

## 11.0 Transportation

### Goals

Deliver a sustainable, integrated transportation network for Vernon.

Promote community safety, health and a high quality of life while reducing the environmental impact of transportation.

Increase community awareness of the benefits of using alternative transportation.

Increase use of alternative travel options through improvements to public transit and providing fully connected walking, cycling and trail networks.

Focus on providing access to services, goods and activities to maintain a safe, efficient and cost effective network for all modes of travel over the short and long term as Vernon grows.

Maximize the benefits of transportation investments by integrating them with land use planning and the development of the City Centre and neighbourhood centres in a manner that promotes community safety, is transit oriented and provides transportation choice.

### Guiding Principles Met

Foster prosperity for people, business and government

Protect and preserve green spaces and sensitive areas

Create a culture of sustainability

Protect agricultural land

Create strong, compact and complete neighbourhoods

Provide alternative transportation

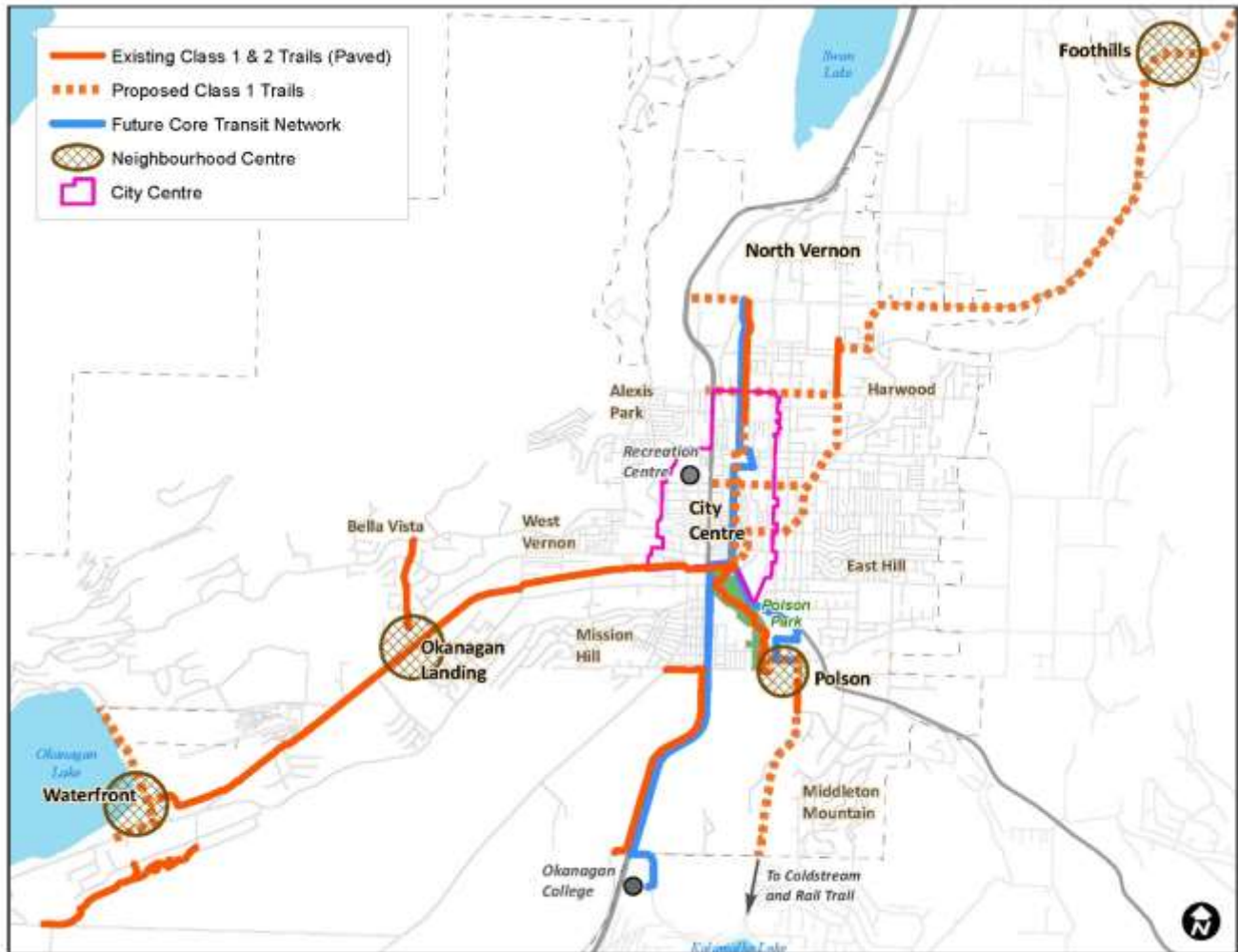
Revitalize the Downtown

Create a youth friendly city

### Context

Transportation is an important part of Vernon's growth strategy. As outlined in Section 5.0: Growth Strategy and Land Use Plan, the strategy is essentially about compact development that supports a variety of transportation options. It identifies the City Centre as the key redevelopment area in the city, with a series of smaller Neighbourhood Centres throughout the rest of the city. These Neighbourhood Centres will see residential development integrated with shopping, employment, schools and other key amenities and

connected to one another with sidewalks, pathways, cycling routes, and transit in addition to the road network.



**Figure 15: Major Pedestrian, Cycling and Transit Links Between the City Centre and Neighbourhood Centres**

For this growth strategy to be successful, the transportation network must be designed to strategically connect key areas of the city to facilitate sustainable redevelopment of these neighbourhoods. It must also accommodate anticipated population growth and meet the needs of changing demographics – in particular, seniors, baby boomers and millennials who are reducing vehicle ownership and use. This means that, while improvements need to be made to increase the capacity of Vernon’s roads, sidewalks and transit, greater demand for other facilities, such as different cycling facilities, ramps at crosswalks, accessible transit and accommodation of mobility scooters and motorised wheelchairs, must be a priority. Finally, for the transportation network to be truly sustainable, it must also be affordable to build and maintain.

Like many other cities, Vernon still has a high reliance on the automobile, with most trips taken in single occupant vehicles. While the prevalence of automobiles makes it easy to travel to multiple destinations, a community's overreliance on them can have many negative consequences, including increased safety concerns, social isolation of seniors, youth and people with disabilities, declining air quality, greater greenhouse gas emissions and an unaffordable transportation network. Fortunately, investment in other modes of transportation to date has proven effective. Since the City's growth strategy was revised to focus on compact urban development, significant capital investment has been directed to walking, cycling and transit infrastructure to provide more travel options and reduce reliance on the automobile. According to the 2013 Household Travel Survey, the number of trips made by cycling and transit since 2007 have more than doubled, with walking trips increasing by 24%.

To facilitate the City's growth strategy, accommodate anticipated demand, improve accessibility for all residents and to ensure financial sustainability, a Master Transportation Plan has been developed. This plan builds on the 2008 Transportation Plan which recognised the need to shift the basis of transportation planning from increasing vehicle capacity through road building to diversifying transportation options and managing demand. It is integrated with the growth strategy by outlining strategic investments in infrastructure that link the City Centre and Neighbourhood Centres with transit, pedestrian and cycling facilities, by supporting development in those areas and ensuring that, as the city grows, Vernon residents will enjoy greater choice in how they travel.

## **25 Year Master Transportation Plan**

The Master Transportation Plan (MTP) provides a framework for how the City of Vernon will manage its transportation network over the 25 years and integrate it with the growth strategy and land use plan. 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 that will facilitate the growth of the city into a sustainable urban form. In short, the Transportation Plan will focus on connecting the City Centre and the Neighbourhood Centre with frequent transit and multi-use pathways, while also ensuring at other key destinations, such as schools and seniors centres have safe, accessible options for transportation, such as complete sidewalk networks with road crossings, for example.

The reduction of the number of trips made in a Single Occupant Vehicle (SOV) is a key component of the plan as it can delay or defer completely the need for road network capacity improvements that can cost substantially more than other transportation initiatives. Enabling more alternative transportation trips is a cost effective use of municipal finances. The MTP has developed 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 users of all ages, income levels and mobility levels. These sub plans and strategies are shown in Figure 16.

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 sidewalks 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

**Figure 16: 25 Year Master Transportation Plan Sub Plans and Strategies**

Increasing the number of trips taken over 25 years by walking, cycling, transit and carpooling from the 2013 share of 28.2% to 37% will manage that travel demand and associated 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, these targets would be exceeded. Figure 17 outlines the targets for mode share for each mode of transportation.

Travel Mode	In 2013	Target for 2040
Single Occupant Vehicle (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%

**Figure 17: Transportation Mode Share Targets: 2040**

The Master Transportation Plan is a supplementary document to the OCP and includes the following sub-plans and strategies:

**Road Network Plan**

The Road Network Plan sets out the prioritised road improvement plan for the next 25 years. With a growing city and aging infrastructure, the challenge is to maintain the network while accomodating growth. In addition, strategic investments in road infrastructure can encourage redevelopment in neighbourhoods like the City Centre.



**Transit Strategy**

As part of the development of the Master Transportation Plan, the City of Vernon, in partnership with BC Transit and RDNO, developed a 25 Year Transit Future Plan (TFP) for the regional transit system. In order to grow the transit service and be attractive to users, the existing transit network is to be redesigned using two new categories:

- A Core Transit Network (CTN), which would provide a convenient, reliable and more frequent transit service on weekdays, linking high density neighbourhoods with high demand destinations, including the City Centre, shopping destinations at the north end of Vernon, and Okanagan College.



The CTN would also include high level of transit stop amenities, service branding, right-of-way improvements and transit priority measures.

- The Local Transit Network (LTN), consisting of the remaining routes, which would be expanded to include new service in Middleton Mountain as well as to the Foothills Neighbourhood Centre following its development into a mixed use commercial and residential neighbourhood, thereby providing all of the Neighbourhood Centres in Vernon with transit service.

### **Pedestrian and Bike Master Plan**

The Pedestrian and Bike Master Plan provides the detailed direction for Vernon’s pedestrian network as well as the cycling network, which includes bicycle lanes, multi-use paths/cycle tracks.

The plan focuses on connecting the Neighbourhood Centres to the City Centre and improving the pedestrian and cycling networks around schools, seniors centres, shopping destinations and other neighbourhoods with higher population densities.

Existing and future facilities, classified by type, are shown on Map 7.



### **Transportation Demand Management Strategy**

The Transportation Demand Management Strategy outlines how the City will encourage the use of modes of transportation other than automobile. TDM policies, programs, services and initiatives influence why, when, where and how people travel. They can include the development of travel plans for schools and businesses, marketing and promotional campaigns and awareness and education initiatives. The components of a TDM strategy are outlined in Figure 18.



**Figure 18: TDM Strategy Components**

## Supporting Policies

- 11.1 Collaborate with all levels of government, RCMP, community groups, School District 22, Interior Health and Vernon residents to ensure safe and effective transportation services meet the needs of the community, and are planned for and delivered.
- 11.2 Continue to cooperate with the provincial government on the implementation and monitoring of the prioritised Highway 97 improvements and the completion of further studies into new highway connectors, intersection improvements and long term planning while recognizing their role in the economic health of the city and the region, as well as to protect the major corridors identified in the Regional District of North Okanagan's Regional Growth Strategy.
- 11.3 Retain the rail corridor for transportation purposes only, as illustrated on Map 3.
- 11.4 Develop, implement and monitor a Road Safety Strategy which sets Vision Zero as the long term goal of zero fatalities and zero major injuries for Vernon's roads. In the short term, produce an annual road safety report that utilizes accident investigation and analysis to identify road safety improvement projects for consideration in the rolling four year capital program.
- 11.5 Encourage transportation projects and initiatives that contribute to the long term livability, vitality and viability of the City Centre, the neighbourhood centres and residential areas.
- 11.6 Encourage transportation projects that minimize the impact of roads and transportation routes on surrounding neighbourhoods, agricultural lands, hillsides and sensitive habitats. All road works proposed for lands designated Agricultural Land Reserve require consideration and approval by the Agricultural Land Commission (ALC).
- 11.7 Implement the Road Network Improvement Strategy in the Master Transportation Plan with due consideration for the Integrated Transportation Framework (ITF); where possible in coordination with maintenance requirements. In addition, the City shall:
  - a. Evaluate and implement transportation network modifications based on factors including accident reduction, differential improvements to the Multi-Modal Level of Service / Quality of Service (MMLOS / QOS), mode share objectives and land use development objectives.
  - b. Design roads to incorporate utilities, transit, pedestrian and bike facilities as per the Master Transportation Plan and streetscape design elements such as trees, landscaping, median strips and boulevards, where warranted and practical and appropriately balanced with the ITF and future maintenance costs.
  - c. Utilize congestion as a management tool by refraining from implementing road modifications intended to increase capacity and/or efficiency of automobiles until the peak period level of service (LOS) is at the threshold of failure (i.e. LOS D/E throughout the morning, midday and afternoon peak periods).
  - d. Review access to industrial and commercial land uses by trucks and the routes taken in connection with asset management to ensure the structural integrity of roads is balanced with the adverse impacts of truck traffic in residential areas.

- e. Implement Seasonal Load Restrictions on municipal roads to complement routing and coordinate their timing with the MoTI's Seasonal Load Restrictions Program.
- f. Implement a Transport of Dangerous Goods Bylaw following approval from MoTI.
- g. Maintain an ongoing program of data collection and technical support in order to continuously improve the efficient operation of the whole transportation network.
- h. Consider the possible future need for converting travel lanes to transit and / or High Occupancy Vehicle Only lanes during peak periods on municipal roads and highways.

11.8 Adapt transportation services to address demographic trends in Vernon, particularly for youth and the aging population. This will include a focus on accessibility for the transit system so that residents with special needs and/or mobility impairments are able to use the system to participate in the community.

11.9 Ensure that transit takes a high priority in transportation planning and that routes and transit facilities are implemented as described and prioritised in the Transit Strategy of the Master Transportation Plan, including:

- a. Aim to increase the percentage of all trips undertaken by transit to 2.5% by 2040.
- b. Implement the transit routes and infrastructure identified and prioritised in the North Okanagan Transit Future Plan.
- c. Undertake a Service Review for the Custom Transit Service with BC Transit.
- d. Work cooperatively with BC Transit to implement online trip planner.
- e. Implement an annual Bus Stop Improvement Program to improve facilities and accessibility, including constructing sidewalks and ramps enabling access to bus stops.
- f. Implement ProPass or a similar discounted annual transit pass for commuters.
- g. Review fare products, pricing and structures every five years to provide cost effective service and encourage ridership.

11.10 Ensure that pedestrian, cycling and trail facilities take a high priority in transportation planning and are constructed as described and prioritised in the Pedestrian and Bike Master Plan and the Parks Master Plan. In addition, the following are intended actions:

- a. Aim to increase the percentage of all trips made by walking to 12.5% by 2040.
- b. Aim to increase the percentage of all trips made by cycling to 5% by 2040.
- c. Create a pedestrian policy that adopts the philosophy of 8-80 cities and Complete Streets for the planning, designing and maintaining of accessible pedestrian and bike facilities.
- d. Seek to increase community connectivity for pedestrians and cyclists through the provision of connectors between roads, cul-de-sacs, sidewalks and all classes of trails.
- e. Develop a program to review traffic signals detection systems and timing plans to determine upgrades and identify locations suitable for automated pedestrian push buttons and pedestrian lead intervals.
- e. Implement an annual program to enhance crosswalk and cycle crossings to improve safety, accessibility, signing and lining treatments.
- f. Revise the Traffic Bylaw in terms of designating corridors and facility types as suitable for use by small wheeled modes of transport (e.g. children's bikes, scooters, skateboards, rollerblades and longboards).



- g. Ensure all pedestrian and cycling facilities, including trails under the City of Vernon's control, are adequately maintained and cleared of gravel, snow and other debris as prescribed by City bylaws and policies.
- h. Support the RDNO Grey Canal Trail system in Vernon through the development and building application process; whenever possible, ensure that the trail right of way is secured on behalf of the RDNO.
- i. Provide connections to the RDNO Grey Canal Trail system in Vernon through the development and building application process, where feasible and with due consideration of grade and adjacent land use.
- j. Review the Zoning Bylaw in terms of vehicle and bicycle parking requirements and end of trip facilities.
- k. Implement a "Bike Friendly Business" Program.
- l. implement bike parking, support bike sharing programs and bike stations.
- l. Continue to work with community groups and School District #22, the Interior Health Authority and other stakeholders to foster a culture of walking and cycling.

11.11 Ensure that Transportation Demand Management measures and initiatives take a high priority in transportation planning. A target of 20% for walking, cycling and transit mode share has been set for 2040 to further encourage the use of alternative forms of transportation. To achieve this, the City shall:



- a. Aim to reduce the percentage of all trips undertaken by single occupant vehicles to 62% by 2040.
- b. Aim to increase the percentage of all trips made by carpooling to 17% by 2040.
- b. Seek funding and program partners to provide a variety of safety and awareness programs for all modes of transportation.
- c. Work cooperatively with community and business stakeholders, Safe Communities, School District #22, BC Transit and Interior Health to promote community awareness and provide education materials and programs regarding transportation options and community health.
- d. Implement a Workplace Travel Plan for City of Vernon to reduce commuting and work related automobile trips at all worksites to show leadership in the community.
- e. Support and promote employer based automobile trip reduction programs.
- f. Ensure that carpooling is facilitated, promoted and encouraged through the continued support of a regional rideshare matching program and provide support to employers wanting to coordinate carpools.
- g. Encourage carpooling among those attending recreational and cultural programs and major community events that are typically associated with parking shortages.
- h. Continue to implement and expand the School Travel Planning program.
- l. Explore ways to accommodate cooperative car networks or the provision of cooperative vehicle options for new development, subject to a transportation impact assessment and operational plan, to be provided by the applicant.
- j. Review the parking regulations in the Zoning Bylaw regularly to ensure that parking required as part of new development is consistent with anticipated demand.

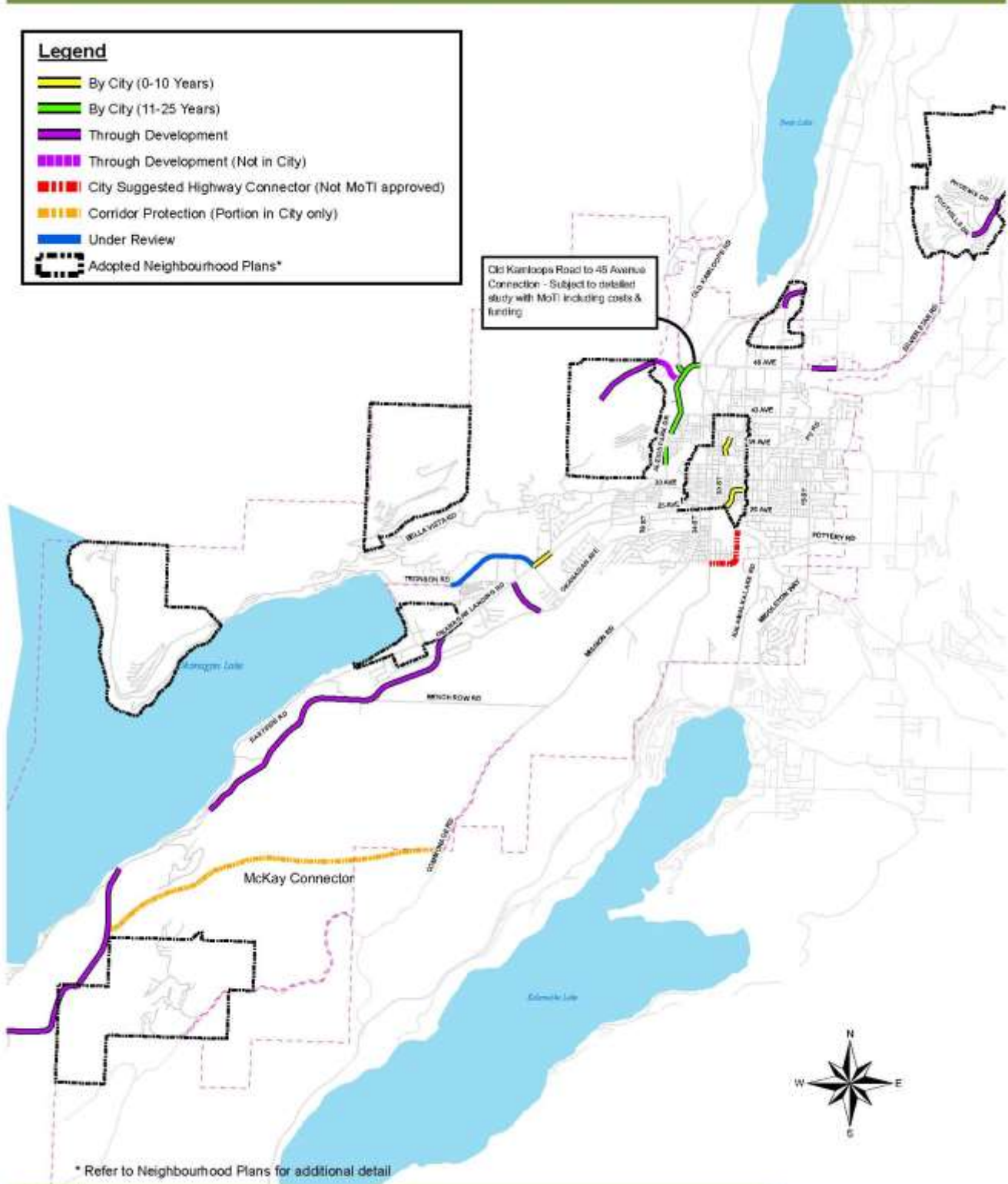
11.12 Implement the recommended actions of the City Centre Neighbourhood Plan Parking Implementation Strategy, including:

- a. Develop a cash in-lieu of parking policy.

- b. Work with employers to develop Workplace Travel Plans.
- c. Review the Zoning Bylaw in terms of enabling shared parking, carsharing clubs and carpool parking and review parking requirements and the implications of Workplace Travel Plans.
- d. Evaluate new technology changes and upgrades to parking/enforcement infrastructure.
- e. Continue to enforce parking regulations to ensure that parking designated for short term use in business districts is not used for long term parking and that spill-over parking into residential neighbourhoods is managed.
- f. Maintain the inventory of public parking facilities and monitor on-street parking occupancy.
- g. Develop a branding image to improve directional signs to/from parking facilities as part of City wide wayfinding.
- h. Develop programs and marketing to improve information and public relations.
- i. Develop a system for investment of parking revenue into parking initiatives, streetscape upgrades and projects to reduce parking demand.

**Legend**

-  By City (0-10 Years)
-  By City (11-25 Years)
-  Through Development
-  Through Development (Not in City)
-  City Suggested Highway Connector (Not MoTI approved)
-  Corridor Protection (Portion in City only)
-  Under Review
-  Adopted Neighbourhood Plans\*



\* Refer to Neighbourhood Plans for additional detail



33 Street Entrance North-South Movements

32 Avenue Turning Movements Improvements

35 Avenue New Signalized Intersection - Subject to Warrant and Future Analysis

39 Avenue Turning Movements Improvements

43 Avenue Left Turning Movement Improvements

Old Kamloops Road to Highway 97 Connector - Subject to Detailed Study Including Costs & Funding



Highway 6 to 27 Street Connector

31 Street Enhance North-South Movements

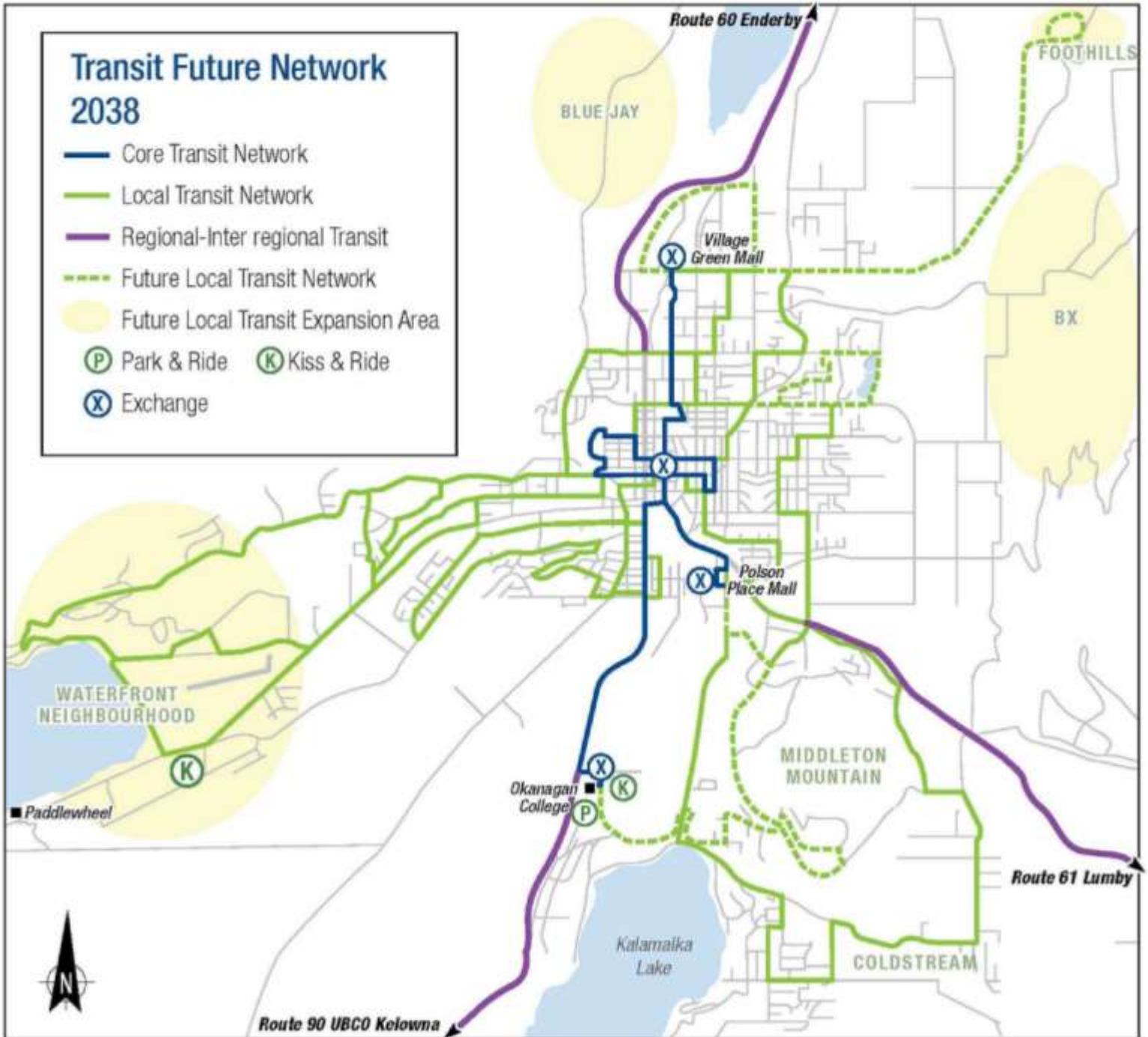
29 Street to 27 Street Connection

Hwy 97 Access Management to be Implemented When Left Turn Improvements are Available

43 Avenue Right Turning Movement Improvements

**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)



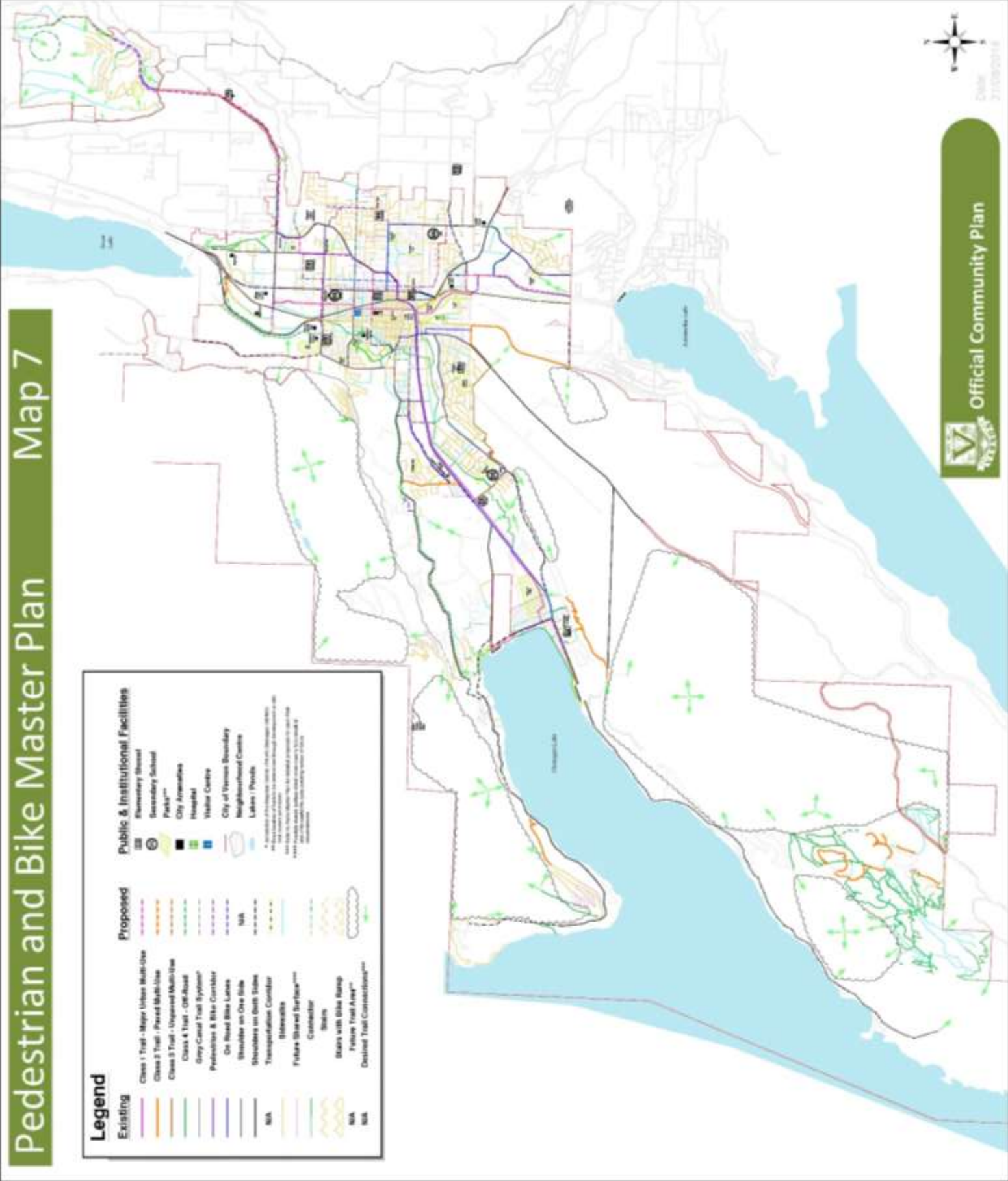


# Pedestrian and Bike Master Plan Map 7

### Legend

Existing	Proposed	Public & Institutional Facilities
Class 1 Trail - Major Urban Multi-Use	Class 1 Trail - Major Urban Multi-Use	Elementary School
Class 2 Trail - Paved Multi-Use	Class 2 Trail - Paved Multi-Use	Secondary School
Class 3 Trail - Unpaved Multi-Use	Class 3 Trail - Unpaved Multi-Use	Parks**
Class 4 Trail - Off-Road	Class 4 Trail - Off-Road	City Amenities
Greenway Trail System*	Greenway Trail System*	Hospital
Pedestrian & Bike Corridor	Pedestrian & Bike Corridor	Visitor Centre
On Road Bike Lane	On Road Bike Lane	City of Vernon Boundary
Shoulder on One Side	Shoulder on One Side	Neighbourhood Centre
Shoulders on Both Sides	Shoulders on Both Sides	Lakes / Ponds
Transposition Corridor	Transposition Corridor	
Staircase	Staircase	
Fibres Strand Surface***	Fibres Strand Surface***	
Connector	Connector	
Stairs	Stairs	
Stairs with Bike Ramp	Stairs with Bike Ramp	
'Follow' Trail Alley**	'Follow' Trail Alley**	
NA	NA	
NA	NA	
NA	NA	

\* A greenway trail system is a network of multi-use trails that connect urban centres and provide a link to rural areas through green corridors.  
 \*\* Parks include public and private parks, urban parks, and green spaces.  
 \*\*\* Fibres Strand Surface is a type of pavement that is made of recycled plastic and is used for pedestrian and bicycle paths.



# Pedestrian and Bike Master Plan

# Map 7

**Legend**

Existing	Proposed	Public & Institutional Facilities
Class 1 Trail - Major Urban Multi-Use	Class 1 Trail - Major Urban Multi-Use	Elementary School
Class 2 Trail - Mixed Multi-Use	Class 2 Trail - Mixed Multi-Use	Secondary School
Class 3 Trail - Improved Multi-Use	Class 3 Trail - Improved Multi-Use	Parks***
Class 4 Trail - Off Road	Class 4 Trail - Off Road	City Assembly
Grey Canal Trail System	Grey Canal Trail System	Hospital
Pedestrian & Bike Corridor	Pedestrian & Bike Corridor	Visitor Center
On Road Bike Lane	On Road Bike Lane	City of Warrens Boundary
Shoulder on One Side	Shoulder on One Side	Neighborhood Center
Shoulder on Both Sides	Shoulder on Both Sides	Lakes / Ponds
Transportation Corridor	Transportation Corridor	
Sidewalks	Sidewalks	
Future Shared Surface****	Future Shared Surface****	
Connector	Connector	
Kiosk	Kiosk	
Stays with Bike Ramp	Stays with Bike Ramp	
MA	Future Trail Area**	
MA	Desired Trail Connections***	

\* Available from the City of Warrens (Warrens, Michigan)
   
 \*\* Data source: City of Warrens (Warrens, Michigan)
   
 \*\*\* Data source: City of Warrens (Warrens, Michigan)
   
 \*\*\*\* Data source: City of Warrens (Warrens, Michigan)
   
 \*\*\*\*\* Data source: City of Warrens (Warrens, Michigan)

