



City of Coquitlam

Master Trail Plan

Updated: August 2013

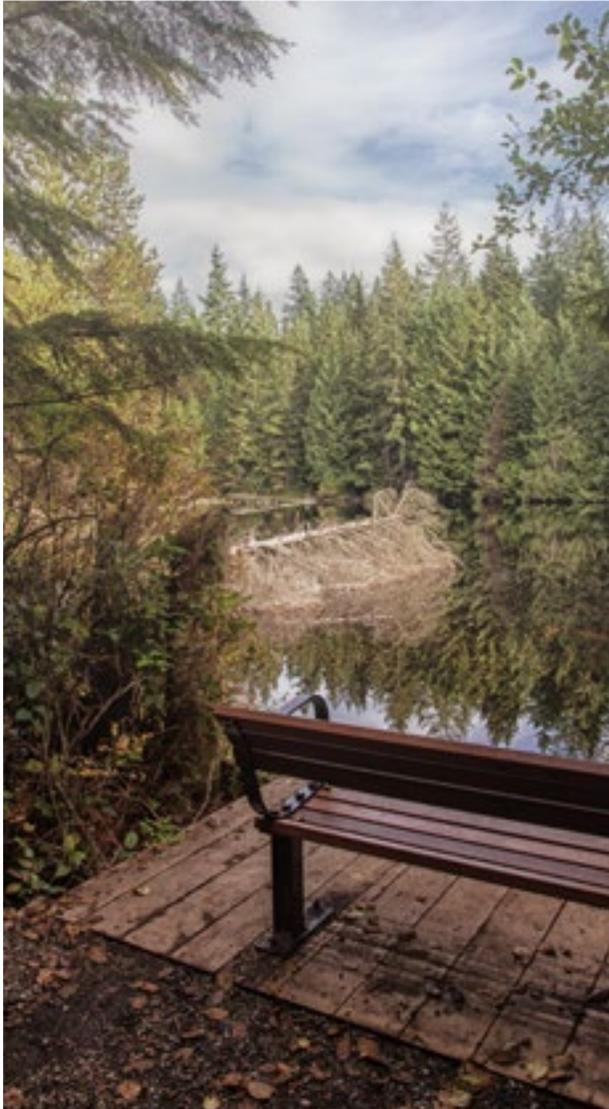


Coquitlam



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Executive Summary

The City of Coquitlam Master Trail Plan is a comprehensive flexible guide for the provision of a citywide, off-road network of trails connecting people, places, public amenities, to other municipalities and regional trail system. The current version of the plan consists of six (6) components and identifies 19 major trail sections. This document will be reviewed regularly to ensure it remains up to date and integrated with other city planning and financial documents.

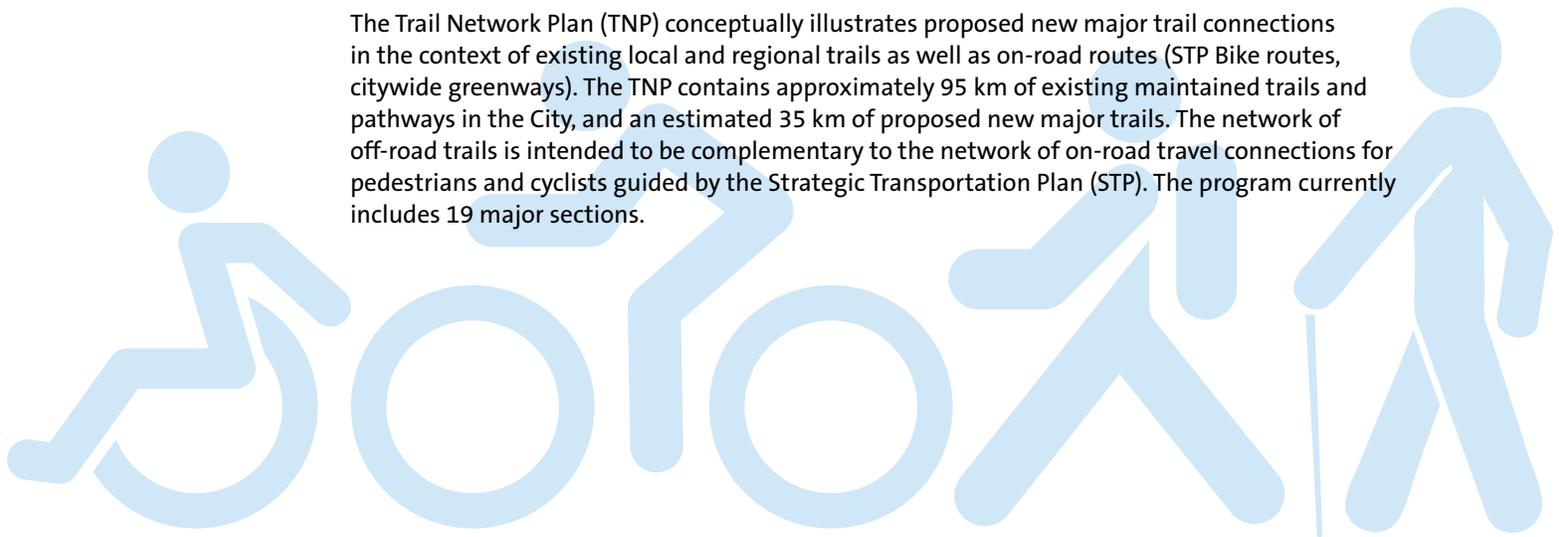
Trails are an essential part of the recreation services that contributes to the quality of life that citizens of Coquitlam have come to expect. The demand for trails grows in tandem with population growth. The interest and demand for trails to provide recreation, circulation, transportation, regional and local linkage are well documented. According to the recent 2012 IPSOS Reid City of Coquitlam Citizens Survey, trails are the second most used and most supported recreational amenity for public funding after parks.

The Master Trail Plan (MTP) was initiated as part of the strategies identified in the 1998 Parks, Open Space and Leisure Facilities Master Plan (Master Plan) to guide the future development of the City's parks and leisure systems. Part of the vision of the 1998 Master Plan was to create a community "that is proud of its pathways and trail system, providing access to parks and natural areas and linking to the regional network and wilderness to the north".

Developing a comprehensive yet flexible guide for the provision of a citywide, off-road network of trails is a key component to realizing the vision. After a consultation process that involved interdepartmental staff, community advisory groups and intergovernmental agencies, the MTP document to guide the planning, development and management of the trail network was first adopted in 2003. On-going work, and refinements have continued since 2005 to include information from completed studies including the Bear Hazard Assessment Report (2007), Off-Road Cycling Strategy (2007), Master Trail Plan CPTED Review (2009), Strategic Transportation Plan (2012) and updated neighbourhood plans e.g. Partington Creek Neighbourhood Plan (2013). The document will continue to be reviewed and updated regularly to incorporate new information to keep its goals, objectives and strategies consistent with the City Wide Official Community Plan (CWOCP), Strategic Transportation Plan (STP), Metro Vancouver Northeast Sector Regional Greenway Plan (NGP), Riparian Area Protection Regulations (RAR), Subdivision and Development Servicing Bylaw (SDSB), City Neighbourhood Plans, the Development Cost Charges (DCC) Bylaw, five year capital budgeting plan and various other city plans, planning guidelines and policy documents.

Trails are classified under recreational and off-road cycling trail types. Associated planning, design and construction principles and guidelines ensure continuity and consistent standards for implementation and maintenance. The trail management section guides on-going use, care, maintenance, liability and safety of trail facilities.

The Trail Network Plan (TNP) conceptually illustrates proposed new major trail connections in the context of existing local and regional trails as well as on-road routes (STP Bike routes, citywide greenways). The TNP contains approximately 95 km of existing maintained trails and pathways in the City, and an estimated 35 km of proposed new major trails. The network of off-road trails is intended to be complementary to the network of on-road travel connections for pedestrians and cyclists guided by the Strategic Transportation Plan (STP). The program currently includes 19 major sections.



The approved TNP program will be prioritized for implementation according to a set of criteria. Implementation of the network plan will be achieved through various mechanisms, strategies, planning tools, policies, programs and partnerships.

Land may be secured through:

- ❖ Land transfer through the development process
- ❖ Securing Statutory Rights of Way through the development process
- ❖ Land Acquisitions (Parkland Acquisition DCCs)
- ❖ Utilizing unused portions of road allowances

Trail construction may be achieved through:

- ❖ Land development process
- ❖ Partnerships with the community
- ❖ Capital Trail Program and Operating budgets (Parkland Development DCCs)

The timing for the completion of certain portions of the network is not exact and will be dependent on emerging opportunities and partnerships with public and private groups. Local and neighbourhood trail sections will be accomplished through the development process and according to approved neighbourhood plans in the CWOCP. The Subdivision and Development Servicing Bylaw references implementation according to the standards and guidelines prescribed in the Master Trail Plan and the Trail Development Guidelines and Standards document.

The estimated costs to implement (land purchase, construction costs or both) the program of proposed trail sections have been included in the City's financial planning and Development Cost Charge Bylaw. The funding bylaw will be updated and reviewed regularly, to reflect the progress of trail development. Part of the implementation strategy will also include looking for regional, provincial or national grant, partnership and funding opportunities.



Trail Network Plan

The Trail Network Plan (TNP) includes Coquitlam's existing and future trails and proposed trailheads. Future trails are identified at a conceptual level guided by a number of sources including the City's Official Community Plan, Neighbourhood Plans, Metro Vancouver Northeast Sector Recreational Park and Greenway Plans (NGP), Off-Road Cycling Strategy, Strategic Transportation Plan, Parks, Recreation and Culture Master Plan, as well as staff and community identified trail priorities.

Policy Reference: Appendix A:

1. Metro Vancouver Regional Greenway Network Plan
2. Strategic Transportation Plan – Map 3 Trails and Citywide Greenways
3. Strategic Transportation Plan – Map 4 Bicycle Plan
4. Recreational Off-Road Cycling Major Routes and Amenities
5. Parks and Open Space Concept Plan – Schedule 'B' to Upper Hyde Creek Village Neighbourhood Plan
6. Parks and Open Space Concept Plan – Schedule 'B' to Lower Hyde Creek Village Neighbourhood Plan
7. Parks and Open Space Concept Plan – Schedule 'B' to Smiling Creek Neighbourhood Plan
8. Draft Greenways and Picycle Routes – Schedule 'F' to Partington Creek Neighbourhood Plan

The on-road commuter bicycle network from the Strategic Transportation Plan, is shown in relation to the Trail Network Plan to illustrate the integration of both systems and their interdependence in completing the city wide and regional systems.

Future trails have been identified within larger project groupings (i.e. Fraser River Greenway, Chineside Nature Trails etc.) to allow for easy reference when planning, designing and making recommendations. These proposed trail sections are identified on the Trail Network Plan map and summarized in the following descriptions. They are not ranked in order of priority.

Existing Trails Inventory:

Existing trail locations shown on maps were identified through air photo interpretation or gathered with a Global Positioning System (GPS) unit, which ensures a high level of accuracy. Only trails within Coquitlam and maintained by the City are included in the "Existing Trails" inventory. Informal trails may exist throughout Coquitlam and may have evolved over time from public casual use, but are not identified on the trail network plan. It is difficult to manage unsanctioned trails, however if they impact environmentally sensitive areas or affect private property owners, these trails are decommissioned on a priority basis as resources permit. Existing major trails in regional and provincial parks or neighbouring municipalities are identified on the trail network map for reference and context.

There are approximately 95 km of existing recreational trails and park pathways throughout the City.

Proposed Future Trails and Trailheads:

The Trail Network Plan conceptually illustrates an estimated 35 km of proposed new major trails. The network of off-road trails is complementary to the network of on-road travel connections for pedestrians and cyclists represented in the Strategic Transportation Plan (STP). When integrated with on-road pedestrian linkages, the network is comprehensive and offers continuous north/south and east/west connections.

Minor trail linkages are not shown on the network plan, as in many cases these future connections will be coordinated through development or redevelopment and as the land use patterns emerge. When more detailed planning work is underway, local trail connections will be determined.

Trailheads located at important points and trail intersections within the trail system, provide formal entry, staging, information, amenities and services for visitors. Major trailheads may include washrooms, parking, kiosks with trail maps and interpretive signage. Minor trailheads may include signage and benches. The land base and development costs for these trailheads are captured in the City's parkland acquisition and parkland development cost charges programs. They may also be realized through development opportunities.

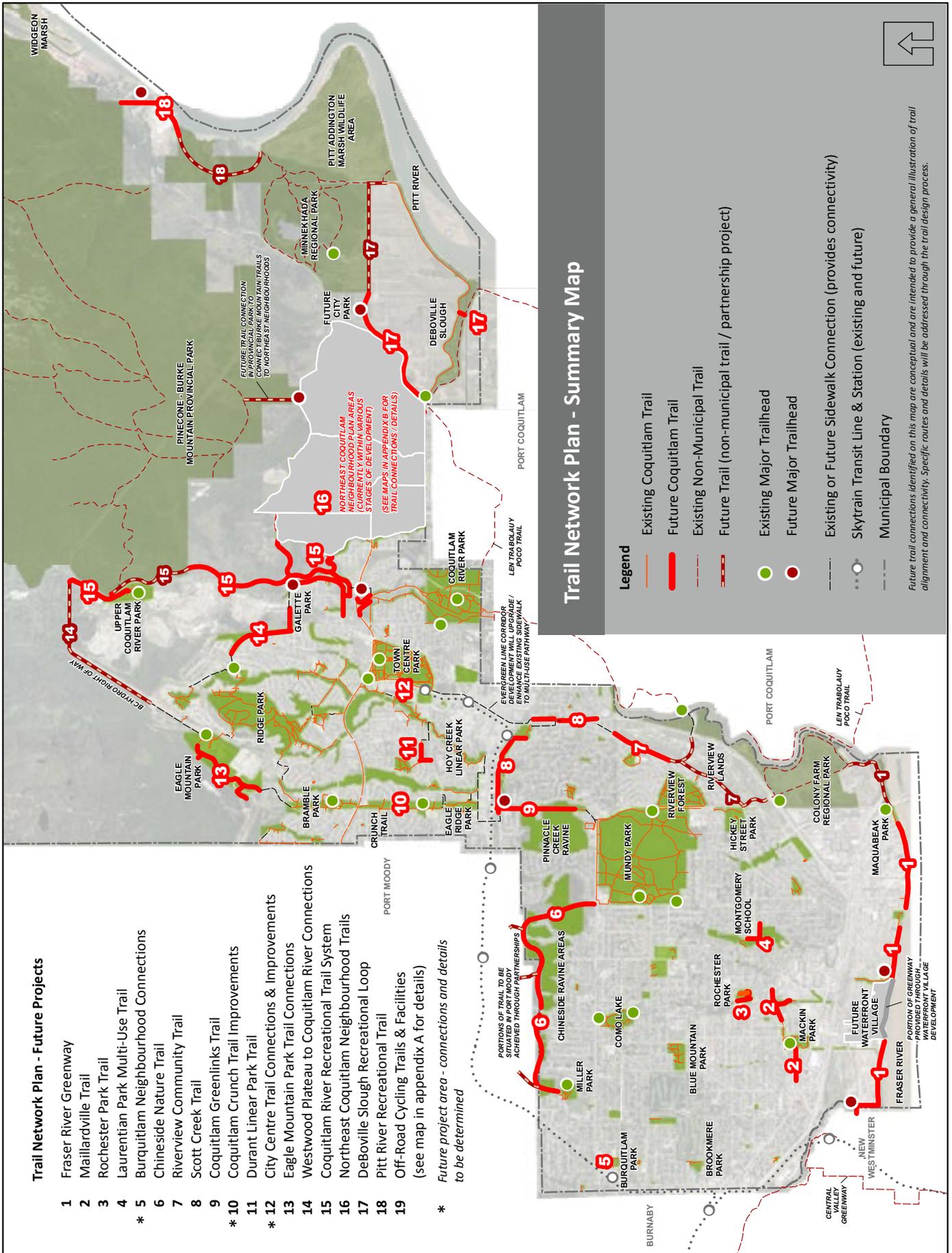
Trail Network Program:

The trail project groupings in the TNP include 19 major sections:

1. Fraser River Greenway
2. Maillardville Trail
3. Rochester Park Trail
4. Laurentian Park Multi-Use Trail
5. Burquitlam Neighbourhood Connections
6. Chineside Nature Trail
7. Riverview Community Trail
8. Scott Creek Trail
9. Coquitlam Greenlinks Trail Improvements
10. Coquitlam Crunch Trail
11. Durant Linear Park Trail
12. City Centre Trail Connections & Improvements
13. Eagle Mountain Park – Trail Connections
14. Westwood Plateau to Coquitlam River Connection
15. Coquitlam River Recreational Trail System
16. Northeast Coquitlam Neighbourhood Trails
17. Deboville Slough Recreational Loop
18. Pitt River Recreational Trail
19. Off-Road Cycling Trails and Facilities



Figure 1.

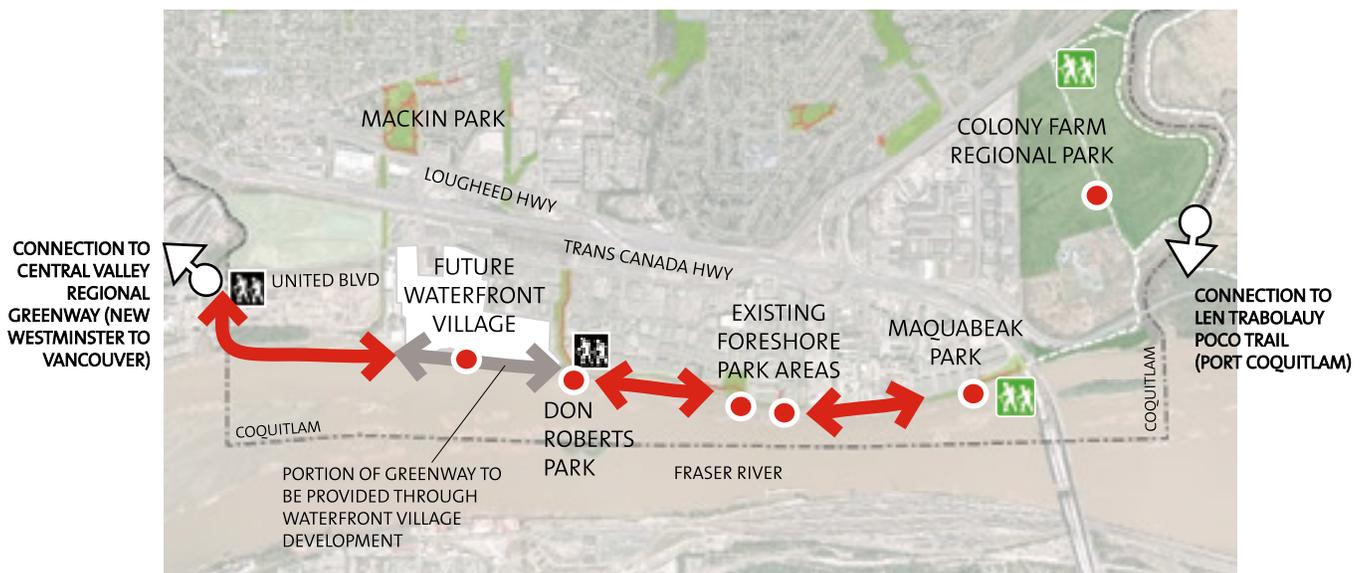


1. Fraser River Major Greenway

Development of this major recreational multi-use greenway along the Fraser River will provide both a recreational foreshore experience and a citywide greenway for pedestrians and cyclists as identified in the City's Strategic Transportation Plan. This greenway will connect Colony Farm Regional Park to the Central Valley Greenway and New Westminster. Portions of the greenway are currently in place with the remaining sections to be secured and developed as opportunities arise through redevelopment processes or other means.

The Fraser River is a key feature in the history of Coquitlam. Fraser Mills was the driving force in the development of Coquitlam in the early 1900's. The natural and cultural heritage of the Fraser Mills site is a unique and valuable asset. This greenway along the river has the potential to be a heritage walk, with interpretive displays and public art at various sites.

There are a number of parks that will be connected by this greenway including Maquabeak Park, Don Roberts Park, Colony Farm Regional Park and the proposed Waterfront Village with foreshore park and promenade. Development will include a multi-use path, trailheads, viewing structures, boardwalks, shoreline rehabilitation and outdoor recreational amenities. There is ample opportunity to develop interpretive and educational components at a number of locations.

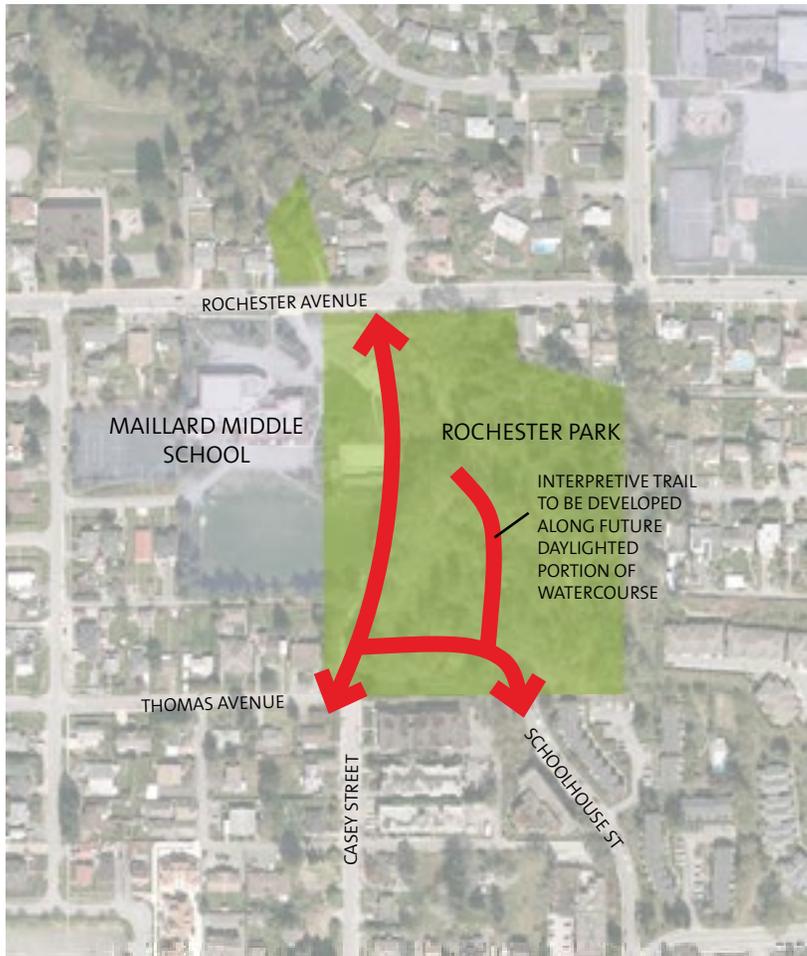


-  EXISTING TRAIL
-  FUTURE TRAIL CONNECTION PROJECT
-  KEY LOCATION WITHIN TRAIL SYSTEM
-  CONNECTION TO OTHER MAJOR TRAIL SYSTEM
-  EXISTING TRAILHEAD
-  FUTURE TRAILHEAD



3. Rochester Park Trail

New trails identified within Rochester Park will provide pedestrian connections between the Middle School Site & Park (sportsfield and school grounds) to the higher density residential area to the south. There is also an opportunity to develop a small interpretive trail in conjunction with future plans to daylight portions of Como Creek within Rochester Park. The daylighting project will create enhanced fish and wildlife habitat. Along with the trail development, residents will have access to a unique nature experience in their community. The developed trail will minimize informal foot paths and therefore minimize impact to the watercourse and surrounding riparian area. Stairs may be required in steeper areas and interpretive signage and seating areas would be introduced along Como Creek.

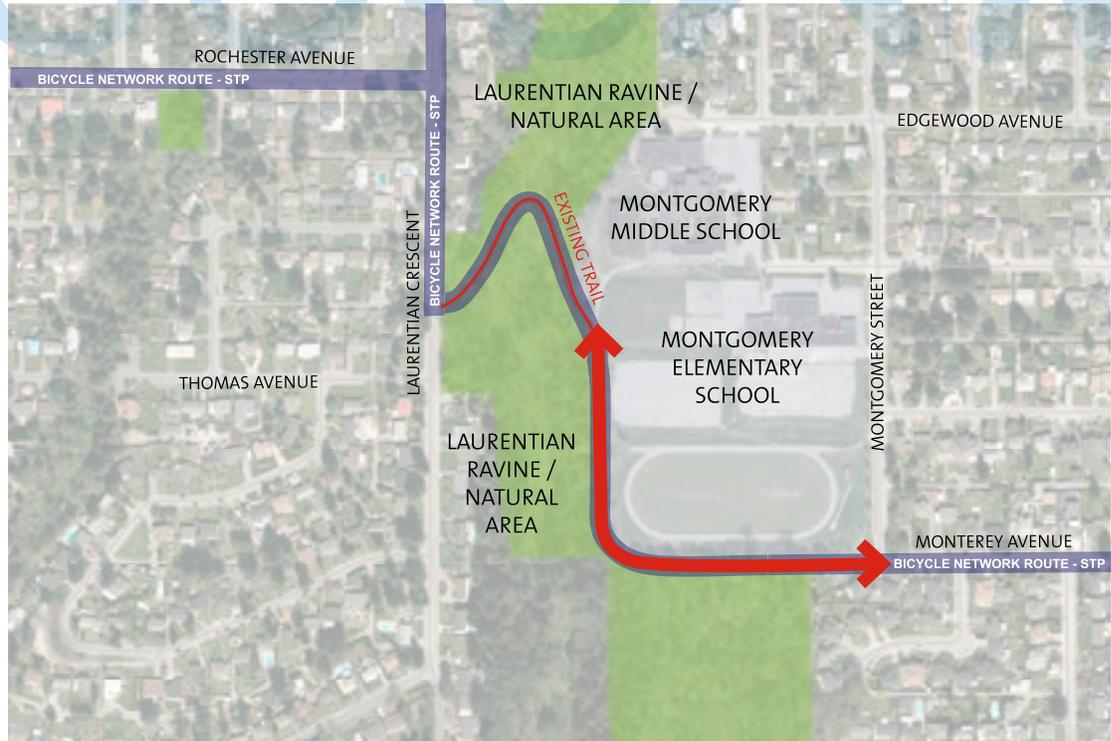


 FUTURE TRAIL CONNECTION PROJECT



4. Laurentian Park Trail

This trail connecting Laurentian Street and Monterey Avenue is identified in the City's Strategic Transportation Plan as an important off-road multi-use bicycle connection. Improvements would include development of a new multi-use path connecting Monterey Avenue to the existing trail and upgrades to the existing trail within the Laurentian Natural Area (Booth Creek Ravine). As the portion of new trail is within close proximity to school lands and may need to be routed through school property, a partnership agreement or ROW may need to be coordinated with School District 43.



- EXISTING TRAIL
- ↔ FUTURE TRAIL CONNECTION PROJECT
- BICYCLE NETWORK ROUTE - STRATEGIC TRANSPORTATION PLAN



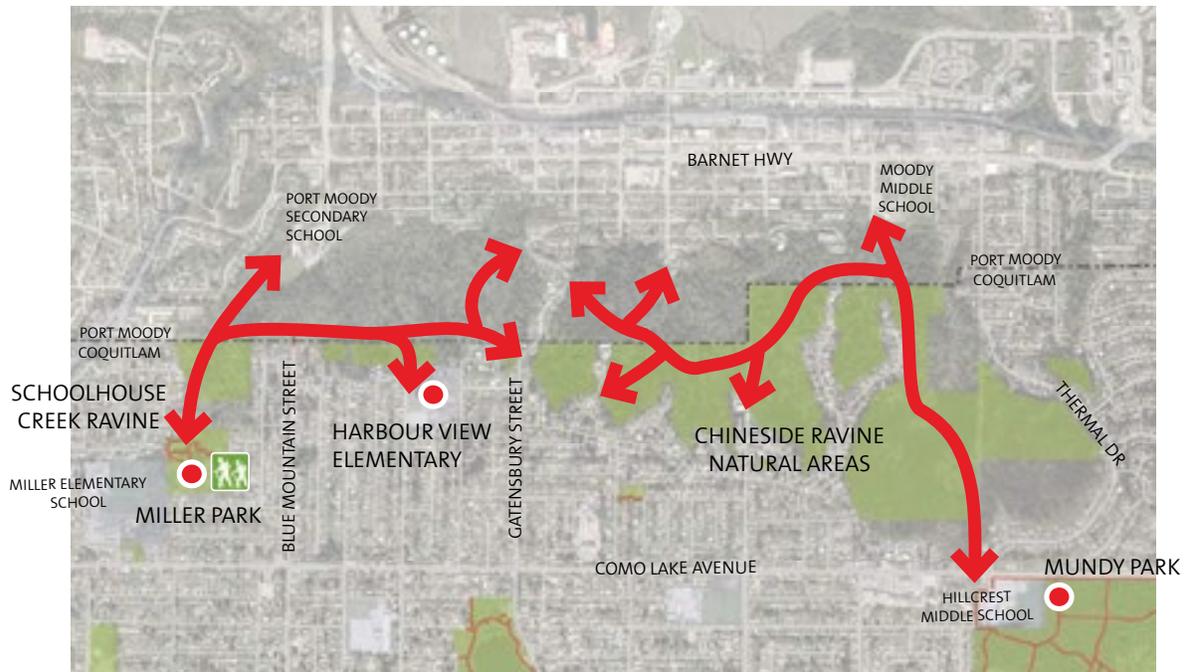
5. Burquitlam Neighbourhood Trail Connections and Improvements

The arrival of the Evergreen Rapid Transit Line to the Burquitlam Neighbourhood will bring redevelopment opportunities along with potential improvements to pedestrian connections as the neighbourhood changes and adapts to becoming a more transit oriented area. The emerging needs for better connectivity and circulation will focus efforts on improvements to enhance and complement the existing pedestrian and bike transportation network.

6. Chineside Nature Trail

The vision is to provide an off-road recreational nature trail network running east-west within the Chineside Ravine area. Future trail development in this area has been identified in both the Metro Vancouver Northeast Sector Recreational Greenway Plan and the Departmental Master Plan. This route connecting Miller Park and Mundy Park will provide an outdoor recreational fitness experience, nature and interpretive opportunities, as well as linkages to various streets, neighbourhoods and existing trails in Port Moody.

This area is a lush setting with watercourses, steep slopes and dense vegetation. Stairs and bridges will be required in certain areas. Nature trails need to be well marked to prevent trail users from getting lost. Trail locations, design and construction will need to be carefully considered to prevent impacts to environmentally sensitive areas.

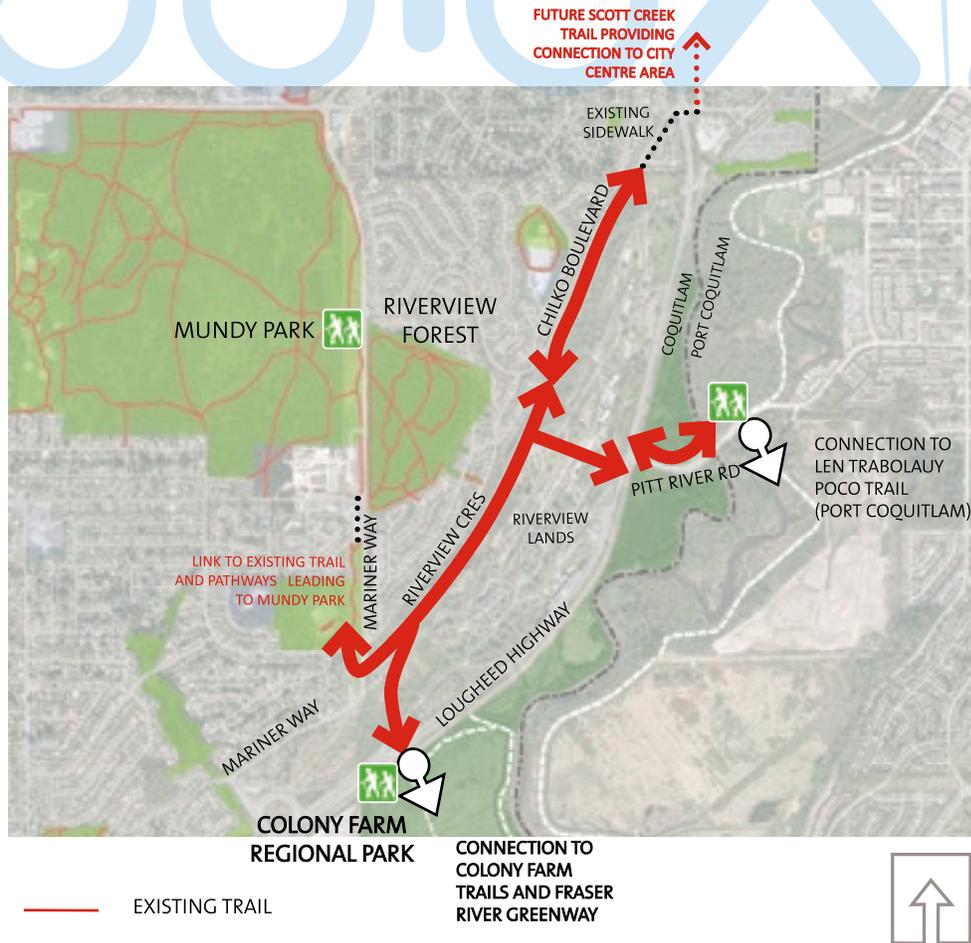


-  EXISTING TRAIL
-  FUTURE TRAIL CONNECTION PROJECT
-  KEY LOCATION WITHIN TRAIL SYSTEM
-  EXISTING TRAIL HEAD



7. Riverview Community Trail

The goal of this project is to provide a recreational trail connection through the Riverview Lands or within existing municipal road allowance directly adjacent to Riverview Lands. This section of trail is a critical link that completes connectivity to Mundy Park, Riverview Forest and Scott Creek Trail to the north, Colony Farm and the Fraser River Greenway to the south, and the Len Trabolaury Poco Trail to the east. This trail will also supplement portions of the STP cycling routes. The memorial trees that line the Chilko Boulevard are a highlight along the route. Implementation of the connection will be possible pending emerging development opportunities, coordination and partnerships with the Province related to the Riverview Lands.



-  EXISTING TRAIL
-  FUTURE TRAIL CONNECTION PROJECT
-  CONNECTION TO OTHER MAJOR TRAIL SYSTEM
-  EXISTING TRAILHEAD
-  EXISTING SIDEWALK (PROVIDES CONNECTIVITY)
-  OTHER FUTURE TRAIL PROJECT



8. Scott Creek Trail

This section will provide an off-road recreational trail that follows along the Scott Creek corridor south of Dewdney Trunk Road. This will provide an important link to the trail network from the north via the future vehicle and pedestrian overpass along Falcon Drive. Connections will also be made with the future Greenlinks Trail section running south through Pinnacle Creek ravine. The section east through the Scott Creek natural area to Dacre Park will provide opportunities for interpretation and education of this open space corridor. The trail will ultimately connect with the multi-use pathway system along Lougheed Highway through Dacre Park. From there the multi-use pathway system will lead north toward the city centre or south to future connections through Riverview Lands.



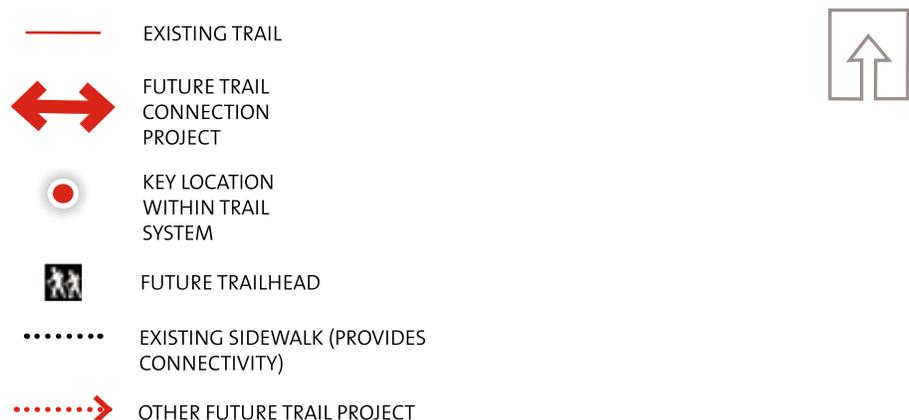
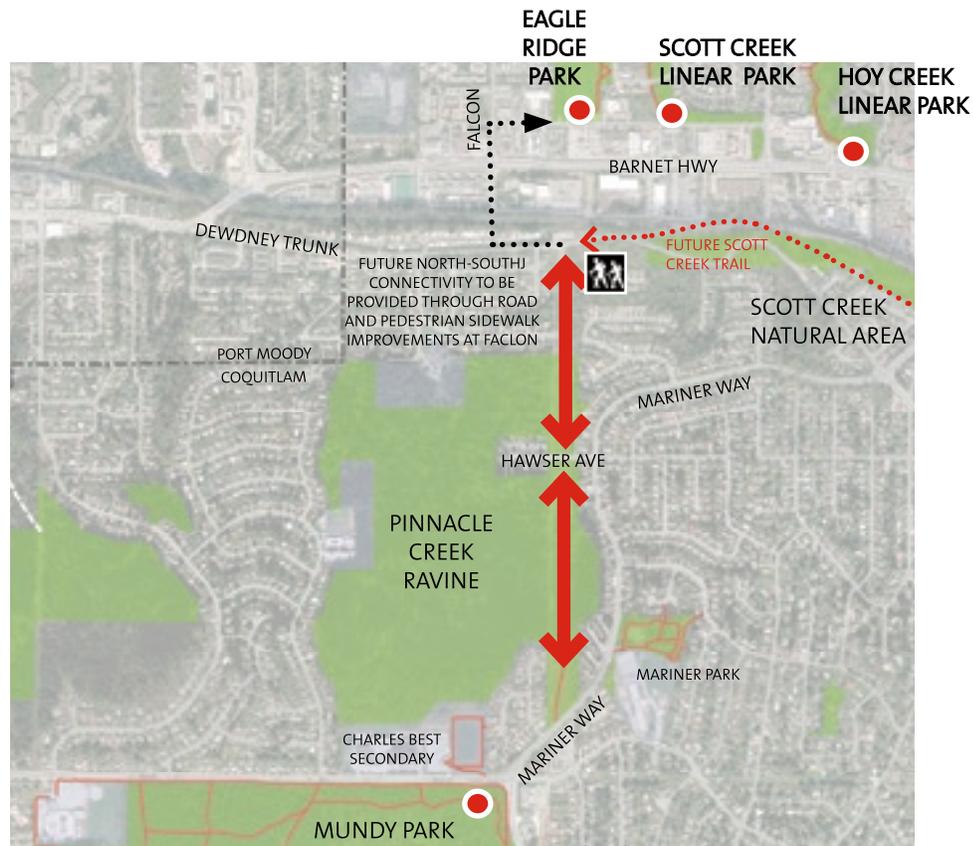
-  EXISTING TRAIL
-  FUTURE TRAIL CONNECTION PROJECT
-  FUTURE PEDESTRIAN BRIDGE
-  EXISTING SIDEWALK (PROVIDES CONNECTIVITY)
-  OTHER FUTURE TRAIL PROJECT



9. Coquitlam Greenlinks Trail

The goal of this connection is to provide a trail linkage between Mundy Park and the Eagle Ridge routed through existing hydro right of way and parkland. This trail is identified in the Metro Vancouver Northeast Sector Recreational Greenway Plan as an important north-south regional route that connects the Fraser River to Eagle Mountain and the Burrard Inlet. This trail will also provide an important link to the Scott Creek Trail System. The Off-Road Cycling Strategy also identifies this area as having value and opportunities for the development of an off-road cycling gravity trail.

It would be developed as an urban nature trail with stairs in steeper portions (similar to the Coquitlam Crunch Trail). A proposed trailhead with parking at the corner of Pier Drive and Dewdney Trunk Road is also identified in the Metro Vancouver Northeast Sector Recreational Greenway Plan. Major highway and railway crossings for pedestrians will be accommodated through future road works and implementation of a bridge crossing at Falcon Drive to provide north-south pedestrian connectivity.



10. Coquitlam Crunch Trail Improvements

The Coquitlam Crunch Trail has become a popular local and regional outdoor recreational destination. The increase in use has resulted in the need for a number of improvements to the trail and surrounding parkland. Trail resurfacing, signage, site furnishings, fencing and parking improvements are required throughout the system. The introduction of other amenities such as outdoor fitness equipment, a water fountain and improvements at viewing areas will further enhance and complement the quality of this recreational experience.

11. Durant Linear Park Trail Improvements

The goal of this project is to complete the Durant Linear Park trail system by providing trail connections to Johnson Street and Guildford Way. Future trails and improvements would occur within existing city owned park areas. This trail system provides the local neighbourhood an important off-road pedestrian connection. The portion of trail leading to Guildford Way is steep and would require stairs.



- EXISTING TRAIL
- ↔ FUTURE TRAIL CONNECTION PROJECT
- EXISTING SIDEWALK (PROVIDES CONNECTIVITY)



12. City Centre Trail Connections and Improvements

The arrival of the Evergreen Rapid Transit Line to the Coquitlam city centre will bring many changes to the neighbourhood. Redevelopment will focus the need to improve and enhance the pedestrian environment and connections as the area changes and adapts to being more dense and transit oriented. More public amenities, better connectivity, improved trail and park systems, and better connections to the existing Hoy Creek trail system are among the anticipated changes to evolve.

13 . Eagle Mountain Park Trail Connections

This trail section is identified in the Northeast Sector Recreational Greenway Plan and is an important section that will complete linkage to the existing trail system that leads to Buntzen Lake and Belcarra along the utility corridor. Implementation of this network will help to extend the Coquitlam Crunch Trail north into Eagle Mountain Park.

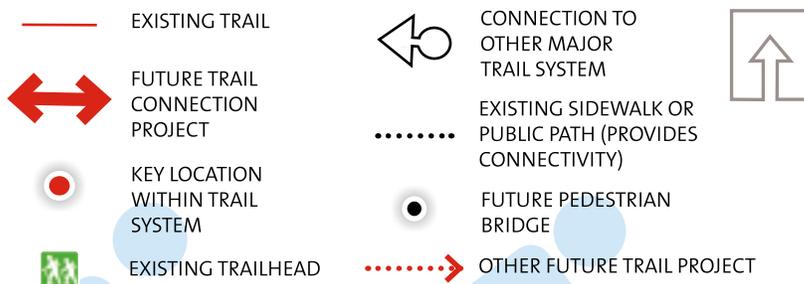
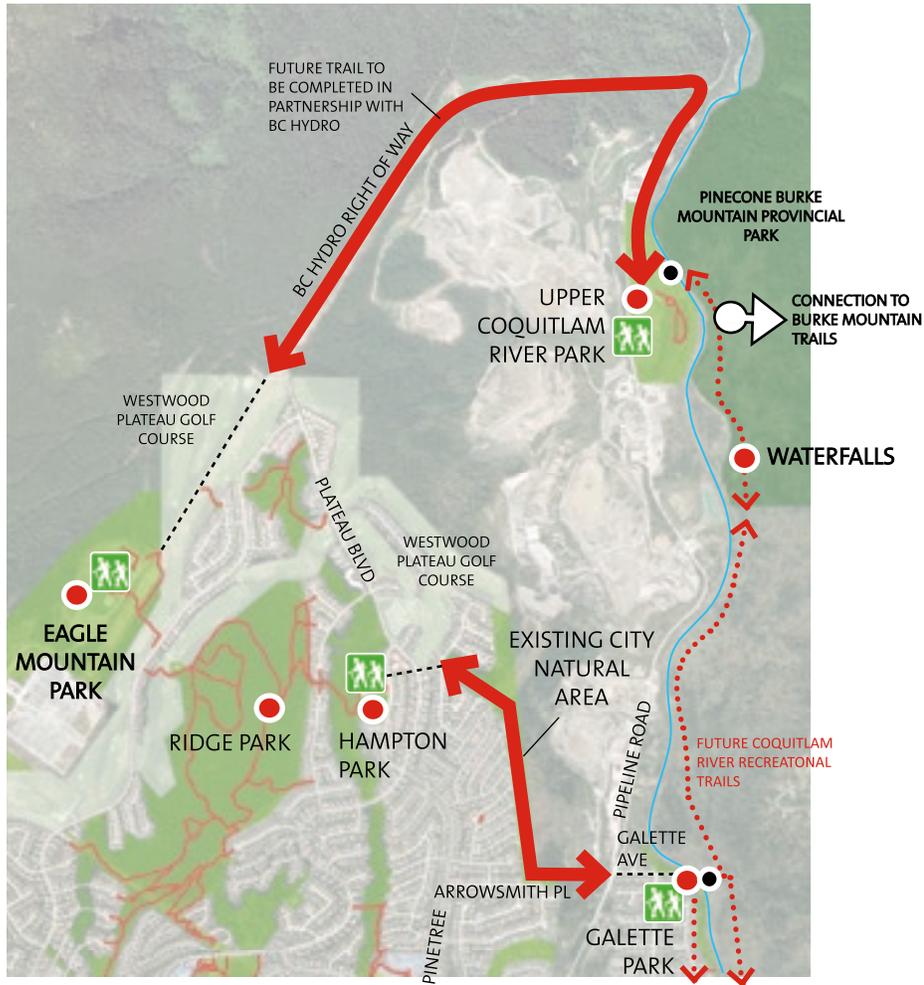


-  EXISTING TRAIL
-  FUTURE TRAIL CONNECTION PROJECT
-  KEY LOCATION WITHIN TRAIL SYSTEM
-  CONNECTION TO OTHER MAJOR TRAIL SYSTEM
-  EXISTING TRAILHEAD
-  EXISTING ROAD OR PUBLIC PATH (PROVIDES CONNECTIVITY)



14. Westwood Plateau to Coquitlam River Connection

The goal of this project is to connect the Westwood Plateau trail network to the future Coquitlam River recreational trail system. This is an important city wide east/west link that will allow for recreational loops to the north and south of Westwood Plateau. Refer to the overall network plan for context. The majority of the future trail is within existing parkland that is currently undeveloped natural area. The remaining portion needed to complete the connection to Pipeline Road will require acquisition of a ROW. This section also has significant grade change and will require stairs to negotiate the terrain.



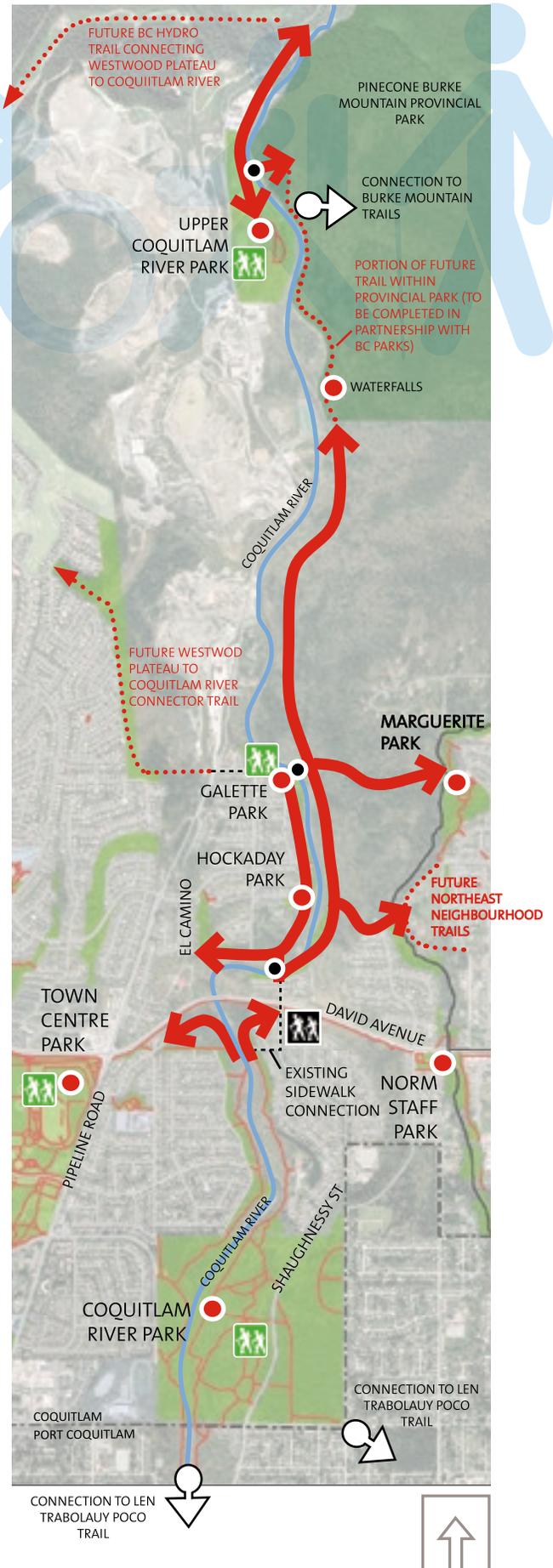
15. Coquitlam River Recreational Trail System

This section of the trail network is identified as a major component in the Metro Vancouver Northeast Sector Recreational Greenway Plan and the City's Official Community Plan. The goal of the Coquitlam River Trail system is to provide routes along the Coquitlam River and loops to provide many recreational trail and nature viewing opportunities, while minimizing pedestrian access to environmentally sensitive areas along the river.

When complete, this major citywide north/south route will connect the Coquitlam River Park and Len Trabolaury Poco Trail in the south to upper Coquitlam River Park and Pinecone Burke Mountain Provincial Park in the north. Along the route other important linkages are created on either side of the river to various local neighbourhoods and park sites which also help to extend or complete east/west trail connections.

The development of a new trailhead and upgrade to existing trailheads will be included as part of the implementation process. Trail development will occur in phases, at various locations and as opportunities evolve. Some sections may be realized through the development process.

-  EXISTING TRAIL
-  FUTURE TRAIL CONNECTION PROJECT
-  KEY LOCATION WITHIN TRAIL SYSTEM
-  FUTURE PEDESTRIAN BRIDGE
-  CONNECTION TO OTHER MAJOR TRAIL SYSTEM
-  EXISTING TRAILHEAD
-  FUTURE TRAILHEAD
-  EXISTING SIDEWALK (PROVIDES CONNECTIVITY)
-  OTHER FUTURE TRAIL PROJECT



16. Northeast Coquitlam Neighbourhood Trails

The planning of potential recreational trail systems for a neighbourhood area is primarily considered through the neighbourhood planning process. The trail network emphasizes good connectivity through establishing north-south and east-west connections linking to key destinations such as roads, schools, parks and natural areas.

Through the neighbourhood planning process for Upper, Lower Hyde Creek and Smiling Creek Neighbourhoods, local system of greenways and trails have been developed to help provide the communities with these public amenities and off-road alternatives for travel. The Partington Creek Neighbourhood planning process is currently in progress and nearing completion. The proposed trail network represented in the trail network plan for these areas is consistent with the neighbourhood plans and reflects the information that guides the property development process.

See Appendix A for detailed information related to future Park and Open Space in Northeast Coquitlam:

- ❖ Parks and Open Space Concept Plan - Schedule 'B' to Upper Hyde Creek Village Neighbourhood Plan
- ❖ Parks and Open Space Concept Plan - Schedule 'B' to Lower Hyde Creek Village Neighbourhood Plan
- ❖ Parks and Open Space Concept Plan - Schedule 'B' to Smiling Creek Neighbourhood Plan
- ❖ DRAFT Greenways and Bicycle Routes – Schedule 'F' to Partington Creek Neighbourhood Plan



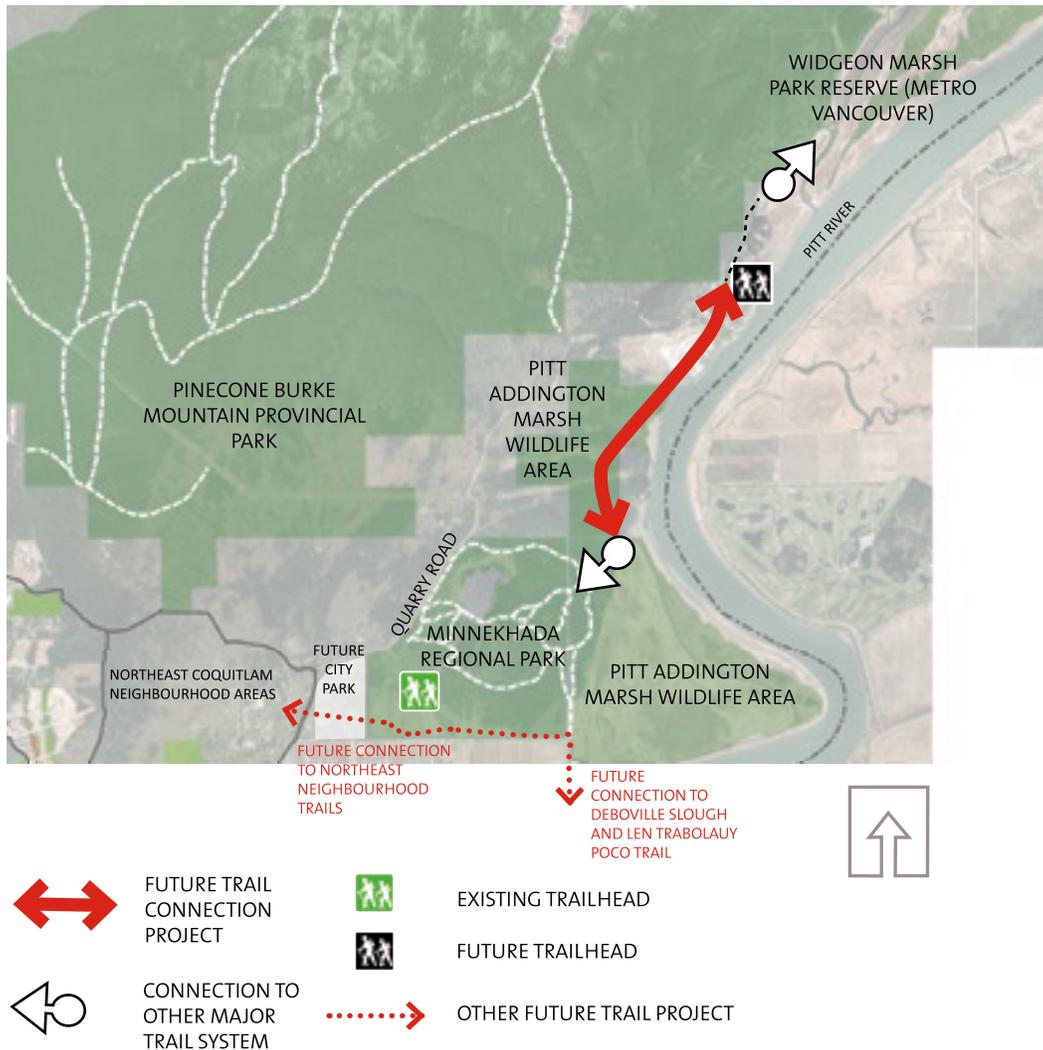
17. DeBoville Slough Recreational Trail Loop

The existing section of trail at Deboville Slough is flat and accessible providing an ideal cycling, jogging and walking route to enjoy the water's edge and natural surroundings. A proposed crossing south to the Len Trabolaury Poco Trail will not only provide a link to the greater regional trail system along the Pitt and Fraser Rivers, but offer a choice to enjoy the slough from the south side looping back toward the existing trailhead. From the existing trailhead, a proposed route north along Cedar Drive and through Minnehada Regional Park is also identified in the Northeast Sector Recreational Greenway Plan to complete a loop that connects the marshland of the slough, local neighbourhood trails, future city park, connection to the regional park trail system and Pitt Addington Wildlife Marsh. Implementation of the route along Cedar Drive will be achieved through future road improvements. The section through Minnehada Regional Park will be achieved through establishing a collaborative partnership with the regional authority.



18. Pitt River Recreational Trail

This trail section is identified in the Northeast Sector Recreational Greenway Plan to provide linkages between Minnehada Regional Park, through the Pitt Addington Marsh Wildlife Area and to the Widgeon Marsh Regional Park Reserve. The sensitive wildlife management area will provide a rich experience with many interpretative and educational opportunities. The route will likely require elevated trails on boardwalks and many water crossings. The trail will connect to a proposed trailhead located at a future park site and boat launch near the Pitt River. Implementation of the proposed trail section will require establishing a collaborative partnership with the regional authority and coordinating with private land owners.



19. Recreational Off-Road Cycling Trails and Facilities

Trail Network, Adventure and Gravity Park Facilities

These proposed facilities provide a variety of skill developing and testing challenges for novices and advanced riders. To enhance the off-road cycling trail experiences and provide the diverse cycling community with some alternative cycling experiences, a variety of potential amenities and facilities are identified:

- **Eagle Mountain Trail Network Area**

This network includes Eagle Mountain, Bramble and Ridge Parks with connections to Noons Creek Park and North Hoy Creek Ravine. Potential facilities at Eagle Mountain Park may include trail staging and an adventure park; Bramble Park may include a gravity park and an adventure park.

- **Coquitlam River Burke Mountain Trail Network Area**

This network centers around Coquitlam River and Town Centre Park with connections to Freemont and Harper Parks. Potential facilities may be located at Coquitlam River Park to include trail network and an adventure park; at Town Centre Park may include a BMX bike park/ skate park and trail staging area; Leigh Park may include a potential adventure park.

- **Mundy/Riverview/Pinnacle Creek Network**

The network centers around the hydro corridor that separates Mundy and Riverview Parks. The existing system of trails provides a good base for expansion of new trails and facilities. Pinnacle Creek Park has the potential to expand new trail and bike facilities.

Refer to the Off-Road Cycling Major Routes and Amenities Plan – Appendix A

Implementation

Securing the Land Base

A. Land Transfer through the Development Process

The land for local and neighbourhood level trail linkages (in accordance with approved neighbourhood plans) will be secured through the development or redevelopment process.

B. Statutory Rights of Way through the Development Process

In other situations, trail connections may be secured through the provision of a trail right of way as a condition of the development process. The statutory ROW provides flexibility for property developers as the land area for the trail can still be used in the site coverage calculation, not affecting the density calculations. This strategy benefits both parties to achieve their objectives.

C. Parkland Acquisition Development Cost Charge (DCC) Fund

The land base for major trail connections that cannot be achieved through the development or redevelopment process is included in the Parkland Acquisition Development Cost Charge (DCC) program (e.g. land along the Coquitlam and Fraser Rivers). The DCC program is an important revenue source from property development fees that fund a variety of municipal facilities and infrastructure.

D. Unused Portions of Road Allowance

The Trail Network Plan identifies a number of trail sections routed through sections of unused road allowances. ROWs not required for vehicle traffic create important opportunities to complete trail linkages. Where possible, capture unused portions of road allowances as a cost effective way to complete trail linkages.

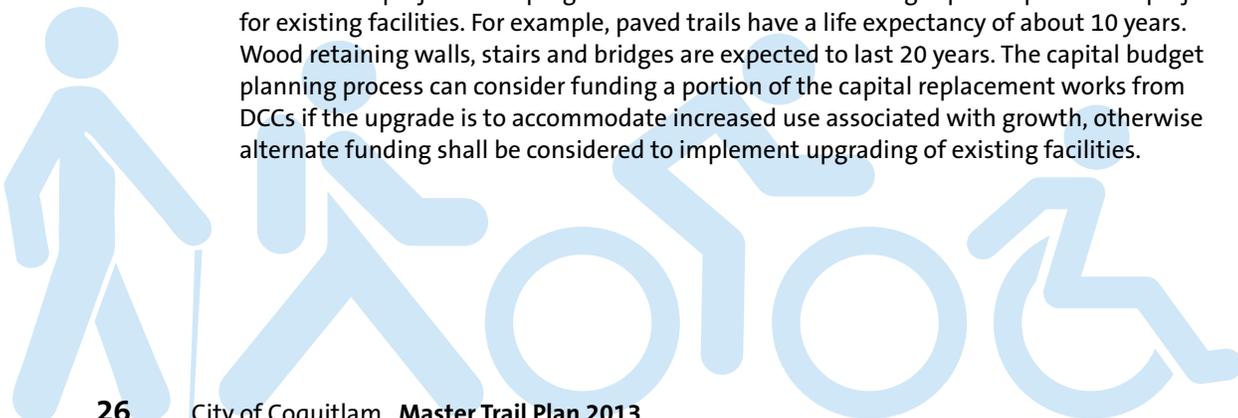
Trail Development

A. Development Process

Many local or neighbourhood trail linkages will be implemented through the development or redevelopment process by property developers in accordance with approved neighbourhood plans or determined as the subdivision patterns are refined at the detailed development planning stage. New major trail construction work that is part of a development project may be eligible for compensation if that project has been incorporated into the Parkland DCC program. Developers that construct a major trail section specifically identified in the Parkland DCC Program may be rebated the construction value, which may not exceed the maximum amount of Parkland DCC's for the development, or the maximum cost of land and construction assumed in the DCC program, whichever is less, subject to the City's final approval and on the basis of DCC obligations and other financial commitments that may exist at that time.

B. Capital Trail Program - Parkland Development (Parkland Development DCC) Fund

New trail development projects that cannot be implemented through the development process are incorporated in the five (5) year capital budget planning process for implementation. Capital work is primarily funded with DCC's for new DCC eligible construction projects. The program is limited when addressing capital replacement projects for existing facilities. For example, paved trails have a life expectancy of about 10 years. Wood retaining walls, stairs and bridges are expected to last 20 years. The capital budget planning process can consider funding a portion of the capital replacement works from DCCs if the upgrade is to accommodate increased use associated with growth, otherwise alternate funding shall be considered to implement upgrading of existing facilities.



C. Partnerships

Much of the trail work for major sections undertaken by the City has occurred as a result of partnerships with community and/or corporate groups such as BC Hydro. Utility corridors (i.e. Hydro rights of way) play a significant part of realizing portions of proposed trail system. Although in many cases the land in these utility corridors may be city owned, the City will coordinate approval and implementation with the various utilities (i.e. BC Hydro, Fortis BC etc.) .

The Mariner Greenlink was largely built with funding from BC Hydro. Other trails such as Hoy Creek and parts of the Trans Canada Trail were built in partnership with the Environmental Youth Team (EYC). The labor costs were absorbed by the EYC program, helping to reduce the construction costs for the City by half. These partnerships provide multiple benefits to the City and community.

Actively pursuing partnerships, coordination and approvals with external stakeholders will foster cooperative and collaborative working relationships and greatly help the implementation process.

Trail Development within School District 43 Property

Some sections of trail in the systems will require development through joint Park-School sites and within School District (SD43) property. In these cases the City will work closely with SD43 to coordinate approval and implementation.

Trail Development Near Watercourses

A number of major future trails in the Trail Network Plan occur near watercourses. Department of Fisheries and Oceans approval is required where potential trail development may impact streams and sensitive riparian areas (i.e. bridge crossing, construction within riparian areas etc.)

Off-Road Cycling Trails *(Excerpt: City of Coquitlam Off-Road Cycling Strategy Report, 2007)*

Funding and resources are some challenges facing trail planning, development and maintenance. Trail managers, clubs and the local municipalities will need to become increasingly creative to acquire the funding needed to maintain trails.

Clubs, user groups, associations and committees can provide funding for trail construction and maintenance by two primary methods; in-kind volunteer labour and direct money from fundraising or membership dues. Metro Vancouver has experienced an unprecedented level of single-track mountain bike trail building during the early to mid-nineties that reached a peak towards the end of the decade. Trail builders and local clubs have struggled with “volunteer burnout” as the enthusiasm for trail building has dwindled and the original generation of trail builders is increasingly focused on family and careers. In-kind volunteer labour is becoming increasingly scarce (while numbers of riders are paradoxically increasing) and local club membership dues are not increasing in proportion to user increases. Changes to community demographics and high demand for volunteer efforts all indicate an unstable and fluctuating supply of volunteer and club resources. Additional fund raising and grant opportunities to secure funds for trail management will need to be further explored.

The City will need to evaluate their staffing levels dedicated to recreational off-road cycling trails as the system expands and the population grows. Formalizing a Trail Advisory Committee with staff and community interests will help to resolve management issues and the additional time requirements by staff can prove to be a good investment.

Memorandum of Agreement for Co-Management – Recreational Off-Road Cycling Facilities

When interest groups or organizations are actively involved with the construction and maintenance of public facilities, e.g. bike trail and BMX track facilities, a memorandum of agreement for co-management will need to be established to outline roles and responsibilities. This will help to alleviate liability issues for both the interest group and the City.

D. Grants

The contribution of good quality trails to creating healthy communities is increasingly apparent. Recognition of trail building and maintenance as a legitimate activity has fostered the creation of grants for various groups, including municipalities.

National, provincial and regional grant and funding opportunities available to facilitate trail initiatives shall be pursued.

Provincial Funding

In June of 2005, the Ministry of Sport, Tourism and the Arts (MTSA) assumed responsibility for the management of recreational trails on Crown land. MTSA has adopted a mandate to double tourism revenue in British Columbia by 2015. The Ministry has committed to making targeted improvements to recreational trails to support tourism and improved health and fitness for all British Columbians. As one of the highest profile and most intensive trail use areas in the Province, an authorized and established trail network in the Tri-City area will be well positioned to advocate for funds from the Ministry.

Off-road cycling projects grant and funding sources is available through the International Mountain Bicycling Association resources website at <http://www.imba.com/resources/grants/index.html>

Communication

A Communication strategy is an important part of implementation. The MTP needs to be communicated both internally and externally to the public, other jurisdictions and agencies. The goal of the communication strategy is to ensure the MTP is operationalized and interested parties are aware of the document. The strategy differentiates between internal and external audiences since these groups have different requirements. Internal communications are focused on integrating information into decision making processes where details are important. External strategies are aimed at education and awareness and providing a general understanding of the MTP.

A. Internally

Staff will continue to work through the Subdivision and Development Servicing Bylaw and other development application procedures to ensure a coordinated and effective approach to achieve trail acquisition and development. A copy of the MTP will be available to staff within the department and to other departments including Community Planning, Engineering Transportation Planning and Environmental Services.

B. Externally

An updated pdf version of the plan will be available on the city website for review and downloading.

Trail Development Close to Residents

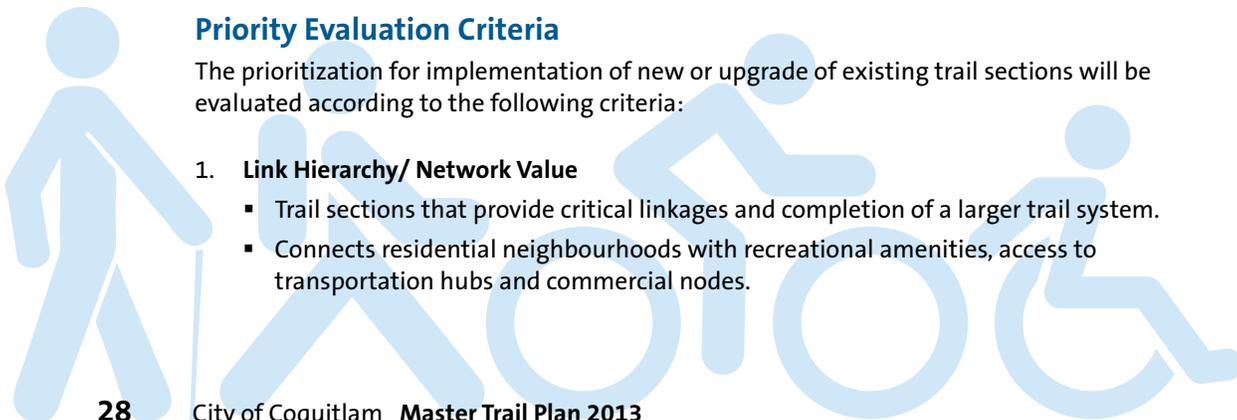
Prior to implementation of any major City managed trail development projects that will affect existing established neighbourhoods, the City will provide information and an opportunity for feedback and input during the implementation process.

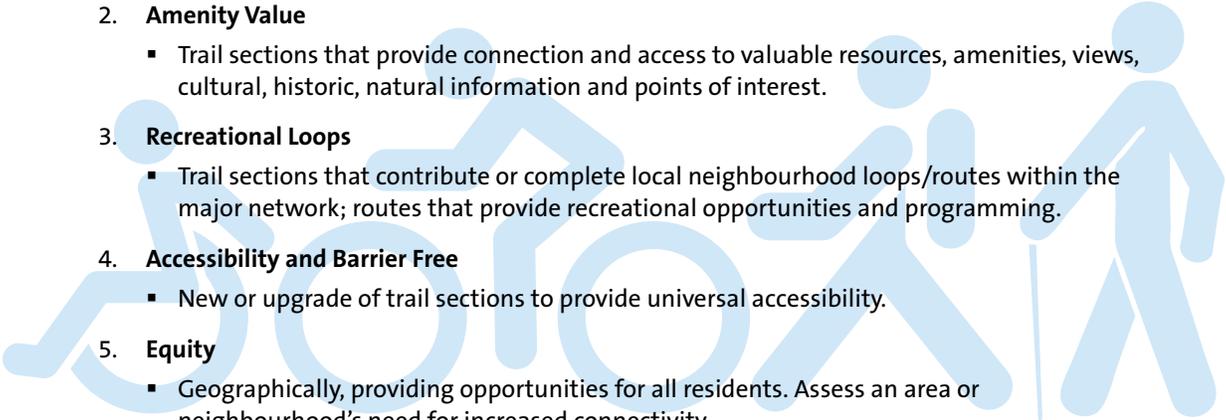
Priority Evaluation Criteria

The prioritization for implementation of new or upgrade of existing trail sections will be evaluated according to the following criteria:

1. Link Hierarchy/ Network Value

- Trail sections that provide critical linkages and completion of a larger trail system.
- Connects residential neighbourhoods with recreational amenities, access to transportation hubs and commercial nodes.



- 
2. **Amenity Value**
 - Trail sections that provide connection and access to valuable resources, amenities, views, cultural, historic, natural information and points of interest.
 3. **Recreational Loops**
 - Trail sections that contribute or complete local neighbourhood loops/routes within the major network; routes that provide recreational opportunities and programming.
 4. **Accessibility and Barrier Free**
 - New or upgrade of trail sections to provide universal accessibility.
 5. **Equity**
 - Geographically, providing opportunities for all residents. Assess an area or neighbourhood's need for increased connectivity.
 6. **Interpretation and Education**
 - Trail section with special interpretative or education interest.
 7. **Safety**
 - Provision of safety benefit and implications with trail development and improvements.
 - Major upgrade of existing trail section.
 8. **Demand**
 - Trail sections to fulfill current and potential movement patterns.
 9. **Implementation Readiness**
 - Reflects the feasibility and timing of work, e.g. dependent on development, property acquisition, funding, project complexity.
 - Ease and opportunity to partner or piggy-back on related projects.
 - Budget planning window.

Timing

The approved NTP program will be prioritized for implementation according to a set of criteria but the timing for the completion of certain portions of the network is not exact and will be dependent on emerging opportunities and partnerships with public and private groups. Local and neighbourhood trail sections will be completed through the development process and according to approved neighbourhood plans in the CWOCP. The Subdivision and Development Servicing Bylaw references implementation according to the standards and guidelines prescribed in the Master Trail Plan and Trail Development Guidelines and Standards document.

The estimated costs to implement (land purchase, construction costs or both) the program of proposed trail sections have been included in the City's financial planning and Development Cost Charge Bylaw. The funding bylaw will be updated and reviewed regularly as the trail implementation strategy is executed over time. The implementation strategy will also include looking for other regional, provincial or national grant, partnership and funding opportunities.

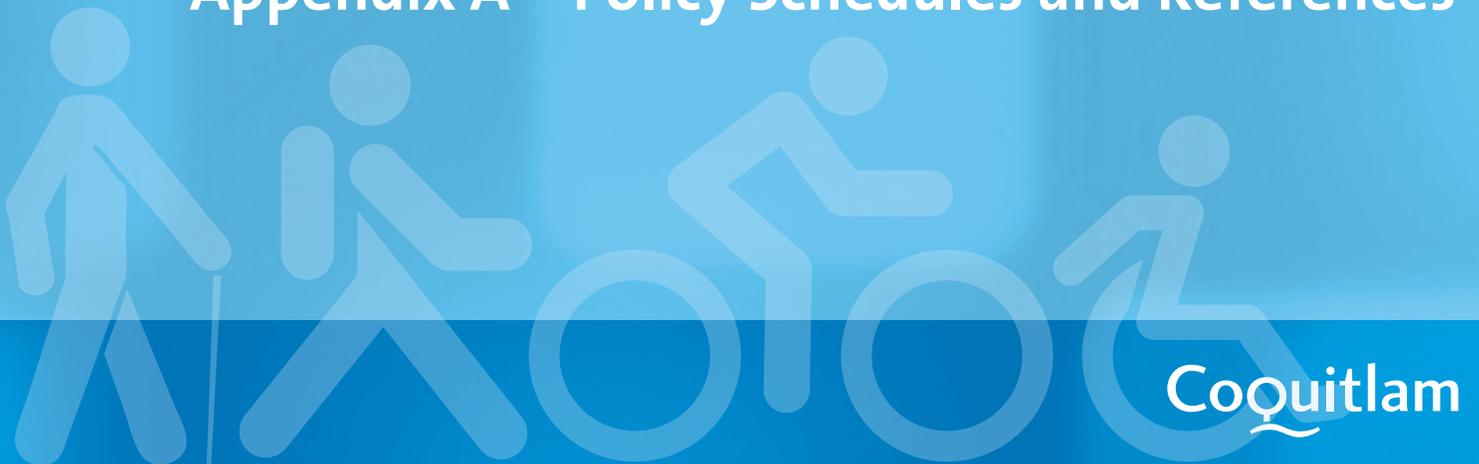


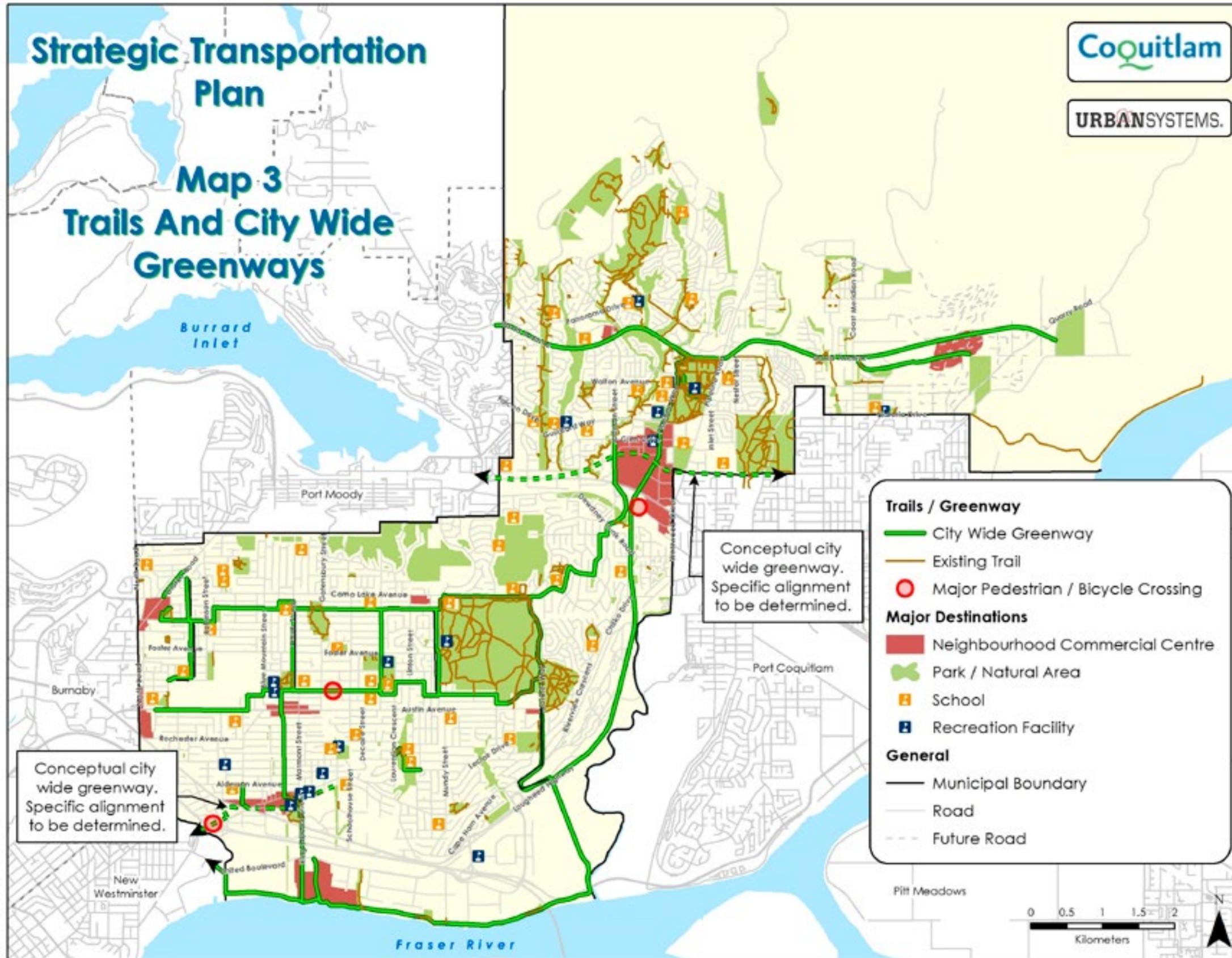
City of Coquitlam

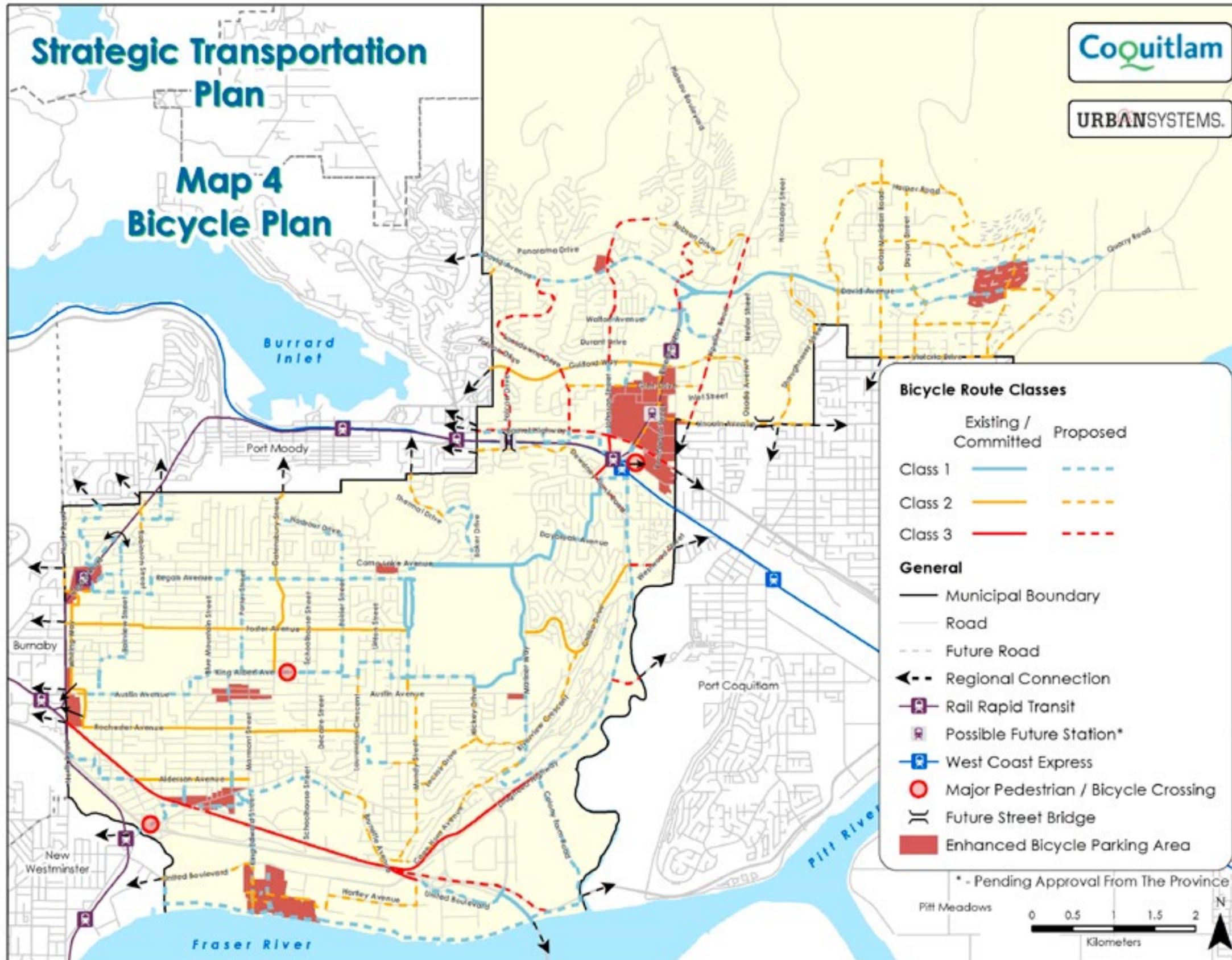
Master Trail Plan

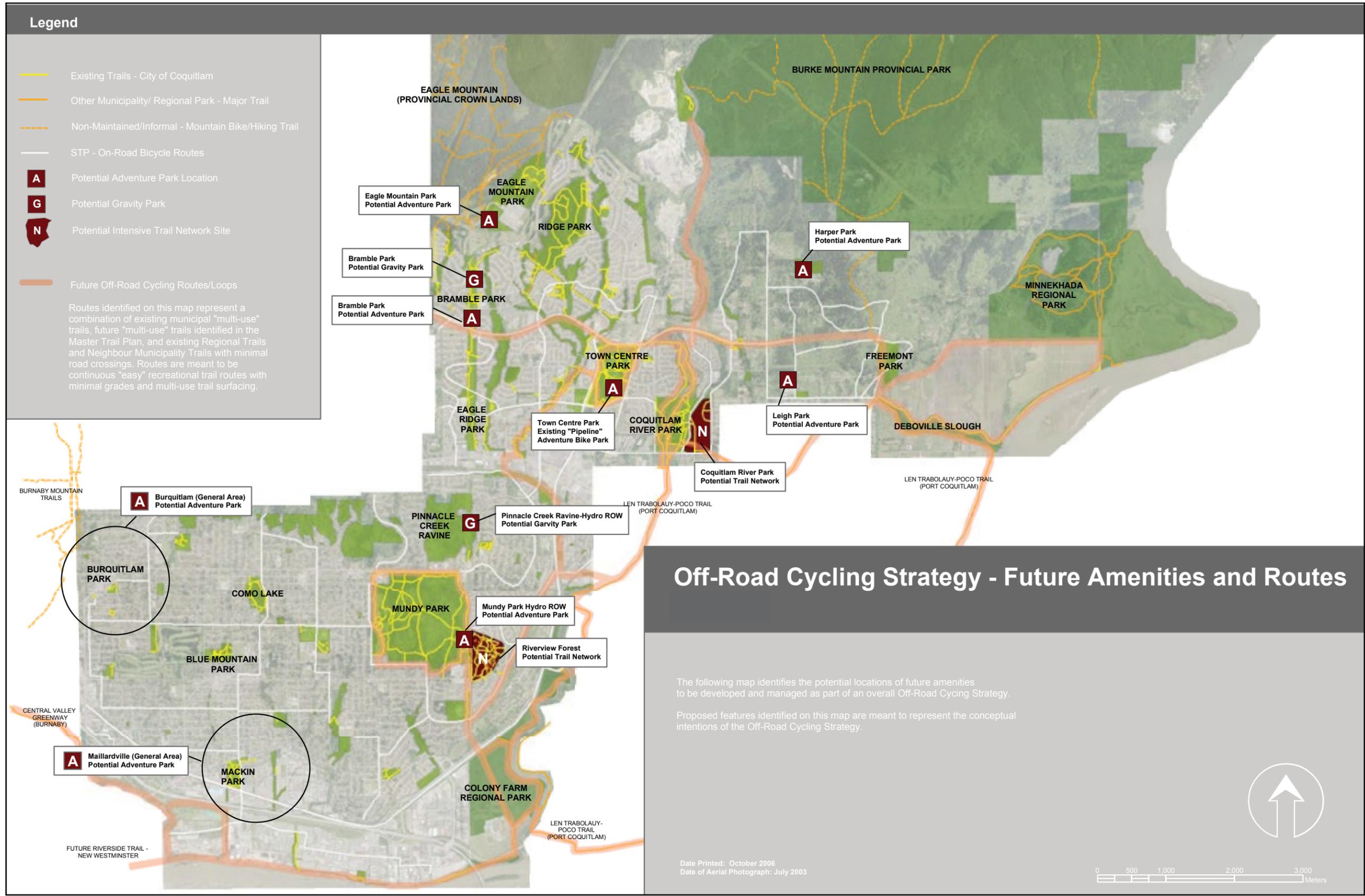
Updated: August 2013

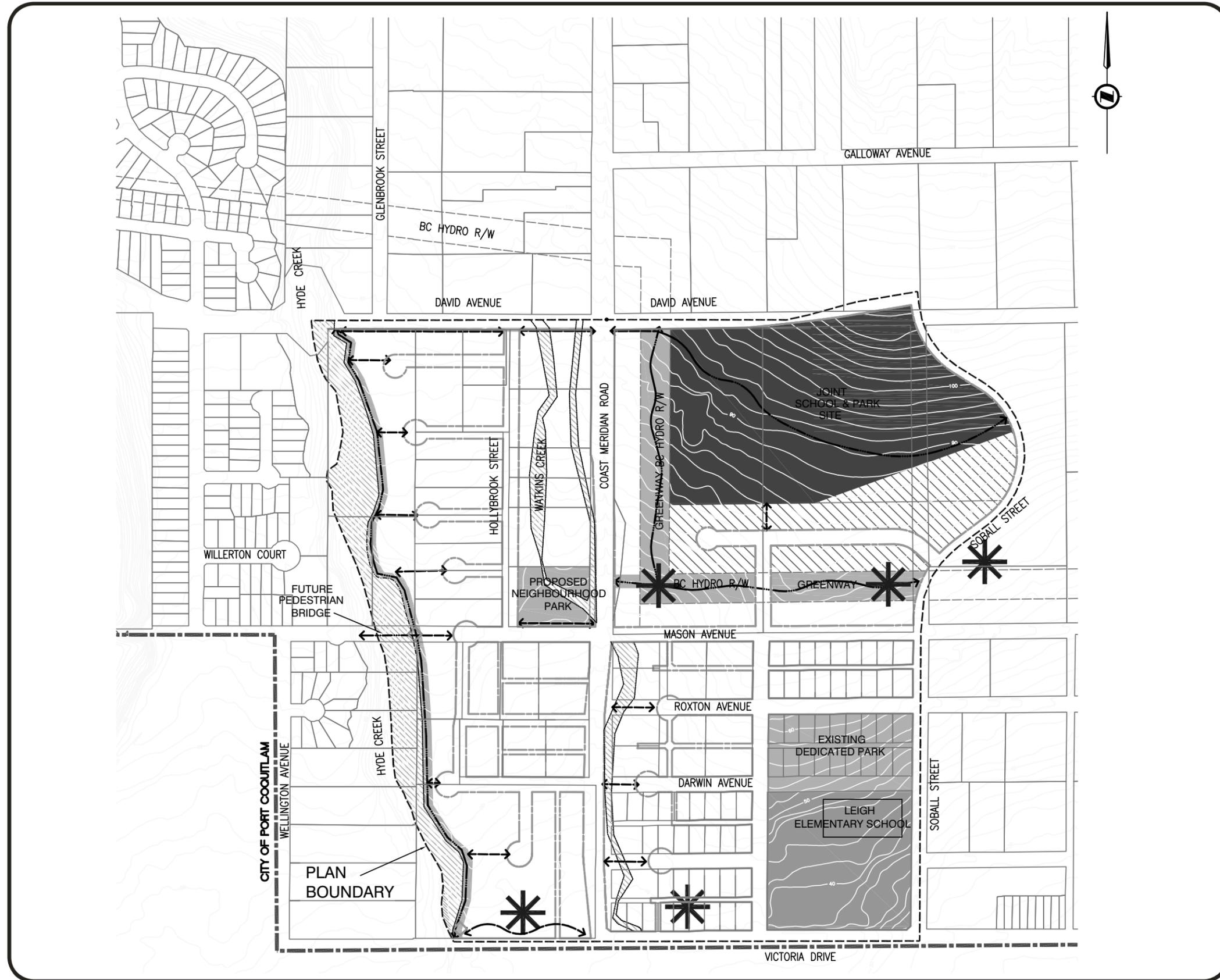
Appendix A – Policy Schedules and References











Coquitlam

PARKS AND OPEN SPACE CONCEPT PLAN

LEGEND:

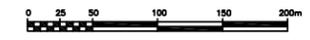
- SCHOOL
- JOINT SCHOOL & PARK
- POTENTIAL JOINT SCHOOL & PARK
- PARKS AND RECREATION
- ENVIRONMENTALLY SENSITIVE AREAS
- PROPOSED TRAILS
- PROPOSED PUBLIC PATHWAYS
- PROPOSED TRAILHEAD
- POTENTIAL WATER QUALITY OR DETENTION POND LOCATION

GENERAL PLAN ONLY

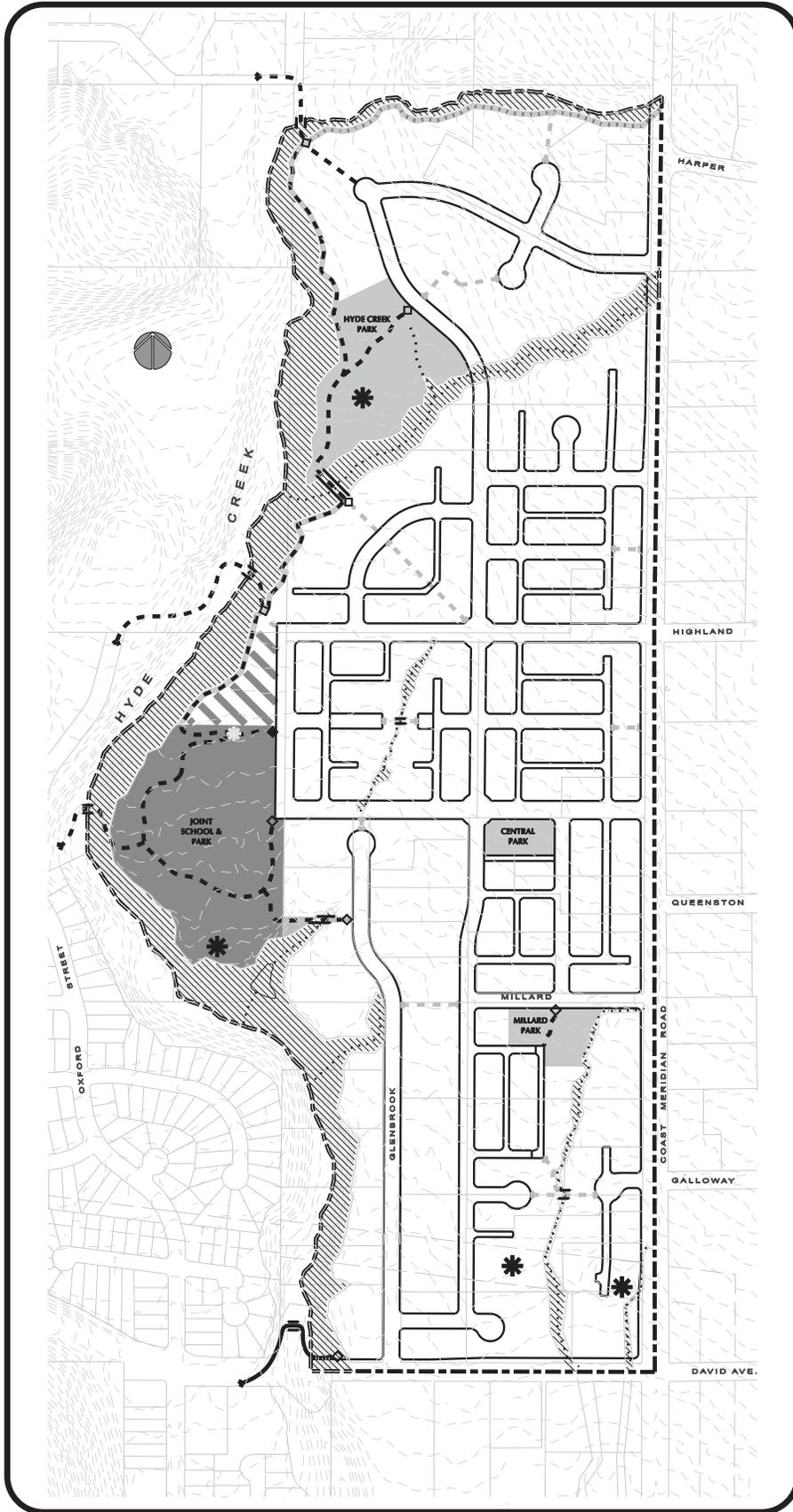
NOTE:
LOCAL ROADS AND LANES ARE ILLUSTRATIVE, AS FINAL SUBDIVISION LAYOUT IS SUBJECT TO REVIEW BY THE CITY'S APPROVING OFFICER.

SCHEDULE B

LOWER HYDE CREEK VILLAGE NEIGHBOURHOOD PLAN



Adopted Date: July 05, 2004
Amended Date:



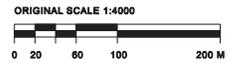
Coquitlam

PARK & OPEN SPACE CONCEPT PLAN

- Neighbourhood Plan Boundary
- Joint School & Park
- ▨ Potential Joint School & Park
- Neighbourhood Park
- ▨ Environmentally Sensitive Area
- Existing Trails
- - - Proposed Trails
- · · Potential Public Pathway
- · · Potential Heritage Trail Route
- ◆ Major Trailhead
- ◇ Minor Trailhead
- Creekside Interpretive Area
- * Potential Water Quality Pond Location
- == Pedestrian Bridge Crossing

GENERAL PLAN ONLY

* Local roads and lanes are illustrative, as final subdivision layout is subject to review by the City's Approving Officer.

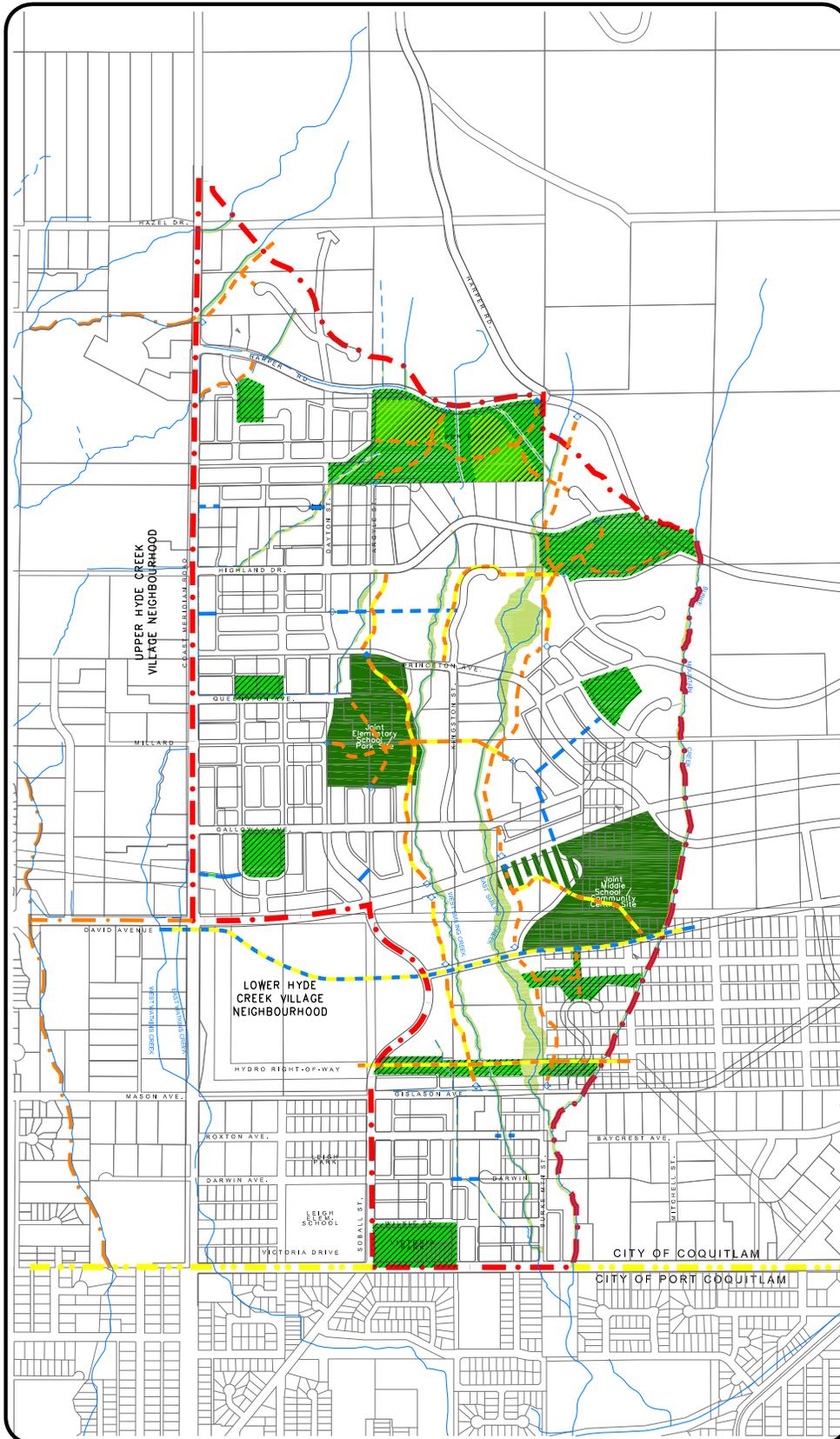


Schedule B

UPPER HYDE CREEK VILLAGE NEIGHBOURHOOD PLAN
COQUITLAM BC

Adoption Date: July 05, 2004
Amended:

Parks and Open Space Concept Plan – Smiling Creek Neighbourhood Plan



Coquitlam

Schedule B

PARKS AND OPEN SPACE CONCEPT PLAN

LEGEND

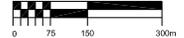
- - - Neighbourhood Plan Boundaries
- - - Upper and Lower Hyde Creek Village Neighbourhood Plan Boundaries
- - - Municipal Boundary
- Joint School / Park Site
- Neighbourhood Parks & Natural Open Space
- Environmentally Sensitive Areas
- Street Oriented Village Homes or Joint Middle School / Park Site
- Potential Memorial Park
- - - Urban Multi-use Trail 1087 m
- - - Urban Nature Trail 2926 m
- - - Nature Trail 3556 m
- - - Public Pathway 1283 m
- ◆ Proposed Major Trailhead
- ◇ Proposed Minor Trailhead
- - - Potential Watercourse Re-establishment

Information Notes:

- 1 Local roads, lanes and servicing are illustrative, as final subdivision layout is subject to review by the City's Approving Officer.
- 2 Riparian areas along watercourses shall be protected in accordance with standards which Council may approve by bylaw and through any necessary authorization by senior levels of government.

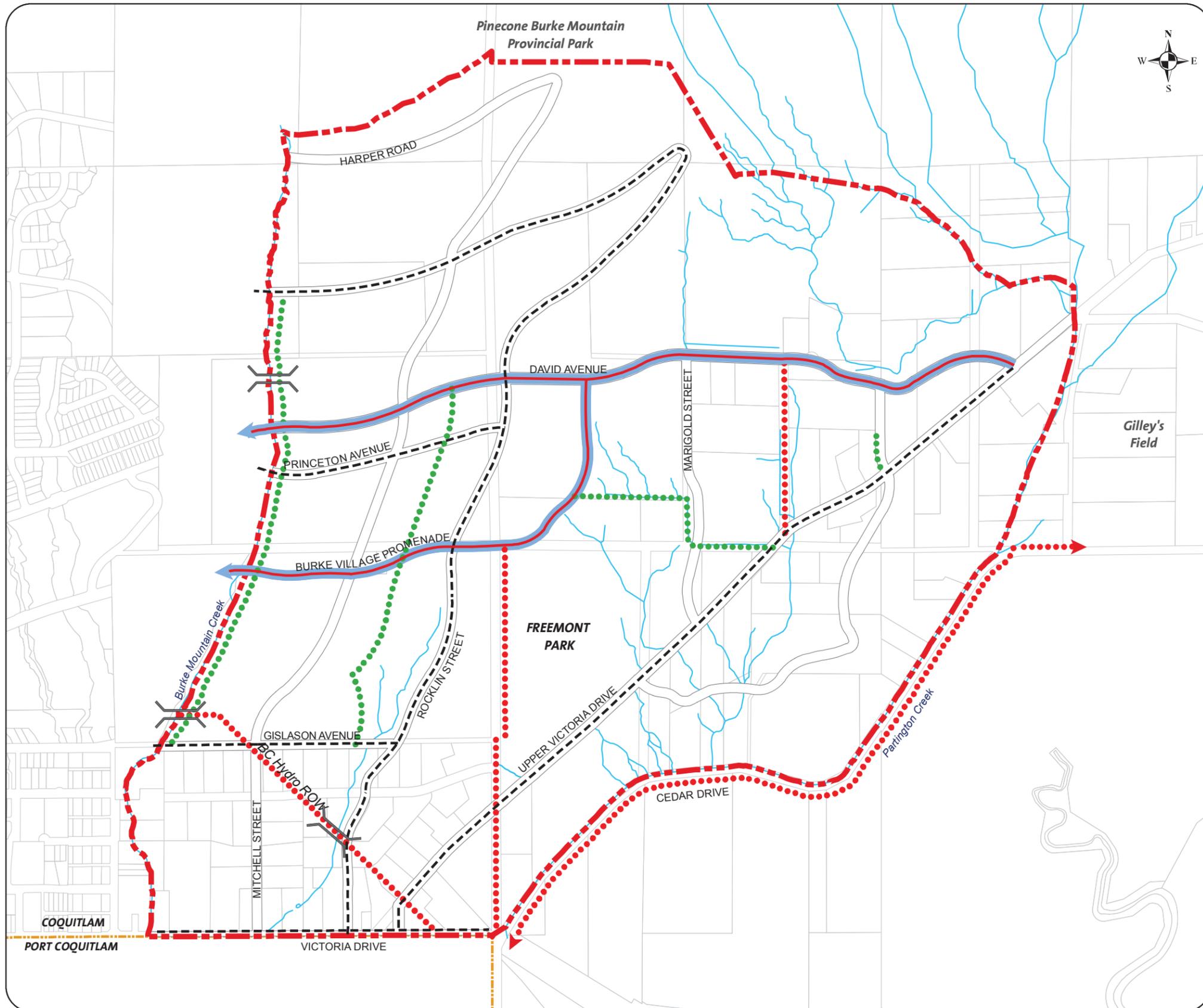


SCALE 1:12500



SMILING CREEK NEIGHBOURHOOD PLAN
COQUITLAM B C

Adoption Date: July 31, 2006
Amended:



SCHEDULE F GREENWAYS AND BICYCLE ROUTES

Greenways and Connections

-  Citywide Greenway
-  Recreational / Pedestrian Connections (Implemented/funded by the City)
-  Recreational / Pedestrian Connections (Implemented through Development)

Bicycle Routes

-  Class 1 Bicycle Route (See note #3)
-  Class 2 Bicycle Route (See note #3)
-  Streams
-  Municipal Boundary
-  Neighbourhood Plan Boundary
-  Arterial / Collector Streets
-  Elementary School (Potential)
-  Middle School (Potential)
-  Pedestrian / Bike Crossing

Information Notes:

1. Minor realignment of arterial and collector roads may occur.
2. Riparian areas along watercourses shall be protected in accordance with the standards which Council may approve by bylaw and through any necessary authorization by senior levels of government.
3. Information pertaining to Bicycle Routes as per the City's Strategic Transportation Plan

PARTINGTON CREEK NEIGHBOURHOOD PLAN



Adopted: July 08, 2013
Amended: N/A

Map Projection: UTM Nad1983
Prepared By: Planning & Development
Source: City of Coquitlam - OCP GIS layer





City of Coquitlam

Master Trail Plan

Updated: August 2013

Appendix B – Background



Coquitlam

Background

The Master Trail Plan was identified as a priority initiative in the 1998 Parks, Open Space and Leisure Facilities Master Plan. The vision of the Master Plan was to create a community:

- ❖ that believes in wellness, actively pursuing individual and community well-being
- ❖ that is a green “City in the Park”, committed to stewardship of the environment
- ❖ known for quality parks and recreation facilities
- ❖ that is proud of its pathway and trail system, providing access to parks and natural areas and linking to the regional network and wilderness to the north
- ❖ that is a model of local and regional cooperation and collaboration

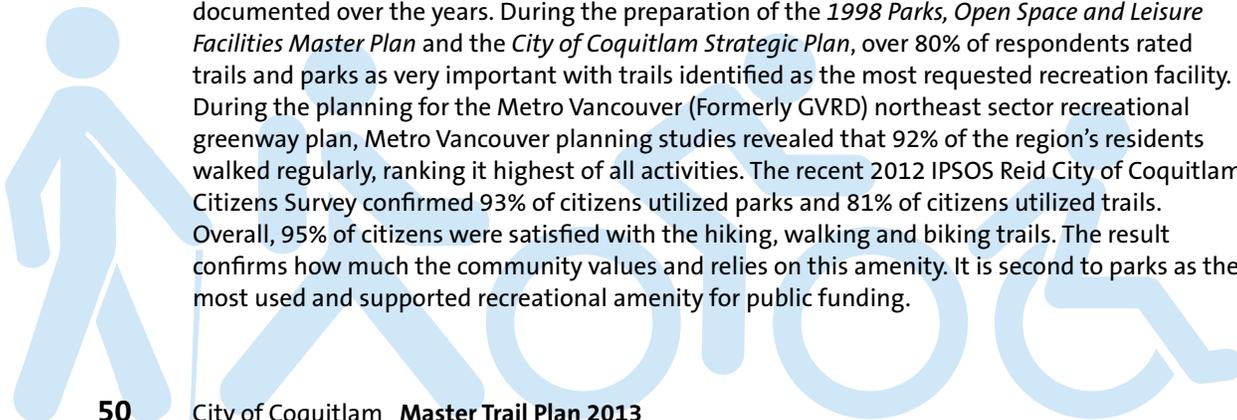
Development of a comprehensive city master trail plan is a key objective to realizing the vision.

Trails and greenways provide multiple benefits in addition to linking and beautifying parks, open spaces and other parts of the City. The demand for trails grows in tandem with population growth. The interest and demand for trails for recreation, circulation, transportation, regional and local linkage are well documented.

Emerging social, economic and environmental issues have generated much interest and effort in finding good sustainable responses to these issues. Active lifestyles, disease prevention, reduced supply of traditional energy, increased cost of travel and transportation, impacts to the environment and preservation of natural resources are all current issues which have reinforced a movement toward implementing more multi-use trails.

Many local recreational trail and cycling clubs, environmental authorities, various levels of governments, national, provincial, regional, and municipal authorities are involved in the planning, encouragement and implementation of integrated systems of local and regional trails for use in recreation, travel, tourism and education. Nationally, planning and implementation of the Trans Canada Trail system (18, 000 Km) continues with primary funding from the provincial and federal governments, but also with the support and help of local interest groups such as Trails BC, businesses, corporations, private citizens, regional/ municipal agencies and governments. At the provincial level, the Trails Strategy Plan for BC has been completed and the BC Climate Action Plan initiative outlines strategies which include the expansion and development of many more cycling routes. Regionally, the Experience the Fraser initiative strives to reconnect people with the river via hundreds of kilometers of trail connecting many points of interest, communities, parks, natural features, historic and cultural sites. Municipal initiatives focus on enhancing and improving citywide and local connectivity as well as ensuring linkages beyond to neighbouring municipalities and the region. Population growth in the city has been significant over the years and on pace with the rest of the Metro Vancouver region. Keeping up with demands associated with parks, recreation and open space during these times of growth is challenging. Trails contribute to citizen’s quality of life in a major way. Trails provide a multitude of social, economic and environmental benefits to residents thereby improving community sustainability.

Public support and use of trails are consistently strong. The popularity of trails is well documented over the years. During the preparation of the *1998 Parks, Open Space and Leisure Facilities Master Plan* and the *City of Coquitlam Strategic Plan*, over 80% of respondents rated trails and parks as very important with trails identified as the most requested recreation facility. During the planning for the Metro Vancouver (Formerly GVRD) northeast sector recreational greenway plan, Metro Vancouver planning studies revealed that 92% of the region’s residents walked regularly, ranking it highest of all activities. The recent 2012 IPSOS Reid City of Coquitlam Citizens Survey confirmed 93% of citizens utilized parks and 81% of citizens utilized trails. Overall, 95% of citizens were satisfied with the hiking, walking and biking trails. The result confirms how much the community values and relies on this amenity. It is second to parks as the most used and supported recreational amenity for public funding.



Walking, cycling, and jogging are among the most popular recreational activities. Walking routes are easily accessible to a wide range of people regardless of age, social and economic situation. With an aging population, many senior groups rely on trails for many walking and circuit related activities and events.

Many of these trips are on sidewalks because of proximity and convenience, but residents indicate they will use trails if provided and research supports this notion. Trails are universal in their appeal to users and are used by all age groups, cultures, incomes, and equally between male and female.

Essentially, the provision of trails and sidewalks results in the same behavioral patterns as providing new roads. "Build it and they will come." Evidence suggests that improved cycling and walking facilities mean greater participation. Research has shown that changing the physical environment is more effective at achieving behavioral change than policies that deal solely with behavior.

Lifestyle choices for a health-aware population lead people to look for easy and accessible recreational and physical activities. An integrated trail system helps to support an active lifestyle reversing the trend of inactivity and being sedentary. This can prevent obesity and chronic diseases such as heart disease, diabetes, osteoporosis, colon cancer and depression.

1 Use of a Community Trail Among New and Habitual Exercisers: A Preliminary Assessment, Center for Disease Control, October 2004.

2 Preventing Obesity and Chronic Diseases through Good Nutrition and Physical Activity, CDC Fact Sheet, 2003.

Benefits of Trails

The many benefits further support the development of recreational multi-use trails.

Personal Health and Well-being

- ❖ Trails encourage physical fitness and healthy lifestyles to counter many health issues.
- ❖ Trails create new outdoor recreation and alternative transportation opportunities
- ❖ Trails connect users with the natural environment and contribute to spiritual and mental well-being
- ❖ Trails (off-road) provide safer alternatives than roadways and reduced exposure to exhaust and noxious fumes
- ❖ Trails allow users to perceive, comprehend and appreciate the details of their environment and community
- ❖ Trails are easily accessed by all types of users, age groups, physical capabilities, and those of various cultural, social and economic situations

Community, Social, Cultural

- ❖ Trails connect various neighbourhoods and communities
- ❖ Trails provide social venues for interaction
- ❖ Trails protect and educate about culturally and historically valuable areas
- ❖ Trail projects help foster partnership and community involvement as well as interaction with local business and interest groups
- ❖ Trails provide natural learning grounds
- ❖ Trails improve community aesthetics with the associated landscape buffer areas.
- ❖ Trails encourage youth to be outdoors in healthier environments
- ❖ Trails increase quality of life for residents and social interaction in the community
- ❖ Trails provide an alternate, fast and safe means of travel and transportation in congested urban environments

Economic

- ❖ Trails are relatively inexpensive facilities to build and maintain especially when costs are calculated on a per user basis.
- ❖ Trails are a low cost amenity that can be used by all types of users, age groups, physical capabilities, and those of various social and economic situations.
- ❖ Trails are a good investment as municipal green infrastructure and public amenity.
- ❖ Trails stimulate tourism and recreation-related spending.
- ❖ Trails encourage local and regional interest and use; they increase recreational tourism as recreational destinations. For example, the annual Crunch Trail fitness and mountain biking events at Riverview Forest.
- ❖ Trails encourage healthy living which helps to reduce sick leave, absenteeism in the workplace, health insurance claims and the cost of medical care.
- ❖ Trails improve the image and attractiveness of the City as a business and resident location.
- ❖ Trails offer easy and low cost recreational opportunity improving property values, increasing tax revenue and marketability of homes; residences with nearby trails tend to sell faster and for higher prices.
- ❖ Trails integrated next to business are beneficial to business owners and provide staff a means for travel to/ from work.
- ❖ Trails complement on-street pedestrian and cycling connections providing alternate, low cost commuter and travel ways.

Environmental

- ❖ Trails provide an opportunity for increased awareness, understanding and appreciation of natural resources and the protection of those values.
- ❖ Trails improve air quality by providing an alternative to motorized transportation.
- ❖ Trails encourage enjoyment, discovery and knowledge of the natural environment.
- ❖ Trail corridors and greenways are opportunities to protect and conserve environmentally valuable areas for wildlife habitat/corridors as well as for public enjoyment and enlightenment.

Transportation

- ❖ Trails complement on-street pedestrian and cycling connections by providing alternate commuter and travel ways.
- ❖ Trails for cycling and walking are a means to travel that is environmentally friendly, cost-effective, efficient, safe, pleasurable and accessible.
- ❖ Trails provide greener choices for transportation contributing to overall community and regional sustainability.



Goal and Objectives of the Master Trail Plan

Goal

The goal is to provide a comprehensive yet flexible guide for the provision of a citywide, off-road network of trails connecting people, places, public amenities, other municipalities and regional trail systems. This system will improve connectivity, provide more recreational opportunities to encourage active communities, linkages to local points of interest, amenities, facilities, transportation, neighbouring municipalities, regional systems and amenities.

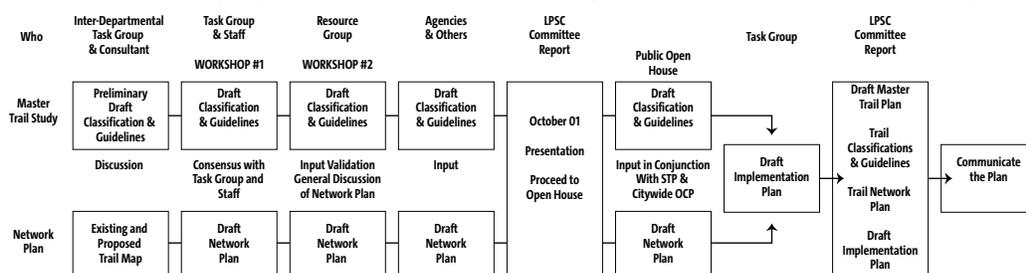
The MTP is not intended to serve as a detailed construction document. The proposed trail routes are conceptual. Detailed routing and construction will be determined at a more detailed design stage in the Neighborhood Plan and development review process.

Objectives

1. Develop a plan that includes and/or is consistent with the goals, objectives and strategies of the City-Wide Official Community Plan (CWOCP), Parks, Recreation and Culture Master Plan, Strategic Transportation Plan (STP), GVRD (Currently Metro Vancouver) Northeast Sector Recreational Greenway Plan (NGP), Riparian Area Protection Regulations (RAR), Neighbourhood Plans, Subdivision and Development Servicing Bylaw (SDSB), the Development Cost Charges (DCC) Bylaw, five year capital budget plan and various other city plans, planning guidelines and policy documents;
2. Develop Trail Classifications and Design Guidelines to ensure continuity and consistent standards for major trail components;
3. Develop and update the Trail Network Plan that conceptually outlines the proposed trail development program, to be consistent with current neighbourhood plans, the five year capital budget plan and the project funding source from the Development Cost Charges(DCC) program;
4. Identify the mechanisms to achieve the network program;
5. Integrate the off-road trail network with the system of on-road routes and greenways identified in the City's Strategic Transportation Plan;
6. Develop an implementation strategy that is practical;
7. Engage and inform the public about future trail initiatives;
8. Develop trail design and construction standards to optimize public safety and reduce human/wildlife conflict i.e. incorporate CPTED and best management principles for wildlife encounters
9. Integrate recommendations from the 2007 Off-Road Cycling Strategy report.

The Process

The 2003 MTP planning process involved an Inter-departmental working group, the Leisure, Parks & Cultural Services Committee, a community focus group, general public and the Federal and Provincial fishery agencies. The initial MTP planning process is summarized in this diagram.



The Master Trail Plan was endorsed by Council in March, 2003 as a guide to achieving the future trail system network, and capital budget requirements over the next 20 years.

Improving the Document

Since its endorsement, the following topics have been identified for further development and refinement:

Planning and Design

- ❖ Environmental considerations
- ❖ Accessibility
- ❖ Safety and security of trail users and adjacent residents
- ❖ Inconsistent and inadequate trail standards, signage and amenities
- ❖ Need for major crossings of railway, highways and a number of pedestrian creek crossings
- ❖ Major trails through private property and timing for acquiring public access

Trail Management

- ❖ Need to address potential conflicts between different types of trail users
 - Wildlife, Dogs off-leash
 - Off-road cyclists, hikers,
 - Non-motorized wheeled users and pedestrians
- ❖ Construction of unsanctioned trails, particularly mountain bike trails. There are environmental and safety issues associated with these trails.
- ❖ Liability concerns related to trails, especially unsanctioned mountain bike trails and skills areas.
- ❖ Risk management
- ❖ Memorandums of agreement for co-management with community groups
- ❖ Safety

Operations and Maintenance

- ❖ Operational requirements to maintain the system cost effectively
- ❖ On-going maintenance standards and criteria
- ❖ Vandalism and graffiti

Updates

The 2013 updates to the MTP document have responded to Council feedback and integrated updated information from the following documents:

- ❖ Partington Creek Neighbourhood Plan, 2013
- ❖ Strategic Transportation Plan, 2012
- ❖ Master Trail Plan CPTED Review, 2009
- ❖ Off-Road Cycling Strategy, 2007
- ❖ Bear Hazard Assessment Report, 2007







City of Coquitlam

Master Trail Plan

Updated: August 2013

Appendix C – Policy Context



Coquitlam

Policy Context

Many of the policies guiding the planning of the trail network is referenced from the following sources:

Northeast Sector Recreational Greenway Plan:

The Northeast Sector Recreational Greenway Plan (NGP) was prepared in partnership with the Greater Vancouver Regional District (Currently the Metro Vancouver Regional District) in 2001, and identified major recreational trail greenways at the regional scale. The NGP identified key natural features, existing and potential staging areas, actions required to implement the Plan and the respective roles played by the GVRD and the City. It did not look at local trail connections within the city nor did it address trail classifications or standards. The conceptual trail routes, staging areas and actions in the NGP have been incorporated into the MTP. See Appendix A (Regional Greenways Map) for more detailed information.

The Departmental Master Plan:

Much of the high and medium priority policies related to trails from the 1998 Parks, Facilities and Open Space Master Plan remain as long term goals and objectives for completion:

- ❖ High priority
 - Develop a coordinated trail system
 - Develop a Fraser River Trail
 - Develop a trail along the Coquitlam River
 - Ensure the protection of all sensitive lands, especially watercourses
- ❖ Medium priority
 - Develop additional active parkland in the Ranch Park/River Heights area, integrated with trails and a pathway network
 - Complete and extend the neighborhood park/trail plan for the Maillardville area

Strategic Transportation Plan:

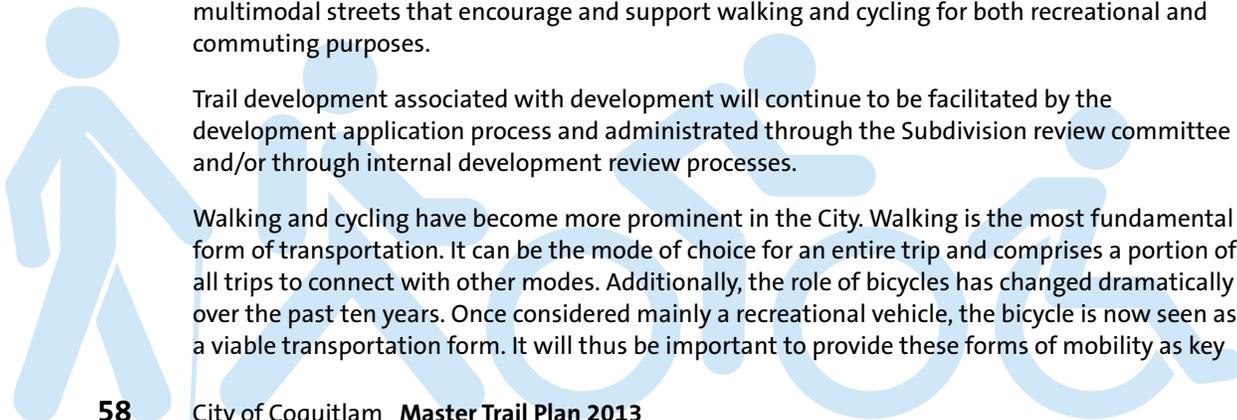
Trails are in high demand and a well used public amenity and mode of transportation. They are an integral part of the City's green infrastructure providing off-road linkages to parks, open space, facilities and other public amenities. The city recreational trail system functions as an alternate travel way for pedestrians and bike routes to safely commute to their destinations.

The MTP and STP together provide a comprehensive seamless pedestrian and bicycle movement system. The STP routes are shown on the Trail Network Plan (TNP) as a separate color and graphically illustrates this integration and interdependence of both systems.

The recommended Pedestrian and Bicycle Plans in the STP Update include a comprehensive greenway network, which is made up of both citywide Greenways and Neighbourhood Greenways. The Citywide and Neighbourhood Greenway network redefines the role that City streets and boulevards can play in a sustainable community as these are intended to be multimodal streets that encourage and support walking and cycling for both recreational and commuting purposes.

Trail development associated with development will continue to be facilitated by the development application process and administrated through the Subdivision review committee and/or through internal development review processes.

Walking and cycling have become more prominent in the City. Walking is the most fundamental form of transportation. It can be the mode of choice for an entire trip and comprises a portion of all trips to connect with other modes. Additionally, the role of bicycles has changed dramatically over the past ten years. Once considered mainly a recreational vehicle, the bicycle is now seen as a viable transportation form. It will thus be important to provide these forms of mobility as key



components in Coquitlam's integrated transportation system. Connectivity is most critical for movement of people on foot and bike, whether as a mode of travel or to enhance recreational experience. The integration and connections of both on-road (multi-use, neighbourhood greenways) and off-road recreational facilities (park and open space trail systems) and wayfinding will help greatly to achieve this objective for both pedestrians and bikes.

The City's Strategic Transportation Plan (STP) was updated in 2012. It defines goals and targets to support walking, cycling and other sustainable transportation.

Goals:

- ❖ Build high quality multi-modal facilities.
- ❖ Develop transportation.
- ❖ Maintain and improve the quality of streets as a place for people.
- ❖ Move goods and people efficiently.
- ❖ Prioritize walking, cycling, transit and other sustainable modes.
- ❖ Manage the transportation efficiently.

Target:

The STP target is to have approximately 30% of all trips made by Coquitlam residents to be by walking, cycling or transit by 2031 - Up from 18% in 2008. The STP recommends a number of facility improvements and policies to achieve this target. This includes:

Greenways:

A network of on and off street trails and greenway facilities is recommended throughout the community to support walking, cycling and other non-motorized modes of transportation for recreational and commuting purposes. The STP defines two types of greenways which also coincide with the cycling network.

Citywide Greenways are intended to be continuous routes that provide strategic links to major destinations throughout the city, including major commercial centres, schools, parks, rapid transit stations and other community facilities. Citywide greenways are integrated in the Trail Network Plan Figure 1.

Neighbourhood Greenways will generally be shorter and provide connections within the City Centre and Neighbourhood Commercial Centres as well as link to the Citywide Greenway Network. Neighbourhood Greenways are defined through the neighbourhood planning process.

Cycling Routes:

The STP recommends a network of primarily on-street bicycle routes. The plan proposes approximately 110km of new routes in addition to the approximately 40km that exist today. The route spacing ensures that most residents will be within 500m of a cycling facility. In addition, the STP recognizes that cyclists have a range of abilities and that most cyclists prefer routes separated from motorized traffic or running along low volume streets. The plan classifies routes based on their appeal to the cyclists of various abilities. The STP bicycle plan is shown in the Trail Network Plan Figure 1.

Citywide Official Community Plan:

The Citywide Official Community Plan (CWOCP) provides broad support and direction for trail planning and development in a number of areas.

Trails and greenways provide recreational benefits while also helping to link and beautify parks, open spaces and other parts of the City. Plazas can also play a strategic role in enhancing the overall parks and open space network. The City could benefit from a strategic approach to enhancing these connective amenities.

At a broad level, Section 3.3.2, Parks Trails and Other Open Spaces, includes the following provisions, relative to the overall Park Development Framework:

Objective:

To develop a responsive, appropriately balanced system of parks, open spaces, pathways and waterway corridors throughout the City that addresses community needs at all levels of the park hierarchy, and ensures passive and active open space opportunities for all.

Policies:

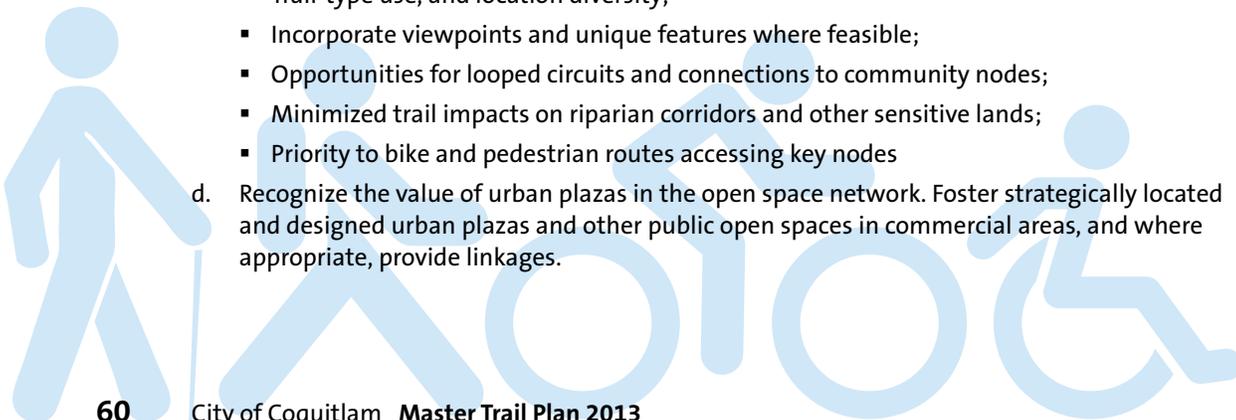
- a. Create an array of experiences and opportunities within the parks system for users' enjoyment and health. Program for a diverse population, focusing on active living and cultural relevance. Promote flexibility and innovation in planning, and developing new open space.
- b. Plan for new open space acquisitions in ways that respond to changing population distribution patterns. Pursue acquisitions in tandem with area plan reviews and neighborhood planning. Measure the effectiveness of these efforts by supplementing the current standards, relating acreage requirements to population base, with other criteria that reflect community needs and location-specific circumstances.
- c. Ensure the park planning process continues to meet changing needs over time.
- d. Enhance the compatibility of open space facilities with existing residential areas nearby and consider safety as a key aspect in park design.

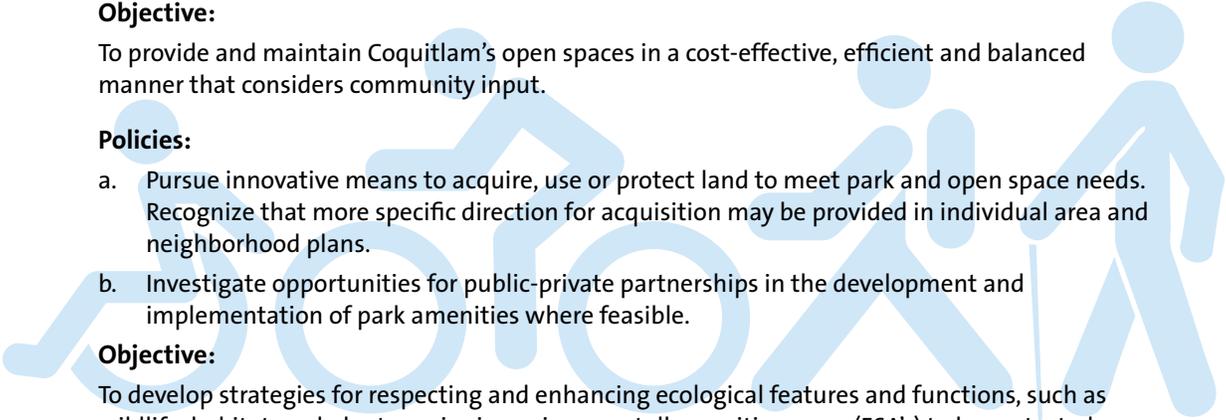
Objective:

To enhance the unique benefits provided by trails, greenways, blueways and plazas through a strategic approach to their provision.

Policies:

- a. Develop an inter-connected comprehensive off-road trail system that include links to regional amenities and networks, and through partnerships with agencies such as Metro Vancouver and neighboring municipalities.
- b. Explore opportunities for a Regional Blueways policy, consistent with the goals and policies outlined in the Northeast Sector Recreational Greenway Plan, including proposals for water crossing links on waterways.
- c. Consider the following criteria in the design and specific location of the off-road trail system:
 - Potential for adapting existing linear corridors for trail use;
 - Trail-type use, and location diversity;
 - Incorporate viewpoints and unique features where feasible;
 - Opportunities for looped circuits and connections to community nodes;
 - Minimized trail impacts on riparian corridors and other sensitive lands;
 - Priority to bike and pedestrian routes accessing key nodes
- d. Recognize the value of urban plazas in the open space network. Foster strategically located and designed urban plazas and other public open spaces in commercial areas, and where appropriate, provide linkages.



**Objective:**

To provide and maintain Coquitlam's open spaces in a cost-effective, efficient and balanced manner that considers community input.

Policies:

- a. Pursue innovative means to acquire, use or protect land to meet park and open space needs. Recognize that more specific direction for acquisition may be provided in individual area and neighborhood plans.
- b. Investigate opportunities for public-private partnerships in the development and implementation of park amenities where feasible.

Objective:

To develop strategies for respecting and enhancing ecological features and functions, such as wildlife, habitat, and plant species in environmentally sensitive areas (ESA's) to be protected.

Policies:

- a. Consider the protection of wildlife corridors, where feasible and desirable. This may be achieved by seeking to maintain large natural areas, or at least a contiguous series of sites, rather than small isolated areas.
- b. Develop other strategies for enhancing linking key features on selected lands, including City parks as appropriate.
- c. Foster greater public appreciation for all ESA's by providing appropriate exposure and access to ESA's. Determine which areas are suitable to access, and develop criteria for appropriate public access treatment, and signage, based on City policies.

Northeast Coquitlam Area Plan:

The Northeast Coquitlam Area Plan includes several policy statements related to trail planning and construction.

Policy : Linear Open Space and Park

Areas which are designated for linear park and open space uses are envisioned as continuous areas of green which provide a degree of off-street connection to key facilities in the village core and to proposed open space and park areas along the Coquitlam River, Pitt River and DeBoville Slough.

Policy: Partnerships

The City will continue to work with Metro Vancouver, senior governments, the City of Port Coquitlam and other partners in the planning and development of a comprehensive linear park/greenway system for Northeast Coquitlam.

Policy: Linkages with future Provincial, Regional and Municipal Trails

The City will work with private property owners and utility companies in the planning and development of public access and trails along the Coquitlam River, Pitt River and utility corridors.

Northeast Coquitlam Neighbourhood Plans

The planning of potential recreational trail system in local neighborhoods is primarily considered through the neighbourhood planning process. This process helps to provide these communities with these public amenities for recreation and off-road alternatives for travel.

See Appendix A for detail information related to future Park and Open Space in the Northeast

Coquitlam Neighbourhoods:

Parks and Open Space Concept Plan - Schedule 'B' to Upper Hyde Creek Village Neighbourhood Plan

Parks and Open Space Concept Plan - Schedule 'B' to Lower Hyde Creek Village Neighbourhood Plan

Parks and Open Space Concept Plan - Schedule 'B' to Smiling Creek Neighbourhood Plan

DRAFT Greenways and Bicycle Routes – Schedule F to Partington Creek Neighbourhood Plan



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Appendix D – Design Guidelines



Coquitlam

Design Guidelines

To achieve the desired qualities and standards of a successful trail system, it shall consider:

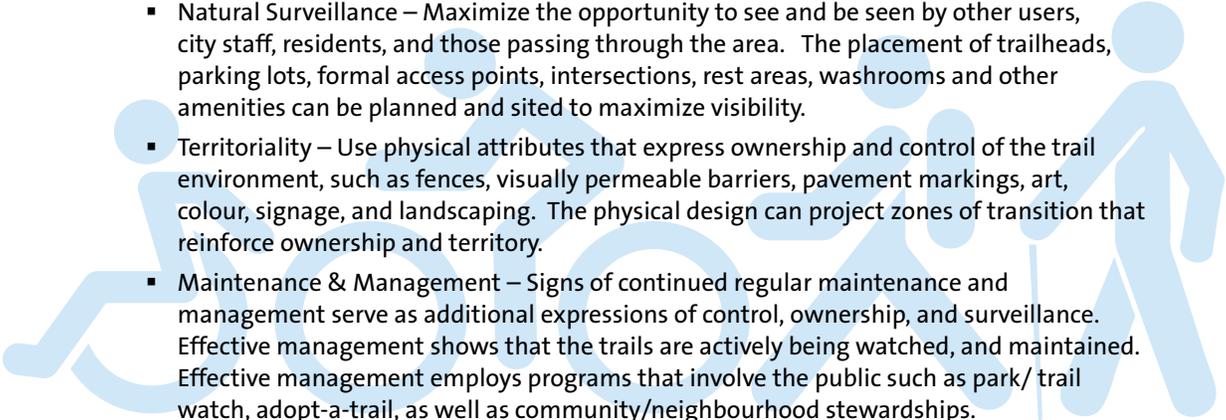
- ❖ A clear hierarchy of trails to reflect different types of users, site conditions, capacity and desired experience. This helps to reduce user conflict and establishes user expectations.
- ❖ Closed loop segments.
- ❖ Clear, concise and appropriate signage strategically placed to provide orientation, regulation, trail information, user conduct, permitted uses, statistics, signage to reinforce messages, regulations, caution, and rules/etiquette.
- ❖ Trail information: maps, topography, trail conditions, difficulty/rating, distance, grade change, slope.
- ❖ Landmarks and visual cues for wayfinding.
- ❖ Interpretation and education opportunities to highlight local points of interest, artifacts for interpretation/education.
- ❖ Support facilities at key locations i.e. washrooms, parking, site furnishings, water.
- ❖ Easy access for regular trail maintenance and emergency services.
- ❖ Connectivity and is destination-oriented: create better connections to neighbouring municipalities, neighbourhoods, schools, business, commercial, recreational facilities and public transportation nodes.
- ❖ Opportunities for programming e.g. trail races and community events.
- ❖ A variety of sensory experiences.
- ❖ A variety of trail experiences to appeal to a variety of trail users, abilities and interests.
- ❖ Good visibility and surveillance where possible.
- ❖ Accessibility and barrier – free movement providing opportunities for different levels of permitted uses and physical abilities and challenges where possible.
- ❖ Convenience where network density responds to population density e.g. greater in residential areas.
- ❖ Expansion opportunities with trail planning as part of the land use planning process.
- ❖ Safety and security through the application of CPTED principles.
- ❖ Effective communication and be well-signed: it benefits from being a part of a comprehensive citywide signage plan.
- ❖ A trail management plan to ensure the facility is well managed and maintained.
- ❖ An implementation strategy to include cost sharing, partnerships and development opportunities.
- ❖ Community involvement in the implementation and/or maintenance to help foster ownership.
- ❖ Community awareness through promotional programs and educational programs.
- ❖ Maintaining social, economical and environmental benefits to keep it sustained.

CPTED (Crime Prevention Through Environmental Design) Principles

Effective planning and design of the built environment helps to create a safer and more comfortable community when opportunities and fear of nuisance behavior and crime are reduced. Trail designs shall incorporate the CPTED principles of Natural Access Control, Natural Surveillance, Territoriality, Maintenance & Management.

- Natural Access Control – The physical guidance of the people as they come and go from a trail or trail amenity. Visual and physical signals that cue the user to “walk here” and “not walk there”. Ingress and egress at trailheads can be controlled by such means as low fencing, landscaping, flower beds, and signage.



- 
- Natural Surveillance – Maximize the opportunity to see and be seen by other users, city staff, residents, and those passing through the area. The placement of trailheads, parking lots, formal access points, intersections, rest areas, washrooms and other amenities can be planned and sited to maximize visibility.
 - Territoriality – Use physical attributes that express ownership and control of the trail environment, such as fences, visually permeable barriers, pavement markings, art, colour, signage, and landscaping. The physical design can project zones of transition that reinforce ownership and territory.
 - Maintenance & Management – Signs of continued regular maintenance and management serve as additional expressions of control, ownership, and surveillance. Effective management shows that the trails are actively being watched, and maintained. Effective management employs programs that involve the public such as park/ trail watch, adopt-a-trail, as well as community/neighbourhood stewardships.

Each situation shall be individually assessed for how best to incorporate CPTED principles as conditions vary from site to site.

Design Review

Proposed plans for new trail connections shall be reviewed by CPTED trained and certified City staff. The review may involve:

- ❖ Site audit (Day & Night)
- ❖ Concept & Design Team Meetings
- ❖ Conceptual Plan Review
- ❖ Community Interviews and/or Meetings
- ❖ Design Meetings with City Staff
- ❖ Preliminary CPTED Review Report
- ❖ Final Version Plan Review & CPTED Report

Sightlines

Generally, 10m (35ft) is the required distance for a person to safely recognize others to be friend or stranger. Locations where a trail changes direction or intersects with another trail or road will require clear sightlines zones for the safe use and comfort of pedestrians and wheeled users. Review of design plans shall try to ensure that proper sightlines are provided in these critical locations.

A 5-10m residential buffer is recommended between residential property and public trail corridors where possible. How specifically CPTED principles are incorporated is directly related to site and project specific situations.

Trail Entry

Trailheads and entry points are designed with a consistent treatment. Trail entries should be well defined and pedestrian friendly with a direct connection to the public sidewalk or to the curb with consistent trail signage and information to ensure people know they are walking into a sanctioned public trail.

Signage is located at the trailhead or any other formal pedestrian access point into the trail that visually identifies the type of experience the user can expect. A more natural trail has different safety considerations than an open urban trail. At the start users can make informed decisions whether to proceed.

Public Involvement

As new trails are proposed and planned, community groups, business groups, surrounding neighbourhoods shall be involved early in the planning/design process when possible, as their input and support are crucial to the success of the trail. Trails designed with community input will not experience the same level of nuisance behaviour and crime.

Capture partnership opportunities with community, neighbourhood and interest groups. Coordinated efforts in the implementation of trails help foster public interest, pride and ownership encouraging ongoing surveillance and care.

Wildlife Encounters

With urban development so close to wildlife habitat, there is an increased potential for encounters with wildlife. To help reduce these potential encounters some reasonable measures shall be taken.

Design Review

Design plans of new public trails and facilities shall be reviewed for potential impacts on wildlife (including bears, coyotes) habitat by trained staff such as the Urban Wildlife Coordinator. Development and trail planning will refer to existing wildlife inventory and analysis work when available and/or undertake this background work.

Development and trail planning shall reference available bear habitat and travel corridors where possible to avoid planning proposed trail sections in highly sensitive bear/wildlife habitat areas.

Plan new housing developments so that green spaces and trail corridors are not adjacent to wildlife habitats and corridors, while allowing for wildlife travel corridors around the community.

Trails designed and implemented for public use near active wildlife habitat and travel corridors, shall include wildlife and bear-safe requirements and standards e.g. bear-proof garbage receptacles, appropriate landscape treatment, trail surfacing (eg. aggregate to help emphasize approaching footsteps), visibility and signage.

Proposed recreational and off-road cycling trails will be designed, implemented and maintained to provide visibility of oncoming wildlife to help ensure public enjoyment and safety of the trails.

Off-road cycling trails shall be sited and managed to minimize risk of encounters and collision with bears and other wildlife, particularly where high-speed downhill courses are proposed.

Bear/Wildlife Wise Landscape

Proposed landscape treatment along trails, parks and public amenities areas near highly sensitive bear-active areas shall consider plant material with maximum mature height of 60 cm height and form that will allow clear sightlines and opportunities for surveillance. The plant species shall also be non-invasive and non-bear attracting and does not provide a food source. Existing landscaped areas within 1–2m from the edge of trails shall be maintained or transition planted to provide the required sightlines for easier surveillance.

A citywide initiative may look at evaluating existing landscape treatment to install new or transition to trees and shrubs that will not attract bears, especially near residents, parks, trail corridors, facilities and public amenities in areas of high bear activity.

Refer to City of Coquitlam Trail Development Guidelines and Standards document for more information on plants and recommended wild-life appropriate landscaping.



Signage and Public Education/Notification

Temporary bear warning signs are to be posted at other public amenities and play areas in parks and trails on a seasonal schedule when bear activity is high and when sightings have been documented.

Formalize current practices, procedures and communications to address planned and emergency closure of trails and other facilities, including coordination with the local conservation officer, Urban Wildlife Coordinator, the RCMP and staff when a hazardous situation is reported and identified.

Public education and other bear-related initiatives to be in place to promote the appropriate use of waste receptacles along trails and park, and to discourage their use by residents for household garbage disposal.

Trail signage shall include city contact information for the public to report and/or seek information.

Animal Protection Bylaw

Permanent regulatory signage to inform pedestrians with dogs to maintain control of their dogs in a likely bear habitat area, shall be installed. The signage shall include language from the Animal Protection Bylaw #2851 that addresses the control of dogs in public areas. These permanent regulatory signs shall provide city contact information for the public to report and/or receive information.

Solid Waste Management

An updated Parks and Community Facilities bylaw to address handling of on-site refuse within parks, trails and community areas is in place (as is the Solid Waste Management bylaw to address residential handling of household waste). Bear-Proof garbage receptacles located at trailheads and sections in greenbelts near fish-bearing streams are emptied frequently to minimize odors that may attract bears and wildlife. Receptacles are emptied as necessary, most importantly during peak bear movement and activity periods as well in warm weather when odours can easily attract bears and other wildlife.

Accessibility

Accessibility is an important consideration in the design and maintenance of all trail types. Most importantly with those that accommodate a high volume and variety of users including Urban Multi-use, Park Pathways as well as Urban Nature Trail and Trail Connector trail types. Universal accessibility standards may not be achieved where trails occur on steep and varying terrain, (particularly Nature Trails) without incurring high cost and causing severe environmental impacts. Trail design guidelines shall be consistent with best management practices, achieve barrier-free access and meet accessibility standards where possible with new trail development or renovation.

Refer to the Trail Development Guidelines and Standards document for more information.



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Appendix E – Trail Classifications



Coquitlam

Trail Classifications

Five recreational and corresponding off-road cycling mountain biking trail classifications have been defined. Each classification outlines development standards appropriate for the type of trail, its users, intended use and intensity of use. They will help to:

- ❖ Ensure continuity and consistent quality of trail development
- ❖ Encourage appropriate types of usage on designated trail types
- ❖ Encourage participation from various users
- ❖ Reduce user conflict and increase safety
- ❖ Define maintenance standards

The following objectives were considered in the development of the trail classification and design guidelines:

Objectives:

1. To categorize a variety of trail types according to type of usage, user group and design standards;
2. To provide trail types that are appropriate for different types of locations and uses, e.g. terrain, land cover, land use and recreational activity;
3. To provide universal accessibility on trails where possible;
4. To site and design trails to minimize potential negative effects on environmental resources, including significant trees;
5. To ensure trails are designed to optimize safety, security and sustainability by incorporating outlined CPTED (Crime Prevention Through Environmental Design) design principles;
6. To provide clearly defined trail entry points with a consistent design treatment for all trailheads and trail entry points;
7. To ensure screening along residential buffer zones is visually permeable to create the sense and reality of visual connection with the trail and providing easy surveillance;
8. To maintain visual connections and relationship between trails, trailheads, amenities, rest areas and stops of interest while defining the territoriality of private space;
9. To ensure that facilities are available for user comfort and wayfinding;
10. To promote consistency with the regulations of other jurisdictions;
11. To use standard materials and construction methods which are sustainable compatible and consistent with City maintenance practice.



As a result of integrating the Off-Road Cycling strategy the category of trail types have been expanded. The trail types in the classification system are categorized accordingly:

Recreational Trails

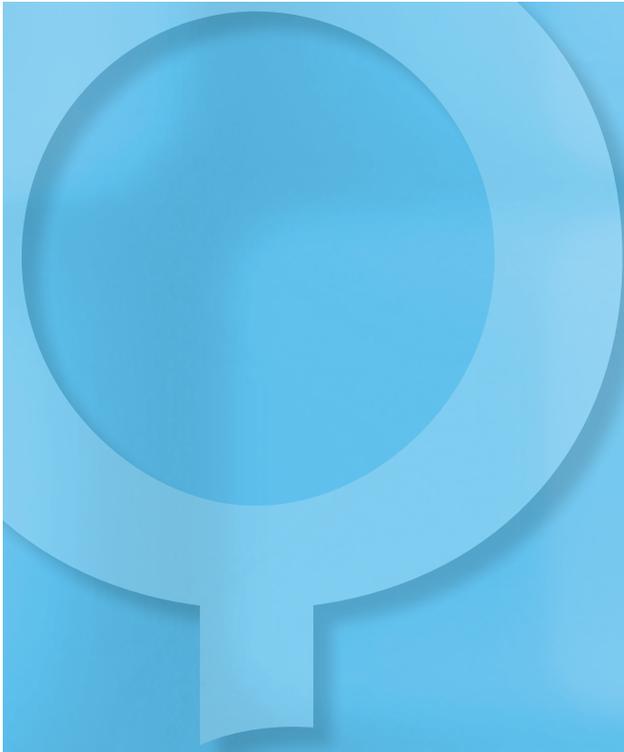
- ❖ Urban Multi-use Trail,
- ❖ Urban Nature Trail,
- ❖ Nature Trail.
- ❖ Trail Connector
- ❖ Park Pathways

Off-Road Recreational Cycling/Mountain Biking Trails

- ❖ Type I
- ❖ Type II
- ❖ Type III
- ❖ Type IV
- ❖ Type V

Refer to the City of Coquitlam Trail Development Guidelines and Standards document for more information.





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Appendix F – Trail Management



Coquitlam

Trail Management

Potential Conflicts

A) Different Types of Trail Users *(Excerpt: City of Coquitlam Off-Road Cycling Strategy Report, 2007)*

Conflicts amongst different types of trail users indicate their accessibility, appeal, popularity and value for a range of users. Conflicts can be attributed to perceptions about activity style (mode of travel, level of technology), focus of trip, expectations, attitudes toward and perceptions of the environment, levels of tolerance for others and norms held by different users (Moore 1994).

The increased demand for unconfined, relatively unstructured outdoor recreation experiences is not specific to any one user group or type of use. Pedestrians, hikers, bikers and dog walkers all hold expectations for use of natural areas and city trail park land. Increased availability, changing social norms and advances in equipment technology have contributed to a proliferation of trail users, thereby increasing opportunities for contact amongst different users and potential for conflict. However, contact is not always a prerequisite for conflict.

Single-track trail use is the most valued trail experience with all types of experienced trail users. The popularity and profile garnered by nearby “North Shore” trails and Sea-to-Sky corridor trails can largely be attributed to the quality and quantity of the vast single-track network. Trail use conflicts are frequently attributable to competition for this limited resource.

Historically, the most common conflict is between pedestrians (hikers, walkers) and recreational off-road cyclists on narrow, steeply sloping trails. Conflict is often asymmetrical where negative perception is held by one group towards another but the reverse is not true (Moore 1994).

It may not be possible to completely eliminate conflicts; however a proactive approach to trail management issues can largely reduce the potential for conflicts, as well as establishing a framework for addressing them and when they occur.

Issues:

- ❖ High demand for limited recreation resource (high quality single-track trails)
- ❖ Conflicts between pedestrians and bicycle users
- ❖ Wildlife encounters
- ❖ Ensuring the range of trail users achieve their desired recreation experience

Recommendations:

1. **That where there is high incident of conflict, pedestrian use and bicycle use only trail segments are designated. Provide alternative routes for one or the other to use within a larger shared system.** Some trails may not be suited to accommodate shared cyclist or pedestrian use. Physical barriers such as staircases, steep grades or inappropriate trail surface material present safety issues. Other trails may not be suitable for multi-use because it would detract from the experience that the trail was intentionally designed to fulfill, e.g. the nature path around Mundy Lake. At present, the MTP does not identify restricted single purpose trail segments. There may be a need to consider a change in policy for designated single purpose use in certain circumstances while still adhering to the principle that multi-use trail provision is still the primary directive. As off-road cycling (ORC) facilities are developed in the future, it will be important to consider this new policy direction in order to meet design standards and to provide the intended cycling experience. For example, signage will need to clearly identify a bike only trail segment. This policy direction would also provide more assurance that pedestrian only trails are managed for that purpose. Additional evaluation work is required for existing trails to establish this.



2. Other measures to reduce the potential for trail user conflicts:

- **Code of Conduct** – Conflicts between user groups are often a result of one group's perception of attitude(s) in another user group. In many cases both groups are avid users of the same trails and recreation areas in the same community. A code of conduct provides a baseline for acceptable behaviour and demonstrates a willingness by all parties to cooperatively share the resource.
- **Signage** – Signage shall be used at all trailheads and locations where user restrictions need to be identified to inform users of appropriate use. See Trail Development Guidelines and Standards document for more detailed specifications.

Effective communication is the key to reducing user conflict and dissatisfaction. Promotion of trail etiquette, ethics or courtesy guidelines is a way to cultivate appropriate user conduct and behaviour. Communicate physical and social trail conditions to help users have accurate expectations, e.g. difficulty (grade, length, tread, surface etc), type of usage, trail length and location.

- **User group involvement** – Involving local user groups in trail management planning and decision making provides a venue for each group to understand other users' perspectives, attitudes and objectives. Actively involving groups in common tasks enables them to work towards a common goal and often highlights shared objectives while eliminating misconceptions and stereotypes. Formation of a Trails Advisory Group, Adopt-a-Trail program with community interest representation is recommended.
- **Education** – *Uninformed, unintentional, unskilled and careless actions by users are often cited as the causes of many problems in outdoor recreation areas (J. W. Roggenbuck, 1992).* Trail user education can address many or all of these oversights. Delivery of educational information must be strategic and not overwhelming. Suggested methods include trailhead signage, text on local area maps, websites hosted by local clubs and dissemination of information through trail coordinating committees to local clubs.

Education of user groups by user groups organization and media on proper trail use and trail etiquette especially for those trails more equally used by off-road cyclists and pedestrians would be beneficial.

Education through brochures, maps and other trail related information will help to promote better understanding, expectations and appropriate usage.

Communication between user groups and trail managers is also key to reducing conflict among trail users and groups.

- **Provide Adequate Trail Opportunities** – offering a variety of trail experiences allows trail users to choose the condition that best suits their abilities, needs and recreational goals.
- **Minimize or Reduce Contact in Problem Areas** – in more congested areas and at trailheads disperse use or provide separation where site conditions allow.

Review Provincial Mountain Bike Trails Policy for guidance on bike related risk management issues. See Appendix G, <http://www.sitesandtrailsbc.ca/documents/mountain-bike-policy.pdf>

B) Human – Wildlife Encounters

Also see Appendix D: Design Guidelines

Education and Awareness

Ensure residents and trail users are aware of any community bylaws and best practices for waste management, e.g. recommended waste storage, removal practices and animal control bylaws (e.g. dog off-leash regulations).

Permanent regulatory signage to inform pedestrians with dogs, to maintain control of their dogs in likely bear/wildlife habitat areas shall be installed.

Restrict or eliminate use and disturbance of specific areas during critical times. This will help to reduce encounters and allow the bears/wildlife to freely go about their business. Types of restrictions may include full trail closures during the active season, or partial trail closures, e.g. after hours with trails open during daylight hours only.

Best Practices for Waste Management

Human-wildlife conflict will be reduced by not allowing bears and other wildlife to become conditioned to people and their food. Waste management is key to reducing the potential for conflict.

Discourage unintentional and intentional feeding of wildlife, e.g. birdfeeders, petfood outdoors, fruitbearing trees and scrubs.

Modify waste containment and removal practices of refuse within parks and community facilities, e.g. use of bear-proof garbage receptacles, regular refuse disposal.



Risk Management

(Excerpt: City of Coquitlam Off-Road Cycling Strategy Report, 2007)

Recreational Off-Road Cycling Trails and Facilities

Risk management and liability is a primary concern amongst public agencies responsible for trail management. While all trail use has the potential to result in injury and therefore create liability issues, the recent and dramatic rise of free-ride mountain biking has brought liability and risk management to the attention of public agencies and trail stakeholders.

The term 'risk' as it applies to trail management has two meanings. The first describes the relationship of the trail user to the risks (both perceived and real) of traveling in an uncontrolled environment. The second and perhaps more important meaning in trails management is the risks incurred by land managers (and private land owners) of providing access to recreational trails for a variety of uses (Woody Keen 2005). The practice of risk management does not intend to eliminate risks, but instead to identify, reduce and manage them in order to decrease both risk to the user and potential liability to land managers or partners.

The increasing popularity of mountain biking has led to the development of trails that incorporate natural or manmade features intended to create exciting and challenging experiences. These 'technical trail features' (TTFs) and their associated risks are a primary concern amongst land managers and public agencies.

Mountain biking has the perception of risk. While riders do not intend to injure themselves, it is the challenge of overcoming the risks that make the experience enjoyable. The reduction or elimination of perceived risks to the user, particularly in the case of off-road cycling trails, may be counter productive to the purpose of the trail itself. Risk management therefore, should focus on eliminating unreasonable 'hazards' from the trail (including unsafe or unsound TTFs) and proactively reducing the exposure of land managers, partners or private land owners to liability. For more information reference International Mountain Bicycling Association (*IBMA link: www.imba.com/resources/bike_management/conflictstudy.html*)

Liability Insurance – Off-Road Cycling

Liability insurance for mountain bike clubs has recently become available from some insurance providers. Available policies can insure clubs for liability arising from events like club rides, trail maintenance, trail patrols and other club activities. It can also provide coverage for completed operations, which means that if a club builds a trail and is subsequently sued by a trail user on the basis of that trail building, the policy will cover defence of the suit (Dan McKay 2006).

Existing off-road cycling trails are constructed and maintained by the City as multi-use trails. However, should community groups or clubs become involved in maintenance, trail improvements and/or construction of trails or trail features, the improvements would need to meet approved trail design standards.

A dedicated staff member or expert consultant is recommended to liaise with the community groups and clubs to ensure facilities are constructed and maintained to accepted standards. This will help to reduce liability and risk to users and the City.

A memorandum of agreement for co-management with the club or community group outlining the scope and obligations of their involvement needs to be in place prior to any site work.

Occupier's Liability Act

Recreational Trails

The Occupiers Liability Act of B.C. governs the obligations of an occupier (person in control of or owns land) for those who come onto that land in British Columbia. Recent amendments to the Act holds occupiers of premises to a lower standard of care and outlines that persons coming onto the premises for recreational purposes voluntarily assumes all risks in doing so. The occupier is only subject to a duty to not intentionally create a danger to harm that person or damage their property, or act with reckless disregard to the safety of that person on their property. Those who trespass using the public premises assumes the inherent risks and responsibilities when entering a marked public trail to be used for the intended recreational purposes.

Wildlife Encounters

It's not possible to prevent all contact between bears, wildlife and people. The City has taken reasonable measures to lessen the encounters with installation of park signage, bear-proof receptacles, amendments to the Parks and Communities Facilities and Solid Waste Bylaw, public education programs and review of proposed trail designs by trained staff to reduce potential bear/wildlife conflict. Where there is an encounter, it shall be reported to the Provincial Conservation Officer Service for further investigation. In cases of immediate danger, the RCMP is the appropriate authority to manage these situations.

Off-Road/Mountain Biking Trails and Facilities

(Excerpt: City of Coquitlam Off-Road Cycling Strategy, 2007)

As applied to recreation, the law recognizes the risk taking nature inherent in sport and accepts that risk is "incidental to and inseparable from" sport. The recognition of an inevitable level of danger inherent in a sport is referred to as *inherent risk*. *The law further recognizes that failure to remove inherent risk does not constitute negligence by the occupier or person in control of the land. Participants are deemed to accept the risk of accidents that may be anticipated to occur to them due to the nature of the activity they are participating in (LRC 1994).*

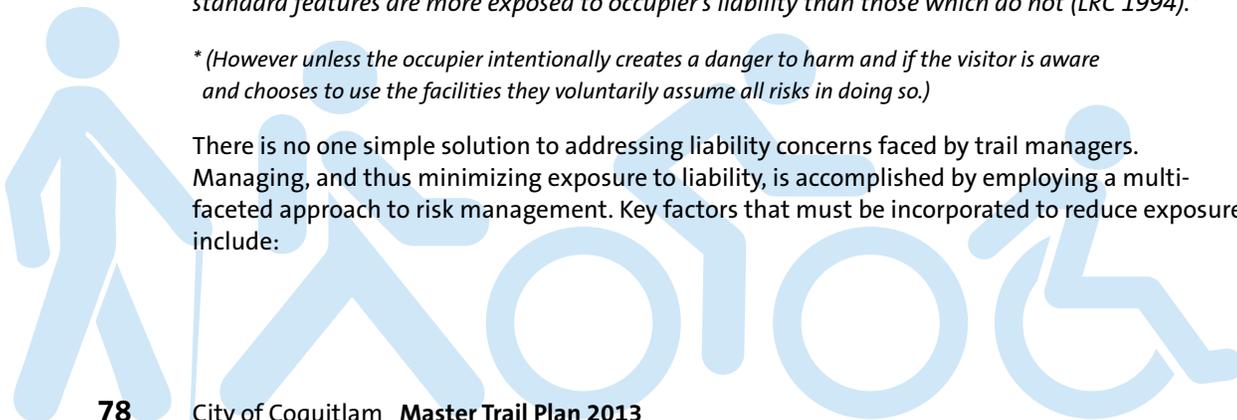
In assigning liability for accidents amongst the occupier or participant, the courts generally are identifying the line between inherent risk and negligence by the occupier. In determining liability associated with an injury, the courts will consider whether the occupier was responsible for increasing the degree of risk beyond what is inherent in a sport through lack of a reasonable level of care. Among the factors the courts will consider in determining if recreational premises are reasonably safe or whether they expose users to unnecessary risks are:

- ❖ the existence of an unusual danger
- ❖ the cost and difficulty of avoiding a specific danger
- ❖ the safety record of the premises
- ❖ whether an unusual danger could be satisfactorily reduced or eliminated by adequate warning, and whether an adequate warning was given.

In British Columbia, cases concerning occupier's liability legislation have generally acknowledged that facilities that adhere to the usual standards for the activity, for which the facility is intended, usually provide a good defence to a personal injury claim. *Facilities having non-standard features are more exposed to occupier's liability than those which do not (LRC 1994).**

**(However unless the occupier intentionally creates a danger to harm and if the visitor is aware and chooses to use the facilities they voluntarily assume all risks in doing so.)*

There is no one simple solution to addressing liability concerns faced by trail managers. Managing, and thus minimizing exposure to liability, is accomplished by employing a multi-faceted approach to risk management. Key factors that must be incorporated to reduce exposure include:



- ❖ development, implementation and adoption of standards
- ❖ a comprehensive signage program
- ❖ a coordinated risk management effort.

Issues:

- ❖ Exposure to liability for the City and community groups from recreational trail use.
- ❖ Provincial policy requirement for general liability insurance.
- ❖ Need for established “MTB facility” standards.

Recommendations:

1. That, standards be adopted to address, planning design, construction monitoring and maintenance of bike specific trail features particularly with respect to TTFs. Establishing and adopting broadly accepted standards is a core strategy for reducing exposure to liability. The *Whistler Trail Standards* are becoming increasingly accepted and recognized as an industry standard, e.g. the Provincial Mountain Bike Policy references this standard. The MTP references the Whistler standard to maintain continuity with accepted industry and provincial standards. Establishing set standards will help city staff assess ‘rogue’ or unsanctioned biking structures. Trails and facilities that do not meet standards they will be removed or modified to meet the standard.

Unsanctioned trail construction – development and formalization of a trail system through standardized trail profiles, signage, furnishings and management plan, will help to reduce the occurrence of informal trails along with their negative environmental impacts.

2. Hire ‘experts’ to work in the field and provide training for staff to consult regarding emerging trends, ensure safety and reduce risk.
3. Recreational Off-road cycling facilities are technical by nature and consultants that are familiar with this emerging field need to be hired by cities to offset the risks and to ensure users are provided with a good and safe experience. Staff also need to be trained to understand the associated design and maintenance issues.
4. Review Provincial Mountain Bike Trails Policy for guidance on bike related risk management issues. The province has available a working draft policy statement which offers useful information and reference. See Appendix G.
<http://www.sitesandtrailsbc.ca/documents/mountain-bike-policy.pdf>



City of Coquitlam

Master Trail Plan

Updated: August 2013

Appendix G— Mountain Bike Trail Hazard Conflict and Impact Reduction Strategies



Excerpts:

Authorizing Recreational Mountain Bike Trails on Provincial Crown Land – Appendix 1

(<http://www.sitesandtrailsbc.ca/documents/mountain-bike-policy.pdf>)

Mountain Bike Trail Hazard, Conflict and Impact Reduction Strategies

This appendix describes strategies for mitigating safety, user conflicts, and impact issues that are potentially associated with mountain bike trail development and use. Depending on the specifics of individual trail situations, these may be adopted as provisions in trail agreements, proposed as voluntary measures, or put into action by MTSA as part of general implementation of the MTSA recreation sites and trails program.

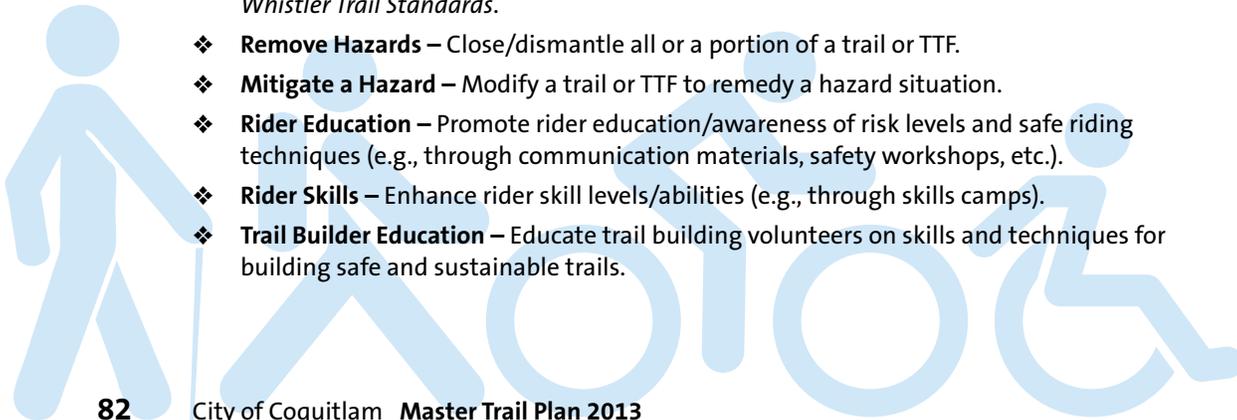
Reducing Safety Hazards

When processing applications and implementing agreements for mountain bike trail construction, rehabilitation and maintenance, MTSA Recreation Officers will consider the following factors that can influence public safety risks:

- ❖ Whether the trail system involves TTFs, either man-made or natural;
- ❖ Whether the trails, facilities and features are developed and managed according to guidelines/standards;
- ❖ Steepness of trails;
- ❖ Speed at which trails are/will be ridden;
- ❖ Adequacy of visibility/sight lines along trails;
- ❖ Volume of use that the trails receive;
- ❖ Degree to which trails are accessible/proximate to settled areas, and therefore receive a high volume of use by a wide cross-section of users;
- ❖ User profile (e.g., are riders experienced/skilled, novice, knowledgeable about the area, a combination thereof);
- ❖ Potential for encounters with other trail users (e.g., hikers, equestrians, dirt bikers, etc.);
- ❖ Potential for trail instability/deterioration and environmental damage (e.g., as a result of erosion);
- ❖ Whether or not the local mountain bike club has demonstrated capacity/interest in developing and managing safe trail systems; and
- ❖ Other factors that may influence hazard/safety levels, as identified by the Recreation Officer (staff or consultant)

Strategies for managing public safety include:

- ❖ **Authorization of Appropriate Trails** – Authorize trail works only if public safety (and other) issues can be sufficiently addressed.
- ❖ **Management Agreements** – Enter into long-term trail agreements with qualified organizations to ensure appropriate trail development and upkeep.
- ❖ **Enforce Guidelines and Standards** – Require conformance with the IMBA Guidelines and *Whistler Trail Standards*.
- ❖ **Remove Hazards** – Close/dismantle all or a portion of a trail or TTF.
- ❖ **Mitigate a Hazard** – Modify a trail or TTF to remedy a hazard situation.
- ❖ **Rider Education** – Promote rider education/awareness of risk levels and safe riding techniques (e.g., through communication materials, safety workshops, etc.).
- ❖ **Rider Skills** – Enhance rider skill levels/abilities (e.g., through skills camps).
- ❖ **Trail Builder Education** – Educate trail building volunteers on skills and techniques for building safe and sustainable trails.



Reducing Recreational and Resource Use Conflicts

Options for addressing conflict between mountain bike riders and other recreational users, and conflict with other resource users, are listed below in the general order of preference for implementation. (Note: For more information, see the IMBA document *The Minimum Tool Rule: A Hierarchy of Options for Managing Trail User Conflicts*, available at www.imba.com/resources/bike_management/hierarchy.html).

- ❖ **Post Signs** – For example, advising caution; reminders of trail ethics/conduct; urging cyclists to stay on routes, slow down, limit party size, consider other users; identifying any local trail ‘rules’ that may be in effect; etc.
- ❖ **Self-Monitoring** – Encourage cyclists to patrol their own ranks in a positive way.
- ❖ **Education** – Work with local clubs, bike shops and others to educate riders about low impact and responsible trail use, riding etiquette (codes of conduct/ethics), and consideration for other users. Develop posters, brochures, and logos or trademarks as a reminder/symbol of considerate cycling. Educate local mountain bike groups about proper procedures/standards for designing and building sustainable trails.
- ❖ **Relationship Building** – Encourage positive interaction among different trail users (e.g., joint trail maintenance projects, forming trail advisory committees).
- ❖ **Training** – Develop and implement training programs on low impact cycling to be presented by clubs, organizations, bike shops, etc.
- ❖ **Trail Design** – On new trails or trails that can be modified, include design features that restrict speed and enhance sight distance, and build wide or pull-out sections to facilitate safe passing (see Whistler and IMBA design standards/guidelines).
- ❖ **Barriers to Speed Control** – Subject to safety considerations, leave or install barriers in the trail to control speed (e.g., rocks, roots, bumps, tight curves, down trees, speed barriers, water bars).
- ❖ **Requested Walking Zone** – Signs that request or require cyclists to walk their bikes in certain areas where speed, recklessness or congestion are potential problems.
- ❖ **One-way Only** – Designate direction of travel on trails with heavy use, to avoid the potential for collisions.
- ❖ **Post Speed Limits** – Set maximum allowable or recommended speeds for cyclists. Encourage voluntary compliance or involve local cyclists in positive enforcement. Encourage speeds that allow a cyclist to stop in less than half the distance they can see.
- ❖ **Patrols** – Use trained volunteer groups to patrol trails and talk with cyclists to dispense advice, and monitor compliance with trail rules and codes of conduct.
- ❖ **Restrict Cyclists by Time** – Allow for mountain bike use only at certain times of the day, or on certain days when other use may be at lower levels (e.g., odd/even days or weekend/week day schedules).
- ❖ **Separate Sections** – Construct separate routes for mountain bike use where there is the greatest congestion (e.g., at trailheads).
- ❖ **Construct Separate Routes** – Construct separate routes for mountain bike use where there is strong user support and where other solutions are not feasible.
- ❖ **Zoning** – Close certain areas to mountain biking (or other recreation uses) and encourage that use on other areas. This method depends on having other areas available and useable.
- ❖ **Closures** – Close areas to mountain bike riding (by FRPA order) and enforce the closure.
- ❖ This option should be a last resort after other efforts have proven ineffective.
- ❖ MTSA may also facilitate local *management planning processes* that bring together the affected interests to cooperatively identify solutions for addressing user conflicts (and possibly other)
- ❖ issues. The planning processes may identify any of the above, or other, solutions for addressing conflict and impact issues.

- ❖ To help prevent potential mountain bike trail conflicts with other resource users (notably forest managers), MTSA will, as appropriate, designate mountain bike trails under FRPA (section 56), establish objectives for these trails, and/or establish trails as 'resource features' under the FRPA
- ❖ Government Actions Regulation.

Reducing Impacts On Environmental and Resource Values

To address potential issues of mountain bike trail development and use impacts on environmental and other resource values, MTSA will apply the following strategies, as appropriate, to individual situations and as resources permit:

- ❖ **Proactive Planning** – Ensure that areas appropriate and suitable for mountain bike trail development/use are identified through management planning processes that consider sensitive environmental and other resource values (e.g., wetlands, unstable soils, valuable habitats, cultural/heritage values).
- ❖ **Environmental Design** – As part of the trail authorization process, encourage mountain bike clubs to work with land managers in a process to identify/map sensitive values, and design and construct trails accordingly. Apply the IMBA guidelines and Whistler standards for environmental design (e.g., stream crossings, drainage, habitat considerations, appropriate trail widths, environmentally sensitive construction materials and best practices).
- ❖ **Monitoring and Impact Mitigation** – Monitor environmental impacts from trail development and use (e.g., erosion, water quality, vegetation disturbance, wildlife disturbance), and mitigate problems as they arise. Mitigation may involve the need to permanently or temporarily close or relocate a trail or trail segment (e.g., during wet periods, during wildlife breeding periods), rehabilitate an area, re-design a trail segment or feature, educate riders, etc.
- ❖ **Rider Education** – Work with local mountain bike clubs and other interests to educate riders on ways to minimize environmental impacts (e.g., stay on the trail, 'riding' vs. 'sliding'), and prevent the spread of noxious weeds. Use signage as appropriate.



Abbreviations/Acronyms:



DCC	Development Cost Charges Bylaw
DFO	Department of Fisheries and Ocean
ESA	Environmentally Sensitive Areas
GVRD	Greater Vancouver Regional District
IMBA	International Mountain Bike Association
LRC	Law Reform Commission
MTP	Master Trail Plan
MTB	Mountain Bike
MTSA	Ministry of Tourism, Sport and Art
NGP	Northeast Sector Recreational Greenway Plan - GVRD
OCP	Official Community Plan
ORC	Off-Road Cycling Plan
RAR	Riparian Area Regulations
TTFs	Technical Trail Features
SDSB	Subdivision and Development Servicing Bylaw
SPEA	Streamside Protection and Enhancement Area
STP	Strategic Transportation Plan