FINAL REPORT

District of Coldstream

BICYCLE & PEDESTRIAN MASTER PLAN

District of Coldstream

1164.0096.01 / January 2007

URBAN SYSTEMS

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EXECUTIVE SUMMARY

The District of Coldstream recognizes that non-motorized users are an important component of the transportation system. Every trip that is made by foot or bicycle instead of by automobile helps to reduce traffic congestion and vehicle emissions, and helps to achieve a more balanced transportation system. As new development continues to occur within the District, the demand for safe and efficient facilities for bicycles and pedestrians will continue to increase.

In the past, the provision of bicycle and pedestrian facilities within the District of Coldstream has been considered on an ad hoc basis, with upgrades being provided as part of development or public pressure, and with limited consideration for overall network connectivity. A Bicycle and Pedestrian Master Plan will provide the overall vision that is required for the systematic implementation of a safe, feasible and convenient bicycle and pedestrian network. In establishing and implementing a Bicycle and Pedestrian Master Plan, the District of Coldstream can achieve increased walking and cycling trips, improved safety for cyclists and pedestrians, promote recreational cycling and tourism, and respond to community concerns and needs.

The Bicycle and Pedestrian Master Plan not only identifies where facilities should go, but also identifies the types of facilities that are appropriate. It includes the following three components:

1. **Overall Bicycle and Pedestrian Route Network** – The key component of the Bicycle and Pedestrian Master Plan is an overall network of bicycle and pedestrian facilities. This represents the ultimate vision for bicycle and pedestrian facilities within the District of Coldstream, and provides guidance as to where facilities or facility upgrades should be implemented.

2. **Comprehensive Design Guidelines** – As part of the Bicycle and Pedestrian Master Plan, design guidelines applicable to the District of Coldstream were established in order to provide further guidance in the implementation of each type of recommended bicycle and pedestrian facility, based on state-of-the-art guidelines used in other jurisdictions. The design guidelines address a wide range of circumstances, including crossing treatments, and signage and pavement markings. Interim standards are also included for retrofit facilities on existing roads.

3. **Implementation Strategy –** An overall strategy was developed for the successful implementation of the Bicycle and Pedestrian Master Plan, and for the District of Coldstream to work towards achieving the 'ultimate vision' of alternate mode travel within the community. The implementation strategy proposed will allow the District of Coldstream to plan and budget for expected future bicycle and pedestrian facility needs over the planning horizon, and to allow for a more systematic and fair approach to the construction of new facilities.

The existing and proposed Bicycle and Pedestrian Route Network for the District of Coldstream is illustrated in **Appendix C**. The network provides for a set of inter-connected bicycle and walking routes throughout the District of Coldstream. These routes, which include on-street routes, bicycle lanes, multi-use pathways and trails, and community walk-way links, are developed in order to provide direct access to major destinations and recreational areas throughout the District. The Bicycle and Pedestrian Route Network is broken down by facility type (marked wide curb lanes, paved shoulders, bike lanes, shared facilities and off road pathways), indicating where each type of facility is envisioned. A review of key pedestrian locations is also included, with a focus on providing safe crossing facilities for high demand locations such as adjacent to schools or parks.

In developing the Bicycle and Pedestrian Route Network, potential route locations were first identified and then evaluated, working towards a prioritized list of high priority projects. Key locations/issues that were addressed included:

- **Kalamalka Beach Area.** Improving safety for bicycles and pedestrians to and from the beach and surrounding amenities.

- **Middleton Mountain Neighbourhood.** Providing connectivity to and from Middleton Mountain for bicycles and pedestrians, particularly down to parks and schools to the south.

- **Kidston Road.** Providing a space either on or adjacent to Kidston Road for walking and cycling between Kal Park and the residential areas to the south and the remainder of the District of Coldstream.

- **Coldstream Valley Estates**. Providing adequate connectivity across Highway 6 and improving safety for pedestrians and cyclists on Uplands Drive for access o to the neighbourhood.

- **Lavington Area.** Providing connectivity to and from the Lavington Area and the remainder of the District, and improving pedestrian and bicycle access within the area without compromising the rural character.

- **Highway 6**. Improving safety for cyclists along Highway 6, particular in the vicinity of Coldstream Ranch.

- **Coldstream Town Centre Area**. Improving safety for bicycles and pedestrians through and within the busy Town Centre Area.

- **Regional Connectivity.** Providing a network that is seamless at the District boundaries, and provides adequate regional connectivity for alternate mode travel to, from and through the District of Coldstream.

A total of 72 proposed new and/or upgraded bicycle and pedestrian routes were identified within the Plan. Although all of the routes have a role to play in terms of bicycle and pedestrian safety, network connectivity, and user convenience, not all routes can be realistically implemented over a short period of time. Instead, an evaluation process was undertaken to first identify those that are high priority, and secondly, to rank the high priority routes in such a manner to identify the order in which they should be implemented. That way, the District of Coldstream can focus resources first on the routes that will provide the maximum benefit to cycling and walking community. The top 22 projects (ranked as 'high') are summarized in **Table ES-1**, and were provided a ranking based on safety, demand, network function, appeal and implementation feasibility. It is recommended that all of the high priority routes be considered and implemented in advance of proceeding to the medium and lower ranked routes. However, it is noted that opportunities may arise, for example through development, where the implementation of a lower ranked route would be prudent earlier and exceptions can be made.

Table ES.1 – High Priority Routes Evaluation Summary

ROUTE	FACILTY TYPE	RATING					OVERALL RATING	OVERALL RANKING	PROJECT SIZE
		Safety	Demand	Network Function	Appeal	Implementation Feasibility			
	WEIGHTING:	**3**	**2**	**2**	**1**	**2**			
Aberdeen Road (Middleton Dr to Hwy 6)	Paved Shoulders	5	5	5	4	4	**4.7**	**1**	MEDIUM
College Way/Kickwillie Loop Rd (Hwy 97 to Westkal Rd)	Paved Shoulders	5	5	5	3	4	**4.6**	**2**	LARGE
Kalamalka Beach (Kidston Rd to Westkal Rd)	Multi-use Pathway	5	5	4	5	4	**4.6**	**3**	MEDIUM
Westkal Road	Sidewalk and Marked Wide Curb Lanes	5	5	5	4	3	**4.5**	**4**	LARGE
Husband Road (Middleton Way to Kalamalka Lake Rd)	Paved Shoulder and Sidewalk	5	4	5	4	4	**4.5**	**5**	LARGE
Husband Road (off-road connection)	Shared Route and Multi Use Pathway	5	4	5	2	4	**4.3**	**6**	SMALL
Okanagan College to College Way (Off-Road Conenction)	Multi-Use Pathway	5	4	4	4	4	**4.3**	**7**	SMALL
Coldstream Creek Road (Kalamalka Rd to Kidston Rd)	Paved Shoulders or Multi-Use Pathway	4	4	5	4	4	**4.2**	**8**	LARGE
Kidston Road (Kalamalka Rd to Coldstream Creek Rd)	Paved Shoulders	4	4	5	4	4	**4.2**	**9**	MEDIUM
Kidston Road (Coldstream Creek Rd to Kal Park)	Multi-Use Pathway	5	4	5	5	2	**4.2**	**10**	LARGE
Buchanan Road (Aberdeen Rd to Uplands Drive)	Paved Shoulders	4	3	5	4	4	**4**	**11**	MEDIUM
Kalamalka Road (Aberdeen Rd to Hwy 6)	Paved Shoulders	4	3	5	4	4	**4**	**12**	LARGE
Middleton Drive	Paved Shoulders	4	3	5	4	4	**4**	**13**	LARGE
Kalamalka Road (Town Centre Area)	Sidewalks	4	4	3	5	4	**3.9**	**14**	MEDIUM
Connections from Middleton Mountain to Kalamalka Road	Multi-Use Pathways and Shared Route	4	4	5	3	3	**3.9**	**15**	SMALL
Railway (Westkal Rd to Vernon)	Multi-Use Pathway	5	5	2	5	2	**3.8**	**16**	LARGE
College Way (Kickwillie Loop Rd to Reservoir Rd)	Multi-Use Pathway	5	4	3	3	3	**3.8**	**17**	MEDIUM
Middleton Way	Marked Wide Curb Lanes	3	3	4	4	5	**3.7**	**18**	SMALL
School Road (Learmouth Rd to Hwy 6)	Paved Shoulder (west side only)	3	3	4	4	4	**3.5**	**19**	MEDIUM
Uplands Drive (Buchanan Rd to Upper Crestview)	Paved Shoulders	3	3	3	4	4	**3.3**	**20**	MEDIUM
McClounie Road (Coldstream Creek Rd to Kalamalka Rd)	Paved Shoulder (east side)	3	3	3	4	4	**3.3**	**21**	MEDIUM
Uplands Drive (Upper Crestview Drive to Cypress)	Shared Route	2	3	3	3	5	**3.1**	**22**	SMALL

Cost estimates were completed for each of the top 13 routes, with rankings greater than or equal to 4.0, as summarized in **Table ES-2**. These costs are order of magnitude estimates, and are intended to provide guidance for budgeting purposes only. More detailed estimates should be prepared as the proposed routes are advanced to the next phase of design. A contingency of 40% was included in all costs to account for unknowns at this time. Utility impacts, property acquisition, geotechnical and environmental considerations were not considered in these estimates.

The total estimated cost for the top 13 bicycle and pedestrian routes is in the order of $6.4 million (in 2006 dollars). If the upgrades were to be completed over a 10-year period, the resulting expenditure would be in the order of $650,000 per year. It is important to note that the estimate includes upgrading Westkal Road, which is approximately $1.5 million and includes not only widening for a sidewalk and marked wide curb lanes, but includes reconstruction of the entire roadway. It is assumed that this upgrade will be completed regardless of the outcomes of this study. The projects have been classified as either small (<$100,000), Medium ($100,000 - $250,000) and Large (>$250,000) for budgeting purposes.

Table ES.2 – Estimated Costs for High Priority Routes (2006 Dollars)

ROUTE	FACILTY TYPE	OVERALL RANKING	COST ESTIMATE	PROJECT SIZE
Aberdeen Road (Middleton Dr to Hwy 6)	Paved Shoulders	**1**	$195,000	MEDIUM
College Way/Kickwillie Loop Rd (Hwy 97 to Westkal Rd)	Paved Shoulders	**2**	$302,000	LARGE
Kalamalka Beach (Kidston Rd to Westkal Rd)	Multi-use Pathway	**3**	$179,000	MEDIUM
Westkal Road	Sidewalk and Marked Wide Curb Lanes	**4**	$1,485,000	LARGE
Husband Road (Middleton Way to Kalamalka Lake Rd)	Paved Shoulder and Sidewalk	**5**	$403,000	LARGE
Husband Road (off-road connection)	Shared Route and Multi-Use Pathway	**6**	$56,000	SMALL
Okanagan College to College Way (off-road connection)	Multi-use Pathway	**7**	$91,000	SMALL
Coldstream Creek Road (Kalamalka Rd to Kidston Rd)	Paved Shoulders or Multi-Use Pathway	**8**	$1,517,000 (shoulders) $714,000 (path)	LARGE
Kidston Road (Kalamalka Rd to Coldstream Creek Rd)	Paved Shoulders	**9**	$332,000	LARGE
Kidston Road (Coldstream Creek Rd to Kal Park)	Multi-Use Pathway	**10**	$475,000	LARGE
Buchanan Road (Aberdeen Rd to Uplands Drive)	Paved Shoulders	**11**	$502,000	LARGE
Kalamalka Road (Aberdeen Rd to Hwy 6)	Paved Shoulders	**12**	$602,000	LARGE
Middleton Drive	Paved Shoulders	**13**	$314,000	LARGE
TOTAL			**$6,453,000**	

1.0 INTRODUCTION

The District of Coldstream recognizes that non-motorized users are an important component of the transportation system. Every trip that is made by foot or bicycle instead of by automobile helps to reduce traffic congestion and vehicle emissions, and helps to achieve a more balanced transportation system. As new development continues to occur within the District, the demand for safe and efficient facilities for bicycles and pedestrians will continue to increase.

In the past, the provision of bicycle and pedestrian facilities within the District of Coldstream has been considered on an ad hoc basis, with upgrades being provided as part of development or public pressure, and with limited consideration for overall network connectivity. A Bicycle and Pedestrian Master Plan will provide the overall vision that is required for the systematic implementation of a safe, feasible and convenient bicycle and pedestrian network.

There have been several studies/reports undertaken that have touched on the future provision of bicycle and pedestrian facilities in the vicinity of Coldstream. These include the following:

- ***Ribbons of Green, Greater Vernon Trail System (1993)*** – The Ribbons of Green initiative was first formalized in 1993, with the objective of providing an overall vision for "a system of linear parks, pathways and bikeways in Greater Vernon which tie urban areas to parks, natural and scenic areas through "green" forms of recreation and transportation". The focus of the trail system is for recreational uses, and the recommendation is made to consider a separate study to address trail needs of commuters within the Region.

- ***Greater Vernon Parks, Recreation and Culture Master Plan (2004)*** – The purpose of this study was to identify a vision for parks and recreation within the Greater Vernon Area, including recommendations for park acquisition, recreation facilities, trails, beaches, and culture and recreation programs over the next 10 years. Specifically, the report addresses the need for additional off-road trails in the region for cycling and hiking. Several future trail corridors within the District of Coldstream were identified in this study.

- ***District of Coldstream Official Community Plan (2005)*** – The Official Community Plan, updated in 2005, identifies Council's objective to establish a road network that provides for safe and efficient circulation of both vehicular and non-vehicular traffic.

Policies include ensuring adequate bicycle lanes along arterial and collector roads, considering walkways and pathways as a requirement for development, and working towards establishing an overall bicycle network plan.

- ***Major Roadway Network Plan (2003)*** – The Major Roadway Network Plan did not include a review of pedestrian and bicycle facilities. However, the roadway cross-sections identified recommended the incorporation of bicycle and pedestrian facilities based on roadway classification.

The studies that have been undertaken are primarily Regional, or from a high level planning perspective only. While regional interconnectivity is important, the District of Coldstream needs a Plan that is specific to the community's needs, and identifies potential bicycle and pedestrian routes in further detail to establish priority, implementation feasibility and cost implications.

1.1 Why is a Bicycle and Pedestrian Master Plan Needed?

The District of Coldstream recognizes that part of encouraging people to walk or ride their bicycles is providing safe facilities and convenient routes upon which to travel. In establishing and implementing a Bicycle and Pedestrian Master Plan, the following primary objectives can be achieved:

- **Increased Walking and Cycling Trips –** The primary goal of the Bicycle and Pedestrian Master Plan is to increase cycling and walking within the District of Coldstream. Developing more bicycle routes and pedestrian facilities, combined with increased awareness and public education, will encourage non-vehicular travel as a viable mode of transportation within the community, and lead to an increase in the number of walking and cycling trips, and a healthier community.

- **Improved Safety for Cyclists and Pedestrians** – Studies have repeatedly found that the most significant deterrent to cycling as a mode of transportation is "fear of traffic". Similarly, the most significant deterrent to walking is a lack of safe crossings on major roads. Improving safety by providing designated bicycle and pedestrian facilities built to a minimum design standard will help to minimize conflicts between pedestrians, cyclists and other road users.

- **Promote Recreational Cycling and Tourism** – The District of Coldstream is home to several attractive recreational routes, attracting both residents and visitors to the community. A Bicycle and Pedestrian Master Plan will further enhance recreational cycling and walking by providing safe and effective access to popular recreational destinations.

- **Respond to the Community** – Many residents within the District of Coldstream have expressed a desire to improve the environment for both cyclists and pedestrians. The Bicycle and Pedestrian Master Plan responds to issues and opportunities that have been identified by residents with facilities that are safe and convenient, providing direct routes to major destinations.

With a Bicycle and Pedestrian Master Plan in place, the District of Coldstream will have the ability and leverage to work towards these objectives.

1.2 Components of the Plan

The Bicycle and Pedestrian Master Plan not only identifies where facilities should go, but also identifies the types of facilities that are appropriate. The Plan includes an implementation strategy, identifying those facility upgrades that are higher priority and should be considered first. By establishing a Bicycle and Pedestrian Master Plan, the District will ensure the best use of funds and be confident that the most appropriate approach is being taken on a project by project basis.

The Bicycle and Pedestrian Master Plan includes the following three components:

1. **Overall Bicycle and Pedestrian Route Network** – The key component of the Bicycle and Pedestrian Master Plan is an overall network of bicycle and pedestrian facilities. This represents the ultimate vision for bicycle and pedestrian facilities within the District of Coldstream, and provides guidance as to where facilities or facility upgrades should be implemented. The network provides for a set of inter-connected bicycle and walking routes throughout the District of Coldstream. These routes, which include on-street routes, bicycle lanes, multi-use pathways and trails, and community walk-way links, are developed in order to provide direct access to major destinations and recreational areas throughout the District. The Bicycle and Pedestrian Route Network is broken down by facility type (such as bike lanes, shared facilities, and off road pathways, indicating where each type of facility is envisioned. A review of key pedestrian locations is also

included, with a focus on providing safe crossing facilities for high demand locations such as adjacent to schools or parks.

2. **Comprehensive Design Guidelines** – As part of the Bicycle and Pedestrian Master Plan, design guidelines applicable to the District of Coldstream were established in order to provide further guidance in the implementation of each type of recommended bicycle and pedestrian facility, based on state-of-the-art guidelines used in other jurisdictions. The design guidelines address a wide range of circumstances, including crossing treatments, and signage and pavement markings. Interim standards are also included for retrofit facilities on existing roads.

3. **Implementation Strategy** – An overall strategy was developed for the successful implementation of the Bicycle and Pedestrian Master Plan, and for the District of Coldstream to work towards achieving the 'ultimate vision' of alternate mode travel within the community. The implementation strategy proposed will allow the District of Coldstream to plan and budget for expected future bicycle and pedestrian facility needs over the planning horizon, and to allow for a more systematic and fair approach to the construction of new facilities. The Implementation Strategy includes the following:

    - A prioritized list of recommended pedestrian and/or bicycle facility upgrades over the short term, medium term, and long term horizons

    - Order of magnitude cost estimates for the high priority improvements to existing facilities and new facilities/connections

    - Recommendations for supporting programs to increase awareness of cycling and pedestrian facilities and opportunities, to encourage people to walk and cycle, and to educate pedestrians, cyclists and motorists on how to safely share the road.

1.3 How the Plan Was Developed

Consultation was an important part of developing the Bicycle and Pedestrian Master Plan. The Plan was developed through a mix of stakeholder and public consultation, District of Coldstream staff input, and field reviews. The study process is summarized in **Figure 1.1**. The involvement of the public was important in order to ensure a Plan that is acceptable, attractive and meets

the needs of the local residents, who will eventually be the primary users of the bicycle and pedestrian network. In addition, the most efficient way to establish desire lines and routes within, to and from the District of Coldstream is through the users themselves. Community consultation activities were included in the study process as follows:

- **Stakeholder Meeting –** A group stakeholder meeting was held in order to provide special interest groups the opportunity to express their issues and ideas independently from the general public. The following groups were included in this session:

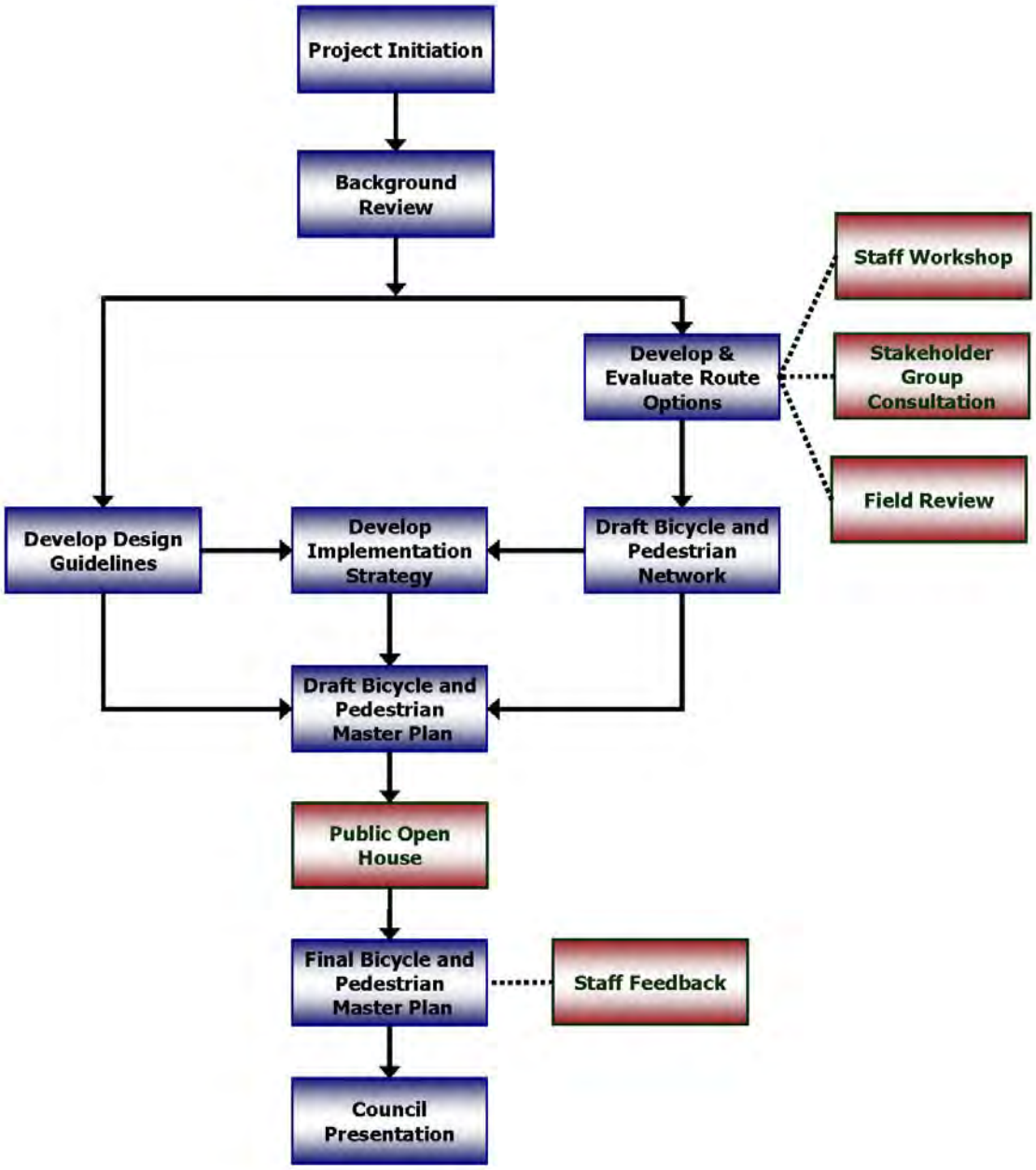
    - Greater Vernon Cycling Advisory Committee
    - Ribbons of Green
    - Schools
    - Vernon Outdoors Club
    - Community Policing
    - Middleton Mountain Neighbourhood Group

- **Public Open House** – A Public Open House was held at the District of Coldstream Municipal Hall where information on the objectives and background of the Plan were presented, and the opportunity for attendees to comment on key issues and route ideas was provided. The attendees were asked to fill out a questionnaire for more formalized input.

In addition to the above noted public consultation, input was also sought from the Regional District Parks Department throughout the study process. The District of Coldstream's Advisory Planning Committee was also included in the consultation process.

Summary notes from the stakeholder meeting, as well as all of the materials from the Public Open House (including a summary of the questionnaire responses) are included in **Appendix A.** Also included is various correspondence from stakeholders and members of the public from throughout the study.

Figure 1.1 – Study Process



2.0 PLANNING FOR BICYCLES AND PEDESTRIANS

In planning for bicycles and pedestrians within the District of Coldstream, two key components were considered: key planning principles to guide the selection and implementation of routes, and the type of bicycle and pedestrian facilities that are appropriate for the community.

2.1 Key Planning Principles

The development of the Bicycle and Pedestrian Master Plan was based on several fundamental principles of bicycle and pedestrian planning, as described below. These principles are based on experience in the District of Coldstream as well as communities in British Columbia and across North America, and are consistent with current planning practices.

- **Crossing treatments are essential.** Locations where pedestrians cross arterial and collector roads are where the majority of collisions occur between motor vehicles and pedestrians. To maximize safety for pedestrians, and to avoid creating barriers to walking within Coldstream, a range of crossing treatments should be used at arterial and collector road crossings.

- **The bicycle network should accommodate all cyclists.** This means cyclists of all skill levels, riding for all purposes. This includes children and adults, novice and experienced cyclists. It includes cyclists commuting to work and school, cyclists riding to the store or a medical appointment, for example, and recreational cyclists, including mountain bikers riding to trails.

- **Cyclists should be accommodated on roadways where possible.** This means that unless it is extremely difficult to do so, space should be provided for cyclists on all arterial and collector roads. This approach recognizes that cyclists fare best when they are treated as vehicles and integrated with other vehicle traffic. Studies of crashes and safety issues indicate that cyclists are generally safer riding on roadways than on pathways. The reason for this is that cyclists share pathways with pedestrians and many other types of users, which can increase the potential for conflicts and crashes. In addition to safety considerations, travel times for cyclists are typically minimized when cyclists travel on roadways.

- **Bicycle and pedestrian routes should form a continuous network,** using local streets where appropriate to bridge gaps in the network. Many cyclists who are attracted to pathways are cyclists who would not be comfortable riding on arterial or collector roads. Recognizing this, these cyclists should be able to ride to destinations throughout the District of Coldstream on a combination of pathways and local streets, without the need to travel along arterial and collector roads. Although local streets may be used to complete gaps in the pathway network, desirably a continuous pathway connection should be provided.

- **The pedestrian and bicycle network should serve all important destinations.** Just as the road network provides access to commercial, office, institutional, cultural and recreational destinations throughout the community, so should the bicycle and pedestrian network. Desirably, each important destination is served by an on-street bicycle route and a walkway/pathway connection.

- **The "quality" of the walking and cycling experience is important.** The "quality" of the cycling and walking experience is determined by perceptions of safety, traffic volumes, noise and aesthetics. Although providing a direct route and avoiding steep grades are important, some pedestrians and cyclists will prefer a longer route or one with steeper grades if it is perceived as significantly safer, has lower traffic volumes, and provides a more enjoyable walking and cycling experience.

- **Facilities should be developed to an acceptable standard.** No-one would consider constructing a road to be used by motor vehicles with lane widths narrower than the minimum standard, or without traffic signals at major intersections, for example. The road would not be safe. For the same reason, pedestrian and bicycle facilities should not be constructed to less than the minimum standard — they would not be safe, either. Constructing bicycle and pedestrian facilities to acceptable standards maximizes safety for pedestrians and cyclists, increases the attraction of the bicycle and pedestrian facilities to potential pedestrians and cyclists, minimizes maintenance costs and helps to avoid expensive liability claims.

2.2 Types of Bicycle and Pedestrian Facilities

Within the Bicycle and Pedestrian Master Plan, specific types of facilities were considered, that are reflective of the character and nature of the roadways within the District of Coldstream, as well as the interests and needs of the potential users. The bicycle facilities recommended for implementation within the District of Coldstream include 'on-street' (part of the roadway network), and 'off-street' (separate from the roadway network) facilities. Also discussed here are pedestrian facilities, and crossing treatments.

2.2.1 On-Street Facilities

On-street facilities are those that are located on roadways. These include shared routes, marked wide curb lanes, bicycle lanes and paved shoulders, as described below. **Appendix B** summarizes specific design guidelines for various on-street facilities.

Shared Routes

Shared routes are typically applicable on low traffic volume roads such as local streets and lower-volume collector roads. When traffic volumes and speeds are generally low, cyclists and motorists are able to safely share the road without the need for physical improvements to the roadway. In most case, the only improvement needed is signage identifying the road as a bicycle route and alerting motorists to the presence of cyclists on the road. No additional road space is provided for pedestrians or cyclists. Traffic calming measures such as traffic circles, speed humps and obstructions can be used to reduce motor vehicle speeds and volumes on shared routes if needed.

Shared routes are applicable within the District of Coldstream due to the high number of local streets with low traffic volumes. They have the added benefit of being low cost and low maintenance. Shared routes can be successfully implemented on many existing roads, in particular on residential streets.

Marked Wide Curb Lanes

A marked wide curb lane is essentially a wide travel lane, with the addition of bicycle lane symbols marked on the pavement at regular intervals. The symbols identify the right side of the lane as the area used by bicycles, and serve to alert motorists to the potential presence of bicycles even when there are no bicycles on the roads. Because an area of the roadway is identified for bicycle use, marked wide curb lanes are attractive to cyclists who are uncomfortable riding in traffic and feel the need for an identified bicycle facility.

Marked wide curb lanes do not include a white line separating bicycles from other traffic, which means cyclists may travel in the lane where they feel most comfortable. Many motorists – and even cyclists – interpret the white line of a bicycle lane to mean that cyclists are confined to the bicycle lane. With marked wide curb lanes, on the other hand, motorists and cyclists both recognize that cyclists are free to ride elsewhere on the roadway as necessary (such as to make a left turn, avoid an obstacle such as a parked car, or when traveling through an intersection). Marked wide curb lanes are typically utilized on roads with low to medium traffic volumes, where on-street parking, frequent transit stops, or large proportions of turning vehicles exist. Lanes are 4.3 m wide for vehicles and cyclists to share which allows for vehicles to safely overtake cyclists without having to cross into adjacent lanes.

Paved Shoulders

On rural arterial and collector roads without curb and gutter, bicycles and pedestrians may travel on the paved shoulder. Paved shoulders are a shared facility, and must provide adequate width for both pedestrians and cyclists. A minimum width of 1.5 metres is recommended. Paved shoulders may be signed and/or have stencils but this is not

necessary. Within the District of Coldstream, particular attention must be made to ensure that parking is prohibited on the paved shoulders dedicated to pedestrian and bicycle use, and that the shoulders are maintained throughout the year.

Bicycle Lanes

Bicycle Lanes are separate travel lanes designated for the exclusive use of bicycles only on urban roads where there is curb and gutter. In most cases, they are located on the right-hand side of the road, adjacent the curb. In general, bicycle lanes are preferred for roadways that have higher volumes, higher speeds, no on-street parking and limited driveway and/or bus service. The lanes are a minimum width of 1.5 metres and are identified with solid white lines, bicycle stencils and appropriate signage.

2.2.2 Off-Street Facilities

Off-street facilities are separated from roadways, and often are located within parks, open space corridors, utility corridors and adjacent rail lines. They can also be located parallel to existing roadways. Off-street facilities are designed to accommodate a wide range of uses, including cyclists, pedestrians, runners, wheelchair users, people with strollers, in-line skaters, equestrians and people with dogs. **Appendix B** summarizes specific design guidelines for various off-street facilities.

Multi-Use Pathways

Multi-use pathways are shared off road facilities used for commuting and recreational use. All types of non-motorized users including pedestrians, cyclists, in-line skaters, and persons in wheelchairs or with strollers are accommodated. Because the speeds of users can vary significantly, it is important

that pathways are sufficiently wide enough that faster moving users can travel around slower moving users, thereby avoiding conflicts and collisions. A minimum width of 4.0 metres is recommended for multi-use pathways.

Desirably, multi-use pathways are hard surfaced, using concrete or asphalt. This means that all non-motorized users can be accommodated, including in-line skaters, persons in wheelchairs and cyclists on bicycles with narrow tires. Soft-surfaced pathways can also be considered if a more 'natural' feeling pathway is desired, however this may limit some of the potential users.

Sidewalks

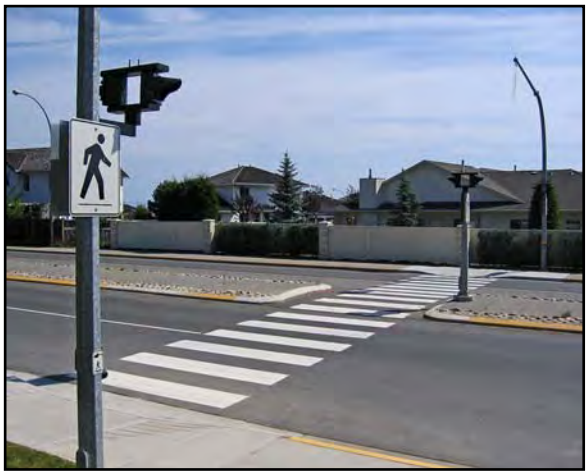
Sidewalks are located within the road right-of-way and provide pedestrian only access along the same direct routes used by vehicles. They are typically located directly behind the curb and gutter on urban roads. The minimum standard for sidewalk width is 1.5 metres; however, a width of 1.8 metres or more (depending on predicted usage) is preferable in multi-family or commercial areas. Sidewalks are recommended within the District of Coldstream on all urbanized (i.e. curb and gutter) roads. However, given the desire to maintain the rural character of the community, the use of sidewalks within Coldstream will most likely be minimal.

2.2.3 Crossings

Where on-street and off-street facilities cross major roadways, special crossing treatments are usually required. Different types of crossing facilities are recommended, depending on the function, traffic volumes, and speeds of the roadway as well as the type of pedestrian and bicycle facility and the crossing demand.

Four types of crossings are typically considered, including:

- **Marked crossings** are used on lower-volume roadways, where there is a need to identify the crossing to motorists. Crosswalk signage and pavement markings can be supplemented with enhancements, including flashing amber lights and overhead internally-illuminated signs, which also shine light onto the crossing area.



- **Median islands** at marked crossings make it easier for pedestrians, 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. These are also referred to as pedestrian refuge areas.

- **Signalized crossings** are used where the number of persons crossing the roadway is higher, and where traffic volumes and speeds are higher. Signals can only be activated by pedestrians and cyclists who must push a button – motor vehicles on the side street cannot activate the signals.

- **Grade-separated crossings** (overpasses and underpasses) are expensive, and are typically used only where there is a high volume of high-speed motor vehicle traffic, with no opportunity for a signalized at-grade crossing.

2.2.4 End-of-Trip Facilities

End-of-trip facilities are an important component of the Bicycle and Pedestrian Master Plan wherever possible. End-of-trip facilities are specific to bicycle use, and include bike storage facilities such as racks and lockers (see **Figure 2.1**).

Figure 2.1 – Examples of End of Trip Facilities

3.0 THE BICYCLE AND PEDESTRIAN ROUTE NETWORK

The existing and proposed Bicycle and Pedestrian Route Network for the District of Coldstream is illustrated in **Appendix C**. It is comprised of a combination of shared routes, marked wide curb lanes, paved shoulders, sidewalks, multi-use pathways and crossings. In developing the Bicycle and Pedestrian Route Network, potential route locations were first identified and then evaluated, working towards a prioritized list of high priority projects. This process, along with details of key components of the recommended Bicycle and Pedestrian Route Network are discussed in the following pages.

3.1 Route Inventory

The first step in developing the Bicycle and Pedestrian Route Network was to identify all existing bicycle and pedestrian facilities within the District of Coldstream. These include the following:

- Paved shoulders on both sides of Kalamalka Road (Westkal Road to Aberdeen Road), Aberdeen Road (Kalamalka Road to Middleton Drive) and Kalamalka Lake Road (Westkal Road to Vernon)

- Paved shoulders on one side of McClounie Road, School Road, around Kidston Elementary School, Cunliffe Road (Coldstream Creek Road to Kidston Elementary School) and Husband Road (Kalamalka Lake Road to Sunflower Drive)

- Sidewalks on one side of the road on Cunliffe Road (Palfrey Drive to Coldstream Creek Road), Postill Drive, Stoneridge Drive, a short stretch on Kidston Road near Juniper Heights, Husband Road (Kalamalka Lake Road to the beach parking area), Middleton Way, Mt. Thor Drive, Mt. York Drive, and a small stretch on Kalamalka Road in the Town Centre Area.

- Multi-use pathways in Kalamalka Provincial Park (parallel to Kidston Road between the Red Gate entrance and the main park entrance) and at Okanagan College.

The existing bicycle and pedestrian facilities within the District of Coldstream are illustrated on the Bicycle and Pedestrian Route Network map in **Appendix C**.

Potential new bicycle and pedestrian route locations were identified through input from stakeholders and community representatives, discussions with District Staff, and field reviews. In addition, the consulting team also conducted a review of potential routes. Each of the key issues that were raised through the consultation process was reviewed and addressed by identifying additional routes and/or upgrades to routes as appropriate.

Focus was placed on four main areas in the development and selection of new/upgraded pedestrian and bicycle routes:

- Identifying any gaps in the network, including any discontinuities in existing on and off-street facilities.

- Ensuring that all major generators throughout the District of Coldstream are served by some sort of facility. The major generators in Coldstream are parks (including Kalamalka Provincial Park), schools, beach accesses, neighbourhoods (including Middleton Mountain and Lavington), and the Town Centre area.

- Providing alternate routes to on-street routes on high volume arterials or roads with high vehicular travel speeds.

- Ensuring connectivity to major regional routes and origins/destinations.

All potential new/upgraded pedestrian and bicycle routes are summarized on the Bicycle and Pedestrian Route Network as provided in **Appendix C**. For each route, the most appropriate facility type was noted, including sidewalks, paved shoulders, multi-use pathways, shared bicycle routes, marked wide curb lanes and new or upgraded crossing locations. A total of 72 new routes and/or route upgrade locations within the District of Coldstream were identified through this review.

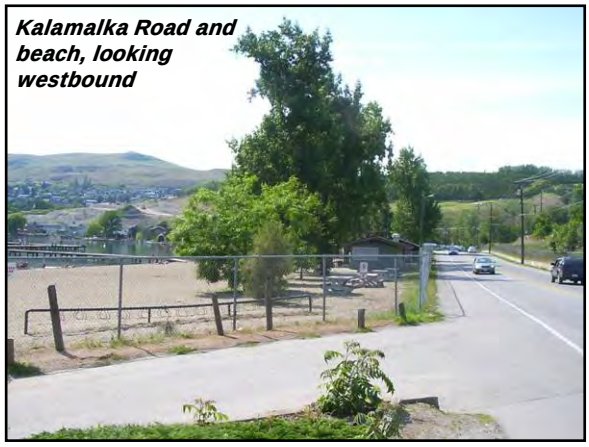
3.2 Key Network Components

The proposed Bicycle and Pedestrian Route Network was developed to address key bicycle and pedestrian related issues and problematic areas. The key components of the proposed Bicycle and Pedestrian Route Network are summarized and discussed in the following sections.

3.2.1 Kalamalka Beach Area

- *Establish a new multi-use pathway parallel to Kalamalka Road between Kalavista Drive and Westkal Road.*
- *Enhance safety and visibility of pedestrian crossings on Kalamalka Road and Westkal Road at the General Store.*
- *Protect property adjacent to pub/liquor store for future pathway alignment.*
- *Establish a multi-use connection between Husband Road and Kalamalka Road through the beach parking area.*
- *Relocate and enhance crossing on Husband Road at beach parking.*

The area surrounding Kalamalka Beach (namely, Kalamalka Road between Westkal Road and Kalavista Road) is busy, in particular in the summer months, with a large amount of pedestrian and bicycle activity. This is compounded by heavy traffic volumes along Kalamalka Road, motorists traveling to and from the pub and liquor store adjacent Kalavista Drive, parking on Kalamalka Road, and boat launch traffic. Currently, the pedestrian and bicycle facilities in the Kalamalka Beach area include paved shoulders on both sides of Kalamalka Road, and marked (zebra) crossings at Westkal Road and for access to the parking area north of Kalamalka Road. Although prohibited, parking often occurs on the paved shoulder reserved for bicycle and pedestrian use, limiting the options for safe passage through the area for pedestrians and cyclists.



Kalamalka Road and beach, looking westbound

It is recommended that a new multi-use pathway be established between Kalavista Drive and the west side of the Westkal Road & Kalamalka Road intersection to accommodate the pedestrian and bicycle traffic to and from the beach area, and to minimize their exposure to this busy stretch of Kalamalka Road. The alignment of the recommended pathway is illustrated in **Figure 3.1**. The pathway should provide connections to the existing marked crossings on Westkal Road and Kalamalka Road.

Figure 3.1 – Kalamalka Beach Area – Recommended Upgrades

It is noted that the recommended pathway alignment adjacent to the pub/liquor store is shown on private property. If/when this property redevelops right-of-way should be protected for public access and to complete the connection between the beach and Kalavista Drive. At the west end, the pathway should extend west of the creek perpendicular to Westkal Road, which will require a creek crossing.

Additional enhancements in the area are also recommended as follows:

- Upgrading the existing pedestrian crossing between Kalamalka Beach and the parking area to the north of Kalamalka Road. Given it's function as the primary connection between the beach and the parking area, this is an important crossing location with high demand. It is recommended that it be enhanced with warning flashers and improved advanced warning signage. The proposed improvements are intended to increase the visibility of this well-used crossing, and to encourage motorists to stop for pedestrians. In addition, the north access to the crossing (from the parking area) should be upgraded to a hard surface with ramp to facilitate bicycle, pedestrian and other user access from the parking, across the railway tracks and down to Kalamalka Road.

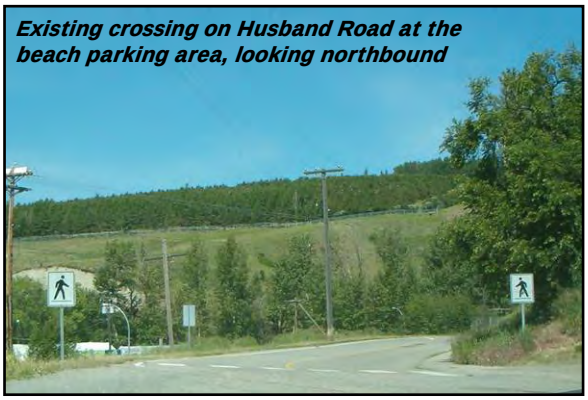
Kalamalka Road looking westbound at the main beach/parking crossing

- Reconfigure or restrict the Kalamalka Road access to the pub and liquor store to improve safety and reduce conflicts.

- Establish a multi-use connection between Husband Road and Kalamalka Road to improve access through the parking area and to/from Middleton Mountain.

Kalamalka Road looking westbound at the Pub/Liquor Store Entrance

- To provide access between the sidewalk on Husband Road and the beach parking, a marked crossing has been provided across Husband Road. However, the location of the crossing is such that visibility is limited, and it is in an unexpected location (i.e. just past the side road access as opposed to at the side road access). It is recommended that this crossing be relocated to align with the access to the beach parking and be supplemented with advanced warning signage to alert motorists of the potential for pedestrians on the road.



Existing crossing on Husband Road at the beach parking area, looking northbound

3.2.2 Middleton Mountain Neighbourhood

Extend paved shoulder on south side of Husband Road to Middleton Way.

Extend sidewalk on north side of Husband Road to Middleton Way.

Upgrade off-road connection between Sunflower Place and Michael Drive and establish shared route to provide connections at both ends.

Establish public walkways at unused easements.

Ensure adequate pedestrian/bicycle connectivity to and from future school site.

Provide pathway connection between Middleton Mountain and Kalamalka Road.

Protect linear park along hydro easement.

Middleton Mountain is a relatively new neighbourhood within the District of Coldstream, with ongoing residential development to the north and south of Middleton Way. It is home to a significant number of residents, with little to no bicycle or pedestrian facilities, particularly to and from the mountain. However, the newly developed areas have incorporated sidewalks on a single side of the roadway for all new roads.

The following additional bicycle and pedestrian facilities and routes are recommended on Middleton Mountain:

- Husband Road is a relatively busy roadway, and provides the primary connection between Middleton Mountain and the rest of Coldstream and Vernon, with access down to Kalamalka Lake Road. With the exception of a short stretch of sidewalk between Kalamalka Lake Road and the beach parking access, a marked crossing, and a paved shoulder on the south side of the roadway between Kalamalka Lake Road and Sunflower Place, there are no bicycle or continuous pedestrian provisions along Husband Road. It is recommended that the paved shoulder on the south side of the roadway be extended between Kalamalka Lake Road and Middleton Way to provide a designated bicycle area uphill on the roadway. A continuation of the sidewalk on the north side of the road up to Middleton Way is also recommended to safely accommodate pedestrians.

End of Sunflower Drive, looking eastbound towards Middleton Way

- An existing un-built road right-of-way between the end of Sunflower Place and Michael Drive provides an attractive and viable alternative from Husband Road up to Middleton Way. Currently, there is a narrow asphalt pathway and wood and concrete staircase for this link. It is recommended that this be upgraded to full multi-use pathway standard and that Sunflower Drive, Michael Drive and Lambert Drive be signed as shared routes to complete the connection.

- There are several easements throughout the Middleton Mountain Neighbourhood that were protected for public use, but never established as walkways. Instead, many of them have been landscaped by property owners, and do not appear as public walkways. Some examples of these easements are at the end of Mariposa Drive and Michael Drive. It is recommended that the designated easements that are functional and provide connections be established as public walkways.

- A future school location on Middleton Mountain has been identified at the eastern end of Mt. York Drive and north of Mt. Thor Drive, with an associated park. Safe and convenient bicycle and pedestrian access to the school is recommended to be protected for when the school is implemented. A shared route with a short

multi-use pathway is recommended on Mt. Thor Drive, noting that additional traffic calming and/or crossing facilities may be required in association with the school once developed. An additional short multi-use pathway is recommended between Mt. Thor Drive and Middleton Way to provide direct access to the shared route/alternate Husband Road connection down the mountain.

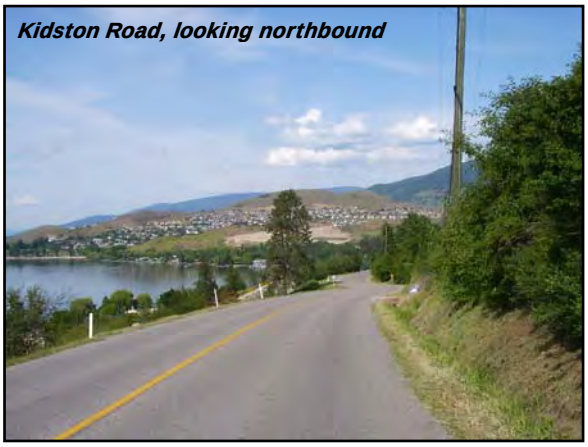
- There is a significant demand for pedestrian and bicycle connectivity between Middleton Mountain and schools, parks and beach facilities to the south. The provision of off-road north/south links down from the Mountain would offer the benefit of decreased travel time and convenience for cyclists and pedestrians, as well as eliminating the need for them to use Husband Road. It is recommended that a primary link be considered between Braeburn Drive and Kidston Road, with an associated at-grade railway crossing and crossing on Kalamalka Road for safe access to Kidston Road. Additional links could also be considered from the end of Mariposa Drive, Sunflower Drive and further to the west from Webster Park. These links would be for pedestrians and bicycles only, and would not be used by motor vehicles.

- The hydro easement, which runs roughly parallel to Middleton Way on the east side of the mountain, offers an attractive off-road alternative to Middleton Way and Middleton Drive. It is recommended that a multi-use pathway be considered for this corridor. This pathway could function as a linear park with play structures and benches installed along its length.

3.2.3 Kidston Road

Implement a multi-use pathway on the east side of Kidston Road between Kalamalka Lake Provincial Park and Coldstream Creek Road.

Kidston Road, in particular between Coldstream Creek Road and Kalamalka Lake Provincial Park, is a narrow roadway, with little to no shoulders and tight horizontal curvature. It provides the only access to residential subdivisions on the east side of Kalamalka Lake, and the main Kalamalka Lake Provincial Park entrance. As such, Kidston Road accommodates significant vehicular and non-vehicular traffic as both a commuter route and with tourism and recreation related activity.


Kidston Road, looking northbound

An off-road pathway currently exists parallel to Kidston Road between the main park entrance and the 'Red Gate' park entrance, a distance of approximately 700 metres. The pathway is unpaved, and is often not well maintained during winter months. Between the 'Red Gate' park entrance and Coldstream Creek Road, there are no other official bicycle or pedestrian facilities, forcing cyclists and pedestrians to share the road with motorists.

It is recommended that an off-road multi-use pathway be provided adjacent Kidston Road between Kalamalka Lake Provincial Park and Coldstream Creek Road as a continuation of the existing pathway. This pathway should be hard surfaced (i.e. asphalt) to accommodate all users, and be maintained throughout the winter months. By providing a multi-use pathway, pedestrians and cyclists can avoid traveling on Kidston Road.

The road right-of-way for this stretch of Kidston Road will not allow for the implementation of a multi-use pathway within existing property lines. Because the potential implementation of the pathway hinges on negotiations with several property owners, this is most likely a longer term solution. In the interim, it is recommended that the District of Coldstream work towards enforcement of vehicle speeds and motorist awareness along the Kidston Road corridor through applicable curve warning signage and 'share the road' signs, and eventually upgrade the roadway to current design standards.

3.2.4 Coldstream Valley Estates

Paved shoulders on Buchanan Road from Highway 6 to Uplands Drive and on Uplands Drive from Buchanan Road to Upper Crestview Drive.

Shared route on Uplands Drive to Gray Canal.

Multi-use pathway along Coldstream Valley Estates power line.

Coldstream Valley Estates is located in the north of the District of Coldstream, north of Highway 6. Despite its separation from the remainder of the community by Highway 6, there is a significant bicycle and pedestrian demand for north-south movements from Aberdeen Road. There are no bicycle or pedestrian facilities within, to or from Coldstream Valley Estates. Buchanan Road is a popular walking and cycling destination as a result of relatively low traffic volumes and scenic beauty.

As part of the Bicycle and Pedestrian Master Plan, it is recommended that the following be considered for this area:

- Paved shoulders on Buchanan Road from Highway 6 to Uplands Drive, to improve safety where cycling and pedestrian use is expected to occur for travel to and from Coldstream Valley Estates.

- Paved shoulders on Upland Drive between Buchanan Road and Upper Crestview Drive (the Park on Uplands Drive)

- A shared route for the remainder of Uplands Drive to provide connectivity to Cypress Drive and the Gray Canal. This is expected to be sufficient as a result of the low traffic volumes on this portion of Uplands Drive.

- A multi-use pathway or linear park along the Coldstream Valley Estates power line.

3.2.5 Lavington Area

It is recommended that the Lavington area in the east of the District of Coldstream be addressed in terms of connectivity to the western areas of the District as well as access to and from the Lavington Community School and park and the residential areas within Lavington. A shared route is recommended for the length of Buchanan Road, which will provide an alternate route to Highway 6 for cyclists traveling to and from Lavington. Within Lavington, the following are recommended:

Paved shoulders on both sides of School Road (a paved shoulder currently exists on the east side).

A pedestrian crossing on School Road at Lavington Way for access between the residential pocket to the west of School Road, and the Lavington Community School.

Paved shoulders on Learmouth Road between School Road and the first 90° bend in Learmouth Road.

Other shared routes have also been identified to enhance the connectivity of Lavington to the rest of the community.

3.2.6 Highway 6

Establish paved shoulders with accompanying signage on Highway 6 through Coldstream Ranch area, with the possibility for a future off-road pathway.

Highway 6, in the vicinity of the Coldstream Ranch and the Kalamalka Road intersection, was identified as a problematic location where cyclists feel unsafe due to narrow or no paved shoulders, and tight horizontal curves leading to decreased visibility for both motorists and cyclists. Although it is recognized that any proposed improvements along Highway 6 would fall outside of the District of Coldstream's jurisdiction, they have been noted in order that discussions can be initiated with the Ministry of Transportation to move the recommendations ahead. It is recommended that this stretch of Highway 6 be investigated further for the possible upgrading/implementation of paved shoulders on both sides of the highway, particularly through the horizontal curves, along with appropriate warning signage to increase motorist awareness of the presence of bicycles on the highway. Alternatively a multi-use pathway could be considered on the south side of the highway through this area. This would be a longer term solution as it would require the cooperation of the adjacent property owner.

Highway 6 at Kalamalka Road and Coldstream Ranch

3.2.7 Coldstream Town Centre Area

Provide sidewalk on both sides of Kalamalka Road.

Maintain bicycle lanes on both sides of Kalamalka Road.

Enhance pedestrian crossings and relocate as needed.

Protect for multi-use pathway on north side of Kalamalka Road between Aberdeen and the west side of Town Centre.

* Note that recommendations are to be confirmed as part of the Coldstream Town Centre Area Pre-Design Study.

The Town Centre Area within the District of Coldstream is located along Kalamalka Road between Whetzell Drive in the west and Aberdeen Road in the east. This area has been identified as the 'heart' of the community, where the District of Coldstream would like to focus commercial uses. It is currently the home of the District Hall, Coldstream Elementary School, Policing Station, Park, and several commercial businesses, attracting a significant amount of existing and potential future pedestrian and bicycle activity. As a result, special attention has been provided to this area.

The primary recommendation for the Town Centre Area is the provision of sidewalks on both sides of the road. On the south side of Kalamalka Road, it is recommended that the sidewalk be extended to Coldstream Creek Road to serve the residential uses and pedestrian trips to and from the residential areas and the Town Centre Area. It is recommended that the paved shoulders through this area be maintained as bicycle lanes.

Kalamalka Road in the Town Centre Area, looking westbound

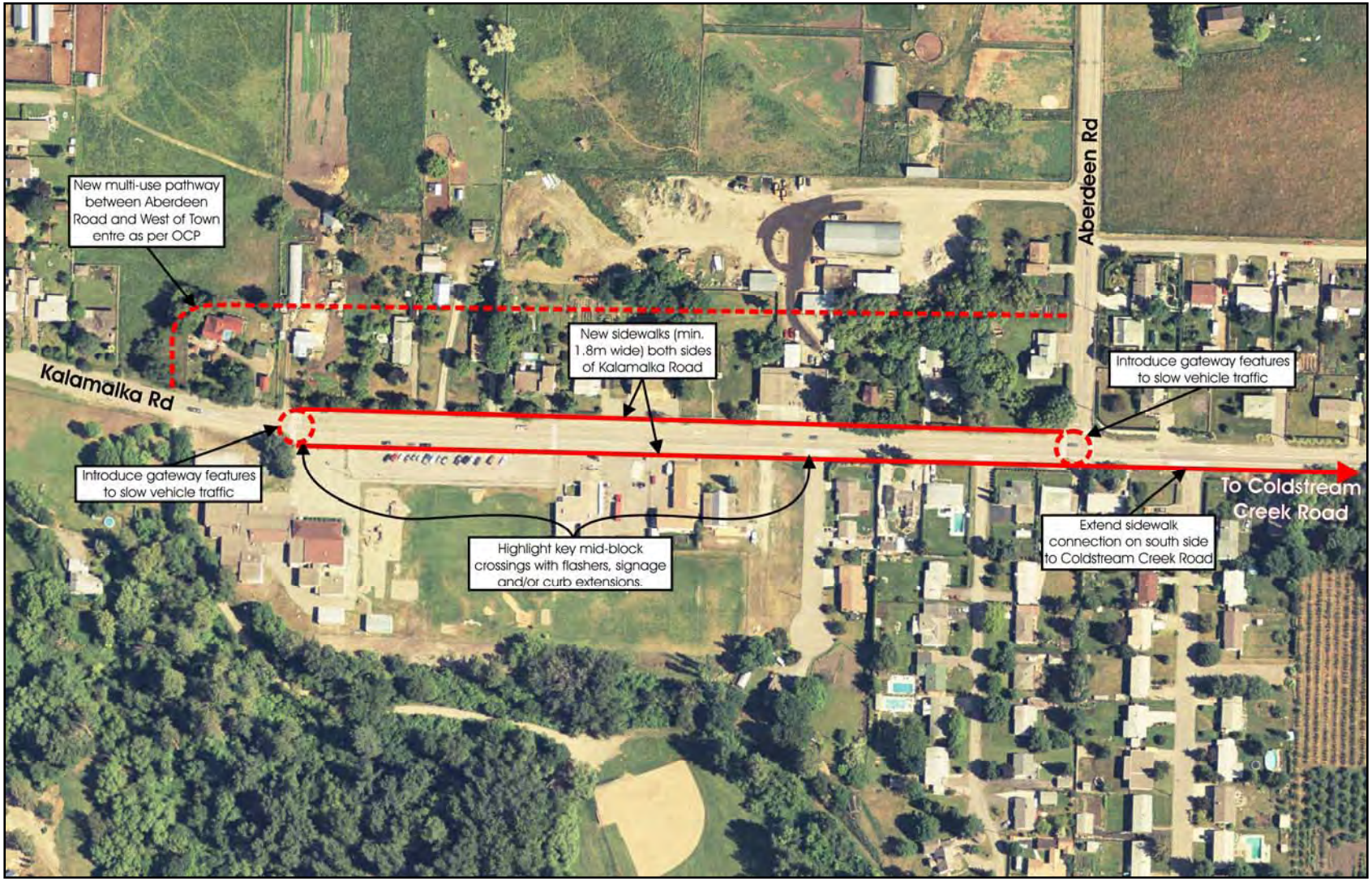
There are currently three marked crossings across the short stretch of Kalamalka Road through the Town Centre Area. Given the high amount of traffic volumes along Kalamalka Road through this area, as well as its function as an arterial roadway, the number of crossings should be maintained. The key crossing locations can be enhanced through the use of curb extensions, signage and/or flashers.

As per the OCP, a multi-use pathway should be protected for and provided on the north side of the Town Centre. This pathway would connect Aberdeen Road to the cenotaph and further west to the west side of the Town Centre for access down to Coldstream Park. The alignment of this link would need to be confirmed as part of the Town Centre Pre-design.

Figure 3.2 provides a schematic of Kalamalka Road through the Town Centre Area, illustrating the location of the proposed sidewalks and multi-use pathway. Note that these recommendations should be reviewed and confirmed as part of the Coldstream Town Centre Area Pre-Design Study and may be subject to change.

Figure 3.2 – Town Centre Area – Recommended Upgrades

**To be confirmed pending Town Centre Pre-Design Study*



3.2.8 Regional Connectivity

- *Paved shoulders on College Way/ Kickwillie Loop Road*
- *Maintain paved shoulders the length of Kalamalka Lake Road (to Vernon)*
- *Provide multi-use pathway along railway between West Kal Road and Polson Park*
- *Provide marked wide curb lanes and sidewalks on Middleton Way beyond District boundary to tie in at Highway 6*
- *Establish Cypress Drive/Gray Canal route for regional connectivity*
- *Multi-use pathway and shared route connection between OUC and Old Okanagan Highway*
- *Multi-use pathway connection to Allan Brooks Nature centre and beyond.*

The proposed Bicycle and Pedestrian Route Network for the District of Coldstream recognizes that Coldstream is a component of the larger Greater Vernon Area, which in turn forms part of the Okanagan. Providing a network that is seamless at the District boundaries, and provides adequate regional connectivity for alternate mode travel to, from and through the District of Coldstream was a key component of this Plan. The following Regional connections were considered:

- **College Way/Kickwillie Loop Road** – This is an arterial roadway within the District of Coldstream, providing the primary access between Highway 97, OC, and the District of Coldstream. There is an off-road pathway parallel to Highway 97 between College Way and Vernon. College Way and Kickwillie Loop Road have varying widths of paved shoulders on either one or both sides, all of which are substandard. It is recommended that the length of College Way/Kickwillie Loop be upgraded to provide paved shoulder in both directions and to complete the bicycle/pedestrian connection between Westkal Road and Highway 97. A multi-use pathway can also be provided on the east side to supplement the paved shoulders.

Kickwillie Loop Road, looking northbound

- **Kalamalka Lake Road** – Kalamalka Lake Road between Westkal Road in the south and Highway 6 in the north is a key connection between the District of Coldstream and Vernon. Currently, there are paved shoulders on both sides of this roadway past the northern District boundary. These should be maintained.

- **Railway Connection, Westkal Road to Polson Park** – Given that Kalamalka Lake Road is a high volume arterial roadway, it is recommended that a multi-use pathway adjacent to the railway between Westkal Road and Polson Park in Vernon be considered to provide an additional route for cyclists and pedestrians. This connection also has the potential to continue to the north through Vernon as a major Regional thoroughfare.

- **Middleton Way** – Middleton Way is the primary collector for Middleton Mountain, terminating at Highway 6 in the north (in Vernon). This roadway provides an important regional connection between Coldstream and Vernon. Within the District of Coldstream, Middleton Way should be widened to provide marked wide curb lanes, and it is recommended that appropriate signage and stencils be incorporated to mark this as an official bicycle route. Sidewalk currently exists on one side, although this does not extend all the way to Highway 6. As development continues, it is recommended that this sidewalk be extended beyond the District boundary to Highway 6.

- **Cypress Drive and the Gray Canal** – This route is identified in the proposed network as a regional route extending from Vernon, through the upper region of the District of Coldstream, out to Lavington and beyond. It has a significant tourist draw as a result of the gentle slopes and scenery. The incorporation of this route will require the cooperation of the Coldstream Ranch.

From Old Okanagan Highway, looking northbound along Lakeview Drive

- **Old Okanagan Highway** – Connectivity from the District of Coldstream to the south can be served in part by providing access to Old Okanagan Highway. A multi-use pathway between

Okanagan College and the Kelview residential area, and a designated shared route along Lakeview Drive with another short pathway connection up to Old Okanagan Highway is recommended to serve this function. This will improve access to Old Okanagan Highway from the District of Coldstream as well as provide an alternate route to Highway 97 between OC and Old Okanagan Highway.

- **Allan Brooks Nature Centre Connection** – This connection across Highway 97 will provide connectivity to the West of Coldstream and Okanagan Landing.

3.2.9 End of Trip Facilities

Cyclists need facilities at the end of their trip, just as motorists need parking lots and other facilities. In particular, the District of Coldstream should consider incorporating bicycle racks and/or lockers at various places throughout the community.

Bicycle storage facilities should be provided at the following locations:

- *Coldstream Town Centre Area (District Hall, Coldstream Elementary School)*
- *Kalamalka Beach Area*
- *All Schools*
- *All Parks*

3.3 Route Evaluation and Prioritization

As noted, a total of 74 proposed new and/or upgraded bicycle and pedestrian routes were identified within the Plan. Although all of the routes have a role to play in terms of bicycle and pedestrian safety, network connectivity, and user convenience, not all routes can be realistically implemented over a short period of time. Instead, an evaluation process was undertaken to first identify those that are high priority, and secondly, to rank the high priority routes in such a manner to identify the order in which they should be implemented. That way, the District of Coldstream can focus resources first on the routes that will provide the maximum benefit to cycling and walking community.

3.3.1 Preliminary Screening

A preliminary screening process was initially undertaken to further break down the overall proposed bicycle and pedestrian route list. This process highlighted the routes that were clearly high priority, which should be evaluated in further detail as candidates for shorter term implementation. The remaining routes were classified as either medium priority or low priority. The screening process subjectively considered the following three criteria:

- **Demand** – A measure of the existing bicycle and pedestrian usage in the corridor (if any) and potential future usage.

- **Network Function** – A measure of the relative significance of the route within the overall bicycle and pedestrian network, and how it relates to the rest of the network.

- **Implementation Feasibility** – A measure of the ease of constructing the route along the identified corridor and whether or not it will be achievable to the applicable design standards.

Although there is other criteria that should be considered when comparing different routes, such as the safety and appeal of the route, these three criteria are the most significant within the context of filtering out the highest priority pathways. A detailed evaluation with more criteria was completed later on in the process.

Each route was given an overall preliminary ranking of 'High', 'Medium' or 'Low'. Potential routes that were rated as 'High' overall are priority routes that were evaluated and investigated in further detail. These were identified as essential links within the bicycle and pedestrian network, and were designated as priorities for implementation within the next ten years. These include routes that provide an important network function by completing gaps in the existing network, routes with high potential demand, and routes recommended for safety reasons. A total of 22 high priority routes were identified.

Routes that were rated as 'Medium' overall are recommended for consideration beyond the ten year horizon, after the priority routes have been established. In the interim,

actions should be undertaken to protect corridors for 'Medium' rated routes for future implementation. As well, land development, roadway projects and/or other projects may provide opportunities to implement some 'Medium' routes at an earlier time. A total of 34 medium priority routes were identified.

Routes that were rated as 'Low' overall should be considered after the implementation of 'High' and 'Medium' priority routes, most likely in the longer term. These are routes with low potential demand and usage, significant obstacles to implementation such as property acquisition issues, and little importance in the overall bicycle and pedestrian network. However, these routes have been maintained on the proposed future bicycle and pedestrian network in order to identify their location should property and/or funding become available, in particular through redevelopment. A total of 18 low priority routes were identified.

Appendix D provides a summary of all of the routes that were evaluated, and the ranking of each route in each category. In addition, each project was given a 'Project Size' to further refine the lists. The 'Project Size' was either 'Large' (> approximately $400,000), 'Medium' (between $100,000 and $400,000) or 'Small' (< approximately $100,000). The Project Sizes identified were approximate, meant to provide the District with an order of magnitude feel for project cost. They were not based on detailed cost estimates.

3.3.2 Detailed Evaluation of High Priority Routes

Each of the high priority bicycle and pedestrian routes identified in the screening process was investigated and evaluated in detail in order to prioritize and estimate the cost of their implementation. The criteria which were used in prioritizing the high priority routes included the following:

- **Safety (weighting = 3)**. This is a measure of the potential for improvement in safety which implementation of the bicycle/pedestrian facility could provide. It considers current safety conditions on the route which cyclists and pedestrians currently use in the absence of the proposed facility.

- **Demand (weighting = 2).** This is a measure of existing usage in the corridor (if any) and potential future usage. It includes an assessment of nearby generators and adjacent land uses.

- **Network Function (weighting = 2).** This is a measure of the relative importance of the route within the overall bicycle and pedestrian network. High rated routes would be those which provide a critical link in the network, whereas low rated connections would be those with minimal network importance.

- **Appeal (weighting = 1).** This is a measure of the potential appeal of a route to cyclists and pedestrians, and considers aspects such as aesthetics, grade, adjacent traffic volumes and land uses, and other factors affecting the quality of the cycling/walking experience. High rated routes would be those which would have a strong appeal to all users (skilled and novice, adult and child, commuting and recreational), whereas low rated routes would have negligible appeal to users.

- **Implementation Feasibility (weighting = 2).** This is a measure of the ease of constructing the bicycle/pedestrian facility. This considers issues such as property acquisition, topography constraints, environmental implications and jurisdictional issues.

Each high priority route was rated on a scale of 1 through 5 for each criterion, where 5 reflects an excellent rating and 1 reflects a poor rating. Criteria were weighted as indicated to emphasize the most important factors. **Appendix D** provides a summary of the rating values used for each criteria.

As noted, 22 out of the 74 proposed bicycle and pedestrian routes were rated as having high priority through the initial screening process and were evaluated in further detail. The routes and their evaluation results are summarized in **Table 3.1**.

Table 3.1 – High Priority Routes Evaluation Summary

ROUTE	FACILTY TYPE	RATING					OVERALL RATING	OVERALL RANKING	PROJECT SIZE
		Safety	Demand	Network Function	Appeal	Implementation Feasibility			
	WEIGHTING:	**3**	**2**	**2**	**1**	**2**			
Aberdeen Road (Middleton Dr to Hwy 6)	Paved Shoulders	5	5	5	4	4	**4.7**	**1**	MEDIUM
College Way/Kickwillie Loop Rd (Hwy 97 to Westkal Rd)	Paved Shoulders	5	5	5	3	4	**4.6**	**2**	LARGE
Kalamalka Beach (Kidston Rd to Westkal Rd)	Multi-use Pathway	5	5	4	5	4	**4.6**	**3**	MEDIUM
Westkal Road	Sidewalk and Marked Wide Curb Lanes	5	5	5	4	3	**4.5**	**4**	LARGE
Husband Road (Middleton Way to Kalamalka Lake Rd)	Paved Shoulder and Sidewalk	5	4	5	4	4	**4.5**	**5**	LARGE
Husband Road (off-road connection)	Shared Route and Multi-Use Pathway	5	4	5	2	4	**4.3**	**6**	SMALL
Okanagan College to College Way (Off-Road Conenction)	Multi-Use Pathway	5	4	4	4	4	**4.3**	**7**	SMALL
Coldstream Creek Road (Kalamalka Rd to Kidston Rd)	Paved Shoulders or Multi-Use Pathway	4	4	5	4	4	**4.2**	**8**	LARGE
Kidston Road (Kalamalka Rd to Coldstream Creek Rd)	Paved Shoulders	4	4	5	4	4	**4.2**	**9**	MEDIUM
Kidston Road (Coldstream Creek Rd to Kal Park)	Multi-Use Pathway	5	4	5	5	2	**4.2**	**10**	LARGE
Buchanan Road (Aberdeen Rd to Uplands Drive)	Paved Shoulders	4	3	5	4	4	**4**	**11**	MEDIUM
Kalamalka Road (Aberdeen Rd to Hwy 6)	Paved Shoulders	4	3	5	4	4	**4**	**12**	LARGE
Middleton Drive	Paved Shoulders	4	3	5	4	4	**4**	**13**	LARGE
Kalamalka Road (Town Centre Area)	Sidewalks	4	4	3	5	4	**3.9**	**14**	MEDIUM
Connections from Middleton Mountain to Kalamalka Road	Multi-Use Pathways and Shared Route	4	4	5	3	3	**3.9**	**15**	SMALL
Railway (Westkal Rd to Vernon)	Multi-Use Pathway	5	5	2	5	2	**3.8**	**16**	LARGE
College Way (Kickwillie Loop Rd to Reservoir Rd)	Multi-Use Pathway	5	4	3	3	3	**3.8**	**17**	MEDIUM
Middleton Way	Marked Wide Curb Lanes	3	3	4	4	5	**3.7**	**18**	SMALL
School Road (Learmouth Rd to Hwy 6)	Paved Shoulder (west side only)	3	3	4	4	4	**3.5**	**19**	MEDIUM
Uplands Drive (Buchanan Rd to Upper Crestview)	Paved Shoulders	3	3	3	4	4	**3.3**	**20**	MEDIUM
McClounie Road (Coldstream Creek Rd to Kalamalka Rd)	Paved Shoulder (east side)	3	3	3	4	4	**3.3**	**21**	MEDIUM
Uplands Drive (Upper Crestview Drive to Cypress)	Shared Route	2	3	3	3	5	**3.1**	**22**	SMALL

4.0 IMPLEMENTATION

It is recommended that a strategy be put in place to provide guidance and planning for the future implementation of the Bicycle and Pedestrian Master Plan within the District of Coldstream. Although many routes and potential upgrades have been identified through this study, it would not be possible for the District of Coldstream to incorporate them all at once. The availability of funds and staff resources, as well as the time required for design, construction, consultation with users adjacent to pedestrian and bicycle routes, property acquisition, and coordination with other plans all add to the overall time required to implement the Plan. An implementation strategy has been developed that not only considers these factors, but ensures that the most important components of the Bicycle and Pedestrian Network are given the highest priority and are implemented early on in the process.

4.1 Improvement Priorities

As described in Section 3.0, each of the proposed new/upgraded pedestrian and bicycle routes was ranked and prioritized based on a series of criteria including safety, demand, network function, appeal and implementation feasibility. A total of 22 high priority routes were identified. It is recommended that all of the high priority routes be considered and implemented in advance of proceeding to the medium and lower ranked routes. However, it is noted that opportunities may arise, for example through development, where the implementation of a lower ranked route would be prudent earlier and exceptions can be made.

The top 13 recommended bicycle and pedestrian routes are summarized in **Table 4.1**, which are recommended for implementation over the short term (10-year) period, recognizing that available funding sources will dictate the ability of the District to do so. The top 13 high priority routes all received an overall ranking of 4/5 or higher. All of the top 13 priority routes should be achievable within existing District right-of-way, with the exception of a few minor locations with decreased right-of-way width, and the recommended multi-use pathways parallel to Kidston Road and Coldstream Creek Road.

A brief description of each of the top priority routes is provided as follows:

1. **Aberdeen Road – Middleton Drive to Highway 6**

   (Paved Shoulders)

   In 2006, the District of Coldstream completed the widening of Aberdeen Road between Kalamalka Road (in the Town Centre) to Middleton Drive to provide 1.5 metre wide paved shoulders in both directions. Although improving the safety for this stretch of road, the current configuration leaves pedestrians and cyclists to shared travel lanes for the remainder of the route up to Highway 6. This is an incomplete and highly traveled connection in the bicycle and pedestrian network that needs to be upgraded.

2. **College Way/Kickwillie Loop Road – Highway 97 to Westkal Road**

   (Paved Shoulders)

   College Way and Kickwillie Loop Road provide the primary connection between Highway 97, Okanagan College, and the District of Coldstream. This is a key link not only for bicycle and pedestrian access, but for vehicle travel as well. Due to the steep grade and high traffic volumes, it is essential that bicycles and pedestrians be provided their own space on this roadway. Between Highway 97 and Westkal Road, there are paved shoulders for some of the route. However, these are mostly substandard (i.e. less than 1.5 metres wide) and discontinuous. It is recommended that 1.5 metre paved shoulders be provided in both directions for the length of College Way/Kickwillie Loop Road. It is noted that as part of a recent development at the south end of the roadway (from Westkal Road north), instead of a paved shoulder in the northbound direction, a 2.0 metre sidewalk was provided. Although this is beneficial to pedestrians, it leaves no roadway space for cyclists. In particular, this is problematic as it is in the uphill direction, where bicycle speeds will be low and the roadway space will be needed the most. It is recommended that the District of Coldstream consider 'share the road' signage for this stretch of roadway to alert motorists to the presence of cyclists on the roadway.

3. **Kalamalka Beach – Kidston Road to Westkal Road**

   (Multi-Use Pathway)

   A multi-use pathway is recommended to provide access through the Kalamalka Beach area. This route is high priority as it provides a safe facility for high volumes of pedestrian and bicycle traffic that is separate from the busy Kalamalka Road.

4. Westkal Road – Kickwillie Loop Road to Kalamalka Road

(Sidewalk and Marked Wide Curb Lanes)

As with College Way and Kickwillie Loop Road, Westkal Road acts as the primary connection between the District of Coldstream and Highway 97. It is a key link in the Major Roadway Network for the District, and is subject to significant traffic, bicycle and pedestrian volumes. Currently, the roadway has a narrow rural cross-section, with no designated space for bicycles or pedestrians. Due to limited right-of-way, a full urban cross-section is recommended that incorporates a sidewalk on the north side, with marked wide curb lanes.

5. Husband Road – Middleton Way to Kalamalka Lake Road

(Paved Shoulder and Sidewalk)

Husband Road is one of the key routes between Middleton Mountain and other areas in the District of Coldstream. In particular, it is the primary route to and from the beach, schools and many parks. Husband Road currently has a rural cross-section and, due to the steep grade up Middleton Mountain, is subject to higher than typical vehicle speeds. There is currently a paved shoulder on the south side of Husband Road between Kalamalka Lake Road and Sunflower Place, and a sidewalk on the north side of Husband Road between Kalamalka Road and the beach parking area access. It is recommended that both the sidewalk and paved shoulder be extended up Husband Road to Middleton Way. A paved shoulder is not required on the north side (downhill direction), as it is anticipated that cyclists will be traveling downhill and at higher speeds, minimizing the speed differential between cyclists and vehicles and decreasing the need for a designated facility. Pedestrians in both directions can use the sidewalk.

6. Husband Road – Off-Road Connection

(Shared Route and Multi-Use Pathway)

This route is also highlighted as high priority as it provides an alternate route for bicycles and pedestrians up Middleton Mountain, that is not directly adjacent to Husband Road.

7. Okanagan College to College Way – Off-Road Connection

(Multi-Use Pathway)

This link will provide a connection between the existing multi-use pathway adjacent to Highway 97 at Okanagan College, down to College Way at the intersection of Kickwillie

Loop Road. It will provide an alternate route to and from the College and Highway 97 that would not require travel along College Way.

8. Coldstream Creek Road – Kalamalka Road to Kidston Road

(Paved Shoulders or Multi-Use Pathway)

This is a highly utilized corridor, particular for recreational walking and cycling. It is recommended that some form of bicycle and pedestrian facilities be provided, noting that the widening for paved shoulders may be difficult and costly as a result of right-of-way requirements, and utility pole relocations. A multi-use pathway could be considered which would provide an attractive off-road facility for recreational users.

9. Kidston Road – Kalamalka Road to Coldstream Creek Road

(Paved Shoulders)

Kidston Road provides the primary connection between Kalamalka Road, Kidston School, Kal Park and the residential areas along Kalamalka Lake. It is a highly traveled route with discontinuous paved shoulders. It is recommended that the section of Kidston Road between Kalamalka Road and Coldstream Creek Road be upgraded to provide 1.5 metre wide paved shoulders on both sides to accommodate the school related and through pedestrian and bicycle traffic.

10. Kidston Road – Coldstream Creek Road to Kal Park

(Multi-Use Pathway)

As previously noted in the report, this route is a key link in the pedestrian and bicycle network, providing access to and from Kal Park and the remainder of the District. An off-road multi-use pathway is recommended and is the most feasible in terms of implementation due to the challenging topography in the area.

11. Buchanan Road – Aberdeen Road to Uplands Drive

(Paved Shoulders)

Buchanan Road between Aberdeen Road and Uplands Drive provides the primary connection between Coldstream Valley and Highway 6, Aberdeen Road, and the remainder of the District of Coldstream. It is essential that this area is connected via safe bicycle and pedestrian facilities. Paved shoulders are recommended on both sides of the roadway.

12. Kalamalka Road – Aberdeen Road to Highway 6

(Paved Shoulders)

The paved shoulders on Kalamalka Road currently terminate in the area of Aberdeen Road, leaving an incomplete connection within the bicycle and pedestrian network for access to Highway 6 and Lavington in the east. It is recommended that this connection be established through an extension of the paved shoulders on both sides of Kalamalka Road.

13. Middleton Drive

(Paved Shoulders)

Middleton Drive between Aberdeen Road and the newer residential areas on Middleton Mountain is currently a narrow rural roadway with limited to no shoulders. This leaves a large gap in the overall bicycle and pedestrian network, for access to/from Middleton Mountain to the east. Because of the rural character of this roadway, paved shoulders on both sides of the roadway are recommended.

Cost estimates were completed for each of the top 13 routes, also summarized in **Table 4.1**. These costs are order of magnitude estimates, and are intended to provide guidance for budgeting purposes only. More detailed estimates should be prepared as the proposed routes are advanced to the next phase of design. A contingency of 40% was included in all costs to account for unknowns at this time. Utility impacts, property acquisition, geotechnical and environmental considerations were not considered in these estimates. Full cost estimate details are provided in **Appendix E**.

The total estimated cost for the top 13 bicycle and pedestrian routes is in the order of $6.4 million (in 2006 dollars). If the upgrades were to be completed over a 10-year period, the resulting expenditure would be in the order of $650,000 per year. It is important to note that the estimate includes upgrading Westkal Road, which is approximately $1.5 million and includes not only widening for a sidewalk and marked wide curb lanes, but includes reconstruction of the entire roadway. It is assumed that this upgrade will be completed regardless of the outcomes of this study. The projects have been classified as either Small (<$100,000), Medium ($100,000 - $400,000) and Large (>$400,000) for budgeting purposes.

Table 4.1 – Estimated Costs for High Priority Routes (2006 Dollars)

ROUTE	FACILTY TYPE	OVERALL RANKING	COST ESTIMATE	PROJECT SIZE
Aberdeen Road (Middleton Dr to Hwy 6)	Paved Shoulders	**1**	$195,000	MEDIUM
College Way/Kickwillie Loop Rd (Hwy 97 to Westkal Rd)	Paved Shoulders	**2**	$302,000	LARGE
Kalamalka Beach (Kidston Rd to Westkal Rd)	Multi-use Pathway	**3**	$179,000	MEDIUM
Westkal Road	Sidewalk and Marked Wide Curb Lanes	**4**	$1,485,000	LARGE
Husband Road (Middleton Way to Kalamalka Lake Rd)	Paved Shoulder and Sidewalk	**5**	$403,000	LARGE
Husband Road (off-road connection)	Shared Route and Multi-Use Pathway	**6**	$56,000	SMALL
Okanagan College to College Way (off-road connection)	Multi-use Pathway	**7**	$91,000	SMALL
Coldstream Creek Road (Kalamalka Rd to Kidston Rd)	Paved Shoulders or Multi-Use Pathway	**8**	$1,517,000 (shoulders) $714,000 (path)	LARGE
Kidston Road (Kalamalka Rd to Coldstream Creek Rd)	Paved Shoulders	**9**	$332,000	LARGE
Kidston Road (Coldstream Creek Rd to Kal Park)	Multi-Use Pathway	**10**	$475,000	LARGE
Buchanan Road (Aberdeen Rd to Uplands Drive)	Paved Shoulders	**11**	$502,000	LARGE
Kalamalka Road (Aberdeen Rd to Hwy 6)	Paved Shoulders	**12**	$602,000	LARGE
Middleton Drive	Paved Shoulders	**13**	$314,000	LARGE
TOTAL			**$6,453,000**	

4.2 Sidewalk Plan

The identified sidewalk projects were highlighted in order to provide the District of Coldstream with further guidance for the implementation of sidewalks only. **Table 4.2** provides a summary of the location of the sidewalk projects; as with the bicycle/pedestrian routes, these have been evaluated and prioritized as summarized. The independent costs to implement these sidewalk improvements have not been identified as it is assumed that they would be done concurrently with other bicycle /pedestrian upgrades on the same stretch of roadway.

Table 4.2 – Recommended Sidewalk Upgrades

ROUTE	DESCRIPTION	OVERALL RANKING
Husband Road (Middleton Way to Kalamalka Lake Rd)	North Side Only	**1**
Westkal Road	North Side Only	**2**
Kalamalka Road (Town Centre Area)	Both Sides	**3**
Kidston Road (Kalamalka Rd to Cunliffe Road)	East Side Only	**4**
Cunliffe Road (Coldstream Creek Road to Kidston Road)	East Side Only	**5**

4.3 Funding Sources

The District of Coldstream does not currently have dedicated funding for the implementation of bicycle and pedestrian facilities. Under existing resources, the District would need to reallocate a portion of general revenues toward the implementation of the proposed routes. In the future, the District may wish to explore other funding strategies for the provision of bicycle and pedestrian facilities, including:

- Local Motion Program – The Province has identified a new Local Motion fund of $40M over 4 years for capital projects that improve physical fitness and safety, reduce air pollutions and meet the diverse needs of British Columbians. This fund is intended for projects such as bicycle and pedestrian pathways. The Province will provide 50% of the funding for approved projects up to $1M per year. More information can be found at www.localmotion.gov.bc.ca.

- Cycling Infrastructure Partnerships Program (CIPP) – The CIPP is a cost-shared program where the Government of British Columbia will partner with local governments in the construction of new transportation cycling infrastructure. The goal of the program is to promote transportation cycling (cycling to work, school, or errands) as a means of reducing traffic congestion and green house gas (GHG) emissions. All British Columbia municipalities and regional districts are eligible to apply for up to $250,000 in CIPP funding each year.

- Partnership Opportunities – Partnership opportunities exist, particularly with the Greater Vernon Regional District, City of Vernon (for regional connections) and stakeholder and neighbourhood groups.

- Development – As development and/or redevelopment occurs adjacent to a proposed route, the opportunity exists to incorporate a portion of the upgrade into the developer's requirements for on or off-site improvements, or collect funding for such. In addition, property can be acquired for proposed future bicycle and pedestrian route upgrades through redevelopment.

- Development cost charges for transportation projects.

It is suggested that the District of Coldstream allocate in the order of $300,000 per year towards bicycle and pedestrian projects, with additional funding secured through cost sharing opportunities.

4.4 Promotion and Education

Through the public consultation that was undertaken as part of the study process, it became apparent that the success of encouraging cycling and walking as modes of transportation throughout the District of Coldstream is highly dependant on not only increasing and upgrading the existing pedestrian and bicycle facilities, but on a raised awareness of their location and availability. In addition, in order for the facilities to be safe and function as they are intended, cyclists, pedestrians and motorists should be educated on the rules and rights of each roadway user.

It is recommended that the District of Coldstream include a promotion and education program as part of their strategy to implement the proposed Bicycle and Pedestrian Master Plan. The program should consider the following two components:

- **Promotion** – The best way to promote the existing Bicycle and Pedestrian Route Network is through the distribution of route maps, indicating where existing routes are, as well as the major generators such as schools, parks, neighbourhoods and beaches. These maps would be updated as appropriate as new routes are implemented. Circulation of the route maps could be via District Hall, the District of Coldstream's website, the special interest groups (ex. Greater Vernon Cycling Advisory Committee, Kal Rats, Ribbons of Green, Vernon Outdoors Club) or schools. Alternatively, the District of

Coldstream could partner with Greater Vernon Regional District Parks and Recreation to produce route maps of the entire Region, incorporating Coldstream's network. Promotion of the Bicycle and Pedestrian Route Network is an important component of the implementation of the Bicycle and Pedestrian Master Plan, as a method of advertising the presence of safe and attractive facilities to residents.

- **Education** – In order to feel safe using the recommended pedestrian and bicycle facilities throughout the District of Coldstream, users must be comfortable with the rules and regulations, particularly for on-street bicycle routes. Through the study process, residents also identified that the education process must go both ways – motorists should be accepting and knowledgeable of the rights of bicyclists and pedestrians within the road right-of-way, for vulnerable road users to feel safe on the roadway. This can be achieved through the following:

    - Signage to increase motorists awareness of cyclists and pedestrians on the road, and to provide direction to cyclists and pedestrians on where to cross the road, where in the road right-of-way they are permitted, and in what direction to travel.
    - Inclusion of bicycle and pedestrian rules and regulations with the route maps
    - Periodic announcements, information pamphlets or articles in the local newspaper
    - Information on the District of Coldstream's website
    - Enforcement

4.5 Maintenance

Maintenance of bicycle and pedestrian facilities is particularly important, as vulnerable road users are extremely susceptible to poor road and pavement conditions. Debris swept to the sides of roadways – such as loose gravel, broken glass and snow – can easily destabilize a bicycle or puncture a tire. Other problems such as potholes, encroaching vegetation and pavement break-up are also common bicycle hazards. Multi-use pathways, unless cleared of snow during the winter months, become unusable, forcing cyclists and pedestrians to utilize the roadways that they are trying to avoid.

A maintenance program is important to ensure that facilities are adequately maintained, and to minimize potential liability for the District of Coldstream. Such a program should include:

- **Designating responsibilities for maintenance of specific bicycle facilities.** Typically, this function would fall under Public Works. General maintenance responsibilities for bicycle facilities should include, but would not be limited to:
    - Regular sweeping of on-street routes and off-street pathways
    - Repairing broken asphalt, potholes and cracks in the road or pathway surface
    - Installing, maintaining and replacing route signs and pavement markings
    - Replacing hazardous sewer grates with bicycle friendly grates
    - Removing or cutting back encroaching vegetation which can impair sight lines or reduce the width of a facility
    - Replacing burned out street lights
    - Installing bicycle racks
    - Snow removal

- **Establishing a reporting mechanism.** Cyclists and pedestrians should be given the opportunity to notify the appropriate contact person with regard to maintenance problems.

- **Establishing a regular maintenance schedule.** A maintenance schedule, which reflects varying seasonal maintenance demands should be developed for the District of Coldstream. Resources should be allocated for maintenance crews to be able to respond to unscheduled maintenance requests.

- **Responding quickly to maintenance requests.** Prompt follow-up enhances the importance of the entire bicycle and pedestrian program. If maintenance requests are not followed up on in a timely manner, the District of Coldstream could be held liable for any subsequent injury to a cyclist or pedestrian. In some cases, a cyclists or pedestrian's request may warrant a more prompt response than a motorist's request. For example, while a pothole may only create some minor discomfort for a motorist, it may present a much greater danger for a cyclist, causing them to either lose control or swerve into the

path of a motor vehicle. By responding quickly to the request, the District of Coldstream can encourage the importance of cycling or walking as viable modes of transportation.

- **Providing for cyclists and pedestrians during road construction projects.** Often, road construction projects eliminate the travel portion at the side of roads typically used by bicycles and pedestrians. On all roads, when motorized traffic is detoured, temporary signage should be installed which also directs cyclists and pedestrians to detours. When motorized traffic is not detoured, cyclists and pedestrians should be directed onto the roadway and integrated with other traffic, with appropriate 'share the road' signage.