



25 Year Master Transportation Plan



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1.0 Official Community Plan Guiding Principles

The 2013 Official Community Plan (OCP) Guiding Principles are intended to guide not only the development of the OCP, of which the Master Transportation Plan is a key element, but also subsequent implementation and decision making. The Guiding Principles have been considered in the development of the Transportation Plan, and are reflected in the various strategies, as follows:

- **Foster prosperity for people, business and government:** This plan maintains a balanced multi-modal network for all uses to move people and goods on an affordable network;
- **Protect and preserve green spaces and sensitive areas:** This plan emphasizes Transportation Demand Management (TDM) measures and initiatives, which can either defer or avoid completely the need for road expansions and new roads;
- **Ensure housing meets the needs of the whole community:** The OCP focuses growth and development in the City Centre District and neighbourhood centres. The success of this approach is tied to the provision of transportation choices to reduce dependence on the Single Occupant Vehicle (SOV) enabling a reduction of parking requirements at these key areas;
- **Create a culture of sustainability:** The implementation of this plan over time will balance the provision of transportation options with the social, personal health, environmental and financial concerns of the City's residents;
- **Protect agricultural land:** Some of the longer term road improvements will impact the Agricultural Land Reserve (ALR). To maintain no net loss of ALR lands, other lands must be identified and included in the ALR to compensate. These lands must be within the Regional District of North Okanagan (RDNO), and must be provided at a 1:1.5 ratio. That is, for every acre removed from the ALR, 1.5 acres must be identified and included to compensate for this;
- **Create strong, compact and complete neighbourhoods:** Fundamental to the establishment of neighbourhood centres is that residents must be able to walk, cycle or take transit to neighbourhood centres to reduce dependency on the automobile. A reduction of vehicle use in Vernon neighbourhoods, would improve safety, particularly for vulnerable residents such as seniors and youth;
- **Provide alternative transportation:** Investment in cycling, walking and transit infrastructure is integrated with land use planning to provide a range of viable transportation choices to reduce air pollution and greenhouse gas emissions while contributing to better health. Supporting facilities, such as bike parking and end-of-trip facilities (showers, lockers), will be pursued through the planning and development process;
- **Revitalize the Downtown** Reinforce Vernon's City Centre as the key redevelopment area in the city. Strategic infrastructure investments and the continued implementation of TDM measures and initiatives will lead to it being the most walkable neighbourhood in the city, characterized by compact, high density, mixed use development and a lively, pedestrian-oriented streetscape; and
- **Create a youth friendly city:** Young people are increasingly choosing not to own a personal vehicle, and the ability to get around our community using alternative transportation is critical to their ability to engage and enjoy the city. Cycling, walking and public transit are all key in this regard. Having a network that attracts, retains and supports families is essential to the future of this city. This can be achieved by creating a city that they want to live in.



2.0 Introduction

This Master Transportation Plan (MTP) provides a framework for how the City of Vernon will manage its transportation network over the next twenty five years. This MTP will build on previous successes, and meet the new and emerging challenges of a changing world. Given finite resources and practical funding constraints, achieving these goals requires the City to prioritize efforts and explore innovative funding and design solutions to create a multi-modal network. Providing complete multi-modal routes enables more trips to be made by walking, cycling, transit and carpooling (collectively known as alternative transportation) instead of in a single occupant vehicle (SOV). The reduction of the number trips made in a SOV is a key component of the MTP as it can delay or defer completely the need for road network capacity improvements that cost substantially more. Enabling more alternative transportation trips is a cost effective use of municipal finances. Therefore, the MTP includes four sub plans and strategies with prioritised infrastructure improvements designed to reach the largest market share of potential users, achieve the largest return on the investment of capital funding possible, and keep the whole network functioning in a convenient, attractive and safe manner for all users of all ages, income levels and mobility levels. These sub plans and strategies are shown in Table 1.

Table 1

25 Year Master Transportation Plan				
Road Network Plan	Transit Strategy	Pedestrian and Bike Master Plan		Transportation Demand Management Strategy
		Pedestrians	Bikes	
1. Integrated Transportation Framework (ITF) (Asset Management) 2. Updated Road Network Improvement Strategy 3. Implement prioritised network improvements 4. Highway 97 & 6 plans 5. Heavy Trucks & Dangerous Goods 6. Neighbourhood Traffic Management	1. Transit Future Plan 2. Implement priority bus route changes 3. Bus Stop Improvement Program 4. Incentives & measures to maximize ridership 5. Custom Transit Pilot Project	1. Increase fully connected sidewalks 2. Construct sidewalk in priority areas 3. Standardize pedestrian facilities & crossing treatments 4. Utilise connectors between multi-use paths and sidewalks to maximise connectivity 5. Roadside & Off-Road Trail Network	1. Increase fully connected bike routes 2. Implement bike route priorities 3. Standardize bike facilities & crossing treatments 4. Utilise connectors between multi-use paths & trails and bike gutters on stairs to maximise connectivity 5. Roadside & Off-Road Trail Network	1. Updated Integrated Land Use Planning & Transportation Planning 2. City Centre Neighbourhood Plan Parking Implementation Strategy 3. Leadership including City of Vernon workplace Travel Plan 4. Education & Awareness Programs 5. Private Sector & Other Agency Initiatives



3.0 Context

Regular reviews of the MTP are necessary as local trends and global issues develop or change over time. In the last decade an emerging understanding of the links between the built environment and its detrimental effects on public health have greatly influenced how users want the provision of transportation networks to alter.

Of particular importance to this MTP are the changing demographics of our city and vehicle use trends. The two largest age groups in Vernon are the baby boomers (born between 1946 and 1964) and millennials (born between 1980 and 2004). For different reasons both groups are reducing vehicle use and ownership. As people retire their vehicle usage reduces by 40%. Vernon has a higher proportion of seniors, aged 65 and older, than the British Columbia average, a trend that is projected to continue. These residents will need routes with pedestrian facilities, suitable ramps at crosswalks and accessible transit. Pedestrian facilities such as sidewalks enable all residents, including those with mobility impairments, to access nearby services or the fully accessible transit network. The expected increase in the numbers of mobility scooters and motorised wheelchairs must also be accommodated. The millennials use social networking to a greater extent and tend to prefer to live where they can walk, cycle or take transit to work resulting in a reduced vehicle usage and a deferral of vehicle ownership.

Like many other cities, Vernon still has a high reliance on the automobile despite these trends, with most trips taken in single occupant vehicles (SOV). While the prevalence of automobiles makes it easy to travel to multiple destinations, a community's overreliance on them can have many negative consequences. Traffic can make some neighbourhoods feel unsafe, with children and seniors being discouraged from using their front yards, as well as from walking and cycling, depriving them of exercise. Canada has one of the highest per capita vehicle ownership rates in the world. Not surprisingly, almost 80% of all road user casualties are motor vehicle occupants. Nationally young driver and passenger fatalities continued to be an issue as nearly 23% of motor vehicle fatalities were 15 to 24 year olds, while this age group only made up 13% of the Canadian population. Vulnerable road users also make up 20% of road users killed and seriously injured each year in traffic crashes. Motorbikes, cyclists and pedestrians, particularly children and seniors are considered vulnerable users of the transportation network because when they are involved in incidents their injuries are much more severe. As such, safety is a concern for Vernon residents. The cost to families and the community of a vehicle accident can be devastating. Safety concerns, both real and perceived, impact how people travel, usually resulting in fewer walking and cycling trips, particularly for children and seniors.

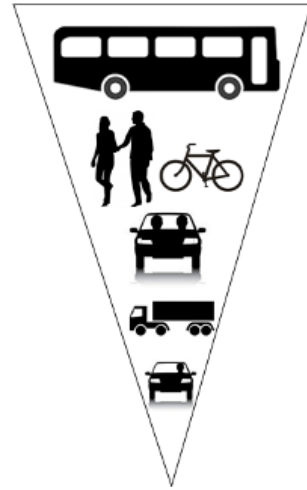
Air quality can decline while greenhouse gas emissions rise, impacting community health and contributing to climate change. Residents who rely on their vehicles will become more vulnerable to fluctuations in world fuel prices. Without alternative modes of transportation, seniors, youth and people with disabilities can be prevented from accessing needed services, finding employment, socializing with friends and taking care of day-to-day errands.

Public Consultation

The MTP is a sub document of the OCP and as such was included in the public consultation undertaken for its 2014 update. OCP review consultation began in January 2013 and continued through to May. The purpose of the consultation was to determine what Vernon residents thought was working well and what areas needed further attention in the OCP. A series of eight open houses were held between February and May 2013. Each month offered a specific set of topics related to the Official Community Plan, such as



transportation, land use, environment and infrastructure, for detailed discussion and feedback from the public. Locations for the open houses were varied and selected to make it easy for people in all areas of the city to attend. While some were held in local schools, others were held in high traffic locations, such as the Village Green Centre and the Vernon Recreation Centre in an effort to get input from as many people as possible. Approximately 200 people attended these open houses. The results of this round of consultation residents expressed continued support for the overall growth strategy aim of promoting more compact development in the City Centre and Neighbourhood Centres, as well as the focus on Transportation Demand Management. Support for investments in transit, sidewalks, pathways and cycling infrastructure was high, but some concerns were raised about how some projects have been implemented, especially where on street parking has been removed. Overall, the feedback was supportive of the direction of the 2008 OCP that has continued the updated OCP. To develop the North Okanagan Transit Future Plan three stakeholder meetings were held; a website was developed and online surveys were completed by the public, and thirteen public input sessions were held, eight of these held in a BC Transit Public Input Bus parked in various locations across Vernon, where paper surveys could also be completed. The input and feedback was used to develop the Transit Future Plan. To develop the Pedestrian and Bike Master Plan stakeholder meetings were held with local community groups and thirteen public input sessions were held in various locations around Vernon. This included eight community based workshops where residents were asked to identify, not only their priorities for future facilities, but also to identify their best walking and cycling routes using the existing facilities.



A final public engagement opportunity on the MTP was held at the June 20, 2015 Sunshine Festival attended by approximately 15,000 people. At this event information was presented on the MTP and its four sub plans and strategies: the Road Network Plan; the Transit Strategy; the Pedestrian and Bike Master Plan and the Transportation Demand Management (TDM) Strategy. At the daylong event approximately 150 people directly engaged with staff to ask questions and a few provided written input. Twelve copies of the MTP document were taken by members of the public. This final public engagement session was very positive with overwhelming public support for the Master Transportation Plan as presented.

4.0 Growth Projections

The rate at which Vernon grows and where this growth occurs is a major factor in determining what transportation projects are needed and when they should be constructed. The growth projections have been corrected to reflect the projected increase in population over the next twenty five years. Previous projections used in 2008 were based on a period of high growth and have now been corrected to be 1% per year.

Although the OCP and MTP cover a twenty five year period, the 2008-2031 transportation plan looked beyond that timeframe. The growth projections applied in 2008, lead to a projection that 64,000 residents would be achieved in 2050.

Given the reduced growth projections, the timelines for road capacity improvements identified in the 2008 transportation plan, as a means to address the anticipated congestion caused by that growth, have now been extended by approximately 30 years, taking many improvements beyond the 25 year timeframe of this plan.



5.0 Current Status

Since the adoption of the 2008 OCP and the 2008-2031 Transportation Plan significant capital investment has been directed to walking, cycling and transit infrastructure to provide more travel options and reduce the reliance on the automobile. Vernon residents continue to strongly support the provision of alternatives to the private automobile. Residents indicated that transit, pedestrians and cycling were their top priorities for transportation investment, with the SOV being the lowest.

Census data includes information regarding transportation choice. However, when the voluntary National Household Survey (NHS) replaced the long form census questionnaire, the data became less reliable. As the methodology and voluntary nature of the NHS is different from the long form census questionnaire, the results cannot be compared to 2006 results or census years prior. There are, however, other ways of measuring how many people walk, cycle or take transit. In 2013 the City of Vernon, in partnership with the Regional District of the Central Okanagan, City of Kelowna, District of West Kelowna and District of Lake Country contracted a consultant to carry out household travel surveys in Central Okanagan and Vernon. This travel survey collected information on current travel patterns of residents. This was used to update the transportation model and also provide a comparison to the survey undertaken in 2007. This information, summarised in section 51 shows how key travel patterns changed over the ensuing six years.

5.1 2013 Household Travel Surveys

Table 2 Trip Destination in 2007 and 2013

Year	Vernon	Lake Country	Kelowna (inner)	Kelowna (outer)	West Kelowna	Westbank First Nation	Peachland	Central Okanagan West	Central Okanagan East	North Okanagan (minus Vernon)	Out of Okanagan
2007	85.7%	12.2%	3.1%	1.5%	0.2%	0.1%	0%	0.2%	0.3%	5.0%	2.6%
2013	90.1%	1.2%	1.7%	0.2%	0%	0%	0.1%	0.1%	0.1%	4.2%	0.9%

Key Fact: Vernon is very self-sufficient, 90% of all trips made stayed in Vernon.

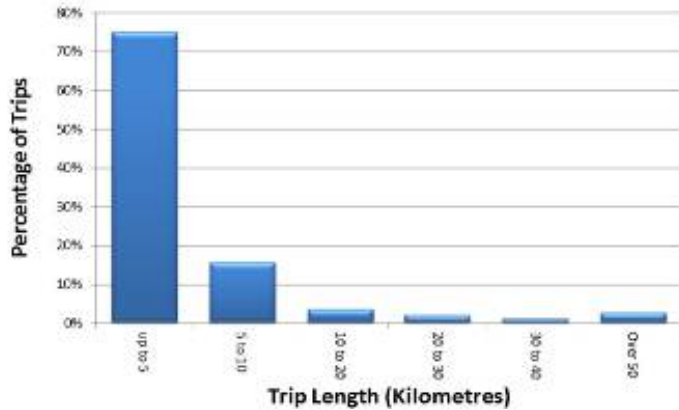
Table 3 Trip Purpose in 2007 and 2013

Year	To Work	To Grade School	To Post Secondary School	To Restaurant	For Recreation	For a Social Outing	For Shopping	For Personal Business	To Pick up Someone	Other
2007	25.6%	6.2%	1.1%	4.9%	7.4%	6.3%	20.1%	9.9%	12.0%	6.7%
2013	21.5%	7.3%	3.8%	3.1%	9.2%	4.9%	17.6%	11.0%	13.0%	8.7%

Key Fact: The largest decrease was in the number of trips to work, with a 4% reduction.



Chart 1 Trip Distance in 2013



Key Fact: 73% of trips are between 0.1 and 5km long, the ideal distance for walking and cycling.

Key Fact: Most of the additional trips occurred in the afternoon peak between 2:30 - 4:30pm. A smaller increase occurred in the morning peak period between 7:45 - 8:15am. The midday peak spread and now covers a wider time frame of 10am - 1pm.

Table 4 Start Time of Trips 2007 and 2013

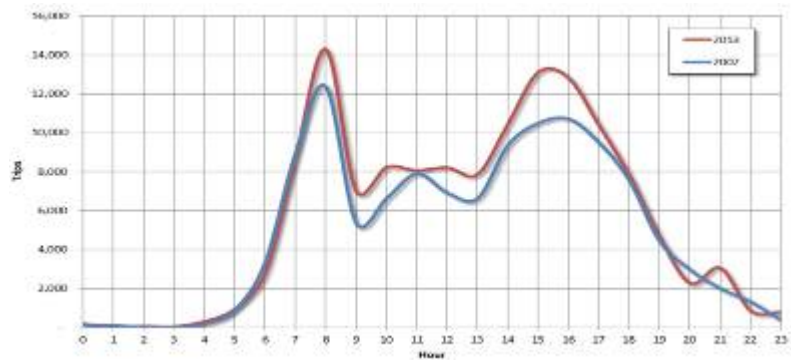
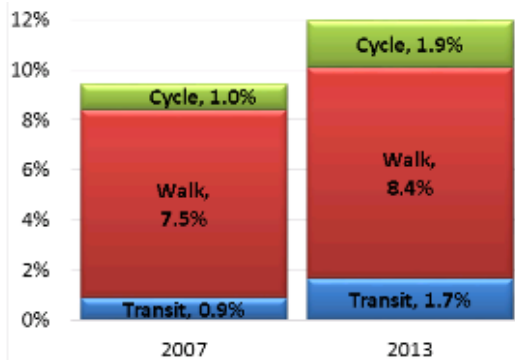
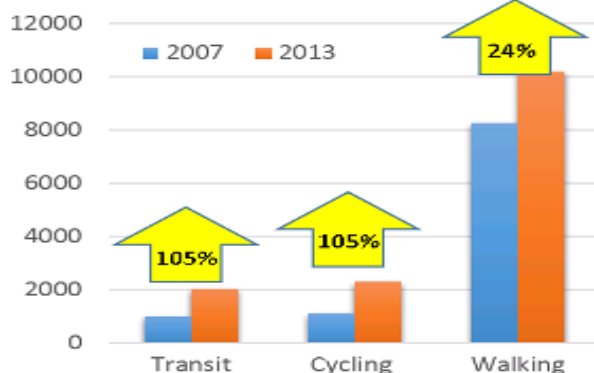


Chart 2 Mode Share in 2007 and 2013



Key Fact: The number of trips (mode share) taken by walking, cycling and transit have all increased. The mode share for all three in 2007 was 9.4%, in 2013 it was 12.0%. This 2.6% increase in mode share may appear to be small, but as can be seen in Chart 3 when viewed in terms of the number of trips cycling and transit trips more than doubling and walking trips increasing by nearly 24%.

Chart 3 Number of Alternative Trips 2007 and 2013



Key Fact: If the increases in walking, cycling and transit continue to 2040 then the target mode share of 20% would be exceeded.



Key Fact: The 2013 survey showed that SOVs increased slightly from the 2007 level of 69.4% up by 0.6% to 70.0%. At the same time school bus use decreased by 0.7% and carpooling decreased by 1.2%. When viewed overall, the increase in walking, cycling and transit has been achieved by a shift from school bus, other (taxis etc etc) and carpooling.

Current Mode Shares for all Trips in 2013:

- Single Occupant Vehicle - 70%
- Carpooling – 16.2%
- Walking – 8.4%
- Cycling – 1.9%
- Transit – 1.7%
- Other – 0.3%

5.2 Vehicle Occupancy and Travel Time Surveys

In addition to the household travel surveys, annual occupancy surveys were carried out on the routes into the city between 7am and 9am during the working week to measure the travel patterns of commuters. Since 2008 the occupancy levels of private automobiles only varied within statistical norms and as such are considered as having remained the same with 80% of automobiles being SOVs, 17% have two occupants, 2% have three occupants and 1% have four or more. It is noted that the household travel surveys show a different percentage for SOVs as they surveyed all trips, seven days a week.

At the same time each year travel time surveys have been conducted on these routes between 7am and 9am on a weekday. They measure the total travel time from a fixed starting point into the City Centre of Vernon and any delays at the intersections along the routes. Since 2008 the increase in residents and the number trips being made also varied within statistical norms and has not resulted in any measureable increases in travel time during the morning peak period.

6.0 Road Network Plan

Vision Statement: *to provide a safe, efficient, financially sustainable system that moves people and goods, supports the neighbourhood centres, quality of life for residents, economic development, protects the environment and emphasizes the preservation and maintenance of the existing road network.*

This section sets out the improvement plan for the next 25 years. The City of Vernon transportation model has been updated using the Land Uses in Chapter 5 of the OCP, population data, revised growth projections and current travel patterns determined through the 2013 City of Vernon Household Travel Surveys. Over time, the population is projected to increase, and current vehicle use trends have been applied, this was done to ensure that traffic growth was not underestimated. However, it is equally important to recognise, that vehicle use and ownership has already reduced globally and nationally. As the network has capacity available for many years, prudence is advised to avoid rushing into constructing capacity improvements that turn out to be short lived. It is also essential to note that to construct wider and new roads so that no one experiences congestion during the peak periods is impractical and unaffordable to build and maintain. It is also counter to the OCP Guiding Principles, asset management and the Integrated Transportation Framework described in 6.1 below.



In transport, as in any network, managing demand, by reducing use and switching to alternate options, is a cost-effective alternative to increasing capacity. The provision of alternative transportation options also has the potential to deliver desired environmental outcomes, improved public health, stronger communities, and more prosperous cities. As such, providing the transportation alternatives together with Transportation Demand Management (TDM) measures to encourage their use, will manage the costs to the community, while supporting community desires for sustainable travel options and liveable neighbourhoods. Many Canadian cities are adopting this approach due to its multiple benefits and ability to manage costs. Increasing the number of trips taken, over 25 years, by walking, cycling and transit from the 2013 share of 12% up to 20% will manage that travel demand and congestion for the next 25 years and beyond. If the increases seen over the previous six years in walking, cycling and transit use continue to 2040 then the target of 20% would be exceeded.

The target of having 20% of all trips made by walking, cycling and transit does not, however, include carpooling which is a further opportunity to reduce SOV trips. Therefore, new mode share targets have been determined.

Target Mode Shares for all Trips by 2040:

- Single Occupant Vehicle - 62%
- Carpooling - 17%
- Walking - 12.5%
- Cycling - 5.0%
- Transit - 2.5%
- Other - 1%

6.1 Asset Management and the Integrated Transportation Framework

Vernon, like many cities across Canada, is responsible for many roads that are nearing the end of their service life that must be repaired or replaced at great expense. As the city grows, it will be challenging to fund new road improvements when significant resources will be required to maintain and rebuild the existing network we already have. A detailed assessment of the existing transportation network showed that there are over 282 kilometres (km) of road (683 lane km of roads); 43 creek crossings and over 176 km of sidewalks and multi-use paths. As with all infrastructure, the network has developed over a long period of time and requires continual maintenance and eventually complete reconstruction.

To ensure that the network can meet the needs of the community in the short and long term, remain functional and affordable, a critical review of the proposed facilities was undertaken to develop the Integrated Transportation Framework (ITF). It started with an assessment of the current condition of the roads, sewers and storm water system and their remaining life. The ITF analysis determined how much it would cost to replace this aging infrastructure in its current form. It was determined that the current level of funding would not be enough for its maintenance and replacement. Essentially there is a gap between how much money is available and how much is needed. This funding gap means that not enough planned maintenance takes place. As a result, a dedicated 1.9% annual tax increase for infrastructure renewal has been put in place for ten years. Even with additional funding the existing



network is too expensive to maintain and rebuild requiring a new approach to road network renewal. Therefore, the ITF recommended the following:

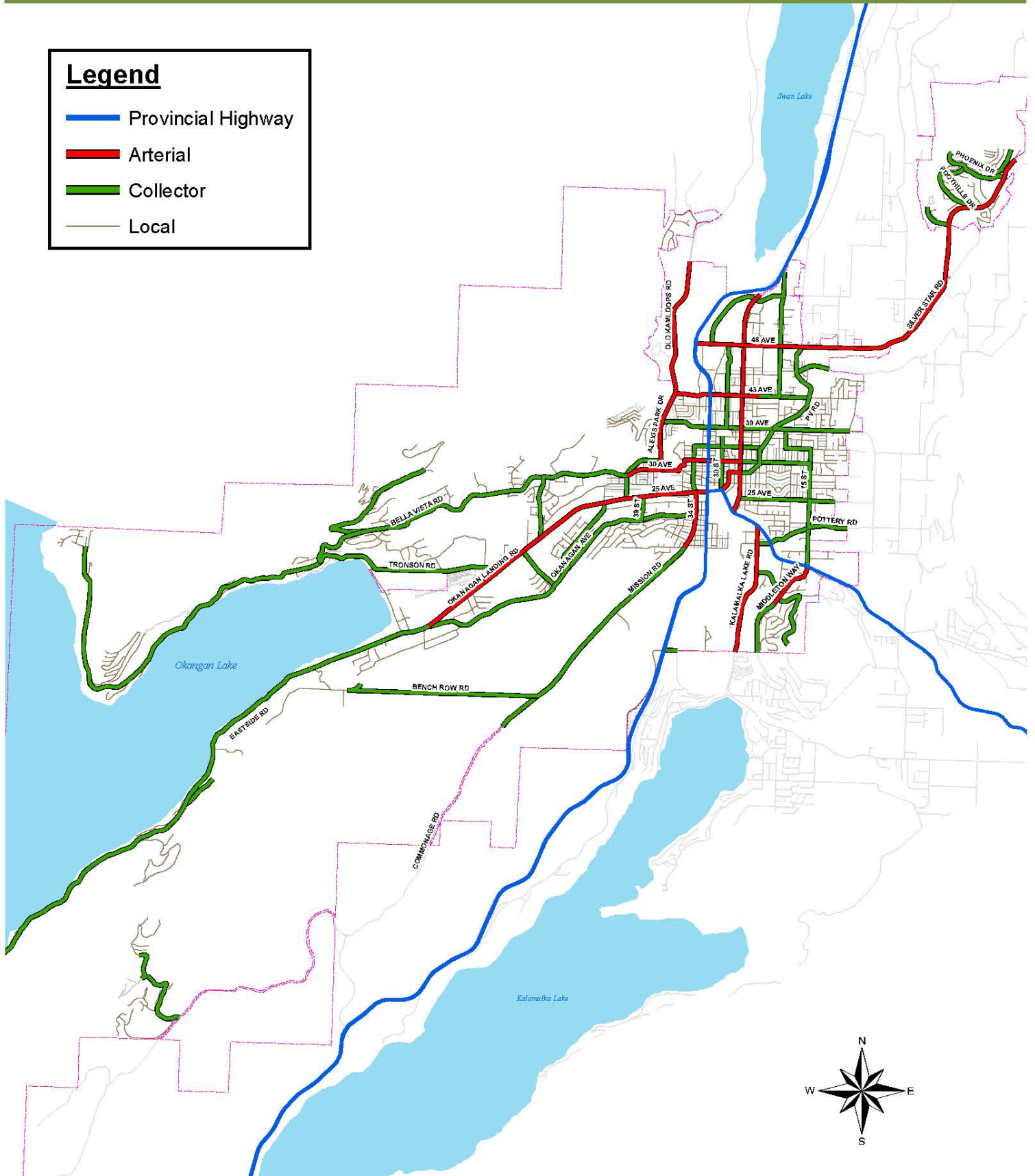
- Strategically reclassify several arterial roads to collectors;
- Reduce travel lane widths to 3.25m throughout the network;
- Investigate alternative reconstruction methods and standards on select roads; and
- Reduce the frequency of road reconstruction on local residential roads.

The previous classification of Minor Arterial (Major Collector) has been removed and all the road classifications were reviewed to ensure their designation reflects their current and future function in the network. The new road classifications are shown in Figure 1.

Looking forward to the future network, the proposed networks determined in the 25 year Transit Future Plan (Chapter 7) and the Pedestrian & Bike Master Plan (Chapter 8) were incorporated into the ITF. This was necessary to ensure that sidewalks will be available on transit routes and that the bike facilities connect to provide complete routes, while ensuring it would remain affordable. The ITF then assessed the cost of building and maintaining each road knowing what it eventually contain: the number of travel lanes (excluding turn lanes and widening at intersections), parking, sidewalk, shoulders, bike lanes etc. The ITF's main aim is to provide a safe, efficient and functioning transportation network for all users that will not overburden the tax payer.

When roads reach the end of their life or have programmed maintenance that requires the road to be fully rebuilt, they will be reconstructed in line with the ITF design. At this time each road's individual circumstances will be considered, including the layout in surrounding roads, and will be subject to Council approving each reconstruction project and its funding.





6.2 Road Network Improvement Strategy

Some transportation improvements are less reliant on population growth and travel demand than others. Some have strategic value in encouraging redevelopment and promoting economic development. Other improvements maintain good traffic flow in the City Centre and support the local economy or provide access to growing neighbourhoods. The timeframes for their construction have therefore remained within the 25 year timeframe of this plan and are described below and their locations shown in Figure 2.

6.2.1 Implement Prioritised Road Network Improvements

Improvements included in the road improvement strategy seek to:

- Distribute traffic in City Centre;
- Provide additional connections between existing roads;
- Provide additional internal north-south route in the City Centre as an alternate for local users;
- Improve transit circulation options for the Core Transit Network;
- Reduce traffic demand on Highway 97 and 6 and 27th Street; and
- Support airport industrial lands. (**Note:** The Airport Master Plan is currently under development and therefore the need for this road realignment is under review)

Specific improvements to be implemented by the City in the 25 year timeframe are as follows, and their locations are shown on the map in Figure 2:

- 1) The 29th / 30th Street Transportation Corridor – 1 to 10 years;
- 2) Highway 6 – 27th Street Connector (formerly known as 25th Ave extension) – 1 to 10 years;
- 3) Tronson Road Airport Lands – (currently under review);
- 4) Okanagan Landing Road three laning – 11 to 25 years; and
- 5) Alexis Park Drive and the Old Kamloops Road – Highway 97 Connector* (formerly known as the 48th Avenue extension) – 11 to 25 years.

* It is noted that there is an impact on Agricultural Land Reserve (ALR) lands for the proposed connector and that the timeframe and funding for this road is subject to further detailed analysis with the Ministry of Transportation and Infrastructure (MoTI).

The OCP and this MTP cover a period of up to 25 years. To ensure these plans consider changing local, national and global issues they are typically reviewed every five years. Climate change, peak oil and peak car will have increasing impacts on local circumstances over the next twenty five years. While the growth of Vernon has slowed over the previous six years and is currently projected to remain at 1% per year, as yet unforeseen circumstances or technological advances could alter these projections. Therefore, development led and funded roads currently projected for beyond the 25 year timeframe are shown as Corridor Protection to indicate the possibility that it may occur within this timeframe.

6.2.2 Development Led and Funded Road Improvements

When certain developments occur new roads will be constructed, through developer funding, to connect these new properties with the network. In some cases they will also bring secondary benefits to other residents in the area. Current housing and population projections indicate that within the city's Hillside Residential and Agricultural District areas alone, there is enough land designated for residential development to supply over 9,000 units of housing, i.e. 23 to 46 years of supply. These neighbourhoods include the Rise, Turtle Mountain, Foothills and Predator Ridge. The Hillside Residential Reserve is

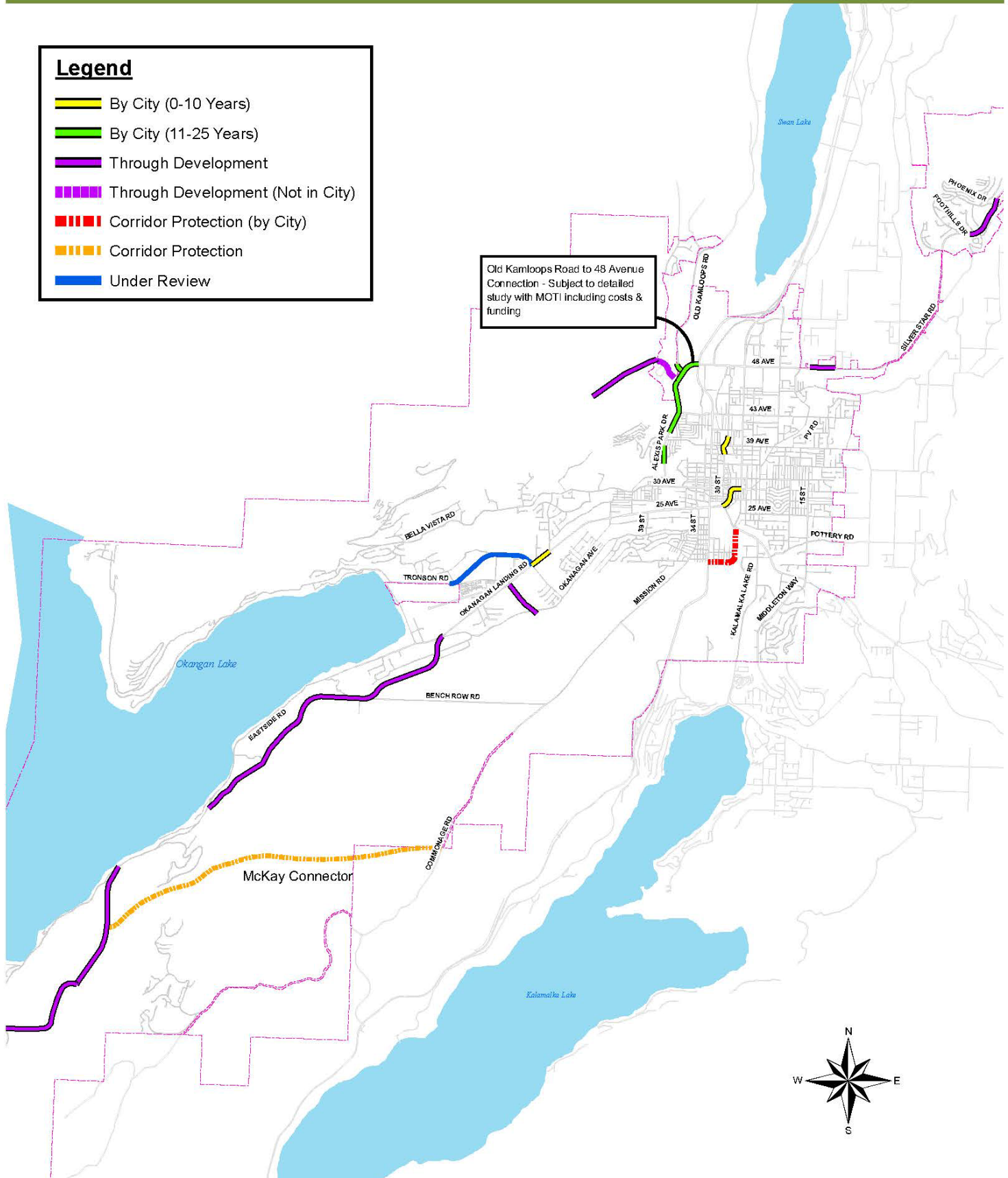


identified as a future growth area that would only see development when the other noted neighbourhoods realize more build out and are close to completion. Therefore, the timeframes for these previously identified roads have not been included in Table 5, but have been shown in Figure 2 as it is a possibility that they might occur within the timeframe of this plan.

Table 5 Development Led and Funded Road Improvements

Road and Designation (in alphabetical order)	Description	Secondary Benefits
Eastside Road Extension (Rural / Agricultural and ALR)	2 lane road connecting Eastside Road to Okanagan Landing Road	Provides an alternate route to Okanagan Landing Road enabling a reduction in traffic on Okanagan Landing Road (Eastside Road Okanagan Avenue).
Ellison Road (Rural / Agricultural and ALR – Hillside Residential Reserve)	2 lane road connecting Ellison Park to Eastside Road	Provides an alternate route between the future MacKay Connector and Ellison Park Okanagan Landing Road enabling a reduction in traffic on Highway 97, 25 th Avenue and Okanagan Landing Road.
MacKay Connector (ALR, Rural / Agricultural, - Hillside Residential Reserve, Residential - Low Density and Parks & Open Space and a section in the RDNO OCP is Non-Urban and Large Holding)	2 lane road connecting Commonage Road to the future Ellison Road.	Provides an alternate route between Highway 97 and the future Ellison Road enabling a reduction in traffic on 25 th Avenue and Highway 97.
Scott Road Extension (Residential – Low Density)	2 lane road from Okanagan Avenue to Okanagan Landing Road	Provides a future connection to an alternate route between Okanagan Landing Road and Highway 97 which is currently beyond the timeframe of this 25 year plan.
Silver Star Road (Light Industrial / Service Commercial and Residential – Low Density and Community Commercial)	3 lane road from Pearson Road to McDonald Road	Provides turn lanes in to future development site.
Silver Star Road (Medium Density Commercial & Residential and Residential Low Density and High Density)	3 lane road from Foothills Drive to approx. 75m north of Phoenix Drive	Provides up-hill passing lanes.
Turtle Mountain Connector (Hillside Residential Reserve and Country Commercial, in RDNO OCP ALR and Country residential)	2 lane road from Haney Road / Old Kamloops Road to the Turtle Mtn development	Provides a second access road into / out of the Turtle Mountain development.





6.2.3 Highway 97 and 6 Traffic Management Plans

The timeframes of the planned highway and municipal street network improvements previously identified in the joint MoTI, ICBC and City of Vernon 2007 Highway 97 Traffic Management Study have been updated in line with the revised growth projections and to remove the completed project. The update was undertaken by Urban Systems funded by the City of Vernon and the MoTI. The provision of improved turn movements at signalled intersections followed by the removal of left turn movements in between those intersections will ensure the efficient movement of traffic along this corridor. Over the years the signal co-ordination timing plan for the traffic signals will be updated to adapt to changes in traffic volumes and movements.

At MoTI's request the Highway 97 study update excluded reviewing the likely timeframe for the construction of the proposed Highway 6 - Highway 97 Connector identified in the 2008 transportation plan (formerly known as the 27th Street extension). The MoTI stated that this is not currently an identified MoTI project and would need to be reviewed in a standalone project. The city transportation model did evaluate this proposal and found its construction would reduce the projected congestion at the Highway 6 intersection with 30th Street, and along Highway 6 between Polson Park and the Fruit Union Plaza, to its intersection with Highway 97. It is therefore strongly recommended that MoTI undertake the necessary project study and detailed analysis of the future needs of Highway 6 as soon as possible, within the next five years. An improvement that also needs including in that review is the addition of a second left turn left from Highway 6 by the RBC bank onto Highway 6 by Fruit Union Plaza. The addition of this second turn lane would allow for the signal timing to be altered to improve traffic flows onto the Highway 6 - 27th Connector and 30th Street. Due to its possible construction within the timeframe this plan the Highway 6 – Highway 97 Connector is shown in Figure 2.

The original 2007 study did not include the detailed analysis that MoTI now requires to demonstrate that a business case exists for each intersection improvement. While the benefits of certain improvements are agreed upon, certain intersection improvements need further detailed analysis before a timeframe can be assigned to their implementation. Therefore, they are listed as being “subject to further detailed analysis”. The updated Highway 97 Traffic Management Strategy identified that the following improvements will be required to manage future growth on this corridor. Some improvements are on the municipal network (and therefore are shown in Figure 2), as they provide increased options for residents to reduce reliance on Highway 97 and 27th Street. The improvements are as follows and their locations shown on a map in Figure 3:

- a) Highway 97 access management (to be implemented when left turn improvements at adjacent intersections are provided): restrict left turns on Highway 97 to only signalized intersections with left turn bays, i.e. 25th Avenue, 32nd Avenue, 35th Avenue, 39th Avenue, 43rd Avenue and 48th Avenue. The exception is the area between 43 Avenue and 48 Avenue where partial movements are permitted – left turns off the Highway and right/in and right/out at two locations. All other minor intersections from 25th Avenue to 43rd Avenue would be restricted to right turns only including all business accesses;
- b) Highway 97 at 35th Avenue (**Subject to Further Analysis**): new traffic signal with left turn lanes on the north and south legs - detailed study to be completed to determine timing.

1 to 5 years

- c) Highway 97 at 32nd Avenue: left turn lanes on the north and south legs and advance left turn arrow on the west leg;



- d) 31st and 33rd Streets (municipal improvements): reverse intersection stop controls from north-south to east-west;
- e) Highway 97 at 43 Avenue: south bound right turn lane on the north leg;

6 to 10 years

- f) Highway 97 at 39 Avenue: south bound right turn lane on the north leg;
- g) 29th/30th Street Transportation Corridor (municipal improvements, phases 1, 2 and 3 completed): realignment to create a continuous north-south internal route (two lanes and multi-use path and a new intersection at 39th Avenue railroad crossing to connect 29th Street to an extended 30th Street;
- h) Highway 6 - 27th Street Connector (municipal improvement, phase 1 completed): realignment of 27a Avenue and 29th Street with turn lanes and relocation of 30th Avenue traffic signals at 29th Street to the railroad crossing;
- i) Highway 97 at 43rd Avenue: additional left turn lane ;
- j) Highway 97 access management: restrict left turns on Highway 97 to only signalized intersections with left turn bays, i.e. 25th Avenue, 32nd Avenue, 35th Avenue, 39th Avenue, 43rd Avenue and 48th Avenue. The exception is the area between 43 Avenue and 48 Avenue where partial movements are permitted – left turns off the Highway and right/in and right/out at two locations. All other minor intersections from 25th Avenue to 43rd Avenue would be restricted to right turns only including all business accesses;

11 to 25 years

- k) Old Kamloops road to Highway 97 Connector (**Subject to Further Analysis**): new two lane road – detailed study to be completed to determine timing, costs and funding;

6.2.4 Highway 97 Bypass

It should be noted that the MoTI has the rights and powers to plan, fund and construct highways. The City has the rights and powers to plan, fund and construct municipal roads. As such, should the City decide to identify a possible Transportation Corridor within Vernon that could eventually be used for a highway bypass, doing so does not commit the MoTI to constructing it. MoTI has the sole right to decide when and if a highway bypass is to be constructed around Vernon. As described in Section 6.2.3 and shown on Figure 3, MoTI has a Highway 97 Traffic Management Strategy that covers the next 25 years this strategy does not include a bypass. It identifies the proposed improvements designed to manage traffic growth on Highway 97. The effects of these improvements and future traffic growth will be monitored to ensure that this strategy achieves its aims. MoTI and City staff will continue to monitor the progress of the Highway 97 strategy and this will be included in future updates to the MTP, approximately every five years.

Background

In the 2008-2031 Transportation Plan, analysis of traffic growth to 2050 found that without an increase in the percentage trips taken by walking, cycling and transit, intolerable congestion would occur on several east-west and north-south routes once the population reaches 64,000 residents. As described in Chapter



4, current growth projections indicate that Vernon is expected to reach 64,000 residents by 2080, rather than the previously estimated date of 2050.

The 2008-2031 Transportation Plan included a 25+ year strategy that explored the protection of three possible highway bypass routes for Vernon. The first option of using the existing rail corridor through the city to create an elevated highway was not economically feasible. The two other options were to go around the city, either on the west side or the east side. Both options could achieve congestion reduction on Highway 97 and, depending on the number of intersections along the route, also reduce congestion on municipal roads. The western alignment was ultimately identified as the preferred option in that it minimized community severance, satisfied mobility and safety concerns, is supported by the land use plan and existing development patterns and provided opportunities to mitigate noise, agricultural and environmental impacts better than the eastern alignment. The cost identified in 2008 for the western highway bypass, dependant on the design selected, including the initial land acquisition and capital costs, ranged between \$500 million and \$625 million.

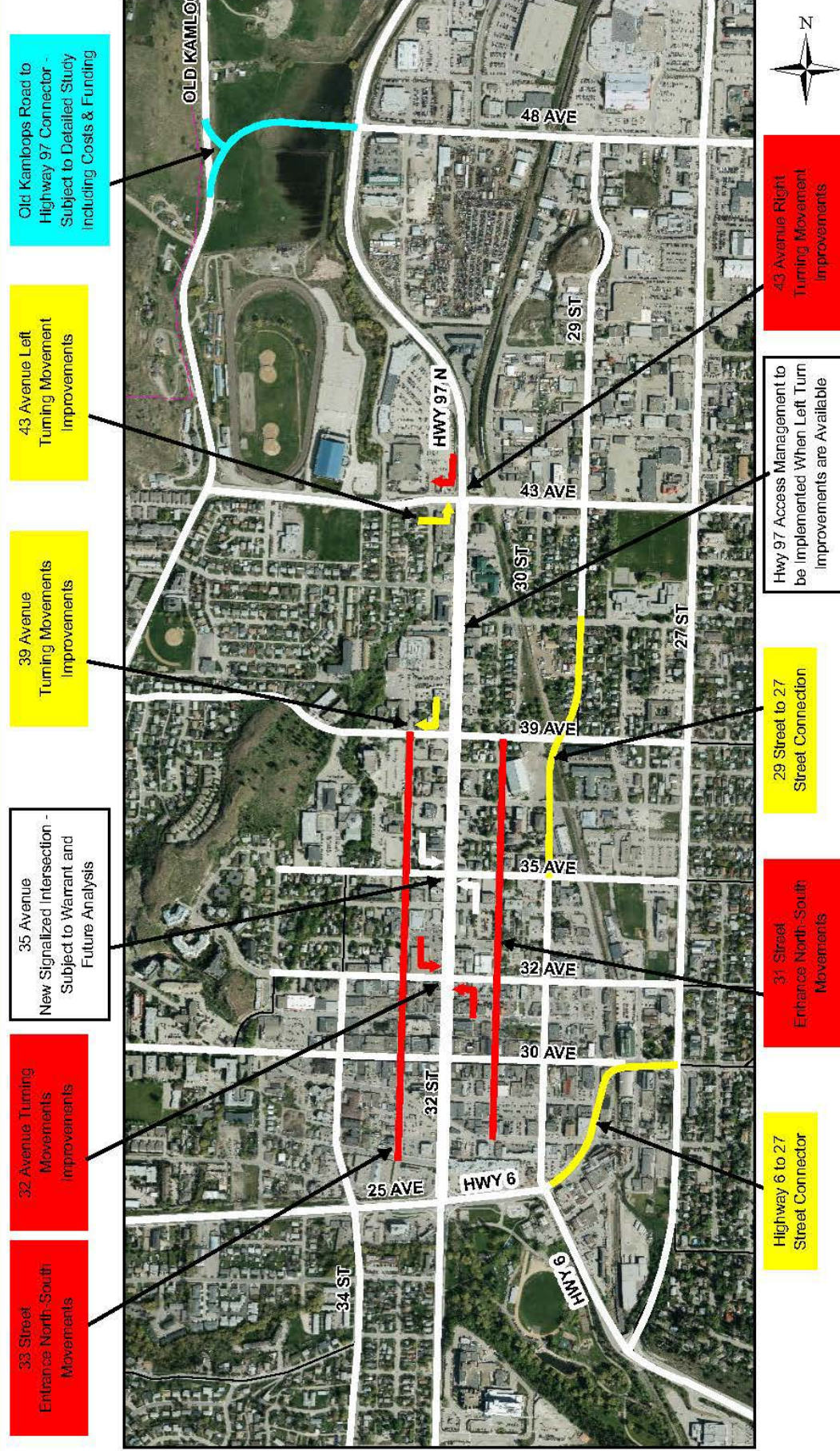
Conclusion

Given the estimated timeframe of 65 years (i.e. 2080), in conjunction with the large number of variables (e.g. unknown local and global circumstances, unknown tolerability levels at that time), it is not practical to include a projected construction date for one solution to this forecasted congestion, i.e. a Vernon highway bypass, in this plan. The MTP should be reviewed approximately every five years. Depending on these reviews of traffic growth, changing variables and the performance of Highway 97, the timing for a bypass may move forward, be delayed beyond 2080 or negated altogether. The monitoring of the effectiveness of the 25 year strategy included in this plan will, in the future, enable the Council of the day and the community to decide whether they want a thorough review to determine the alignment and potential impact of a bypass to the community.



Proposed Highway 97 Traffic Management Strategy

Figure 3



Legend

- Short Term Improvements - 0 to 5 years (2015 to 2020)
- Medium Term Improvements - 6 to 10 years (2021 to 2025)
- Long Term Improvements - 11 to 25 years (2026 to 2040)



Master Transportation Plan

Date: 5/14/2015

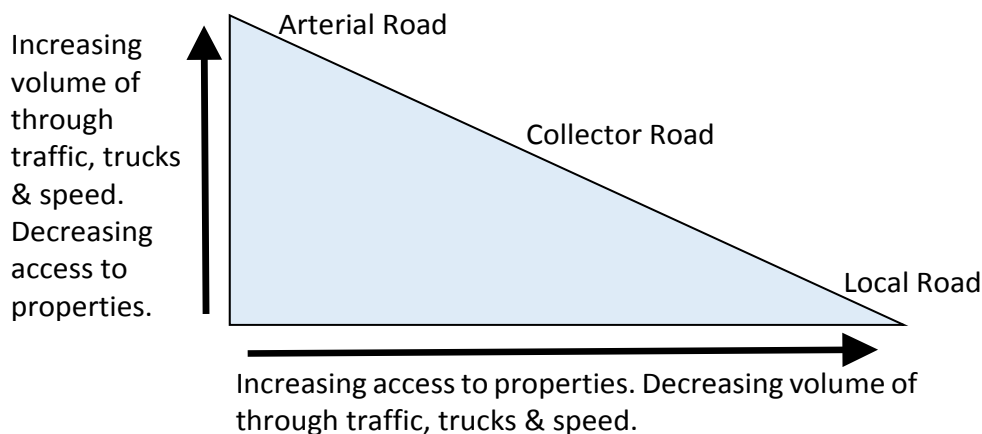
6.2.5 Heavy Truck Restrictions and The Transport of Dangerous Goods Route

Although the national and international movements of freight are beyond the jurisdiction of a municipality, local government can facilitate safe and efficient trucking in their communities. By establishing appropriate roads that can accommodate trucks a municipality can help ensure that mobility for all roadway users is preserved, freight and goods can move safely and efficiently and the local economy continues to grow. Trucks move goods and freight to grocery stores, markets and restaurants, manufacturing facilities, office buildings, and residences that receive delivery of goods and packages. Trucks range from large semis (delivering to grocery retail stores and moving vans) to gravel trucks delivering aggregates for construction projects to smaller panel trucks that deliver overnight packages to homes or businesses. Like school buses, garbage trucks, fire trucks and other emergency vehicles, they have special operating characteristics for which communities plan for and accommodate.

"Everything except babies and the air we breathe is delivered to us by trucks"
A quote from a local transport company.

The purpose of road planning is to define a street network that is: a) safest for the movement of large vehicles; b) supports local and regional commerce and; c) provides enough capacity and adequate design features to accommodate the anticipated volume, size and weight of vehicles. The primary function of an arterial road is to carry relatively high volumes of intra-municipal and inter-regional traffic through the city in association with other types of roads and as such, are the most appropriate choice for use by truck traffic as shown graphically below.

Chart 4 Road Class and Function



In Vernon the use of arterial roads by trucks is appropriate and supports local and regional commerce. What is beneficial to Vernon are truck restrictions to help trucks avoid inappropriate local roads i.e. residential streets, adverse geometry or grade and roads whose structure does not support heavy trucks. However, it is noted that in spring, load restrictions are put in place on all roads in Vernon in coordination with the MoTI's Seasonal Load Restrictions Program. This program imposes load restrictions on roads, or portions of roads that have been weakened by excess water in the road base.

As part of this plan update it was requested that it be investigated whether a restriction on through truck traffic should be placed on 27th Street between Highway 97 and Highway 6. It is acknowledged that heavier



vehicles have a greater impact on a road surface and sub structure than an automobile. It is also known that increasing the number of axles / wheels on a vehicle spreads the weight and reduces the impact.

Weight vs. Impact on Surface:

Compared to a fully grown elephant, a 100 pound woman wearing stiletto shoes will exert 15 times more crushing pressure on a surface. This is due to the thin tipped heel, focusing all that weight onto a tiny surface area, while an elephant has four big wide feet to disperse the weight.

It is noted that any truck traffic servicing a property / business on 27th Street, or accessed from it, would be exempt from the requested through truck traffic restriction. Any truck travelling along 27th Street to get to another arterial or collector road would also be exempt from the through truck traffic restriction.

Should a truck restriction be implemented to remove all through truck traffic using 27th Street, these vehicles would be required to use Highway 97 to access Highway 6. Although it is known locally as 25th Avenue, the section of road between Polson Park and the Fruit Union Plaza is Highway 6. While the addition of this additional truck traffic could be accommodated on these highways, it would increase the length of time of the morning and afternoon peak periods when delays are experienced. The addition of this truck traffic in the medium to long term could possibly lead to demands to widen Highway 97 through Vernon to six lanes. Such a widening throughout Vernon would lead to the following, this list is not exhaustive, but highlights the major impacts:

- Require the demolition a significant number of properties along Highway 97;
- Induce more local non-truck traffic onto Highway 97 and 6 which would in the future lead to more congestion;
- Increase the community severance at Highway 97 and Highway 6 directly affecting, businesses, pedestrians and users of non-motorised transport;
- Increase traffic delays in municipal streets as the traffic signal timing would have to give the greater green time to the highway traffic with likely cycle times around 3 minutes;
- Increased pedestrian delays at signalised intersections which could lead to the requests for a pedestrian overpass. Note: the land acquisition for ramps and the construction of a multi-million dollar overpass would at the cost of the municipality not MoTI;
- Increase greenhouse gas emissions;
- Increase storm water run-off negatively impacting the water quality; and
- Likely require the removal of the turn lane into the Fruit Union Plaza from Highway 6.

Local trucking industry representatives were consulted over the request to remove through truck traffic on 27th Street, the key impacts are noted as follows:

- Would leave local businesses with only one north-south truck route through Vernon;
- Increase journey times through Vernon by 10 to 15 minutes;
- In order to keep costs down most businesses / companies request deliveries “just in time”. To maintain the ability to meet this, with the increased journey time, the transportation companies would increase the number of trucks servicing local businesses / companies. Therefore, the 27th Street restriction could lead to up to double the amount of trucks on Highway 6 and 97 than is currently using 27th Street;
- The increased transportation costs would either be borne by the transport operator affecting competitiveness or passed on to the customer;
- Increased congestion immediately at Highway 97 at 43rd Avenue; Highway 97 / 6 intersection and along Highway 6 in front of Polson Park;



- Increase congestion along 27th Street during summer when visitors are here;
- 27th Street provides access to many properties on this street e.g. gas stations and motor sales companies and many others properties and businesses accessed from it including a Vernon based truck transportation company; and
- Would lead to the 25 year traffic management plan for Highway 97 of improvements for the Highway 97 corridor needing to be revisited as these additional traffic impacts have not been included;

The percentage of heavy trucks on 27th Street entering and exiting at Highway 97 is 4.2% and 4.4% at Highway 6. These percentages increase and then decrease multiple times along 27th Street between 58th Avenue and 32nd Avenue as trucks use 27th Street while servicing businesses / properties in Vernon. For comparison, 5% of all vehicles registered in Canada are heavy trucks and provincial Highways through Kamloops and other higher volume routes typically have 10% to 15%+ truck traffic.

To assess the impact that the through truck traffic has on the life cycle (the number of years before it requires maintenance) of 27th Street the truck volume, vehicle size and type was assessed by a geotechnical engineer. The conclusion was that the removal through truck traffic on 27th Street would not lead to any significant design life increases on 76% of the length of this road. A section that is 24% of the length of the route, from the City Boundary to 48th Avenue, due to its current construction would see an increase on the life cycle of the road surface of one year up to a possible five years.

Given the small benefit and the numerous disadvantages for the community, local business and commercial industry, a restriction on through truck traffic on 27th Street is not proposed.

The MoTI's Transport of Dangerous Goods (TDG) Program promotes safety in British Columbia in conjunction with the federal TDG regulations. The provincial program is limited to road transportation, while the federal program focuses on all transportation modes and the inter-jurisdictional movement of dangerous goods. Provincial regulations concerning road transportation are incorporated from the federal standard, resulting in a high degree of harmonization amongst the British Columbia, federal and other provincial requirements.

It is noted that since CN Rail took over the operation and maintenance of the line through Vernon they decided that the transport of dangerous goods by rail would no longer take place. The Transport of Dangerous Goods (TDG) Act and Regulations in Canada control how such goods are transported on all Canadian roads including the Provincial Highways in British Columbia. The City of Vernon does not have authority to restrict the transportation of dangerous goods on Highways 97 and 6, but through a bylaw, can control the use of municipal roads. A review of the Transport of Dangerous Goods by through traffic in Vernon was undertaken and its recommendation is to propose adoption of a bylaw that will prevent the use of 27th Street between Highway 97 and 6. Trucks licensed to carry dangerous goods will be permitted to travel on 27th Street when necessary to access businesses / properties they are delivering these goods to. Examples include gas stations, propane for households systems, research and medical facilities requiring radioactive materials. The proposed TDG bylaw cannot and will not prevent these delivery / refuelling activities. In

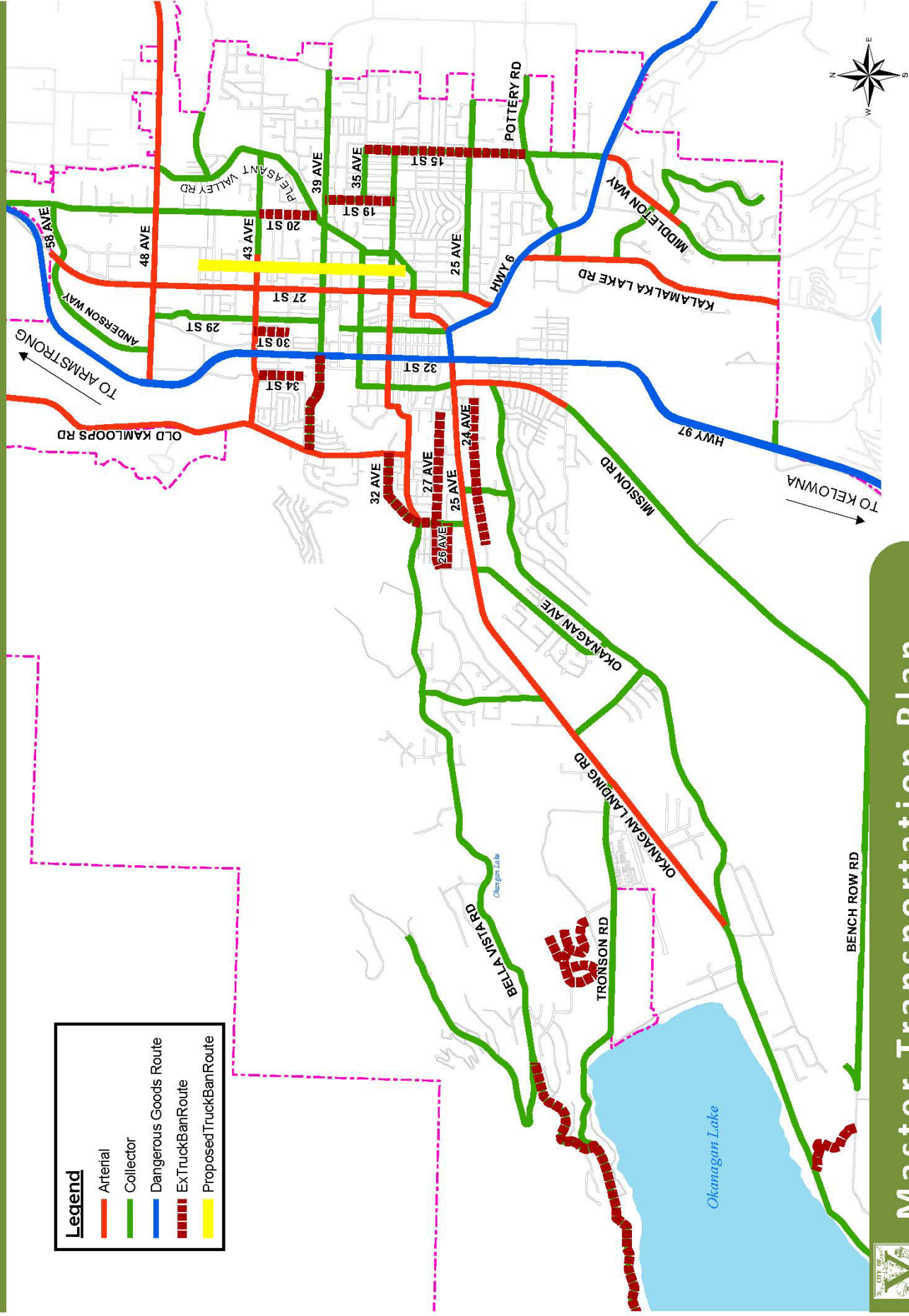


implementing designated dangerous goods route(s), the draft bylaw will need to be submitted to the MoTI for approval. The primary intent of the MoTI review is to ensure that the proposed route does not adversely affect the provincial highway system.

The MoTI has no authority to enforce municipal bylaws. A Dangerous Goods Route Bylaw would have to be enforced by a municipal bylaw officer and/or the RCMP. Signage and education for the trucking industry of the route designated for the transportation of dangerous goods through Vernon. This will include posting the information on the City website regarding the route and enforcement initiatives.

The existing and proposed truck restrictions and the proposed Dangerous Goods Route are shown in Figure 4.





Date: 5/14/2015

6.3 Neighbourhood Traffic Management Policy

The City of Vernon is committed to maintaining and enhancing neighbourhood liveability to attract and retain residents, particularly families. The primary function of roads is to move people and goods. This can be done in a motorized vehicle, on foot or a bike. To safely accommodate the various functions and means of travel, the road network is classified in a hierarchal manner:

- Highways and arterial roads are designated for travel through the city and from one side to the other and are primary truck routes;
- Connector roads to provide linkages between the two (i.e. travel and access); and
- Local roads, including lanes, to provide access to properties in residential, commercial or industrial areas.

However, some drivers, for their own convenience, search out the shortest routes and choose to travel on local roads often driving at an inappropriate speed for that environment, known as “rat racing”. When this occurs in a residential neighbourhood, it adversely affects the liveability and safety of that street. As vehicle dominance increases in residential streets, people often feel increasingly threatened and respond by retracting indoors or isolating themselves in the back yard. This policy is designed to provide a process whereby staff are able to examine roads where action may be warranted and determine the appropriate measure to control the volume and/or speed of vehicles and provide a recommendation for works that will return those neighbourhood roads to their residential nature and intended purpose.

Vehicle Path Management in Residential Streets

The principle behind managing the path of vehicles is to slow the vehicles down such that these residential streets become a calmed shared environment. Rather than having separate areas of street designated for specific users i.e. motorized vehicles get the asphalt in straight line and pedestrians get the sidewalks on the edges, the street is treated as one shared surface. They can be identified by marked and signed entry treatments indicating to drivers that this is a slow vehicle environment. By the strategic placement of parked vehicles, street furniture or trees (which can also be for surface water treatment) the street changes from being a straight through corridor designed to promote vehicle speeds to one where the vehicles have to reduce their speed and share the environment with the other users and neighbours. These often include areas used by children playing in summer and for snow storage in winter.

Vehicle Path Management



In Vernon there are a number of residential streets that do not currently have sidewalks or separated pedestrian facilities, but do have an asphalt surface. Residents concerned that they might hold up the passing traffic often park as far off the travel lanes as possible, sometimes, completely in the boulevard. This has the effect of giving the traffic no reason to slow down. This then leads to residents only occupying the street for the least amount of time possible. Should suitable locations in Vernon see inappropriate vehicle speeds then they could, through strategically placed parking, create a new vehicle path, marked out in road paint at a relatively low cost. Should a more permanent means altering the vehicle path be desired then chicanes can be installed as seen below in Ottawa.





Cambridge Street (northern section), Ottawa – Google Street View

The neighbourhood traffic management policy states which measures will be permitted on which roads. Further determination of which measures will be used will be driven by the true nature of the traffic issue. All proposals will be subject to consultation with the residents and public, emergency services, transit and RCMP and require approval from Council.

7.0 Transit Strategy

Transit has tremendous potential to contribute to more economically vibrant, liveable, and sustainable communities. Realizing this potential is increasingly important due to factors such as climate change, population growth, an aging demographic, and availability of affordable transportation choices for individuals who do not have access to a private automobile. Future growth will place increasing pressure on the existing transportation system and transit will play a key role in addressing this challenge.

Transit has expanded the service provision, hours of service and frequency since 2008 and this is directly reflected in the 38.5% growth in ridership from 312,756 in 2008 to 432,829 in 2014. In 2013 and 2014 the City of Vernon, in partnership with BC Transit and the RDNO developed a 25 year Transit Future Plan for the Vernon Regional Transit System. The full document can be viewed on the BC Transit website and the City of Vernon website, the key elements of this document have been summarised in this chapter.

7.1 North Okanagan 25 Year Transit Future Plan

The Transit Future Plan (TFP), endorsed by Council in 2014, builds on the City of Vernon, District of Coldstream and RDNO land use and transportation policies and includes an implementation strategy for transit investments. The TFP was developed through a participatory planning process involving a stakeholder advisory group and broad community consultation. The TFP envisions the transit network 25 years from 2013 (i.e. 2038) and describes the services, infrastructure and investments that are needed to achieve that vision.

The TFP sets a transit mode share target of 2.5% for all trips by 2038, which will require the conventional transit network transit (Routes 1 – 8 in Vernon and Coldstream) ridership to grow from 445,330 to 1.4 million trips per year. This target aligns with the Provincial Transit Plan's transit mode share target for regional centres in British Columbia.



Vision Statement: The North Okanagan System connects people and communities through cost effective, convenient, safe and accessible services.

Five FTP goals were created to support the achievement of the vision statement. They work towards a vision that encompasses more than simply carrying more transit passengers in the most cost efficient manner. The goals look to getting more people on the bus and making the experience convenient and enjoyable in that they continue to choose transit as their preferred travel mode.

Goals

- 1) The transit system is an attractive alternative to the private vehicle:
 - Fast and direct;
 - Convenient and reliable;
 - Easy to use;
 - Comfortable;
 - Accessible to everyone.
- 2) The transit system complements the goal of compact complete communities:
 - Aligns with local and regional land use plans;
 - Focused on most built up neighbourhoods;
 - Linking key Neighbourhood centres.
- 3) The transit system aids in reducing environmental impacts:
 - Supports a sustainable urban form;
 - Supports a sustainable transportation network;
 - Investigates new vehicle technologies;
 - Attracts riders away from single occupancy vehicles.
- 4) The transit system is efficient:
 - Maximizes ridership for the amount of resources available;
 - Matches travel service levels to demand;
 - Matches transit vehicles to demand.
- 5) The transit system is integrated with other land use and transportation plans:
 - Integrates with all other forms of active transit such as cycling and walking;
 - Complements land use and road upgrades;
 - Transit is taken into consideration when making infrastructure upgrades and improvements in the region.

The transit network has four distinct layers of service: the urban conventional service in Vernon and Coldstream; the regional connections between the towns of Armstrong, Spallumcheen, Enderby and Lumby; the interregional connection between Vernon and Kelowna; and the Custom Transit service. The TFP network has been designed to be competitive with automobile travel by improving the directness, reliability and frequency of the transit system. This leads to the establishment of two new categories of service described as follows:

Core Transit Network

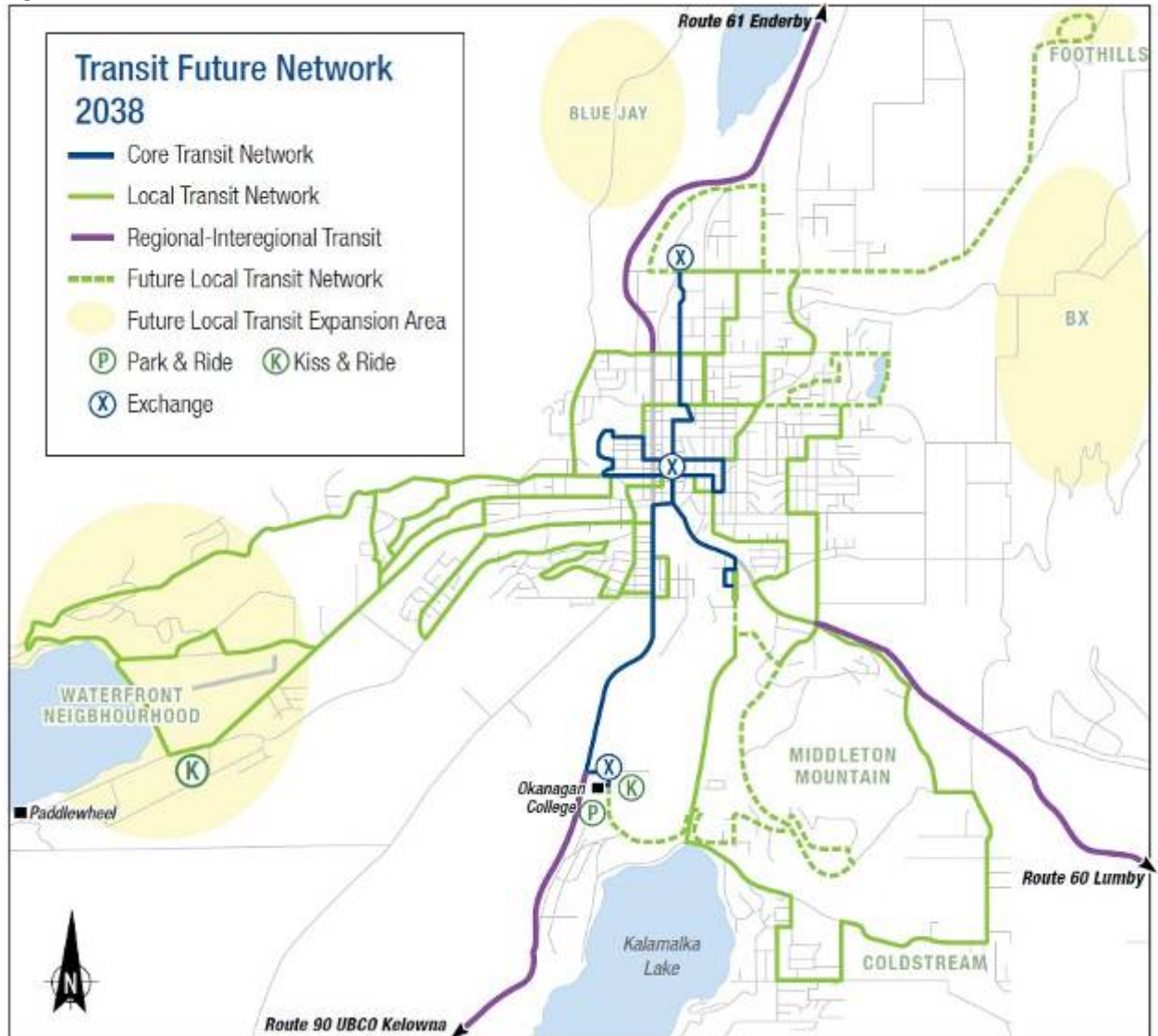
The Core Transit Network (CTN) will be Vernon's Frequent Transit Network and provides medium to high density mixed land use corridors with a convenient, reliable and more frequent transit service on weekdays between 7:00 a.m. and 10 p.m. The goal of the CTN is to allow customers to spontaneously travel without having to consult a transit schedule. The CTN will carry the majority of the transit system's total ridership, and for this reason it justifies capital investments such as a high level of transit stop amenities, service branding, right-of-way improvements and transit priority measures.



Local Transit Network

The Local Transit Network (LTN) is designed to connect neighbourhoods to local destinations and to the CTN. LTN services allow customers to plan a trip to work, school, and the local shopping centres by transit. Frequency and vehicle types are selected based on demand. The introduction of the Core Transit Network will see route changes within the existing system to remove overlap.

Figure 5 Transit Future Network



7.2 Implement Priority Bus Route Changes

The TFP network requires prioritizing transit investments and developing an implementation strategy to transform today's network into the future network, this is set out in the following sections. However, it is essential to understand that route changes and new routes are subject to population density thresholds and both local and provincial governments having the funding available.



Route Implementation Priorities - Short-term (1-5 years)

1) Review demand for Inner City Loop Service for Core Transit Network:

This core transit route will provide a convenient frequent loop service to the key travel destinations in the centre of downtown Vernon. The service will operate Monday to Friday on a 15 minute frequency.

2) Develop the Core Transit Network (CTN)

Phase 1: Introduce frequent service between the downtown exchange and Village Green Centre:

- Weekday services 7am -10pm, a 20 minute frequency (in peak periods), 30 minute all other times;
- Saturday services 8am-10pm, a 30/60 minute frequency;
- Sunday services 9am- 6pm, a 30/60 minute frequency.

Phase 2: Introduce frequent service between the downtown exchange and Polson Mall. The span and frequency of service would be similar to that introduced in Phase 1 above.

3) Realignment of existing Route 2-Pleasant Valley and Route 3-Alexis Park to compliment CTN:

Short term service changes can begin to develop the CTN spine. Realignment of these routes will avoid overlapping of services once full CTN spine is operational.

4) Coldstream - Introduce Local Transit Network (LTN) Service to Middleton Mountain:

- This will be the introduction of a new Local Transit Route;
 - This new weekday service will operate between 6am and 8pm with 60 minute frequency.
- Introduction of this new LTN route is contingent on the development of the new Polson Place Mall secondary exchange.

5) Improve frequency and structure to Route 4-East Hill:

Weekday services Monday to Friday, 30 minute frequency, operating between 6am & 8pm.

6) Enhancement of all urban weekday services:

- Increase span of hours to 6am -10pm;
- Increase span and frequency of weekend and Statutory Holiday services.

7) Coordinate schedule alignment of Route 60-Enderby with Salmon Arm service Route 11.

Route Implementation Priorities - Medium and Long Term (6 – 25+ Years)

8) Finalise the development of the core transit spine:

Phase 3 realignment of Route 6 along Highway 97:

- Weekday services 7am - 10pm, a 20 minute frequency (in peak periods), 30 minute frequency all other times;
- Saturday services 8am-10pm, 30-60 minute frequency;
- Sunday services 9am- 6pm, 30- 60 minute frequency;



- Realignment of this route requires coordination with MoTI and Vernon Jubilee Hospital to install appropriate bus stops and safe pedestrian connections to the hospital across Highway 97.
- 9) Improve Regional Connections to Kelowna:
- Expand service to offer hourly trips between 7am and 7pm, Monday to Friday.
- 10) Improve Regional connections to better meet Interregional transfers:
- Route 60-Enderby: expansion of service Monday to Friday, between 7am-7pm;
 - Route 61-Lumby: expansion of weekday trips between, 7am-7pm.
- 11) Introduce New Local Transit Network (LTN) Route:
- Waterfront Neighbourhood Centre, hourly service Monday to Friday.
- 12) Introduce New Local Transit Network (LTN) Route:
- Foothills to Village Green Centre, hourly service, Monday to Friday
- 13) Introduce New Local Transit Network (LTN) Route:
- Blue Jay
 - BX & Paddlewheel
 - 3-5 trips per day, Monday to Friday

Infrastructure Improvements - Short Term (1-5 years)

- 1) Examine Kiss and Ride Stations at Downtown Vernon exchange and Okanagan College (Kiss & Rides are where other car drivers drop off transit passengers at the transit exchange / bus stop.)

Downtown Vernon:

- Short term option: Convert 3 metered stalls on east side of 31st Street to 15 minute maximum stay to provide Kiss & Ride.
- Long term option: 31st Street to provide Kiss & Ride and handyDART transfer location.

Okanagan College:

- 4 short stay dedicated car spaces close to bus stops.

- 2) Examine secondary exchange improvement possibilities at Village Green Centre, Polson Place Mall and Okanagan College:
- Village Green Centre requires an exchange that can accommodate 4 bus pull outs complete with shelters and customer amenities. Ideally, the exchange would be situated within the mall parking lot requiring formalised pedestrian and parking lot movements, however alternate on roadside facilities at a key access point can also be considered;
 - Polson Mall future capacity requirements include: 3 bus stops in pullouts with shelters. These are proposed to be located in the future road (26th Street being constructed between 19th Avenue and Pottery Road) as part of future development);
 - Okanagan College requires an exchange that can accommodate 4 bus stops. Ideally this would be situated in the College parking lot requiring the removal of parking stalls. However the location of the exchange could also be situated in conjunction with the Park & Ride to be located in Vernon just near the college;



Infrastructure Improvements - Medium and Long Term (6 to 25 years)

- 3) Identify and develop formalized Park & Ride site near Okanagan College;
- 4) Examine weekend service possibilities to UBCO Kelowna;
- 5) Expand evening and weekend service on Routes 60 and 61;
- 6) Further examine transfer points/ secondary exchange possibilities at Okanagan landing and waterfront Neighbourhood Centre;
- 7) Identify & develop formalized Park & Ride sites in Armstrong and possible site in Swan Lake;
- 8) Examine construction of Kiss & Ride stations at Foothills and Waterfront Neighbourhood Centre - Long Term.

Park & Ride facilities are very good at providing convenient, cost effective parking for the rider and reducing the need to travel all the way into a city centre. Park & Rides provide a facility that riders can drive too when they live in area with limited access to transit. Park & Rides are valuable in rural areas where it is unfeasible to provide extensive transit service. Park & Rides should be conveniently located for commuters to access, free of charge, and there should be few transfers.

Two Park & Rides and four Kiss & Rides currently support transit service in the North Okanagan. The City of Vernon has a Park & Ride, which provides carpooling parking for permit holders up to 36 vehicles on north side of College Way. Armstrong has a Park & Ride, which consists of roadside parking areas near bus stops.

A Kiss & Ride is located near the Downtown Vernon exchange and within the parking lot of the Okanagan College (this is an unregulated use of Okanagan College parking lot). Polson Mall has a bus stop on Kalamalka Lake Road, where passengers are dropped off for access to transit services.

Table 6 Future Exchange facilities in Vernon

Location	Type	Future Requirements	Priority
Downtown Vernon	Kiss and Ride	3 dedicated short stay parking stalls	Short term
Village Green Centre	Secondary Exchange	4 bus stops in pullouts with shelters	Short Term
Polson Mall	Secondary Exchange	3 bus stops in pullouts with shelters in 26 Street when the road is constructed.	Short Term
Polson Mall	Kiss and Ride	3 short stay dedicated parking stalls for a Kiss and Ride.	Short Term
Downtown Vernon	Terminus	An additional 3 recovery / layover stalls within a two block radius to the existing 7 pullouts bus stops with shelters.	Medium Term
Waterfront Neighbourhood Centre	Secondary Exchange	2 bus stops in Marshall Road on north side with pullouts and one shelter.	Long Term

7.3 Bus Stop Improvement Program

For ridership to continue to increase bus stops need to be as accessible as possible. Mobility impairments can be temporary or permanent and include: a broken leg; carrying many bags of shopping; having a child



in a stroller and disabilities that lead to a dependence on a walking frame, wheelchair or mobility scooter. All busses have a ramp that can be used for access onto the bus, however, streets without sidewalks or a bus stop pad, can make the use of this ramp very difficult due to the steep angle of the ramp. With an annual program of bus stop improvements the costs of constructing concrete bus stop pads in these locations and where suitable, add benches, bus schedule panels and bus shelters could be implemented.

7.4 Incentives and Measures to Maximize Ridership

Reliability is a key factor in encouraging greater transit use. Knowing when the bus is due to arrive, its route and how long it will take provides that reassurance for users. The implementation of an on-line trip planner will provide this service. Information provided on-street is also key. Providing information on the services is key, as with any product, the user's needs information on how to use it. Transit is no different, making residents aware of the service, hours of service and the advantages is important in attracting riders.

BC Transit is undertaking a provincial review of fare setting practices. It is anticipated that in due course a new fare setting strategy will be put forward that will be designed to increase and retain ridership. There is presently a multi-zone fare structure in the North Okanagan. Travel within an area is considered one zone and travel between areas is two zones, students and seniors receive a discount and there are day, month and semester passes, all of which leads to many fare products having to be available. More convenient methods of payment such as an annual pro-pass paid through salaries would further encourage ridership.

In the future, transit priority measures may be necessary. Bus only lanes and traffic signal triggers could be implemented on severely congested routes to achieve service reliability in terms of a guaranteed journey time for the bus.

Overall, to encourage and retain ridership, the service needs to have the following elements:

- A strong brand and identity;
- Easy to understand and use fare products
- User education;
- User information systems, on-street and on-line;
- Marketing campaigns;
- Public relations and external communications;
- User feedback systems; and
- Online engagement.

7.5 Custom Transit Registration Process Pilot Project

In Vernon two types of accessible transit service are offered for people with permanent or temporary disabilities: the fully accessible fixed-route conventional (Routes 1-8) service and the shared door-to-door handyDART service. All of the fixed-route service buses are accessible as they are low-floor buses with ramps. Fixed-route buses have straps to secure wheelchairs or scooters. Many customers use a combination of fixed-route and handyDART services depending on their travel needs and destination. Customers using wheelchairs or scooters, registered handyDART customers with vision impairments who are CNIB pass holders may travel with an attendant. Attendants travel for free and must board and exit at the same stop as the customer requiring assistance and help load and secure mobility aids on the bus.



In recent years the demand for handyDART trips was exceeding supply and with the projected increase in the number of seniors living in Vernon it became necessary to try a different approach. BC Transit is not alone in facing this challenge in Canada and through national and international research they developed the Custom Transit Registration Pilot Project. Vernon joined the pilot project in February 2014 as the aim of the pilot was to try to ensure those most in need get access to custom transit services. It does this by matching people with the most appropriate transit service for them and if appropriate, orientate them on how to use the conventional system. The new registration process requires a medical professional to take into account each individual's travel needs in addition to their cognitive and physical abilities with regard to using the fixed route bus. The pilot project has been positively received by the applicants, many of whom stated they were unaware that the fixed route system was fully accessible and could provide more flexibility in terms the times they would be able to make their trip.

In the pilot project's first year a reduced demand was observed on the handyDART service. The primary areas in which there have been significant improvements as a result of the pilot program are:

- More individuals are able to get trips that they need, as reflected in the decline of "unmet trips";
- As a result of a better informed public, some individuals who initiate the application process are deciding that the service isn't for them and are completing applications in smaller numbers;
- In-person assessments are enabling handyDART dispatchers to apply trip conditions in a way that was not possible prior to pilot implementation, resulting in a freeing of capacity to meet other trip requests;
- Based on follow-up telephone surveys with applicants who participated in an in-person assessment, all those surveyed found it to be a positive and respectful experience; and
- More than half of the applicants surveyed reported that they learned new information about local transit options after speaking with a mobility coordinator.

BC Transit will be continuing with the new registration process in Vernon and in the near future will be presenting the pilot project's findings to the BC Transit Board of Directors. After the completion of the pilot project a service review is planned to determine short medium and long term plans for the custom service.

8.0 Pedestrian and Bike Master Plan

Vision Statement: *to create an affordable multi-modal network that provides travel choices and connects neighbourhood centres by providing safe, convenient and accessible facilities for pedestrians and cyclists that supports the health and quality of life of residents, local businesses and tourism industry and protects the environment.*

Vernon is ideally located in the Okanagan Valley with good weather and is of a size that can support a large percentage of the population walking and cycling. Walking and cycling produces no air or noise pollution, decreases traffic, reduces taxpayer burden, helps alleviate parking demand, saves energy, uses land and road space efficiently, provides mobility, saves individuals' money, improves health and fitness and is quick and fun.

Walking and cycling is a key means of transportation, leisure and fitness for many Vernonites and a desired means of transportation for many more. The percentage of all trips made by bicycle in 2013 was 1.9%. All of BC Transit's busses are equipped with bicycle racks. City of Vernon Parks Master Plan includes a proposed network of off-road trails. There are many bicycle and outdoor activity shops providing employment and supporting tourism in Vernon. There is an impressive array of clubs, societies, advocacy,



education and support groups, including the Ribbons of Green Trails Society (ROGTS); the Greater Vernon Cycle Advisory Committee (GVCAC); the Kalamalka Running and Triathlon Society (KAL RATS); the North Okanagan Cycling Club (NOCS); the Vernon Outdoors Club; the Sustainable Environment Network Society (SENS) and the Okanagan Rail Trail Group. The RCMP Safer Communities Team's Safety Patrol and City of Vernon staff undertaking annual assessments of the condition travel by bike. The Community Development and Engineering Departments also share the use of an electric bike donated to the City by SENS. All these groups and the City of Vernon staff, in consultation with the RDNO Parks and Recreation staff are all working to make walking and cycling a more sustainable, achievable and safer option for all, particularly for vulnerable users such as children and seniors. Whilst people will use some form of motorised transport for longer journeys, all trips begin and end with a walk or a bike ride.

The key benefits of expanding and supporting walking and cycling networks and programs, include:

- **Public health and safety:** as a more physically active, therefore healthier, form of transportation, there are proven links to improved public health outcomes with more walking and cycling. Well-designed networks and purpose-built infrastructure can also greatly improve pedestrian and cyclist safety;
- **Environment and sustainability:** walking and cycling has multiple environmental benefits. As a self-propelled form of transportation, it generates no air pollution and is far less carbon intensive than other forms of transportation, particularly the SOV. Walking, cycling and transit are an important part of a municipal GHG reduction strategy;
- **Economic and financial:** the development and maintenance costs of walking and cycling infrastructure are far lower than for the infrastructure for other forms of transportation, both overall and on a per-capita basis. Such infrastructure and amenities can have positive local economic development impacts and produce individual cost savings;
- **Community and quality of life:** improved pedestrian and bicycle networks can have many positive impacts on overall community and individual well-being, social cohesion, community identity, and equality issues; and
- **Transportation and connections:** a good network improves connections to, and between, community destinations, which improves the broader transportation network. With the majority of transit trips beginning and ending with walking, public transit ridership in particular can benefit from an expanded walking network.

Promoting walking and cycling as attractive and convenient transportation choices can help reduce automobile dependence, increase physical activity levels, improve public health, reduce infrastructure demands, and create more livable and vibrant communities. The aim is to create a multi-modal environment that balances the needs and desires of all users. This is far from easy and sometimes it is not possible to satisfy everybody all of the time. It is therefore the intention of this plan to concentrate on how to provide facilities for pedestrians and cyclists with due consideration of the other road users.

The proposed walking, cycling and trail networks were reviewed with the assistance of the Greater Vernon Cycle Advisory Committee (GVCAC), Ribbons of Green Trails Society (ROGTS), Vernon Outdoors Club, Interior Health and through thirteen public engagement events. A new classification system has been developed and this is shown in Figure 6 (a to f) with the maps of the existing and future networks. Vernon currently has 165km of sidewalks, 90km of shared use facilities and 30km of on-road bike lanes. Additions to the network by 2040 are intended to provide: 170km of shared use facilities, 211km of sidewalk and 37km of on-road bike lanes. Users of the pedestrian and bike network have different levels of ability and trip purposes. An experienced cycle commuter would prefer to use direct on-road bike lanes. Whereas an elementary school student would prefer a multi-use path separated from the traffic. As such each aspect



of the network has been classified in terms of the facility's target users and trip purpose into one of the following categories:

Table 7 Pedestrian and Bike Facility Categories

Facility	Description	Primary Function	Primary Users	Use Restrictions
Class 1 Trail	Major urban multi-use path	Spine of the multi-modal network across the city to / from major land use destinations	Pedestrians, bikes and wheelchair / mobility aid users	
Class 2 Trail	Paved multi-use path	Connect housing to local destinations, schools and colleges	Pedestrians, bikes and wheelchair / mobility aid users	
Class 3 Trail	Unpaved / wooden multi-use path	Provide connection within parks and neighbourhood areas	Pedestrians and bikes	Grade & surface dependent for wheelchair / mobility aid users
Class 4 Trail	Off-road unpaved trail or boardwalk	To connect and access natural areas	Pedestrians	Grade & surface dependent for wheelchair / mobility aid users and bikes
Sidewalk	Concrete area most often with curb and gutter	Transportation on foot / wheelchair / mobility aid users	Pedestrians and wheelchair / mobility aid users	
Connector	Short paved and unpaved pathways, creek crossings and trails	Transportation network connections to shorten trip distance between streets and trails.	Pedestrians and bikes	Grade & surface dependent for wheelchair / mobility aid users
On-Road Bike Lanes	Lane on the road next to a sidewalk with signs & road markings	Transportation by bike	Bikes	
Pedestrian & Bike Corridors	Streets with low traffic volume &/or speed, no bike lanes	Transportation on foot or by bike	Pedestrians, wheelchair / mobility aid users and bikes	
Shoulders	Outer edge of the road surface marked by a painted line	Transportation on foot or by bike	Pedestrians, wheelchair / mobility aid users and bikes	
Stairs	Wooden, metal or concrete stairs	Transportation on foot	Pedestrians	Bike ramp provision: enables bikes to be pushed
Shared Surface Streets	Surface shared with traffic. Can include Neighbourhood Traffic Management measures	Transportation on foot, wheelchair / mobility aid or by bike in residential streets	Pedestrians, wheelchair / mobility aid users and bikes	



8.1 Supporting Local Businesses and Tourism

One of the main aims of the OCP is to revitalize the Downtown. National and international experience shows that creating an environment that enables and encourages walking and cycling results in a place that people want to go to and stay longer. This supports local businesses and shops by attracting people and encourages them to look around. People who take transit to work will walk to local shops and businesses on lunch breaks and before returning home. It has been demonstrated many times in other communities that cyclists actually frequent local shops and businesses more, spending more while there. In recognition of the fact that cyclists do benefit business, the city has just started the development of a “Bike Friendly Business” program. This program will grade shops, businesses and hotels as to how bike friendly they are. The grades will encourage businesses to add facilities such as bike parking for customers, lockers for employees. It will also recognise cycle friendly business practices. Many cyclists also own a vehicle, but choose to cycle. So should a cyclist purchase a large item that they cannot physically fit on a bike, the business may deliver it or keep it in their store room until the weekend when the cyclist can pick up the item by car.

The scenery in and around Vernon is stunning and together with the incredible weather City staff are encouraging people to take their vacation here, supporting the local tourism industry. Hiking and cycle tourism is well established in British Columbia with many people taking a vacation through local companies that supply the local knowledge and support (they take your suitcase and bike spares in a support vehicle) allowing you to cycle unladen from one destination to another with overnight stops in hotels, Bed & Breakfasts and with the meals organised at local restaurants and beauty spots. With the well-established mountain biking opportunities in the Okanagan Valley and the proximity of Silver Star it is clear that creating circular or linked routes would have major benefits to the tourism local economy in Vernon.

8.2 Increase fully connected sidewalks

The sidewalk system needs considerable investment to connect all the possible origins and destinations. The ultimate network has been designed to avoid gaps. This is essential because when a route is not complete the trip is unlikely to be made. However, it also recognised that some neighbourhood streets that currently do not have sidewalk and perform well as a shared-use street. These streets would not have sidewalk in the future and this would avoid a construction cost of \$5.6m. These streets were identified and specifically mentioned at the thirteen public input sessions and did not lead to any objections being raised. Through the development of the cost containment elements of ITF this shared-use street proposal was taken further and some streets (shown in Figures 6a to 6f) have been identified to become shared-use in the future when the street will be reconstructed without the current sidewalk. At the time these streets are due to be reconstructed, which could be up to 60 years away, an assessment will take place to determine if it is still performing well as a share-use street.

To help prioritise the construction of sidewalks that would benefit the most users, the public were asked to review the map of locations and to identify their priorities for construction. The resultant list is included in Appendix 1. This list will guide sidewalk construction planning, but it is not prescriptive.

8.3 Implement pedestrian priority areas

By adopting a Complete Streets approach the streets will be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of



their mode of transportation that emphasizes safety, comfort, and convenience for all modes. To further prioritise sidewalk construction in areas that have a higher percentage of vulnerable users, such as children and seniors, the public and stakeholders supported the following priorities:

1. Schools;
2. Seniors;
3. Transit Routes;
4. City Centre;
5. Neighbourhood Centres;
6. High / Medium Density Residential;
7. Shopping Retail;
8. All other sidewalks.



Sidewalk construction will follow the above priority guide, however, whenever possible economies of scale will be achieved by coordinating work with other planned utility and road maintenance projects. The list of locations for future sidewalk construction are shown in Appendix 1 together with the community identified priorities as a guide.

8.3 Standardize pedestrian facilities & crossing treatments

Below are facilities and improvements that can be utilised to improve the network for pedestrians and will be implemented where warranted, suitable and subject to available funding:

- **Adopt a pedestrian policy:** the policy will re-affirm the importance of walking as an efficient, non-motorized choice of transportation and adopt the philosophy of **8 - 80 cities** which is: *If you create a city that's good for an 8 year old and an 80 year old, you will create a successful city for everyone that are easily accessible, safe and enjoyable for all;*
- **Update the subdivision and development servicing and bylaw (SDSB):** to update construction standards to include the necessary details to become an 8 – 80 city and the following improvement options;
- **Crosswalk enhancement program:** upgrade signs and paint lines to national standards; at all multi-lane crosswalks install overhead signs; and where warranted pedestrian activated flashing amber warning lights;
- **Curb let down program:** install new or upgrade existing let down ramps to improve accessibility of the sidewalks. Many sidewalks when originally built did not include let downs, those that were built are often badly positioned, narrow and steep and do not align with the marked crosswalks;
- **Automatic pedestrian crossing phases in the downtown core:** at the busiest pedestrian crossings downtown remove the need to press the crosswalk button. Currently pedestrians have to press the button during a specific window or wait for the next cycle of the lights to cross;
- **Signal timing:** simple changes to the signal timing at intersections can dramatically improvement pedestrian convenience as well as safety. Such improvements include pedestrian lead intervals, where pedestrians are given a 2 to 5 second advance walk signal ahead of the green signal for the motorized traffic. This is becoming increasingly common in Canadian cities;
- **Refuge islands:** pedestrian refuge islands are medians that are placed in the centre of the roadway separating opposing lanes of traffic, allowing pedestrians to cross one direction of traffic at a time. They support vulnerable users as they eliminate the need to judge the speed and gap availability of traffic approaching from opposite directions;



- **Curb extensions:** extends the curb into the road resulting in a narrower section of roadway for a crosswalk or bus stop. Can be on one or both sides of a roadway to reduce its width. They provide benefits to pedestrians by reducing the crossing distance, improving the sight distance and sight lines for both pedestrian and motorists, prevent parked cars from encroaching on the crosswalk, and create additional space for curb letdowns and standing space where the existing sidewalk space is narrow;
- **curb return radii:** the design of the curb return at intersections depends on the types of vehicles expected to be using the intersection, the dimensions that make up the approaching and receiving lanes, and the curb radius itself. A compromise must often be made between a small curb radius, which is desirable to reduce the speed at which vehicles turn the corner, and a larger curb radius to prevent large vehicles from travelling across the curb and into the pedestrian zone when making a turn;
- **Pedestrian-friendly channelized right-turn lanes:** channelized right turn lanes are generally not recommended due to the high vehicle speeds they induce leading to above average rear end crashes. However, when necessary, the design can be altered to improve the pedestrian and vehicle safety. They reduce driver workload by reducing the angle of shoulder check and entry; improve visibility of pedestrians by reducing viewing angle and reduce turning speed to be more consistent with yield conditions that may require a full stop; and
- **Provide shoulders:** in suitable roads provide paved shoulders shared by pedestrians & bikes where paint lines identify the edge of road for use by pedestrians to walk against the oncoming traffic and for bicyclists to ride in the same direction of travel as traffic, to a minimum width of 1.5m and on both sides of the road.

8.4 Utilise connectors between multi-use paths and sidewalks to maximise connectivity

In some areas the distance between intersections can be up to 600 metres which can make a walk or a bike ride so long that the trip is often not made. By adding connectors to provide short cuts the route length can be drastically reduced making walking and cycling a more realistic option. Through the planning and building application process, all attempts are to be made to provide connectors where the distance between intersections exceeds 400 metres and to connect cul-de-sacs for pedestrians and cyclists.



8.5 Increase fully connected bike routes

North American research recognised across the US and Canada identifies the population of a city as being one of four types of cyclists:

- **Strong and the fearless:** who ride regardless of road conditions. Riding is a strong part of their identity and they are generally undeterred by road conditions, so little needs to be done to encourage these riders;
- **No way no how:** these residents have valid reasons for not riding and no attempts should be made to convince them otherwise.

Chart 5 Four Types of Cyclist in a City



- **Enthusied and confident:** are comfortable sharing the road with vehicles, but prefer to do so in on-road bike lane or in bike corridors. In Portland, USA they found it was this group who had been the early ones to switch to bike commuting as the network started being provided. Continued network improvements and the provision of end of trip facilities will encourage these riders; and
- **Interested but concerned:** like riding a bicycle, remembering back to their youth or to the ride they took last summer, but they are afraid to ride. They don't like vehicle speeds. They get nervous thinking about what would happen to them on a bicycle if a vehicle driver runs a red light or drives too closely and too fast next to them. They would ride more / commute regularly using routes which had less and slower cars, or on bike facilities separated from the vehicles.



So in terms of attracting the biggest sector or the population you aim to provide a connected network, but not the whole network, that attracts the “interested but concerned” by constructing separated facilities and bike corridors.

8.6 Implement bike route priorities

Through the thirteen public engagement sessions held for the Pedestrian and Bike Master Plan the following priorities were endorsed:

1. **Class 1 to 4 trails:** these are separated shared use facilities / multi-use paths that places something between the users and motorised traffic, either landscaping or a simple boulevard strip. The separation could also be a drainage ditch, an upright curb or a good distance from the road such as a linear park;



2. **Pedestrian & bike corridor:** is a road that has sidewalks and lower vehicle volumes and / or speeds which allows cyclists to ride in the road without needing bike lanes. Some roads may need solutions permitted in the Neighbourhood Traffic Management Policy to achieve that, such as this diverter where bikes & pedestrians can go through, but not motorised vehicles;



3. **Shoulders:** shared use for pedestrians & bikes. Paint lines identify the edge of road for use by cyclists to ride in the same direction of travel as traffic and pedestrians to walk against the oncoming traffic;



4. **On-road bike lanes:** Paint lines identify the lane for use by bikes only. Can be next to the curb or next to parking.



Separation from traffic can also be achieved by re-arranging what is already there. By putting both bike lanes together on one side and flipping them with the parking: you get a two way bike facility that is separated by paint, parked vehicles or bollards. The image on the left is of a “green lane project” in the USA paid for through grants as the coloured surface is expensive.



Source: Jonathan Maus



Bike facilities that are recreational in nature are being included in the Parks Master Plan. Bike facilities that enable commuting will be constructed following the above priorities, however, whenever possible economies of scale will be achieved by coordinating work with other planned utility and road maintenance projects. The list of priorities future bike facility construction as shown in Appendix 2 is therefore for guidance only.

In addition the following improvements will be carried out annually subject to available funding:

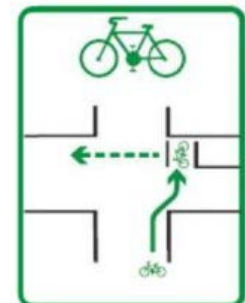
- **Bike parking:** Continue to install bike parking (consider bike racks / public art paid for by businesses that physically represent their business, examples to the right taken from the website of Dero Playcore Company) and monitor use of the existing bike lockers;
- **Median islands:** incorporate a raised island, minimum 2m wide, located on the centreline of the road, separating opposing directions of traffic. Median islands at marked crossings make it easier for cyclists and others to cross the roadway, as they only need to wait for a gap in one direction of traffic in order to cross half the road at a time. Median islands can also be extended through an intersection to obstruct turning movements to and from the side street, thereby reducing traffic volumes at the intersection and along the bicycle route.
- **Clear well maintained facilities:** road markings and signage are important for the comfort of cyclists and provides clarity for motorists. A common design standard for the different types of bike facilities should be developed to identify the correct routes and increase awareness and marketing of the network.



8.7 Standardize bike facilities & crossing treatments.

Below are facilities and improvements that can be utilised to improve the network for bikes and will be implemented where warranted, suitable and subject to available funding:

- **Adopt a bike policy:** the policy will re-affirm the importance of cycling as an efficient, non-motorized choice of transportation and adopt the philosophy providing facilities that support the aim of having an 8 - 80 city;
- **Update the subdivision and development servicing bylaw (SDSB):** to update construction standards to include the necessary details to become an 8 – 80 city and the following improvement options;
- **Marked crossings:** will be implemented where there is a need to identify the bike crossing to motorists. Crosswalk signage and pavement markings can be supplemented with “special crosswalk” enhancements, which include flashing amber warning lights;
- **Crossing enhancement program:** upgrade signs and lines to national standards to permit bikes to be ridden in crosswalks where a bike facility crosses at an intersection; and where warranted install bike signals and bike push buttons at signalised intersections;
- **Refuge islands:** refuge islands are medians that are placed in the centre of the roadway separating opposing lanes of traffic, when constructed to be at least 2 m wide they allow bikes to cross one direction of traffic at a time;
- **Bicycle camera detectors:** at traffic signals the cameras detect cyclists regardless of the type of material they are made from. Traditional inductance loops do not detect aluminium bike frames and cyclists.
- **Left hook turns:** to provide a safe left turn even for the least confident cyclist a left hook turn gives the cyclist the option to make turn in two stages avoiding unnecessary conflicts with motor vehicles.



8.8 Utilise connectors between multi-use paths and trails and bike gutters on stairs to maximize connectivity

Connectors that provide short cuts through communities can also be used by bikes. Even in steep areas that need stairs constructing can still be used by cyclists with the addition of a bike gutter that allows the rider to wheel the bike up or down any stairs.



8.9 Roadside and off-road trail network

Trails are an important part of the transportation network and also provide recreation opportunities through the creation of circular routes attractive to residents and tourists. The trails whose primary function is transportation are included in this plan. Trails whose primary function is recreation are included in the City of Vernon Parks Master Plan under development. In addition the Ribbons of Green Trails Society (ROGTS) also developed a Trails Plan 2013-2033 for the Greater Vernon area, drawing all the different plans together. The detailed location of many future off-road trails is yet to be determined and this will occur as those lands develop or through agreement with the land owner. As such Figures 6a to 6f shows desired connection points for off-road trails, existing and future trails within the City owned and controlled Road Right of Way are shown.

Through the public engagement events the completion of the Grey Canal Trail came out as a top priority for residents. This trail is under the jurisdiction of the RDNO, but the City of Vernon will through the planning and building application process, whenever possible, ensure that the trail right of way is secured on behalf of the RDNO.

The number of existing and future off-road trails are too numerous to list and most are impossible to describe. Key trails were listed and the public were asked to prioritise their construction at the thirteen public engagement sessions to assist in network planning. These are shown in Appendix 3.

8.9.1 Okanagan Rail Corridor

The former CN rail corridor (between Kelowna and Coldstream) has been identified as a continuous multi-modal transportation corridor connecting all the communities along the line. The municipalities of Kelowna, Lake Country, Vernon and Coldstream and the regional districts of Central and North Okanagan are working collaboratively in achieving common transportation goals for the mutual benefit of the valley's










































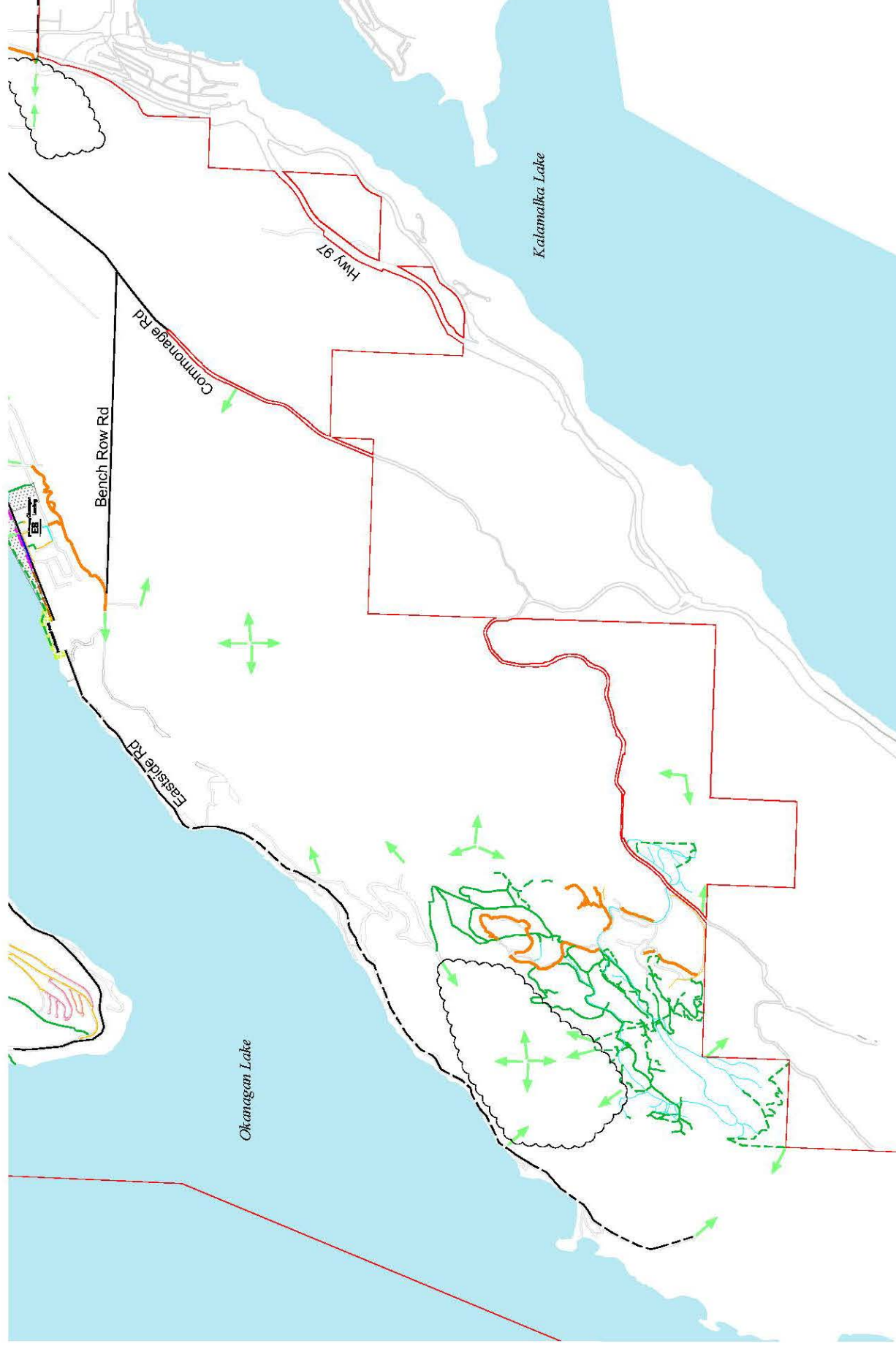
residents. The former rail corridor has the opportunity to be a regionally significant multi-modal transportation corridor with benefits for pedestrians, cyclists and in the future, transit. Its use as a trail is an incredible opportunity for tourism in the Valley. The Province of BC also supports this corridor and has contributed to the funding for its acquisition.

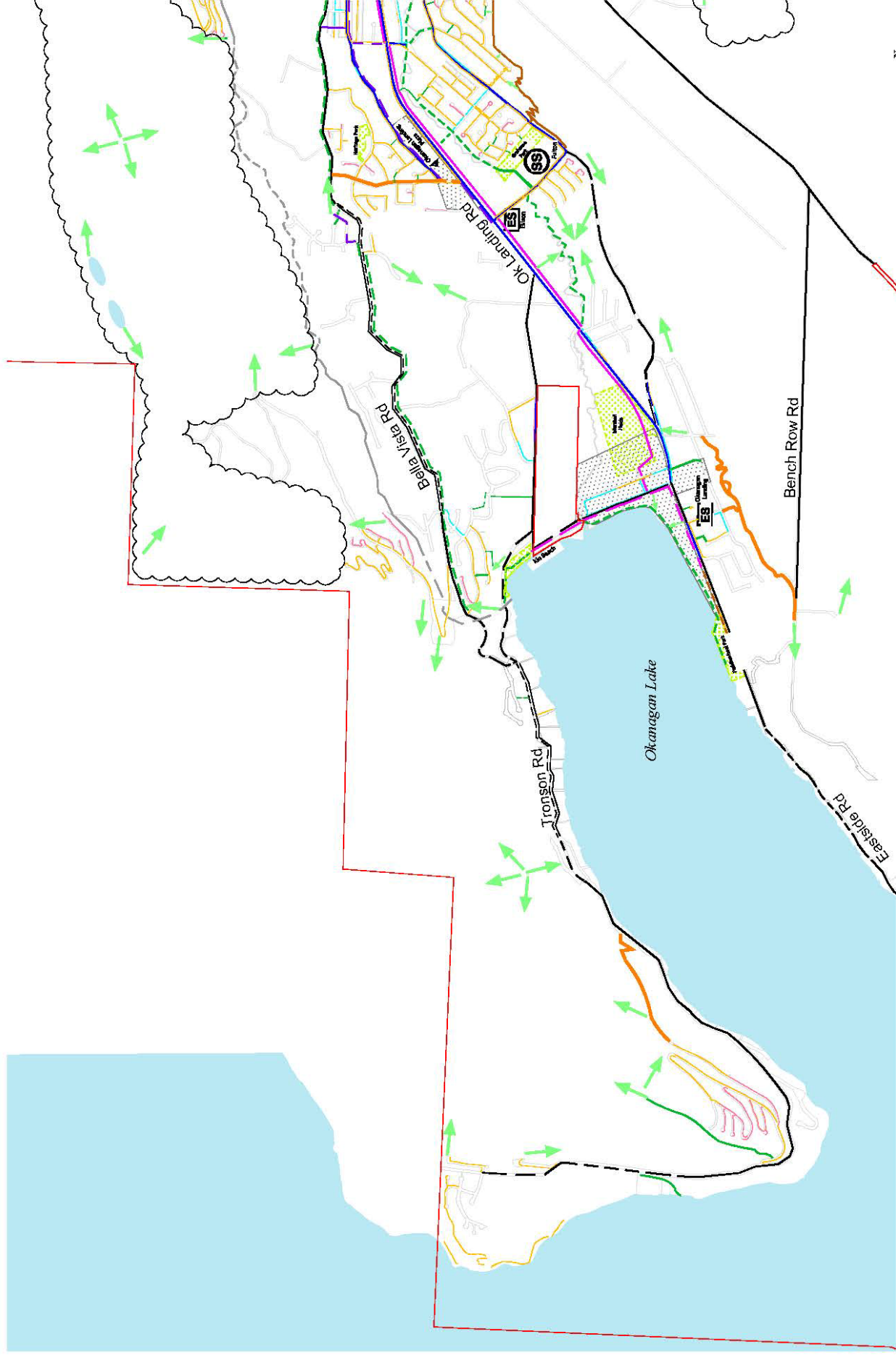
To maximise the access to Kalamalka Lake and the rail corridor the Pedestrian and Bike Master Plan includes a proposed Class 1 Trail as shown in Figure 6d (as shown to the right). This route would start in Polson Park and connect via Kalamalka Lake Road to the City boundary with Coldstream. The terminal point of the rail corridor in Coldstream is approximately 1250 metres from the City boundary. City staff have and will continue to work with District of Coldstream staff to develop a connection between the rail corridor and the Class

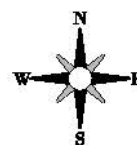
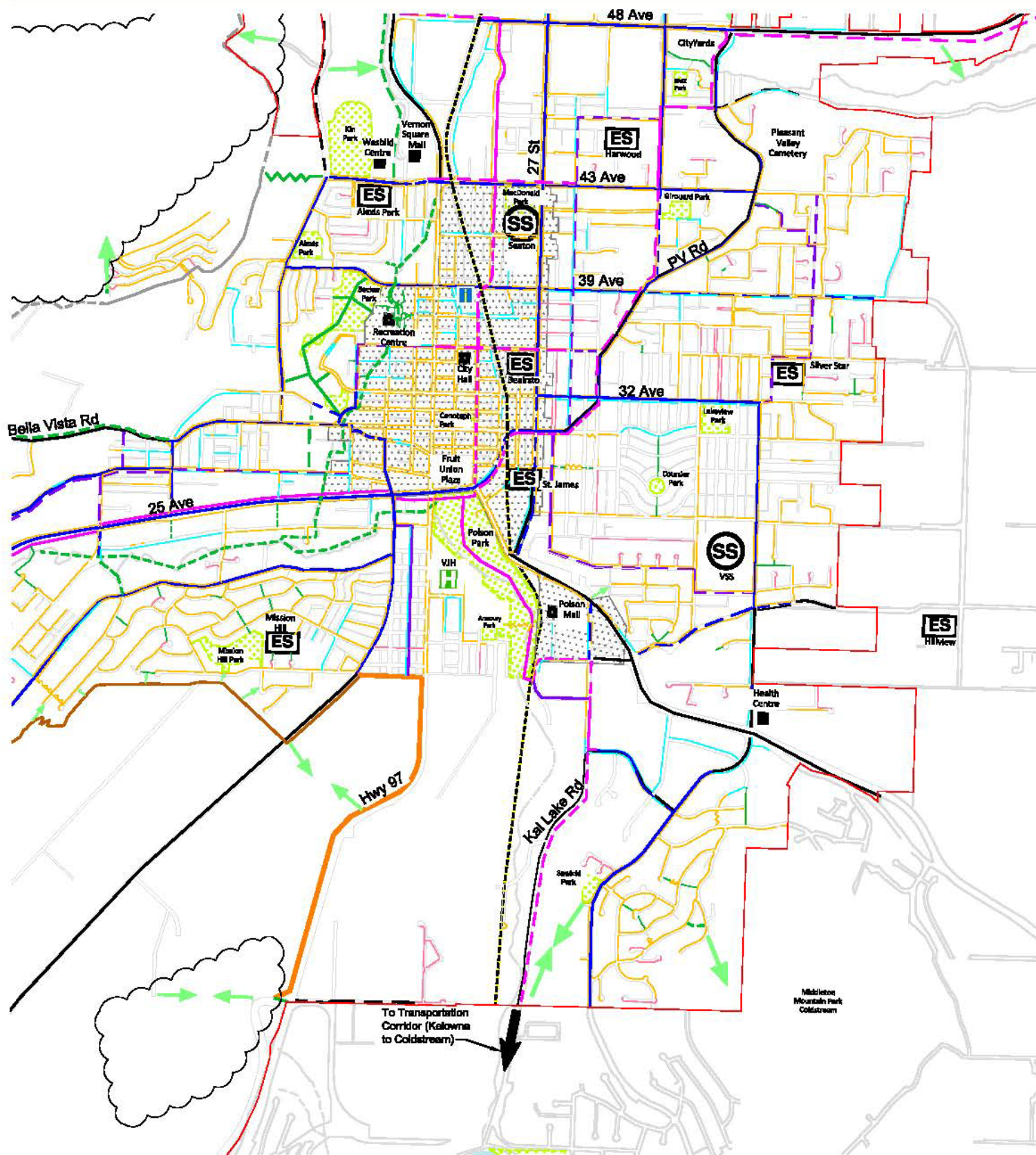
1 trail in Vernon, thus providing Vernon residents and tourists with safer travel options for commuting and recreation.

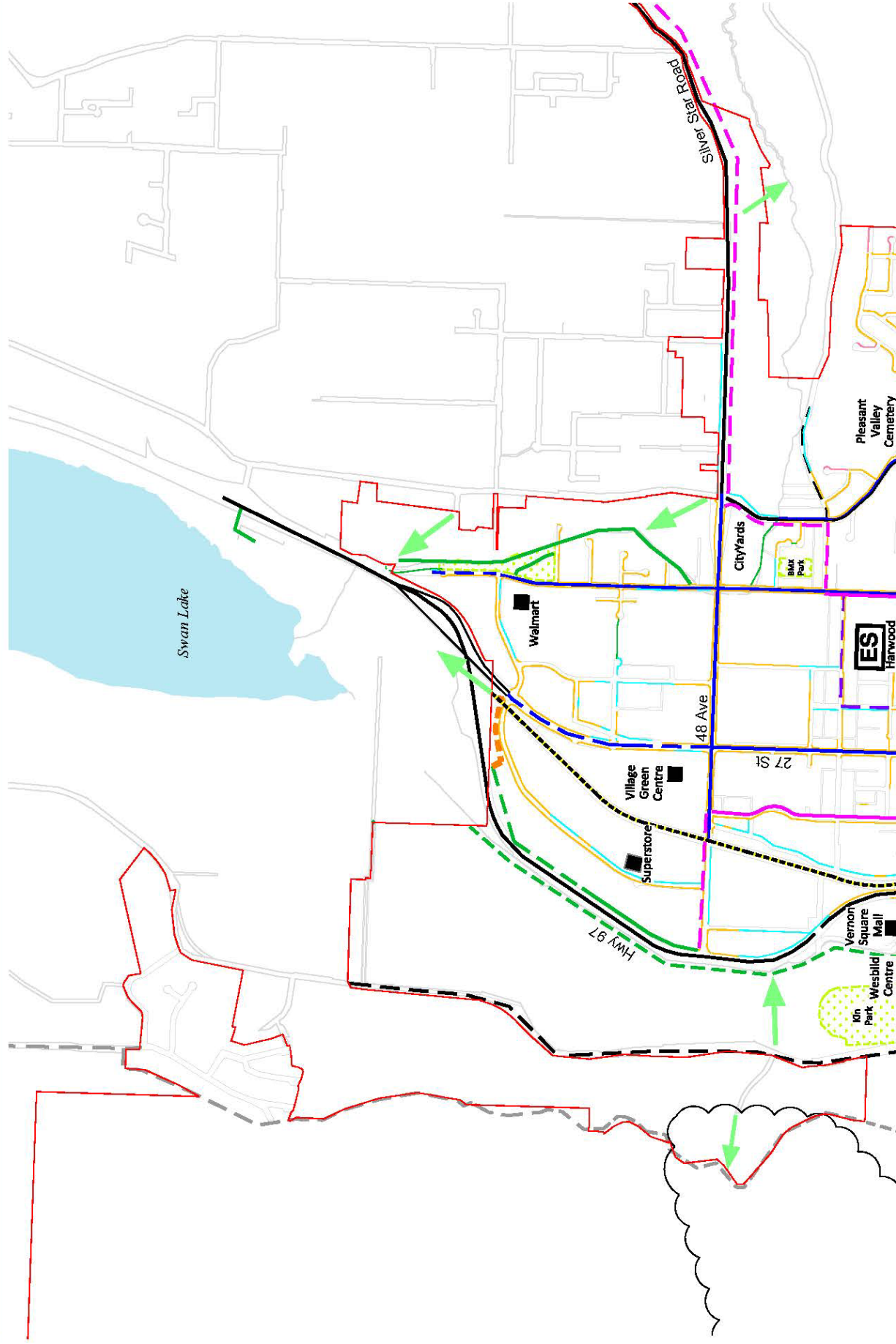


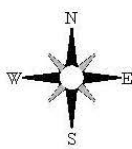
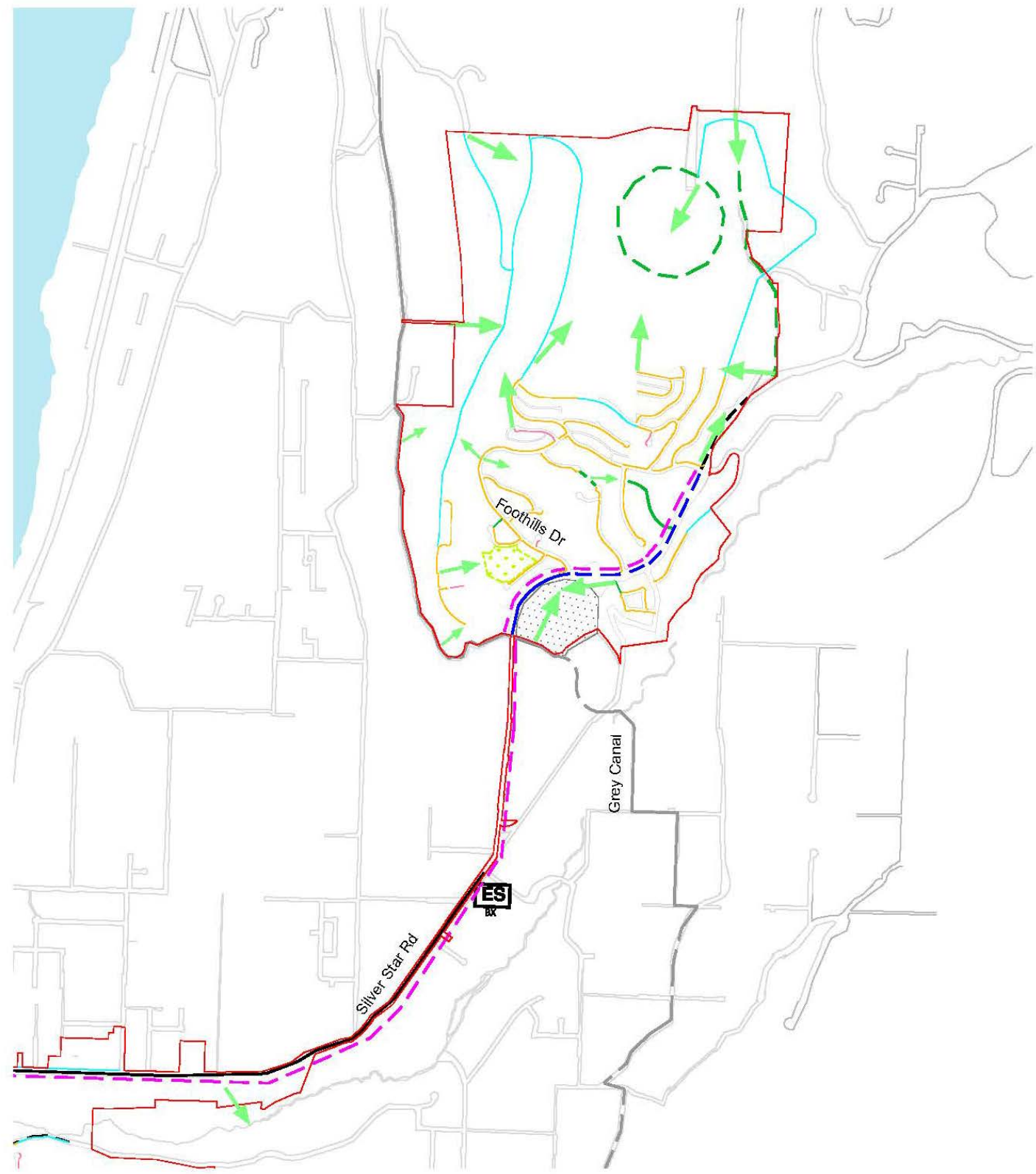
Legend		
Existing		Proposed
	Class 1 Trail - Major Urban Multi-Use	
	Class 2 Trail - Paved Multi-Use	
	Class 3 Trail - Unpaved Multi-Use	
	Class 4 Trail - Off-Road	
	Grey Canal Trail System*	
	Pedestrian & Bike Corridor	
	On Road Bike Lanes	
	Shoulder on One Side	N/A
	Shoulders on Both Sides	
N/A	Transportation Corridor	
	Sidewalks	
	Future Shared Surface****	
	Connector	
	Stairs	
	Stairs with Bike Ramp	
N/A	Future Trail Area**	
N/A	Desired Trail Connections***	
Public & Institutional Facilities		
	Elementary School	
	Secondary School	
	Parks***	
	City Amenities	
	Hospital	
	Visitor Centre	
	City of Vernon Boundary	
	Neighbourhood Centre	
	Lakes / Ponds	
<p>* Jurisdiction of the Regional District of North Okanagan (RDNO)</p> <p>** Exact location of trails to be determined through development or with land owners permission</p> <p>*** Refer to Parks Master Plan for detailed proposals for each Park</p> <p>**** Possible shared surface street when road is fully rebuilt at end of its useful life cycle pending review of future circumstances</p>		











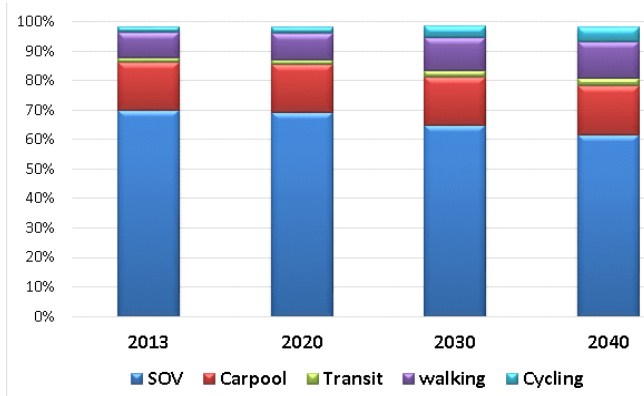
9.0 Transportation Demand Management (TDM) Strategy

Vision Statement: to promote a sustainable, safe, effective and integrated multi-modal transportation network so that travel choice can be improved through a more efficient use of services and infrastructure already in place. This is supported by a framework of policies, programs and initiatives in partnership with public agencies, local government, businesses, Interior Health, the non-profit sector, schools and institutions.

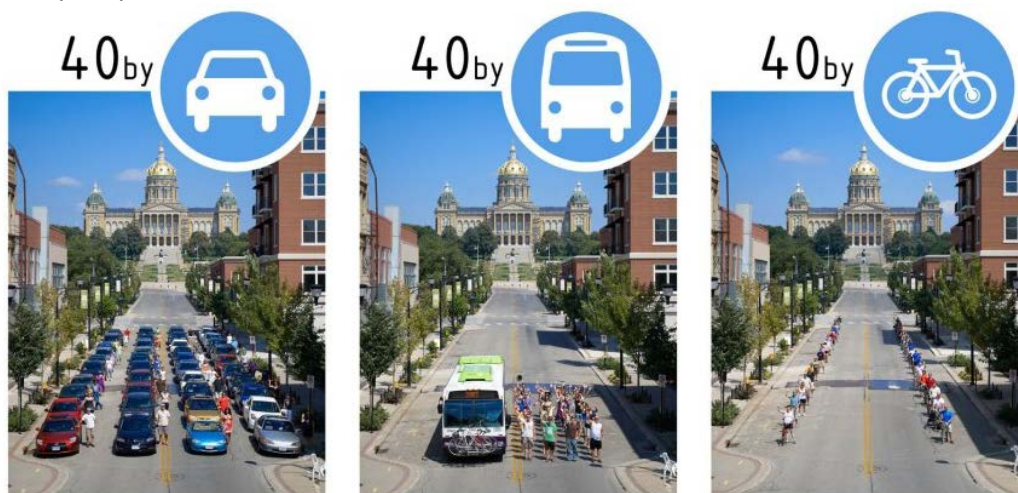
As stated in Chapter 6, managing demand is a cost-effective alternative to increasing road capacity. A demand management approach to transport also has the potential to deliver desired environmental outcomes, improved public health, stronger communities, and more prosperous cities. Utilising Transportation Demand Management (TDM) measures and initiatives not only manages costs to the community, but also supports the community's desire for sustainable transport options and liveable neighbourhoods. Target mode shares for all trips by 2040 are:

Table 8 and Chart 6 Mode Shares in 2013 and Target for 2040

Travel Mode	In 2013	Target for 2040
SOV	70%	62%
Transit	1.7%	2.5%
Walking	8.4%	12.5%
Cycling	1.9%	5.0%
Carpooling	16.2%	17%
Other	0.3%	1%



These photographs capture how changing SOV trips to bus or bike will delay or defer completely the need to add road capacity.



Amount of space required to transport the same number of passengers by car, bus, or bicycle.

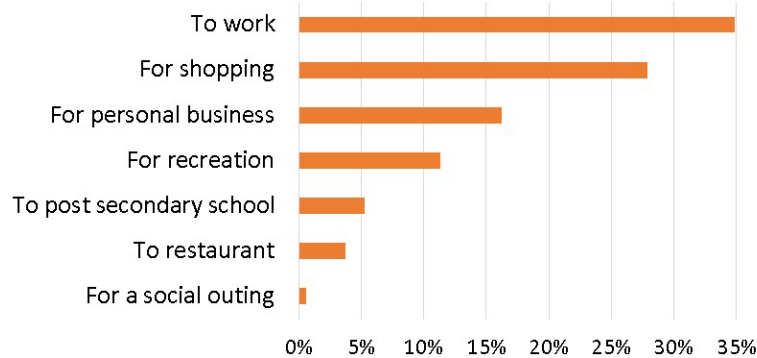
Event info at www.facebook.com/Urban.Ambassadors - Photos by www.tobinbennett.com

(Des Moines, Iowa - August 2010)



Increases in vehicle use has the largest effect on the network when the trips take place during peak periods. As indicated in Chart 7 the largest trip purpose for SOVs is to get to work.

Chart 7 SOV Trip Purpose 2013



TDM policies, programs, services and initiatives influence why, when, where and how people travel. They help shape the economic and social factors behind personal travel decisions, and offers several key benefits:

- A cost effective way to optimize, as well as change, travel choices;
 - Increase walking, cycling, taking transit or carpooling and shifting trips out of peak periods; and
- Are versatile and dynamic tools that can quickly be adapted to suit changing circumstances.

The City of Vernon's TDM strategies and outcomes are multi-faceted and interrelated to support the OCP goals and objectives, as set out below:



Additionally community benefits of TDM, beyond providing travel options, include: improved air quality, a greater sense of community connection with more people on the streets walking, cycling and taking transit which helps with crime prevention with more eyes on the streets. Statistics have shown that where



business locations and neighbourhoods have higher numbers of people walking and cycling there has been lower incidences of crime.

Studies have shown that students walking, cycling or taking transit to school have better focus and concentration in class, increased academic performance and have a greater school readiness. Adults and seniors benefit from active travel by lowering chronic disease and help improve overall health and well-being. As well, residents who use cars less have more disposable income to spend locally.

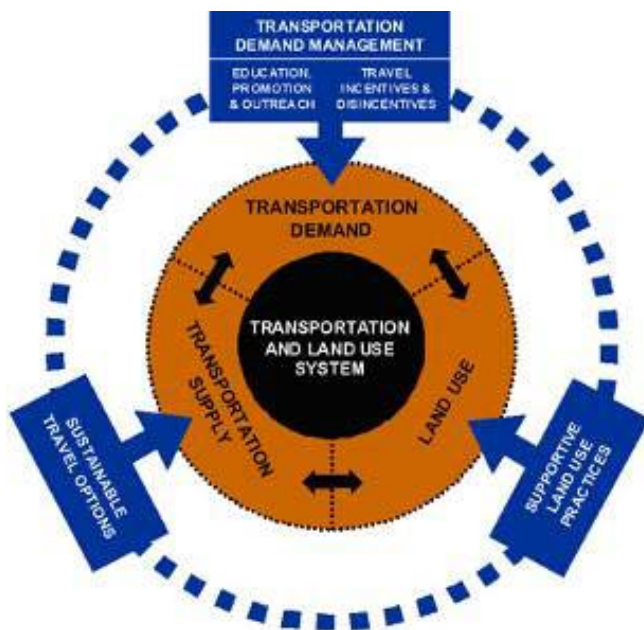
9.1 Updated Integrated Land Use Planning & Transportation Planning

The primary challenge of any integrated land use and transportation plan is to balance the livability of the local community while accommodating transportation demand. Livability is focused on balancing vehicular service requirements with local business, neighbourhood and pedestrian needs. This graphic demonstrates the interrelationships between land use and transportation planning. There are three major factors that shape travel activity:

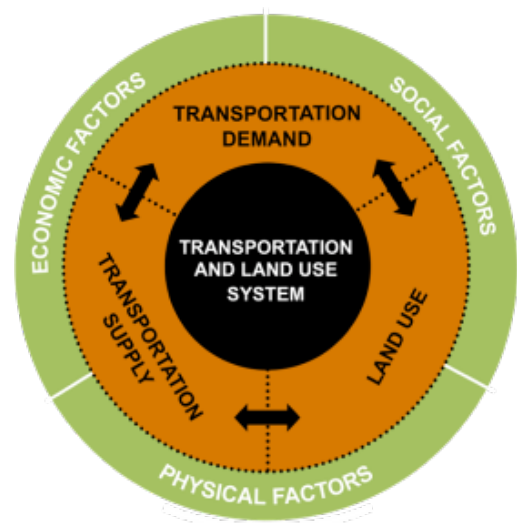
- **Transportation demand**—the characteristics, needs and desires of individuals;
- **Transportation supply**—the infrastructure, vehicles and services that people use to travel; and
- **Land use**—the location of homes, workplaces, schools and other places that people travel to and from.

These three components are tightly linked. Any change in one can lead to a change in the others (as shown by the black arrows). In combination, these components determine whether, why, when, where and how people make trips.

A framework to change travel behaviour



The determinants of travel behaviour



To optimize the transportation network and land use already in place, TDM changes the determinants of an individual's travel behaviour. This is done by using a framework of mutually supportive approaches, as shown in the blue boxes:

- Changing transportation demand through the use of TDM tools;
- Changing transportation supply through improvements to alternative travel options e.g. transit & cycling facilities;
- Changing land use through supportive practices like transit-oriented development.



Livability is all about coordinating land use and transportation decisions to provide real housing and transportation choices. The design of neighbourhoods has substantial implications for resident's health and quality of life. Integrating bicycling, walking and transit opportunities with land use regulations that have adopted smart growth principles is critical in achieving the city's OCP's objectives. Compact, connected and mixed-use development is associated with a number of benefits across social, economic, environmental and health outcomes. Greater residential densities, strategically located commercial and employment centres and walkable neighbourhoods support higher levels of public transit service and ridership. Coordinating all elements of the built environment; buildings, transportation uses, parking and end of trip facilities (e.g. lockers, secure bike parking, showers and changing facilities) are important considerations during the City's development application stage that considers zoning, development and variance permits.

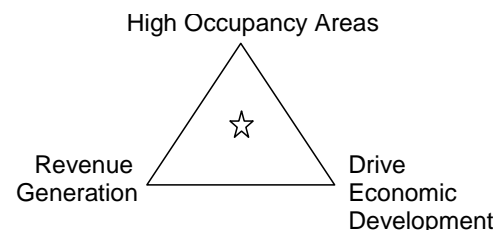
Traditionally, the intensity of congestion occurring during peak periods is described through Level of Service (LOS) indicators that categorise vehicle congestion at levels A to F. At LOS A road capacity is plentiful and no congestion occurs at all. At LOS D the demand is starting to equal the capacity but most vehicles still get through a signalised intersection in one cycle. At LOS F the demand exceeds the capacity, the intersection is described as having failed, line ups occur waiting to travel through the intersection. If controlled by traffic signals at LOS F you would wait 2 to 3 cycles of the traffic signals or when at a stop line, a wait of longer than 80 seconds would occur. However, this measures only one of the four congestion dimensions at the busiest time of day. The duration, extent and variability also need to be evaluated. Congestion that occurs for short periods of the day or only affects a small proportion of trips is tolerable compared to the cost of adding capacity to the road and its subsequent maintenance costs to meet a short duration demand by a small number of people. The variability of the congestion affects people's ability to plan trips i.e. if a vehicle break down on a road that tips the area into severe congestion in the middle of the day. Knowing that the busy periods are 7:45 to 8:15am and 2:30 to 4:30pm gives the reliability of avoiding delays by travelling off-peak.

Many communities are moving away from automobile LOS as being the single determining factor to assess the quality of service provided to its residents and use performance measures that focus on people and goods movement of all travel modes, rather than just on the movement of vehicles. The City will develop a multi-modal level / quality of service (MMLOS / QOS). This will be used to review the benefits and disbenefits of a proposed development.

9.2 City Centre Neighbourhood Plan Parking Implementation Strategy

Parking Management has moved over the years from a "predict and provide" model to one that is designed to meet a wide range of objectives. These objectives include supporting mixed land uses, creating a more liveable city, encouraging economic development, managing the assets of the City / land owners in a cost effective manner.

The basic principle of a parking strategy is to manage the use, supply and pricing in a balanced manner such that any one of the three objectives does not dominate the decision making process, but achieves a balance. Having a strategy that has been skewed to generate revenue as its sole objective will hinder economic development and move the parking demand to other areas. One that has been skewed by having overly restrictive congestion and occupancy controls will reduce revenue and hinder economic



development. One that has been skewed to support economic development as its primary objective, such as overly abundant free parking, will not generate enough income to cover the operating and maintenance costs and will create a congested environment that will eventually undermine the economic development aims. A well balanced parking strategy is one that has policies and pricing placed in the middle of these three objectives of controlling high occupancy areas; driving economic development and generating revenue that will support all three.

Following the direction of the City Centre Neighbourhood Plan, the parking strategy reviewed the planning policies and bylaws and recommended where changes could be made to be more supportive of development whilst ensuring that sufficient off-street parking is provided.

Summary of future parking strategy action items:

Short term (1–5 years)

- Evaluate a cash in-lieu of parking policy* and bylaw amendment;
- Undertake a Zoning Bylaw review to review vehicle and bike parking requirements to include evaluating shared and carpool parking provisions and end of trip facilities**;
- Work with employers to implement workplace (staff) travel plans;
- Develop criteria for small parking lots within two blocks of 30th Avenue;
- Develop programs and marketing to improve public relations;
- Create a system that clearly indicates terms, rates and time limits of meters; and
- Develop system for investment of parking revenue into parking initiatives, maintenance, streetscape upgrades and projects to reduce parking demand;

* A cash-in-lieu policy and bylaw amendment would permit developers to pay a contribution into a fund established for the provision and maintenance of City owned public parking facilities rather than provide the full amount of required parking within their development.

**End of trip facilities such as lockers, secure bike parking and showers allow employees to walk, bike or take transit secure in the knowledge they the ability to store their equipment and change clothes if necessary.

Medium term (6-10 years)

- Review parking fees and fine rates;
- Identify shared use options to address employee parking during business hours;
- Evaluate technology changes and upgrades to parking/enforcement infrastructure;
- Review the Crime Prevention Through Environmental Design (CPTED) report of parkade and implement recommendations; and

Long term (11-25 Years)

- Assess need for a new parkade to complement or replace existing structure.

9.3 Leadership including City of Vernon Workplace Travel Plan

This Master Transportation Plan and TDM Strategy includes a leadership role for the City of Vernon. Changing the use of the network in the peak period by City of Vernon staff will be achieved by the implementation of a Workplace Travel Plan (WTP). A travel plan is a management strategy for a business or organization that seeks to deliver sustainable transport objectives. A travel plan is tailored for each specific workplace, identifying a package of measures that promotes sustainable travel, with an emphasis on reducing reliance on SOV journeys. It is unrealistic to expect or require commuters to stop driving



completely, however taking another mode one day a week would meet the target for SOV trips by 2040. As discussed previously, 73% of trips in Vernon are between 0.1 and 5km long, the ideal distance for walking and cycling which means that many City of Vernon employees will be able to walk or cycle to work.

The establishment of this travel plan will be a springboard for future promotion of TDM programs and initiatives and workplace travel plans to local employers. TDM measures invite institutions, businesses and individuals to behave differently, so to build good will, the City will put their own house in order first. In recognition of the benefits for the community the City of Vernon is committed to TDM and has a full time TDM Coordinator. The coordinator is responsible for the development and implementation of TDM initiatives and measures, as well as communication and outreach activities to support employers and organizations implementing workplace travel plans.

There are many reasons a business or organisation would want to implement a travel plan and it should be noted that many do so because it has benefits for them and their employees. Examples of benefits can include:

- Businesses struggling with parking demands leading to difficulties with their neighbours can seek to mitigate the problems as primary aim of a workplace travel plan;
- Employers benefit by reducing their parking costs, freeing up land used for staff parking either to convert to customer parking or a building extensions or even selling the land;
- Expanded service hours. Work hour schedules such as flextime, staggered work hour programs, compressed work week programs enable organizations to provide additional coverage with the same total number of employees;
- Lower absenteeism and tardiness. Employees may start work earlier to meet commitments with their carpool partner or the bus schedule;
- Working remotely from the business building may also allow work to be accomplished when travel to the office isn't possible;
- Reduced work related trips and consequential cost savings;
- Improved employee morale and reduced employee turnover;
- Increased employment opportunities for people without a physical means of transport, people with disabilities and those with family care needs who are unable to meet traditional work hours by enabling working remotely from the business building;
- Enhanced employee productivity. One of the oft-cited benefits of remote working is productivity increase;
- Can result in awards and grants applications being successful;
- Improving the health and fitness of employees; and
- To meet the agreed to conditions of a development variance application to reduce the on-site parking provision.

The travel plan package of options can include:

- Facilitating discounted annual transit passes through the PROPASS program (an employee payroll deduction);
- New commuting related policies i.e. flexible work schedules to accommodate transit or carpooling (this is dependent upon the job duties);
- Designated carpooling parking spaces in preferential locations;
- Remote working options for audio and video-conferencing or policies to support remote working one or more days per week; and
- Providing end of trip facilities.



9.4 Education & Awareness Programs

Annual provincial and national outreach campaigns and events will be used to increase awareness of the benefits of walking, cycling, taking transit and carpooling. These programs can also leverage grant funding. The MoTI's Cycling Infrastructure Partnership Program (CIPP) grant funding program guidelines request that the applicant include details on their supporting programs such as bicycle route maps and Bike to Work Week events. Educational outreach programs and events raise awareness and build positive attitudes about sustainable travel choices within the community. By collaborating with local agencies, business and corporations, educational institutes, Interior Health and the non-profit sector a large target audience can be reached. For example, encouraging employers to participate in Carpool Month at their workplace increases awareness about carpooling. Although events such as Bike to School Week take place over a fixed time period, they attract media attention and the participants are engaged before the event and afterwards the event can lead to permanent changes to travel choices.

School Travel Plans

One of the best ways to get adults to consider their transportation choices is to have their own children explain the benefits of the alternative of travel modes. School travel plans (STP) identify real and perceived barriers to students walking and cycling and then develop a plan to address these over time. The City in collaboration with School District 22 (SD22), key stakeholders, Interior Health, Community Policing, GVCAC and members of Council Advisory Committees have completed STPs for six elementary schools: Ecole Beirsto; Ellison; Harwood; Mission Hill; Okanagan Landing and Silver Star Elementary Schools. Changes over time mean that STPs require ongoing updates and communications with parents.



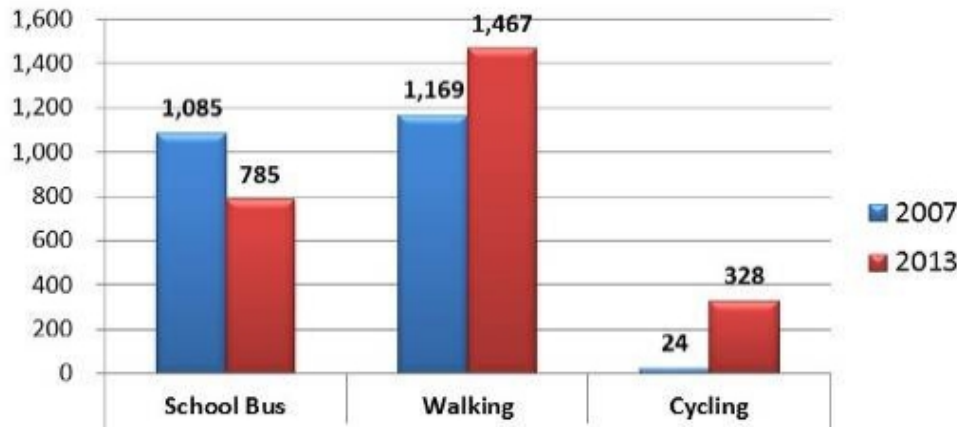
Activities identified in STPs to increase the number of students walking or cycling to school can include:

- Parent education about parking congestion at student drop-off and afternoon pick-up;
- School newsletters and school website;
- Walking school bus program (a volunteer walks a specified route at a specified time to/from school, meeting students along the way to avoid students walking alone);
- Re-visiting the schools to determine changes over time;
- Implement road safety programs such as the Pace Car Program (aims to reduce vehicle speeds around schools);
- Year on year pedestrian, cycling safety education and skills programs;
- Upgrades to crosswalks and signage and the construction of missing sections of sidewalk and cycling facilities;
- Implementation of the provincial Right to Bike Courses with the teachers previously trained in cycling skills;
- Poster contests for Clean Air Day (free transit day); and
- Promoting and supporting Earth Day, Bike to School and International Walk to School Day events.



Chart 7 shows how over the last six years the numbers of students walking and cycling to school has increased. The number of trips by school bus decreased which is probably due to a combination of the STPs and walking and cycling facility upgrades implemented and SD22 increasing its enforcement of the 2.4km walk limit for students and altered SD22 transit services.

Chart 7 Mode Share Trips to School 2007 to 2013



Bike to Work Week

Each year Bike to Work Week (BTWW) is effective in enticing new cyclists to try cycling to school and work. Five hundred and twenty nine new registered cyclists have participated since 2009 (138 in 2010, 116 in 2011, and 198 in 2012). In 2013, the inclement weather and storms deterred some new riders with a lower number of 77 new registered riders. MoTI funds the Bike to Work BC Society to support municipalities and districts to increase the awareness of cycling as a travel mode and to promote education and safety. This remains a key TDM initiative to encourage, train and educate residents about the benefits of cycling. With business sponsorship it is a cost-effective community-wide campaign that will assist in attaining the mode share target for 5% of trips made by bike by 2040. Additional cycling training programs are offered in the intermediate elementary grades, secondary schools and through the city's Bike to Work community courses. The Bike to Work (BTW) Team Leader Workshop offers safety education.

Community Identified Bike Routes and Wayfinding Signs

A key TDM measure is to get the information out to residents about what bike and pedestrian facilities exist. Through the public engagement sessions residents were asked to identify their recommended routes for cycling and walking using the existing network. The Community Identified Bike Route map has been published and will be updated in the future as the network develops. The walking routes map is under development. These maps will need periodic review by residents to ensure they continue to represent the "Community Identified" routes.

Wayfinding signage is needed to give residents the confidence that they can reach their desired destination using a specific type of facility. The signage will direct cyclist to the major destinations in the City. The signage will need to inform them of what type of facility it is i.e. is it an on-road bike lane or a type 1 separated trail.



9.5 Private Sector & Other Agency Initiatives

TDM contributes to economic development by assisting employers by enabling affordable alternative travel options to help retain employees as well as being attractive to new businesses that are considering relocating to Vernon. Research has shown that lifestyle and health are major determining factors that corporations and business consider when deciding on a new location. A walkable, transit and cycle friendly city receive top ranking. Corporations and business directly benefit from having active employees who have lower absenteeism, increased productivity and good staff morale, all of which help lower operating costs for businesses and corporations.

TDM thrives on strong partnerships to build capacity and engaging audiences. To reach as many residents, employees and groups as possible the City will:

- utilize the **VernonMoves** (City transportation website) as a tool to increase community education on the City's TDM initiatives, campaigns, events, education and safety, skills, programs and initiatives;
- collaborate with non-traditional websites such as: physicians, daycares, The United Way, unions, Seniors Action Network SAN), child care resource and referral agencies (that communicates and reaches out to licence and non-licensed daycares, pre-schools), Okanagan Indian Band (OKIB) and faith organizations to establish a **VernonMoves** a link on their websites; and
- collaboration with business organizations - the Greater Vernon Chamber of Commerce has put a link on their website to the **VernonMoves** website section that provides information and an application form for the City's Cost Share Bike Rack Program. This acts as a referral for interested business to fill out an application for a bike rack from **VernonMoves** and apply to the City,



Appendix 1

Community Identified Sidewalk Priorities

Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
1	24 Avenue	43a Street to 39 Street	Medium / High Residential Density	south	600
2	Kalamalka Lake Road	19 Avenue to Pottery Road	Neighbourhood Centre	west	190
3	37 Street	25 Avenue to existing	Seniors	west	80
4	15 Street	Hwy 6 to existing sidewalk	School	west	145
5	15 Street	21 Avenue to existing sidewalk	School	west	50
6	58 Avenue	24 Street to 2nd access to Walmart	Shopping / Retail	south	150
7	Anderson Way	existing sidewalk at Superstore to existing sidewalk at Red Robin	Shopping / Retail	east	340
8	Pleasant Valley Road	48 Avenue to existing sidewalk	Shopping / Retail	west	175
9	Okanagan Landing Road	Lakeshore Road to Cummins Road	Network	south	90
10	20 Street	Pleasant Valley Road to existing sidewalk	Seniors	west	50
11	Okanagan Landing Road	Existing sidewalk to Multi-Use path	Seniors	southwest	180
12	Lakeshore Road	IR6 boundary to Okanagan Landing Road	Neighbourhood Centre	east	660
13	Anderson Way	48 Avenue to existing sidewalk at Superstore	Shopping / Retail	east	440
14	Pleasant Valley Road	Existing sidewalk to 46 Avenue	Shopping / Retail	west	35
15	Okanagan Avenue	existing sidewalk southwest of Bellevue Drive to existing sidewalk northeast of 16 Avenue	Network	southeast	325

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
16	Cummins Road	Lakeshore Road to existing sidewalk	Neighbourhood Centre	west	250
17	Marshall Road	Lakeshore Road to Cummins Road	Neighbourhood Centre	north	100
18	24 Street	50 Avenue to existing sidewalk north of 53 Avenue	Shopping / Retail	west	260
19	Pleasant Valley Road	existing sidewalk south of 41 Avenue to 20 Street	Network	southeast	505
20	34 Street	43 Avenue to southern end	School	west	215
21	41 Avenue	32 Street to Seaton School	School	north	300
22	Middleton Way	existing sidewalk to Highway 6	School	southwest	290
23	20 Street	55 Avenue to Deleenheer Road	Seniors	west	145
24	27 Avenue	Existing sidewalk to 35 Street	Seniors	south	540
25	31 Street	37 Avenue to 39 Avenue	City Centre	west	95
26	34 Street	33 Avenue to 35 Avenue	City Centre	east	120
27	35 Street	Centennial Drive to 35 Avenue	City Centre	west	200
28	Cummins Road	From new road northwest for 25 metres	Neighbourhood Centre	east	250
29	Pottery Road	26 Street to existing sidewalk	Neighbourhood Centre	north	40
30	34A Street	24 Avenue to 25 Avenue	Medium / High Residential Density	east	125
31	35 Avenue	Alexis Park Drive to western end	Medium / High Residential Density	east	210
32	58 Avenue	Bus stop to 20 Street	Shopping / Retail	south	70

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
33	11 Avenue	Waddington Drive to existing west of Middleton Way	Network	south	75
34	Okanagan Avenue	Okanagan Landing Road to existing sidewalk	Network	southeast	165
35	20 Street	Either side of 50 Avenue between existing sidewalks	Seniors	west	150
36	35 Street	27 Avenue to existing	Seniors	west	160
37	Centennial Drive	Existing to existing sidewalk	Seniors	north	65
38	33 Avenue	Existing sidewalk east of 34 Street to existing sidewalk	City Centre	south	65
39	34 Avenue	30 Street to 29 Street	City Centre	north	90
40	34 Avenue	35 Street to existing sidewalk	City Centre	south	220
41	37 Avenue	33 Street to existing sidewalk	City Centre	north	70
42	37 Avenue	30 Street to 28 Street	City Centre	south	155
43	38 Avenue	32 Street to 31 Street	City Centre	south	75
44	Coldstream Avenue	Existing sidewalk east of 34 Street to existing sidewalk	City Centre	south	65
45	26 Street	19 Avenue to Pottery Road		west	190
46	39 Street	existing sidewalk to 27 Avenue	Seniors	east	180
47	27A Avenue	30 Street to 28 Avenue	City Centre	east	115
48	28A Street	37 Avenue to 38 Avenue	City Centre	east	60
49	29 Street	Existing to existing sidewalk either side of 31 Avenue	City Centre	east	65
50	29 Street	35 Avenue to 33 Avenue	City Centre	west	120
51	31 Street	Existing sidewalk to 37 Avenue	City Centre	west	100

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
52	31 Street	37 Avenue to 39 Avenue	City Centre	east	130
53	33 Avenue	34 Street to western end	City Centre	south	90
54	33 Avenue	29 Street to existing sidewalk	City Centre	north	40
55	33 Street	37 Avenue to 38 Avenue	City Centre	east	90
56	35 Avenue	Existing sidewalk to Highway 97	City Centre	north	60
57	35 Avenue	34 Street to existing sidewalk	City Centre	north	90
58	36 Avenue	31 Street to existing	City Centre	south	65
59	37 Avenue	31 Street to 28A Street	City Centre	north	220
60	37 Avenue	existing sidewalk to 27 Street	City Centre	south	35
61	38 Avenue	33 Street to existing sidewalk	City Centre	south	40
62	38 Avenue	28A Street to 27 Street	City Centre	south	100
63	Coldstream Avenue	Existing sidewalk east of 34 Street to existing sidewalk	City Centre	north	45
64	16 Avenue	45 Street to Okanagan Avenue	Medium / High Residential Density	east	310
65	31A Street	21 Avenue to 18 Avenue	Medium / High Residential Density	west	150
66	33 Street	15 Avenue to 24 Avenue	Medium / High Residential Density	west	650
67	26 Street	from 27 Street to existing sidewalk north of 53 Avenue	Shopping / Retail	east	180
68	27 Street	53 Avenue to existing sidewalk	Shopping / Retail	east	75
69	27 Street	48 Avenue to existing sidewalk	Shopping / Retail	west	95
70	53 Avenue	24 Street to existing sidewalk	Shopping / Retail	south	80

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
71	53 Avenue	24 Street to eastern end of cul-de-sac	Shopping / Retail	south	75
72	53 Avenue	27 Street to 26 Street	Shopping / Retail	south	20
73	19 Street	39 Avenue to 37 Avenue	Network	west	130
74	20 Street extension	Pleasant Valley Road to 20 Street	Network	east	180
75	21 Avenue	31 Street to 31A Street	Network	south	130
76	27 Avenue	existing sidewalk to 28 Avenue	Network	south	140
77	27 Street	28 Avenue to Highway 6	Network	west	410
78	28 Avenue	existing sidewalk to 41 Street	Network	south	225
79	29 Avenue	40 Street to existing sidewalk	Network	north	35
80	29 Avenue	existing sidewalk to 39 Street	Network	south	120
81	31 Street	37 Avenue to 39 Avenue	Network	east	130
82	31 Street	21 Avenue to 18 Avenue	Network	west	165
83	31A Street	21 Avenue to 18 Avenue	Network	east	165
84	32 Avenue	Pleasant Valley Road to 15 Street	Network	south	360
85	33 Street	24 Avenue to 15 Avenue	Network	west	530
86	34 Street	existing sidewalk to Hwy 97	Network	west	260
87	35 Avenue	Turtle Mountain Boulevard east and then south for 315 metres	Network	east	315
88	37 Avenue	existing sidewalk to 14 Street	Network	north	110
89	38 Avenue	13 Street to 12 Street	Network	south	120
90	38 Street	32 Avenue to existing sidewalk	Network	west	95

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
91	39 Avenue	between existing sidewalks over creek	Network	south	30
92	39 Avenue	existing sidewalk east of 16 Street to 13 Street	Network	south	200
93	39 Avenue	27 Street to existing west of 16 Street	Network	south	350
94	39 Avenue	Cascade Drive to city boundary	Network	north	240
95	40 Street	30 Avenue to 27 Avenue	Network	west	195
96	46 Avenue	existing sidewalk to 23 Street	Network	north	35
97	48 Avenue extension	48 Avenue to 43 Avenue	Network	south	1000
98	Apex Drive	between existing sidewalks	Network	south	310
99	Centennial Drive	between existing sidewalks	Network	northwest	35
100	Centennial Drive	between existing sidewalks	Network	southeast	80
101	Kosmina Road	Waddington Drive to Middleton Way	Network	north	365
102	Manning Place	between existing sidewalks	Network	one	310
103	Mount Baldur Drive	existing sidewalk to Kosmina Road	Network	south	100
104	Scott Road	Tronson Road to existing sidewalk	Network	south	195
105	Silver Star Road	Pleasant Valley Road to MacDonald Road	Network	north	545
106	Waddington Drive	Highway 6 to 11 Avenue	Network	west	395
107	Highway 6	Kalamalka Lake Road to Pottery Road	Network	northeast	150
108	11 Avenue	Kalamalka Lake Road to Waddington Drive	Network	north	420
109	19 Street	Pleasant Valley Road to 40 Avenue	Network	east	75

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Primary Sidewalk Function	Side	Length (m)
110	20 Avenue	35 Street to 34 Street	Network	south	170
111	23 Street	existing sidewalk north of 45 Avenue	Network	east	150
112	24 Street	40 Avenue to 41 Avenue	Network	west	135
113	27 Avenue	existing sidewalk 180m west of 43 Street to existing sidewalk	Network	north	65
114	31 Street	43 Avenue to 48 Avenue	Network	east	590
115	32 Avenue	Bella Vista Road to 38 Street	Network	south	510
116	32 Avenue	26 Street to Pleasant Valley Road	Network	south	180
117	37 Avenue	18 Street to 17 Street	Network	north	90
118	39 Avenue	11 Street to city boundary	Network	south	154
119	42 Street	28 Avenue to 27 Avenue	Network	east	80
120	48 Avenue	34 Street to 31 Street	Network	south	300
121	48 Avenue extension	48 Avenue to 43 Avenue	Network	north	1000
122	BX Road	existing sidewalk to city boundary	Network	south	240
123	Highway 97	existing sidewalk south of 48 Avenue to existing	Network	east	380
124	Sarsons Road	Middleton Way to boundary	Network	south	270
125	Various new roads in Foothills Neighbourhood Plan	sidewalk on one side	Network	one	5620

Note: These priorities will guide construction planning, they are not prescriptive



Community Identified Priorities – Bike Only facilities

Public Priority	Road / name	Location	Facility	Side	Length (m)	Side	Length (m)
1	25 Street	Pleasant Valley Road to 45 Avenue	Bike corridor	N/A	1530	-	-
2	stairway to heaven	Okanagan Avenue to Bellevue Place	Bike ramp	-	180	-	-
3	Okanagan Landing Road Frontage Road	27 Avenue to Fulton Road	Bike corridor	N/A	365	-	-
4	26 Street	30 Avenue to 26 Avenue	Bike corridor	N/A	565	-	-
5	27 Avenue	Allenby Way to 35 Street	Bike corridor	N/A	2435	-	-
6	25 Avenue	26 Street to 18 Street	Bike corridor	N/A	735	-	-
7	12 Street	39 Avenue to 35 Avenue	Bike corridor	N/A	300	-	-
8	30 Avenue	37 Street to 35 Street	Bike corridor	N/A	65	-	-
9	32 Avenue	Lane east of 15 Street to 15 Street	Bike corridor	N/A	60	-	-
10	35 Street	35 Avenue to 30 Avenue	Bike corridor	N/A	430	-	-
11	35 Street	30 Avenue to Coldstream Avenue	Bike corridor	N/A	35	-	-
12	45 Avenue	25 Street to 20 Street	Bike corridor	N/A	400	-	-
13	Lane east of 15 Street	35 Avenue to 32 Avenue	Bike corridor	N/A	220	-	-
14	12 Street	41 Avenue to 40 Avenue	Bike corridor	N/A	80	-	-
15	14 Street	end to 41 Avenue	Bike corridor	N/A	110	-	-

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Facility	Side	Length (m)	Side	Length (m)
16	35 Avenue	Lane east of 15 Street to 12 Street	Bike corridor	N/A	190	-	-
17	35 Avenue	35 Street to 30 Street	Bike corridor	N/A	585	-	-
18	41 Avenue	12 Street to Lane east of 12 Street	Bike corridor	N/A	50	-	-
19	41 Avenue	14 Street to 12 Street	Bike corridor	N/A	120	-	-
20	Coldstream Avenue	35 Street to 34 Street	Bike corridor	N/A	160	-	-
21	Lane east of 12 Street	43 Avenue to 35 Avenue	Bike corridor	N/A	510	-	-
22	stairway to heaven	Okanagan Avenue to Bellevue Place	Bike ramp	-	180	-	-
23	20 Street	Pleasant Valley Road to 43 Avenue	on road bike lanes	west	420	east	420
24	27 Street	Highway 6 to 30 Avenue	on road bike lanes	north	600	south	600
25	11 Avenue	existing on road bike lane to Middleton Way	on road bike lanes	north	230	south	230
26	43 Avenue	Highway 97 to 27 Street	on road bike lanes	north	420	south	420
27	Pottery Road	15 Street to City Boundary	on road bike lanes	north	430	south	430
28	39 Avenue	Pleasant Valley Road to City Boundary	on road bike lanes	north	1120	south	1120
29	BX Road	Pleasant Valley Road to City Boundary	on road bike lanes	north	425	south	425
30	Okanagan Avenue	Okanagan Landing Road to end of sidewalk / start of shoulder	on road bike lanes	-	-	south	320
31	30 Avenue	37 Street to 35 Street	on road bike lanes	north	220	south	140

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Facility	Side	Length (m)	Side	Length (m)
32	37 Street	32 Avenue to 30 Avenue	on road bike lanes	north	150	south	150
33	Pottery Road	Highway 6 to 18 Street	on road bike lanes	-	-	south	320
34	32 Avenue	Pleasant Valley Road to 15 Street	on road bike lanes	north	500	south	500
35	15 Street	Pottery Road to Highway 6	on road bike lanes	west	575	east	575
36	Kalamalka Lake Road	Pottery Road to Highway 6	on road bike lanes	west	275	east	275
37	20 Street Extension	58 Avenue to Pleasant Valley Road	on road bike lanes	north	670	south	670
38	27 Street	48 Avenue to 58 Avenue	on road bike lanes	north	600	south	600
39	Highway 6 to 27 Street Connector	27A Avenue to 30 Avenue	on road bike lanes	north	240	south	240
40	Old Kamloops Road to Highway 97 Connector	Highway 97 to Old Kamloops Road	on road bike lanes	north	1000	south	1000

Note: These priorities will guide construction planning, they are not prescriptive



Appendix 3

Community Identified Priorities – Shared Use (Pedestrian and Bikes)

Public Priority	Road / name	Location	Facility	Side	Length (m)	Side	Length (m)
1	29 Street / 30 Street Transportation Corridor	43 Avenue to Polson Park	Class 1 Trail	east	1500	-	
2	Okanagan Landing Road	Eastside Road to existing	Shoulders	north-west	2800	South-east	2800
3	Silver Star Road Multi-Use Path	Pleasant Valley Road to Silver Star Foothills	Class 1 Trail	south and west	4000	-	
4	Kalamalka Lake Road	City Boundary to 11th Avenue	Class 1 Trail	-	-	east	1350
5	Kalamalka Lake Road	14 Avenue to Pottery Road	Class 1 Trail	-	-	east	160
6	Old Kamloops Road	43 Avenue to City Boundary	Shoulders	west	2100	east	2100
7	Okanagan Landing Road	Paddlewheel Park to Lakeshore Road	Class 3 Trail	north-west	1355	-	-
8	21 Avenue to Highway 6	21 Avenue to Highway 6	off-road trail	-	200	-	
9	Bella Vista Road	Existing shoulder on both sides at Appaloosa Way to existing shoulder on both sides west of Allenby Way	Shoulder	-	-	south	2590
10	Tronson Road	Bella Vista Road to Lakeshore Road	Shoulders	north	1125	south	1125
11	Bella Vista Road	Tronson Road to existing shoulder 145m south of Okanagan Hills Boulevard	Shoulders	west	500	east	500
12	20 Street	Pleasant Valley Road to 43 Avenue	Class 1 Trail	west	420	-	-
13	30 Avenue	27 Street to 25 Street	Class 1 Trail	-	-	south	155

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Facility	Side	Length (m)	Side	Length (m)
14	Lakeshore Road	Kin Beach Park Trail to Okanagan Landing Road	Class 1 Trail	-	-	east	
15	Okanagan Avenue	existing sidewalk to Fulton Road	Shoulders	north	1880	south east	1880
16	Gentle Waters Off Road Trail	Hotel and 34 Street to 39 Avenue	off-road trail	-	300	-	-
17	Marshall Road	Cummins Road to Lakeshore Road	off-road trail	-	100	-	-
18	27 Avenue	Allenby Way to 25 Avenue	Class 2 Trail	west	180	-	-
19	Okanagan Avenue	Okanagan Landing Road to end of sidewalk / start of shoulder	Shoulder	north	320	-	-
20	Tronson Road	Eastern end of Beachcomber Bay Road to Bella Vista Road	Shoulder	north	1375	-	-
21	Tronson Road	Lakeshore Road to existing shoulder on both sides	Shoulder	-	-	south	485
22	Tronson Road	Farchant Way to existing shoulder	Shoulders	west	1650	east	1650
23	Tronson Road	Western end of Beachcomber Bay Road to eastern end of Beachcomber Bay Road	Shoulders	west	350	east	350
24	43A Street - closed section	Okanagan Avenue to 24 Avenue	off-road trail	-	-	east	270
25	16 Avenue Off Road Trail	25 Ave to 45 Street	off-road trail	-	160	-	-
26	Anderson Way	Existing multi-use path to 27 Street along rear property line of properties on western side of Anderson Way	Class 2 Trail	west	1000	-	-

Note: These priorities will guide construction planning, they are not prescriptive



Public Priority	Road / name	Location	Facility	Side	Length (m)	Side	Length (m)
27	Reservoir Road	College Way to existing sidewalk	Shoulders	north	450	south	450
28	Silver Star Road	Phoenix Drive to City Boundary	Shoulders	north west	385	south east	385
29	48 Avenue	32 Street to 29 Street	Class 1 Trail	north	520	-	-
30	Pleasant Valley Road	25 Street to 32 Avenue	Class 1 Trail	-	-	south	270
31	Eastside Road	From end to Okanagan Landing Road	Shoulders	north west	5325	south east	5325
32	43 Avenue	33 Street to 25 Street	Class 1 Trail	north	1510	-	-
33	35 Avenue	30 Street to 25 Street	Class 1 trail	-	-	south	600

Note: These priorities will guide construction planning, they are not prescriptive

