



# Surrey Bicycle Recreation Facilities Strategy

February 2007

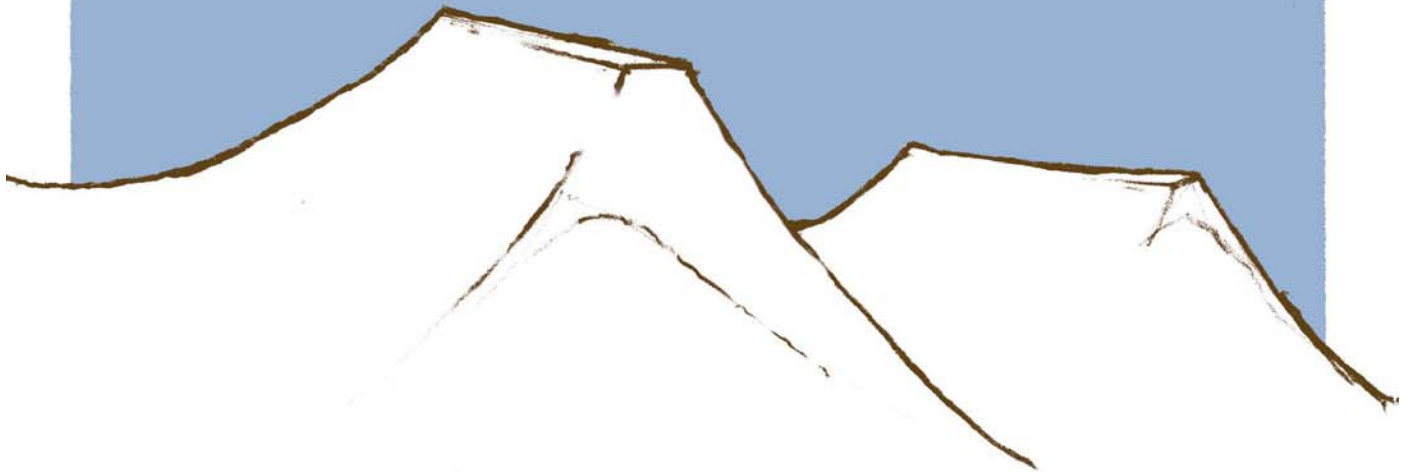
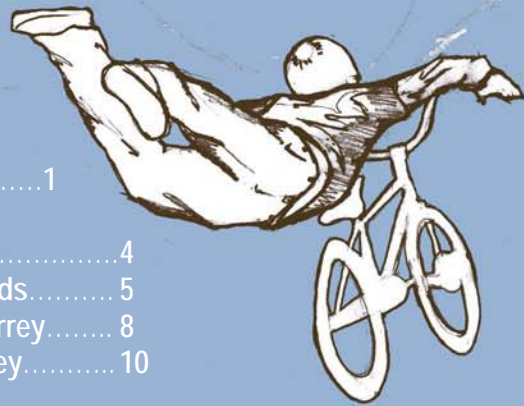


Surrey Parks  
Recreation  
and Culture



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*Cover photo: Andrew Cho, a young, professional rider from North Vancouver on the dirt jumps at Port Kells Park in Surrey (Photo: Harookz Photography, [www.harookz.com](http://www.harookz.com))*



## EXECUTIVE SUMMARY

The City of Surrey's Parks Recreation and Culture Department is experiencing growing demands for non-traditional bicycle recreation, including off-road mountain biking (cross-country, free-riding<sup>1</sup>, skills<sup>2</sup>, dirt jumping<sup>3</sup>, pump track riding<sup>4</sup>, etc.) and BMX riding (urban riding, dirt jumping and racing). With few formal facilities in Surrey, the riding community has developed numerous informal or "rogue" facilities throughout Surrey's parks and, in some cases, on private land. To help better manage this growing sport and to reduce the number of informal facilities in Surrey, this strategy provides guidelines for the provision of new facilities, the upgrading of existing non-traditional facilities, and the maintenance and operating requirements of these facilities over the short-, medium- and long-terms.

Research, surveys and public involvement carried out as part of this project indicate that the City of Surrey can expect continued demand for non-traditional bicycle facilities. The growth of these healthy and youth-positive recreational activities should be supported and encouraged, particularly given the minimal costs of developing and maintaining non-traditional bicycle recreation facilities in comparison to other, more traditional recreational facilities. The uniformly strong and diverse public support (i.e., all age groups [from 6 to 82], riders and non-riders, all Surrey neighbourhoods) received throughout the planning process underscores both the demand and need for such facilities. Over 90% of this report's 300 final survey respondents were supportive of the strategy.

This strategy's recommended upgrades to current facilities, and the proposed development of new bicycle facilities, will occur over the short- (2007 to 2009), medium- (2010 to 2012) and long-terms (2013 and beyond). The recommendations are based on: a comprehensive survey of non-traditional biking trends and issues in Surrey and beyond; an assessment of candidate park sites that was supported by Surrey Parks' staff; and, a public consultation program that included surveys and direct outreach with Surrey's non-traditional biking community.

The strategy's short-term improvements are briefly outlined below. They are prioritized based on community service area need, Surrey Parks staff input and guidance, and a public ranking of new facility development phasing that was carried out through the project's public involvement process. The estimated total capital cost of the short-term improvements and upgrades ranges between \$360,000 and \$420,000 -- less than the cost of a sand-based grass sports field.

- **Fleetwood Athletic Park (Fleetwood):** Four lines of dirt jumps will be developed west of the Surrey Sports and Leisure Complex at the Fraser Highway.

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<sup>1</sup> **Free-riding** consists of descending often steep trails and variable terrain on trails that include a variety of obstacles such as teeter-totters, drop offs, jumps and ladder bridges.

<sup>2</sup> **Skills areas** provide a series of obstacles and features like teeter totters, boxes, drop-offs and ladders bridges that bikers ride onto, along and over. Skills areas are becoming popular, are easy to develop in small spaces, and accommodate a variety of skill levels and bike types.

<sup>3</sup> **Dirt jumping** consists of a riders going over a variety of relatively steep and often high dirt jumps. Jumps are usually placed in a line with some paired together. More advanced jumps often have an open gap between them. Riders will go over the jumps and do any number of tricks while in mid-air.

<sup>4</sup> **Pump tracks** are small, dirt tracks designed with tight corners, banked corners and small bumps. The goal is to go around the track without pedaling. Riders 'push' their bikes into and around the corners and bumps to build up momentum and speed.



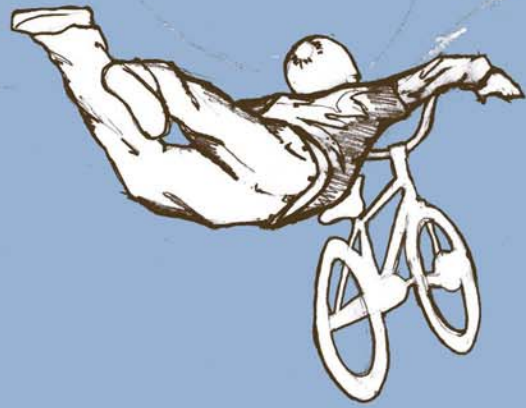
- **Bear Creek Youth Park (Fleetwood/Newton):** The existing skate/bike park will be improved with addition of concrete spine and three rail rides designed for urban BMX riders. Two rows of dirt jumps are to be developed next to the skate/bike park. A single, family-oriented cross country loop will be developed to the immediate east, below the power lines.
- **Cloverdale Athletic Park (Cloverdale):** The existing BMX practice track will be upgraded and revitalized. The underutilized tot lot playground to the west of the BMX track will be converted to a Skills Park/Urban BMX area when the playground is removed and/or relocated.
- **Unwin Park (Newton):** Four lines of dirt jumps, a small skills area and a pump track will be developed in the south-west corner of the park.
- **Port Kells Park (Cloverdale):** The existing dirt jumps will be upgraded and improved.
- **Invergarry Park (Whalley):** Multiple facilities will be developed in a previously disturbed area (a former construction waste dump) to the east of Bonnacord Creek and ravine, including a free-ride area in a natural bowl area, a small skills park and four rows of dirt jumps.
- **Fraser Heights Park (Guildford):** Four rows of dirt jumps and a pump track will be developed in south end of park.
- **Hillcrest Park (Cloverdale):** Three rows of dirt jumps will be developed near the existing playground, if local residents agree.

Currently, support and resources for the maintenance and operations of bicycle facilities in Surrey falls under the care of City of Surrey Parks Division staff in the each of the Division's operations areas. Structural Maintenance Coordinators will ensure that new bicycle parks and bicycle park features are maintained and kept safe. Additional support will be provided through the City of Surrey's successful Partners-in-Parks Program where Park Partnership Coordinators will work with local Park Stewards to involve bicycle park users in the ongoing maintenance and operations of facilities. Current resources will be insufficient to support development of new facilities in the mid- to long-term. The need for additional staff will be reviewed annually through the Parks Department's operating budget. The potential of hiring a bicycle facilities maintenance contractor will be explored if facility use warrants it.

Over the medium-term (2010 to 2012), this strategy proposes developing a unique greenway bike network for cross-country riders called the Green Line. The facility will be developed on existing and planned greenways and bikeways that would connect many of the bike facilities recommended in this strategy. Called the Green Line, the single-track trail network/loop would be a one-of-kind facility in the Lower Mainland, stretching almost 70-kilometres around Surrey.

Over the long-term (2013 and beyond), the strategy proposes that facilities at Joe Brown Park and Port Mann Park be developed when their rehabilitation periods are complete. Joe Brown Park is currently used as a dump site for soil from construction sites. As a former major landfill site, Port Mann Park requires several more years of site stabilization prior to the development of any park facilities there. Despite the long-term development time lines for the parks, the City of Surrey has identified both as potential sites for non-traditional bicycle facilities through independent and park master planning processes. Over the long-term, facilities may be also considered in the Douglas, Grandview and South Westminster neighbourhood planning areas, as community planning processes unfold for those areas.





## 1. INTRODUCTION AND BACKGROUND

# 1. INTRODUCTION AND BACKGROUND

Over the past several years, the City of Surrey's Parks, Recreation and Culture Department has witnessed a growing demand for non-traditional bicycle recreation facilities, including off-road mountain biking (cross-country, free-riding<sup>5</sup>, skills<sup>6</sup>, dirt jumping<sup>7</sup>, pump track riding<sup>8</sup>, etc.) and BMX riding (urban riding, dirt jumping and racing). As the city's population has continued to grow, so too has the demand for these active sports opportunities. This growth and the City's current lack of facilities has led to the development of informal or "rogue" facilities built by the riders themselves at many City parks and, sometimes, on private property. Many of these informal facilities are constructed poorly and/or conflict with other park users and uses. Unlike other forms of recreation, the City lacks an overarching strategy for the management of these extremely popular types of recreation.

In 2003, the Surrey Parks, Recreation, and Culture Department created and adopted the policy document, *Guidelines for Bicycle Recreation Facilities*. One of the first documents of its kind in North America, the document provided guidelines for the planning, construction, maintenance and inspection for four different kinds of bicycle recreation facilities: Mountain Bike Facilities, Dirt Jumping Facilities, BMX Facilities and Bicycle Trials Facilities

With these guidelines in place, this document seeks to provide a long-term strategy to site a series of non-traditional bicycle facilities throughout the city that, once developed, will provide Surrey with one of the finest integrated networks of non-traditional bicycle facilities networks in North America. The Surrey Bicycle Recreation Facilities Strategy provides guidelines for the provision of new facilities and the upgrading of existing non-traditional facilities in the short-, medium- and long-terms, from 2007 to 2013 and beyond and outlines their maintenance and operating requirements.

This section provides an overview of the regional and local non-traditional bicycle trends that influenced the development of this strategy. It also provides an overview of the sports themselves and Surrey's current facilities.

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<sup>5</sup> **Free-riding** consists of descending often steep trails and variable terrain on trails that include a variety of obstacles such as teeter-totters, drop offs, jumps and ladder bridges. Features can be designed for a variety of user skill and ability and are often changed and redesigned over time.

<sup>6</sup> **Skills areas** provide a series of obstacles and features like teeter totters, boxes, drop-offs and ladders bridges that bikers ride onto, along and over. Skills areas are becoming popular, are easy to develop in small spaces, and accommodate a variety of skill levels and bike types. They can be used by mountain bikers, BMX riders and trials bikes.

<sup>7</sup> **Dirt jumping** consists of a riders going over a variety of relatively steep and often high dirt jumps. Jumps are usually placed in a line with some of the jumps paired together. More advanced jumps often have an open gap between them. Riders will go over the jumps and do any number of tricks while in mid-air. Dirt jumps can be ridden on both BMX and mountain bikes and can accommodate a wide range of skill levels.

<sup>8</sup> **Pump tracks** are small, dirt tracks designed with tight corners, banked corners and small bumps. The goal is to go around the track without pedaling. Riders 'push' their bikes into and around the corners and bumps to build up momentum and speed. They are a great way to safely develop bike skills and can be ridden by almost anyone, from beginners to experts.



## 1.1 Non-traditional Bicycle Recreation: Trends

This section provides an overview of relevant and current BMX and mountain biking trends in Surrey and the larger region. It is divided into BMX and mountain biking sections. More detailed information is available in Appendix 2 of the background document prepared for this study, *Surrey Bicycle Recreation Facility Strategy: Trends Analysis and Innovative Practices*.

### BMX

BMX, in short, stands for Bicycle motocross. BMX is essentially comprised of two distinct sports – *racing* and *freestyle*.



*BMX racing*



*Pumps riding*



*Street-style BMX*

**BMX racing** is comprised of two disciplines: *track* and *pumps*. Track racing consists of riders competing head-to-head against other riders on a 350 metre dirt track consisting of a variety of dirt jumps, banked corners and rhythm sections. A pumps course is simply a scaled-down version of a race track, used primarily as a training course for racers.

**BMX freestyle** is broken down into three main subgroups: *dirt jumping*, *street*, and *ramp/park*. Dirt jumping, whether on trails or in specially designated parks, consists of a variety of jumps that riders launch off while doing any number of tricks. Linking jumps together on an extended trail is preferred by dirt jumpers. They can be ridden on both BMX and specifically designed mountain bikes. Street riding is exactly what the name suggests, using concrete and other urban obstacles in order to do various tricks on the bike. Ramp/park BMX requires a concrete, aluminum, or wood ramp structure (much like skateboarding) that allows riders to throw aerial or vertical tricks off the structure.

Over the past decade, BMX facilities have sprung up throughout BC and Canada. Formal BMX track racing facilities, with attached programming and sponsor organizations, have been the standard, although the marriage of BMX and skateboarding has also led to the development of a number of concrete park structures as well.

With the development of concrete skate parks throughout BC, BMX riders have access to a growing number of facilities. As a result, BMX bike sales are rapidly increasing. Dirt jumping parks, both formal and informal, are also on the rise, with facilities throughout the Lower Mainland.

There is one pro-length BMX race track in Surrey, Action BMX, and four other BMX-focused facilities in the Lower Mainland. Action BMX is located on Surrey parkland on the Serpentine Greenway near 76<sup>th</sup> Avenue and 128<sup>th</sup> Street in the Newton area. While BMX riding is not as popular as mountain-biking in Surrey, the number of riders is growing and interest in the sport continues to climb.



## Mountain Biking

Mountain biking is comprised of two distinct disciplines: *trail* and *freestyle*.



*Free-riding*



*Cross-country*



*Downhill*



*Dirt Jumping*



*Trials*

***Trail riding*** can be broken down into three sub-groups: *cross-country*, *downhill*, and *free-riding*.

- Cross country is the most popular and least 'extreme' form of mountain biking, as it is more focused on distance than excitement. It requires substantial trail lengths and variable terrain, although loop trails are common in urban and rural areas.
- Downhill mountain biking consists of riding down steep and technical gradients as fast as possible.
- Free-riding, the most technically demanding of the trail disciplines consists of descending steep trails and variable terrain in the most creative manner possible. Free-ride trails often include a variety of man-made obstacles such as teeter-totters, ladder bridges and wall rides. The North Shore mountains are home to some of North America's premier free-ride hill trails.

***Freestyle Mountain Biking*** can be broken down into three sub-groups: *dirt-jumping*, *skills/trials*, and *street/urban*.

- Dirt jumping consists of launching a bike over large man-made dirt jumps, attempting aerial tricks in the process. Facilities are much like those used by BMX dirt jumpers.
- Skills/trials mountain biking consists of riders maneuvering the bike by hopping, jumping, and dropping man-made obstacles (e.g. boxes, ramps, tables) and natural obstacles (e.g. rocks, logs, hillsides). True trials riding is very technically demanding, requiring specialized equipment as well as excellent balance and a high level of technique. Skills parks are becoming popular, are easy to develop in small spaces, and embrace a variety of skill levels and bike types.
- Street/urban mountain biking consist of riding in concrete urban areas, off obstacles such as ledges, stairs, and walls.

In Canada, the sport of mountain biking is extremely popular with a current market share of 66%. According to surveyed retailers and industry professionals, cross-country mountain biking is by far the most popular mountain biking pursuit, with free-riding, dirt-jumping, and downhill in close competition for second place, largely due to the increasing popularity of 'extreme' sports among youth and young adults. The smallest demographic of the disciplines, although growing, are trials and street/urban biking. It is believed that cross-country rider numbers will continue to grow as Canada's aging population continues to pursue accessible fitness activities.

In Surrey, as in other Lower Mainland municipalities, dirt-jumping is becoming increasingly popular, with the riding community building numerous temporary and unsanctioned facilities on construction sites and in parks across Surrey. Riders have also built large numbers of “rogue” skills features, including teeter totters and ladder rides in parks and natural areas throughout the city.

There is one major bike park in Surrey, the South Surrey Bike Park, and seven other major parks in the Lower Mainland. South Surrey Bike Park includes dirt jumps, free-ride trails and cross-country trails.



*Non-traditional bike sports (like the pump track riding pictured) are growing in popularity in Surrey and throughout the larger region.*

## 1.2 Non-traditional Bicycle Recreation in Surrey

Research carried out as part of this project indicates that Surrey can expect continued demand for non-traditional bicycle facilities. In particular, dirt jumping (BMX and mountain bike), pump track riding, cross-country biking, skills riding and free-riding continue to grow in popularity in the municipality and across the larger region.

The City of Surrey is well known in the Lower Mainland for its non-traditional bicycle recreation facilities. It is particularly well known for its two largest facilities -- Action BMX and the South Surrey Bike Park. There are several smaller facilities located throughout Surrey, including some dirt jumps located at Port Kells Park in Cloverdale and a small BMX practice track located at Cloverdale Athletic Park. Surrey is currently engaged in improving a small bicycle facility at Latimer Lake Park on the eastern edge of South Surrey. Of the three smaller facilities, Port Kells is perhaps the best known and well-used.

Given the popularity of this type of recreation and the relatively limited number of facilities in Surrey, there are a large number of unsanctioned or informal facilities (mainly trails, dirt jumps and free-ride stunts) that can be found in parks, along hydro rights-of-ways and on or near construction sites throughout the city. While Surrey Parks works diligently to remove many of these "rogue" features on public lands for safety, liability and environmental concerns, they are often quickly rebuilt. Because of the time and effort put into building them, many stunts and jumps are hidden or built on private lands. Perhaps the most significant features constructed on private lands were built around Latimer Lake Park, where over 15-kilometres of single track, cross-country mountain biking trails and free-ride features were constructed on the City lands that surround the park. The majority of these features are being removed while the area is redeveloped as an industrial park.

The heavy use of Surrey's formal bike facilities and the ongoing construction of unsanctioned trails, dirt jumps and free-ride features underscores both the popularity of the sport in Surrey and the need to develop additional safe, sanctioned facilities in the city.

While it is predominantly youth dominated sport, its popularity cuts across both age and gender lines. Rider surveys conducted as part of this project were completed by riders as young as seven and as old as 89. As part of this study, bike stores, bike industry representatives, Surrey Parks staff and representatives from Surrey's two leading bike organizations were also surveyed about non-traditional bicycle recreation in Surrey. All agreed that the number of riders and the popularity of the sport is growing. Quantitatively, these increases have corresponded with higher bike sales (dirt jump bikes, in particular), higher use numbers at South Surrey Bike Park and market information from bike industry representatives.

As part of the Surrey Bicycle Recreation Facilities Strategy project, three separate surveys were conducted with intercept surveys, on-line at the project website ([www.surreybikepark.ca](http://www.surreybikepark.ca)), at bike events, and with mail-out surveys that were sent to residences in the area of parks where short-term improvements were proposed.

The first survey helped determine rider demographic and preferences. Its major findings included:



- ✓ Surrey boasts an active biking community, with riders of all ages and a high degree of skill and enthusiasm for the sport;
- ✓ There is city-wide demand for new, accessible facilities featuring dirt jumping, skills and cross-country; and,
- ✓ There is community appetite to help design and maintain any new facilities Surrey develops.

For the first survey, roughly 80% were male, and 20% female. While there was a broad age range represented, over 30% of the respondents were under 17. Of interest, approximately 15% of the respondents were between the ages of 35 and 44, while another 15% were between 45 and 54. The age range underscores the growing popularity the sport and its accessibility to a wide range of skill level, fitness and age.

The second survey was used to gauge public support for the overall strategy. Respondents were also given the opportunity to provide detailed input on each of the strategy's proposed short-term improvements. This second survey determined that there is uniformly strong and positive support for the draft strategy across all age groups and Surrey communities, including both riders and non-riders. Overall, 93% of the 200 respondents were satisfied with the strategy, with 76% reporting to be "extremely" or "highly" satisfied. As with the first survey, over 70% of respondents said that they would be willing to help maintain or steward any new or improved facility on supervised facility "work days".

The third and final survey was carried out to gauge support for each of the proposed short-, medium- and long-term improvements. As with the previous survey, the response was positive and strong. Overall, the majority of the 89 respondents were satisfied with the overall strategy, with an average of 80% reporting to be satisfied with the short-, medium- and long-term improvements. Each of the proposed short-term improvements were also overwhelmingly supported by respondents with support ranging from a low of 64% at Hillcrest (the only facility to rank below 83%) to a high of 95% at the Surrey Sport and Leisure Complex. The average support rate across all facilities was 86%.

Given the survey responses, the study's field research, interviews with bike sport professionals and service providers, non-traditional bicycle sports represent a major and largely under-served recreational community in Surrey. The growth of these healthy and youth-positive recreational activities should be supported and encouraged by the City of Surrey, particularly given the minimal space demands and capital costs of developing and maintaining non-traditional bicycle recreation facilities in comparison to more traditional field sports. The facilities outlined in this strategy will help better serve and support this type of recreation, better distribute facilities throughout Surrey and help reduce the amount of rogue building on both public and private lands.



A young rider at South Surrey Bike Park on the dirt jumps  
(photo: SORCE)



## 1.3 Existing Facilities in Surrey

The City of Surrey developed and helps maintain five non-traditional bicycle facilities. They are briefly outlined in this section.



### **Action BMX**

*76<sup>th</sup> Avenue at 126<sup>th</sup> Street*

Action BMX is a BMX racing facility built to international racing standards. Located adjacent to Newton Athletic Park, it is maintained and managed by Action BMX, a Canadian Cycling Association-sanctioned organization that hosts racing, training, and recreational programs. Located on co-managed Surrey Parks and Recreation/BC Hydro lands, it is the only sanctioned race facility in Surrey. Users come from throughout the Lower Mainland and Fraser Valley.



### **South Surrey Bike Park**

*24<sup>th</sup> Avenue and 148<sup>th</sup> Street*

South Surrey Bike Park is located in the South Surrey Athletic Park, adjacent to the Sunnyside Acres Urban Forest. Developed and operated in partnership with the Surrey Off-road Cycling Enthusiasts Society (SORCE), the facility has a cross-country trail network with free-ride sections for beginner to advanced riders.



### **Cloverdale Athletic Park BMX Track**

*64<sup>th</sup> Avenue and 168<sup>th</sup> Street*

The BMX track is a relatively well-used facility that features short, narrow, 100 metre track with a small start/finish area, a short straightaway section and several low-angle, banked-corners. There have been some informal additions (jumps) and crossovers added. The track is in fairly poor shape and features poor, rocky soils. Located in Cloverdale Athletic Park, the facility is close to washrooms, water and parking.



### **Port Kells Park**

*19340 – 88<sup>th</sup> Avenue*

The forested area in Port Kells Park contains an existing dirt jump area. The jumps appear to be well-used and maintained by a relatively advanced group of riders. There are seven dirt jumps in total. The area the jumps are located is very small, and to control and maintain speed the riders have built two banked turns at both ends of the jumps.

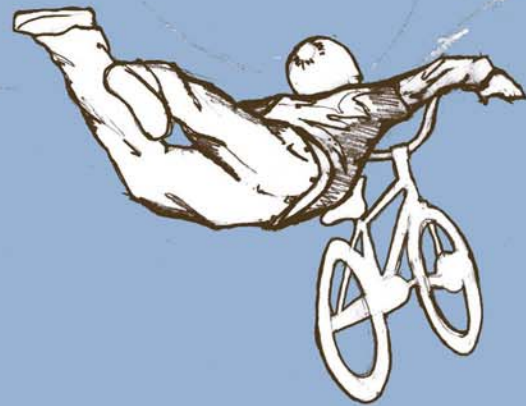


### **Latimer Lake Park**

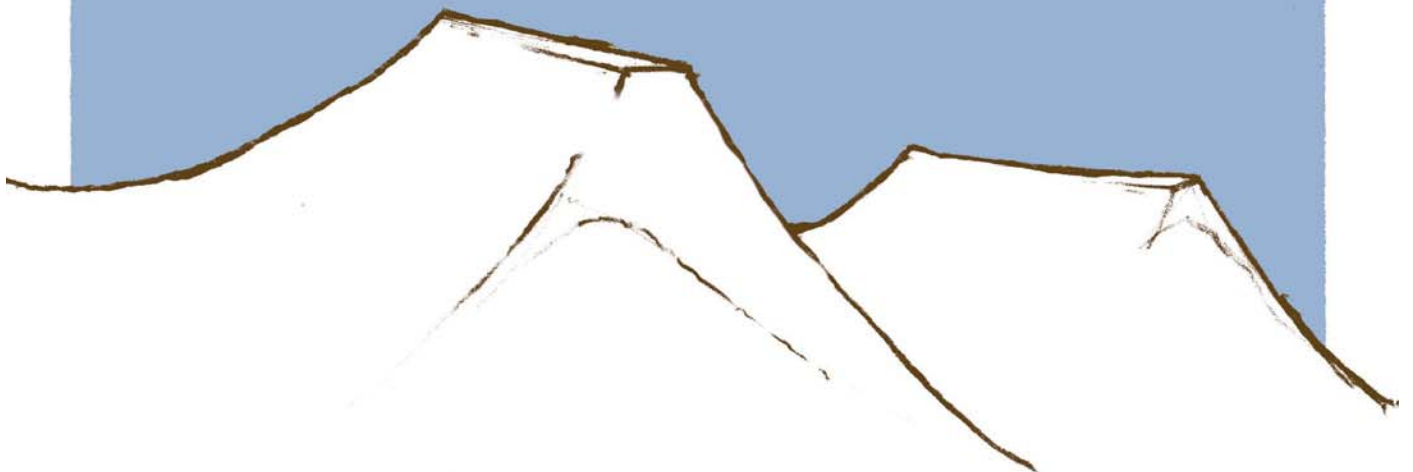
*19340 – 192<sup>nd</sup> Street*

Latimer Lake is a small park in south east Surrey. SORCE has worked with Surrey Parks to install some free-ride structures on east side of Latimer Lake.





## 2. PROPOSED IMPROVEMENTS



## 2. PROPOSED IMPROVEMENTS


### 2.1 Short-term Improvements (2007 to 2009)








All of this strategy's recommendations to improve existing facilities and the development proposed new facilities are to occur in the short-term between 2007 and 2009. The following subsections outline the proposed improvements and developments.

#### 2.1.1 Existing Facilities

This section identifies potential site improvements for existing non-traditional bicycle facilities that would consolidate the investments the City of Surrey has already made at the facility. As the proposed changes for Action BMX and South Surrey Bike Park are more policy-oriented, no site plans are provided. There are also facilities at Port Kells Park and Cloverdale Athletic Park. Improvements for these parks are substantive and discussed in more detail in the next section.

For each of the facilities, icons developed for this strategy are provided that illustrate the type of features available at them. The icons can be used in the later development of bike facility network maps or in later editions of Surrey's bicycle route maps.

Facility/Park	Facility Features	Facility Recommendations
<i>Action BMX</i>		<ul style="list-style-type: none"><li>- <b>City maintenance:</b> There is a need for ongoing review of maintenance and operations.</li><li>- <b>Built structure policy revision:</b> Currently, only non-permanent buildings are permitted on site according to BC Hydro regulations. All facilities are housed in temporary structures. Improved concessions could increase facility revenues which could in turn be used for other facility improvements. The City of Surrey could help Action BMX negotiate with BC Hydro to permit the development of improve facilities in the ROW. Upgraded facilities would be funded largely by Action BMX.</li><li>- <b>Neighbourhood noise review:</b> There should be a City-sponsored neighbourhood consultation program to resolve public address system noise issues and concerns. Currently, Action BMX does not play music to accompany the races or use the PA system at volumes that can be heard across the site. Determining acceptable noise levels with residents could help improve facility operations.</li><li>- <b>Future Growth:</b> In the long-term, Action BMX may outgrow its current facility. There has been some discussion of alternative sites. Action BMX would like to be located closer to highway access given the large number of users from the Fraser Valley and other Lower Mainland communities. If such a location arises, City staff should work to explore ways of accommodating Action BMX.</li></ul>

Facility/Park	Facility Features	Facility Improvements
<i>South Surrey Bike Park</i>	  	<ul style="list-style-type: none"> <li>- <b>Trails expansion:</b> SORCE would like to build the remainder of the cross-country trail envisioned in the Bike Park Plan. Surrey Parks should approve the new trail development.</li> <li>- <b>Provide annual financial support:</b> SORCE is a volunteer-run organization that receives the majority of funding through memberships. SORCE could improve and better plan and coordinate its already considerable programming, services and park maintenance work with a dedicated annual funding. The City of Surrey should review how best to provide annual funding of approximately \$5,000 to support SORCE, be it through community partnership matching funds or annual operating support. .</li> <li>-</li> </ul>
<i>Cloverdale Athletic Park BMX Track</i>	  	<ul style="list-style-type: none"> <li>- Existing BMX practice track to be upgraded with new start/finish area, new soil, new track features (e.g., roller jumps) and an improved track layout.</li> <li>- Signage to added showing proper track use and maintenance.</li> <li>- Water access for track maintenance.</li> <li>- The underutilized tot lot playground to the west of the BMX track to be converted to a Skills Park/Urban BMX area when the playground is removed and/or relocated.</li> </ul>
<i>Port Kells Park</i>		<ul style="list-style-type: none"> <li>- <b>Improve safety:</b> The jumps are well made, but there are some safety concerns that should be addressed. Signage will be put in place to warn oncoming park users that they are entering a bike park and to take the necessary precautions. The last in a series of jumps ends with a steep transition and a sharp corner surrounded by blackberry bushes. The angle of the jump will be changed, the landing adjusted and the blackberry bushes removed.</li> <li>- <b>Change difficulty of jumps:</b> There are two sets of advanced jumps, with gaps of roughly six feet. In order to appeal to a wider group of riders, one of the jump sets should be converted into smaller table top jumps. Before any changes are made the user groups should be consulted and their input considered.</li> <li>- <b>Relocation:</b> In the long-term, the facility may be relocated to a more visible and accessible portion of the park.</li> </ul>

## 2.1.2 New Facilities

The new facilities proposed in this strategy were selected and developed through a planning process that included an extensive site assessment phase, consultation and review with Surrey Parks staff and three rounds of public engagement and outreach. Based on this work and the understanding that non-traditional bicycle facilities are not appropriate in all park locations, fifteen parks were selected as candidate sites for non-traditional bicycle facility development.

### Site Assessment Criteria

The following site assessment criteria were used to evaluate candidate bicycle facility park sites. They are taken from Surrey's policy document, *Guidelines for Bicycle Recreation Facilities*.

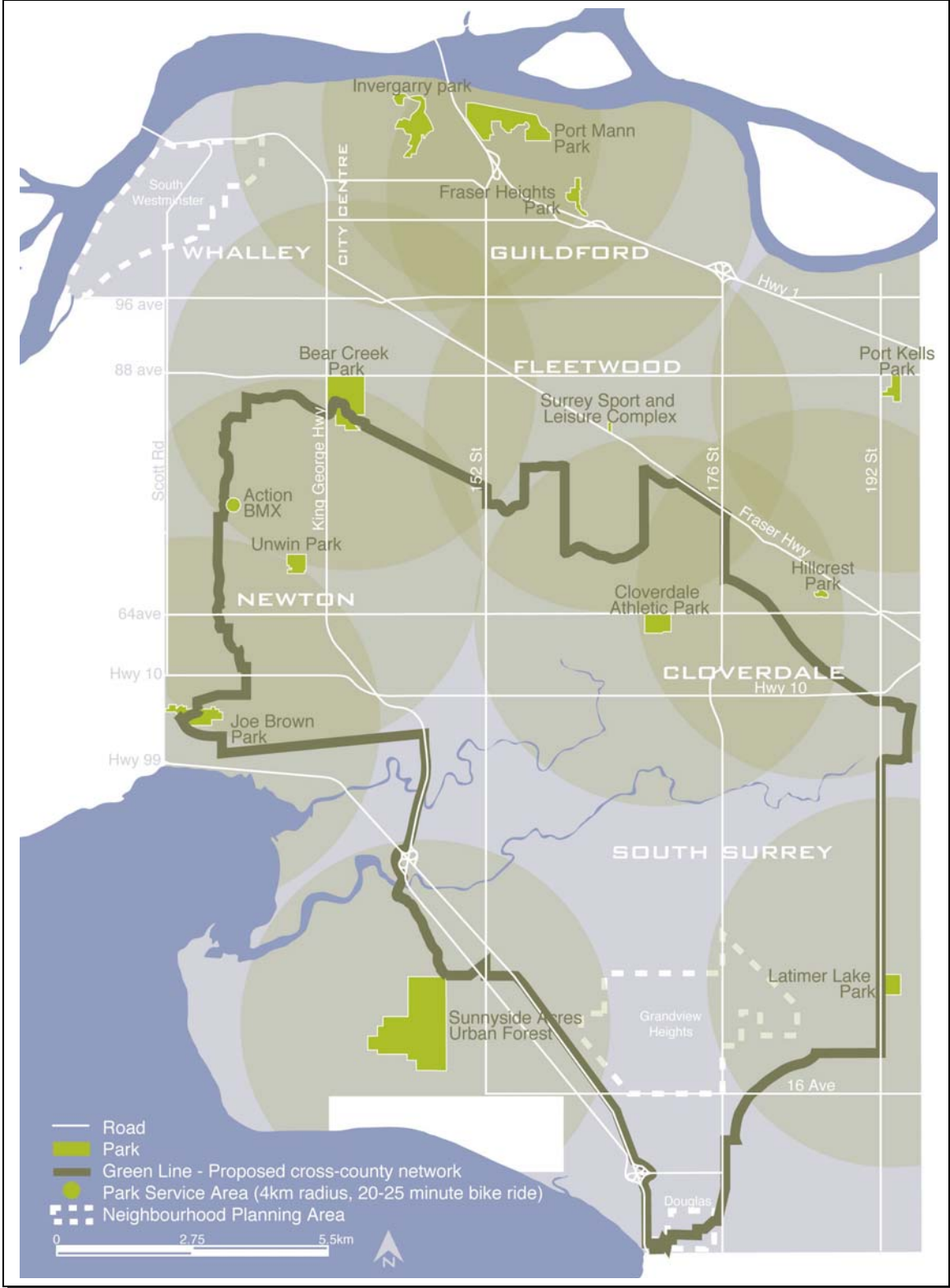
- ✓ **Environmental sensitivity:** Facilities should not excessively compromise ecologically sensitive areas within parks.
- ✓ **Soil suitability and drainage:** Soil should be well drained with a low percentage of organic material.
- ✓ **Proximity to residential property:** Where feasible, facilities should be located away from residential areas to reduce conflict with park neighbours.
- ✓ **Conflict with other park users:** Facilities should consider other park and trail users and be located to minimize conflict.
- ✓ **Future park plans:** Facilities should not compromise plans for future park use or development.
- ✓ **Proximity to other bicycle recreational facilities:** New bicycle facilities near similar existing approved areas will not be supported.
- ✓ **Visibility:** Good site visibility will help to reduce vandalism and other undesirable activities, as well as to capture awareness of such facilities and promote use.
- ✓ **Access for emergency services:** Police, fire and ambulance must be able to access the site in the event of an emergency.
- ✓ **Availability of parking:** Vehicle parking must be available near the site.
- ✓ **Washroom facilities:** Locations with public washrooms nearby are preferred.
- ✓ **Perceived need:** Understanding apparent/perceived local demand and area demographics is important.
- ✓ **Community Partnership:** An ongoing partnership with a group of riders is desirable to design, construct and maintain facilities.

Each of the fifteen park sites was evaluated using the assessment criteria established in Surrey's 2003 guiding policy document, *Guidelines for Bicycle Recreation Facilities* (see text box). This document provides guidelines for the planning, construction, maintenance and inspection of bicycle recreation facilities in the city. Three additional criteria – site topography and terrain, park size and transit/bicycle accessibility were added by the consultants. A full description of the assessment criteria is provided in Appendix B.

Based on this assessment process, additional site visits, further Surrey Parks staff review, and more public outreach, a final list of candidate parks was developed. Located throughout Surrey, the seven selected parks include Cloverdale Athletic, Bear Creek Youth, Invergarry, Hillcrest, Unwin, Fleetwood and Fraser Heights Parks.

As illustrated by the map on the next page, the bike facilities network will permit almost all residents of Surrey to access at least one of the facilities in an easy, 20- to 25-minute bike ride. The service area is based on a four kilometre service radius. The dotted outlined areas on the map indicate where bike facilities will be considered for future parks in the Douglas, Grandview Heights and South Westminster neighbourhoods – three communities where comprehensive neighbourhood planning processes and redevelopment are currently underway. Any new bike facility in these neighbourhoods would be created in consultation with residents prior to development in these areas and would be based on the site selection criteria outlined in this strategy.

MAP 1: Surrey Bicycle Recreation Facilities Strategy: Facility Service Areas





For each of the parks selected for new or improved bike facilities, a preliminary concept plan was developed for public and Surrey Parks staff review. The concept plans identified the facility type(s) for consideration in the park, park circulation routes, key entry points and connections and, where required, the location of vegetative buffering and/or fencing to better separate and screen the facilities.

In addition to the short-term bicycle facility upgrades and new facility developments, this phase of work also identified potential medium- and long-term facility developments. The development of the potential short-, medium and long-term improvements and facilities were guided by the following strategy principles that were created by the consultant team in consultation with staff from the Parks Recreation and Culture Department:

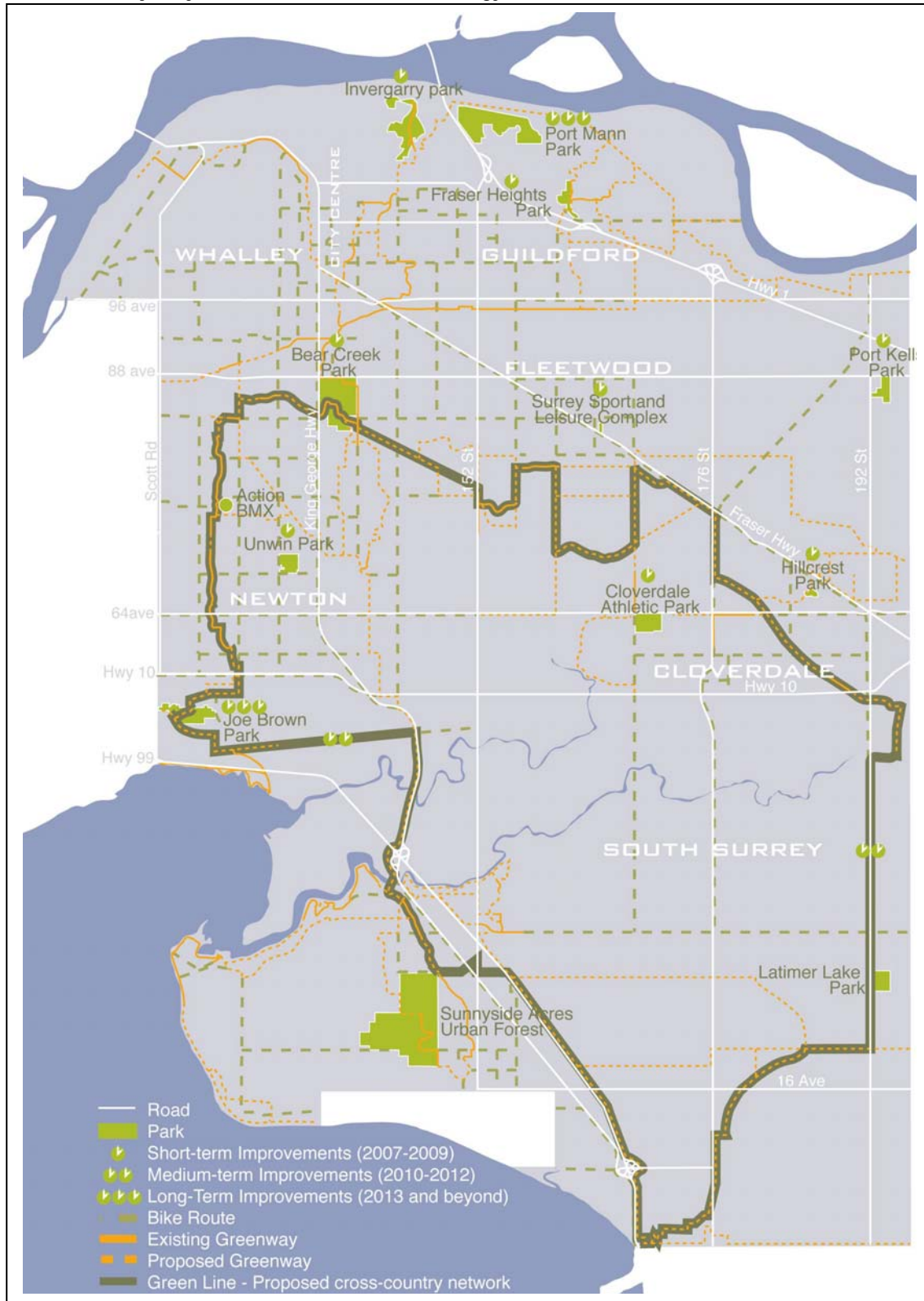
- ✓ **Accessible:** Proposed facilities are to serve all Surrey communities, major non-traditional riding groups and user abilities.
- ✓ **Flexible:** Proposed facilities are to be designed to be flexible, allowing them to be changed and/or expanded over time as rider preferences and user groups change and evolve.
- ✓ **Integrated:** Facilities are to be connected to one another through a proposed *Green Line* bike network that will be developed over the medium-term. The *Green Line* will allow users to access parks more easily on their bicycles.
- ✓ **Safe:** Facilities will include features for a wide range of abilities and age groups, from young, beginner riders to more advanced, intermediate riders. All stunts will be designed for safe and fun riding.
- ✓ **Economical:** Wherever practical and feasible, proposed facilities shall be located in parks with existing facilities, including parking, washrooms and water.

The facility concept plans along with proposals for medium- and long-term improvements were next reviewed by the public at two open house events. One of the open houses was a larger outdoor event at the South Surrey Bike Park that was hosted by SORCE (Surrey Off-Road Cycling Enthusiasts) and included bike demonstrations, clinics, prizes and a variety of creative opportunities for public comments (e.g., modeling stations, a graffiti wall, a Much Music style speaker corner, etc.). The event attracted over 250 people.











Based on public feedback received at these events, an additional survey and input from Surrey Parks, final concept plans were developed and the Surrey Bicycle Recreation Facilities Strategy was finalized. The map on the next page illustrates the Strategy's proposed short-, medium- and long-term improvements.

Following the map, a series of tables outline the Surrey Bicycle Recreation Facility Strategy's proposed short-term facility upgrades and improvements. The facilities are organized by priority/phasing based on community service area need, Surrey Parks staff input and guidance, and a public ranking of proposed facilities that was carried out through the project's public involvement process.

MAP 2: Surrey Bicycle Recreation Facilities Strategy










### Short-term improvements (2007 to 2009) – Existing and New Bicycle Facilities

Park	Service Area	Facility Features	Facility Description
Fleetwood Athletic Park <sup>9</sup>	Fleetwood		<ul style="list-style-type: none"> <li>- Four lines of dirt jumps to be developed between the Surrey Sports and Leisure Complex and the Fraser Highway.</li> </ul>
Bear Creek Youth Park <i>- Existing facility</i>	Fleetwood Newton	  	<ul style="list-style-type: none"> <li>- Existing skate/bike park to be improved with addition of concrete spine designed for urban BMX riders.</li> <li>- Two rows of dirt jumps to be developed next to the skate/bike park.</li> <li>- Single family-oriented cross country loop to be developed to the immediate east, below the power lines.</li> </ul>
Cloverdale Athletic Park <i>- Existing facility</i>	Cloverdale	  	<ul style="list-style-type: none"> <li>- Existing BMX practice track to be upgraded with new start/finish area and track layout.</li> <li>- The underutilized tot lot playground to the west of the BMX track to be converted to a Skills Park/Urban BMX area when the playground is removed and/or relocated.</li> </ul>
Unwin Park	Newton	  	<ul style="list-style-type: none"> <li>- Four lines of dirt jumps, a small skills area and pump track to be developed in the currently undeveloped and unused south-west corner of the park.</li> </ul>

<sup>9</sup> Fleetwood Park was originally identified as the site for dirt jumps in this service area and was presented as such during the first round of public consultation. Upon further review by Surrey Parks staff, it was determined that the original location could pose site safety issues and help generate undesirable social uses. Fleetwood Athletic Park was selected as a back-up location.

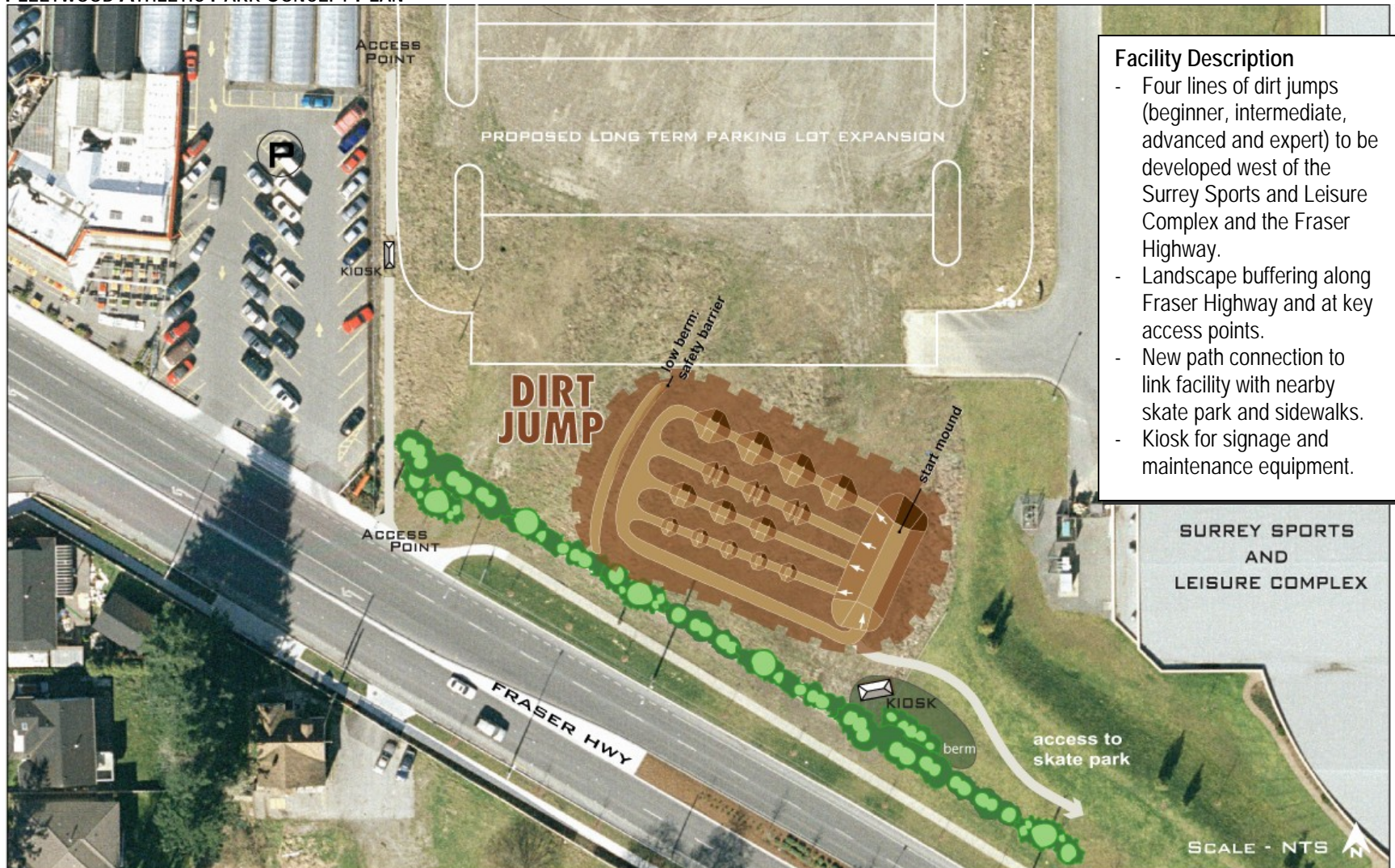
### Short-term improvements (2007 to 2009) – Existing and New Bicycle Facilities

Park	Service Area	Facility Features	Facility Description
Invergarry Park	Whalley	  	<ul style="list-style-type: none"> <li>- Multiple facilities would be developed in a previously disturbed area of the park (a former construction waste dump) to the east of Bonnacord Creek and ravine.</li> <li>- Facilities to include a free-ride area in an existing bowl area, a small skills park and four rows of dirt jumps.</li> <li>- A gravel parking area and washrooms will be developed nearby at Surrey Road.</li> </ul>
Port Kells Park	Guildford Cloverdale		<ul style="list-style-type: none"> <li>- The existing dirt jumps to be upgraded with safety improvements (i.e., improved landings and lines).</li> <li>- Improved sightlines to facility with access trail straightening.</li> <li>- Trail closures and rehabilitation behind facility.</li> </ul>
Fraser Heights Park	Guildford	 	<ul style="list-style-type: none"> <li>- Four rows of dirt jumps and a pump track to be developed in south end of park.</li> <li>- Fencing and landscaping buffers to be added along eastern edge of facility.</li> </ul>
Hillcrest Park	Cloverdale		<ul style="list-style-type: none"> <li>- Three rows of dirt jumps to be developed near the existing playground.</li> <li>- Extensive landscape buffering to be added along residential borders.</li> </ul>

Concept plans for each of the facilities follow on the next pages. They illustrate the facility type(s) for each location, park circulation routes, key entry points and connections and, where required, the potential location of vegetative buffering and/or fencing to better separate and screen the facilities. While the facility features are properly dimensioned and scaled, more detailed design will be required for each of the facilities prior to construction. Additional public consultation at the detailed design phase may also be carried out in the immediate areas surrounding the park sites where there is resident concern.



## FLEETWOOD ATHLETIC PARK CONCEPT PLAN



### Facility Description

- Four lines of dirt jumps (beginner, intermediate, advanced and expert) to be developed west of the Surrey Sports and Leisure Complex and the Fraser Highway.
- Landscape buffering along Fraser Highway and at key access points.
- New path connection to link facility with nearby skate park and sidewalks.
- Kiosk for signage and maintenance equipment.



## BEAR CREEK PARK CONCEPT PLAN



### Facility Description

- Existing skate/bike park to be improved with addition of concrete spine designed for urban BMX riders.
- Two rows of dirt jumps (beginner and intermediate) to be developed next to the skate/bike park.
- Single family-oriented cross country loop to be developed to the immediate east, below the power lines.
- Kiosk for signage and maintenance equipment.



## CLOVERDALE ATHLETIC PARK CONCEPT PLAN

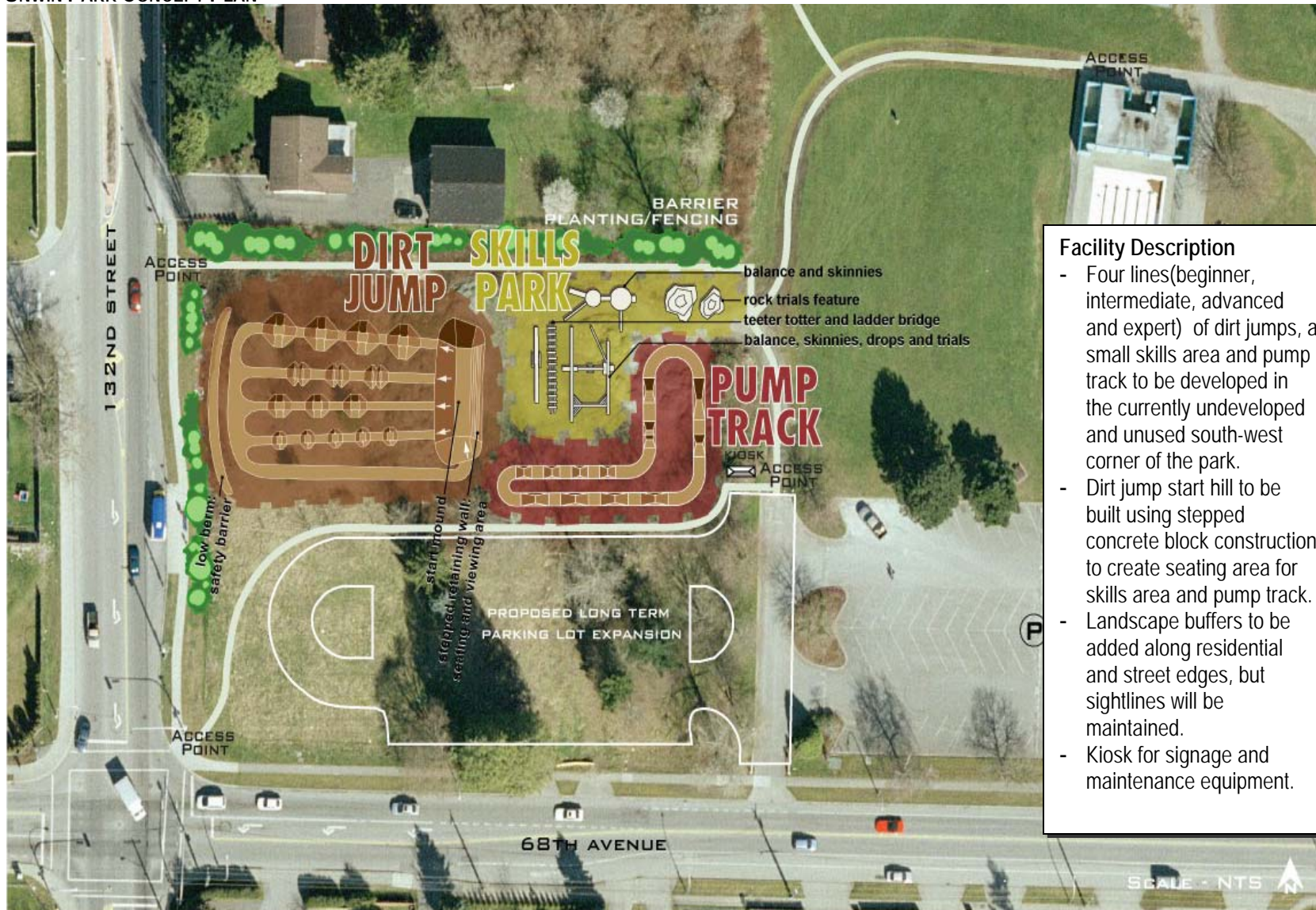


### Facility Description

- Existing BMX practice track to be upgraded with new start/finish area and track layout.
- The underutilized tot lot playground to the west of the BMX track to be converted to a Skills Park/Urban BMX area when the playground is removed and/or relocated.
- Protective fencing to be added around existing tree grove.
- Kiosk for signage and maintenance equipment.



## UNWIN PARK CONCEPT PLAN



### Facility Description

- Four lines (beginner, intermediate, advanced and expert) of dirt jumps, a small skills area and pump track to be developed in the currently undeveloped and unused south-west corner of the park.
- Dirt jump start hill to be built using stepped concrete block construction to create seating area for skills area and pump track.
- Landscape buffers to be added along residential and street edges, but sightlines will be maintained.
- Kiosk for signage and maintenance equipment.



## INVERGARRY PARK CONCEPT PLAN





## PORT KELLS PARK CONCEPT PLAN



### Facility Description

- The existing dirt jumps to be upgraded with safety improvements (i.e., improved landings and lines).
- Improved sightlines to facility with access trail straightening.
- Trail closures and rehabilitation behind facility.
- Kiosk for signage and maintenance equipment.
- In the long-term, the facility may be relocated to a more accessible and visible location in the park.



## FRASER HEIGHTS PARK CONCEPT PLAN





## HILLCREST PARK CONCEPT PLAN



### Facility Description

- Three rows of dirt jumps to be developed near the existing playground (beginner, intermediate, and advanced).
- Extensive landscape buffering to be added along residential borders.
- Kiosk for signage and maintenance equipment.
- Neighbourhood consultation about this project will be held before plans are finalized.

### 2.1.3 Staffing and Stewardship

While the capital costs of bike facilities are low, they do require ongoing maintenance. In some locations, some of this maintenance could be done by facility users to reduce maintenance needs and costs, encourage local stewardship and oversight of facilities, build positive neighbourhood relationships, and to instill positive community values with riders.

Currently, support and resources for the maintenance and operations of bicycle facilities in Surrey falls under the care of City of Surrey Parks Division staff in the each of the Division's operations areas. Area Parks Operations Coordinators will ensure that new bicycle parks and bicycle park features are maintained and kept safe. Additional support will be provided through the City of Surrey's successful Partners-in-Parks Program where Park Partnership Coordinators will work with local Park Stewards to involve bicycle park users in the ongoing maintenance and operations of facilities. Current resources will be insufficient to support development of new facilities in the mid- to long-term. The need for additional staff will be reviewed annually through the Parks Department's operating budget. The potential of hiring a bicycle facilities maintenance contractor will be explored if facility use warrants it.

Parks Operations and Park Development Coordinators would have multiple responsibilities with the development of new facilities. Chief among these would be to work Parks Partnership Coordinators to liaise with existing bicycle groups to ensure the ongoing development of existing community-managed facilities and to help steward new community-based bike groups who could help maintain the new facilities that area developed as a result of this Strategy. Key duties could include:

- Management and administrative oversight of bike park facilities within their operations area;
- Coordination and oversight of community-based bike facility work days with facility riders, local youth and residents within their operations area;
- Conducting ongoing, scheduled inspection of facilities within their operations area as established in Surrey's Guidelines for Bicycle Recreation Facilities (Note: Coordinators should hold current Canadian Playground Safety Inspector [CPSI] certification and have proven knowledge of structures and construction methodologies as outlined in Guidelines for Bicycle Recreation Facilities);
- Identification of and stewarding of new bike facility "club groups" or "riders' clubs" within their operations area to carry out day-to-day facility maintenance;
- Removal of informal, non-sanctioned facilities within their operations area; and,
- Helping coordinate and support bike facility events (e.g., competitions) at facilities within their operations area.



*Getting riders involved in the maintenance and stewardship of bike facilities reduces maintenance needs and costs, helps instill positive community values with riders and builds positive neighbourhood relationships (photo: Pipeline Bike Park, Coquitlam)*

## 2.1.4 Preliminary Cost Estimates

The types of bicycle recreation facilities outlined in this strategy are amongst the least expensive recreation facilities to build and maintain, particularly in comparison to facility types demanded by other forms of recreation (e.g., field sports, tennis, basketball, etc.). The low cost is primarily due to the simple construction materials required (fill dirt, dimensional lumber), the minimal requirements for heavy construction equipment, and relatively low design costs (facility types tend to be basic structures that do not require engineering specifications or detailed technical design).

The facility cost estimates outlined in this section are first order estimates only and incorporate a cost range to account for contingencies. Costing these facilities is somewhat difficult given the fact that most facilities have been constructed using a combination of volunteer and paid labour, heavy equipment and hand tools and various donated materials, including, in many cases, fill soil for the dirt jumps, pump tracks, etc.. To be conservative, the cost estimates in this section are based on paid labour and materials. Cost estimates also assume that all detailed design would be carried out or overseen by an experienced non-traditional biker. The same requirements would apply to bike facility construction which would also be overseen and managed by a skilled and experienced bike park contractor. Site preparation costs are also assumed to be lower in this costing, as every facility site outlined in this strategy requires very limited site preparation if any.

The total cost of short-term improvements and new facility construction is estimated to range between \$361,000 and \$418,000. The following unit cost estimates are based on the Surrey Parks, Culture and Recreation 2005 Unit Costs (adjusted for inflation and material cost increases) and a survey of municipal bicycle facility and non-municipal bike park development costs.

### Material Cost Estimates

Material/Service	Cost
Dirt/Soil	<ul style="list-style-type: none"><li>\$5 metre<sup>3</sup> (supply and place)</li><li>- Suitable screened fill soil could likely be donated or acquired at very low cost through the City of Surrey or excavation contractors</li><li>- Dirt Jumps: 1,500 metre<sup>3</sup> of soil for average dirt jumping track with two full jumping lanes (three doubles each), a start hill and finish berm</li><li>- Pump Track: 800 metre<sup>3</sup> of soil for average pump track (1 metre X 55 metres)</li></ul>
Water Service	<ul style="list-style-type: none"><li>- Cost varies per facility</li><li>- Based on tie-in to existing supply with new hose bib and hose</li><li>- \$55/lineal metre for 50mm supply pipe (only where required)</li><li>- \$600 per hose bib</li></ul>
Lock box and equipment	<ul style="list-style-type: none"><li>\$800 per facility</li><li>- shovels, rakes, water hose, gloves, etc.</li></ul>
Trail construction	<ul style="list-style-type: none"><li>\$8 to \$20 per lineal metre</li><li>- Varies per facility depending upon conditions, features and trail widths</li><li>- Retrofitting of existing trails (e.g., Fleetwood Park) considerably cheaper</li></ul>



## Material Cost Estimates continued

Material/Service	Cost
Signage and info kiosk	\$2,000 per facility - includes design costs, construction, signage
Urban skills features	Cost varies per facility - wooden, concrete and natural features (e.g., old concrete dividers, rocks, built features using salvaged dimensional construction lumber, etc.) - Features could be donated or acquired at low cost through City of Surrey (Works Yards) and other contractors - A small 315 square metre (60'X60') asphalt plaza requires approx. 50 metre <sup>3</sup> of asphalt. - A small, 4.5mX1.5mX1.5m concrete ¼ pipe requires approx. 15 metre <sup>3</sup> of concrete
Portable washroom	\$14,000 each - "Woody toilet building", prefab concrete construction
Gravel parking lot	\$42 metre <sup>2</sup> (typical 18m. X 24m.) - minimal site prep required - \$2,0000, 3 metre single gate, if required
Fencing & buffers	Cost varies per facility - \$28 lineal metre, post and chain - \$25 metre <sup>2</sup> shrub beds (includes plants, labour, no soil)
Detailed Design	Cost varies per facility - Detailed design costs include meetings with riders and nearby residents - Scaled CAD construction drawings - Construction site visit(s) and oversight

Costs would increase if additional site amenities were considered. Some examples of site amenities that can increase cost per square foot include the addition of lighting and perimeter fencing. Lighting could be considered for larger facilities to permit evening riding in the winter months.











The tables beginning on the next page break-out the preliminary construction cost estimate range for each of the facilities identified in this strategy. A 10% to 25% contingency was used to generate the cost ranges.










*Skills and free-ride features such as these drops or this novice log ride, are typically simple structures that are inexpensive to construct and maintain. Photo: Guidelines for Bicycle Recreation Facilities*



## Facility Cost Estimates

Park	Facility Features	Cost Estimate
Fleetwood Athletic Park		<b>\$ 33,000 to \$38,000</b> - <b>Dirt Jumps:</b> \$18,000, based on 3,000 metre <sup>3</sup> of dirt and construction costs for 4 lines of dirt jumps - <b>Additional features:</b> \$4,000 for signage, water service, equipment box - <b>Landscaping:</b> \$6,000 for buffer plantings and access paths - <b>Detailed design costs:</b> \$2,000
Bear Creek Youth Park	  	<b>\$ 21,000 to \$25,000</b> - <b>Dirt Jumps:</b> \$9,000, based on 1,500 metre <sup>3</sup> of dirt and construction costs for 2 lines of beginner-oriented jumps - <b>Urban BMX:</b> \$3,000, for construction of a single, 2 metre concrete "spine" in the existing skate park and three metal rails - <b>Cross Country:</b> \$1,000, based on use of existing trails and construction of new connector trail - <b>Additional features:</b> \$2,500 for signage, equipment box - <b>Landscaping:</b> \$1,500 buffer plantings and fencing - <b>Detailed design costs:</b> \$2,000
Cloverdale Athletic Park	  	<b>\$ 86,000 to \$99,000</b> - <b>BMX Racing:</b> \$9,000, based on track rebuilding, 1,500 metre <sup>3</sup> of dirt and construction costs - <b>Urban BMX:</b> \$55,000, based on 315 square metre (approx. 60'X60') asphalt pad with asphalt, concrete and wood features (two 1/4 pipes, spines, stairs, drops) - <b>Skills Park:</b> \$3,000 - <b>Additional features:</b> \$3,500 for signage, equipment box, water service - <b>Landscaping:</b> \$1,500 protective fencing around existing tree grove - <b>Detailed design costs:</b> \$5,000
Unwin Park	  	<b>\$ 50,000 to \$58,000</b> - <b>Dirt Jumps:</b> \$24,000, based on 3,000 metre <sup>3</sup> of dirt and construction costs for 4 lines of dirt jumps and step-down concrete block retaining for start hill - <b>Pump Track:</b> \$5,000 for 55 metre track - <b>Skills Park:</b> \$4,000 - <b>Additional features:</b> \$3,500 for signage, water service, equipment box - <b>Landscaping:</b> \$4,500 buffer landscaping between residential uses/streets and proposed parking lot expansion, pathways - <b>Detailed design costs:</b> \$4,000

## Facility Cost Estimates continued

Park	Facility Features	Cost Estimate
Invergarry Park	  	<p><b>\$ 100,000 to \$120,000</b></p> <ul style="list-style-type: none"> <li>- <b>Free-ride Trails:</b> \$5,000, based on 500 metres of free ride trails and wooden/earthen stunts and features</li> <li>- <b>Skills Park:</b> \$4,000</li> <li>- <b>Dirt Jumps:</b> \$18,000, based on 3,000 metre<sup>3</sup> of dirt and construction costs for 4 lines of dirt jumps</li> <li>- <b>Additional features:</b> \$55,000</li> </ul> <p>Invergarry is the only park without existing parking or washroom facilities. The additional infrastructure costs are estimated at:</p> <ul style="list-style-type: none"> <li>- <b>Parking:</b> 500 sq metre (20m by 25 m) gravel lot, site preparation and single 3m gate: \$35,000</li> <li>- <b>Washrooms:</b> Single portable toilet. \$15,000</li> <li>- <b>Water service, equipment box, signage</b> \$5,000</li> <li>- <b>Landscaping:</b> \$5,000 buffer landscaping between residential uses/streets and proposed parking lot</li> <li>- <b>Detailed design costs:</b> \$6,000</li> </ul>
Port Kells Park		<p><b>\$ 11,000 to \$13,000</b></p> <ul style="list-style-type: none"> <li>- <b>Dirt Jumps:</b> \$2,000, based on improvement of existing dirt jumps (150 metre<sup>3</sup> new dirt)</li> <li>- <b>Additional features:</b> \$3,500 for signage, equipment box, water service</li> <li>- <b>Landscaping:</b> \$3,000 buffer landscaping, cost contribution to trail decommission and rehabilitation</li> <li>- <b>Detailed design costs:</b> \$1,000</li> </ul>
Fraser Heights Park	 	<p><b>\$ 38,000 to \$44,000</b></p> <ul style="list-style-type: none"> <li>- <b>Dirt Jumps:</b> \$18,000, based on 3,000 metre<sup>3</sup> of dirt and construction costs for 4 lines of dirt jumps</li> <li>- <b>Pump Track:</b> \$5,000 for 55 metre track</li> <li>- <b>Additional features:</b> \$4,000 for signage, equipment box, water service</li> <li>- <b>Landscaping:</b> \$5,000 buffer landscaping and fencing between features and stream</li> <li>- <b>Detailed design costs:</b> \$2,000</li> </ul>
Hillcrest Park		<p><b>\$ 27,000 to \$31,000</b></p> <ul style="list-style-type: none"> <li>- <b>Dirt Jumps:</b> \$14,500, based on 2,250 metre<sup>3</sup> of dirt and construction costs for 3 lines of dirt jumps</li> <li>- <b>Additional features:</b> \$3,500 for signage, equipment box, water service</li> <li>- <b>Landscaping:</b> \$4,500 buffer landscaping between residential uses/streets and proposed parking lot expansion, pathways</li> <li>- <b>Detailed design costs:</b> \$2,000</li> </ul>

## 2.2 Medium-term Improvements (2010 to 2012)


The Surrey Bicycle Recreation Facilities Strategy's medium-term improvements involve the development of a greenway bike network for cross-country riders to be developed on existing and planned greenways and bikeways that would connect many of the bike facilities recommended in this strategy. Called the *Green Line*, the single-track trail network/loop would be a one-of-kind facility in the Lower Mainland, stretching almost 70-kilometres around Surrey.

It would serve multiple communities in Surrey (Newton, Fleetwood, Cloverdale and South Surrey) and permit riders to more easily access the new bike facilities on their bicycles. It would also provide a unique and unparalleled urban cross-country riding experience. Where feasible, some free-ride portions or trail spurs could be developed. Communities not directly connected to the Green Line (Whalley and Guildford) would be linked to it via city greenways and bike routes.

Some on-street and shared trail sections would be required. A proposed connection from 20<sup>th</sup> Avenue to 48<sup>th</sup> Avenue in South Surrey/Cloverdale would be required along 192<sup>nd</sup> Street to link into and connect Latimer Lake Park and the bicycle facilities currently under development there. The City of Surrey is currently exploring this connection in its ongoing greenway planning.

More detailed design and planning is required to effectively cost this proposed improvement. As such, the Green Line has not been costed out.

### Medium-term improvements (2010 to 2012)

Facility	Service Area	Facility Features	Facility Description
Green Line	Surrey-wide		A proposed greenway bike network for cross-country riders to be developed on existing and planned greenways and bikeways that would connect many of the bike facilities recommended in this strategy.



*A young rider pulling a dirt jump trick at South Surrey Bike Park.*



## 2.3 Long-term Improvements (2013 and beyond)

The Surrey Bicycle Recreation Facilities Strategy's long-term improvements involve the development of two parks -- Joe Brown Park and Port Mann Park -- that can not be currently developed due to environmental and engineering concerns. Master Plans that include bicycle recreation facilities for these parks have been or will be adopted by Council. Over the long-term, facilities may be also considered in the Douglas, Grandview and South Westminster neighbourhood planning areas, as community planning processes unfold for those areas.

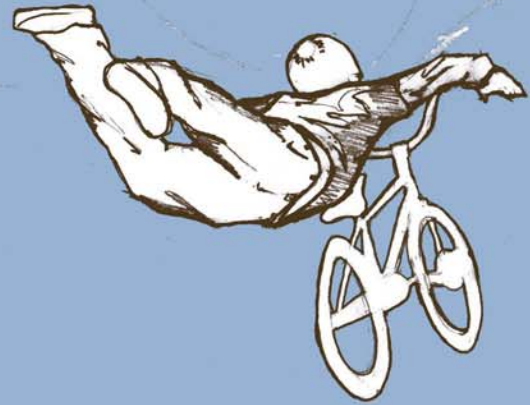
Currently, Joe Brown is park is used as construction fill dump site by the City of Surrey. A concurrent park master planning process has identified the possibility of developing a non-traditional bike facility in the park when the park is redeveloped.

Port Mann Park is the site of a former GVRD landfill. Located adjacent to the Port Mann Bridge above the Fraser River, the park boasts scenic views of the North Shore mountains and Fraser River and possesses good cross-country terrain. A Master Plan for the park has identified a potential bike park facility located in the former Dogwood Campground site. Currently this site is still privately-owned and the landfill area can not be developed for site stabilization reasons for another six to ten years or more.

### Long-term improvements (2013 and beyond)

Facility	Service Area	Facility Features	Facility Description
Port Mann Park	Guildford and Surrey-wide		When Port Mann Park is ready for development, a cross-country trail network with free-ride trails could be developed there. The park is large enough and boasts the necessary topography to develop a trail with intermediate sections and skills features.
Joe Brown Park	Newton		When Joe Brown is developed, small-scale features could be considered for the site. Improved linkages to nearby Delta Watershed Park should be considered, as cross-country trails and a trials area already exist in the park. Given the park's current equestrian uses (which will likely be maintained in the future), care will be required to clearly separate any new bicycle facilities from the equestrian uses. Given the close proximity of equestrian uses and the park's relative proximity to both South Surrey Bike Park and Unwin Park, large scale facilities should not be developed at this site.

**Note:** Given the timelines, no bike facility concept plans were developed for these parks in this study.



### 3. MAINTENANCE AND OPERATIONS



### 3. MAINTENANCE AND OPERATIONS

While both the space requirements and capital costs of bike facilities are relatively low, particularly in comparison to other forms of recreation (e.g., athletic fields), they do require ongoing maintenance and inspection. The proper maintenance of these facilities is also critical to minimizing risk for both facility users and for the City of Surrey.

Inspection frequency and maintenance needs will vary depending on the type of facility, the number of built or constructed features, the level of use, and the overall user numbers. Maintenance and inspection should be carried out as outlined in the Guidelines for Bicycle Recreation policy guide, Section 9, "Hazard Inspection Procedure for Bicycle Recreation Facilities".

The standards outlined in the document adapted from the Canadian Standards Association publication, *Children's Play Spaces and Equipment* (CAN/CSA-Z614-98) in addition to construction guidelines from the American Bicycling Association (ABA), the experiences of other jurisdictions, and input from advanced BMX and mountain bike riders.

As a minimum, the Guidelines recommend detailed hazard inspections are carried out to:

- Examine for potential defects and faults
- Give special attention to moving parts and components that can be expected for wear
- Enter the results and actions taken in a permanent record that can be examined if necessary








The document outlines further general maintenance and notes that a more formal maintenance and inspection procedure should be developed over time from experience. This development of these formal procedures and policies would be another responsibility of the City.

As outlined in the Guidelines for Bicycle Recreation, at a minimum, inspections should be done two times per year at the outset of any facility until such time that information concerning their use and durability become known. The inspections would be the responsibility of the a Surrey Parks, Recreation, and Culture staff person who holds current Canadian Playground Safety Inspector (CPSI) certification and has proven knowledge of structures and construction methodologies as outlined in the Guidelines for Bicycle Recreation.

Additional minor inspections and ongoing maintenance will likely be carried out by facility users, particularly on dirt jump, free-ride and cross country facilities which can be easily changed and reshaped manually by users. Dirt jump facilities in particular often require daily spot maintenance to keep landing surfaces functioning optimally.

The table on the next page outlines some basic maintenance and inspection needs for the different facility types outlined in this strategy. More detailed information is available in Guidelines for Bicycle Recreation.

## Generalized Facility Maintenance Needs

Facility Type	Basic Maintenance Needs
	<ul style="list-style-type: none"> <li>- Ensure that trail surface is free of debris, leaves, branches, and fallen trees</li> </ul>
	<ul style="list-style-type: none"> <li>- Ensure that trail surface is free of debris, leaves, branches, and fallen trees</li> <li>- Check trail features (e.g., drop offs, ladders, etc.) for safety (approach, landing and feature itself)</li> </ul>
	<ul style="list-style-type: none"> <li>- Check all features (natural and urban) for safety and function</li> <li>- Keep skills park area clean and debris free</li> </ul>
	<ul style="list-style-type: none"> <li>- Weekly jump grooming and maintenance over the first season of use, with less maintenance over consecutive seasons</li> <li>- Remove rocks and debris from dirt jump lines</li> <li>- Ongoing soil compaction of take-off jumps and jump lips</li> <li>- Minor on-going maintenance and jump re-shaping.</li> </ul>
	<ul style="list-style-type: none"> <li>- Ensure that area is free of debris and clean</li> <li>- Check sills and lips of concrete features for wear and damage</li> </ul>
	<ul style="list-style-type: none"> <li>- Continued grooming and maintenance over the first season of use, with less maintenance over consecutive seasons.</li> <li>- Remove rocks and debris that work to the surface</li> <li>- Keep area clean and debris free</li> </ul>
	<ul style="list-style-type: none"> <li>- Ongoing track raking, grooming and watering (frequency depends on use)</li> <li>- Removal of rocks and debris that work up to track surface</li> <li>- Keep area clean</li> </ul>

It is in facility maintenance where tremendous opportunities exist for developing community stewardship through organized work days where riders help carry out maintenance duties, or through the development and nurturing of community-based groups or bike clubs to operate the facilities on a volunteer basis. Unlike other types of more traditional recreation (e.g., field sports), non-traditional bike sports have historically actively involved riders in facility maintenance. This is both because ongoing, daily spot maintenance is required and because volunteer maintenance has always been a part of the non-traditional biking culture. This is why the expression, “If you ride, you dig,” is often heard in non-traditional biking community.

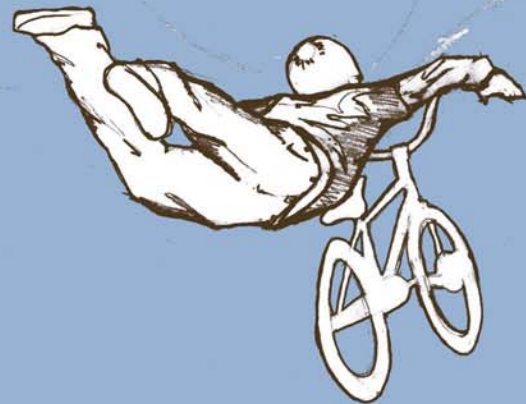
The history and popular folk lore of both BMX and mountain bike riding is steeped in riders building and maintaining their own facilities – trails, features, stunts, dirt jumps, pump tracks, etc. – and rebuilding them again whenever they were removed by municipalities or other agencies or lost to development and construction – a history that exists in Surrey’s riding community as well. This is because in early days of the sport, there were no municipal backers or private, controlled access bike parks; it was a self-propelled, rider-driven activity. This culture continues today, though perhaps not as strongly as in the early days, and marks the point where the City of Surrey can connect with the riding community to help maintain and even operate the facilities to be developed as part of this strategy.

It is through the community stewardship of facilities that the Parks, Recreation and Culture Department can both reduce construction and maintenance costs of these facilities, but more importantly help ensure that the facilities are actively used in a youth positive, community supportive manner.

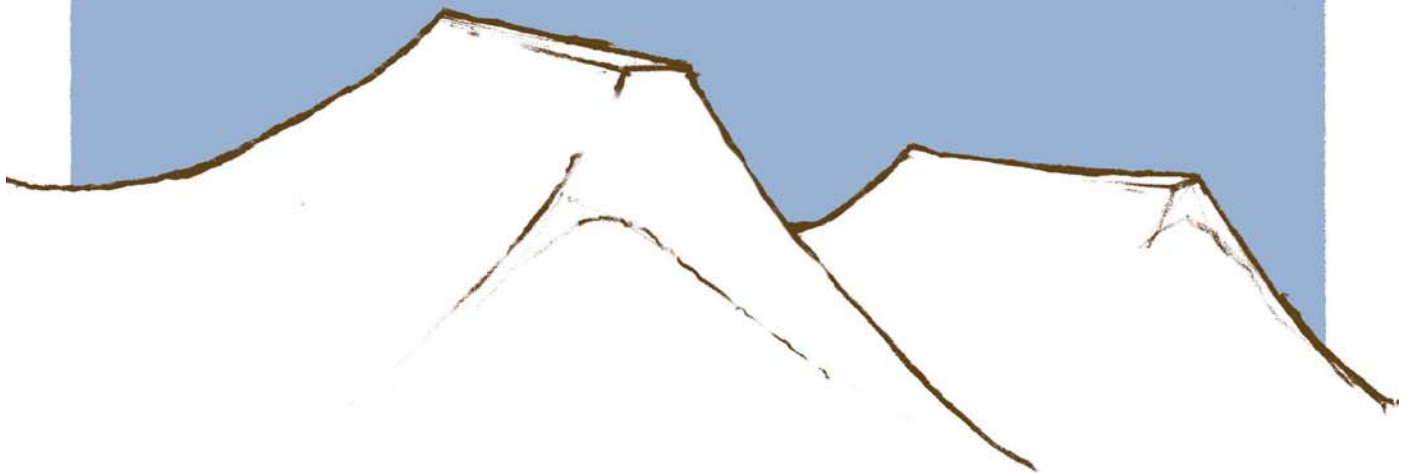
It is important to stress, however, that while this stewardship energy is out there, organized work days and overall stewardship coordination is still required to keep facility maintenance on track and to develop and sustain the facility stewardship groups.



Although stewardship is a part of the culture of off-road biking, it still requires leadership and ongoing nurturing to be effectively maintained. (image: International Mountain Biking Association)



#### 4. SITE SELECTION GUIDELINES FOR NEW FACILITIES





## 4. SITE SELECTION GUIDELINES FOR NEW FACILITIES

The City of Surrey is one of Canada's fastest growing municipalities. As the population increases, there will likely be an increase in demand for new, non-traditional bicycle recreation facilities, particularly as the popularity of non-traditional bicycle recreation continues to trend upwards as anticipated by this study.

While most of the demand should be met through the short-, mid- and long-term developments outlined in this strategy, Surrey Parks, Recreation and Culture will still likely face requests from the public for additional facilities. While many of the requests will likely come from riders who simply want a facility closer to their homes, this strategy recommends that:

*1.1 No additional new bike facilities be considered until the bike facilities to be developed as part of this strategy's short-term improvements are completed (est. 2009).*

City staff may also receive requests from individuals living in areas of new or emerging residential communities that are not currently served by this strategy's short-term improvements. In particular, this strategy anticipates potential new demand in the South Westminster, Douglas and Campbell Heights neighbourhoods (see Map 1, page 23). As these areas are not currently served, new facilities can be considered for these areas when new parks are developed to serve the communities and/or when they reach necessary population thresholds. In determining where and if to develop new facilities in these areas, this strategy makes the following recommendations:

*1.2 New bike facilities should be developed in the least serviced areas first (i.e. the community with the fewest and/or greatest distance to both existing facilities and facilities realized through this strategy).*

*1.3 Any new bicycle facility proposals should also consider formalizing any informal facility or features that may exist in the community where practical and feasible (often times, particularly when on public land, these informal facilities can simply be improved and brought up to standard very cost effectively).*

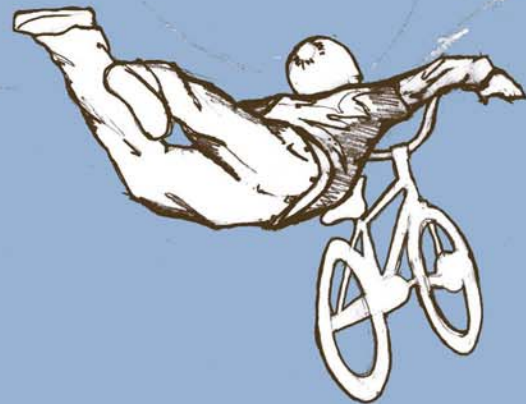
*1.4 As with other facilities outlined in this strategy, any new bike facility developed in South Westminster, Douglas and Campbell Heights should be created in consultation with resident groups in these areas and follow the site assessment and selection criteria identified in Guidelines for Bicycle Recreation Facilities.*

*1.5 Any new facility developed in these areas should be linked with the Green Line network where practical and feasible and/or other bike routes and greenways.*

Given the importance of local stewardship in the development and ongoing maintenance of successful bike facilities, this strategy also recommends:

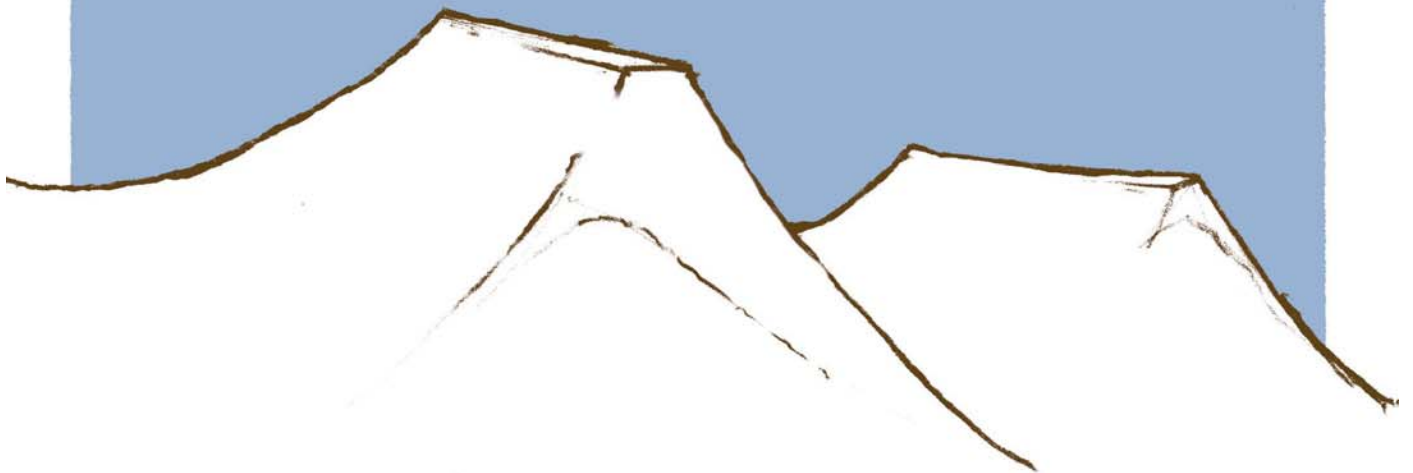
*1.6 Any new facility advocated for by existing or new bike club groups (either as a potential facility operator or steward) should be prioritized for development.*

This recommendation applies equally to this strategy's short-term improvements and developments.



## APPENDICES

- A. Public Process and Community Input
- B. Community Survey Results
- C. Site Assessment and Selection
- D. Trends and Innovative Practices Review



## A. Public Process and Community Input

Public consultation and engagement was an important part of the strategy development process. The consultant team incorporated many innovative and creative input tools. These tools and the overall process are summarized in this section.

### Surrey Bike Fest

To launch the project, members of the consulting team attended the Fifth Annual Surrey Bike Fest on June 24<sup>th</sup>, 2006. A booth was set up to introduce the project and garner information about current facilities and the perceived needs of recreational bicyclers in the Surrey area. The event was organized by SORCE and held at the South Surrey Bike Park. The event featured a dirt jump jam, professional free-riders, trail riding demonstrations, tours of the facilities, an off-road cycling trade expo, demonstration bikes to try out, clinics, and a kid's bike rodeo. Over 400 people attended the event.

The main purpose of attending the event was to introduce the project to the existing bike community in Surrey. Event participants helped identify existing informal/non-sanctioned bike features in Surrey and provided feedback on parks for consideration as bike facility sites.

A survey was also distributed at the event and posted on a web site set up specifically for the project. Everyone who completed a survey was entered into a draw to win a sized-to-fit 2006 Kona 24 Dirt Jump Bike. The purpose of this survey was to collect background and demographic information about the existing off-road bicycle community in Surrey. The survey revealed that a broad age and geographic range of people in Surrey use their bicycles for recreation. Ease of transportation and access were identified as key concerns among bike riders, indicating that neighbourhood parks are preferable to larger, less accessible destination facilities. The survey results also highlighted the diversity of riding types in Surrey. While cross-country continues to be the most popular form of recreational biking, dirt jumping, BMX, and free-riding occupy a substantial share of user activities. Over 300 surveys were received.

### Round 1 Open Houses

Once an initial draft strategy was produced, the consulting team and Surrey Parks Department staff conducted its first round of open houses. Targeting both northern and southern Surrey community members, the consulting team presented the draft strategy to the public in order to gain feedback for further refinement and revision.

All of the open house events followed City of Surrey policy. Parks staff publicly advertised the events in the Surrey Leader newspaper and on the City's web site. Over 3,000 invitations were also mailed to individual households in the immediate proximity of the parks included in the strategy.

The feature open house event was held at the South Surrey Bike Park on Saturday, September 30<sup>th</sup>, 2006. The event, called the Surrey Bike Parks Review, was presented with an upbeat tempo that included music, dirt jump demonstrations, free clinics, trails demonstration, free food and drinks, and lots of door prizes.

During this event the consultant team launched a second survey that asked specific questions about each of the proposed park expansions. Paper surveys were distributed that correlated with 11 exhibited information panels that outlined the draft strategies for each facility.

The event included a number of more creative means of engagement targeted at the youth demographic. This included a video speaker's corner that allowed individuals to speak freely about the strategy to a digital video camera. A clay modeling station was used to visualize the "dream park" (see picture on previous page). A "graffiti wall" was also used to let participants record random thoughts and ideas about the draft concept. The entire event was also recorded on digital video that was edited into a 5-minute video highlighting some of the day's activities and feedback.

On October 4<sup>th</sup>, 2006 the consulting team and staff from the Surrey Parks Department hosted another open house at the Guildford Community Centre in north Surrey. This event followed a more traditional open house style of engagement, which focused on a series of panel boards containing information about the draft concept. Members from the consulting team and Surrey Parks Department mingled with community members as they viewed the boards to answer any questions about the concept and encourage them to complete a survey.

Attendance at the first event was estimated at over 250 people and approximately 80 for the second event. Through these events and the Surrey Bike Parks website, over 200 surveys were collected, providing detailed feedback on the draft concept.

### **Round 2 Open Houses**

A second open house was held at Surrey City Hall on December 5<sup>th</sup>. The event attracted 18 people to view the information panels and provide feedback on the concept plans. Additional surveys were mailed out to households with the invitation to the open house. In addition a revised survey was hosted on the surrey bike park website in addition to revised concept plans.

### **Community Road Show**

The final public engagement activity involved a traveling road show, where the information panels were circulated through six Surrey community centres. The panels were posted for one week periods (including one weekend) at each of the centres. Paper surveys were made available at the community centres and the web site was promoted. The road show locations included community centres in North Surrey (December 11-15), Newton (December 18-22), Guildford (January 2-5), Fleetwood (January 8-12), Cloverdale (January 15-19) and South Surrey (January 22-26).

### **Surveys**

As part of the Surrey Bicycle Recreation Facilities Strategy project, three separate surveys were conducted with intercept surveys, on-line at the project website, at bike events, and with mail-out surveys that were sent to residences in the area of parks where short-term improvements were proposed. In total, over 500 surveys were completed as part of the project.

The first survey helped determine rider demographic and preferences. Its major findings included:

- ✓ Surrey boasts an active biking community, with riders of all ages and a high degree of skill and enthusiasm for the sport;



- ✓ There is city-wide demand for new, accessible facilities featuring dirt jumping, skills and cross-country; and,
- ✓ There is community appetite to help design and maintain any new facilities Surrey develops.

For the first survey, roughly 80% were male, and 20% female. While there was a broad age range represented, over 30% of the respondents were under 17. Of interest, approximately 15% of the respondents were between the ages of 35 and 44, while another 15% were between 45 and 54. The age range underscores the growing popularity the sport and its accessibility to a wide range of skill level, fitness and age.

The second survey was used to gauge public support for the overall strategy. Respondents were also given the opportunity to provide detailed input on each of the strategy's proposed short-term improvements. It determined uniformly strong and positive support for the draft strategy across all age groups and Surrey communities, including both riders and non-riders. Overall, 93% of the 200 respondents were satisfied with the strategy, with 76% reporting to be "extremely" or "highly" satisfied. As with the first survey, over 70% of respondents said that they would be willing to help maintain or steward any new or improved facility on supervised facility "work days".

The third and final survey was carried out to gauge support for each of the proposed short-, medium- and long-term improvements. As with the previous survey, the response was positive and strong. Overall, the majority of the 89 respondents were satisfied with the overall strategy, with an average of 80% reporting to be satisfied with the short-, medium- and long-term improvements. Each of the proposed short-term improvements were also overwhelmingly supported by respondents with support ranging from a low of 64% at Hillcrest (the only facility to rank below 83%) to a high of 95% at the Surrey Sport and Leisure Complex. The average support rate across all facilities was 86%.



*Youth at the Surrey Bike Fest open house event build a model of their "dream bike park." Creative public engagement techniques were widely used during the development of the strategy.*

## B. Community Survey Results

This section provides the survey results of the final two community surveys that were carried out as part of the Surrey Bicycle Facilities Strategy project.

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### 2nd Survey Results – October, 2006

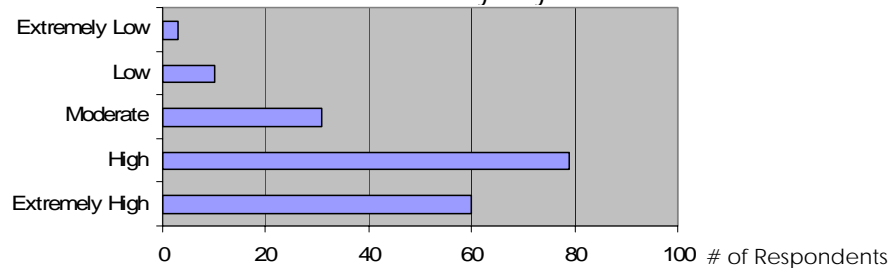
Number of respondents: 197

Average age: 24

Oldest respondent: 60

Youngest respondent: 9

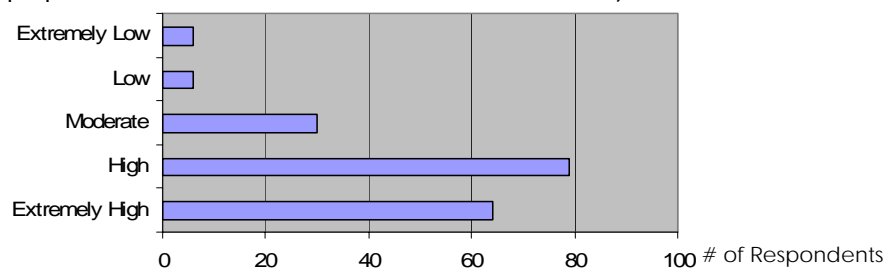
1. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), please rate your **overall satisfaction** with the Draft Surrey Bicycle Recreation Facilities Strategy.



Moderate to Extremely High: 93%

Extremely Low to Low: 7%

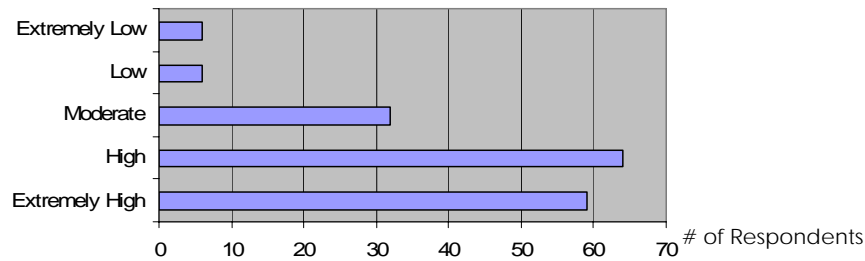
2. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), please rate your overall satisfaction with the Draft Strategy's recommendations for **short-term improvements** (i.e., recommendations to improve existing facilities and the development proposed new facilities are to occur in the short-term)



Moderate to Extremely High: 94%

Extremely Low to Low: 6%

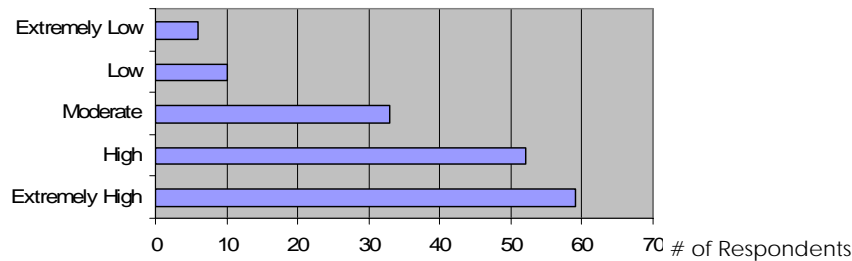
3. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), please rate your overall satisfaction with the Draft Strategy's recommendations for **medium-term improvements** (i.e., the proposed *Green Line* greenway bike network that will connect many of the bike facilities recommended in this strategy).



Moderate to Extremely High: 93%

Extremely Low to Low: 7%

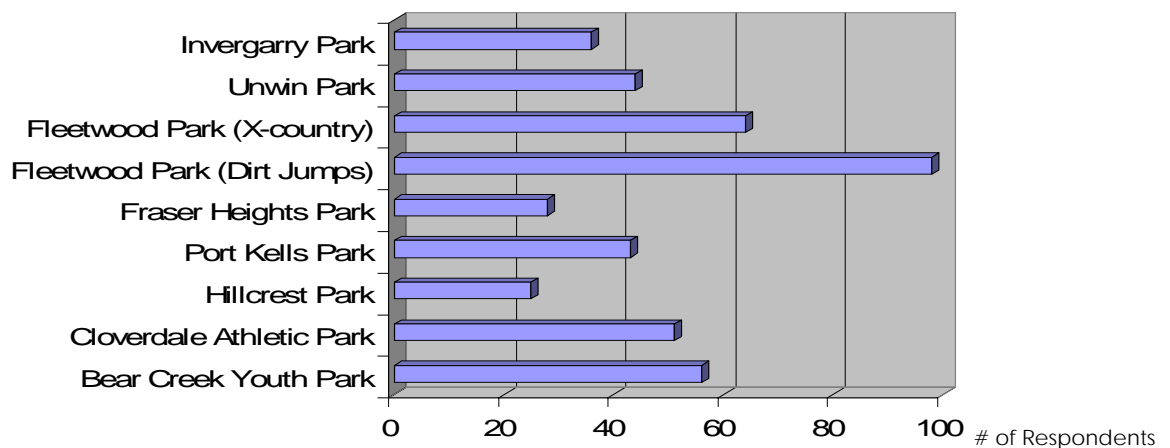
4. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), please rate your overall satisfaction with the Draft Strategy's recommendations for **long-term improvements** (i.e., improvements to Joe Brown Park and Port Mann Park).



Moderate to Extremely High: 90%

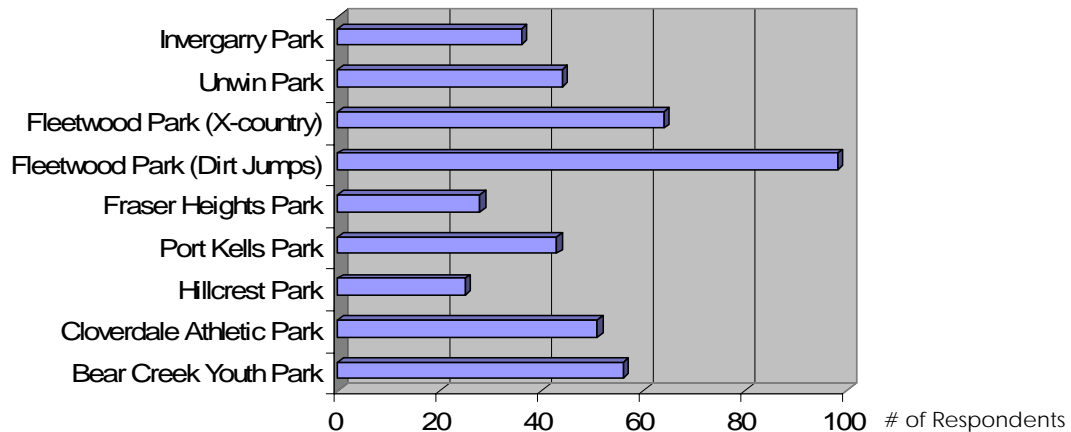
Extremely Low to Low: 10%

5. Which of the new bike facilities do you think **you would ride the most** when they are completed?

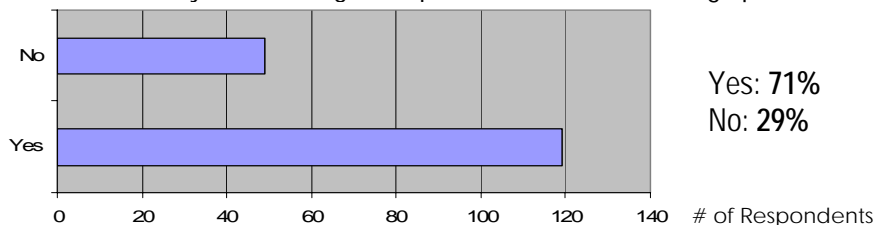




6. Which of the new bike facilities would you like to see **upgraded/constructed first?**  
(Please check your top 3 choices)



7. The City of Surrey would like to get riders to help with the maintenance of new bike park facilities. Would you be willing to help do some work on during special work days?



#### INDIVIDUAL PARKS

Notes:

- highest "No" %: 18% cross-country trails at Invergarry  
16% family-oriented cross country loop at Bear Creek
- highest "Yes" %: 99% dirt jumps for Fraser Heights  
98% dirt jumps for Invergarry  
98% washrooms and parking for Invergarry

#### BEAR CREEK

8. Do you support the **upgrade of the existing skate park** to be more suitable for urban BMX?

Yes	70	90%
No	8	10%

9. Do you support the addition of **beginner-oriented dirt jumps** directly behind the skate park?

Yes	70	89%
No	9	11%

10. Do you support the development of a **family-oriented cross-country trail loop** under the power lines behind the park?

Yes	65	84%
No	12	16%

#### CLOVERDALE

11. Do you support the **upgrading of the existing practice BMX track**?

Yes	68	89%
No	8	11%

12. Do you support the **conversion of the existing tot lot into a small skills park**?

Yes	65	87%
No	10	13%

#### HILLCREST

13. Do you support the development of **dirt jumps** in the area behind the existing tot lot/playground?

Yes	64	94%
No	4	6%

#### PORT KELLS

14. Do you support the **upgrading of the existing dirt jumps** to improve safety and quality?

Yes	65	97%
No	2	3%

#### FRASER HEIGHTS

15. Do you support the development of **dirt jumps** in the south end of the park?

Yes	72	99%
No	1	1%

16. Do you support the development of a **pump track** in the south end of the park?

Yes	68	94%
No	4	6%

#### FLEETWOOD

17. Do you support the development of **dirt jumps** just below (south) of the existing greenway path?

Yes	83	93%
No	6	7%

18. Do you support the development of a single, shared trail **cross country loop** on the trail existing below (south) of the existing greenway path?

Yes	51	86%
No	8	14%

#### UNWIN

19. Do you support the development of **dirt jumps** in the south-west corner of the park?

Yes	70	93%
No	5	7%

20. Do you support the development of a **pump track** in the south-west corner of the park?

Yes	69	95%
No	4	5%

21. Do you support the development of a small **skills area** in the south-west corner of the park?

Yes	67	91%
No	7	9%

#### INVERGARRY

22. Do you support the development of a **free ride loop** in the existing bowl area on the east side of the park?

Yes	62	94%
No	4	6%

23. Do you support the development of **dirt jumps** in next to the existing bowl area on the east side of the park?

Yes	65	98%
No	1	2%

24. Do you support the development of a small **skills area** in next to the existing bowl area on the east side of the park?

Yes	59	89%
No	7	11%

25. Do you support the development of one or two clearly separated and well-marked **cross country trails** on the east side of the park?

Yes	53	82%
No	12	18%

26. Do you support the development of **washrooms and a small parking area** on Surrey Road on the park's eastern edge?

Yes	64	98%
No	1	2%



## Final Survey Results – January 2007

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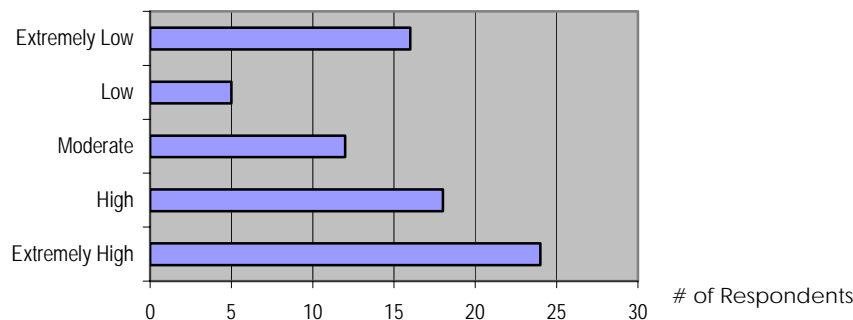
Number of respondents: **89**

Average age: **40**

Oldest respondent: **89**

Youngest respondent: **9**

1. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), what is your overall satisfaction with the Draft Strategy's recommendations for **short-term** improvements - 2007 to 2009 (i.e., recommendations to improve existing facilities and the development proposed new facilities in eight parks throughout Surrey)

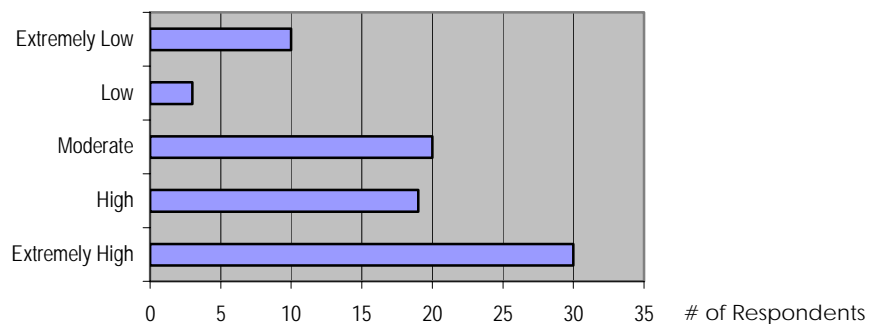


Moderate to Extremely High: **72%**

Extremely Low to Low: **28%**

Total Respondents: **75**

2. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), what is your overall satisfaction with the Draft Strategy's recommendations for **medium-term** improvements - 2010 to 2012 (i.e., the proposed Green Line greenway bike network that will connect many of the bike facilities recommended in this strategy).

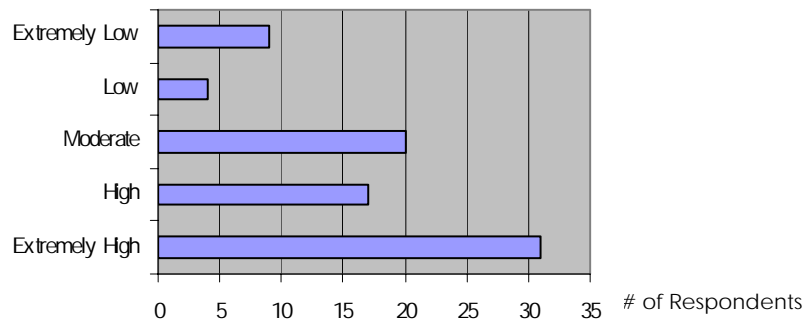


Moderate to Extremely High: **84%**

Extremely Low to Low: **16%**

Total Respondents: **82**

3. Overall, on a scale of 1 to 5 (where 1 is the lowest and 5 is the highest), what is your satisfaction with the Draft Strategy's recommendations for **long-term** improvements - 2013 and beyond (i.e., improvements to Joe Brown Park and Port Mann Park).



Moderate to Extremely High: **84%**

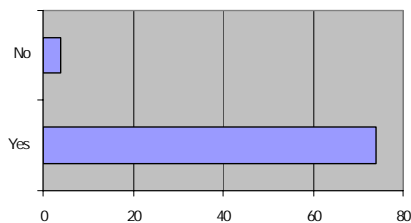
Extremely Low to Low: **16%**

Total Respondents: **81**

#### INDIVIDUAL PARKS

Please give us your feedback on the Strategy's short-term (2007 to 2009) recommendations to improve existing facilities and the development of new facilities. The parks are in the order that they may be developed, based on public feedback and feedback from Surrey Park's staff.

4. **SURREY SPORT AND LEISURE COMPLEX** Do you support the proposed improvements at Surrey Sport and Leisure Complex/Fleetwood Athletic Park?

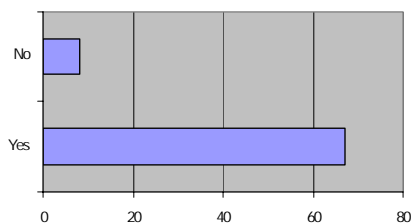


YES: **95%**

NO: **5%**

Total Respondents: **78**

5. **BEAR CREEK** Do you support proposed improvements at Bear Creek Park?

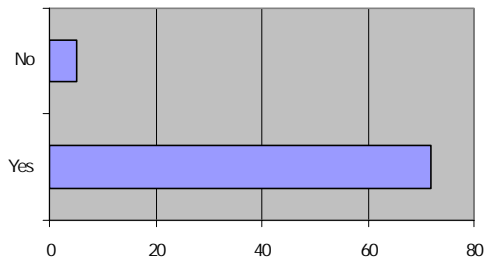


YES: **89%**

NO: **11%**

Total Respondents: **75**

6. **CLOVERDALE ATHLETIC PARK** Do you support the proposed improvements at Cloverdale Athletic Park?

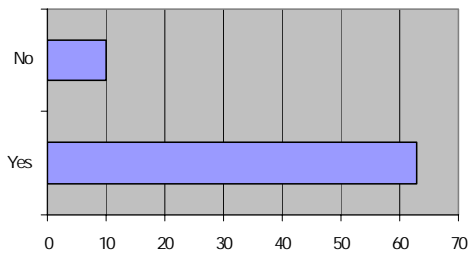


YES: 94%

NO: 6%

Total Respondents: 77

7. **UNWIN PARK** Do you support the proposed improvements at Unwin Park?

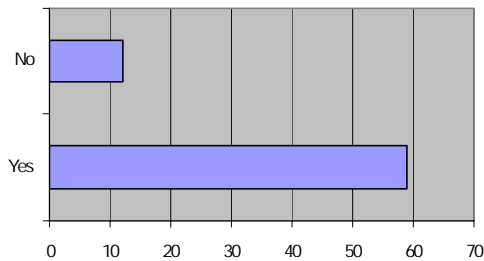


YES: 86%

NO: 14%

Total Respondents: 73

8. **INVERGARRY PARK** Do you support the proposed improvements at Invergarry Park?



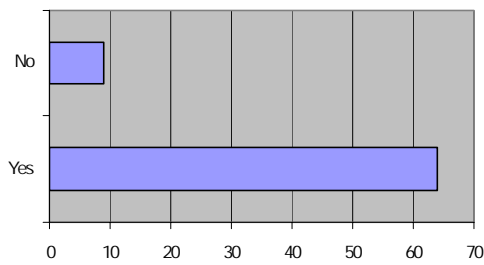
YES: 83%

NO: 17%

Total Respondents: 71



**9. PORT KELLS PARK** Do you support the proposed improvements at Port Kells Park?

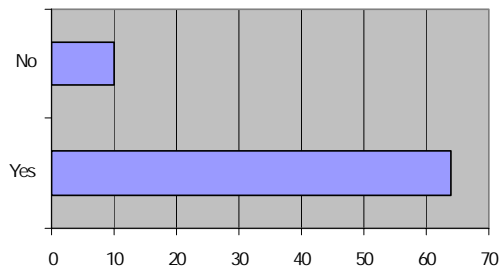


**YES: 88%**

**NO: 12%**

**Total Respondents: 73**

**10. FRASER HEIGHTS PARK** Do you support the proposed improvements at Fraser Heights Park?

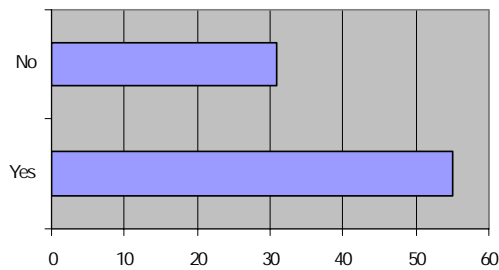


**YES: 86%**

**NO: 14%**

**Total Respondents: 74**

**11. HILLCREST PARK** Do you support the proposed improvements at Hillcrest Park?



**YES: 64%**

**NO: 36%**

**Total Respondents: 86**

## APPENDIX C

# Surrey Bike Facilities – Site Assessment and Selection

Prepared for:

Surrey Parks, Recreation and Culture

August 2006



## 1.0 Introduction

This document provides an overview of the site assessment and selection criteria used for the City of Surrey's Bicycle Recreation Facilities Strategy. It provides an overview of the parks selected for review by the City of Surrey, the criteria used to assess them, and their suitability for specific kinds of non-traditional bicycle activities.

## 2.0 Park Sites Reviewed

Given the diverse range of park types, sizes, uses and current activities available in Surrey's park system, off-road bicycle facilities are obviously not appropriate in all locations. Based on community input gathered through public outreach, an on-line survey, field visits and direction from City of Surrey Parks Department staff, fifteen parks were selected as candidate sites for off-road bicycle facility development. These parks are reviewed briefly below along with a rationale for their selection. A location map is provided on the next page.

### ✓ *INVERGARRY PARK*

Located in North Surrey near the Fraser River, this large park straddles the Whalley and Guildford neighbourhood boundary. Bisected by the Bon Accord Creek and ravine, the park is mostly undeveloped and is mostly covered in a lush, mature, second growth forest. The park was previously used as a dump site for construction waste, so some western and eastern portions away from the ravine feature younger, scrub forests. There is a trail network in the park, with some improved sections along the bottom of the ravine next to the creek. A local community group has developed a trails plan for the park and has received money from the City to develop it over time. There is a small, natural bowl area in the park's south east corner where a series of bike jumps and trails have been developed over the years. A local resident group favours the development of a bike park facility in this area. The park has no washroom facilities, water or parking.

### ✓ *POPLAR PARK*

This is a small park with a children's playground and wooded trail that is situated on a bluff in the north end of Whalley, near the Fraser Highway and

SkyTrain right of way. Poplar Park has a small wooded area with a few short trails that appear threatened by erosion and soil stability concerns.

### ✓ *ROYAL KWANTLEN PARK*

Royal Kwantlen Park is a large multi-use park situated in the centre of Whalley close to the Surrey Centre SkyTrain station and 132 St. The park is primarily comprised of open fields and hard surfaces that can accommodate a variety of sports and includes an outdoor swimming pool. There is a small, relatively old skate park that serves both bikers and skateboarders. Due to its small size, there are conflicts between the two user groups. The north edge of the park has a small stand of mature second growth forest, with an intensive network of multi-use trails. The park has abundant parking. There is a fire hall and school bordering the park.

### ✓ *GREEN TIMBERS URBAN FOREST*

Located close to Surrey City Centre, the park is one of Surrey's largest. As the historic site of the province's first forest replanting program, the park features a mature second growth forest. There are numerous multi-use trails throughout the park. The portion of the park evaluated for this study was originally a triangle of land bounded by 144<sup>th</sup> Street to the west, the Fraser Highway to north and 92<sup>nd</sup> Avenue to the south. After discussions with Green Timbers Heritage Society, it became evident that the location had been identified by the society as a nature reserve. The society does not support any additional development there. Based upon their recommendations, the consultant team assessed a smaller portion of school board land that borders the park's south-west edge behind Simon Cunningham School at 9380 - 140<sup>th</sup> Street. There is on-street parking nearby and school parking (locked after hours), but no facilities nearby.

### ✓ *BEAR CREEK YOUTH PARK*

This park is one of Surrey's most popular and heavily used parks. It includes playing fields, a forested area, a miniature train and the Surrey Art Centre. The Youth Park portion is located on the park's south-west corner off 136<sup>th</sup> Street and 84<sup>th</sup> Avenue. It features a skate/BMX facility, climbing wall, concession, parking and washroom facilities. It was identified by Surrey Parks as potential location for a smaller, beginner style series of dirt jumps.

✓ **FLEETWOOD PARK**

Located in the south end of Fleetwood, this large, heavily programmed park serves a wide array of users through a number of recreational facilities. The park site also includes award winning landscaping. The park includes athletic fields, a children's playground and a mature, second growth forest. In 1996 a referendum was passed by the City of Surrey to have the park expanded into surrounding forested area. The mixed forest area includes a number of fish bearing streams that feed into the Serpentine River and provides habit for a diversity of wildlife. To protect the integrity of the ecosystem, the park includes educational and interpretive signage at trail entrances and ridges for all paths that cross water ways.

✓ **PORT KELLS PARK**

This small park is located on the western edge of Guildford. Port Kells has a mix of wooded and open areas, with existing walking trails, dirt jumps, an outdoor pool and a children's playground. Efforts are being made to educate park users about the sensitive riparian areas within the wooded portion of the park. The surrounding community is relatively sparsely populated with a mix of low density housing and farmland.

✓ **FRASER HEIGHTS PARK**

This redeveloped park and community centre are located just north of Highway 1 in Guildford. The site contains a medium-sized, street-style skate park that was recently constructed. There is also an all weather field and a soccer/football field, which are enclosed by forest on the west side of the park. The new community centre features prominently on the site and the fields are surrounded by a thin line of trees with low density residential developments on the other side.

✓ **FRASER VIEW**

Fraser View is a small neighbourhood park located further north than Fraser Heights Park. As the name suggests, this park has an excellent view of the Fraser River and the North Shore mountains. The park is not programmed, but has a high aesthetic value with its views. The park serves the local neighbourhood.

✓ **CLOVERDALE ATHLETIC PARK BMX TRACK**

Located in the heavily programmed and well-used Cloverdale Athletic Park, the site features a short-course (100+ metre) BMX track with a single start/finish point, small straightaway and several, small low-banked corners. It is located on the street edge fronting 64<sup>th</sup> Avenue. The track is in relatively poor shape and the area to the immediate north (between the track start and the 64<sup>th</sup> Avenue) for a new all-weather playing field that is being developed to the immediate north of the track. There is a small practice field to the east with football uprights on one end and a small treed area to the north-west that could be developed with small skills features. Parking and washroom facilities are located close by.

✓ **CLOVERDALE YOUTH PARK**

Located adjacent to the Cloverdale Fairgrounds, this is a similar park to the Bear Creek Youth Park and features a skate board facility, parking and washroom facilities. It was identified by Surrey Parks as potential location for a smaller, beginner style series of dirt jumps.

✓ **HILLCREST PARK**

Hillcrest Park is combined with an elementary school located in East Cloverdale in the Clover Valley Station neighbourhood. The local community was apparently involved in the park planning process, as there is a plaque on site acknowledging the role of NECTAR (North-East Cloverdale Triangle Area Residents) and the Hillcrest Elementary School Parent Advisory Council. A master plan was completed in 2003 that will see the creation of multi-use pathways, a soccer field and baseball diamond. A small children's playground has been built, but the remaining site is under construction.

✓ **SUNRISE RIDGE PARK**

Adjoining an elementary school, Sunrise Ridge Park is located south of the Fraser Highway in Cloverdale. This small park contains a few short trails that meander through mixed forest. The park includes large portions of open grass land. The grass land is adjacent to a power line right-of-way that cuts diagonally through the park.



✓ **JOE BROWN PARK**

Located below Highway 10 near the boarder with Delta and Mud Bay Park, this undeveloped park is currently used by the City of Surrey as a fill dump. A park planning process is currently underway, and some kind of bike park facility has been identified in the three concept plans that have been developed for public review. The final concept selected by the public will ultimately determine how long the park is used as fill site (i.e., different concepts will require different amounts of fill). Whichever option is selected, it is likely that park development will not occur for five years or more. There is currently a horse paddock on the site as well.

✓ ***UNWIN PARK***

Unwin is a large, heavily programmed park located in the centre of Newton on 132 Street. The park contains a number of open sport fields with an outdoor swimming pool and on-site care takers house. There are small areas of forested areas that surround the perimeter of the park, providing some sun and wind protection in an otherwise exposed and open park.

### 3.0 Site Evaluation Criteria

Each of the park sites was evaluated based on the following 12 criteria established in Surrey's *Guidelines for Bicycle Recreation Facilities*. The consultants identified three additional criteria which are also summarized.

#### 1. ENVIRONMENTAL SENSITIVITY

BMX and mountain biking trails and features should not excessively compromise ecologically sensitive areas within parks. Areas of special concern include riparian or wetland areas and mature forest. Development in disturbed areas or areas with predominately non-native vegetation is preferred over less disturbed or native plant communities. Any activity in Natural Area Park lands should be proposed only after consultation with the Parks Division's UFEP (Urban Forestry and Environmental Programs) section to determine whether or not the area is suitable and capable of handling the potential impacts. No activity in any natural area should be pursued until that area has been cross-referenced to the City of Surrey's "Natural Areas Strategic Plan."

#### 2. SOIL SUITABILITY AND DRAINAGE

Soil should be well drained with a low percentage of organic material. A silty loam is ideal given its wide range of particle sizes for stability, packing and smooth surface. Homogeneous soils are prone to problems with muddiness and dustiness (for clay or silt) or crumbling and cohesion (sand). For mountain bike trails, soils that are indigenous to the site should be used whenever possible to ensure continuity of growing medium and environmental consistency within the area (these are usually mineral soils found approx. 25cm or greater below the surface and have characteristics of good drainage and adhesion for longevity of trails).

#### 3. PROXIMITY TO RESIDENTIAL PROPERTY

Where possible, bicycle facilities should be located away from residential areas to reduce conflict with park neighbours. Neighbourhood consultation should take place.

#### 4. CONFLICT WITH OTHER PARK USERS

Site selection for bicycle facilities should consider other park and trail users and be located to minimize conflict. All trail facilities should actively (through signage) promote the widely recognized IMBA "Rules of the Trail" (see Principal 2, section 4.2 of this document) to ensure that conflict is minimized when multiple user groups are allowed on the same trails.<sup>2</sup>

#### 5. FUTURE PARK PLANS

Bicycle facilities should not compromise plans for future park use or development. In the absence of a specific park plan, the bicycle facility should be considered temporary until a plan has been completed. Conversely, any new park planning proposals should consider existing bicycle facilities (sanctioned or illegitimate) and should consider demands for new facilities in their conception.

#### 6. PROXIMITY TO OTHER BICYCLE RECREATIONAL FACILITIES

Proposals for new bicycle facilities near similar existing approved areas will not be supported. As a rough guideline, there should be a maximum of one of each type of facility per Town Centre, where appropriate environments are available.

#### 7. VISIBILITY

Areas visible from a main road are preferred over secluded areas as a way to reduce vandalism and other undesirable activities, as well as to capture awareness of such facilities and promote use.

#### 8. ACCESS FOR EMERGENCY SERVICES

Police, fire and ambulance must be able to access the site in the event of an emergency.

**9. AVAILABILITY OF PARKING**

Vehicle parking must be available near the site. The number of spaces required relates directly to the size and anticipated popularity of the facility.

**10. WASHROOM FACILITIES**

Locations with public washrooms nearby are preferred.

**11. PERCEIVED NEED FOR A FACILITY**

This is a largely subjective criteria that can be further researched through understanding apparent/perceived local demand (survey local users and nearby populations) and a detailed survey of the demographic constituencies. Areas where perceived needs exist are usually identified by unauthorized facilities in natural environments or through the request of a user group that has informally adopted an area as a location for cycling.

**12. COMMUNITY PARTNERSHIP**

An ongoing partnership with a group of riders is desirable to design, construct, inspect and maintain bicycle facilities. This group will be the lead in the development and maintenance of the facility in accordance with the guidelines set out by the Parks Division. This criterion should be preferred as very desirable, but is not mandatory for the establishment of any cycling facility.

**Additional Criteria**

■ **TOPOGRAPHY AND TERRAIN**

Potential bike park locations should present the opportunity to develop a mix of facilities and features, from beginner to expert to help draw a wider range of users. This range of opportunities increases on more varied terrain with steeper gradients. Forested areas or areas with some tree cover are also preferred to help minimize potentially dangerous winds for dirt jumpers and to limit UV exposure.

■ **PARK SIZE**

The larger the park, the greater the possibility of developing longer trail networks or the number of bike features (i.e., skills park, dirt jumps and

trails). Smaller or constrained sites are generally not suitable for trail networks, but could support dirt jumping facilities or skills areas. Larger parks or parks with fewer program and environmental constraints are also more flexible and present opportunities to be expanded in future years.

■ **TRANSIT AND BICYCLE ACCESSIBILITY**

A bike park facility should be located near existing bicycle routes or greenways to permit easier and safer non-automobile access. Transit proximity should also be considered, particularly for services with bike carrying abilities (e.g., SkyTrain, bike-rack equipped bus routes).

## 4.0 Site Assessments

The following section provides summaries of the park assessments carried out by the consultant team. Following the summaries, two evaluation matrices are provided. One illustrates how each of the parks meets the assessment criteria outlined in the previous sub-section, while the second illustrates what kinds of bicycle facilities could potentially be accommodated at the park sites.

### INVERGARRY

#### General Comments:

- Exciting and complex site with both great potential and considerable development issues to consider
- Potential to develop interesting lines and routes and a variety of uses in clearly definable zones – jump park, free-ride, cross-country, nature, and multi-use
- History of off-road bike use
- Currently used by bicyclists as an informal facility with trails and stunts
- Most existing jumps likely built several years ago by ‘big bike free-riders’ (i.e., low angle, long distance, small landing)
- Location close to a former, very popular, informal bike facility, “The Guildford Jumps,” suggests that there is an existing dirt jumping/BMX community in the area
- Site topography offers a huge amount of versatility for obstacles, interesting trail designs
- Tree cover over the whole site
- Local residents who use the park for walking have organized to support ongoing park improvements, including the development of a formal bicycle facility where the current jumps and trails exist
- Residents would support a bicycle facility park that supports and furthers their trail improvement and development plans
- Most of the existing structures would need to be demolished and jumps removed to ensure a positive, sustainable redesign

#### Pros:

- ✓ Natural bowls and rapid elevation changes make for an interesting site and potential for a fun and challenging bicycle park
- ✓ Already well used by the biking community and has significant trail impact

- ✓ Opportunity to rehabilitate damage, while curbing future rogue use
- ✓ Natural shaping of terrain leads to a variety of challenges and obstacles without significantly building or constructing terrain challenges
- ✓ Lots of viewing opportunities for the bike trails, given relatively open nature of the forest environment and the predominance of lower scrub-species
- ✓ Potential to attract a wide variety of riders with different skill levels
- ✓ Natural tree cover reduces wind and UV exposure for a safer riding area
- ✓ Existing site drainage (natural) would help prevent down time due to puddles and mud during the winter and fall months
- ✓ The former dumping area provides a good base for a set of basic dirt jumps, or parking area
- ✓ Location near highway and SkyTrain offers would offer opportunities for riders from other areas to visit the park
- ✓ Park size provides enough space to cover many forms of cycling (free-ride, x-country, dirt jumping) while still accommodating pedestrian trails

#### Cons:

- × Close proximity of steep ravine could attract rogue riders who could create potential erosion, injury and liability challenges
- × User conflicts with pedestrian trails in area will require careful attention and design
- × Rogue building or vandalism could occur
- × Lack of facilities, including parking, water (for dirt jump maintenance and drinking) and washrooms would require significant infrastructure to be constructed if the site were developed as a true multi-use recreation/bike facility
- × Lack of existing facility stewardship group (i.e., there is no SORCE in the area)
- × Limited population immediately adjacent the facility (i.e., park site is surrounded by relatively low density residential development)
- × Parking concerns could be significant, unless a shared-use agreement could occur with the school board – given its lack of immediately local users, it would be highly “traveled” to
- × Terrain is significantly challenging for trail building, stewardship, and maintenance
- × Very complex trail building for mountain bike and free-ride trails



### POPLAR HILL

#### General Comments:

- Located near the SkyTrain, a bike path and King George Highway
- Small park with steep gradient and mixed forest
- Park likely too small to for additional facilities

#### Pros:

- ✓ Easily accessible by bike, public transit and road
- ✓ Existing trail system
- ✓ Park situated in a medium density neighbourhood

#### Cons:

- × Park area is very small
- × Very steep slopes with potential soil stability and erosion issues
- × Poor visibility and sightlines
- × No open space for facilities

### ROYAL KWANTLEN PARK

#### General Comments:

- Large multi-use park located in central Whalley
- Heavily programmed with pool, sport fields, walking and biking trails, basketball, lacrosse and a skate park
- Small forested area on the north end of the park, with large amounts of open fields to the south
- Relatively flat terrain
- School and Fire Hall adjoining park

#### Pros:

- ✓ Easily accessible by bike, public transit and road
- ✓ Existing trail system
- ✓ Significant amount of open, useable space
- ✓ Parking available
- ✓ Park is heavily programming and well-used
- ✓ BMX riders already use skate park facility
- ✓ Potential space for dirt jumps near forest

#### Cons:

- × Potential conflict with First Nations with potential archeological sites in park area
- × Small forested areas, not likely sufficient for cross-country trails

- × Small, out-of-date skate park
- × Existing conflict between bikers and skaters in skate park

### GREEN TIMBERS

#### General Comments:

- Centrally located site surrounded by medium density development
- Existing park well-used and well-loved by Surrey residents  
Development of bike facility at location would not be supported by Green Timbers Heritage Society
- On the recommendation of the Green Timbers Heritage Society – who would not support the development of a bike facility in Green Timbers – an alternative site on school property behind Simon Cunningham School on the park's south-west boundary was also explored

#### Pros:

- ✓ Central location
- ✓ Flat landscape could support entry level dirt jump lines and trails
- ✓ Good tree cover for wind and UV protection

#### Cons:

- × Development of bike facility at location would not be supported by Green Timbers Heritage Society
- × Flat terrain would not support development of intermediate or advanced jumps and trails
- × Little potential for good mountain biking with limited grade changes
- × Heavily treed site would require some clearing for dirt jump park or more open areas for trail-based free-riding with ride around options
- × Off-road parking is gated at Simon Cunningham School and closed in off-school hours making after-hour parking difficult

### BEAR CREEK YOUTH PARK

#### General Comments:

- Established, well-used skate/BMX park and climbing wall
- Visible and central location on King George Highway
- Located underneath high voltage power lines
- Close to centre Surrey and expanding, higher density residential communities

Pros:

- ✓ Established skate park that attracts BMX (hard surface) riders
- ✓ Park could easily be expanded to include a further mix of uses, particularly designed for the BMX and hardtail mountain bike community
- ✓ Ability to use existing City insurance on site
- ✓ Parking and washroom facilities
- ✓ Existing site programming (informal Thursday evening urban BMX instruction)
- ✓ Development of beginner dirt jumps or skills area on small open space behind the current bleachers would have little impact on existing facility

Cons:

- × Area is too small to cater to a variety of bike user groups and could only support limited and beginner level bike park facilities
- × Potential health issues located under high-voltage power lines
- × Potential user conflicts if new riders also use other Bear Creek trails or develop non-sanctioned jumps
- × Surrounding "natural" park and creek area is beautiful and has some topography, but the area is flat, not challenging for mountain bike use and environmentally sensitive

FLEETWOOD PARK

General Comments:

- Large park located in south Fleetwood neighbourhood
- Second growth forest with extensive trail network, interesting topography and relatively high biodiversity
- Heavily programmed park, but user groups are effectively separated
- Award winning landscaping
- Room for multiple biking facilities
- In 1996, a city-wide referendum was passed to expand the park into the surrounding forested area
- Strong awareness and preservation of environmentally sensitive areas, biodiversity and fish bearing streams
- Great potential for extensive cross-country trail network and dirt jumps

Pros:

- ✓ Room for multiple facilities with many potential locations for dirt jumps, cross-country trails and pump track

- ✓ Diversity of terrain with both mixed forest and open grass land
- ✓ Multiple uses are currently well separated to avoid user conflicts
- ✓ Existing washrooms and parking
- ✓ Extensive trail system in mixed forest with bridges over riparian areas

Cons:

- × Potential concerns around environmentally sensitive areas
- × Streams are fish bearing
- × Bear scat throughout forested area could be potential concern
- × Potential user conflict with existing ecological stewards
- × Due to the size of the forested area, rogue activities could occur and would be difficult to monitor/deter
- × Biking could change the existing use and aesthetics of the park

PORT KELLS PARK

General Comments:

- Existing mixed-use park with dirt jumps in small wooded area that appear to be well used and maintained
- Located close to the Langley border on the western edge of Guildford
- Home to the only bike facility (dirt jumps) in the surrounding area
- Potential to maintain and improve existing dirt jumps

Pros:

- ✓ Existing dirt jumps in good condition with active users
- ✓ Washrooms and parking

Cons:

- × Forested area has steep slopes and riparian area to protect
- × Drainage and soil stability questionable
- × Not easily accessible by transit or bike
- × Located in a low density neighbourhood
- × Little room to expand dirt jumps or construct cross-country trails of any length

### FRASER HEIGHTS

#### General Comments:

- New park with large skate park
- Community centre on site
- Some unused land potentially suitable for dirt jumps

#### Pros:

- ✓ Existing skate park that is used by skaters and bikers, with few conflicts
- ✓ Directly on bike route
- ✓ Community centre has washroom facilities and could potentially provide programming support, oversight and 'eyes on the site'
- ✓ Close to Highway 1
- ✓ Good space and topography for multiple facility types
- ✓ Good visibility

#### Cons:

- × Sport fields occupy most of the open space
- × Potential to create user conflicts if more bikers are attracted to the skate park as a result of dirt jumps
- × Flat topography
- × No room for cross-country trails

### FRASER VIEW

#### General Comments:

- Small neighbourhood park with excellent view north over the Fraser River to the North Shore mountains

#### Pros:

- ✓ Great view
- ✓ Open space

#### Cons:

- × Small park with high aesthetic quality that does not suit biking facilities
- × Low density neighbourhood
- × Not likely a good site for dirt jumps, there is adequate space, but it would not compliment the park's current use, or aesthetic value

### CLOVERDALE YOUTH PARK

#### General Comments:

- Established skate board park near Cloverdale Fair Grounds
- Limited site area

#### Pros:

- ✓ Established skate park already attracts BMX riders
- ✓ Ability to use existing City insurance on site
- ✓ Parking and washroom facilities
- ✓ Accessible and located near growing residential community
- ✓ Small, sloped, field area adjoining park could be developed with a small, beginner dirt jump and skills area
- ✓ Providing BMX facility could help reduce reported user conflicts at skate board park

#### Cons:

- × Very small area that could support only limited bike park facilities
- × Relatively isolated from other North Surrey neighbourhoods

### CLOVERDALE ATHLETIC PARK

#### General Comments:

- 100 metre + BMX track with single finish/entry point
- Located in heavily programmed and well-used park
- Surrounding community growing and targeted for growth

#### Pros:

- ✓ Established BMX track that already attracts riders
- ✓ BMX track a good base for additional development and features
- ✓ Potential to use existing City insurance on site
- ✓ Parking and washroom facilities
- ✓ Potential to develop dirt jumps and/or skills features on adjoining areas

#### Cons:

- × Relatively isolated from other North Surrey neighbourhoods
- × Existing track is in poor condition and poorly designed
- × Existing BMX track functionally limited and difficult to make more multi-use/multi-purpose

- × Development of dirt jumps or skills area could displace and/or conflict with playground and practice field uses

#### HILLCREST PARK

##### General Comments:

- Recently cleared land part of new housing construction/development
- Piles of construction dirt are informally used by local bikers, but are not properly shaped dirt jumps
- Good potential for dirt jumps and pump course

##### Pros:

- ✓ Adequate open space that has been recently cleared
- ✓ Existing bike community interest (all that is likely needed is dirt and shovels)
- ✓ Potential stewardship partner with NECTAR (North-East Cloverdale Triangle Area Residents) who were involved in creating the Hillcrest Park (unsure of group's current status)
- ✓ Low and medium density housing surrounding park
- ✓ Good visibility and open sight lines
- ✓ Low risk of user conflict
- ✓ Potential for shared parking and washrooms with adjacent Hillcrest elementary school

##### Cons:

- × No existing parking, though there is room on site for a parking lot
- × Potential noise concern with housing that surrounds the park
- × No washrooms or other facilities
- × No weather protection -- the area is open to sun and wind

#### SUNRISE RIDGE PARK

##### General Comments:

- Small neighbourhood park behind school
- Large amount of low scrub under power lines
- Very small forested area with exiting graveled trails

##### Pros:

- ✓ Close to school
- ✓ Significant land availability under power lines
- ✓ Some open grass area that could be suitable for some facilities

##### Cons:

- × Low density neighbourhood that is not well served by transit
- × Aesthetic value of park is not well suited for dirt jumps or other bike facilities

#### JOE BROWN

##### General Comments:

- Undeveloped park area currently used by the City of Surrey as a construction fill dump
- Relatively isolated location with multiple non-traditional uses and poor access opportunities without significant parking
- Lots of space to implement venues needing large space requirements
- Interesting landscape with grade changes, a natural bowl and some bike park potential
- Horse paddock on site
- Existing road access
- Surrounded by low density, large lot housing
- Reconfiguration of exiting road network and Surrey works storage would be necessary to maximize landform and minimize conflicts
- Current Master Plan process for park has identified a bike facility for the park in each of the three design options currently under review

##### Pros:

- ✓ Large, severely disturbed site with correspondingly limited environmental considerations (i.e., a wide variety of facilities could be accommodated on site)
- ✓ Fill on site could be used for development of features
- ✓ Large terraced open spaces provides very good visibility for multiple events and activities and good site lines for various users
- ✓ Site is large enough for siting traditional BMX facilities – 350-metre race track, stands, announcing towers and parking
- ✓ Excellent opportunity for traditional and non-traditional dirt jumping and skills facilities – BMX dirt jumping lines, mountain bike (big bike) dirt jumping lines, wooden stunts skills facilities, and trials facility (not to be confused with skills facility)
- ✓ Terracing of terrain could make some interesting x-country and free-ride lines, although vertical drop and diversity of terrain is limited



- ✓ Proximity to Delta Watershed is possible asset for the x-country riders, but this connection is not strong and would need intensive signage program and consultation with Delta
- ✓ Good vehicular access and parking possibilities once inside of the park

Cons:

- × Area is on the border with South Surrey and close to existing South Surrey Bike Park
- × Rather isolated location with poor transit access and low residential densities around the park
- × Minimum five year development timeline, as area is still being used as a construction fill dump by the City of Surrey
- × Scattered parking and access opportunities on the periphery of the park would need significant access upgrades road network within the park
- × Mountain bike trails (free-ride and x-country) would need high level of care and maintenance due to highly exposed slopes with a landscape of grass and plains style cover
- × Exposed and open (potentially hot and dusty in the summer) environment
- × Existing equestrian facility and uses could pose user conflicts (equestrian use conflicts are always of big concern, as bikes spook horses)
- × No facilities currently developed – significant need for water, washrooms, signage, access points, etc.
- × Existing community may not be tolerant of this intensive use of what feels like a bit of a “private” park

### UNWIN PARK

General Comments:

- Large heavily-programmed park in the centre of Newton
- Large amount of open space, but most of it is designated as sport fields
- Two potential dirt jump locations: one in an open unused part of the park (near the forest), and the other in a fill site

Pros:

- ✓ Full facilities with parking, washrooms and on-site park care taker
- ✓ Some unused open space
- ✓ Well used park

- ✓ Mixed demographic
- ✓ Surrounded by residential development
- ✓ Accessible by transit and bike paths

Cons:

- × Potential conflict with existing users and programming
- × Not certain if the “fill site” is park land
- × Potential conflict with residences that border park land
- × Need to maintain a reasonable distance from the pool
- × Bike facilities may not fit with current active recreation/field use focus of park

## 5.0 Site Assessment – Criteria Matrix

The site matrix on the following page illustrates the general site conditions for the park sites that were reviewed. Site criteria used were taken from the Guidelines for Bicycle Recreation Facilities. Three additional criteria – site topography and terrain, park size and transit/bicycle accessibility were added by the consultants.

As the legend shows, a green square indicates that the park site meets the recommended criteria. A yellow square indicates that there are issues that would have to be addressed and mitigated (i.e., through the addition of dedicated parking if site parking is not available) for the site to meet the

particular criterion. A red square indicates that the park does not meet the criterion and likely could not even if mitigating measures were taken.

The first table is organized from high to low. The blue-grey number next to the park name is each park's relative scoring based on 3 points for each green square, two for each yellow square and one for red square.

# SITE ASSESSMENT MATRIX

## Legend

- Meets criterion
- Could meet criterion, needs addressing
- Does not meet criterion




	Environmental sensitivity	Soil suitability	Proximity to residential property	Conflict with other park users	Future park plans	Proximity to other facilities	Visibility	Access for emergency services	Availability of parking	Washroom facilities	Perceived need and area demographics	Community partnership	Topography and Terrain	Park size	Transit and bicycle
Fleetwood (38)															
Fraser Heights (38)															
Unwin (37)															
Invergarry (36)															
Cloverdale BMX Track (35)															
Hillcrest Park (34)															
Bear Creek (33)															
Port Kells (33)															
Fraser View (33)															
Cloverdale Youth Park (32)															
Joe Brown (32)															
Sunrise Ridge Park (31)															
Green Timbers (30)															
Poplar Park (30)															
Royal Kwantlen (28)															

## 6.0 Bike Facility Site Potential

The matrix to the right illustrates the potential bike facilities that could be considered for the candidate parks based on the site evaluation. As the legend shows, a green square indicates that the activity could be easily accommodated in the park site. A yellow square indicates that the activity could be considered for the park site, if certain design, use and maintenance issues were addressed. A red square indicates that the activity could not be considered for the park site.

SITE POTENTIAL MATRIX

### Legend

-  Activity could be accommodated easily
-  Activity could be accommodated after addressing site issues
-  Activity could not be accommodated

## 7.0

### Existing Facilities

	BMX TRACK - 350 m	DIRT JUMPING - beginner	DIRT JUMPING - intermed.	DIRT JUMPING - advanced	SKILLS COURSE	CROSS-COUNTRY	PUMP TRACK
Fleetwood	Red	Green	Green	Green	Green	Green	Green
Fraser Heights	Red	Green	Green	Green	Green	Red	Green
Unwin	Red	Green	Green	Green	Green	Red	Green
Invergarry	Red	Green	Green	Green	Green	Yellow	Green
Cloverdale BMX Track	Red	Red	Red	Red	Green	Red	Red
Hillcrest	Red	Green	Green	Green	Green	Red	Green
Bear Creek Youth Park	Red	Green	Red	Red	Green	Red	Red
Port Kells	Red	Green	Green	Green	Green	Yellow	Green
Fraser View	Red	Green	Green	Green	Green	Red	Green
Cloverdale Youth Park	Red	Red	Red	Red	Green	Red	Red
Joe Brown	Green	Green	Green	Green	Green	Yellow	Green
Sunrise Ridge Park	Red	Green	Green	Green	Green	Red	Green
Green Timbers	Red	Red	Red	Red	Red	Red	Red
Poplar Park	Red	Yellow	Yellow	Yellow	Red	Red	Yellow
Royal Kwantlen	Red	Green	Green	Green	Green	Yellow	Green

## 7.0 Existing Facilities

The City of Surrey is well known in the Lower Mainland for its bicycle recreation facilities. Although there are large number of unsanctioned and informal facilities (mainly trails and dirt jumps) that can be found in parks, along hydro rights-of-ways and on or near construction and development sites, the city is particularly well-known for Action BMX and South Surrey Bike Park. There is also a small BMX track located at the Cloverdale Athletic Park. The City is currently engaged in developing a small bicycle facility at Latimer Lake in South Surrey.

This section reviews the major existing bicycle facilities in Surrey. Recommendations for facility improvements are provided, except for Latimer Lake Park where a facility improvement process is already underway.

### ■ **Action BMX**

#### *76th Ave at 126th Street*

Action BMX is a traditional BMX racing facility, built to the same standard as required by the CCA and International Olympic Committee. Located in Surrey adjacent to Newton Athletic Park, it is maintained and managed by Action BMX, a CCA sanctioned organization that hosts racing, training, and recreational opportunities for BMX racers. Action BMX is the only BMX facility in Surrey and is located on co-managed Surrey Parks and Recreation/BC Hydro lands.

Although the facility is well and consistently used, there are some site issues which should be resolved to make it a better facility and consolidate the investments the City of Surrey has already made at the facility.

- ✓ **Expand parking:** there is a need for additional parking (10 to 20 spots). Currently, parking spills over onto a grass area during race nights.
- ✓ **Improve built structures:** Currently, only non-permanent buildings are permitted on site, leaving all facilities, like the concession, to be housed in temporary, structures (often shipping containers).

Improved concessions would increase facility revenues which could in turn be used for facility maintenance and improvements.

- ✓ **Examine potential neighbourhood noise issues:** There is a need to carry out a City-sponsored neighbourhood consultation program to resolve public address system noise issues and concerns. Currently, Action BMX does not play music to accompany the races or use the PA system at volumes that can be heard across the site. Determining acceptable noise levels with residents could help improve facility operations.

### ■ **South Surrey Bike Park**

#### *24<sup>th</sup> Avenue and 148<sup>th</sup> Street*

The South Surrey Bike Park offers a little terrain for everyone, from a dirt jumping area to cross country trails, some intermediate downhill areas and a number of skills/free-ride features. The trails and features are co-managed by a partnership between the City of Surrey and the SORCE Bike Club. It is this commitment from SORCE and the stewardship that accompanies it, that has allowed the City to take a more hands off approach to managing the bike facilities and allowing local riders to create a park that is both evolving to meet local demands and safe enough to meet the City's liability concerns.

Currently, the facility is well-used by a variety and type of riders, which should be resolved to make it a better facility and consolidate the investments the City of Surrey has already made at the facility.

- ✓ **Permit trails expansion:** SORCE would like to build the remainder of the cross-country trail envisioned in the Bike Park Plan.
- ✓ **Consider increasing annual support:** SORCE is a volunteer-run organization that receives the majority of funding through memberships. SORCE could improve its already considerable programming, services and park maintenance work with a small annual grant.



- **Cloverdale Athletic Park BMX Track**

*64<sup>th</sup> Avenue and 168<sup>th</sup> Street*

The BMX track is a relatively well-used facility that features short, narrow, 100 metre race style track with a single start/finish, short straightaway and several low-angle, banked-corners. There have been some informal additions (jumps) and crossovers added. The track is in fairly poor shape and features poor, rocky soils which are unsuitable for dirt jumps. Fill and turf from a field development project underway to the immediate south of the track is being dumped next to the track in the area which could feature some dirt jumps or a small pump track. Located in the heavily programmed Cloverdale Athletic Park, the BMX track is close to washrooms, water and parking.

- ✓ **Improve existing track:** The existing track should be improved and repaired with the addition of new soil and new track features (e.g., roller jumps) should be added. In addition, a water tap should be provided for track maintenance and the track should have signage showing proper track use and maintenance.
- ✓ **Develop skills/features area:** A small skills area could be added to the west side of the of the track that could continue both under the trees and between the track and 64<sup>th</sup> Avenue, dependant upon arborist review of the potential impacts to the existing trees.

- **Port Kells Park**

*19340 – 88 Ave*

The forested area in Port Kells Park contains an existing dirt jump area. The jumps appear to be used and maintained regularly by a relatively advanced group of riders. There are seven dirt jumps in total, all of which are well-shaped gap jumps. The area the jumps are located is very small, and to control and maintain speed the riders have built two banked turns at both ends of the jumps.

- ✓ **Improve safety:** The jumps are well made, but there are some safety concerns that should be addressed. Signage could be put in

place to warn oncoming park users that they are entering a bike park and to take the necessary precautions. The last in a series of jumps ends with a steep transition and a sharp corner surrounded by blackberry bushes. The angle of the jump should be changed, the landing adjusted and the blackberry bushes removed.

- ✓ **Change difficulty of jumps:** There are two sets of advanced jumps, with gaps of roughly six feet. In order to appeal to a wider group of riders, one of the jump sets should be converted into smaller table top jumps. Before any changes are made the user groups should be consulted and their input considered.

## APENDIX D

# Surrey Bike Facilities – Trend Analysis + Innovative Practices Review

Prepared for:

Surrey Parks, Recreation and Culture

July 21, 2006



## 1.0 Introduction

This document provides an overview of the trends and innovative bike practices as they relate to the preparation of the City of Surrey's Bicycle Recreation Facilities Strategy. It provides:

- An overview of relevant and current BMX and mountain biking trends;
- A comparative analysis of bicycle facilities and programs in the Surrey Parks catchment area;
- A facility-trend resource analysis; and
- The results of a survey conducted for the project.

## 2.0 What is BMX?

BMX, in short, stands for Bicycle motocross. BMX is essentially comprised of two distinct sports – *racing* and *freestyle*.

- **BMX racing** is comprised of two disciplines: *track* and *pumps*. Track racing consists of riders competing head-to-head against other riders on a 350 m dirt track consisting of a variety of dirt jumps, banked corners and rhythm sections. A pumps course is simply a scaled-down version of a race track, used primarily as a training course for racers.
- **BMX freestyle** is broken down into four subgroups: *dirt jumping*, *street*, *ramp/park*, and *flatland*. Dirt jumping, whether on trail or in specially designated parks, consists of a variety of jumps that riders launch off while doing any number of tricks. Generally linking jumps together on an extended trail is the preferred site for dirt jumpers, which can be ridden on both BMX and specifically designed mountain bikes. Street riding is exactly what the name suggests, using concrete and other urban obstacles in order to do various tricks on the bike. Ramp/park BMX requires a concrete, aluminum, or wood ramp structure (much like skateboarding) that allows riders to throw aerial or vertical tricks off the structure. Lastly, flatland can be done on almost any large concrete space, as it simply consists of doing tricks on a hard, flat surface.

## 2.1 BMX History

The sport of BMX riding was born from the mid 1960s introduction of the Schwinn Sting-Ray, a groundbreaking design that offered greater maneuverability and handling to riders. Through the 70s and 80s, as the sport and its technology evolved, BMX riding continued to integrate into mainstream culture through a series of popular events, films, industry magazines, and links to the growing skateboard scene.

In the mid-80s BMX sales began to plummet, largely due to the popularity of the mountain bike. One by one, small BMX companies folded, while the larger businesses and manufacturers defected to mountain biking. But the end of the decade brought a new surge of popularity to BMX, paralleling the increased popularity of other freestyle sports such as skateboarding and in-line skating.

In 1989, the industry experienced a renaissance with over 120,000 BMX bikes sold in the US alone – accounting for 30% of all US bicycle sales. The following year, track racing and freestyle BMX were introduced at both the Gravity Games and ESPN X-Games. Since then, BMX has been integrated into the Union Cycliste Internationale and has continued to grow into a popular sport among youths of all ages. In 2008, BMX racing will be introduced into the Olympic Games in Beijing.

The sport of BMX entered Canada in the late 1970s, reaching an early peak in the mid-1980s. BMX racing has also seen a bit of a renaissance with numerous manufacturers and facilities springing up over the past decade. According to the Canadian Cycling Association, "BMX is once again rising in popularity and is one of the fastest growing family sports in Canada!" In August of 2006, Canada's best BMX riders will congregate in Abbotsford, BC for the 2006 CCA Canadian Championships, Canada's first sanctioned event following the Olympic racing format. In 2007, Canada will host its first ever World BMX Championships on a new course to be built in Victoria, BC.

## 2.2 BMX Trends

Over the past decade, BMX facilities have sprung up throughout BC and Canada. Formal BMX track racing facilities, with attached programming and sponsor organizations, have been the standard, although the marriage of BMX and skateboarding has also led to the development of a number of concrete park structures as well.

With the development of concrete skate parks throughout BC BMX riders have access to a growing number of facilities, and as a result park specific BMX bike sales are rapidly increasing. Dirt jumping parks, both formal and informal, are also on the rise, with facilities appearing and expanding throughout the Lower Mainland of BC. This is largely due to use opportunities for both BMX and mountain bike riders at these facilities.

Of the different types of dirt jump courses, the traditional jumps/racing facility has been the norm, although there have been a growing number of 'pump track' courses appearing as of late. Pump tracks are short (approx. 600 sq. ft.), slow, jumps courses that teach riders of all abilities how to maintain and gain speed through series of jumps, bumps, and tight corners without substantial gradient requirements.

Although pump track racing is still in its infancy, an increasing number of both BMX and mountain bike riders seek these facilities to hone their single-track riding and jumping skills.

## 2.3 BMX Parks in the Lower Mainland

The following list is a survey of BMX facilities in the Lower Mainland of BC and across Canada.

- **Abbotsford BMX**

*32470 Haida Dr, Abbotsford, BC*

Abbotsford BMX is a traditional BMX racing facility, upgraded in 2006 to meet the new Olympic size standard in the spring of 2006. It is maintained

and managed by Abbotsford BMX, a CCA sanctioned organization that hosts a variety of racing, training, and recreational opportunities for BMX riders. In August of 2006, Abbotsford BMX will host the Canadian National BMX Championships to qualify riders for international events in 2006-07. For more info: [www.abbotsfordbmx.ca](http://www.abbotsfordbmx.ca).

- **Action BMX**

*76th Ave at 126th Street, Surrey, BC*

Action BMX is a traditional BMX racing facility, built to the same standard as required by the CCA and International Olympic Committee. Located in Surrey adjacent to Newton Athletic Park, it is maintained and managed by Action BMX, a CCA sanctioned organization that hosts racing, training, and recreational opportunities for BMX racers. Action BMX is the only BMX facility in Surrey and is located on co-managed Surrey Parks and Recreation/BC Hydro lands. For more info: [www.actionbmx.com](http://www.actionbmx.com).

- **Langley BMX**

*20699 42 Avenue, Langley, BC*

Langley BMX is a traditional BMX racing facility located adjacent to the Langley Civic Centre. This CCA sanctioned racing facility host a variety of racing, training, and recreational opportunities for BMX riders of all ages. For more info: [www.langleybmx.com](http://www.langleybmx.com).

- **Pipeline Bike Park**

*1290 Pipeline Drive, Coquitlam, BC*

The Pipeline Bike Park is a non-traditional BMX/Mountain bike jump facility located in Town Centre Park in Coquitlam, BC. It is managed and maintained by Pipeline, a CCA sanctioned organization, although the park is not certified as an official racing track. Pipeline receives occasional support from Coquitlam Parks and Recreation in the form of equipment loans and technical support. Pipeline is the first park in the Lower Mainland of BC to construct a pumps course for BMX/Mountain bike training. For more info: [www.pipelinebikepark.com](http://www.pipelinebikepark.com).

▪ **Ridge Meadows BMX**

17310 Barnes Rd., Pitt Meadows, BC

Ridge Meadows is a traditional BMX racing facility, recently upgraded to the new Olympic standard in 2006. It is run by Ridge Meadows BMX, a Canadian Cycling Association (CCA) sanctioned organization that hosts racing, training, and recreational riding opportunities for riders of all ages. For more info: [www.ridgemedowsbmx.com](http://www.ridgemedowsbmx.com).

Grand Forks BMX – Grand Fork

[www.grandforksbmx.com](http://www.grandforksbmx.com)

Kelowna BMX Club – Kelowna

[www.kelownabmx.com](http://www.kelownabmx.com)

Vernon BMX – Vernon

[www.vernonbmx.com](http://www.vernonbmx.com)

Nanaimo BMX – Nanaimo

[www.nanaimobmx.com](http://www.nanaimobmx.com)

Coal Hills BMX – Cumberland

[www.coalhillsbmx.com](http://www.coalhillsbmx.com)

Erik Goetzinger BMX – Qualicum Beach

[www.erikgoetzingerbmx.com](http://www.erikgoetzingerbmx.com)

Greater Victoria BMX – Colwood

[www.victoriabmx.com](http://www.victoriabmx.com)

**Other BC Parks**

McArthur Island BMX – Kamloops

[www.kamloopsbmx.com](http://www.kamloopsbmx.com)

Supertrak BMX – Prince George

[www.supertrakbmx.com](http://www.supertrakbmx.com)

**Comparative Analysis of BMX Facilities and Programming**

**Legend**



Exists at facility



Does not exist at facility

Parks	Sanctioned Racing	Training & Instruction	Recreation	Olympic Standard	Pumps Track	Dirt Jumps	Street Ride Features	Ramp/Park Features	Municipal Partnership	Municipal Funding
Abbotsford BMX	Exists at facility	Exists at facility	Exists at facility	Exists at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Exists at facility	Exists at facility
Action BMX	Exists at facility	Exists at facility	Exists at facility	Exists at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Exists at facility	Does not exist at facility
Langley BMX	Exists at facility	Exists at facility	Exists at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Exists at facility	Exists at facility
Pipeline Bike Park	Does not exist at facility	Does not exist at facility	Exists at facility	Does not exist at facility	Exists at facility	Exists at facility	Does not exist at facility	Does not exist at facility	Exists at facility	Exists at facility
Ridge Meadows BMX	Exists at facility	Exists at facility	Exists at facility	Exists at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility	Does not exist at facility



	RACING		FREESTYLE			
	Track	Pumps	Dirt Jump	Street	Ramp/Park	Flatland
Size Requirements	<b>HIGH</b> 5000-6000 m²	<b>MEDIUM</b> 90-200 m²	<b>MEDIUM/HIGH</b> 150-300 m²	<b>MEDIUM</b> 90-200 m²	<b>MEDIUM/LOW</b> 40-80 m²	<b>MEDIUM/HIGH</b> 150-250 m²
Topography	<b>MEDIUM</b> Requires little gradient Free of trees, rocks, & obstacles	<b>MEDIUM</b> Requires little gradient Free of trees, rocks, & obstacles	<b>MEDIUM</b> Requires little gradient Free of trees, rocks, & obstacles	<b>HIGH</b> Requires no gradient Requires urban obstacles	<b>LOW</b> Requires no gradient Free of trees, rocks, & obstacles	<b>LOW</b> Requires no gradient Free of trees, rocks, & obstacles
Infrastructure requirements	<b>HIGH</b> Mechanical starting gates, lighting, electricity, water, drainage, washrooms, bleachers, fencing, storage, concessions	<b>MEDIUM/HIGH</b> Drainage, water, lighting, electricity, washrooms, storage, fencing	<b>MEDIUM/LOW</b> Washrooms, water	<b>HIGH</b> Requires concrete features, drainage	<b>HIGH</b> Large wood or concrete structure, electricity, washrooms, bleachers, storage, fencing	<b>MEDIUM/HIGH</b> Requires flat concrete space; drainage
Management/programming	<b>HIGH</b> Requires daily management; Requires programming	<b>MEDIUM</b> Requires daily management; Programming optional	<b>LOW</b> Requires periodic management and review; Programming optional	<b>LOW</b> No management; Programming optional	<b>HIGH</b> Requires daily management; Requires programming	<b>LOW</b> No management; Programming optional
Maintenance requirements	<b>HIGH</b> Labour; Equipment; Water	<b>HIGH/MEDIUM</b> Labour; Equipment; Water	<b>MEDIUM</b> Occasional labour; Equipment, Water	<b>MEDIUM/LOW</b> Occasional labour, No Equipment	<b>HIGH</b> Labour; Equipment	<b>LOW</b> No labour; No equipment
Access demands	<b>HIGH</b> Destination facility; Requires spectator parking & easy vehicle access	<b>MEDIUM</b> Destination facility; Requires some parking & vehicle access	<b>LOW</b> Destination & local facility; Requires some parking and vehicle access	<b>MEDIUM</b> Destination & local facility; Requires some parking & vehicle access	<b>HIGH</b> Destination facility; Requires spectator parking & easy vehicle access	<b>LOW</b> Local facility; Requires little parking or vehicle access
Construction Cost	<b>HIGH</b>	<b>MEDIUM</b>	<b>MEDIUM</b>	<b>HIGH</b>	<b>HIGH</b>	<b>MEDIUM/HIGH</b>
Recurring Costs	<b>HIGH</b>	<b>MEDIUM</b>	<b>MEDIUM/LOW</b>	<b>LOW</b>	<b>HIGH</b>	<b>LOW</b>
Point TOTAL	38	26	14	25	33	17
Market Trend	➡	⬆	⬆	➡	➡	⬇

#### Ranked Resource-Trend Scores

1. Dirt Jump: 4.7
2. Pumps: 12.0
3. Street: 12.5
4. Ramp/Park: 16.5
5. Flatland: 17.0
6. Track: 19.0

HIGH	HIGH/MEDIUM	MEDIUM	MEDIUM/LOW	LOW
5	4	3	2	1

Market Trend	Increasing ⬆	Steady ➡	Decreasing ⬇
Multiplier	.33	.5	1.0

## 4.0 What is Mountain Biking?

Mountain Biking is defined by its equipment – the particular bicycle design characteristics that offer improved handling skills, increased self-reliance, and access to rough terrain, obstacles, and steep gradients. Mountain biking is comprised of two distinct disciplines: *trail* and *freestyle*.

- **Trail riding** can be broken down into three sub-groups: *cross-country*, *downhill*, and *free-riding*.
  - Cross country is the most popular and least 'extreme' form of mountain biking, as it is more focused on distance than excitement. It requires substantial trail lengths and variable terrain, although loop trails are common in urban and rural areas.
  - Downhill mountain biking consists of riding down steep and technical gradients as fast as possible. Due to the types of terrain, gradient required, and bike construction, downhill riders often use hiking trails, automobile shuttles, or ski lifts to ascend to the top of the trail.
  - Free-riding, the most technically demanding of the trail disciplines consists of descending steep trails and variable terrain in the most creative manner possible. Free-ride trails often include a variety of man-made obstacles such as teeter-totters, ladder bridges and wall rides.
- **Freestyle Mountain Biking** can be broken down into three sub-groups: *dirt-jumping*, *skills/trials*, and *street/urban*.
  - Dirt jumping consists of launching a bike over large man-made dirt jumps, attempting aerial tricks in the process. Facilities are much like those used by BMX dirt jumpers, although rock-free soils are not necessary since mountain bike equipment can absorb shocks with greater ease and landings need less specialized care.
  - Skills/trials mountain biking consists of riders maneuvering the bike by hopping, jumping, and dropping man-made obstacles (e.g. boxes, ramps, tables) and natural obstacles (e.g. rocks, logs, hillsides). True trials riding is very technically demanding, requiring specialized equipment as well as excellent balance and a high level of technique. Skills parks are becoming popular, are easy to develop in small spaces, and embrace a variety of skill levels and bike types.

- Street/urban mountain biking consist of riding in concrete urban areas, off obstacles such as ledges, stairs, and walls.

## 4.1 Mountain Biking History

Although off-road bicycling is as old as the bicycle itself, the modern sport of mountain biking was born in the United States during the 1970s. Throughout the mountainous regions of the west and northeast, aggressive riders began to retro-fit their bikes with better brakes and broader tires, adapting them to the demands of steeper, off-road terrain. In 1977 the first purposely constructed mountain bike was built in Marin County, California and five years later the Specialized Stumpjumper and the Univega Alpina Pro became the first mass-produced mountain bikes. Since then, the sport of mountain biking has exploded into the mainstream, holding the lion's share of global bicycle sales. Mountain bikes have now become sophisticated machines, often with suspension, lightweight alloy frames, reliable braking systems, and up to 24 gears

Mountain biking has exhibited the most significant growth of all modern sports. From roughly 200,000 in 1983, regular rider numbers rose meteorically to over 7 million by 1990, before leveling out at 10 million in 2005. The sport's market share of all bikes sold has also dramatically increased from 1% in 1982 to 42% in 1990 and 80% in 2005. In 1990, the first mountain bike world championships were held in Durango, Colorado. In 1993 cross-country mountain biking became an Olympic discipline and was launched at the 1996 Games in Atlanta. Over the years, mountain bike recreation and competition has evolved to include a number of new disciplines, which have taken the sport from its original mountain landscapes to the masses across the globe.

## 4.2 Mountain Biking Trends

In Canada, the sport of mountain biking has experienced similar (if not greater) growth patterns to that of the U.S. and Europe with a current market share of 66%. Clubs, associations, and competitions can be

found almost across the country and domestic manufacturers such as Rocky Mountain, Devinci, Norco, and Kona have become renowned across the globe. According to surveyed retailers and industry professionals, cross-country mountain biking is by far the industry leader, with free-riding, dirt-jumping, and downhill in close competition for second place, largely due to the increasing popularity of 'extreme' sports among youth and young adults. The smallest demographic of the disciplines, although growing, are trials and street/urban biking. It is believed that cross-country rider numbers will continue to grow as Canada's aging population continues to pursue accessible fitness activities.

Dirt-jumping is also moving into the mainstream of mountain bike activities as it is less terrain-dependant and hence available in a wider range of landscapes.

Trials and street/urban mountain biking is growing among urban riders who do not have access to open spaces and variable terrain but is limited by the need for specialized equipment and a relatively high level of skill.

#### 4.3 Mountain Bike Parks in the Lower Mainland and BC

The following list is a survey of key mountain bike parks in the Lower Mainland and Whistler.

- **PoMo Rotary Bike Trials Park**

*2800 Block Murray Street, Port Moody, BC*

Port Moody's Rotary Bike Park was the first urban trials park in North America. Through the input of local youths, it was designed in 2000 with a local-theme, featuring logs, boulders, and a wooden platform shaped like a boat for cyclists to practice on. The park's construction materials were largely donated by local businesses. Port Moody hosts mountain bike and trials camps each summer for local youths that want to improve their biking skills. For more info: [www.cityofportmoody.com](http://www.cityofportmoody.com)

- **West Vancouver Bike Park/North Shore**

*Cypress Road, West Vancouver, BC*

This City of West Vancouver has been working with the local community and consultants to design new bike facilities and upgrade old ones on the western slope of Cypress Mountain. Although currently on hold, plans include the addition of new free-ride and skills features to complement a series of downhill and cross country trails. In 2005 a formal study was completed and recommendations were made to pursue discussions to build this intermediate/expert park off Cypress Road. For more info: [www.westvancouver.net/article.asp](http://www.westvancouver.net/article.asp)

- **Whistler Bike Park**

*Whistler and Blackcomb Mountains, Whistler, BC*

Arguably one of the best bike parks in the world, Whistler hosts world class cross-country, downhill and free-ride opportunities, with a trials park and dirt jumps in the village and a series of technical mountain bike trails in the surrounding area. Aside from lift access free-ride and downhill features, the base village area hosts a series of beginner to intermediate skills/trials and street features. The project was developed by Intrawest with support and consultation from the local riding community. Programming options include professional and amateur competitions and training programs for riders of all ages. In addition, the municipality has developed a formal dirt jump park, skills park, and hard surface BMX/urban park near the town core, as well as numerous sanctioned trails throughout the RMOW area, including a variety of small skills area. For more info: [www.whistlerbike.com](http://www.whistlerbike.com).

- **Delta Watershed**

*64<sup>th</sup> Avenue and Scott Road, Delta, BC*

The Delta Watershed features cross country mountain bike trails with a few limited downhill opportunities for intermediate riders. The facility also contains a number of freeride and skills features such as logs, ladder bridges, teeter-totters, and table tops, although they are often torn down by the municipality for liability and environmental concerns. Arguably one of the best suburban mountain bike trail system in the

eastern suburbs, the Delta Watershed is one of the best municipally managed bike facilities in the Lower Mainland of BC. For more info: [www.corp.delta.bc.ca/EN/main/residents/recreation\\_and\\_parks\\_services/121/trail\\_routes.html](http://www.corp.delta.bc.ca/EN/main/residents/recreation_and_parks_services/121/trail_routes.html)

#### ■ South Surrey Bike Park

*24<sup>th</sup> Avenue and 148<sup>th</sup> Street, Surrey, BC*

The South Surrey Bike Park offers a little terrain for everyone, from a dirt jumping area to cross country trails, some intermediate downhill areas and a number of skills/free-ride features. The trails and features are co-managed by a partnership between the City of Surrey and the SORCE Bike Club. It is this commitment from SORCE and the stewardship that accompanies it, that has allowed the City to take a more hands off approach to managing the bike facilities and allowing local riders to create a park that is both evolving to meet local demands and safe enough to meet the City's liability concerns. For more info: [www.sorcebikeclub.org](http://www.sorcebikeclub.org).



#### Other BC Mountain Bike Facilities

The following is a partial list of mountain bike trails in the Lower Mainland of BC with links to sites that offer descriptions of terrain, gradient, and features.

- Green Timbers Trail Description (Surrey)  
[http://www.dirtworld.com/trails/trail.asp?id=1555&trail\\_name=Green%20Timbers%20Trails%20Mountain%20Bike%20Trail](http://www.dirtworld.com/trails/trail.asp?id=1555&trail_name=Green%20Timbers%20Trails%20Mountain%20Bike%20Trail)
- Stokes Pit Trail Description (Langley)  
[http://www.dirtworld.com/trails/trail.asp?id=13258&trail\\_name=Stokes%20Pit%20Mountain%20Bike%20Trail](http://www.dirtworld.com/trails/trail.asp?id=13258&trail_name=Stokes%20Pit%20Mountain%20Bike%20Trail)
- Bog's Bog Trail Description (Cloverdale)  
[http://www.dirtworld.com/trails/trail.asp?id=870&trail\\_name=Bog's%20bog%20Mountain%20Bike%20Trail](http://www.dirtworld.com/trails/trail.asp?id=870&trail_name=Bog's%20bog%20Mountain%20Bike%20Trail)
- Burnaby Mountain Trail Description (Burnaby)  
[http://www.dirtworld.com/trails/trail.asp?id=12589&trail\\_name=Burnaby%20Mountain%20Mountain%20Bike%20Trail](http://www.dirtworld.com/trails/trail.asp?id=12589&trail_name=Burnaby%20Mountain%20Mountain%20Bike%20Trail)

#### Comparative Analysis of Mountain Biking Facilities and Programming

##### Legend

-  exists at facility
-  does not exist at facility

Parks	Organized Competition	Training & Instruction	Recreation	X-Country or Downhill	Freeride	Dirt Jumps	Skills/Trials	Urban Features	Municipal Partnership	Municipal Funding
Delta Watershed										
PoMo Rotary Bike Trials Park										
South Surrey Bike Park										
West Vancouver Bike Park										
Whistler Bike Park										

## 5.0 Mountain Bike Facility Resource-Trend Analysis

	TRAIL			FREESTYLE		
	Cross Country	Downhill	Free-riding	Dirt jumping	Skills/Trials	Street/Urban
<b>Size Requirements</b>	<b>HIGH</b> variable	<b>HIGH</b> variable	<b>HIGH/MEDIUM</b> variable	<b>MEDIUM</b> 90-200 m <sup>2</sup>	<b>MEDIUM/LOW</b> 40-80 m <sup>2</sup>	<b>MEDIUM/LOW</b> 150-250 m <sup>2</sup>
<b>Topography</b>	<b>MEDIUM-LOW</b> Variable gradient; Free of major obstacles	<b>HIGH</b> Requires heavy gradient and some major obstacles	<b>HIGH</b> Requires substantial gradient and major obstacles	<b>LOW</b> Requires no gradient Free of trees, rocks, & obstacles	<b>LOW</b> Requires no gradient Free of trees, rocks, & obstacles	<b>LOW</b> Requires no gradient Free of trees, rocks, & obstacles
<b>Infrastructure requirements</b>	<b>LOW</b> Washrooms optional	<b>HIGH/MEDIUM</b> Washrooms optional, shuttle access roads	<b>MEDIUM</b> Washrooms optional, logs, ladders and other features	<b>MEDIUM</b> Washrooms, dirt jumps, and optional spectator space	<b>MEDIUM</b> Washrooms optional, logs, boxes and other features	<b>HIGH</b> Washrooms, requires concrete features, lighting optional
<b>Management/ programming</b>	<b>LOW</b> Requires no management or programming	<b>LOW</b> Requires no management or Programming	<b>MEDIUM</b> Requires some management; Programming optional	<b>MEDIUM</b> Requires some management; Programming optional	<b>MEDIUM-LOW</b> Requires little management; Programming optional	<b>MEDIUM-LOW</b> Requires little management; Programming optional
<b>Maintenance requirements</b>	<b>MEDIUM/LOW</b> Occasional labour and equipment	<b>MEDIUM/LOW</b> Occasional labour and equipment	<b>HIGH/MEDIUM</b> Labour and equipment	<b>MEDIUM</b> Occasional labour, Equipment, water	<b>MEDIUM/LOW</b> Occasional labour and equipment	<b>LOW</b> Occasional labour
<b>Access demands</b>	<b>MEDIUM</b> Destination & local facility; Requires minimal parking & vehicle access	<b>HIGH</b> Destination facility; Requires parking & vehicle access	<b>MEDIUM</b> Destination & local facility; Requires some parking & vehicle access	<b>MEDIUM</b> Destination & local facility; Requires some parking & vehicle access	<b>MEDIUM</b> Destination & local facility; Requires some parking & vehicle access	<b>LOW</b> Local facility; Requires little parking or vehicle access
<b>Construction Cost</b>	<b>MEDIUM/LOW</b>	<b>MEDIUM/LOW</b>	<b>HIGH/MEDIUM</b>	<b>MEDIUM</b>	<b>MEDIUM</b>	<b>HIGH</b>
<b>Recurring Costs</b>	<b>MEDIUM/LOW</b>	<b>MEDIUM/LOW</b>	<b>MEDIUM</b>	<b>MEDIUM</b>	<b>LOW</b>	<b>LOW</b>
<b>Point TOTAL</b>	<b>16</b>	<b>26</b>	<b>29</b>	<b>22</b>	<b>17</b>	<b>18</b>
<b>Market Trend</b>	<b>↑</b>	<b>→</b>	<b>↑</b>	<b>↑</b>	<b>→</b>	<b>↓</b>

### Ranked Resource-Trend Scores

2. Cross Country	5.3
3. Dirt jumping	7.3
4. Skills/Trials	8.5
5. Free-riding	9.7
6. Downhill	13.0
7. Street/Urban	18.0

HIGH	HIGH/MEDIUM	MEDIUM	MEDIUM/LOW	LOW
5	4	3	2	1

Market Trend	Increasing ↑	Steady →	Decreasing ↓
Multiplier	.33	.5	1.0



## 6.0 Survey Results

This subsection provides a review of the key findings and results of a bike facility survey developed for this project. The survey was posted on-line at [www.surreybikepark.ca](http://www.surreybikepark.ca) for four weeks. Links to the site were made available on SORCE's website and other BMX and mountain biking sites. Address slips were also distributed to Surrey bike stores. The survey was also distributed at the Bike Festival at South Surrey Bike Park in June and on a race evening at Action BMX.

Overall, the findings that most influence project work include:

- ✓ Surrey boasts an active biking community, with riders of all ages and a high degree of skill and enthusiasm for the sport;
- ✓ There is city-wide demand for new, accessible facilities featuring dirt jumping, skills and cross-country
- ✓ There is community appetite to help design and maintain any new facilities
- ✓ The modal split indicates that bike facilities need to be transit and bicycle accessible; and,
- ✓ There is demand and support for a new bike facility in North Surrey.

### 6.1 Key Findings

At total of 306 surveys were received, with roughly half of them coming through a survey posted on our online website ([www.surreybikepark.ca](http://www.surreybikepark.ca)), and half through paper-based responses collected at outreach events at the South Surrey Bike Park and Action BMX.

Of the respondents, 83% were male, and 17% female. We were pleased to see that 66% of respondents were from Surrey, although only 36% were from North Surrey, a result which could have been partially due to the survey launch occurring at the South Surrey Bike Park's Bike Fest event. When

evaluating on-line surveys only, approximately 54% of respondents were from North Surrey neighbourhoods.

It is important to note that 62% of those who responded from outside of Surrey were from within the GVRD. Based on the data on travel distances, which indicate that bikers will travel relatively far distances to access desirable terrain, roughly 87% of the total survey respondents can be considered to be within the potential North Surrey bike facility catchment area.

Looking at the riders themselves, there was a broad age range with, but, as expected, a strong youth presence. Approximately 31% of the respondents were under 17. Of interest, 16% of the respondents were between the ages of 35 and 44, while 14% were between 45 and 54. The age range underscores the growing popularity the sport and its accessibility to a wide range of skill level, fitness and age. Of all survey respondents, only 2% were none riders.

The following chart indicates the type of riding that the survey respondents indicated they are involved with (note that respondents were able to choose more than one option).

BMX (off-road)	BMX (street)	Mountain Bike (downhill)	Mountain Bike (cross-country)	Trials	Dirt Jumping
6%	6%	29%	27%	8%	19%

Overall, the break down coincides with expectations, with mountain biking being the dominant form of riding. The low BMX representation is consistent with the survey launch occurring at a mountain bike-dominated event and web links to the survey being posted on predominantly mountain bike-centric sites (e.g., SORCE, [pinkbike.com](http://pinkbike.com), etc.).

The high number of downhill mountain bikers is somewhat unexpected, as it is a fairly advanced form of riding that requires the most expensive bikes and travel time to areas with suitable terrain (i.e., North Shore, Burnaby Mountain, Whistler, etc.). It does indicate that riders are willing to travel to significant distances to their riding destination. It may also indicate that youth free-riders do not necessarily use the downhill 'tag' and would rather say that they do downhill, even at South Surrey where it means they want to ride trails with stunts and jumps.

In terms of travel mode to bike facilities, 54% of total respondents drive or get driven to bike parks, while 40% ride or take transit. This is an excellent modal split and indicates that riders will use alternative transportation to access bike facilities if it is available.

It also appears that Surrey riders are an advanced group, with 50% of the survey respondents claiming to be advanced riders, 16% experts, and 34% intermediate. None of the respondents considered themselves to be a beginner. Keep in mind that these are subjective valuations, and there may be a propensity towards responding with a slightly higher skill level than appropriate. The finding also runs counter to feedback received at outreach events at Action BMX and South Surrey Bike Park, where numerous people spoke about the need for beginner areas for children.

Surrey riders reported spending a fair amount of time on their bikes with 12% of respondents spending 4 hours a day on their bike and 22% spending between 25 and 30 days a month riding.

When riding in Surrey, the majority of riders choose the South Surrey Bike Park, at a rate of almost 8 times that of both Newton and Cloverdale.

Considering the excellent stewardship groups that exist in Surrey, it is not surprising that 50% of respondents said "yes" they would help design, build or maintain bike park facilities; 35% said "maybe" and only 15% said "no".

The responses validate the trend of bike facilities being community-based, biker-driven, biker-maintained and managed facilities.

Again, the findings that most influence project work include:

- ✓ Surrey boasts an active biking community, with riders of all ages and a high degree of skill and enthusiasm for the sport;
- ✓ There is city-wide demand for new, accessible facilities featuring dirt jumping, skills and cross-country
- ✓ There is community appetite to help design and maintain any new facilities
- ✓ The modal split indicates that bike facilities need to be transit and bicycle accessible; and,
- ✓ There is demand and support for a new bike facility in North Surrey.

The raw data from the surveys is available upon request.

## 6.2 Survey Questionnaire

The City of Surrey is looking at developing a new off-road bike park facility or facilities in North Surrey. As part of our planning, we would like to hear from resident bikers and others about where you bike today and what kind of facilities you think could be developed and where to make Surrey a leader in off-road biking.

Please take a moment to complete the following survey. All personal information you provide will be kept confidential and used only to contact you if you win the survey prize. That's because everyone who completes this survey is entered into a chance to win a new, sized-to-ride KONA Shred Dirt Jumping bike.

1. Name: \_\_\_\_\_
2. Phone \_\_\_\_\_

3. I am \_\_\_\_\_ years old.

4. I am  
\_\_\_\_\_ Male  
\_\_\_\_\_ Female

5. Do you live Surrey?  
\_\_\_\_\_ Yes  
\_\_\_\_\_ No

6. If you live in Surrey, what neighbourhood do you live in (check ONE)?

\_\_\_\_\_ Whalley  
\_\_\_\_\_ Fleetwood  
\_\_\_\_\_ Fraser Heights  
\_\_\_\_\_ Newton  
\_\_\_\_\_ Guilford  
\_\_\_\_\_ South Surrey  
\_\_\_\_\_ Cloverdale

7. If you don't live in Surrey, please tell us what city you call home.

\_\_\_\_\_

8. I mostly ride: (check all that apply to you)

\_\_\_\_\_ BMX (off-road)  
\_\_\_\_\_ BMX (street-style)  
\_\_\_\_\_ Mountain Bike (downhill)  
\_\_\_\_\_ Mountain Bike (cross-country)  
\_\_\_\_\_ Trials  
\_\_\_\_\_ Dirt Jumping  
\_\_\_\_\_ I am not a biker. I would be a spectator at a bike park.  
\_\_\_\_\_ none of the above

9. Would you volunteer to help design a public bike park?

\_\_\_\_\_ Yes  
\_\_\_\_\_ No  
\_\_\_\_\_ Maybe

10. Would you volunteer to help build a public bike park?

\_\_\_\_\_ Yes  
\_\_\_\_\_ No  
\_\_\_\_\_ Maybe

11. Would you volunteer to help keep a bike park clean, safe and a nice place?

\_\_\_\_\_ Yes  
\_\_\_\_\_ No  
\_\_\_\_\_ Maybe

**If you are not a biker, you are done with this survey! Otherwise, answer the last few questions. Thanks!**

12. How long have you been biking  
About \_\_\_\_\_ years.

13. Do you USUALLY bike on the street, at existing bike parks or at home? (Check ONE)

\_\_\_\_\_ on the street  
\_\_\_\_\_ at existing bike parks  
\_\_\_\_\_ at home

14. Do you bike at any of these parks? (Check all that apply)

\_\_\_\_\_ Newton Athletic Park BMX Track  
\_\_\_\_\_ South Surrey Mountain Bike Park  
\_\_\_\_\_ Cloverdale Athletic Park BMX Track  
\_\_\_\_\_ other (Name: \_\_\_\_\_)

15. Which of these bike park facilities do you use mostly? (Check ONE)  
\_\_\_\_ Newton Athletic Park BMX Track  
\_\_\_\_ South Surrey Mountain Bike Park  
\_\_\_\_ Cloverdale Athletic Park BMX Track  
\_\_\_\_ other
16. On average, about how many days a month do you participate in biking?  
About \_\_\_\_\_ days a month
17. On average, about how many hours a day do you bike?  
About \_\_\_\_\_ hours per day
18. About how far do you usually travel to bike?  
About \_\_\_\_\_ blocks  
OR \_\_\_\_\_ kilometres
19. How do you get to the bike park?  
\_\_\_\_ bike  
\_\_\_\_ public transit  
\_\_\_\_ drive  
\_\_\_\_ get a ride  
\_\_\_\_ other
20. About how much money a year do you spend on equipment for biking?  
\$\_\_\_\_\_ per year

