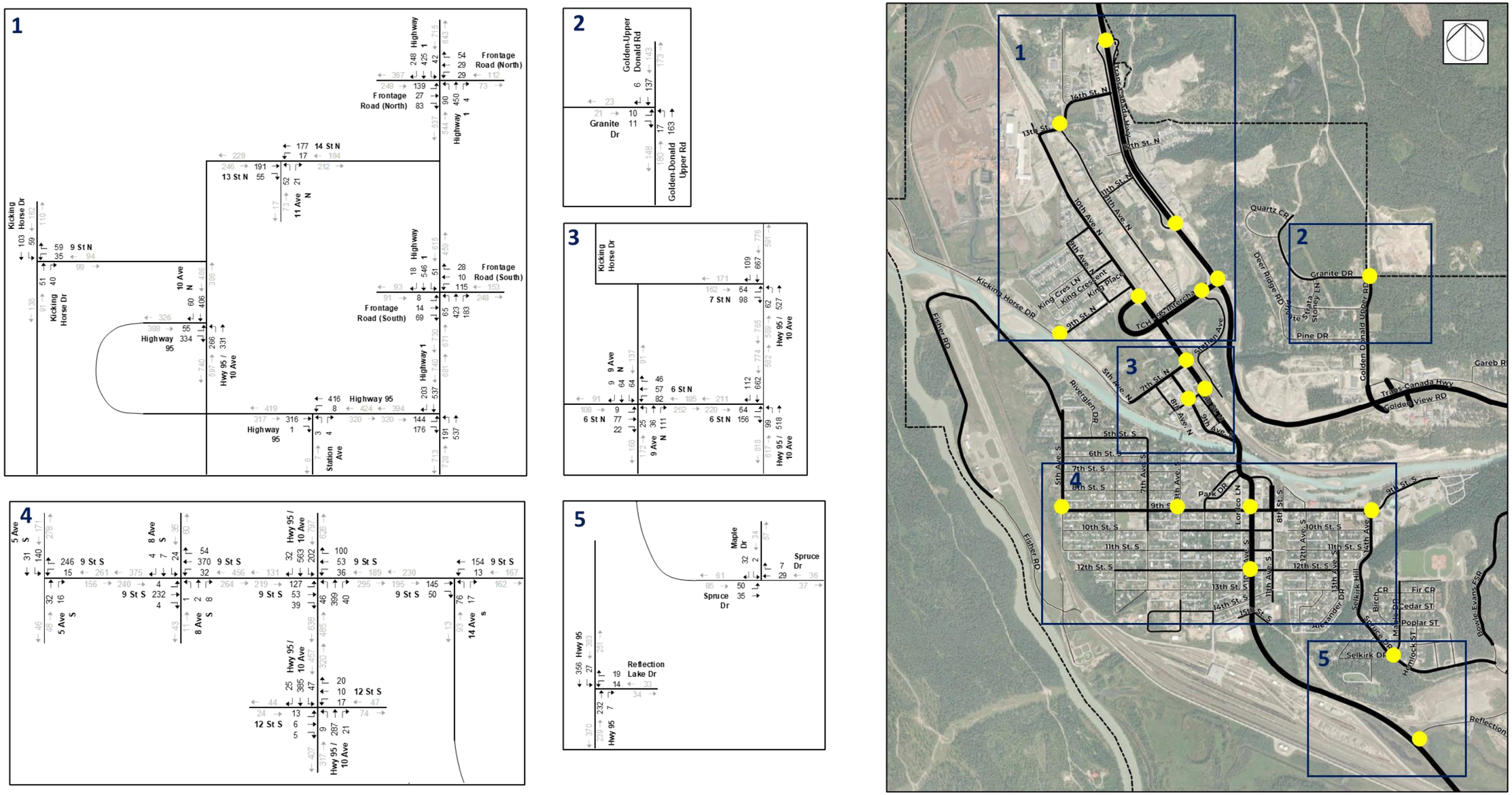


Figure 5.5 2041 (20-years) Traffic Volumes – Weekday PM Peak Hour

5.1.3 FUTURE (2031 AND 2041) TRAFFIC CONDITIONS

Intersection Capacity Review

Traffic analysis was performed for the study intersections. The overall intersection LOS for all studied intersections is expected to be LOS C or better. However, some concerns are expected to arise at the individual turning movement level for several of the study intersections by 2031 and 2041. **Figure 5.2** (2031 horizon) and **Figure 5.3** (2041 horizon) illustrate what the future LOS operating conditions will be at the study intersections for the weekday AM and PM peak hours. For background on what LOS means, refer to **Section 4.2.2**. **Table 5.1** highlights these intersections and provides potential improvement measures to mitigate the expected delays. Further discussion on each intersection follows. Detailed summary reports of the study intersections operations for the future horizons are provided in **Appendix F**.

Table 5.1 2031 and 2041 Intersection Operational Performance and Improvements

Intersection	Overall Intersection LOS		Improvements (Timeline)
	2031 Horizon	2041 Horizon	
Trans Canada Hwy & Hwy 95	• AM Peak Hour LOS A (EBL **LOS F**) • PM Peak Hour LOS A (EBL **LOS F**)	• AM Peak Hour LOS C (EBL **LOS F**) • PM Peak Hour LOS C (EBL **LOS F**)	Signalize (by 2031)
Hwy 95 (10 Ave N) & 6 St N	• AM Peak Hour LOS A • PM Peak Hour LOS A (EBL/R LOS E)	• AM Peak Hour LOS B (EBL/R **LOS F**) • PM Peak Hour LOS B (EBL/R **LOS F**)	Signalize or restrict turns (by 2041)
Hwy 95 (10 Ave N) & 7 St N	• AM Peak Hour LOS A • PM Peak Hour LOS A	• AM Peak Hour LOS A (EBL/R **LOS F**) • PM Peak Hour LOS A (EBL/R **LOS F**)	Signalize or restrict turns (by 2041)

Note: LOS = Level of Service; EBTL = eastbound through shared left turn lane; EBL/R = Shared eastbound left-turn and right-turn lane

It should be noted that these intersections identified for operational improvements are under BC MOTI's jurisdiction.

Trans Canada Highway and Highway 95

The existing delay for vehicles turning northwest to westbound left onto the Trans Canada from Highway 95 are long and result in LOS E during both the AM and PM peak hours. With the expected growth in traffic volumes on both roadways, this delay is expected to increase, pushing operating conditions to LOS F during the 2031 AM and PM peak hours.

Highway 95 (10 Avenue N) and 6 Street N

There are currently temporary traffic signals installed at this intersection as part of the detour requirements for the work along the Trans Canada Highway. As a result, the intersection was analyzed in the 2031 and 2041 horizons with stop control to understand the impacts on the intersection if the signals were to be removed and replaced with a stop sign on 6 Street N.

At the 20-year horizon (2041), with stop control on 6 Street N and the expected increase in traffic volumes on Highway 95 (10 Avenue N), it is anticipated that there will be long delays for vehicles on 6 Street N turning onto Highway 95 (10 Avenue N). To minimize delays in the future, the temporary signals at this intersection should be made permanent.

Highway 95 (10 Avenue N) and 7 Street N

It is anticipated that volumes on Highway 95 (10 Avenue N) will increase by 2041 to the point where vehicles turning onto Highway 95 (10 Avenue N) from 7 Street N will experience long delays. Because of this, improvements to the intersection control at 10 Avenue and 7th Street N are recommended. Signals could be provided or turning movements could be restricted to allow right-in movements from 10 Avenue N and right-out movements from 7 Street N only.

If the temporary signals at 6 Street N and Highway 95 (10 Avenue N) are made permanent, signals may not be required at this intersection as motorists will tend to use the signalized intersection to avoid the longer delays at the unsignalized one. However, if signals are still warranted in the future at Highway 95 and 7 Street N, then the signal timings should be coordinated with the ones at 6 Street N to ensure efficient flow of traffic along Highway 95.

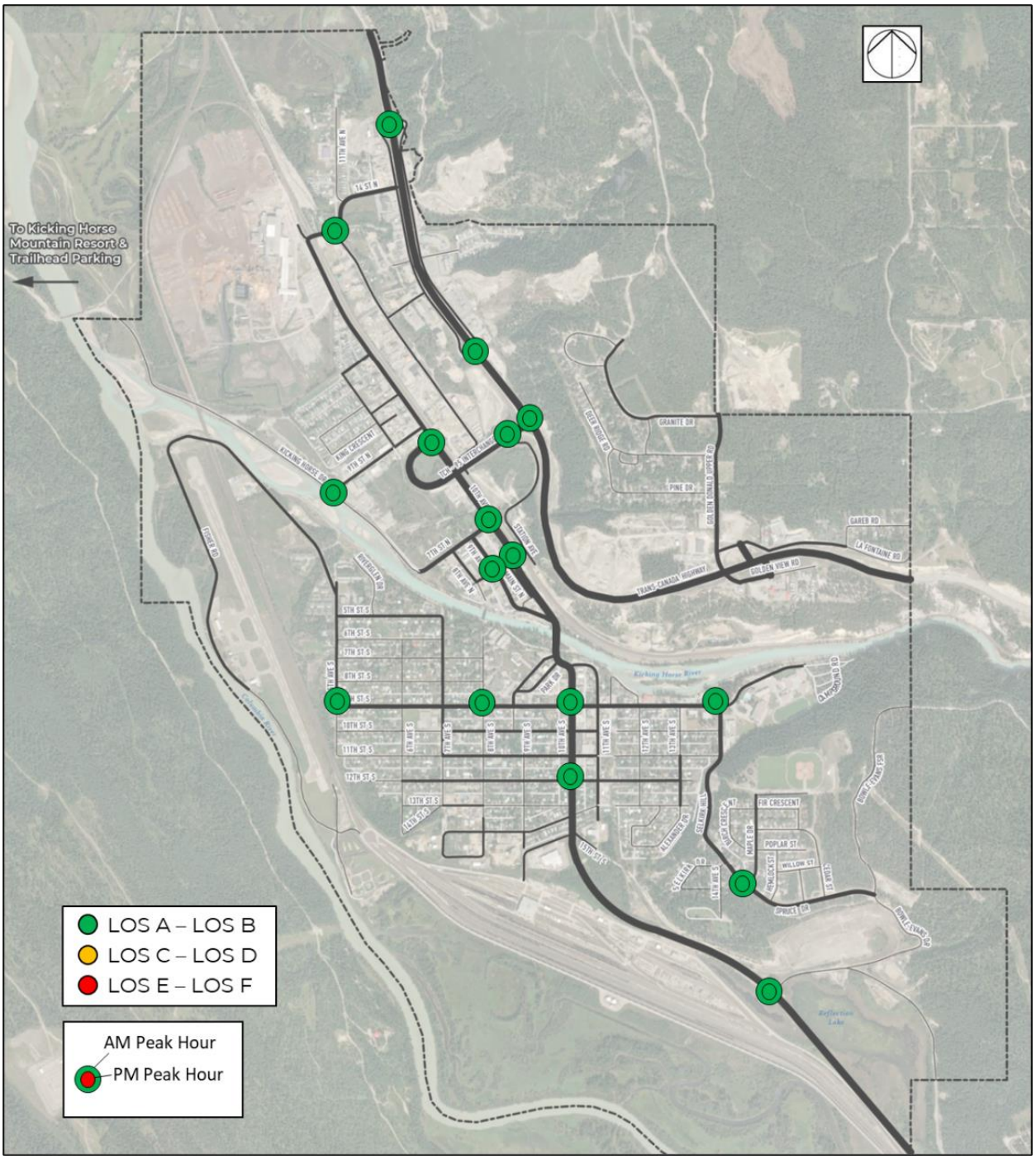


Figure 5.6 2031 Intersection Operations

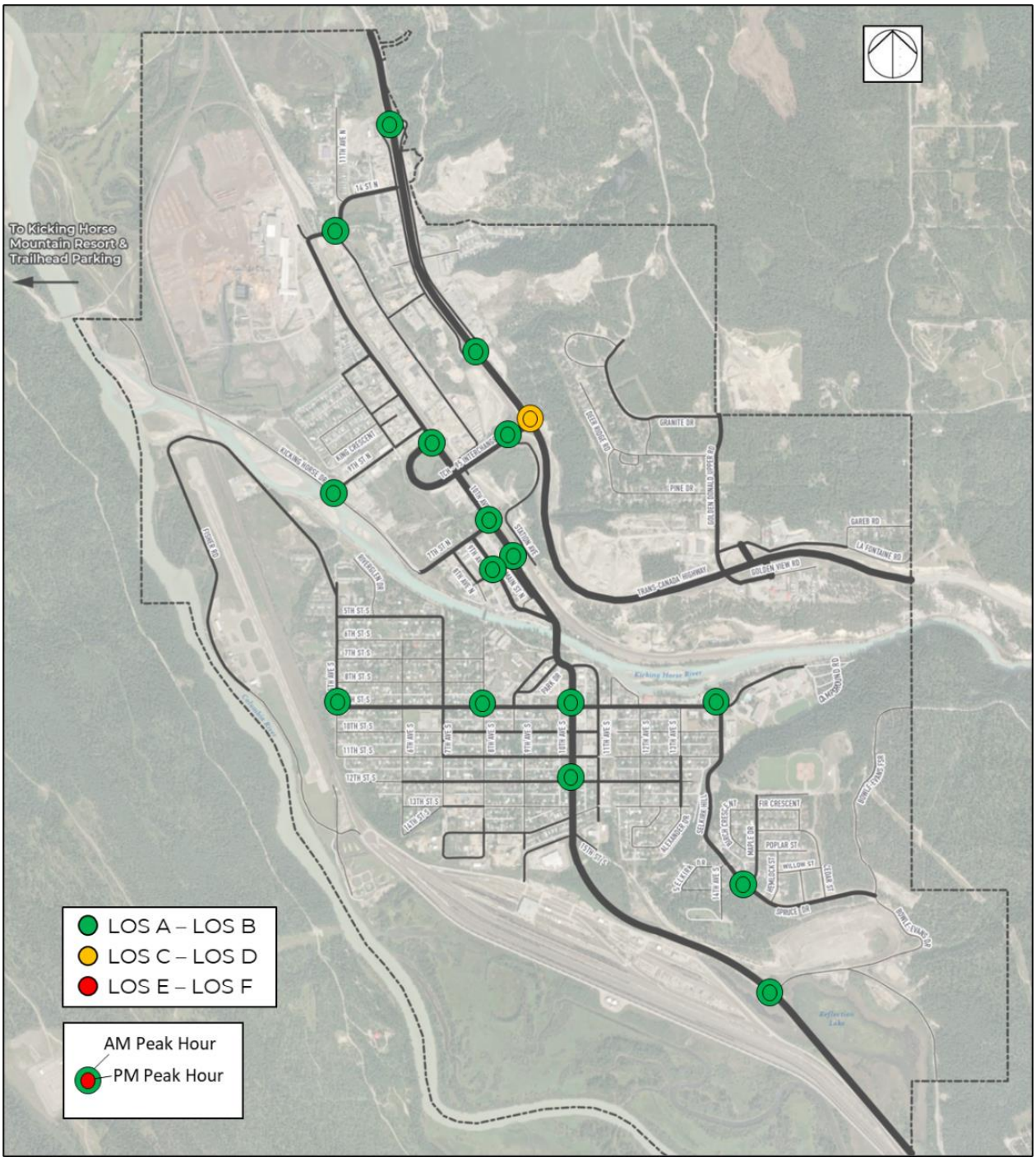


Figure 5.7 2041 Intersection Operations

5.1.4 ROADWAY CORRIDOR AND NETWORK SAFETY REVIEW

In addition to the intersection capacity analysis, the roadway corridors were reviewed to identify potential safety concerns and to incorporate feedback received during the public engagement process. **Table 5.2** provides a summary of this review.

Table 5.2: Corridor and Safety Review Summary

LOCATION	DISCUSSION
Golden Donald Upper Road	With the opening of the Skybridge north of Golden and other development, this roadway has been experiencing increases in traffic volumes. Improvements at intersections and accesses, and improvements for pedestrian and cyclists' accessibility along the corridor, should be considered to mitigate the increased congestion.
Dogtooth (Kicking Horse Drive) Bridge ***(access to Kicking Horse Mountain Resort, golf course, CBT/ Moonrackers bike trails)***	This bridge is very narrow and only allows passage of one direction of traffic at a time. This can cause delays. As this is outside of the Town's boundaries, it is recommended that the Town advocate to BC MoTI to improve traffic operations over the bridge.
Selkirk Hill	The steep grade and tight turns on Selkirk Hill create difficult driving conditions. Additionally, data collected along the hill indicates that downhill speeds typically exceed the posted speed limit. Measures should be implemented on the hill to create a safer environment for all road users.
Bowle-Evans Drive	Improving roadway conditions on Bowle-Evans Drive will help to accommodate all road users on Selkirk Hill. Bowle-Evans Drive is a more direct connection from Highway 95 to the Selkirk Hill/Bear's Paw Height community and the Mount 7 recreational area, so improving the road conditions along it will draw traffic volumes from Selkirk Hill to Bowle-Evans Drive.
9 Street S and 14 Avenue S Signage	Confusing signage along these roads has led to driver infractions. A previous study conducted for the Town identified various mitigation measures to improve drivers' compliancy. Measures along 9 Street S have been implemented. However, changes along 14 Avenue S should be considered. Confusion around speed limit changes could be mitigated if a reduction in the town-wide speed limit is enforced,
Highway 95 Bridge over Kicking Horse River	This bridge is scheduled to be replaced by BC MoTI in the near future. The alignment is expected to modify the intersection of Highway 95 with Park Drive and reduce confusion in this area.
Highway 95 (10 Avenue) and 9 Street S	The north and southbound modified pavement markings and lack of signage at this intersection have been contributing to driver confusion, as well, the reduced width of the northbound receiving lane on Highway 95 has been a concern for vehicles turning into it

LOCATION	DISCUSSION
	from 9 Street S. Also identified during the first round of engagement, the signal timings do not provide eastbound and westbound vehicles with sufficient green time to proceed through the intersection within a reasonable timeframe. It is recommended that the Town work with BC MoTI to ensure these issues are mitigated with the planned improvements to the bridge.
Highway 95 (10 Avenue) and 11 Street S	Safety for pedestrians crossing Highway 95 at this location was identified as a concern. Some vehicles traveling northbound on Highway 95, coming into town, have not yet reduced their speeds to a point where pedestrians are comfortable crossing the roadway. Additional measures should be implemented to ensure vehicles slow down to the posted speed limit and that pedestrians are more visible crossing at this intersection.
Highway 95 south of 15 Street	Speeding was identified as a concern in this area. Additional measures should be implemented to ensure that northbound vehicles on Highway 95 reduce their speeds prior to reaching 15 Street S.
Highway 95 (10 Avenue) and Reflection Lake Road	If roadway conditions along Bowle-Evans Drive are improved, more traffic is expected to make the southbound to eastbound left turn at Highway 95 onto Reflection Lake Road to continue up the hill. To reduce delays to southbound through traffic and to improve safety for left-turning vehicles, it is recommended that the intersection be widened to create a dedicated southbound to eastbound left turn lane to reduce impact to the southbound through traffic.

5.1.5 ROAD NETWORK IMPROVEMENTS

Based on the intersection and corridor review, road network improvements were identified for the Town's transportation network. Through public engagement, these improvements were shown to have a high level of support from the community. They have also been coordinated with the improvements recommended in the Active Transportation Network Plan.

The improvement projects are described in **Table 5.3** and illustrated in **Figure 5.4**. The reference number provided in the table corresponds with the reference number included on the figure. Improvement projects 3 to 11 all require coordination with the BC Ministry of Transportation and Infrastructure (MoTI) since they involve changes to provincial infrastructure. Implementation of these projects will be based on available funding and priority of BC MoTI, as well as technical support for when improvements are required.

Table 5.3 List of Improvement Projects

#	ROADWAY IMPROVEMENT PROJECTS
1	Improve traffic conditions on Selkirk Hill (ex. reduce speeds, improve safety for all modes).
2	Improve traffic conditions on Golden Donald Upper Road (ex. turning lanes at intersections and accesses, multi-use pathway or bicycle accessible shoulders; improve facility for all modes).
3	Improvements to the intersection control at 10 Avenue N and 7 Street N (ex. signal or restrict turns) – would require some discussion with BC Ministry of Transportation and Infrastructure.
4	Advocate to BC Ministry of Forests to improve roadway conditions on Bowle-Evans Drive.
5	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic operations on a new Dogtooth Bridge (Kicking Horse Drive Bridge - access to Kicking Horse Mountain Resort, golf course, CBT/Moonrackers bike trails).
6	Advocate to BC Ministry of Transportation and Infrastructure (MoTI) to implement a new Highway 95 bridge across the Kicking Horse River (project design currently underway). Town to work with BC MoTI to ensure design improve safety for all modes.
7	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic control and pedestrian area at Highway 95 (10 Avenue S) and 11 Street S intersection.
8	Advocate to BC Ministry of Transportation and Infrastructure to improve signage and lane markings along Highway 95 (10 Avenue S) at 9 Street S to provide more clarity on through lanes and turning lanes, as well as confirm vehicle turning movement paths.
9	Advocate to BC Ministry of Transportation and Infrastructure to improve signal timing for cross streets along Highway 95 (10 Avenue S) during the morning and afternoon school hours.
10	Advocate to BC Ministry of Transportation and Infrastructure to re-evaluate the Highway 95 (10 Avenue S) cross section from where project #6 ends to 15 Street S and consider implementing a Road Diet to reallocate and balance the space for pedestrians, cyclists and motor vehicles. Bicycle infrastructure can be installed initially as painted bicycle lanes and transition over time to include protected barriers in the buffer space. Aligning implementation with other road works and/or lifecycle replacements.
11	Advocate to BC Ministry of Transportation and Infrastructure to implement permanent measures on Highway 95 (10 Avenue S) south of 15 Street S that would encourage drivers to slow down as they enter the Town (ex. speed feedback sign, additional features to indicate that you have entered a community, reduce roadway width, etc.)
12	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic flow for southbound vehicles at the Highway 95 (10 Avenue S) and Reflection Lake Road intersection by widening the intersection to provide for a southbound to eastbound left turn lane.

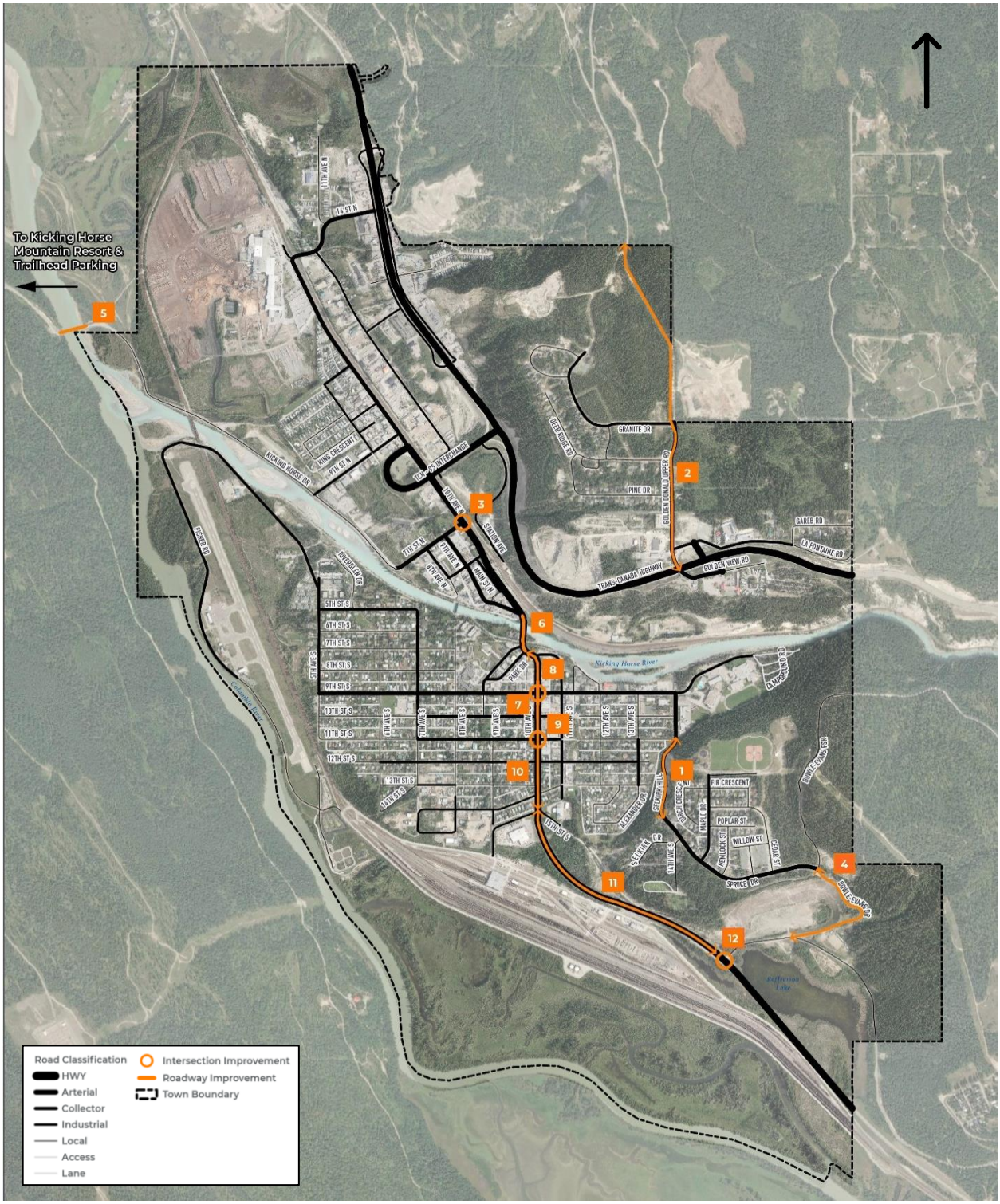


Figure 5.8 Potential Transportation Network Improvements

5.2 Building the Network

5.2.1 Long-Term Network

Road Network

The long-term road network map was updated to reflect the recommended intersection and corridor improvements detailed in **Section 5.1.5**. and to accommodate the forecast traffic volumes due to the projected growth in Golden. The recommended future road classifications are shown in **Figure 5.5**.

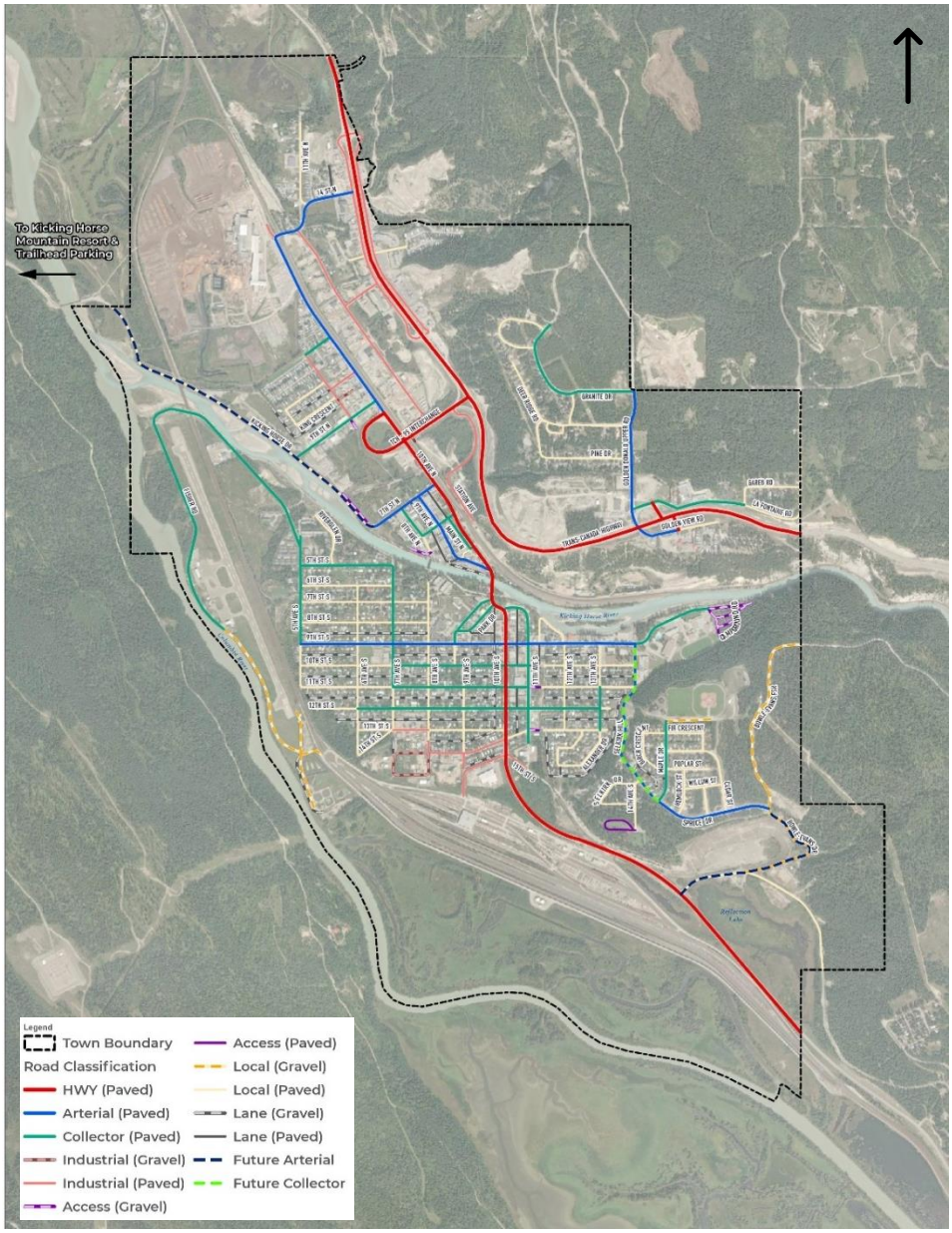


Figure 5.9 Recommended Future Road Classification

The Town's current Subdivision and Development Servicing Bylaw (Bylaw Number 1223, 2008) provides guidance on both urban and rural roadway cross-sections for arterial, collector, industrial, local roads, and lanes. The current roadway cross-sections outlined in the Bylaw include guidance on sidewalks along urban roadways but does not include any guidance for sidewalks along rural roadways. Further, there is no guidance on dedicated space for bicycle facilities in either the current urban or rural roadway cross sections.

The current Bylaw should be referenced for future development; however, the Town will also need to ensure new development consider cross sections that include multi-modal considerations. The Town should also consider updating the current Bylaw to include cross sections with multi-modal considerations, in particular for the arterial, collector and local roadway cross sections, and provide guidance on when multi-use pathways are to be considered.

Active Transportation Network

The proposed long-term active transportation network was developed through discussion with Town staff and consultation with the public. Further, network segments were added or modified through a review of the overall network connectivity.

The network development began with identification of the desired facility types that are appropriate and specific to the Town of Golden. **Figure 5.10** outlines the five proposed All Ages and Abilities (AAA) active transportation facility types for the network, followed by a description of each.

Figure 5.10 Proposed Active Transportation Facility Types

- **Sidewalks** – Proposed sidewalks are continuous, concrete sidewalks that support pedestrians (including people that use mobility aids) to walk comfortably and safely throughout Golden's sidewalk network. They can be unbuffered, located directly adjacent to the roadway or separated, where the sidewalk is buffered from the sidewalk by a grassy boulevard and/or swale.

- **Multi-use Pathways** – Proposed multi-use pathways are shared use facilities for bicycles and pedestrians. Multi-use pathways will likely be paved when adjacent to a roadway and can remain unpaved when located within parks and green space.
- **Trails** – Proposed trails are unpaved shared use facilities for bicycles and pedestrians. Trails connect greenspace and key destinations within the Town.
- **Active Transportation Corridor** - Proposed active transportation corridors will accommodate people walking, rolling, and bicycling. People walking and bicycling can share the road with vehicles on low volume and low speed streets. Some traffic calming may be implemented to ensure slower vehicle speeds and the Town may considering sidewalks for pedestrians. Additionally, a multi-use pathway, painted bicycle lanes, or protected bicycle lanes could also be considered if traffic speeds, and volumes are too high for a shared use facility with bicyclists.
- **Crossing Improvements** – Proposed crossing improvements are intended to enhance the safety, access, and comfort for pedestrians and cyclists at intersections as more active transportation infrastructure is installed. Crossing improvements could include marked crosswalks, curb extensions, and/or push buttons to activate rectangular rapid flashing beacons (RRFBs) or traffic signals. Additional study will be required to identify the appropriate treatment at the locations identified as crossing improvements.

It is important to note that the ATNP is intended to be a guiding document. For the proposed active transportation network there is some level of flexibility regarding the specific corridors and the facility types that are recommended, and the Town will use their judgement and technical understanding to determine the preferred routes and facility types.

In addition to providing facilities that are considered safer and more comfortable for people of all ages and abilities, the proposed active transportation network is intended to provide connections to key destinations in the community, including schools and parks. By providing direct connections, active transportation can become a more convenient transportation choice. The proposed active transportation network developed in the Active Transportation Network Plan (ANTP) is illustrated in **Figure 5.11**.

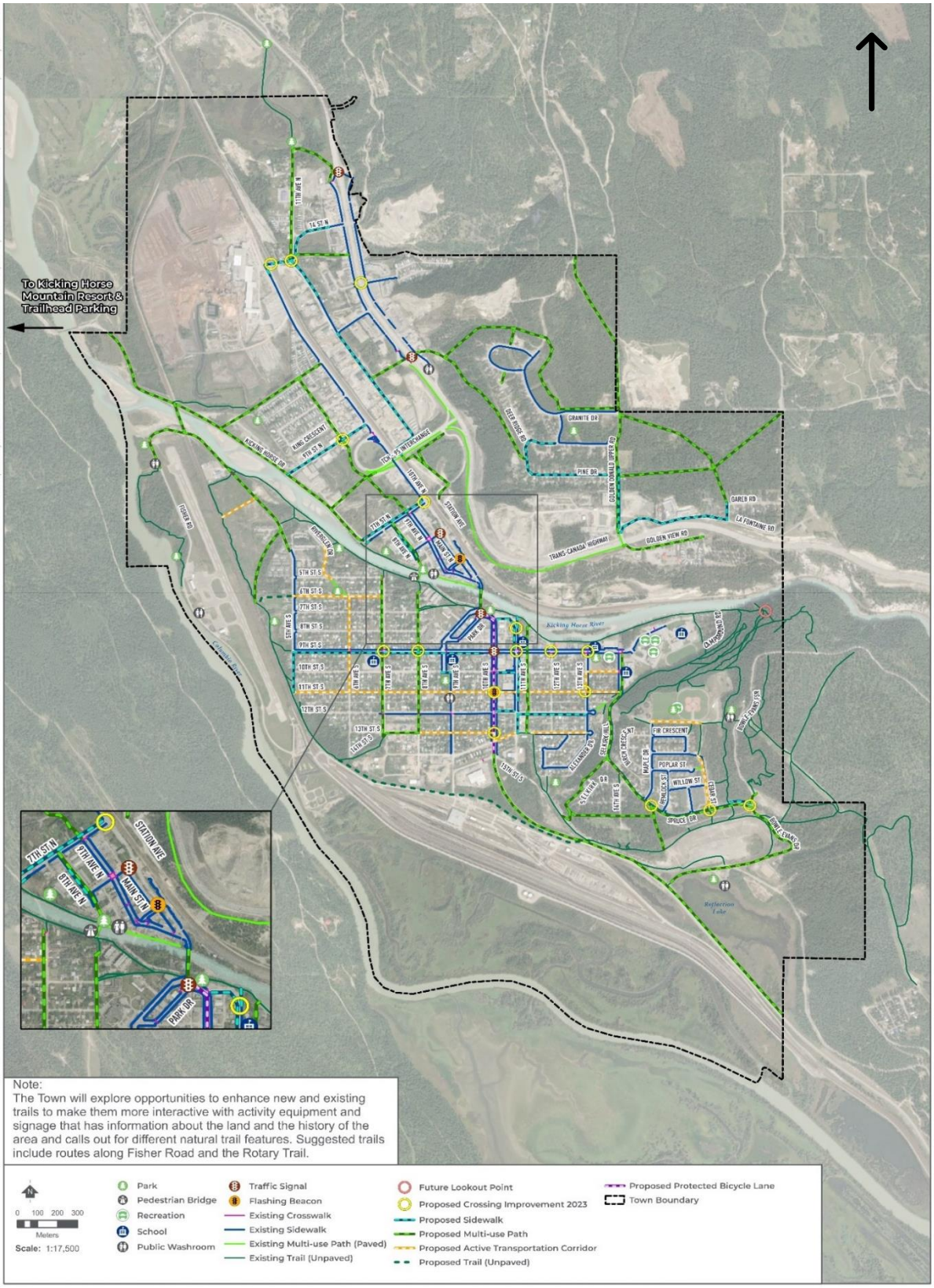


Figure 5.11 Proposed Active Transportation Network

5.2.2 TRAFFIC CALMING TOOLBOX

According to the Transportation Association of Canada (TAC) and the Canadian Institute of Transportation Engineers (ITE) (2017) the term "Traffic Calming" describes the process of changing driver behaviour to more closely align with the expectations of adjacent residents and road users. Traffic Calming is used to help restore streets to their desired function. For example, if a local street becomes regularly used by motorists as a short-cut or through road, traffic calming measures may be used to slow motor vehicles and/or reduce traffic volumes such that the road is no longer used as a short-cut. Examples of permanent and temporary traffic calming measures are shown in **Images 5.1 to 5.4**.

Images 5.1 to 5.4: Example of Permanent and Temporary Traffic Calming Measures

Generally, traffic calming measures on local and collector roads are used to achieve one or more of the following:

- Reduce vehicular speeds – measures are used to make it physically uncomfortable or difficult for motorists to travel along a street without reducing speed.
- Discourage shortcutting – measures are used to make the perceived short-cut route take longer, redirecting traffic back to the intended arterial road.

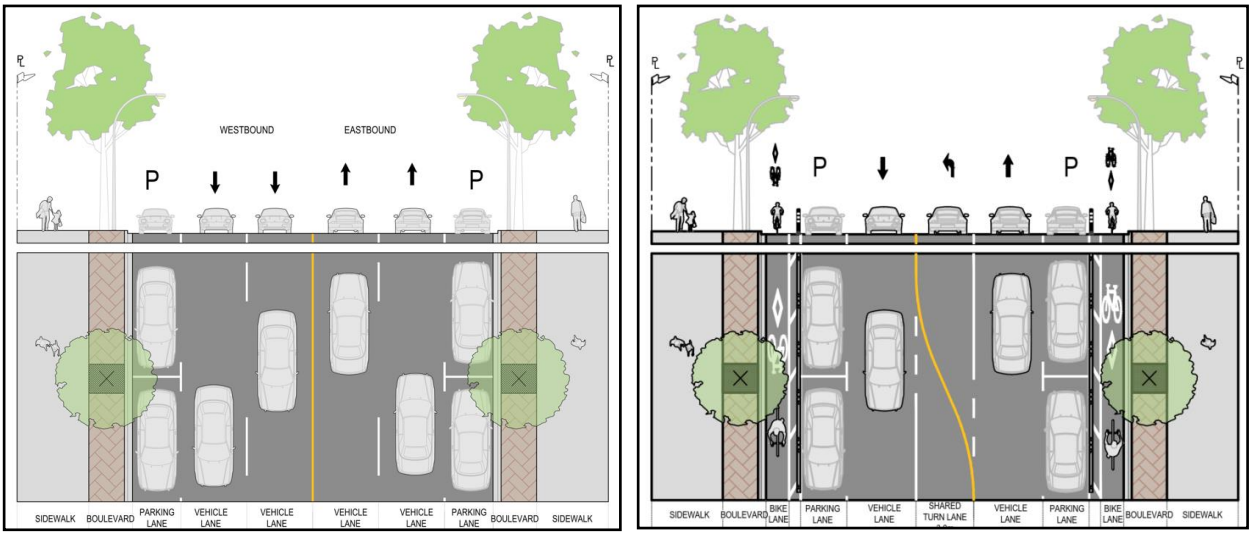
- Minimize conflicts between street users – measures are used to reduce conflicts on a street, could include physical separation or measures that improve the roadway function (such as improving sight lines).
- Improve the neighbourhood environment – measures used to improve the liveability of a neighbourhood that could include opportunities to aesthetically enhance the environment through murals or landscaping features.

As part of the GTP a Traffic Calming Toolbox has been developed to assist with implementing context specific traffic calming measures for the Town. The Toolbox includes a list of appropriate measures for the Town, when to use them and what impacts they should anticipate after implementing the measures. The Toolbox also provides general guidance on temporary and permanent application. The Toolbox is attached in **Appendix G**.

Engagement with the community is a key step in considering and implementing any traffic calming measures. The process outlined in *Figure 2.1* of the *Guide to Canadian Traffic Calming* (TAC/ITE, 2017) should be used to better understand what concerns residents may have and how best to address them.

Road Diet

Another method of traffic calming can also include a Road Diet, which reduces the number of through lanes and overall cross sections to make the roadway safer for pedestrians crossing and can lower motor vehicle speeds. The extra width can then be used for bicycle lanes and/or extra space in the pedestrian realm. The most common application is to turn a four-lane road into a two-lane road with left turn lanes where needed. **Image 5.5** shows a before and after application of a Road Diet on a four-lane road with on-street parking.



Images 5.5: Road Diet Sample Cross Section (Four-lanes to Two-lanes with middle turn lane)

There are different types of bicycle facilities that can be implemented with a Road Diet. The most common types are painted bicycle lanes or bicycle lanes separated by a physical measure such as a concrete median or barrier. **Table 5.4** below provides a comparison between the two types of bicycle facility, and the design and maintenance considerations for each. Costs are generally higher to implement physically protected bicycle lanes but can be staged with more temporary measures in the interim at a lower cost.

Table 5.4 Bicycle Facility Comparison

Considerations	Painted Bicycle Lane	Protected/Separated Bicycle Lane
BCAT – Facility Type Guidance (Developed Rural Core Context)	Appropriate on roads with between 2,500 to 4,000 vehicles a day with motor vehicle speeds between 40km/hr and 50km/hr	Appropriate for road with 4,000 + vehicles a day
Space requirements	1.8 metres + 0.9 metre buffer between parked cars	1.8 metres + 0.9 metre buffer between parked cars
Physical separation	Not required	Required – type to be determined – range in costs and level of separation
Pedestrians	No impact	No impact (gaps for crossing)
Parking	Curbside, need to cross painted bicycle lanes to get into traffic	Bicycle lane is curbside, and parking is relocated to other side of bicycle lane buffer (travel lane side). Requires passenger and drivers to cross buffer barrier to access curbside land uses.
Snow Maintenance	Standard snow clearing – snow storage in boulevard space between sidewalk and curb (where available). Likely to end up stored in bicycle lane if boulevard space is not available.	Special equipment required – likely same equipment used to clear pathways. Snow storage in buffer space between bicycle lane and parked cars or in boulevard.
Maintenance (year-round)	Pavement markings, and road sweeping in Spring.	Pavement markings and physical separation (ie. Replacing bollards, maintaining planters, replacing cracked or broken precast curbs). Also need road sweeping in Spring
Access management	Conflict zone pavement markings recommended.	Breaks in 'separation' required at driveways – access requirements are minimal so the impact would be minor. Conflict zone pavement markings recommended. Additional signage may also be recommended for some higher traffic driveways.
Traffic control	No impact	Less impact if uni-directional

5.2.3 MAINTENANCE

While capital projects are often seen as the top priority for improving transportation, ongoing rehabilitation and maintenance of existing and new infrastructure needs to be an equally important focus. Maintenance needs to be considered at all stages of the planning and the design process.

The Town current Snow Clearing and Sanding Policy provides direction for the Town on how streets are maintained on a priority basis following a snow event. The Town also sweeps and washes the streets every Spring as part of their regular maintenance program. The Town needs to ensure they have the necessary staffing and budgetary resources to maintain acceptable operation and maintenance levels of existing and future transportation infrastructure.

The Town also recently completed an Infrastructure Replacement Priority Plan. The plan is intended to assist the Town with long-term capital infrastructure planning that will see the replacement of infrastructure over a 20-year horizon. The plan reviewed previous conditions assessment reports to understand the existing condition of the Town's surface and underground assets. This included a review of the Roads Condition Assessment and Upgrade Plan, which identified high priority roads for overlay and replacement.

The ATNP details several actions for the Town to keep active transportation facilities functional and usable throughout all seasons, which ensures that facilities are accessible for all throughout the year. These actions are as follows:

- Review and update active transportation assets at regularly scheduled intervals to update inventory, review and maintain the active transportation network in a state of good repair (Sidewalk and Pathway Inspection and Maintenance Policy).
- Design active transportation facilities to provide adequate drainage, snow storage and removal, and sand and gravel removal.
- Review and update current maintenance and operating policies and procedures for active transportation infrastructure, including sidewalks, multi-use trails, and active transportation corridors (Snow Clearing and Sanding Policy).
- As new infrastructure is implemented, ensure the Town has appropriately sized equipment, staffing resources, and operating funding to maintain existing and future active transportation infrastructure.

5.2.4 PARKING

Parking demand in downtown Golden increases significantly during the summer months with an influx of tourists. Many of which are not familiar with the Town and do not know the best location to park to enjoy the downtown amenities. This may lead to many vehicles, including recreational vehicles, circling the downtown area looking for a parking spot, causing delays for others with added traffic and slower speeds.

The Town completed a downtown parking study in 2010 that identified the following parking concerns:

- Underutilized parking spaces, both street and in designated parking areas;
- Insufficient signage to available parking;
- Limited opportunities for current and/or future by-law parking spaces to be developed on-site and/or at a specified public parking facility;
- Double parking behind buildings;
- Lack of long-term employee parking – employees parking in front of establishments
- Loading constraints;
- Traffic congestion – vehicles circulating in preferred parking areas;
- Traffic safety issues – pedestrian/vehicle related conflicts;
- High parking demand in preferred parking areas;
- Lack of large vehicle parking; and,
- Lack of enforcement.

Since this study was completed, the Town has developed a map of the available parking area, and where parking is time restricted. The Town also provide this information on their website.

Despite these efforts, parking remains a concern for many residents, as identified during the online survey in the first round of public engagement. The second round of engagement identified that one of the main issues around parking downtown is related to employee parking: there is a perceived lack of employees/business owner parking, as such, employees/business owners tend to take up the parking spaces closest to their shops, requiring customers to park further away.

It is recommended that the Town increase education and enforcement efforts during peak tourism times. Increase education can include meeting with businesses and providing them with parking maps and webpage link to the maps for long term parking areas for visitors and employees. Additional wayfinding signs for long term parking may also be beneficial when entering the peripheral downtown area. The Town is also in the process of increasing enforcement officers, the downtown parking enforcement can be considered one of the top priorities. Once these steps have been taken, the Town should re-evaluate parking concerns to see if the issues remain and if there is a parking supply issue.

There are a few existing bicycle racks in the downtown; however, further enhancing bicycle infrastructure and increasing the amount of bicycle parking within the downtown will help to reduce motor vehicle parking demand. Several actions are outlined in the ATNP that will assist the Town with making walking, rolling and bicycling a more pleasant experience:

- Support the installation of more short- and long-term bicycle parking and end-of-trip facilities throughout the community.
- Develop a central hub for active transportation with a network map and information kiosk, protected bicycle parking, and other amenities in the downtown.

- Consider opportunities to expand dynamic curb-space management to create streets that accommodate a variety of uses.

Bicycle parking should also be safe, secure, and easy to access to encourage the most use.

5.2.5 TRANSIT SERVICE

Previously the Town of Golden provided a bus transit service in partnership with the Columbia Shuswap Regional District (Area A), and BC Transit. The service offered one morning and one afternoon route to and from Golden, Donald, Blaeberry, and Parson. The service was cancelled due to low ridership.

Currently, BC Transit offers a Health Connections route in partnership with Kootenay East Regional Hospital District and the Regional District of East Kootenay. This service is typically used by those traveling to medical appointments that cannot drive themselves, although anyone is eligible to use the service. The route leaves Golden at 8:00 a.m. and returns at 6:30 p.m. on Tuesdays and Thursdays. The service requires booking 24 hours in advance. There are no other public transit services offered in Golden.

During the GTP engagement process, the community was asked if the Town should consider reintroducing transit service. Options presented during the engagement included:

- A private shuttle service to and from Kicking Horse Mountain Resort;
- On-demand transit;
- Regional transit in Golden and Area A; and,
- Do not re-explore transit service.

An overwhelming majority of survey respondents (78%) indicated that they would support one of the first three options. There was particular interest for a shuttle service to Kicking Horse Mountain Resort and an on-demand transit service. It is recommended that the Town look into the viability of both options including the required population to support them.

If transit is implemented, ensure all bus stops are accessible, and that amenities such as benches and/or shelter are provided for people waiting.

5.2.6 EMERGING TECHNOLOGIES

New transportation modes have emerged from changing technologies, such as the electrification of transportation (electric cars and e-bikes), autonomous vehicle technology, and mobility-as-a-service (MAAS) platforms which include ride hailing, carshare, bike share, scooter share, and micro-transit. The Town will need to anticipate these new technologies and modes and plan for how to accommodate them. The Town can facilitate the use of more sustainable modes through the installation of charging stations for electric vehicles (including electric cars, e-bikes, and e-scooters).

6.0 IMPLEMENTATION FRAMEWORK

An implementation strategy is necessary to provide a framework for how to move forward with improvements in transportation planning and capital investments over the next five years and beyond. This section outlines the recommended implementation framework for the Golden Transportation Plan.

6.1 Phasing Strategy

The Town of Golden Transportation Plan provides long-term recommendations for capital improvement projects and for strategies to improve Golden's transportation network. Recognizing that the long-term plan will require significant investments, an Implementation Framework is required to help prioritize improvements.

The Implementation Framework outlines the priorities and costs for recommended strategies and capital improvements. The Implementation Framework identifies project priorities for the short-term (within 8 years), medium-term (8 to 20 years) and long-term (20 years and beyond).

The approach for implementing each of the recommendations identified in the GTP are outlined in **Table 6.1**. The table provides guidance with respect to:

- **Timeframe:** Each recommendation is identified as either a short-term, medium-term, and long-term initiative. Many recommendations will be implemented on an ongoing basis, in which case they are shown under each timeframe. It should also be noted that these priorities may change over time.
- **Method of Implementation:** This column identifies how each action will be implemented: as a capital project; through ongoing operations and maintenance; or as a policy or programming initiative.
- **Leadership:** This column suggests the jurisdiction responsible for leading each recommendation. Many recommendations are for the Town to advocate with the Ministries.

The ATNP (in **Appendix H**) includes its own implementation strategy for active transportation in the Town.

Table 6.1 Golden Transportation Plan Implementation Framework

#	STRATEGIES	TIMEFRAME[3]			METHOD OF IMPLEMENTION			WHO IS INVOLVED
		Short-Term 0-8 yr	Medium-Term 8 -20 yr	Long-Term 20+ yr	Capital	Operations & Maintenance	Policy & Programming	
	ROAD NETWORK							
1	Improve traffic conditions on Selkirk Hill (ex. reduce speeds, improve safety for all modes).	✓	✓		✓			Town of Golden • Planning and Development • Public Works
2	Improve traffic conditions on Golden Donald Upper Road (ex. turning lanes at intersections and accesses, multi-use pathway or bicycle accessible shoulders; improve facility for all modes).		✓		✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
3	Improvements to the intersection control at 10 Avenue N and 7 Street N (ex. signal or restrict turns) – would require some discussion with BC Ministry of Transportation and Infrastructure.			✓	✓			Town of Golden • Planning and Development • Public Works
4	Advocate to BC Ministry of Forests to improve roadway conditions on Bowle-Evans Drive.	✓	✓		✓			Town of Golden • Planning and Development • Public Works Ministry of Forests
5	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic operations on the Dogtooth Bridge (Kicking Horse Drive Bridge - *access to Kicking Horse Mountain Resort, golf course, CBT/Moonrackers bike trails*).		✓	✓	✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
6	Advocate to BC Ministry of Transportation and Infrastructure (MoTI) to implement a new Highway 95 bridge across the Kicking Horse River (project design currently underway). Town to work with BC MoTI to ensure design improve safety for all modes.	Ongoing			✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure

[3] 'Ongoing' - starting in the short-term but will either take multiple years to implement or should be a key consideration through the implementation of the action

#	STRATEGIES	TIMEFRAME[3]			METHOD OF IMPLEMENTION			WHO IS INVOLVED
		Short-Term 0-8 yr	Medium-Term 8 -20 yr	Long-Term 20+ yr	Capital	Operations & Maintenance	Policy & Programming	
7	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic control and pedestrian area at Highway 95 (10 Avenue S) and 11 Street S intersection.			✓	✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
8	Advocate to BC Ministry of Transportation and Infrastructure to improve signage and lane markings along Highway 95 (10 Avenue S) at 9 Street S to provide more clarity on through lanes and turning lanes, as well as confirm vehicle turning movement paths.	✓			✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
9	Advocate to BC Ministry of Transportation and Infrastructure to improve signal timing for cross streets along Highway 95 (10 Avenue S) during the morning and afternoon school hours.	Ongoing			✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
10	Advocate to BC Ministry of Transportation and Infrastructure to re-evaluate the Highway 95 (10 Avenue S) cross section from where project #6 ends to 15 Street S and consider implementing a Road Diet to reallocate and balance the space for pedestrians, cyclists and motor vehicles. Bicycle infrastructure can be installed initially as painted bicycle lanes and transition over time to include protected barriers in the buffer space. Aligning implementation with other road works and/or lifecycle replacements.		✓	✓	✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
11	Advocate to BC Ministry of Transportation and Infrastructure to implement permanent measures on Highway 95 (10 Avenue S) south of 15 Street S that would encourage drivers to slow down as they enter the Town (ex. speed feedback sign, additional features to indicate that you have entered a community, reduce roadway width, etc.)		✓		✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
12	Advocate to BC Ministry of Transportation and Infrastructure to improve traffic flow for southbound vehicles at the Highway 95 (10 Avenue S) and Reflection Lake Road intersection by widening the intersection to provide for a southbound to eastbound left turn lane.	✓	✓		✓			Town of Golden • Planning and Development • Public Works Ministry of Transportation and Infrastructure
	HEALTH AND SAFETY							
13	Review and update transportation planning policies and design standards to align with latest research and best practices.	✓					✓	Town of Golden • Planning and Development • Public Works

#	STRATEGIES	TIMEFRAME[3]			METHOD OF IMPLEMENTION			WHO IS INVOLVED
		Short-Term 0-8 yr	Medium-Term 8 -20 yr	Long-Term 20+ yr	Capital	Operations & Maintenance	Policy & Programming	
	• Review and update the Golden Subdivision and Development Servicing Bylaw to include cross-sections and design best practices from the B.C. Active Transportation Design Guide. • Review existing sidewalk, multi-use trails, and on-street bicycling facility requirements on roadways (based on classification) and update to reflect best practices in the B.C. Active Transportation Design Guide.							• Recreation Services • Corporate Services & Communications
14	Explore the opportunity to reduce speed limits as per Section 146 of the Motor Vehicle Act, in conjunction with traffic calming and traffic diversion. • Consider pilot programs such as school streets that limits motor vehicles near school sites during school hours • Identify opportunities for installing traffic calming infrastructure features as listed in the Transportation Plan's Traffic Calming Toolkit to help reduce motor vehicle speeds and volumes. Focusing first on Active Transportation Corridors as identified in **Figure 9** of the Golden Active Transportation Network Plan. • Explore the feasibility of reducing speed limits town-wide or in areas where traffic calming is not possible or has not been effective.		✓		✓		✓	Town of Golden • Planning and Development • Public Works RCMP ICBC
15	Improve safety along active transportation routes by considering visibility, sightlines, and access where appropriate. • Continue to review corridors, intersections, and crossings where ICBC collisions, near misses and community members have voiced concerns about safety and accessibility, and make improvements as required. • Work with MoTI to review and update signal phasing and pedestrian crossing times at intersections to ensure adequate time is provided for all road users. • Review existing pedestrian crossing locations and look for opportunities to reduce crossing distances by providing narrower roads and lanes and considering curb extensions where feasible. • Review crossing recommendations in **Figure 10** and implement where warranted and develop a prioritization plan for enhancing existing crossing locations. • Improve crossing treatments where multi-use trails intersect with a roadway in accordance with current best practices. • Inventory the location of curb ramps and accessibility features at intersections. Provide curb ramps or a continuous paved surface to access the road at all intersections and consider accessibility for all.	Ongoing			✓	✓	✓	Town of Golden • Planning and Development • Public Works RCMP ICBC Ministry of Transportation and Infrastructure

#	STRATEGIES	TIMEFRAME[3]			METHOD OF IMPLEMENTION			WHO IS INVOLVED
		Short-Term 0-8 yr	Medium-Term 8 -20 yr	Long-Term 20+ yr	Capital	Operations & Maintenance	Policy & Programming	
	MAINTENANCE							
16	Review and update the Town's transportation assets (including active transportation facilities) at regularly scheduled intervals to inventory, review and maintain the transportation network in a state of good repair.	Ongoing				✓	✓	Town of Golden • Public Works • Planning and Development • Finance & Administrative Services • Recreation Services
17	Review and update current maintenance and operating policies and procedures for transportation infrastructure (including active transportation facilities). (Snow Clearing and Sanding Policy). • Review existing debris, sand, gravel, ice, and snow removal requirements for walking and bicycling infrastructure, including multi-use trails, and provide additional guidance specific to on-street active transportation facilities (active transportation corridors). This includes requirements for property owners, Town departments, employed contractors, and the existing fleet of machinery. • Consider adding an active transportation prioritization list to the policy and outlining the order in which roads and active transportation facilities are cleared.		✓			✓	✓	Town of Golden • Public Works • Planning and Development • Corporate Services & Communications • Finance & Administrative Services • Bylaw Enforcement
18	As new infrastructure is implemented, ensure the Town has appropriately sized equipment, staffing resources, and operating funding to maintain existing and future transportation infrastructure. • Review current maintenance funding and equipment levels required to maintain all planned and existing types of transportation infrastructure. • As more walking and bicycling facilitates are installed, ensure the amount of funding available grows in accordance with the amount of infrastructure being added to the network.	✓				✓		Town of Golden • Public Works • Finance & Administrative Services • Planning and Development • Recreation Services
	PARKING							
19	Review and update the 2010 Parking Study regularly. • Educate visitors and workers in the downtown core on long term parking locations. • Enforce time restricted parking in the downtown core. • Improve wayfinding signage to long term parking areas.	Ongoing			✓	✓	✓	Town of Golden • Planning and Development • Public Works • Corporate Services & Communications • Bylaw Enforcement *With support from partners & stakeholders*

#	STRATEGIES	TIMEFRAME[3]			METHOD OF IMPLEMENTION			WHO IS INVOLVED
		Short-Term 0-8 yr	Medium-Term 8 -20 yr	Long-Term 20+ yr	Capital	Operations & Maintenance	Policy & Programming	
20	Support the installation of more short- and long-term bicycle parking and end-of-trip facilities throughout the community. *(Refer to the Active Transportation Network Plan for more details).*	✓	✓		✓	✓	✓	Town of Golden • Planning and Development • Public Works • Recreation Services • Finance & Administrative Services *With support from partners & stakeholders*
21	Consider opportunities to expand dynamic curb-space management to create streets that accommodate a variety of uses. *(Refer to the Active Transportation Network Plan for more details).*			✓			✓	Town of Golden • Planning and Development • Public Works • Corporate Services & Communications *With support from partners & stakeholders*
	TRANSIT SERVICES							
22	Consider opportunities for reintroducing transit service. Options to consider include: • A private shuttle service to and from Kicking Horse Mountain Resort • On-demand transit • Regional transit in Golden and Area A	Ongoing				✓		Town of Golden • Planning and Development • Public Works • Corporate Services & Communications *With support from partners & stakeholders* BC Transit
	EMERGING TECHNOLOGIES							
23	Consider the impact of new mobility technologies on the transportation network and infrastructure design. • Provide infrastructure to support the use of electric vehicles including e-bicycles and e-scooters (ex. E-bike share or e-scooter share; charging stations, etc.). • Ensure new road improvements and active transportation facilities are designed for all intended users, recognizing that the operating envelopes and speeds of new mobility technologies may impact facility design (e.g., facility width and the need for users to be separated). • Proactively regulate e-bikes and other micro mobility devices in the Town and on trails. • Explore the feasibility of creating a bikeshare or scooter share program with a private operator in Golden, with convenient connections to Kicking Horse Mountain Resort for tourists.	✓					✓	Town of Golden • Planning and Development • Public Works • Recreation Services • Finance & Administrative Services *With support from partners & stakeholders*

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6.2 Cost Estimate

Proposed road network improvements were largely Ministry of Transportation and Infrastructure driven. The Town would need to advocate and participate in these projects as interested parties.

The cost estimates for the proposed Selkirk Hill improvements (Project 1) were provided in a separate study titled Selkirk Hill Traffic Operational and Safety Review, March 2022. The cost estimates for the four options provided ranged between $106,000 to over $7,500,000. The options provided in that study allows the Town to explore shorter term improvements and also plan for longer term improvements, which may include, but is not limited to, additional engagement with area residents and the Province.

The cost estimates for each of the proposed active transportation improvement projects are included in *Appendix B* of the ATNP. The overall costs estimate for the proposed active transportation network is approximately $25,000,000. Projects in the proposed active transportation network, that will be implemented through development and/or will require land acquisition, have less certainty on alignment and timelines. Due to this uncertainty, these projects have not been included in the cost estimate for the ATNP. The projects that are excluded from the cost estimates are highlighted in *Figure 9* of the ATNP, in **Appendix H**.

6.3 Funding Strategies

Implementation of the recommendations within the GTP will require significant funding over the next 20 years and beyond. Some of these costs can be shared by pursuing external funding from other levels of governments, partnerships with other organizations and the development industry, and integration of improvements with other plans and projects. This can help to reduce the Town's share of project costs.

A list of several strategies has been compiled, that the Town may consider, to help leverage its investments and to maximize its ability to implement transportation improvements.

- **Capital Planning** – incorporate recommendations from the GTP into the Town's short-, medium-, and long-term budgeting plans to ensure that the projects are accounted for in the Town's capital planning process. This will help to coordinate GTP project with other capital projects, such as utility projects, and/or streetscape improvement projects.
- **Developers** – leverage transportation investments during the planning for new development projects. For example:
    - Public realm improvements (e.g. sidewalk, pathways, enhanced connections to transit, etc.)
    - Bicycle parking
    - Payment-in-lieu of parking

    - Community amenity contributions (e.g. non-frontage sidewalks/multi-modal pathways, charging stations, bicycle repair station, etc.)

- **Development Cost Charges** – the Town has a DCC bylaw that does not include a transportation DCC. The bylaw should be regularly updated to include projects identified in the GTP and future plans. It should be emphasized that DCC eligible projects should not only include street network projects but can also include active transportation and transit projects that benefit new growth in the community.
- **Federal Funding:** There are several programs that provide funding for environmental and local transportation infrastructure projects in municipalities across Canada. Typically, the federal government contributes one third of the cost of municipal infrastructure projects. Provincial and municipal governments contribute the remaining funds, and in some instances, there may be private sector investment as well. Some examples include:
    - The National Active Transportation Fund (ATF) (award amount - $50,000 for planning projects and $50 million for capital projects) - will provide $400 million over five years to help build new and expanded active transportation facilities across the country. The Spring 2022 intake period has passed, but a second round of intakes is expected.
    - Rail Safety Improvement Program – Infrastructure, Technology and Research (RSIP-ITR) Funding (award amount – up to 80% of total eligible expenditures, maximum amount - $10,000,000) - funds rail safety improvements that support measures to improve public safety at rail property and rail lines. The deadline for applications is **August 1, 2022**.
- **Provincial Programs and Initiatives** – the Province administers numerous grants to help promote active transportation infrastructure and sustainable transportation projects to help reduce climate change impacts. Some current grants include:
    - The CleanBC Communities Fund (CCF) (award amount – unspecified but asked to keep below $13.4M) – provides provincial and federal funding for community infrastructure projects that reduce reliance on fossil fuels. The first intake was in 2019, with additional intakes offered every year since then. Projects that have been funded in the past include installation of Level 2 electric vehicle charging stations and upgrades to buildings to reduce their GHG emissions. The deadline for this year's intake is **May 25, 2022**.
    - BC Vision Zero in Road Safety Grant Program (award amount - $5,000 to $20,000) – supports local governments (and others) to advance evidence-informed road safety improvements resulting in reduced vulnerable road user injuries and reductions in the severity of these injuries. The grant focuses on underserved communities, Indigenous communities, and small and remote communities. The

grant deadline has passed, but an additional intake period could be available in the fall.

    - Active Transportation Infrastructure Grant Program - provides funding for infrastructure which forms part of an active transportation network plan adopted by a BC local government. To ensure maximum success at obtaining grant funding, the Town should have grant-ready concepts pre-developed for application.

- **Green Municipal Funds:** The Federation of Canadian Municipalities manages the Green Municipal Fund, with a total allocation of $550 million. This fund is intended to support local government efforts to reduce pollution, reduce greenhouse gas emissions, and improve quality of life. The expectation is that knowledge and experience gained in best practices and innovative environmental projects will be applied to national infrastructure projects.
- **Carbon Tax Rebate:** Each municipality that has signed the Climate Action Charter receives an annual rebate based on completion of the CARIP form. The Town could choose to direct this funding towards sustainable transportation projects, such as funding bicycle, pedestrian, and transit infrastructure.
- **ICBC** – ICBC provides funding for road safety improvements, including pedestrian and bicycle infrastructure, particularly where these have the potential to reduce crashes, improve safety, and reduce claims costs to ICBC. Funding is available through ICBC's Road Improvement Program, and other ICBC programs include the Speed Watch Program (through the Community Policing Centres), Speed and Intersection Safety Program, Counter Attack, Operation Red Nose, and Road Sense Speaker Program for Schools.
- **Private Sector:** Many corporations wish to be good corporate neighbours— to be active in the community and to promote environmentally-beneficial causes. Bicycle and pedestrian routes and facilities are well-suited to corporate sponsorship and have attracted significant sponsorship both at the local level and throughout North America. Examples in BC include Construction Aggregates in Sechelt, which constructed an overpass over a gravel conveyor to provide a link for pedestrians and cyclists, and 7-Eleven and Molson Breweries, which have sponsored multi-use pathways in Metro Vancouver.

Note that the specific programs identified were the sources available at the time of writing. Funding sources change frequently and should be monitored to ensure deadlines are not missed and/or new funding sources are being taken advantage of.

The Town should pursue various available sources of funding for transportation facilities and programs. However, it is recognized that the external funding sources do not provide a consistent and stable funding stream, and that in order to ensure completion of projects identified in the Transportation Plan, consistent funding sources should be identified as much as possible. This will help ensure staff can logically plan and coordinate these improvements with other capital works to provide economies of scale for construction activities providing best value for capital expenditures.

6.4 Monitoring and Benchmarking

Developing a benchmarking program for the Town would be beneficial to help establish baselines for updates to the Golden Transportation Plan (GTP) in the future, and for assessing changes in growth and travel patterns behaviours over different seasons and years. It can also be used to help build long-term support for walking and cycling infrastructure improvements, maintenance programs, and future planning studies.

The baseline data can be evaluated each year or every five years to measure if there's been a shift towards achieving the target. The targets identified in **Section 3.2.3** are as follows:

- Decrease in number of collisions that result in injury or fatality.
- Increase in number of new kilometres and/or projects implemented of accessible facilities (ie. sidewalk, pathway, etc.).
- Increase in percentage of commuting trips to work and/or school using active transportation.

To monitor these transportation targets, some baseline data were already established from the data used in the development of the GTP. ICBC provides annual collision information to all municipalities in the province. The Town maintains an inventory on their transportation infrastructure, including the number of existing kilometres of sidewalks, pathways, and trails.

The traffic data that was collected throughout the Town in 2021 for this study can also be used as a baseline for motor vehicle traffic patterns. To align with the traffic data horizon, the travel modal share data from the 2021 Census information should be used as a baseline once the information is released.

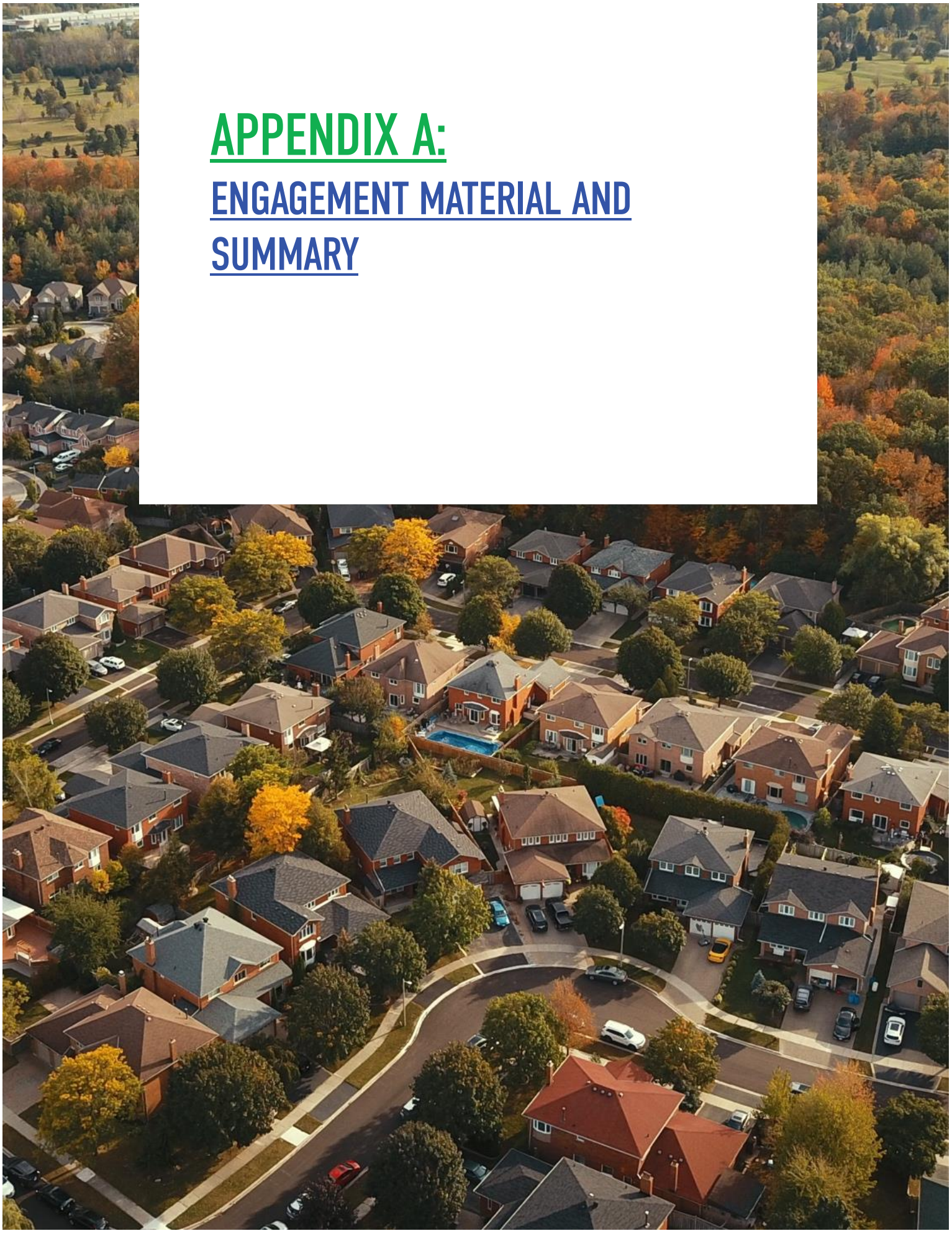
Other metrics the Town can also monitor is tracking the resources and budget allocation to operations and maintenance of sidewalks, trails, and roadways. This would include the infrastructure itself as well as the signage and pavement markings. This metric would need to be benchmarked to understand the current resources and what scale of operations and maintenance it currently covers in order to determine an increase level of service on the infrastructure.

7.0 CLOSING

This report entitled “Golden Transportation Plan”, was prepared for the Town of Golden, by Urban Systems Ltd. The material in this report reflects the best judgement of Urban Systems Ltd. based on the information available at the time of preparation. Any use that a third party makes of this report, or reliance on or decisions made based on it is the responsibility of the third party. Urban Systems Ltd. accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions taken based on this report.

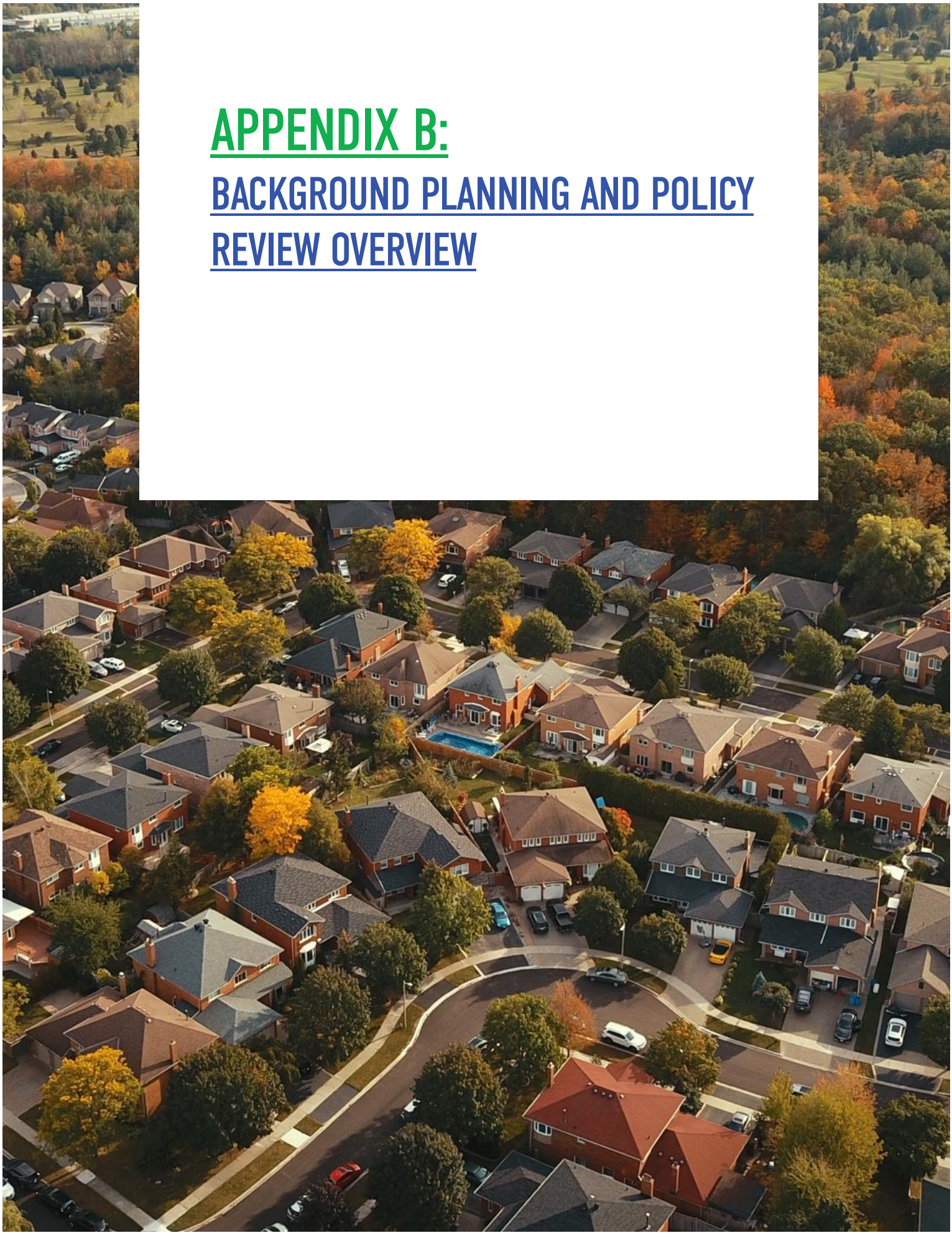
APPENDIX A:

ENGAGEMENT MATERIAL AND SUMMARY



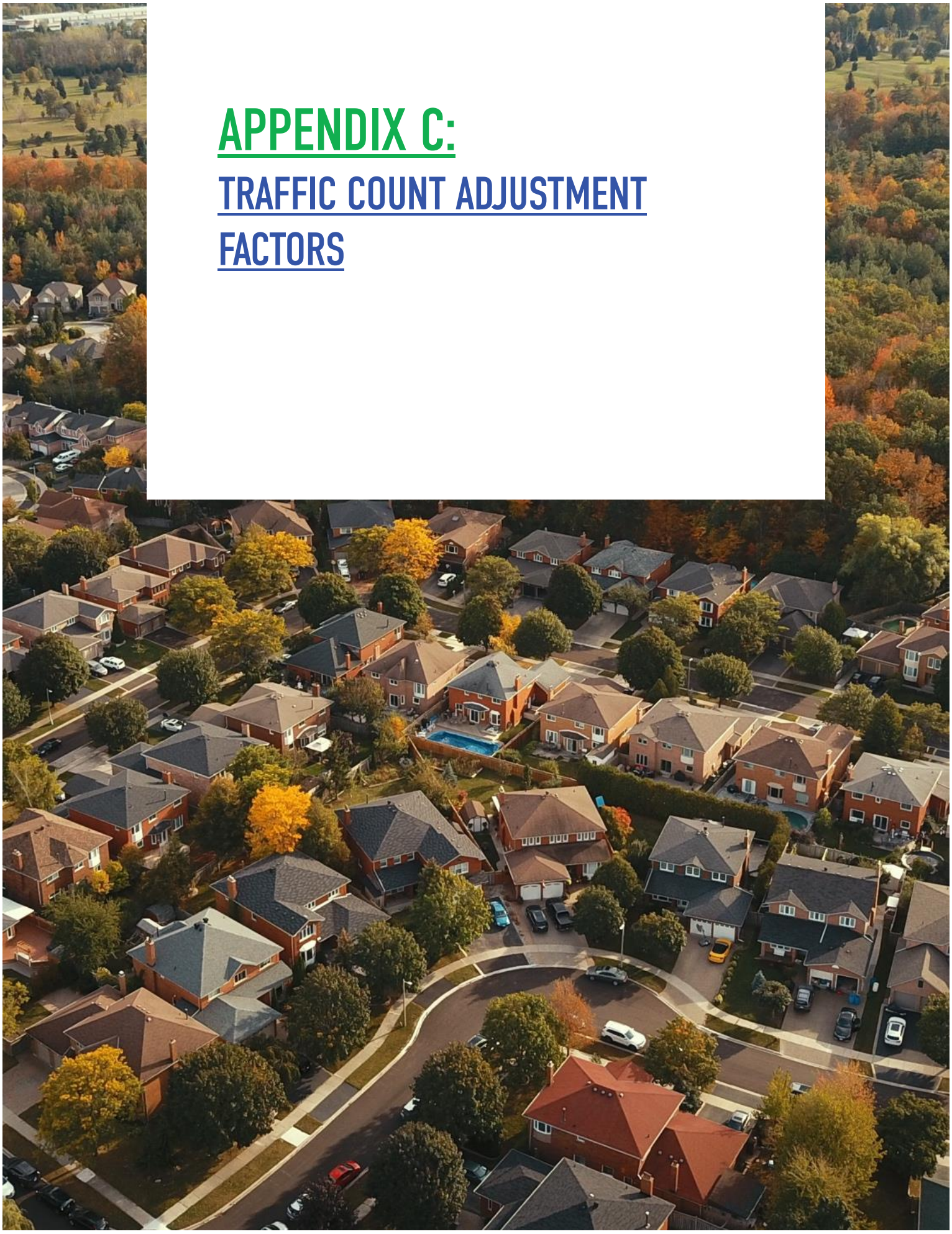
APPENDIX B:

BACKGROUND PLANNING AND POLICY REVIEW OVERVIEW



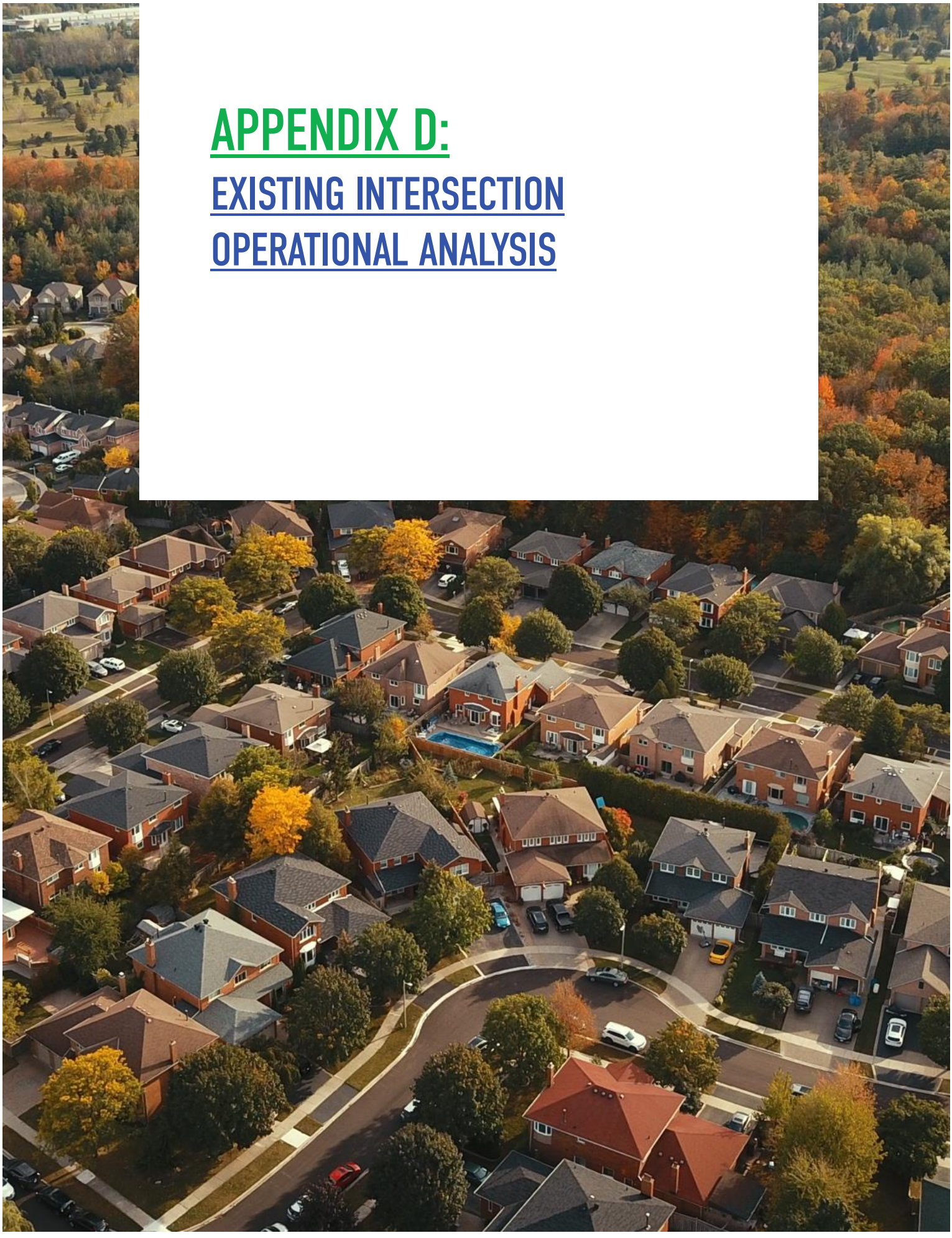
APPENDIX C:

TRAFFIC COUNT ADJUSTMENT FACTORS



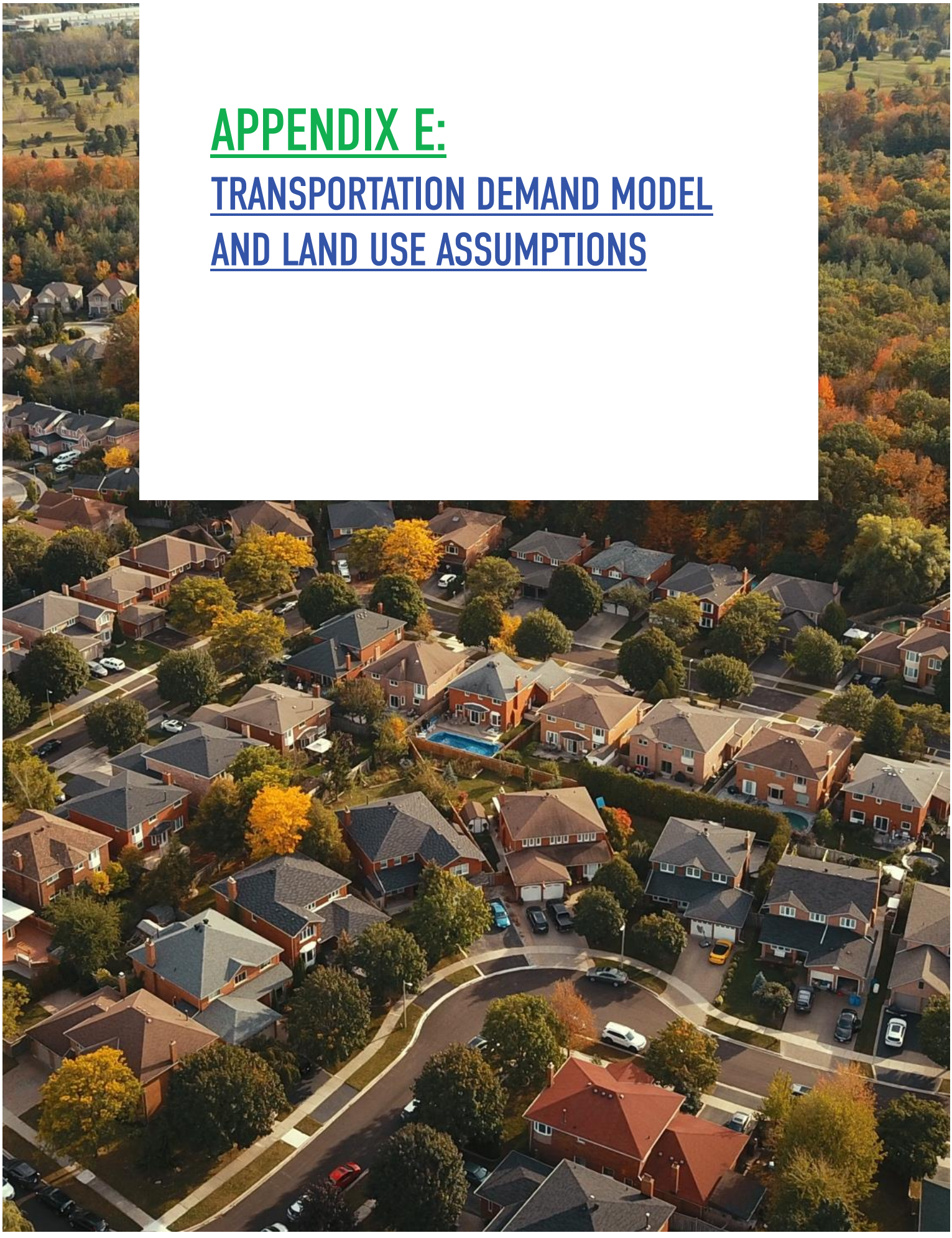
APPENDIX D:

EXISTING INTERSECTION OPERATIONAL ANALYSIS



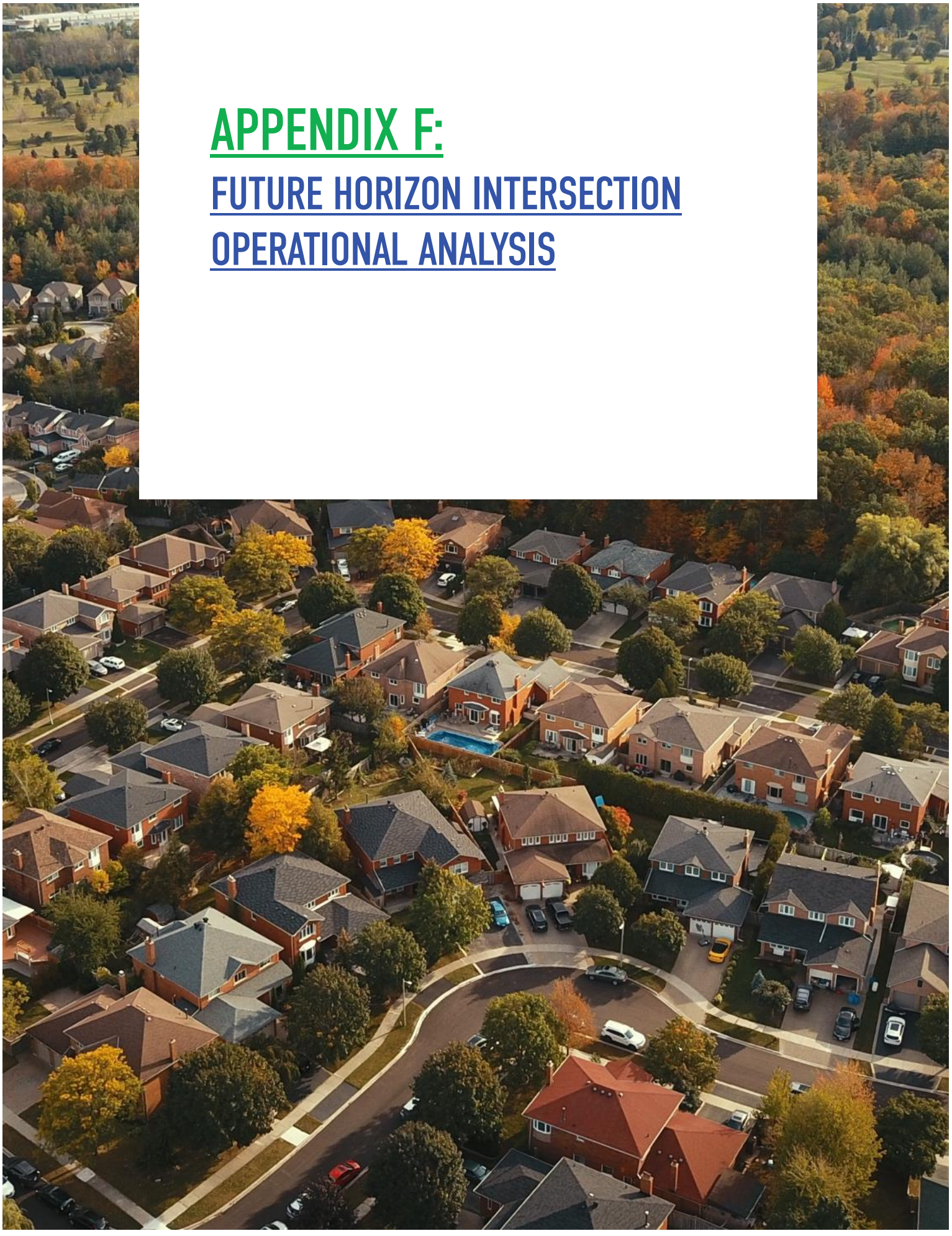
APPENDIX E:

TRANSPORTATION DEMAND MODEL AND LAND USE ASSUMPTIONS



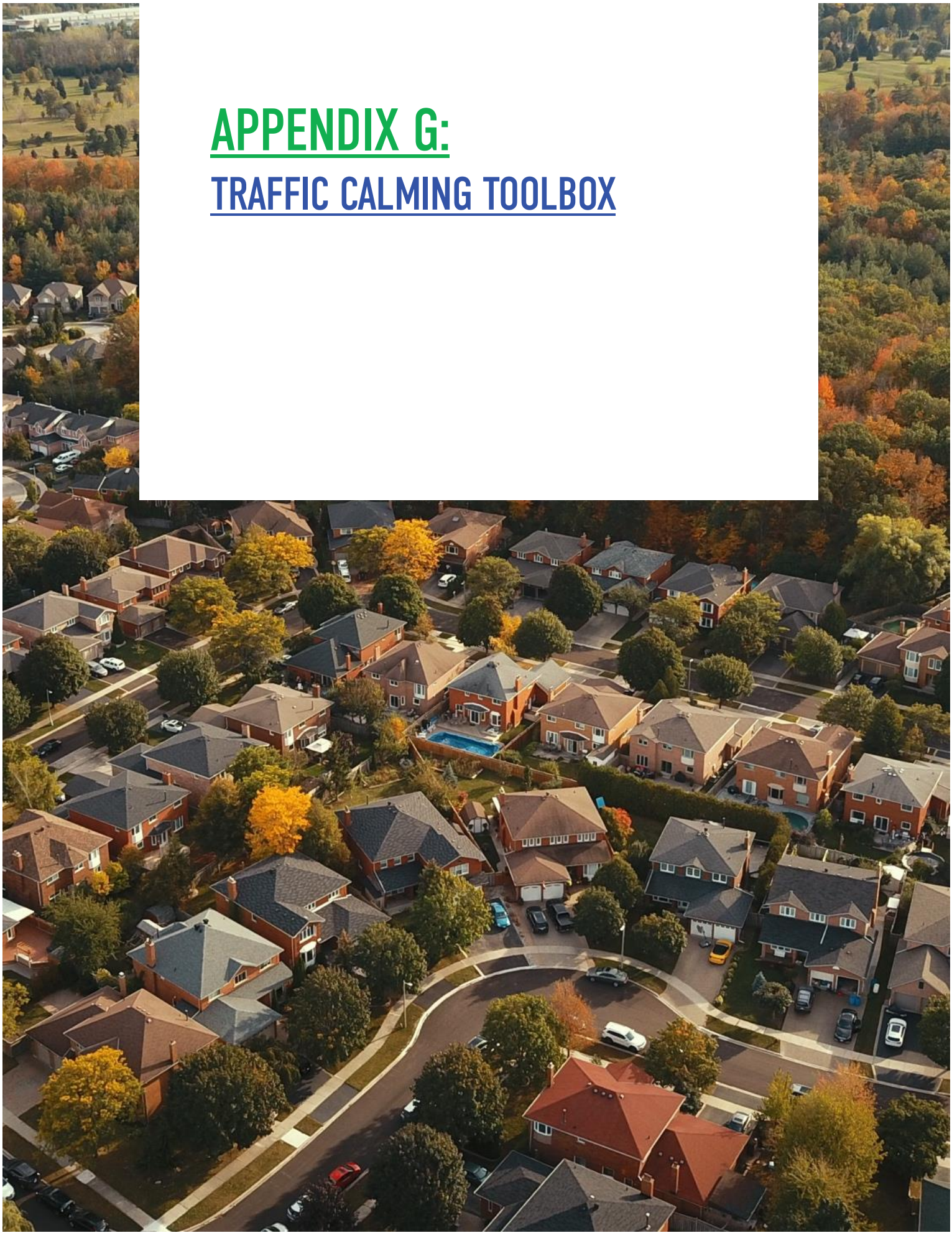
APPENDIX F:

FUTURE HORIZON INTERSECTION OPERATIONAL ANALYSIS



APPENDIX G:

TRAFFIC CALMING TOOLBOX



APPENDIX H:

ACTIVE TRANSPORTATION NETWORK PLAN