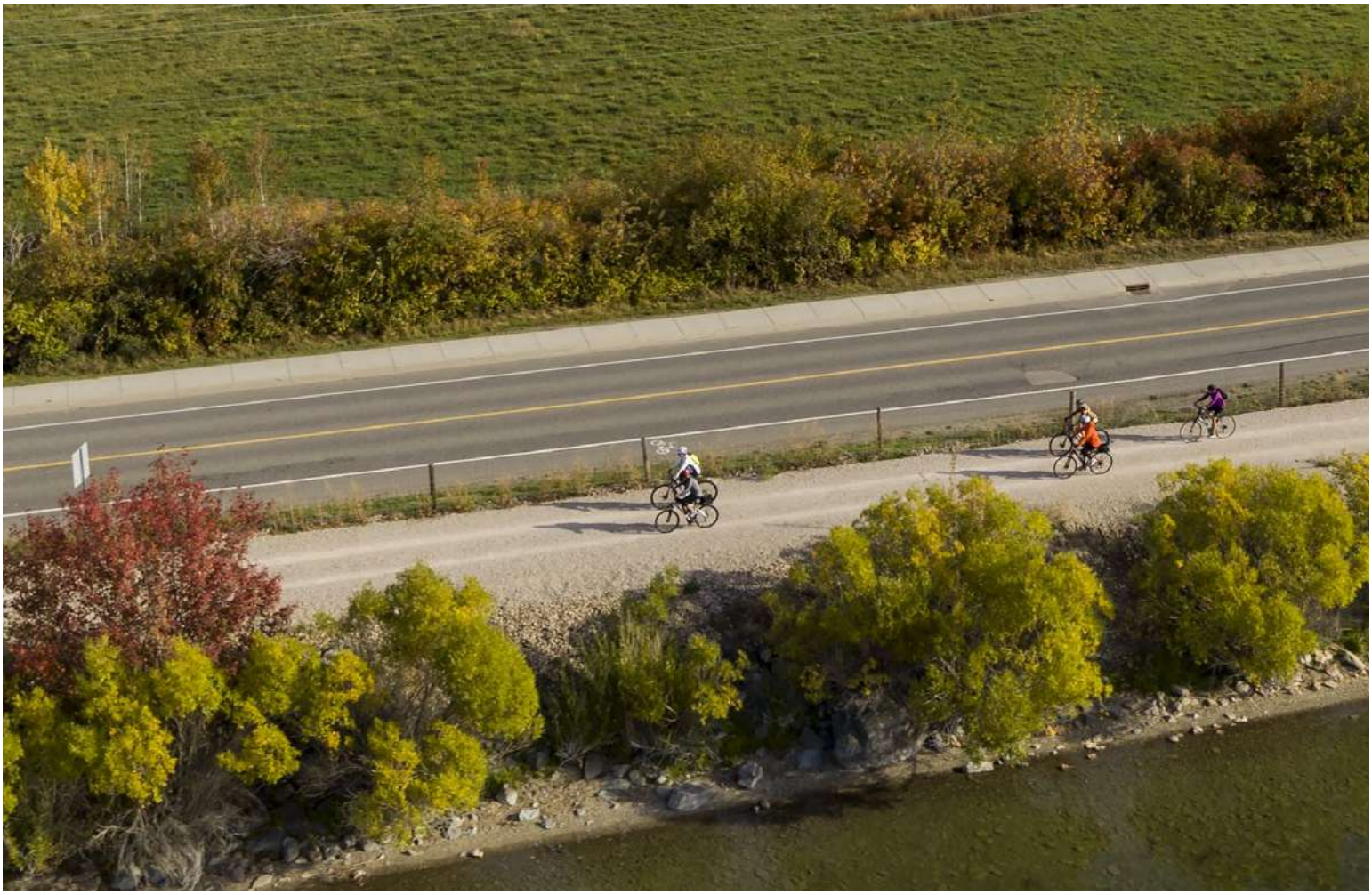
MOBILITY
MASTER PLAN

getting around Lake Country in safe and enjoyable ways



LAKE COUNTRY
Life. The Okanagan Way.

ACKNOWLEDGEMENTS

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1

PARADIGM SHIFT TO MOBILITY

1.1 INTRODUCTION

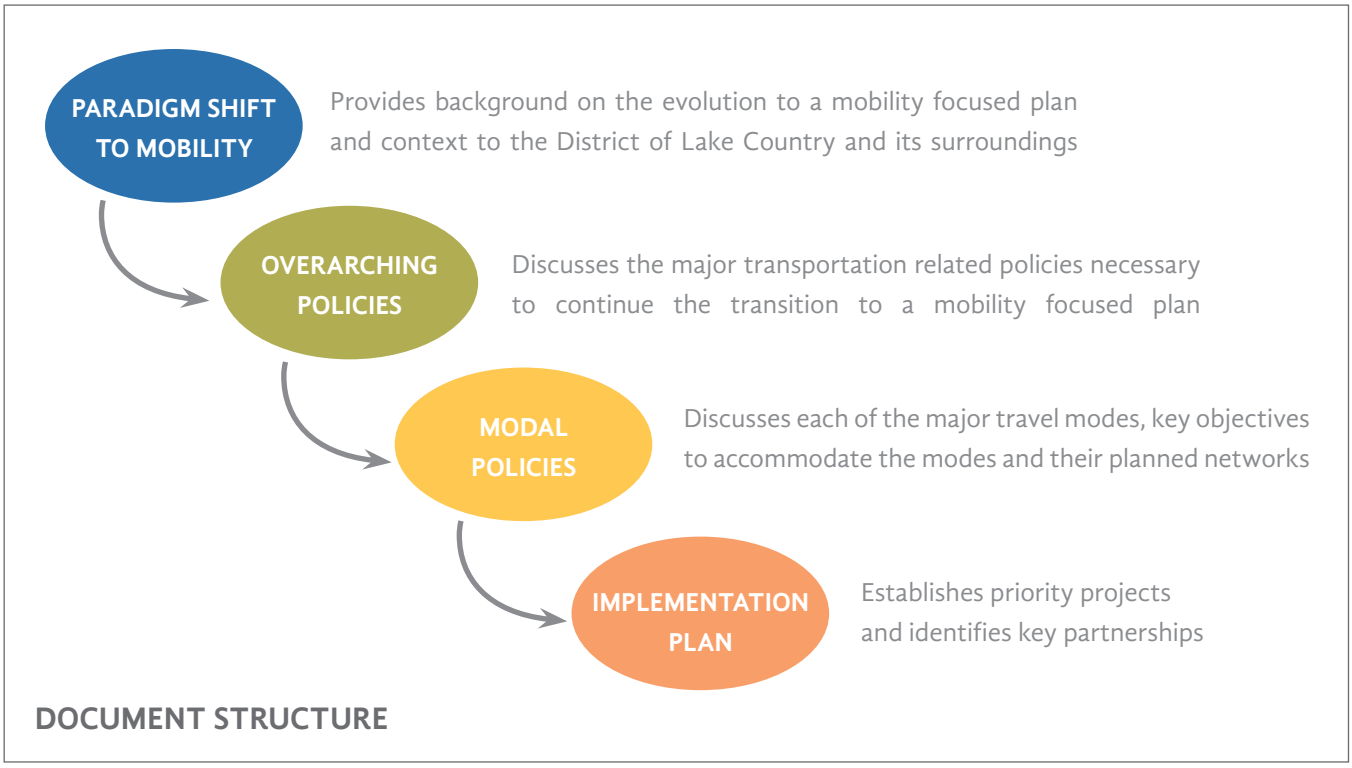
The Mobility Master Plan provides related policy for the District of Lake Country to prioritize infrastructure projects to best allocate funds to enhancing mobility and public realm in Lake Country while meeting the Districts vision, aims, and guiding principles for mobility.

This Plan builds upon past District initiatives to improve how people travel in Lake Country. These included:

- The **Transportation for Tomorrow Plan** allowed the District to quantify unfunded liability for roadway assets and incorporate active transportation facilities into roadway designs. This established taxation required to provide a certain level of service for roadways and branded a vision: "Getting around Lake Country in safe and enjoyable ways" which remains relevant to the Mobility Master Plan.
- The **Official Community Plan (OCP)** established goals and objectives for the transportation network. It further provides prioritization of transportation modes.
- The **Road Network Plan** identified capacity needs in the street network via traffic modelling analysis linked with OCP land use plans.
- Community engagement in 2019 on **Pedestrian, Bicycle, and Recreational Trails** travel identified how residents wished to travel.

The Mobility Master Plan incorporates past planning, programming, and public engagement initiatives related to the above plans.

This document is to be used to guide and identify the policies, actions, and priorities to improve upon mobility in the District of Lake Country with a consistent approach.



DOCUMENT STRUCTURE

1.2 EVOLUTION: FROM TRANSPORTATION TO MOBILITY

Mobility has recently become the defining term to provide transportation infrastructure and services to users. It has evolved from a desire to create more sustainable travel options and provide a higher quality of life in communities. Mobility refers to the ease of travel where transportation refers to the act of travel. The greater the mobility, the fewer barriers there are to travel and the greater quality of options available to users.

Mobility puts more emphasis on the user and treating transportation policy and infrastructure as a means to provide options to users.

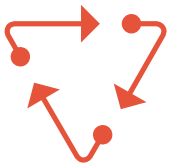
The paradigm shift to mobility comes at a time where there is increased demand for greater accessibility and more inclusive and sustainable mobility options and solutions.

BENEFITS OF MOBILITY

Refocusing transportation planning to target enhancing mobility, encourages a shift away from single-occupant planning to achieve a connected, vibrant, healthy, and engaged community. Furthermore, a reduction in travel by single occupant vehicles provides benefits to:

- Improving air quality & reducing greenhouse gas emissions;
- Reducing motor vehicle traffic congestion;
- Improving safety by reducing the number of vehicles on the roadway and increasing the number travelling by active modes (safety in numbers);
- Providing connections for all ages and abilities;
- Creating a more vibrant community;
- Creating a healthier community;
- Reducing transportation costs to users and tax payers for infrastructure maintenance and renewal;
- Emphasizing social spaces through active modes infrastructure, transit, and recreation targeting reductions in loneliness.

TIME: The value of the user's time to travel between origin and destination or duration of recreational activity. Ensuring efficiency of travel options.



SAFETY: The value of the user's perceived and actual safety of travelling on a given facility by a certain mode.

COMFORT: The value of how well users are accommodated by a facility and/or mode from start to the end of a trip.

AFFORDABILTY: The value of the user's economic context and the affordable options available to them to travel.

KEY ELEMENTS OF MOBILITY

Photo Credit: connel/Shutterstock.com

1.3 BUILDING A BETTER COMMUNITY

Three pillars are established to build a better community in Lake Country. They are Places & Spaces, Addressing Inequity, and Mobility for All.

PLACES & SPACES

Places and spaces refer to the land use and public space available for residents to gather and recreate. Healthy livable cities need to connect people to one another and to nature. The transportation network makes up a significant proportion of public space in a community. In the District of Lake Country, the transportation road network is approximately 40% of public space and roughly 5% of the total land area of the community. The street network is essential to connecting people to the community's amenities. Changes in technology and vehicle ownership are anticipated to reduce single occupant vehicle ownership resulting in lower parking demand and more available space in the public road right-of-way.

ADDRESSING INEQUITY

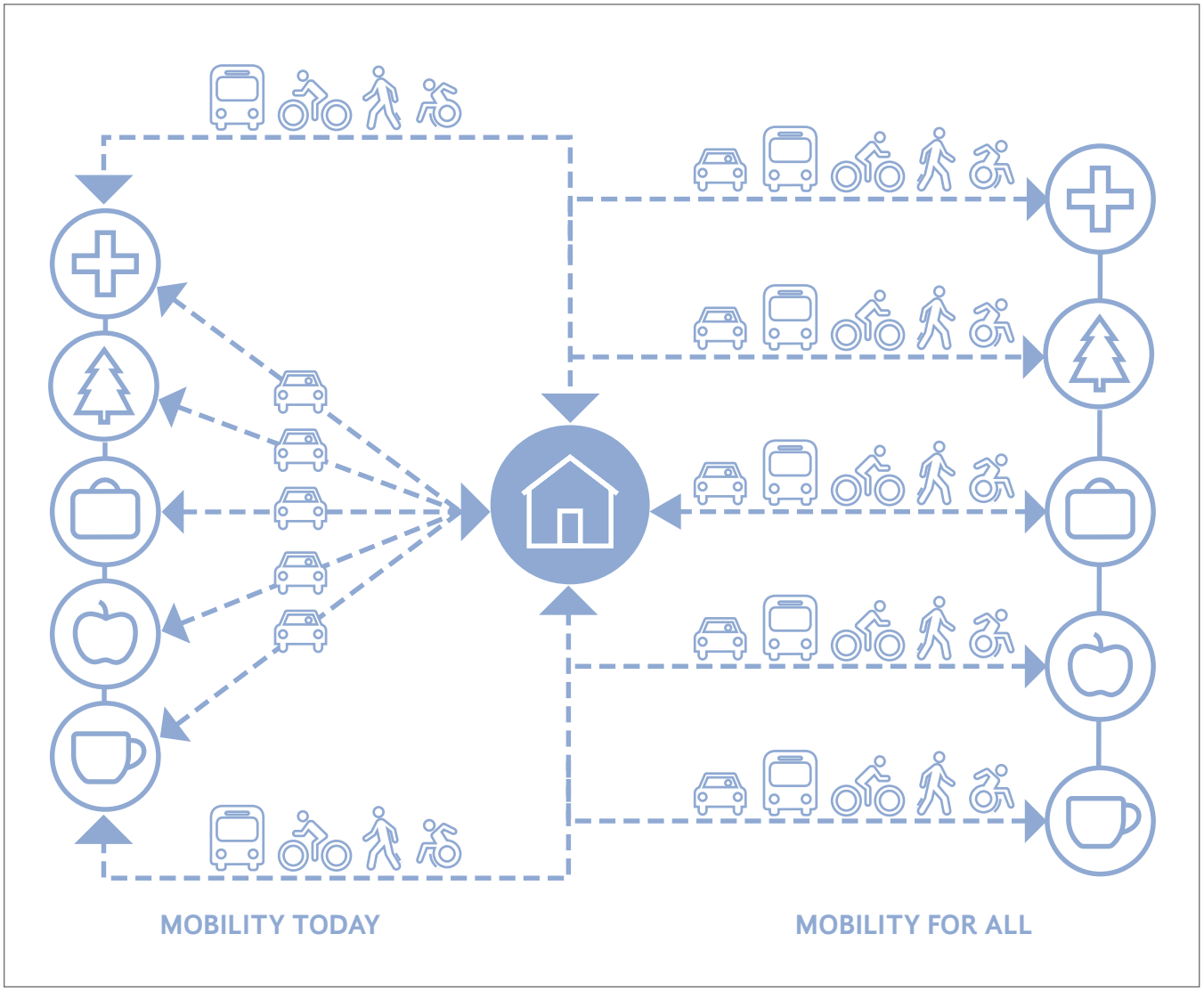
Equity in mobility speaks to providing safe, efficient, and affordable travel options for all ages and abilities. The conventional personally owned single occupant vehicle model predominantly serves citizens that can afford to, and choose to, operate a car. This also supports the planning and prioritization of car-centred transportation networks that attribute to higher household car ownership. As a result, limited transit service routes, service frequencies, and transit stop infrastructure coupled with a disconnected accessible pedestrian pathway network; contribute to low transit ridership. Disconnected and uncomfortable active transportation infrastructure leads to low use. Addressing inequity also focuses on providing options outside of areas of affluence.

THREE PILLARS TO BUILDING A BETTER COMMUNITY IN LAKE COUNTRY

MOBILITY FOR ALL

As transportation is a derived demand, meaning the use of transportation comes from a desire to access other services. Providing mobility to all is to provide more service options to all ages and abilities and tackle the barriers for users shifting modes. There is a portion of the population that wants to walk, bike, or take transit more, but are faced with challenges that make it inconvenient, perceived as unsafe, or are not accommodated at all. Understanding these barriers and creating policy to address them is necessary to expand mobility options.

The development of all ages and abilities (AAA) infrastructure aims to address many of these mobility shortfalls by making walking and cycling safe, convenient, comfortable, and enjoyable for everyone including families with children, seniors, and new users. Facility designs also aim to reduce conflicts, calm traffic, reduce speed limits, and minimize adverse road grades. AAA facilities encourage more people to walk and cycle and greatly improve the health and economic benefits of the surrounding community.



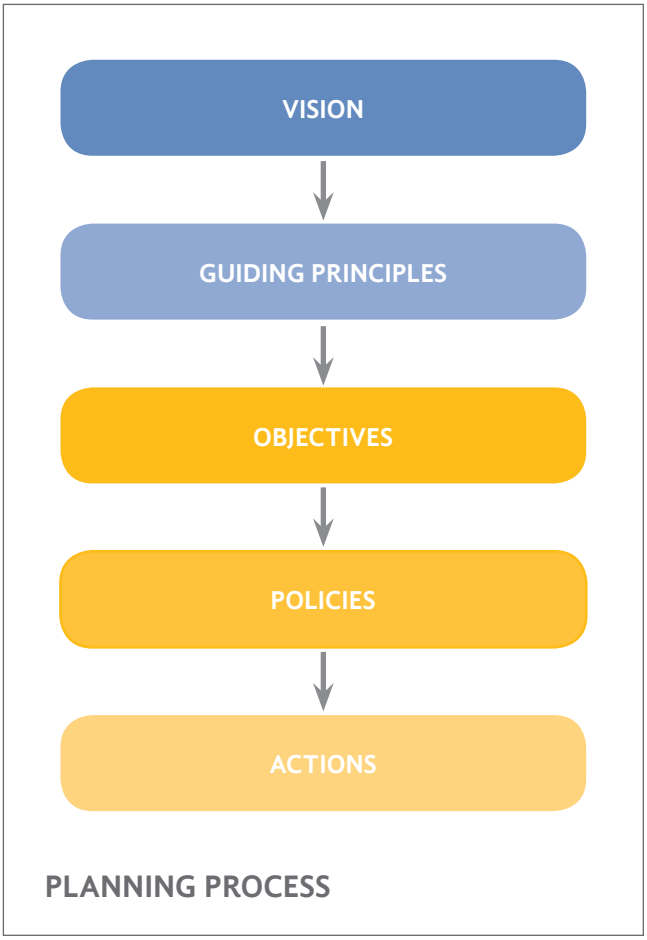
1.4 VISION, AIMS & GUIDING PRINCIPLES

The vision, aims, and guiding principles provide the overarching direction to garner the benefits of mobility in the context of the District of Lake Country. Mobility is a vital part of a greater whole regarding the type of community we create. We fashion our built environment through the land use planning strategies we employ, desirable architectural character, and quality of our parks, public amenities, and streetscapes.

The vision was developed in the Transportation for Tomorrow Plan and remains relevant as the District transitions to support improved mobility with an emphasis on the need for safe and comfortable options to travel.

DISTRICT OF LAKE COUNTRY'S VISION STATEMENT

"Getting around Lake Country in safe and enjoyable ways."



PLANNING PROCESS

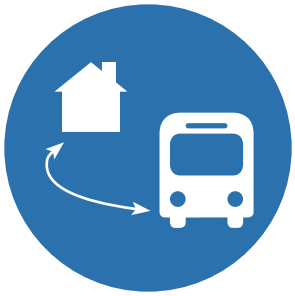
MOBILITY AIMS

The Mobility Master Plan is supported by four aims that establish the connection of mobility to the public, the community, economy, and environment. They are as follows:

1. To secure every person's right to mobility.
2. To build community through the creation of great spaces so people can connect, gather and interact.
3. To encourage economic activity through the efficient movement of goods and people and by creating spaces that people enjoy and want to visit.
4. To protect the environment by reducing harmful impacts from on automobiles.

GUIDING PRINCIPLES

The guiding principles ensure that the policies and actions are consistent with achieving the vision and aims.



IMPROVE CONVENIENCE OF ALTERNATIVE MODES

Convenience values the time of users of alternative modes by focusing 'last mile' connectivity, reliability, integration, and end of trip facilities.

CONNECT PEOPLE WITH PLACES

Refers to providing the necessary facilities to connect various user types between their origins and destinations. It applies to prioritizing connections as opposed to new routes. Priorities are for active transportation to connect neighbourhoods to schools and parks.

PROVIDE AFFORDABLE ALTERNATIVES TO SINGLE OCCUPANT VEHICLES

Affordability means to provide alternatives that are cheaper than owning a single occupant vehicle or dependence on other private vehicle owners for travel.

INFORM THE PUBLIC OF VARIOUS WAYS TO GET AROUND LAKE COUNTRY

Includes providing information on modes of travel through online resources for trip planning and wayfinding signage along routes.

INTEGRATE TRANSPORTATION MODES

Provide necessary facilities to connect transportation modes including pedestrian pathways to connect to transit stops and secure bike parking at transit hubs and trailheads.

CREATE A STRONG HEART FOR THE COMMUNITY

Build outward from the core to ensure development of a strong and multi-modal Town Centre.

PROMOTE AND ENHANCE ENJOYMENT

Focuses on developing a vibrant and livable community.

PROMOTE HEALTHY LIVING

Promote active living and connection with nature.

ENSURE SAFE AND COMFORTABLE ENVIRONMENTS FOR ALL USERS AND ABILITIES

Established through design, operations, and maintenance of facilities.

ENGAGE WITH COMMUNITY

Engagement with community members and partners on projects planning and needs.

1.5 EMERGING TRENDS IN MOBILITY

The state of mobility is ever changing and is affected by external political, social, and geographical factors. The Mobility Master Plan looks into these trends to anticipate where the greatest benefits can be made.

COVID-19 PANDEMIC

The COVID-19 pandemic has made some short-term changes to travel patterns that may influence how people travel in the mid to long-term. The effort by employers to equip employees to work from home may have lasting effects to make this practice more acceptable and easily implemented. Anecdotal information indicates that pedestrian and cycling activity have increased dramatically for both commuting and recreation. This includes an increase in bike ownership. Transit ridership is down, but is still a necessity for many. There is a risk that single occupant vehicle travel can increase, it is a crucial time to promote alternatives to the single occupant vehicle by investing in active transportation infrastructure, maintaining ability to work from home, and incorporating disincentives to single occupant vehicle travel. The pandemic has also reinforced the importance of public space and the need of people to connect with nature. As a result, many cities have reassigned portions of streets (such as on-street parking) or entire streets for use by pedestrians and cyclists only.

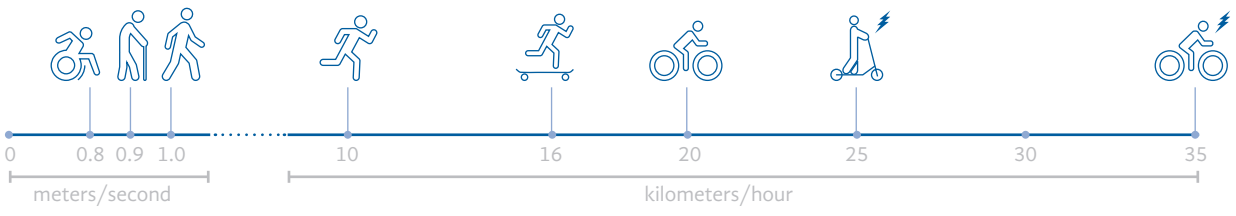
CLIMATE CHANGE

Climate change has major impacts on the transportation system and the environment in the region. More frequent storm events have required flood mitigation measures to transport infrastructure and wildfire smoke reduces the amount of active trips and recreation. Transportation is the largest contributor to greenhouse gas emissions in the region. Reducing motor vehicle dependence and supporting sustainable transportation modes such as walking, cycling, and transit.

TECHNOLOGY

Emerging technologies are transforming mobility opportunities by automating, connecting, sharing, and electrifying the transportation network. In some cases, the impacts of the technologies are not clearly known with various scenarios that can disrupt the way we travel, such as with connected and automated vehicles. Automated Vehicles are vehicles that are able to take over varying degrees of driving depending on the level of automation. It is not known what the impacts of these vehicle will be, but continuing to develop safe and efficient active transportation, recreational trails, and transit systems should still be prioritized.

E-scooters are now dominating the bike share market and competing for space with pedestrians and are soon expected to be relocated to bike facilities. This creates challenges with mixing users of a wide variety of operating speeds.



OPERATING SPEEDS

1.6 MOBILITY IN LAKE COUNTRY

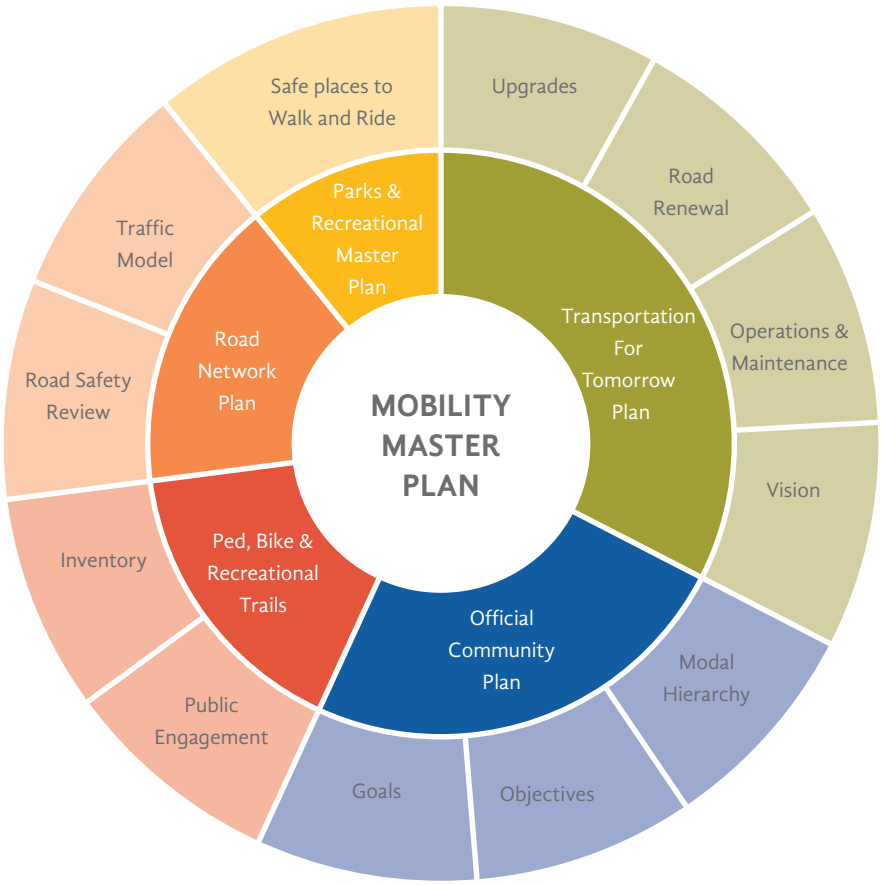
LAKE COUNTRY CONTEXT

The District of Lake Country provides an abundance of natural amenities and access to a variety of recreational activities to its 13,240 residents (2018). The mountainous topography and lakes provide key connections to nature and residents. The District's proximity and connectivity to Vernon and Kelowna allow residents of Lake Country to enjoy a rural lifestyle while still having access to the major amenities of larger urban centres.

The District's road and street network had historically been designed primarily to cater to motorized vehicles, with Highway 97 being the main north-south transportation corridor into the District. However, planning and programming initiatives since 2009 pushed for more active transportation with road renewal projects. These efforts and opportunities such as the Okanagan Rail Trail and Pelmewash Parkway have substantially grown pedestrian, cycling, and recreational trail-based infrastructure.

RELATED PLANS

The Mobility Master Plan is informed by several District of Lake Country Planning documents. The relation of these plans to the Mobility Master Plan are shown below.



OFFICIAL COMMUNITY PLAN

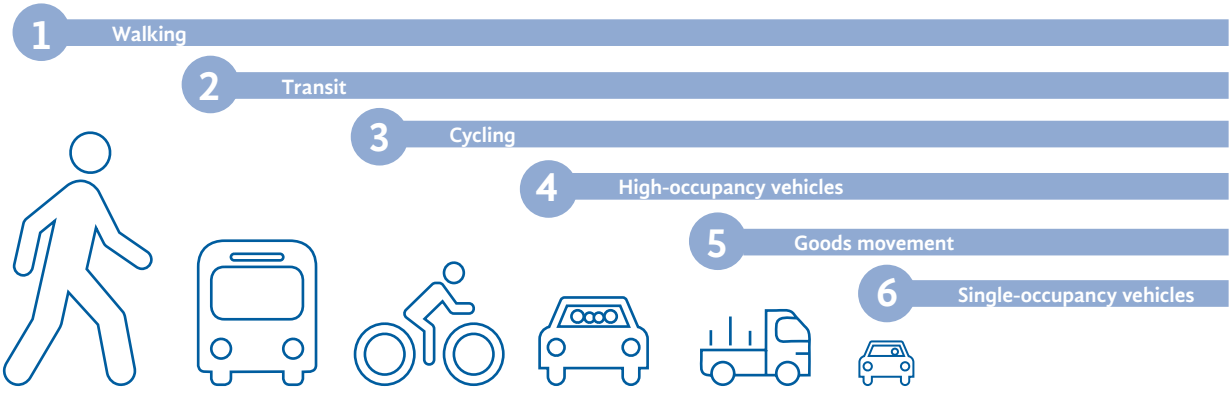
The Official Community Plan (OCP) update contains four unique transportation goals and ten objectives, each with their own policies, to guide the future transportation network. The modal hierarchy established in the OCP sets the foundation of Mobility Master Plan with the following descending order of priority: walking, transit, cycling, high-occupancy vehicles, goods movement and single-occupancy vehicles.

FOUR GOALS OF THE OCP

1. Create a multi-modal transportation network to provide a range of transportation options.
2. Provide a safe and efficient transportation network.
3. Minimize the environmental impact of the transportation network.
4. Reduce greenhouse gas emission from the District transportation network.

TEN OBJECTIVES OF THE OFFICIAL COMMUNITY PLAN

1. To achieve the District's Mode Share Targets, which support a safe and efficient transportation network, provide a range of transportation options and reduce greenhouse gas emissions from the transportation network.
2. Improve traffic flow and safety along the Highway 97 corridor and at highway crossing locations.
3. To improve the opportunities for expanding transportation demand management.
4. To enable the efficient delivery of goods to businesses in Lake Country.
5. To expand opportunities for electric vehicles and anticipate changing trends in mobility as a service.
6. To facilitate transitions of District 'roads' to urban 'streets' with new development.
7. Improve the safety, comfort and enjoyment of walking for residents of all ages and abilities.
8. Provide more attractive transit services including improved frequency and greater regional connections.
9. To improve the safety, comfort, and enjoyment of cycling for recreational and commuting purposes.
10. Establish a Road Network Plan based on the following functional road classifications: Arterial, Major Collector, Minor Collector, Town Centre and Local.



MODAL HIERARCHY

TRANSPORTATION FOR TOMORROW PLAN

The Transportation for Tomorrow Plan was paramount to beginning the evolution of fulfilling people's mobility needs versus transportation needs. It introduced aspects of road safety and active transportation as it set a new vision for transportation in the District. The Plan developed programming to address the road network's unfunded liability for operations and maintenance, renewals, and roadway improvements. The Mobility Master Plan continues and builds upon the vision and priorities for the District's transportation network.

ROAD NETWORK PLAN

The Road Network Plan provides an understanding of current and anticipated capacity and road safety improvement needs over a 20-year period. A network traffic model identifies the areas where capacity improvements will be needed based on future land use projections.

PARKS & RECREATION MASTER PLAN

The District has produced a draft of its Parks and Recreation Master Plan, which is the subsequent plan related to the trail network in Lake Country. The plan sets out the vision to maintain and improve the existing trails as well as provides a high level overview of the future of the recreational trails network. The plan promotes safe place to walk and ride bicycles, a major mobility outcome of the stakeholder engagement.

PEDESTRIAN, BIKE & RECREATIONAL TRAILS

In 2019, the District collected an inventory of pedestrian, bike, and recreational trails networks in the District. This information was used to present District progress and anticipated future progress for the networks through a community engagement process.

EXTERNAL PLANS

There are other planning initiatives in the region including the Regional Transportation Plan provides a unified vision and direction for the regional transportation system in the Central Okanagan.

The Ministry of Transportation and Infrastructure (MoTI) Highway 97 Lake Country Planning Study is investigating future transportation needs of Highway 97 between Duck Lake and Lodge Road in Lake Country. A major aspect of the study includes the Highway 97 & Glenmore Road / Beaver Lake Road intersection to produce alternatives for interim and long-term improvements including grade separation. In addition, a connection from the Kelowna Industrial Park to Highway 97 and Glenmore Road could shift this traffic away from District town centre streets. Long-term plans to transition Highway 97 into an 80 km/h controlled access arterial are counter to the objectives of this plan to improve mobility and safety across Highway 97. The District seeks to improve existing opportunities to cross Highway 97 rather than provide fewer crossing locations. The District has considered the increasing traffic volume along Highway 97 resulting in the planning for better connected parallel routes to reduce the demand on the Highway for internal trips. Working together with the Ministry will be key to continue to address the needs of the District and the Ministry with regards to Highway 97.

The 2018 Central Okanagan Transit Future Action Plan provides an update to the 2012 Plan and identifies five-year transit service and infrastructure priorities based on existing transit services, changing land use patterns and plans, and public and stakeholder feedback.

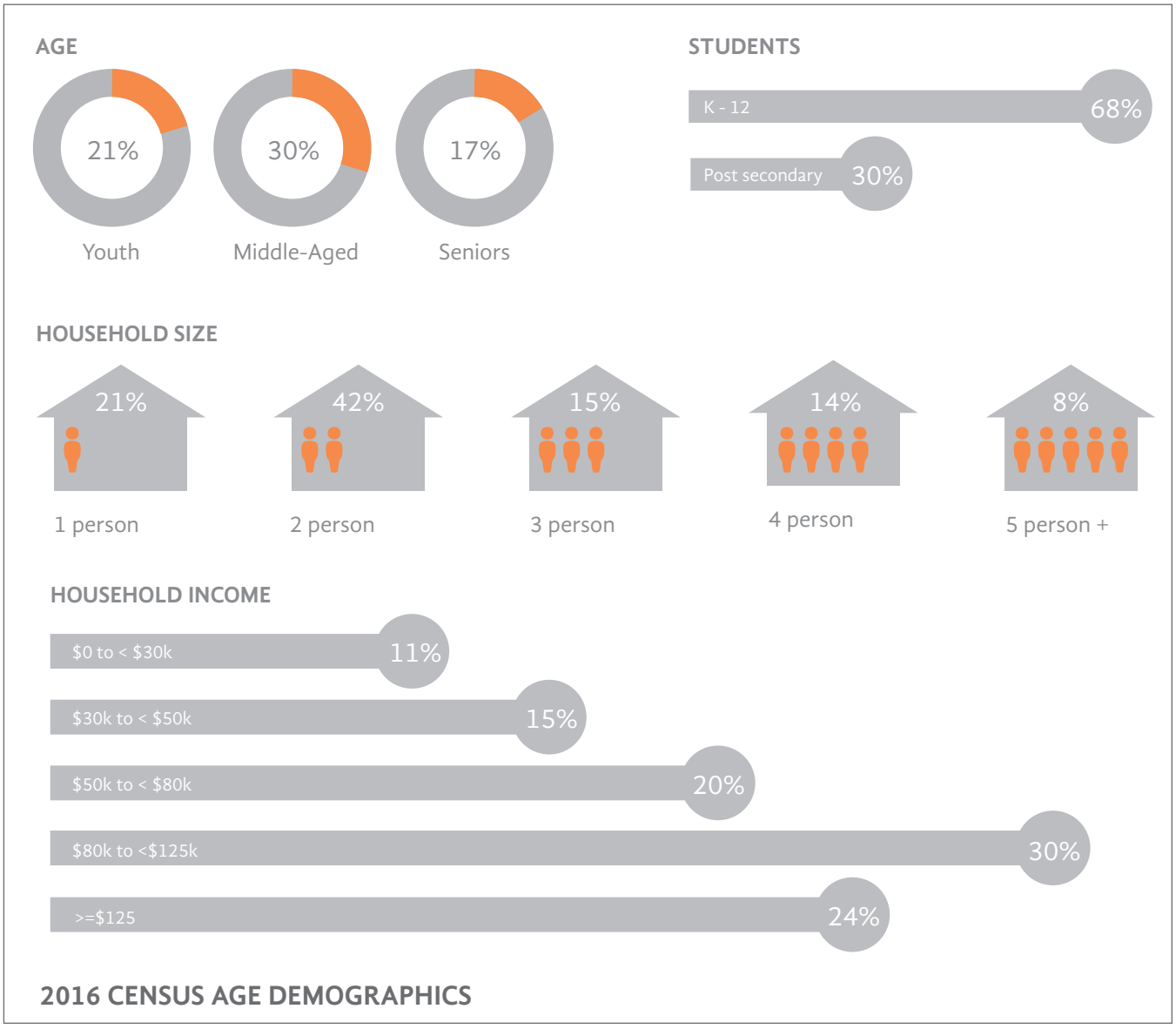
OKANAGAN TRAVEL SURVEY

The 2018 Okanagan Travel Survey provides statistics on how residents of the District of Lake Country and the Central Okanagan, as a whole. The dataset includes approximately 36,300 trips made by District of Lake Country residents from October 24th to December 21st in 2018. It is noted that the previous survey was conducted from September 23rd to November 30th. This has resulted in lower mode share likely due to poorer weather conditions in 2018 than 2013. Recreational trips in survey only capture travel to recreational destinations.

DEMOGRAPHICS

Lake Country's has a slightly younger population than the Regional District's average, with a median age of 44.7 years compared to 45.5 for the region.

Lake Country represents roughly 6,900 workers in the region and 4,200 jobs within the District for a ratio of 0.6 jobs to workers. Kelowna is a net attractor for workers and attracts 37% of all trip types from Lake Country.

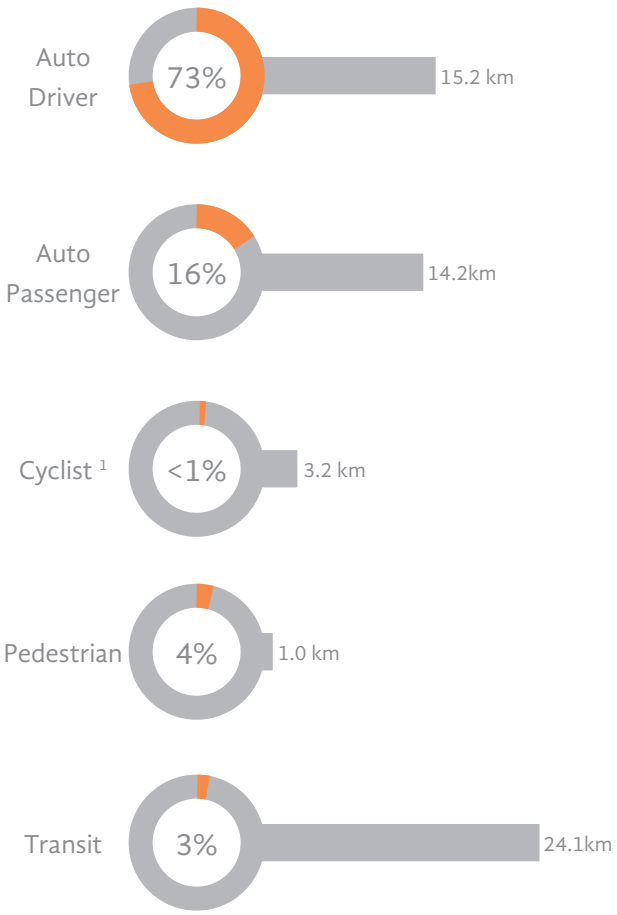


TRAVEL PATTERNS

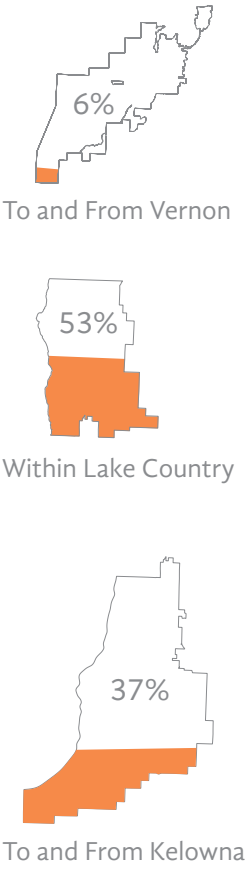
Over half of the daily trips from Lake Country residents occur within Lake Country. Over one third are made between Kelowna and about 6% between Vernon. Most trips, regardless of purpose, are local as both downtown Kelowna and Vernon, which are the closest cities, are at least 20 kilometres away.

Trips per household have been shrinking with shrinking household size. Trips per person have also been on a decline in the District of Lake Country and the region since 2007. The 2018 Okanagan Travel Survey equates this to an aging population, slow growth in the workforce, and changing travel habits that may be a result of internet services related to home entertainment, online retail, online banking, and so on. Overall, the number of households, persons (population), and total trips in the region have been increasing.

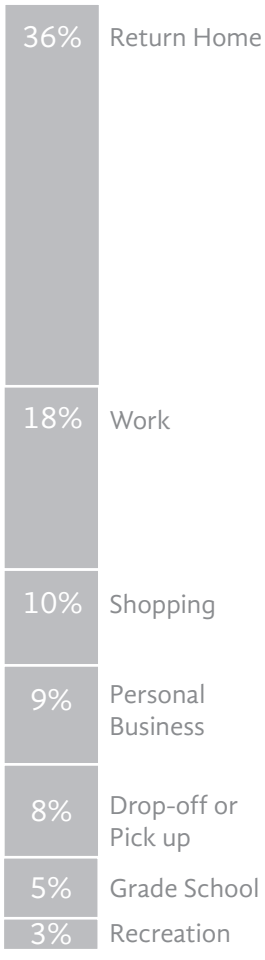
MODES OF TRAVEL & DAILY DISTANCES



DAILY DESTINATIONS



DAILY TRIP PURPOSE



2018 OKANAGAN TRAVEL SURVEY

[1] Low cycling percentage is likely due to weather conditions during survey period October 19 to December 21, 2018

2

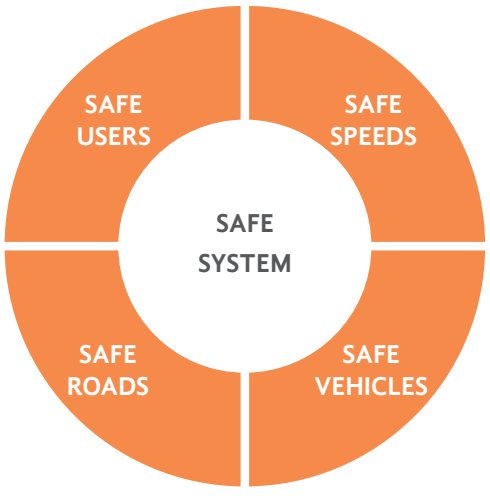
OVERARCHING POLICIES

The overarching policies provide the major themes that direct the transition to a mobility-focused transportation system.

2.1 NETWORK SAFETY

Fulfilling every person's right to safe mobility requires the provision of safe design of infrastructure and safe operating conditions. Vision Zero, a traffic safety policy developed in Sweden in 1997, seeks to eliminate serious injuries and fatalities from the road system by prioritizing the safe passage of our most vulnerable populations including those walking, cycling, or using assistive devices. This approach has been adopted by numerous governments around the world and in Canada.

The approach to eliminate serious injuries and fatalities from the road system follows the Safe Systems Approach. This acknowledges that people will make mistakes that can lead to collisions and that it is the responsibility of not only the driver, but also the system in which they operate. The Safe Systems approach focuses on safe speeds, safe roads, safe users, and safe vehicles. The District has the ability to directly influence safe speeds and safe roads within the District and support safe users with enforcement.



SAFE SYSTEMS APPROACH

Providing safe speeds is the central factor to reducing collision severity.

Research shows that a pedestrian struck at 30 km/h has a 90% chance of surviving however only a 10% chance when the vehicle is travelling at 65 km/h.

PEDESTRIAN FATALITIES

FEATURES OF SAFE ROADS

- Reduce operating speeds by using traffic calming methods such as narrowing roadways, reducing corner radii, and raising pedestrian crossings.
- Reduce conflicts by implementing measures such as roundabouts over signalized intersections, managing access on higher order roads, reducing driveway widths, and reducing pedestrian crossing distances.
- Temporally separate road user conflicts at signalized intersections with measures such as leading pedestrian intervals, protected left-turns, and restricting right turns on red signal.
- Physically separate road users with measures such as boulevards between roadway and pedestrian pathways, protected bike lanes, and off-street pathways.
- Enhance visibility of vulnerable road users with such measures such as street lighting, rapid rectangular flashing beacons at warranted crosswalks, and curb extensions.

CONTEXT

There were nearly 230 ICBC collision claims in Lake Country in 2018 (excluding parking-related claims) with 30% involving an injury or fatality. Half of the collisions occurred off of Highway 97 on the District's street network with about 20% involving an injury. Severity of injuries tend to be lower on District roads as operating speeds are lower than along Highway 97. The District's Traffic Calming and Road Safety Policy supports improving safety along the District's streets.

The District's Road Network Plan identifies major collision locations in the District of Lake Country and identifies counter measures to address those issues.

OBJECTIVE: "Eliminate the probability of serious injuries and fatalities on Lake Country's mobility network."

POLICY: Establish safe speeds for appropriate street contexts

ACTION: Amend Subdivision and Development Servicing Bylaw to ensure streets are designed to the desired operating speed.

POLICY: Prioritize safe passage of pedestrians and cyclists in all street designs

ACTION: Establish pedestrian pathway program to add new pedestrian pathways and multi-use pathways to existing roads.

ACTION: Develop program to provide adequate illumination at marked pedestrian crossings and

POLICY: Reduce user conflicts

ACTION: Where signals are warranted, pursue roundabouts as the first intersection design option for their major safety benefits.

ACTION: Where roundabouts cannot be provided, implement signal technologies such as leading pedestrian intervals and pedestrian countdown timers to enhance pedestrian safety.

ACTION: Limit direct access to arterial and major collector streets.

2.2 LAND USE & MOBILITY

Land use and mobility are directly linked. Land use creates the demand for travel, influencing travel patterns. More sustainable transportation modes (i.e. pedestrians, bikes, and transit) are more desirable in mixed-use neighbourhoods. The farther the distance between destinations, the more likely people will travel by private vehicle.

CONTEXT

Lake Country's past settlement has been largely rural with growth primarily in the communities of Winfield, Oyama, Carr's Landing, and Okanagan Centre. New growth has shifted to neighbourhood developments. The District has established to encourage growth in the existing developed areas and manage costs of servicing outlying areas.

The District's population is expected to grow by 45% of 2016 levels by 2040 to 18,800 people. The densification of neighbourhoods and connectivity by alternative modes between them and amenities is critical to managing future traffic growth.

OBJECTIVES: "Ensure complimentary and inclusive land use and mobility network planning."

POLICY: Connect active modes between land uses

ACTION: Ensure direct pedestrian and cycling connection between neighbourhoods, schools, recreation centres, trail heads, and commercial centres.

ACTION: Connect pedestrian pathways with trails to bolster recreation network and better connect with nature.

POLICY: Promote eco-tourism with District's major trail amenities

ACTION: Support economic development along waterfront multi-use trails Okanagan Rail Trail and Pelmewash Parkway at key locations, such as near the intersection of Pelmewash Parkway and Oyama Road.

ACTION: Connect wineries with active facilities and route maps.

POLICY: Pedestrian-oriented site design measures

ACTION: Amend Zoning Bylaw to support pedestrian travel with street facing commercial buildings and pedestrian oriented parking lot design.

ACTIVE TRANSPORTATION TO SCHOOL

LAKE COUNTRY MAIN STREET

Photo Credit: Lake Country Chamber of Commerce

URBAN CONTAINMENT

CYCLING WINERY TOUR

Photo Credit: Global Mail, 2019

2.3 STREET VS ROADS

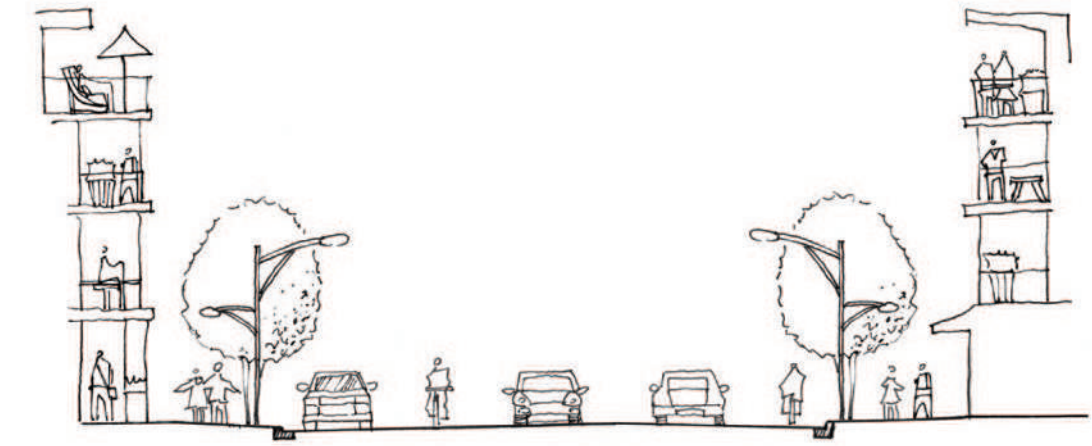
The terms 'roads' is often thought of as car-oriented infrastructure. The term 'streets' refers to a broader use with pedestrian pathways, cycling infrastructure, street furniture, transit stops, fronting businesses, residential dwellings, schools, and so on. The more of these features, the more complete the street. Streets are the pinnacle of connecting places and spaces, accommodating all types of users, and providing mobility to all.

Streets and roads are both needed to serve varying purposes and needs whether they are town centre streets, residential streets, or agricultural roads and whether they have various fronting public institutions and amenities such as schools or the waterfront.

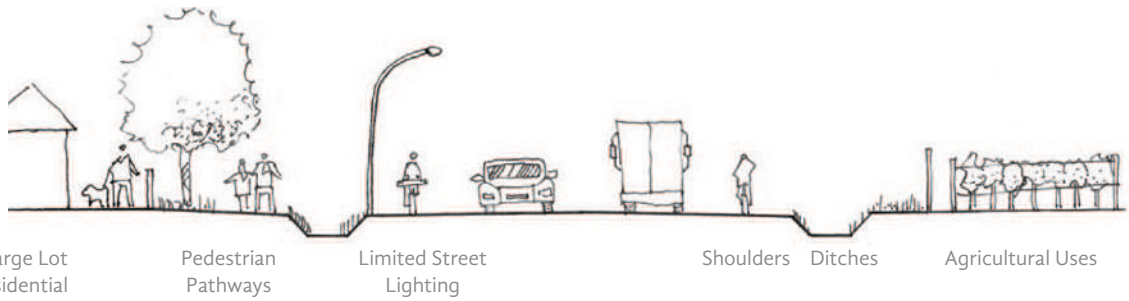
Roads generally supports travel with limited access and low-density land use; and a street provides higher access and supports the public realm. As land uses change from rural large lot to denser single-family, multi-family, commercial, and industrial; the needs of the road users change.

The mixture of streets and roads is loosely referred to as 'stroads' where elements of both are integrated. Stroads do not provide good form and function and should be avoided.

STREET



ROAD



STREETS VERSUS ROADS

CONTEXT

The District of Lake Country has 202 kilometres of roadway servicing a wide range of uses including:

- Major routes connecting to/from Highway 97
- Internal connections
- Town centre streets
- Lakeside roads
- Rural residential neighbourhood roads
- Rural large-lot residential and ALR roads
- Urban residential streets
- Hillside roads
- Connections to forest service roads
- Industrial roads

As the District grows, the needs of streets will expand. Streets will largely develop within the Urban Containment Boundary.

OBJECTIVE: "Update key roads to streets in the District to meet mobility needs of users and enhance public realm."

POLICY: Build complete streets

ACTION: Prioritize the creation of Complete Streets. Prioritize especially along Main Street, Bottom Wood Lake Road, Woodsdale Road, Oyama Road, and other relevant corridors.

POLICY: Ensure street designs support adjacent land use

ACTION: Develop a program to provide street furniture such as benches, waste receptacles, and bike parking fronting commercial developments, multi-family residential, and major multi-use trails.

POLICY: Prioritize walking, cycling, and transit when allocating road right-of-way

ACTION: Prioritize allocation of right-of-way to alternate modes of additional vehicle lanes and on-street parking.

POLICY: Incorporate public space

ACTION: Provide space for gathering in strategic areas.

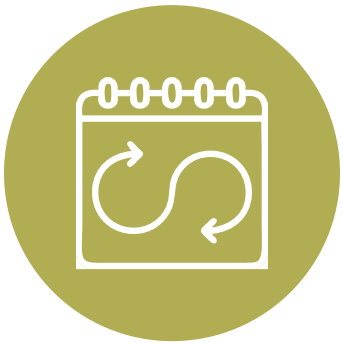
2.4 TRAVEL DEMAND MANAGEMENT

Travel demand management refers to a broad range of policies and programs that aim to reduce peak hour traffic congestion by providing incentives/disincentives, education, and marketing tools to influence travel behaviours. Travel by more sustainable modes can provide benefits to the environment, personal health and well-being, and financial savings.

Success in travel demand management strategies typically come from pilots and programs to promote alternative modes of travel.

METHODS

WORKING FROM HOME



FLEXIBLE WORK SCHEDULES

ACTIVE TRANSPORTATION

TRAVELLING BY TRANSIT

CARPOOLING & RIDE-SHARING

CAR SHARE

STRATEGIES USED IN CENTRAL OKANAGAN AND LAKE COUNTRY

BIKE & WALK TO WORK WEEK
Photo credit: Kelowna Now, 2019

An annual cycling commute week with celebration stations providing prizes, refreshments, and free tune-ups. Intent is to get people cycling to get overcome personal barriers.

CLEAN AIR & SAFE ROUTES TO SCHOOLS
Credit: Regional District of Central Okanagan

A School Travel Plan and implementation plan to reduce vehicle traffic and increase active transportation trips for students .

BIKE & WALK TO SCHOOL WEEK
Photo credit: Cranbrook Daily Townsman, 2019

An annual event to encourage students and their families to commute by active transportation to school.

PRO PASS
Photo credit: BC Transit, Kamloops

Discounted transit pass program for workplaces.

BIKE RODEOS
Photo credit: City of Kelowna

Providing cycling education and safety training each spring at schools throughout the Central Okanagan.

BUS BIKE RACKS
Photo credit: Safe Trips

All buses in the Kelowna Regional Transit system are equipped with bicycle racks to carry up to two bicycles.

CONTEXT

The District of Lake Country has established policy in the OCP to deprioritize single-occupant vehicle use. There are also various contexts in the District to mitigate motor vehicle use by providing alternatives and incentives. These contexts include school peak hour drop-off / pick-up and parking demand in recreational areas. A supporting mobility network and TDM programs can reduce the demand of motor vehicle travel and parking on District infrastructure.

The District invests in TDM programs with its partner communities in the Central Okanagan. The best way the District can promote TDM programs is to lead by example and share the activities through social media.

On the infrastructure side, gaps exist in modal networks and where modes integrate. Last mile trips for transit can be some of the most challenging when gaps between bike/vehicle parking exist near bus stops or pedestrian pathway and bike lane connections between stops and origins/destinations.

Emerging technologies such as e-scooters may provide good last mile integration in the future. Pilot programs in larger centres have seen success and are shifting their focus to move these vehicles to only multi-use trails and bike lanes. Due to the District's small population and low density, it might be infeasible for companies to launch a stand-alone E-scooter program the Town Centre and Wood Lake Loop would be preferable operating locations.

ACTIVE TRANSPORTATION CONNECTIONS
Photo Credit: Province of B.C.

OBJECTIVE: "Promote programs and infrastructure to shift travel to sustainable alternatives on the District's mobility network."

POLICY: Consider the role of free parking in the District and its impacts on car ownership

ACTION: Hold community discussions around free parking and car ownership.

POLICY: Lead TDM initiatives by example

ACTION: Develop, promote, and adopt employer-based TDM programs including:

- Telecommuting options for staff.
- Employee paid parking with financial incentives for travelling by more sustainable modes such as monthly allowance that would otherwise support some parking costs, allow purchase of a transit pass, or be used how employees see fit.
- Secure employee bike parking.

ACTION: Target teenagers and young adults to adopt more sustainable modes of travel.

POLICY: Support and encourage mobility trends that support reduction in single occupant vehicles

ACTION: Promote use of E-Bikes (and other electric mobility devices).

ACTION: Provide favourable parking spaces reserved to carshare vehicles in the core area close to mixed-use developments and access to transit.

POLICY: Integrate travel modes with a hub in the Town Centre

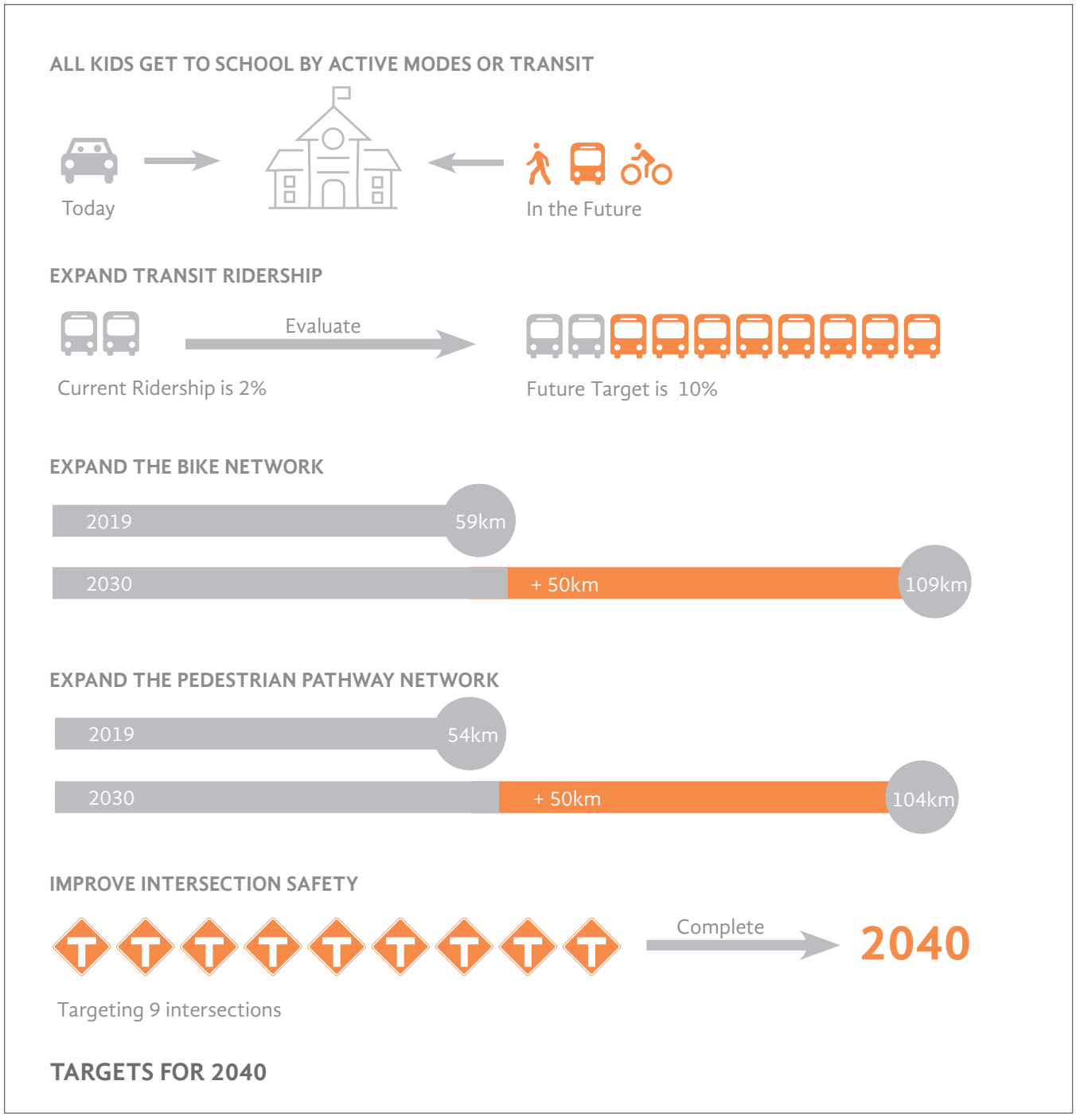
ACTION: Determine a location in the Town Centre to establish a mobility hub with provisions for bike parking, park & ride facility, connectivity to pedestrian and cycling infrastructure, and shared mobility (carshare, pick-up / drop-off, taxi).

3

MODAL POLICIES

The modal policies section builds upon the overarching policies to provide detail directions for each mode of travel.

3.1 MOBILITY TARGETS



3.2 PEDESTRIANS

Everyone is a pedestrian at some point in their trip. Motorists, transit users, and cyclists are all pedestrians at the beginning and end of their trips. Pedestrians include people walking and wheeling and represent the most basic form of travel. People's ability to walk and wheel varies depending upon a wide-variety around age, capability, and impairments. Pedestrians include people walking, running, standing, pushing strollers, dismounted cyclists, users of mobility assistance devices (wheelchairs, mobility scooters, walkers, canes, crutches), and other modes of low speed human propulsion such as skateboards. This wide-range of needs illustrates the need to develop pedestrian facilities for all ages and abilities.

Satisfying pedestrian travel meets nearly all of the guiding principles of this document including better connecting people with places, integrate transportation modes, provide affordable alternatives, ensure safety and comfortable environments for all users and abilities, promote healthy living and promote and enhance enjoyment.

Pedestrian travel is generally effective for 400-metre (5-minute) to 800-metre (10-minute) trips. These distances are considered walkable.

UNIVERSAL DESIGN

CONTEXT

In 2019, the pedestrian network in the District of Lake Country had built about 54 kilometres of pedestrian pathways (on one or both sides of the road) covering about 25% of the mobility network. In addition, the District had 37 kilometres of multi-use pathway. This network is continuously growing with District projects and frontage improvements from new developments.

There are many barriers and opportunities to increase pedestrian activity in Lake Country. The 2019 Pedestrian, Bike, and Recreational Trails Public Survey identified the following barriers and opportunities for the pedestrian network:

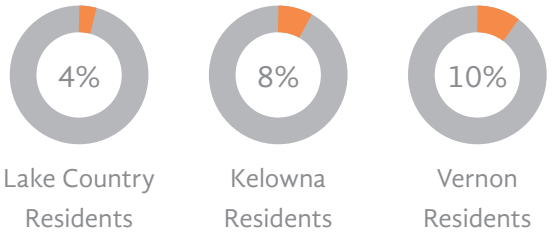
BARRIERS: What limits pedestrian activity?

- Limited infrastructure
- Speed of adjacent motor vehicles
- Safety concerns
- Limited connectivity
- Highway 97 intersections

OPPORTUNITIES: What would address the barriers?

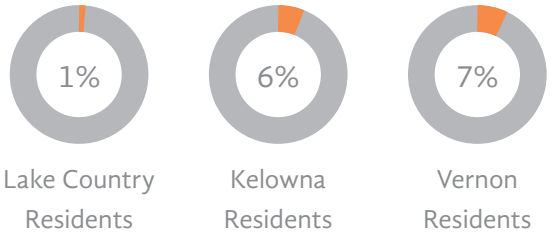
- Addressing gaps in the pedestrian network
- Add more pedestrian pathways
- Improvements to existing pathways

WALK AS PRIMARY MODE OF TRANSPORTATION

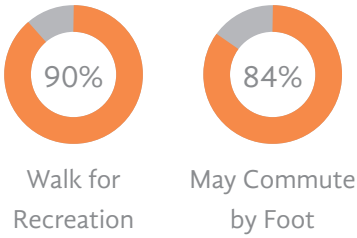


AVERAGE GOOGLE DISTANCE BY FOOT IN KM

WALK TO WORK



LAKE COUNTRY RESIDENTS IN A YEAR [2]



PEDESTRIAN STATISTICS FROM 2018 OKANAGAN TRAVEL SURVEY [1]

[1] 2018 Okanagan Travel survey is limited to the surveyed data of travel
[2] Data from 2019 Pedestrian, Bike and Recreational Trail survey

OBJECTIVE: "Create safe and comfortable pedestrian connections that meet the needs of users of all ages and abilities"

POLICY: Improve pedestrian safety and mobility along District streets

ACTION: Amend Subdivision and Development Servicing Bylaw to include pedestrian pathways on both sides of all streets in locations that are within 800 metres of schools, seniors' homes, community facilities, parks and recreation sites, shopping centres, and health institutions.

ACTION: Amend Subdivision and Development Servicing Bylaw to include boulevards on high volume roads located between the back of curb and pedestrian pathway. This provides improved safety and comfort along with improving the streetscape aesthetic with street trees, landscaping, and so on. This will also allow more accessible curb letdowns and pedestrian pathways by allowing less interruption to pedestrian pathway level and longer grades at letdowns.

ACTION: Amend the Subdivision and Development Servicing Bylaw to ensure that continuous pedestrian pathways are provided on the same side of the road where only one-sided pedestrian pathways can be provided. On collector roads, one-sided pedestrian pathways should be a minimum of 2.0 metres wide, in these instances. Pedestrian pathway connections should still be provided on the opposing side of the road if they are needed to connect to a transit stop.

ACTION: Provide appropriate street lighting on road upgrade projects and development frontage improvements that consider the environment, night sky friendly policies, and vulnerable users.

ACTION: Enhance wayfinding by developing a District wayfinding program to provide information along multi-use pathways, tourist routes, and in the Town Centre area.

POLICY: Connect pedestrians with key destinations

ACTION: Connect gaps in the pedestrian pathway network from the core area outward.

ACTION: Focus on creating connections in pedestrian network.

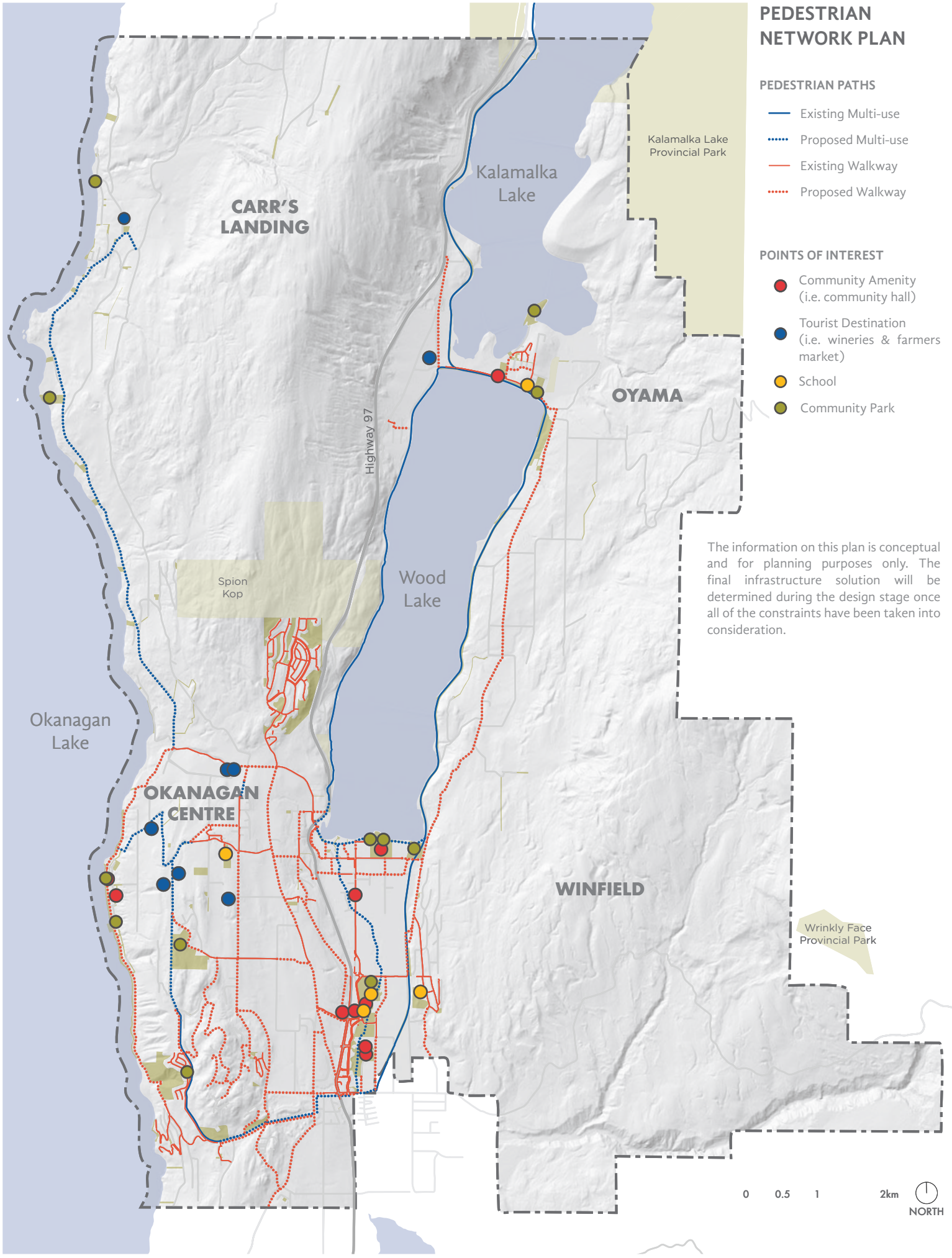
POLICY: Coordinate with the Ministry of Transportation and Infrastructure to improve accommodation and safety of pedestrian connections across Highway 97.

ACTION: Develop program to identify and improve accessibility of curb letdowns in strategic areas.

ACTION: Provide signal improvements such as pedestrian countdown timers and accessible signals.

ACTION: Provide grade separated pedestrian crossing at Oceola Road.

ACTION: Provide multi-use pathway connection over future Glenmore Interchange.


PEDESTRIAN NETWORK PLAN
PEDESTRIAN PATHS
Existing Multi-use
Proposed Multi-use
Existing Walkway
Proposed Walkway
POINTS OF INTEREST
Community Amenity (i.e. community hall)
Tourist Destination (i.e. wineries & farmers market)
School
Community Park
The information on this plan is conceptual and for planning purposes only. The final infrastructure solution will be determined during the design stage once all of the constraints have been taken into consideration.
CARR'S LANDING
Kalamalka Lake
Kalamalka Lake Provincial Park
OYAMA
Highway 97
Spion Kop
Wood Lake
Okanagan Lake
OKANAGAN CENTRE
WINFIELD
Wrinkly Face Provincial Park
0 0.5 1 2km
NORTH

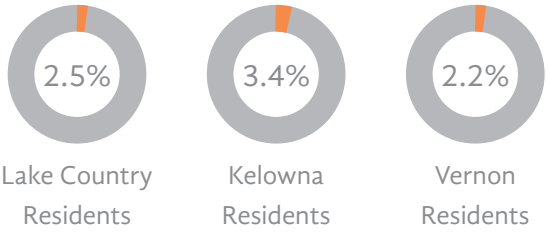
3.3 TRANSIT

Transit is a sustainable and affordable alternative to car ownership. It is reliant on pedestrian infrastructure and supporting facilities such as benches, lighting, shelters, schedules, and waste receptacles. Transit is further bolstered by integrating with other modes and providing supporting programs such as connecting bike facilities, bike parking, bike racks on buses, park & ride facilities, and various travel demand management (TDM) measures such as employer provided transit passes.

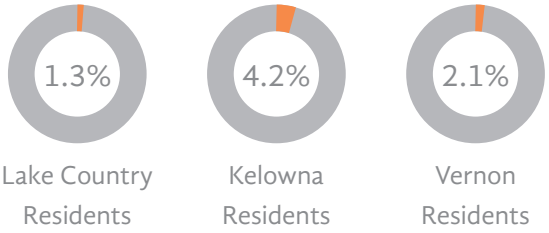
CONTEXT

The District of Lake Country's transit service part of the Kelowna Regional Transit System. This system is cost shared by the District, the surrounding municipal governments, and BC Transit. The District continues to work with its partners to expand service and focuses on their infrastructure for accessing transit.

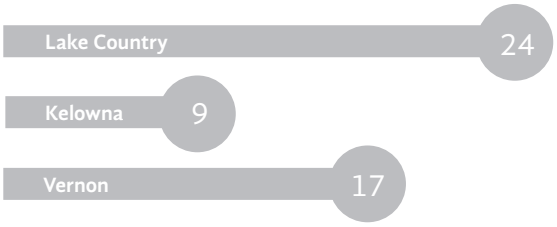
TRANSIT PRIMARY MODE OF TRANSPORTATION



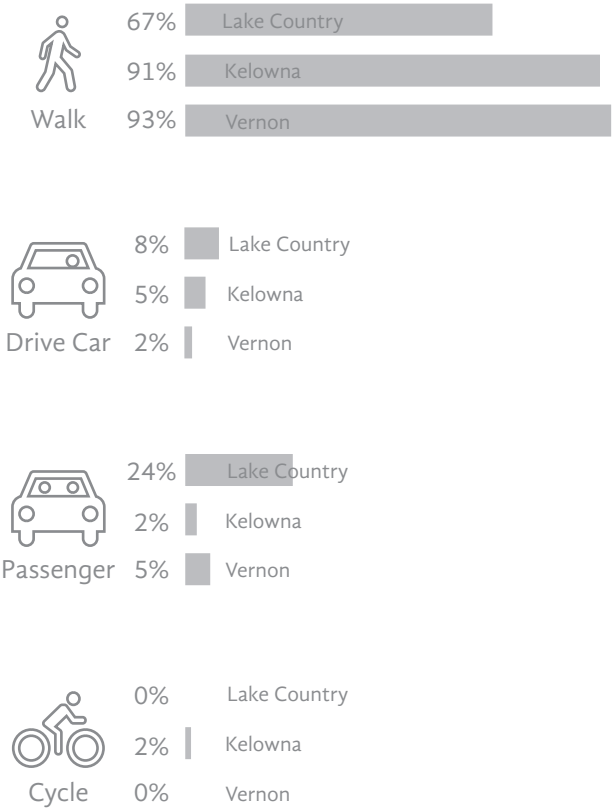
TAKE TRANSIT TO WORK



AVERAGE GOOGLE DISTANCE BY TRANSIT IN KM



TRANSIT ACCESS MODES



TRANSIT STATISTICS FROM 2018 OKANAGAN SURVEY [1]

[1] 2018 Okanagan Travel Survey is limited to the surveyed data of travel

OBJECTIVE: "Enhance transit by optimizing service, improving access to transit stops, creating connections to places, and integrating transit with other modes."

POLICY: Improve pedestrian accessibility to/from transit on District streets

ACTION: Ensure pedestrian pathway connectivity to bus stops and street crossing provisions (as necessary) prioritizing locations with higher daily boardings and alightings.

ACTION: Coordinate with BC Transit to enhance accessibility of bus stops to upgrade the most utilized bus stops to include the following passenger amenities:

- Bus stop pole and strip sign
- Lighting
- Passenger landing pad
- Wheelchair pad
- Curb ramp
- Seating
- Shelter, where warranted

Priority improvements include:

- Northbound Oceola Road at Pretty Road (103685) add shelter and lighting.
- Westbound Woodsdale Road at Bottom Wood Lake Road (103685) add shelter and lighting.
- Southbound Okanagan Centre Road E at Davidson Rd (103652) add a pedestrian pathway to west side of Okanagan Centre Road E
- Northbound Lodge Road at Sherman Drive (103676) add a pedestrian pathway to east side to connect to Sherman Drive.

POLICY: Improve service and reduce average time of transit trips

ACTION: Promote extension of RapidBus to Lake Country with stops at District mobility hub.

ACTION: Link District service routes with mobility hub to improve connectivity to Town Centre and future RapidBus

3.4 BIKES

Bikes are growing in popularity in the North America with a positive switch in cycling culture and efforts to make cycling safer, more comfortable, and more enjoyable. Bikes and bike infrastructure provide a number of personal and community benefits including:

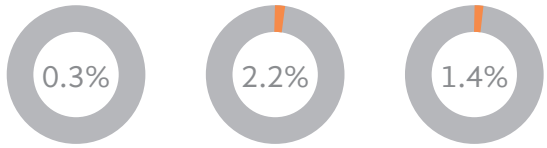
- Health benefits from physical activity including reducing depression, heart disease, obesity, diabetes, osteoporosis, and high-blood pressure.
- An effective means of travel for short to medium-length trips typically ranging 5 km in 20 minutes.
- An affordable way to get around costing as little as $150 per year compared to the cost of owning and operating a vehicle, around $7,000 per year.
- A sustainable alternative to motorized travel to help reduce community-wide greenhouse gas emissions to 80% below 2007 levels by 2050.
- Economic benefits to local bicycle retail and maintenance, increased retail sales along protected bike lanes, and increased property values along trails.

TRENDS IN CYCLING

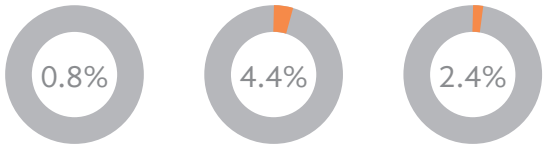
Cycling trends that have an impact on bike infrastructure and planning are discussed below. The development of all ages and abilities (AAA) bike infrastructure leads to more cycling. These facilities typically include off-street pathways, protected bike lanes, and local street (neighbourhood) bikeways. AAA cycling facilities are restricted to more accessible grades limiting much of the District's hillside street network. As such, focusing AAA facilities in the core area will see the largest benefit to a wider range of user abilities.

Electric bikes (E-Bikes) are two- or three-wheeled cycles powered by an electric motor. In British Columbia, legal E-Bikes are limited to a 500 watt electric motor, have bicycle pedals, and are limited to a top speed of 32 km/h without pedalling. Riders must also be at least 16 years of age. E-Bikes provide improved mobility to cyclists, including those with impairments. They also provide a technological solution to traversing bike facilities on steep grades. Trends are showing that E-Bikes are replacing car commuter trips.

BIKE AS A PRIMARY MODE OF TRANSPORTATION

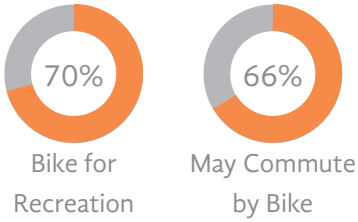


CYCLE TO WORK



AVERAGE GOOGLE DISTANCE BY BIKE IN KM

LAKE COUNTRY RESIDENTS IN A YEAR [2]



BIKE STATISTICS FROM 2018 OKANAGAN TRAVEL SURVEY [1]

[1] 2018 Okanagan Travel survey is limited to the surveyed data of travel
[2] Data from 2019 Pedestrian, Bike and Recreational Trail survey

Bike share was leading many active transportation initiatives in many Canadian and U.S. cities. These included both pedal bikes and E-Bikes. Electric scooters have taken over as a cheaper mobility device to for providers to operate and maintain. While many communities reported higher electric scooter use than bike or e-bike share, more scooters were made available. City's like Kelowna, Calgary, Edmonton (and numerous U.S. cities) saw private provided bike share replaced with e-scooters.

CONTEXT

As of 2019, the bike network was approximately 59 km in length and comprised of on-street bike facilities and multi-use pathways. On-street bike facilities made up about 10% of the mobility network. And continues to grow. Prior to 2009, bike facilities were largely non-existent. The District has since made strides to develop the network and interconnect with major multi-use pathways. The District has seen significant increases in bike travel with an increasingly connected network.

BARRIERS: What limits people's cycling activity?

- Safety concerns
- Limited connectivity
- Speed of adjacent motor vehicles
- Highway 97 intersections

OPPORTUNITIES: What would address the barriers?

- Addressing gaps in the bike network
- Add more bike lanes
- Improvements to existing bike lanes (separate users on higher volume roads and improve

OBJECTIVE: "Create safe and comfortable bike connections supported by end of trip facilities that meet the needs of users of all ages and abilities."

POLICY: Connect the bike network

ACTION: Provide buffered bike lanes and multi-use pathway along arterial streets (i.e. Glenmore Road).

ACTION: Improve cycling facilities along Main Street to create connections for shopping trips by bike.

POLICY: Coordinate with the Ministry of Transportation and Infrastructure to improve accommodation and safety of cycling connections across Highway 97.

ACTION: Provide bike lane approaches to signalized highway intersections.

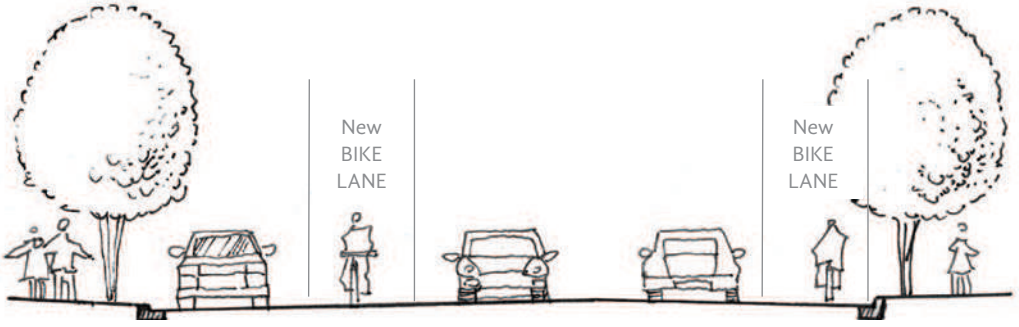
ACTION: Provide bike detection at highway intersection approaches.

POLICY: Make cycling convenient

ACTION: Amend Zoning Bylaw to increase bike parking requirements and end-of-trip facilities. Basis of review would look into neighbouring jurisdictions and best practices.

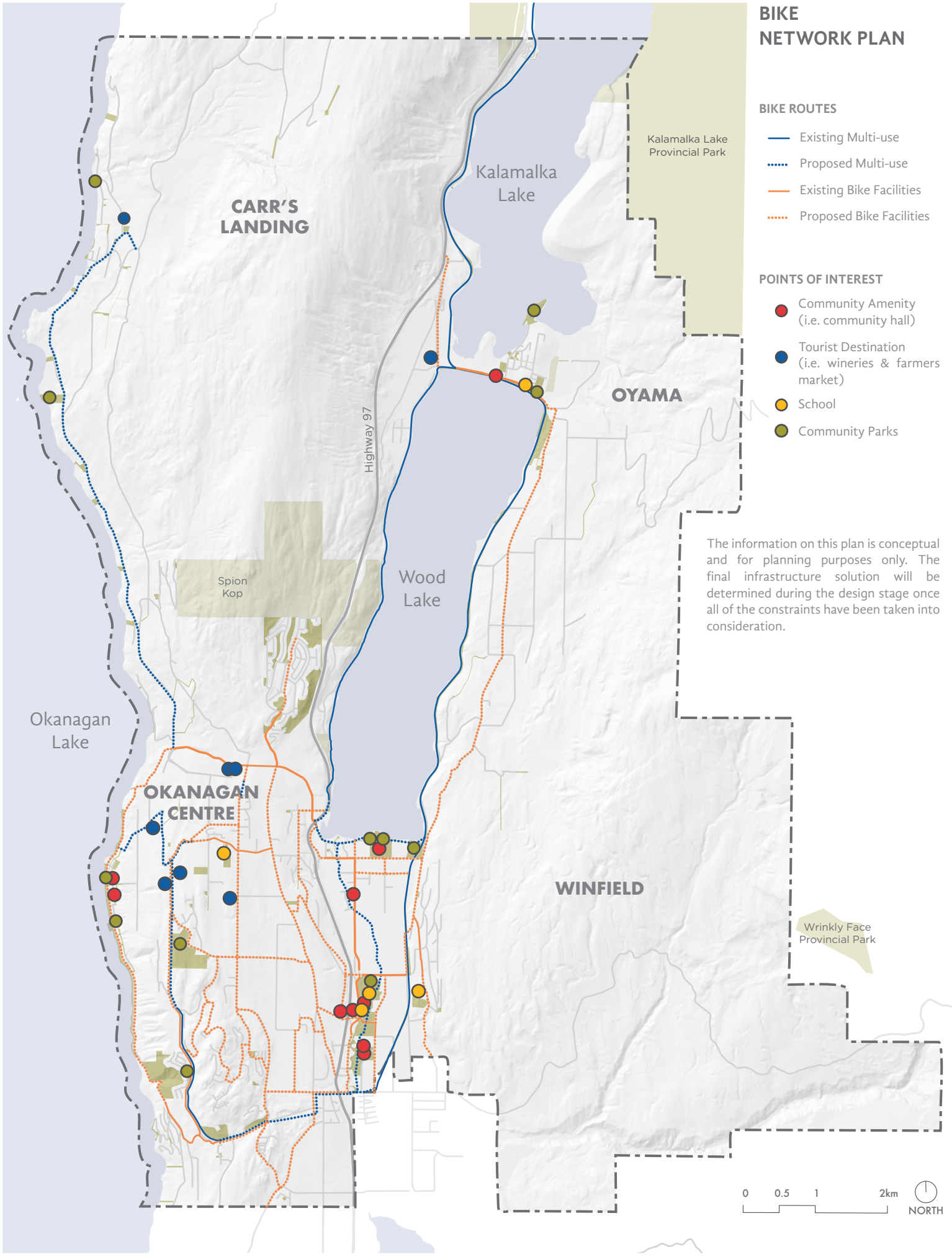
ACTION: Establish program to provide bike parking at District facilities, parks, and streets.

ACTION: Amend Subdivision and Development Servicing Bylaw to include requirement for bike tire channels on staircases.



Transition to separated bike lanes along Main Street. Phase 1 would restrict parking on one side of Main Street to provide buffered bike lanes. Phase 2 (long-term) could eliminate parking along Main Street. These measures would remove turning lanes from all-way stop approaches on Main Street and require some adjustments to curb extensions.

BIKE LANES ON MAIN STREET


BIKE NETWORK PLAN
BIKE ROUTES
Existing Multi-use
Proposed Multi-use
Existing Bike Facilities
Proposed Bike Facilities
POINTS OF INTEREST
Community Amenity (i.e. community hall)
Tourist Destination (i.e. wineries & farmers market)
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Community Parks
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Kalamalka Lake Provincial Park
OYAMA
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Spion Kop
Wood Lake
Okanagan Lake
OKANAGAN CENTRE
WINFIELD
Wrinkly Face Provincial Park
0
0.5
1
2km
NORTH

3.5 RECREATIONAL TRAILS

Demand for recreational trails in North America has never been greater as they provide numerous benefits and support a wide range of users and activities.

Benefits:

- Human well-being (mental, physical, and social);
- Connecting people with nature;
- Building strong communities and relationships;
- Provide economic benefits by investing in recreation

Users:

- Walkers / hikers;
- Joggers / trail runners;
- Cyclists (recreational, commuting, mountain);
- Mobility aided (wheel chairs, scooters, strollers);
- In-line skaters;
- Cross country skiers / snowshoers;

In addition, they meet many of the guiding principles of this Plan including connecting people with places, integrating transportation modes (i.e. trail heads), promote healthy living, and promote and enhance enjoyment.

Many recreational trails can also link neighbourhoods and land use satisfying both recreational and utilitarian pedestrian and bike trips. The surrounding pedestrian and bike network, also bolster the connectivity of the Recreational Trails network.

CONTEXT

As of 2019, the recreational trails network was made up of 156 km of major trails (24%), standard trails (13%), and nature trails (65%). Most of these trails are located within the District's parks system, however some fall under the responsibility of other authorities. These authorities include RDCO trails, trails on Crown Land and informal trails that are located on private property. The most well-used of these trails are the Okanagan Rail Trail, Spion Kop, and Pelmewash Parkway.

The three designated trail types have been created to accommodate the widest range of activities, from fully accessible multi-use corridors to informal backcountry hiking trails, from wide multi-use commuter routes to short loops within parks. They also respond to the varying terrain, trail locations and mobility needs that are present in the community.

There are many barriers and opportunities to recreational trail activity in Lake Country. The 2019 Pedestrian, Bike, and Recreational Trails Public Survey identified the following barriers and opportunities for the cycling network:

BARRIERS: What limits people's recreational access?

- Limited connectivity
- Limited wayfinding
- Limited infrastructure
- User conflicts
- Accessibility

OPPORTUNITIES: What would address the barriers?

- Connect recreational trails with key destinations by reducing gaps in active transportation network to access trails
- Improve wayfinding

OBJECTIVE: "Create recreational trail connections, supported by the pedestrian and bike networks, to improve active living, access to recreational destinations, and connections to nature."

POLICY: Create a connected trail system

ACTION: Formalize the trail network .

ACTION: Make connections to important destinations.

ACTION: Identify missing connections between existing trail networks.

ACTION: Complete network loops or connection.

ACTION: Provide better accessible connections.

ACTION: Provide links to all parts of the community and to adjacent communities..

ACTION: Establish a trail system with natural attractions and varied, year-round recreation opportunities.

POLICY: Improve and enhance public access to trails

ACTION: Improve access/visibility infrastructure.

ACTION: Provide bus access and parking at trailheads.

ACTION: Improve trailhead signage.

POLICY: Establish trail design parameters

ACTION: Define the trail design parameters for the District that included best management practices, biodiversity strategy, accessibility strategy, safety/ Crime Prevention Through Environmental Design (CPTED) principles, biodiversity strategy, permitting approval process and requirements and environmental protection protocols.

POLICY: Improve trail user experience

ACTION: Provide supportive infrastructure.

ACTION: Improve signage and wayfinding.

ACTION: Select and site trails for the appropriate designated use to minimize conflict.

ACTION: Improve the quality and consistency of trail maintenance, with sufficient resources to maintain trails assets.

POLICY: Trail stewardship, promotion and funding

ACTION: Provide GIS trail information to the public (e.g. Trailforks).

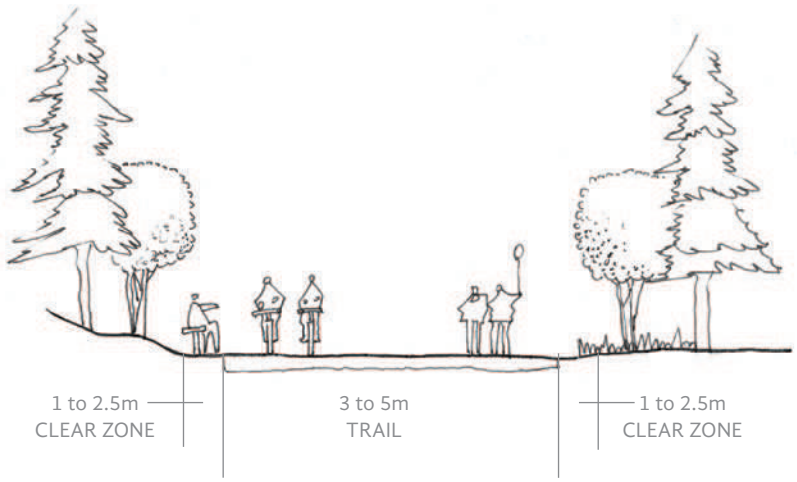
ACTION: Advertise recreational trail network opportunities through a variety of media.

ACTION: Promotion (Website, GIS Mapping, Description, Ratings, Distances, Access).

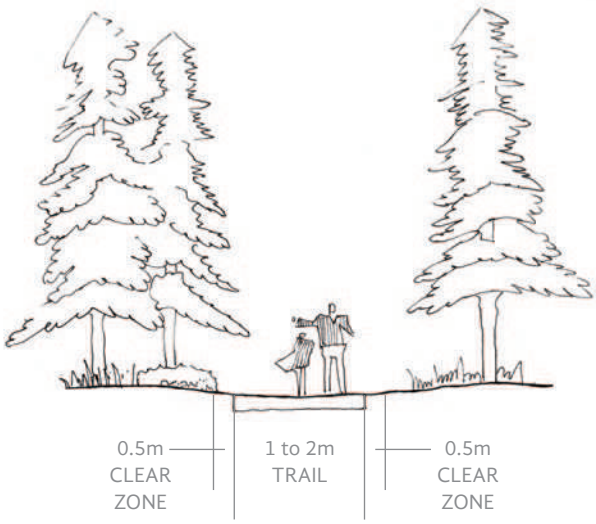
ACTION: Promote the trail system as a destination for residents and visitors.

ACTION: Encourage and support the involvement of user groups in trail stewardship.

ACTION: Establish good relations and pursue partnerships among the DLC, trail users, volunteers, neighbouring municipalities, OKIB, the Province and the development community.

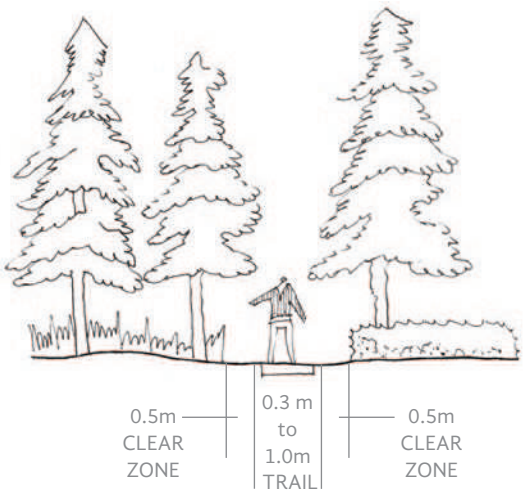


MAJOR TRAILS are multi-use and serve as both a transportation and recreation route. Typically, Major trails connect to other regional or municipal trails, or to major destinations and recreation opportunities within the community. Major trails are between 3 and 5m wide with either asphalt or compacted granular surfacing and minimal slopes to maintain accessibility. They are used by a wide range of users and accommodate moderate to high levels of use, and should be barrier-free.



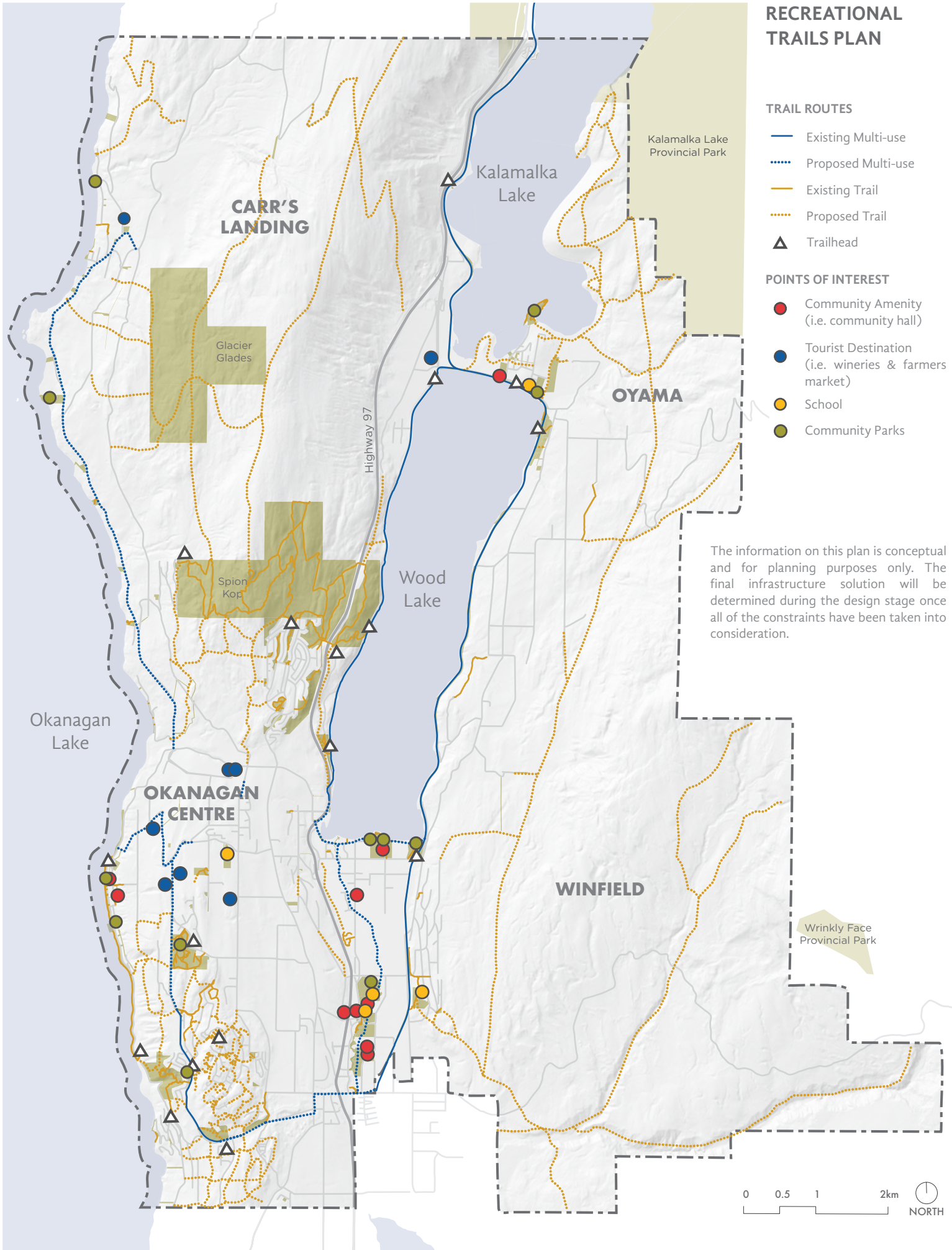
STANDARD TRAILS are typically multi-use and their primary function is for recreation, although in some cases they may be used for pedestrian transportation purposes. These trails may serve as primary routes into parks, or provide circulation in Recreation/Cultural/Waterfront parks. These trails are typically not found in backcountry areas, where wide and level trails are less required or less appropriate to existing site conditions. While generally accessible, Standard trails may have limited accessibility in sections due to steeper slopes. They are between 1 and 2m wide with compacted granular surfacing and have intermittent slopes to a maximum of 15%. They are used by walkers/hikers, cross-country mountain bikers, and snowshoers, accommodate moderate levels of use and should be barrier-free.

RECREATIONAL TRAIL DESIGNATIONS



NATURE TRAILS are recreational trails that are a combination of planned and unplanned trails that have evolved through park use; they may be a combination of newly constructed or improved trails on existing or new routes. They occur predominantly in backcountry areas or Natural park types and accommodate low to moderate levels of use. Their primary function is to provide hiking routes throughout the District. Users include hikers and, where identified as appropriate, cross-country mountain bikers.

Nature trails are 0.5 to 1.5m wide and are hand-built out of native materials. Due to varying slopes and site conditions, these trails have limited accessibility. No special accommodations are made for specific user groups, such as mountain bikers, strollers, etc. Where slopes exceed 35%, crib stairs may be required.


RECREATIONAL TRAILS PLAN
TRAIL ROUTES
Existing Multi-use
Proposed Multi-use
Existing Trail
Proposed Trail
Trailhead
POINTS OF INTEREST
Community Amenity (i.e. community hall)
Tourist Destination (i.e. wineries & farmers market)
School
Community Parks
The information on this plan is conceptual and for planning purposes only. The final infrastructure solution will be determined during the design stage once all of the constraints have been taken into consideration.
CARR'S LANDING
Glacier Glades
Spion Kop
Kalamalka Lake
Kalamalka Lake Provincial Park
Highway 97
Wood Lake
OYAMA
Okanagan Lake
OKANAGAN CENTRE
WINFIELD
Wrinkly Face Provincial Park
0
0.5
1
2km
NORTH

3.6 GOODS MOVEMENT

Goods movement largely relies on the same infrastructure used to move people. Efficient goods movement is important for the economic competitiveness of a community. It is crucial that there are efficient routes to accommodate goods movements.

CONTEXT

In Lake Country, goods movement largely refers to delivery and heavy truck movements. Agriculture is a key industry in the District that defined much of the District's original network of roadways. While many of these roads have transitioned to meet evolving mobility needs, agriculture remains a key industry.

Grade challenges on Beaver Lake Road at Highway 97 limit the capacity of the intersection to accommodate heavy truck traffic. This leads to heavy truck traffic activity in the Town Centre and through the Pelmewash Parkway where it mixes with vulnerable road user traffic. The Highway 97 Lake Country Planning Study is looking into solutions to redirect heavy truck traffic away from the Beaver Lake Road and Winfield Town Centre.

As per the Central Okanagan Planning Study, most truck trips have destinations in the Central Okanagan, about one quarter originate outside the region, and under one-third start and end within the region.

OBJECTIVE: "Improve access to regional routes for heavy truck traffic, to improve efficiency, support agriculture, and reduce mixing with vulnerable road users on District streets"

POLICY: Pursue opportunities to improve heavy truck access to/from Highway 97 with industrial areas in the District

ACTION: Continue to coordinate with MoTI on Glenmore Interchange and options to connect Jim Bailey Road away from existing Beaver Lake Road.

POLICY: Support District agriculture to bring goods to market

ACTION: Improve road condition on agricultural routes to minimize damage to fruit products.

ACTION: Recognize goods movement within the community that services the community such as with agriculture. Avoid unnecessary through traffic on local mobility network.

Photo Credit: Daniel Kent

3.7 MOBILITY NETWORK

The mobility network provides the backbone of the system. It is made of the road and street network and connects and supports land uses. The majority of walking, cycling, and transit facilities are located along this network or streets and roads. The previous sections of this Plan identify the overarching and mode specific needs of their respective networks. As such, this section identifies the remaining items not covered.

CONTEXT

The District of Lake Country Road Network Plan establishes the network link, intersection capacity, and safety improvements needed for the District over the next 20 years based of anticipated growth. Specific projects are outlined in that report. As improvements are made to the network, the District should evaluate the effectiveness of the improvements on mobility network safety and operations.

Road and street classifications inform the network mobility needs.

OBJECTIVE: "Focus mobility network improvements on strategic links, intersection capacity, and road safety improvements that satisfy multi-modal mobility needs."

POLICY: Update operational requirements and Levels of Service (LOS) for mobility network

ACTION: Review and update pedestrian pathway and transit stop snow clearing and street sweeping priorities for cycling facilities

POLICY: Adopt multi-modal road design guidelines

ACTION: Amend the Subdivision and Development Servicing Bylaw to include new cross-sections on the following page.

ACTION: Maintain flexibility for street improvements on District mobility network to prioritize accommodating mobility at an effective cost to the District.

POLICY: Monitor the operations and safety performance of the network

ACTION: Develop traffic monitoring strategy to provide up-to-date information on operational conditions to ensure that the required improvements are introduced in a when needed and perform as anticipated.

ACTION: Review ICBC collision data annually to determine changes in safety performance and effectiveness of safety improvements made to network.

POLICY: Ensure safe and efficient operations of the mobility network

ACTION: Adopt Road Network Plan improvements for mobility network links, intersection capacity, and safety improvements.

STREETS AND ROAD GUIDELINES

ARTERIAL STREETS are key regional connections servicing high mobility and low access. These routes would service regional trips for commuter traffic, heavy vehicles, and tourism. Cycling lanes would be buffered with no on-street parking permitted.

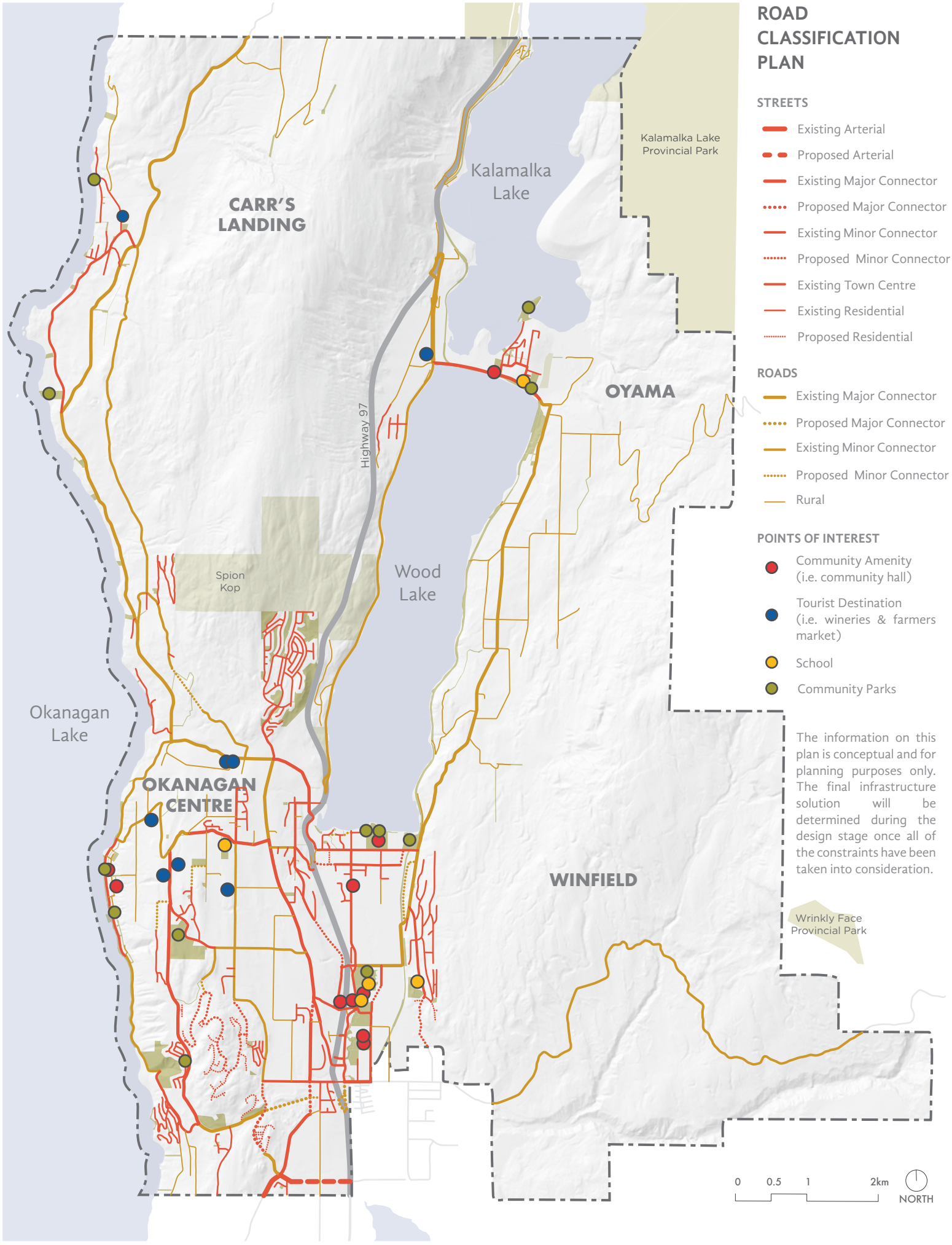
MAJOR COLLECTORS are internal major network links for the District parallel to Highway 97. They provide good mobility, but more access than arterial streets. These routes will accommodate heavy trucks, transit, buffered bike lanes, and restrictions to on-street parking.

MINOR COLLECTORS provide equal mobility and access with provisions for transit routes, bike lanes, and on-street parking.

TOWN CENTRE STREETS are those in that service the commercial town centre providing a mix of integrated mobility options including transit, bike lanes, wide pedestrian pathways, and one-sided on-street parking.

LOCAL STREETS primarily service high access and lower mobility. Pedestrian pathways are provided and on-street parking is permitted while cycling is shared with the vehicular travel lane.

RURAL LOCAL ROADS serve agricultural lands and large-lot residential. They provide a lower level of access than Residential Local Streets due to lot sizes.


ROAD CLASSIFICATION PLAN
STREETS
Existing Arterial
Proposed Arterial
Existing Major Connector
Proposed Major Connector
Existing Minor Connector
Proposed Minor Connector
Existing Town Centre
Existing Residential
Proposed Residential
ROADS
Existing Major Connector
Proposed Major Connector
Existing Minor Connector
Proposed Minor Connector
Rural
POINTS OF INTEREST
Community Amenity (i.e. community hall)
Tourist Destination (i.e. wineries & farmers market)
School
Community Parks
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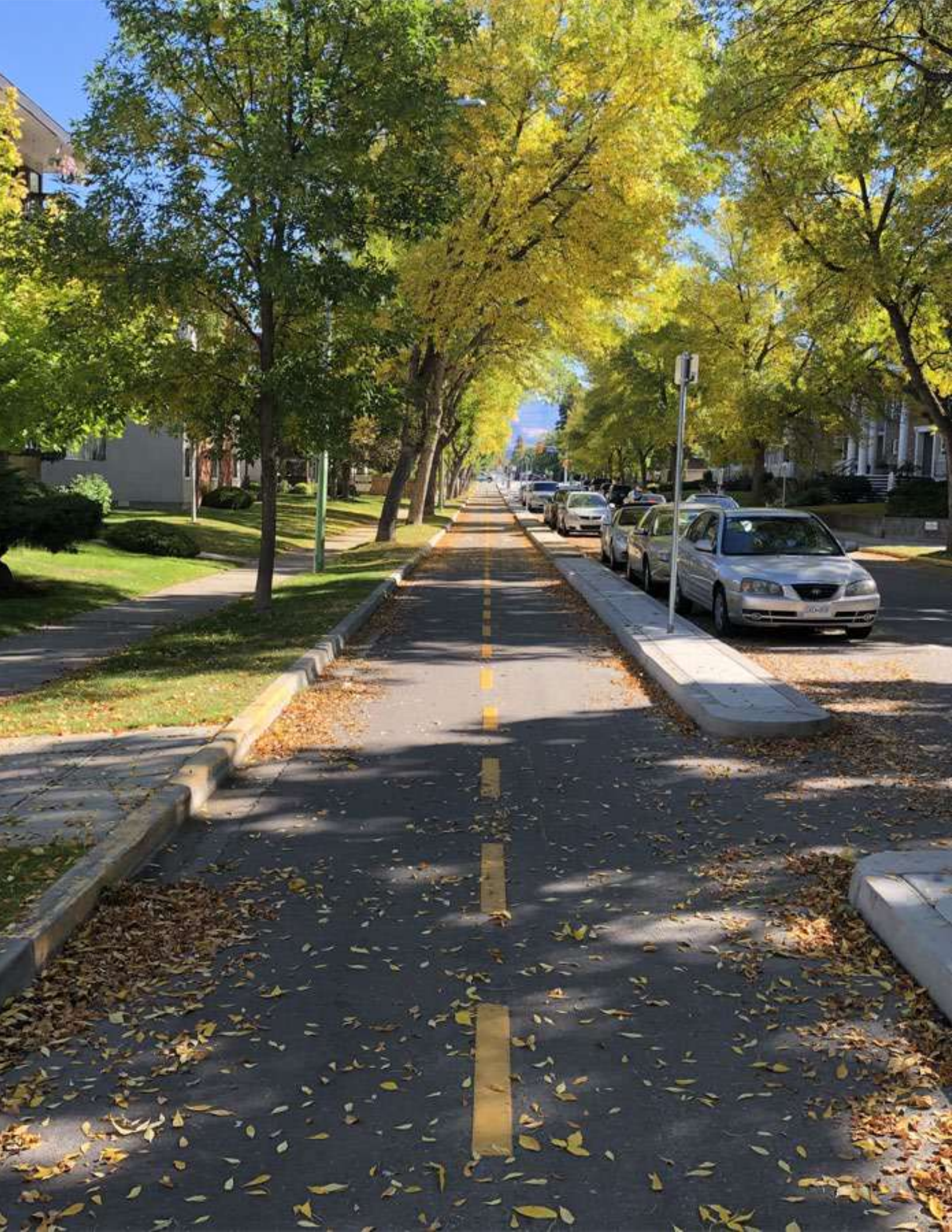


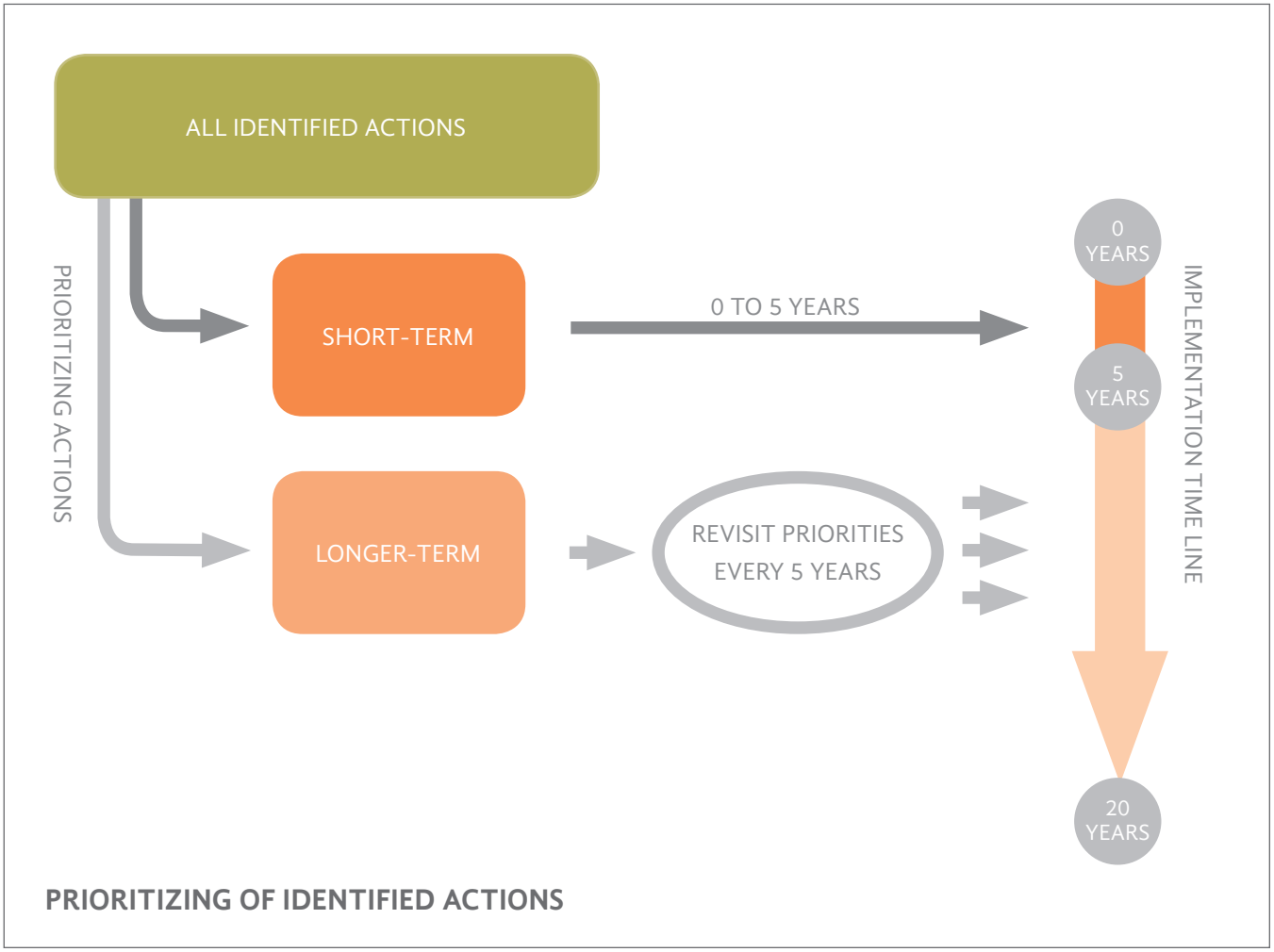
4

IMPLEMENTATION PLAN

The Implementation Plan focuses on the major recommendations and partnerships that will move the Mobility Master Plan forward.

4.1 RECOMMENDATIONS

As mobility system needs may evolve over time, this Plan is essentially a living document. It should be revisited every five years to reflect on what has been completed and reassess relevance and priorities of projects. Therefore, the recommendations prioritize the next 5 years.



PRIORITIZING OF IDENTIFIED ACTIONS

1. Continue development and discussions in District on the mobility paradigm shift with Council, staff, and community beginning with engagement on the Mobility Master Plan and what it means for the community.

2. Establish champions from Council, staff, and the community to carry the Mobility Master Plan forward.

3. Investigate methods to improve transit to meet the 10% ridership target in Lake Country.

4. Update Official Community Plan to reflect mobility paradigm shift and update and incorporate changes to modal network maps.

5. Update Road Condition Assessment

6. Revise the Mobility Capital and Operational Programs including financial strategy to ensure existing mobility plans are adequately funded and financially sustainable.

7. Amend Zoning Bylaw to:
   - Support pedestrian oriented commercial buildings and parking lot design.
   - Increase requirements for bike parking and end-of-trip facilities.
   - Include requirements for electric vehicle charging stations.

PRIORITIES

8. Amend Subdivision and Development Servicing Bylaw to:
    - Update street and road design requirements and cross-sections.
    - Update pedestrian pathway requirements.
    - Provide requirements to support transit improvements with pedestrian pathway connections, bus landings, and other supporting transit amenities.
    - Include trail design standards.

9. Prioritize multi-modal street projects in the core area including Woodsdale Road, Main Street Bike Lanes, Bottom Wood Lake Road connection to Okanagan Rail Trail, and the downtown mobility hub.

10. Create pedestrian and cycling connections between neighbourhoods, schools, recreation centres, trail heads, transit stops, and commercial centres by:
    - Improve Highway 97 crossings at Berry Road, Woodsdale Road / Oceola Road, and Glenmore Road / Beaver Lake Road.
    - Connect facilities to and along Okanagan Centre Road E, Berry Road, Tyndall Road, and Camp Road.
    - Expand the pedestrian network 50km by 2030.
    - Expand the bike network 50km by 2030.

11. Provide recreational trail improvements though:
    - Development and implementation of a trail wayfinding signage program.
    - Completion of a feasibility study for a major multi-use connection along the south end of Wood Lake waterfront between the Okanagan Rail Trail and the Pelmewash Parkway.
    - Design and construction of Vernon Creek Trail sections from Bottom Wood Lake Road south to Nexus Recreation Centre and north to Lodge Road with School District No. 23.

12. Consider all ages & abilities when planning, designing and implementing

4.2 PARTNERSHIPS

Partnerships are essential for planning, coordinating, and funding the prescribed actions of this plan. There are several key agencies and groups that have a joint interest in the Mobility Master Plan.

GOVERNMENT AGENCIES

BC TRANSIT facilitates the Kelowna Regional Transit System as a shared partnership between itself, the District of Lake Country and the communities in the Central Okanagan. This partnership is essential for the planning, operation, and maintenance of transit infrastructure and services.

CITY OF KELOWNA is located along the southern border of the District linking to the Glenmore Road major arterial route and Beaver Lake Road (servicing the City of Kelowna's northern industrial area). The two communities continue to coordinate on future road and trail links between their communities.

CITY OF VERNON is located north of Lake Country and shares connections with Commonage Road and the Okanagan Rail Trail. There are many opportunities to expand on new trail network links.

INSURANCE CORPORATION OF BRITISH COLUMBIA (ICBC) provides claims-related collision data and road safety improvement funds through the Road Improvement Program. The partnership is essential to identifying and improving road safety in the District.

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE (MoTI) is the authority of Highway 97 linking the Okanagan communities between Highway 1 and the U.S. Border. Highway 97 provides the primary route through the District. The ongoing partnership between MoTI and the District is essential to providing parallel routes to the highway, improving highway crossings for vulnerable road users, and improving road safety along Highway 97 through Lake Country.

MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT (FLNRORD) is responsible for stewardship of the Province's Crown land. Opportunities for collaboration include authorizing trails through Crown lands, and connections to Kalamalka Lake Provincial Park and Ellison Provincial Park.

OKANAGAN INDIAN BAND (OKIB) is one of the eight member Band communities of the Okanagan Nation Alliance, whose traditional territory is located in the southern interior of BC and north central Washington. The present day Okanagan Indian Band is compromised of seven Reserve lands with Duck Lake Reserve #7 being located on the southern edge of the jurisdictional boundary of Lake Country as well as the North Okanagan Commonage reserve which lays between the eastern shore of Okanagan Lake and Kalamalka and Wood Lakes. They are an essential partner for establishing new connections to Crown land trails, linking the Okanagan Rail Trail, and establishing road network connections with the Highway 97 & Glenmore Road interchange.

OKANAGAN RAIL TRAIL is a cooperation of four owner jurisdictions including the District of Lake Country, Okanagan Indian Band, City of Kelowna, and Regional District of North Okanagan. It is supported by the Friends of Okanagan Rail Trail.

REGIONAL DISTRICT OF CENTRAL OKANAGAN (RDCO) partnership with Lake Country extends to planning, integration, connectivity, and maintenance of regional and community parks and trails through a tax requisition paid to RDCO.

REGIONAL DISTRICT OF NORTH OKANAGAN (RDNO) is located north of the District and provides opportunities to connect trail networks.

SCHOOL DISTRICT NO. 23 is a key partnership for planning and supporting safe routes to school, bicycle skills training for students, and other programs to encourage families to reduce vehicle-based school trips.

TOURISM KELOWNA and the District have a formal partnership to collaborate on projects. The two groups could collectively raise funds to develop and promote recreational trails.

NOT-FOR-PROFIT GROUPS

FRIENDS OF OKANAGAN RAIL TRAIL (FORT) are a volunteer partner to the Okanagan Rail Trail that support amenity and its connection to nature through fundraising, stewardship, and activities.

MOUNTAIN BIKERS OF THE CENTRAL OKANAGAN (MTBco) advocates for mountain biking in the Central Okanagan and are actively seeking mountain bike trails / trail connections with Lake Country.

WALK AROUND LAKE COUNTRY'S (WALC) mission statement is to develop and promote walking and hiking trails in and around the District of Lake Country. They have been an essential partner in establishing new trail connections, providing trail resources, and volunteer maintenance to unsanctioned trails.

APPENDIX

2019 PEDESTRIAN, BIKE AND RECREATIONAL TRAIL SURVEY RESULTS

Number of Participants

657 survey responses

7 stakeholder groups

Most common modes of AT for commuting in Lake Country

84%

3%

66%

1%

Why we choose AT?

Health

Enjoyment

Outdoors / Access to nature

Examples of existing infrastructure that respondents enjoy using

- OK Rail Trail
- Spion Kop
- Pelmewash Pkwy
- Okanagan Centre Rd
- Main Street
- Oyama Rd

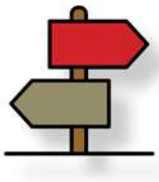
> *More bike lanes on Carr's Landing Road - a heavily used cycling route in spring, summer & fall currently with little/ no shoulder, heavy vehicle traffic and little/no speed limit enforcement or traffic calming infrastructure.*

> *Absolute #1 priority should be finishing safe and complete circuit multi use path around Wood Lake including widening Woodsdale Road at east end to allow multi use path corridor.*

Themes & Directions

Address Network Gaps

Connectivity was the main theme that came out from this engagement. Numerous examples pointed to the need to connect the sidewalk and bike networks with the recreational trails, as well as provision of such infrastructure in heavily used roads.

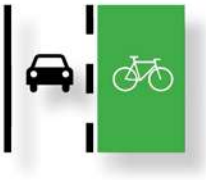


Improve Recreational Trails Wayfinding

Numerous participants expressed the desire for better wayfinding across the trail network, and considered the limited wayfinding as a barrier for them to access trails.

Road Safety & Vulnurable Road Users

Participants identified safety as a top concern. The speed of vehicles, lack of separated bike paths/shoulders, and highway intersections were the top mentioned concerns.



Infrastructure Improvements

Participants requested improvements that would address safety concerns, improve accessibility and support active mobility choices. Participants identified the need for a concentration of convenient routes to key community destinations as well as physically separated bike lanes.

Sidewalk Maintenance and Expansion

Participants reinforced the direct link between level of maintenance and the ability to use existing sidewalk infrastructure safely.