Appendix E. Encouragement

While improving walking and bicycling infrastructure is critical to increasing active transportation use, the importance of education, marketing and promotion efforts should not be underestimated. Education, marketing and promotion can ensure that more CRD residents will know about new and improved facilities, learn the skills they need to integrate walking and bicycling into their everyday lives, and receive positive reinforcement about why and how to integrate walking and bicycling into their everyday lives. In essence, these efforts market walking and bicycling to the general public and ensure the maximum "return on investment" in the form of mode shift to walking and bicycling. This memorandum describes current efforts and future recommendations related to education, marketing and promotion efforts for walking and bicycling.

Figure 1. Education, marketing and promotional events encourage residents to consider walking and bicycling viable transportation options.

Need for CRD Education, Promotion and Marketing Initiative

In our survey of municipal efforts, it became clear that the region lacks a coordinated, energetic leader on education, promotion and marketing of walking and bicycling. Some municipalities are too small to apply financial and staff resources to these efforts and, despite general interest and several partnership initiatives such as the Saanich signage effort, all municipalities lack staff capacity to begin new initiatives.

In addition, while the Pedestrian and Cycling Master Plan (PCMP) effort has revealed a general common understanding of the need for cycling and walking initiatives, in the past there has never been a formalized common regional vision for cycling and walking. The PCMP can provide that clarity of vision and a clear plan for how to proceed. Eleven of twelve municipal contacts interviewed for the PCMP identified education efforts as a priority for the CRD's leadership.

Role of the CRD

The CRD, as a regional organization already engaged in education, encouragement and promotion around other issues (such as recycling and water conservation), should play the following roles:

- **Convener**: Bring the right people together.
- **Coordinator**: Assist interested parties in working in concert.
- **Adviser**: Develop expertise around education, promotion and marketing, and become the repository of institutional memory.
- **Public voice**: Create a campaign to educate and engage the public directly on walking and bicycling issues.
- **Monitor**: Develop an evaluation strategy, ensure that evaluation metrics are collected and report back to funders, stakeholders, decisionmakers and the general public about the results of education, promotion and marketing efforts (a bicycle and pedestrian report card will be presented and discussed in more detail in the Benchmarking and Measurement System memorandum).
- **Funder**: Fund education, promotion and marketing efforts directly, from its operating budget, and indirectly, by leading and participating in efforts to secure additional funding.

- **Implementer**: Where there is no clear existing implementing agency (such as in the area of youth bicycling education) or where the CRD is the uniquely qualified agency to act (such as in the area of public behaviour change campaigns), consider directly creating and implementing programs to fill the void.

Recommended Staffing Structure

In order to make significant progress on education, promotion and marketing of walking and cycling in the region, it is absolutely necessary to create staff who are specifically assigned to working on these efforts. We recommend creating the staff positions described below.

Please note that while these may be hired by and housed under the CRD, it is also possible for the CRD to contract with other organization(s) or individual(s) to fulfill these functions. In any case, the CRD should take a leading role in securing funding for these positions, hiring the right people for the job, setting their duties and work plan and supervising their work.

Figure 2. Outreach staff are crucial for interacting with the public.

- **Pedestrian and Cycling Coordinator**: This person should be charged with generally overseeing the implementation of the PCMP, but in the context of this memorandum, their role should be to implement the education, promotion and marketing recommendations. In addition, the Pedestrian and Cycling Coordinator should be the liaison to the Regional Pedestrian and Cycling Steering Committee (see Recommendations, below).

- **Outreach staff**: For certain outreach efforts (such as SmartTrips), it will be necessary to have additional outreach capacity. Depending on the desired programs to be implemented, these staff may be hired as part-time temporary staff, or it may be possible to combine several staffing needs to create one or more full-time outreach positions (such as having them work on the KidsCAN Skills Safety Course for the Active and Safe Routes to School effort in the spring and fall, having them work on SmartTrips in the summer, and having them assist with data collection and evaluation in the winter).

Existing and Past Efforts

All municipalities were surveyed about current cycling and pedestrian efforts. The results of that survey are listed below.

Existing Municipal Efforts

Oak Bay

Oak Bay has a Bike to Work Program. The Community Association of Oak Bay participates in many bicycle and pedestrian related events.

Victoria

Victoria is an active Bike to Work Week BC participant with nearly 175,000 km having been biked by participants in 2009 alone.

The Greater Victoria Cycling Coalition has been working toward promoting the use of the bicycle and improving the cycling environment since 1990.

Saanich

Saanich also participates regularly in the regional Bike to Work Week BC. The District of Saanich Bicycle and Pedestrian Advisory Committee helps to improve the local biking and walking conditions.

View Royal

The View Royal Sustainability Task Force was initiated by the Town Council in 2008 to engage the community in activities and discussions about sustainability and liveable communities. The Task Force currently consists

Figure 3. Bike to Work Week encourages bicycle commuting through incentives and supportive activities.

of eight members from different segments of the population to give a diverse cross-section of talents and expertise. They organize the Green View Royal website and outreach to encourage sustainable lifestyle choices such as using active transportation that reduces vehicle kilometres traveled and subsequent GHG emissions.

Langford

The City of Langford participates in Safe Routes to School and Bike to Work Week.

Colwood

Colwood has participated in Bike to Work Week in the spring for many years. Colwood has an active cycling committee.

Central Saanich

The municipality fields an annual Bike to Work Week team with strong support from the administration. In 2009, a day-off-with-pay was one of the daily incentive prizes and was a very effective motivator.

Central Saanich formerly had a separate Cycling and Pedestrian Advisory Committee, but with limited staff resources to support committees, the committee was disbanded a number of years ago, and the committee's responsibilities were added to the terms of reference of the Advisory Planning Commission.

North Saanich

There are six or seven cycling events each year in North Saanich. Traffic volumes in the area are low enough to make this happen safely.

Sidney

The Heart Smart walk, which is a section along Sidney's waterfront walkway in the downtown, utilizes distance-marking signage to encourage walking or jogging. Sidney has many elderly residents, and, in this area particularly, they tend to use the Heart Smart walk as part of a daily exercise program. While Town staff themselves take part in Bike to Work Week, Sidney was not involved in implementing it.

Existing and Past Events

Bike to Work Week

Bike to Work BC is a registered non-profit society working to increase commuter cycling in the CRD through Bike to Work initiatives such as providing Bike to Work Skills Courses, supporting Bike to Work events in communities, building partnerships and collecting data.

Way to Go! School Program

The Way to Go! School Program was funded through the Autoplan Broker Road Safety program from December 1997 to the end of June 2008 when the ABRSP was discontinued as an aspect of the accord between the Brokers and ICBC. In the summer of 2008, many Way to Go! Resources were transferred to Hub for Action on School Transportation Emissions (HASTE: www.hastebc.org).

Figure 4. Programs that target schoolchildren are an important part of an overall education, marketing and promotion strategy.

School Travel Planning Pilot

In the past year or two, through the efforts of Green Communities and the Canadian Safe Routes to School Partnership (http://www.saferoutestoschool.ca/partnership) and through funding from the Canadian Partnership Against Cancer, BC has been involved with pilot and second stage work on School Travel Planning. The approach requires a much more significant commitment from the local government authority in supporting the planning and infrastructure to allow for children's safe and active travel to school. The School Travel Planning Guide and Toolkit are available from the project website (http://www.saferoutestoschool.ca/schooltravel.asp). HASTE is able to provide training and resources for implementing School Travel Planning in British Columbia.

Recommendations

The survey of municipal efforts indicated that the region lacks a coordinated, energetic leader on education, promotion and marketing of walking and bicycling. Some municipalities are too small to apply financial and staff resources to these efforts and, despite general interest and several partnership initiatives such as the Saanich signage effort, all municipalities lack staff capacity to begin new initiatives.

In addition, while the PCMP effort has revealed a general common understanding of the need for cycling and walking initiatives, in the past there has never been a formalized common regional vision for cycling and walking. The PCMP can provide that clarity of vision and a clear plan for how to proceed. Eleven of twelve municipal contacts interviewed for the PCMP identified education efforts as a priority for the CRD's leadership.

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- **Funder**: Fund education, promotion and marketing efforts directly, from its operating budget, and indirectly, by leading and participating in efforts to secure additional funding.
- **Implementer**: Where there is no clear existing implementing agency (such as in the area of youth bicycling education) or where the CRD is the uniquely qualified agency to act (such as in the area of public behaviour change campaigns), consider directly creating and implementing programs to fill the void.

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- **Pedestrian and Cycling Coordinator**: This person should be charged with generally overseeing the implementation of the PCMP, but in the context of this memorandum, their role should be to implement the education, promotion and marketing recommendations. In addition, the Pedestrian and Cycling Coordinator should be the liaison to the Regional Pedestrian and Cycling Steering Committee (see Recommendations, below).

- **Outreach staff**: For certain outreach efforts (such as SmartTrips), it will be necessary to have additional outreach capacity. Depending on the desired programs to be implemented, these staff may be hired as part-time temporary staff, or it may be possible to combine several staffing needs to create one or more full-time outreach positions (such as having them work on the KidsCAN Skills Safety Course for the Active and Safe Routes to School effort in the spring and fall, having them work on SmartTrips in the summer, and having them assist with data collection and evaluation in the winter).

Regional Coordination

In order to facilitate coordination and momentum on pedestrian and cycling issues, CRD should convene a Pedestrian and Cycling Steering Committee consisting of municipal staff (planners, engineers or other staff tasked with working on these issues), community and staff from partner agencies (such as BC Transit or the Victoria Island Health Authority). The group should meet bimonthly in the two years following the Pedestrian and Cycling Master Plan completion with the goal of working energetically towards implementing

the plan recommendations. It is suggested that this group be a subcommittee of the Inter-jurisdictional Transportation Advisory Committee in order to ensure coordination with regional transportation planning, projects, and issues.

After that window, the group may choose to meet on a quarterly basis in order to coordinate efforts and work together on common goals. Major task areas include:

- Implementing Pedestrian and Cycling Master Plan recommendations
- Coordinating regional walking and bicycling efforts
- Leveraging funding and seeking new funding sources
- Working together on cross-jurisdictional efforts (such as Sunday Parkways, SmartTrips and the like)

KidsCAN Road Skills Course

Last year's successful KidsCAN Cycling Road Skills Course pilot project demonstrated that there is great interest around the region, especially at the school district level, in providing substantive bicycle skills training to school children.

Phase II of the KidsCAN Cycling Road Skills Course project is to expand the program to all four school districts, with the long-term goal of reaching every seventh-grader in the region. A business plan is currently in development to determine the costs and strategy needed to reach that goal.

The curriculum developed during the pilot program should be used for future phases, but engaging video segments should be developed, along with a loaner bike program to ensure that all children are able to participate in the on-road component.

The Active and Safe Routes to School (ASRTS) Working Group should develop a phasing strategy for reaching schools in the region and resolve outstanding logistical issues such as the provision of program insurance, evaluation strategies and the role of the municipalities in program implementation.

Figure 5. Students learn bicycling safety during a road skills course.

The Regional ASRTS Coordinator will be responsible for managing the program, scheduling and supervising teachers, promoting the program and communicating with the media, seeking in-kind donations and managing evaluation.

Professional Development Classes

Professional development courses provide training to transportation and other professionals who do not have extensive experience or training in bicycle and pedestrian facilities. This can be a successful way to institutionalize knowledge of bicycle facility design at an institution and create an agency culture that values bicycling.

After the Pedestrian and Cycling Master Plan (PCMP) is released, a series of professional trainings should be hosted to educate planners and engineers at municipalities, as well as interested community members, about the contents of the PCMP (e.g. emerging best practices, bicycle/pedestrian user counts, the Active and Safe Routes to School plan, etc.). Trainings should be designed to fulfill continuing education requirements for

professionals. If interest is sustained, trainings may be an ongoing service provided by the CRD. The Pedestrian and Cycling Steering Committee can assist in identifying topics for future trainings.

Sunday Parkways

Sunday Parkways (also called Summer Streets, Ciclovias, or Play Streets) are periodic street closures (usually on Sundays) that create a temporary park that is open to the public for walking, bicycling, dancing, hula hooping, roller skating, etc. The purpose of the event is to encourage walking and biking to the general public by providing a car-free street event.

Sunday Parkways have been very successful internationally and are rapidly becoming popular in North America, including the cities of Winnipeg and Ottawa. Vancouver's first event, called Vancouver Live Streets, is schedules for September 12, 2010. These events promote health by creating a safe and attractive space for

Figure 6. Closing streets for a car-free community event creates a temporary park for walking, cycling, skating, dancing, etc.

physical activity and social contact, and are cost-effective compared to the cost of building new parks for the same purpose. These events are generally very popular and well-attended, and have been shown to be uniquely effective at reaching the "interested but concerned" population who need much more encouragement and training to consider bicycling.

The CRD should work with municipalities to launch one Sunday Parkways event in the first year, working towards an eventual goal of one per month from June to September. Sunday Parkways will require close collaboration between the CRD and participating municipalities, so it will be necessary to come to a clear sense of agreement about roles, responsibilities and financial commitments before proceeding. The City of Portland created a manual for use by other communities; it is recommended that the CRD use this as a starting place for work planning (http://www.portlandonline.com/transportation/index.cfm?a=274625&c=51522).

Sample Programs:

- New York City Summer Streets:
    - http://www.nyc.gov/html/dot/summerstreets/html/home/home.shtml
    - http://www.streetsblog.org/2009/08/10/streetfilms-nyc-summer-streets-2009/ (video)
- Portland Sunday Parkways:
    - http://www.portlandonline.com/Transportation/index.cfm?c=46103
    - http://www.streetfilms.org/portlands-sunday-parkways/ (video)

Family Biking Programs

Families and children in the CRD who want to bicycle more often currently have few, if any, resources available to help them learn what they need to know. Reaching families and children is especially important because increasing active youth school transport is a goal of the CRD, and in order for families to consider bicycling for school transport, they need to learn basic bicycling skills.

Family bicycling programs help parents figure out how to safely transport children by bicycle and help children learn bicycling skills. The format can vary. Some events are panel discussions; others are open-house style events (e.g. at a park), while others may be classes.

Activities may include:

- Training for kids on how to ride a bicycle without training wheels
- Bicycle skills/safety course for children (e.g. rodeo)
- Information about options to transport children (e.g. trailers, cargo bicycles, kid seats, family tandems) and the opportunity to test ride these devices
- Group ride or parade (possibly with bicycle decorating station)
- Bicycle safety check
- Basic bike maintenance course
- Distribution of bicycling maps & brochures

Figure 7. Family biking programs provide families with bicycling skills, tools for transporting small children, and fun activities to do as a family.

Sample program: San Francisco Bicycle Coalition's Family Day (http://www.sfbike.org/?family_day)

Multimodal Trip Planner

Print walking and bicycling maps, such as the Davenport Cycling Map of Greater Victoria, are a tremendously useful resource for people who want to give walking and bicycling a try. The utility of a print map, however, is limited by its distribution, and since pleasant cycling and walking routes are often different from major driving routes, users won't be able to guess the locations of optimal routes.

With the increasing popularity of handheld mobile devices such as smart phones, the opportunity to create a multimodal trip planner could be a game-changer in making non-driving trips attractive and competitive with driving.

There are several efforts in the region to create single-mode trip planners (such the UBC Cycling Route Planner), but a system that integrates transit, walking and bicycling would offer a major step forward in sharing information with the public.

A multimodal trip planner should:

- Integrate up-to-date transit schedules
- Offer users the ability to click on a map for starting and ending points if desired (as opposed to having to enter a street address)
- Allow participating jurisdictions to easily update their information as cycling and walking infrastructure is
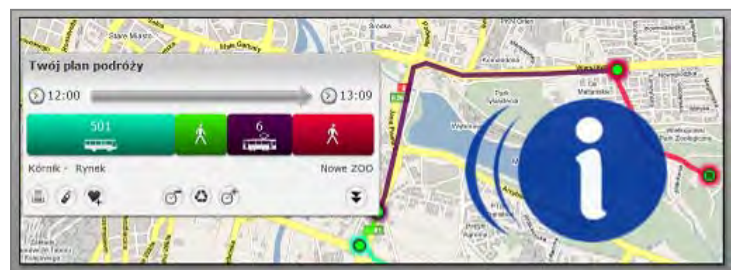

Figure 8. Multimodal trip planners offer a major step forward in sharing travel information with the public.

implemented
- Work on the widest variety of web and mobile platforms

It is suggested that the CRD consider an open source solution to keep costs low and to permit the community to contribute to developing an optimal tool. One option is the Open Trip Planner, currently in development and being beta tested in New York City, Portland, Poznań (Poland), and Bilbao (Spain). More information is available here: http://opentripplanner.com/

SmartTrips

SmartTrips programs are proven to reduce drive-alone trips by approximately 10% and increase bicycling, walking and transit use within a target area. The program invites residents or employees of the target areas to order a customized information packet containing travel information (e.g. an event calendar, walking and bicycling maps, a bicycling guide, transit maps and schedules, etc.). Customized packets are assembled and delivered (by foot or by bicycle where possible) to residents at their homes or employees at their workplaces,

along with an incentive gift of their choice.

In addition to the customized information packet, the program also hosts numerous encouragement activities such as group walks, guided bicycle rides and classes and workshops. Trained staff appear at community or employer events to answer questions about walking, bicycling and transit use.

Figure 9. Residents often do not know where to find walking and cycling resources; a SmartTrips program delivers brochures, maps and incentives directly to their homes.

This approach is based on the annual award-winning City of Portland SmartTrips program, which has consistently shown a 9-13% reduction in drive-alone trips in the selected target area since 2004 at a cost of approximately 20 USD per household. More information on Portland SmartTrips: http://www.portlandonline.com/transportation/index.cfm?c=43801

This evidence-based program should be a key aspect of the CRD's efforts to increase cycling and walking in the region. A thoughtful rollout strategy will select appropriate target areas based on factors known to indicate that a SmartTrips program can be successful (moderate to high residential density, availability of walking/bicycling infrastructure and transit service, commercial and community destinations within reasonable distance of homes, etc.) and work closely with municipalities and BC Transit to implement a program.

Pedestrian, Bicycle and Motorist Respect Campaign

A high-profile marketing campaign that highlights the importance of respect between bicyclists, pedestrians and motorists is an important part of creating awareness of walking and bicycling and improving safety for all road

Figure 10. Respect campaigns increase the general public's awareness of bicycling and can be used to promote safe roads by and for all users.

users. A well-produced safety campaign will be memorable and effective. Most importantly, the campaign should emphasize responsibility and respect between road users.

One good example is the New York City "Biking Rules" campaign, which encourages bicyclists to pledge to respect pedestrians through a simple code of conduct as well as community-produced videos. Other examples include the Portland (Oregon) "I Brake for People" campaign and the Sonoma County (California) Transit "You've got a friend who bikes!" campaign.

A Respect Campaign in the CRD should combine compelling graphics and messages with an easy-to-use website focused at motorists, pedestrians and bicyclists. The safety and awareness messages can be displayed near high-traffic corridors (e.g., on billboards), printed in local publications and broadcast as radio and/or television ads.

Figure 11. Campaigns that appeal to road users' sense of shared responsibility and respect are more effective than those that lecture the public.

Sample programs:

- Sonoma County, CA (USA): http://www.sctransit.com/bikesafe/bikes.htm
- NYC Biking Rules Campaign: http://bikingrules.org/
- Portland, OR (USA) "I Brake for People": http://bikeportland.org/2007/10/15/pdot-to-launch-pedestrian-safety-campaign-5564

Diversion Class

A diversion class is offered to first-time offenders of certain walking-related or bicycle-related traffic violations, such as running a stoplight on a bike. It can be aimed at pedestrians, bicyclists, and/or motorists. In lieu of a citation and/or fine, individuals can take a one-time, free or inexpensive class instead. In Marin County (California, USA) interested citizens can take the class even if they did not receive a ticket. This program is a good way to educate road users about walking and bicycle rights and responsibilities, and can also increase public acceptance of enforcement actions against pedestrians and bicyclists.

Sample program:

- Marin County, CA (USA): http://www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml#StreetSkills

Regional Evaluation and Benchmarking

In order to assess the effectiveness of the Pedestrian and Cycling Master Plan, it is important to track accomplishments and whether the Plan is meeting its stated timeline and objectives. An annual report should include relevant walking and cycling metrics (number

Figure 12. Reports should be shared with the public to demonstrate the region's commitment to improving walking and cycling.

of walkers/riders, new walking/biking facility kilometres, major completed projects, crashes) and may also include information on user satisfaction, public perception of safety or other qualitative data that have been collected related to walking and bicycling. The annual report should be shared with funders, stakeholders, decisionmakers and the general public.

A more detailed effort to develop an evaluation rubric will be completed later in this project as part of the Interjurisdictional Harmonization process.

Sample annual reports:

- City of New York – NYC: http://www.nyc.gov/html/dcp/pdf/transportation/bike_survey.pdf
- City of San Francisco - San Francisco, CA: http://www.sfbike.org/download/reportcard_2006/SF_bike_report_card_2006.pdf
- City of Copenhagen - Copenhagen, Denmark: http://www.vejpark2.kk.dk/publikationer/pdf/464_Cykelregnskab_UK.%202006.pdf

Bike to Work Week

Bike to Work Week is an ongoing successful effort to increase commuter cycling. The CRD can support the continued success of Bike to Work Week in numerous ways, including: inviting Bike to Work Victoria staff to participate in the Regional Pedestrian and Cycling Steering Committee; continuing to partner with Bike to Work Victoria on the KidsCAN Road Skills Safety Course; and providing funding, technical support (e.g. GIS mapping services) and/or staff time to support the program.

Jane's Walk

Inspired by the "people's planner" Jane Jacobs, the annually Jane's Walk event (held on May 1st) is a series of free neighbourhood walking tours, developed and delivered by citizens, as a way to help put people in touch with their environment and with each other, by bridging social and geographic gaps. This fledgling event (launched in 2007) creates a space for cities to discover themselves and to reacquaint its citizens with the inherent walkability and joy a dense, urban environment can offer. www.janeswalk.net

Figure 14. Bike to Work Week is an effective way to introduce commuters to cycling through encouragement and skills building

Figure 13. Jane's Walk is an exciting, citizen-lead walk that helps reacquaint people with the joys of walking in an urban setting.

Bike Sharing

Public bike sharing systems are comprehensive mobility systems that use a fleet of bicycles and stations spread over an area to provide inexpensive and accessible transportation to urban communities. They have been described as a "system of individual public transport" and are well-suited to short trips, typically five kilometres or less. Bike sharing systems are energy efficient and zero emission as well as quick and cost-effective to implement as compared to other transportation infrastructure. They can operate alone or to extend the reach of mass transit systems.

Bike share programs can provide safe and convenient access to bicycles for short trips, transit-work trips, and/or tourist trips. The international community has experimented with bike share programs for nearly 40 years. Until recently, bike share programs worldwide have experienced low to moderate success because of theft and vandalism. In the last five years, innovations in technology that cause increased accountability have given rise to a new generation of technology-driven bike share programs. These new bike share programs can dramatically increase the visibility of cycling and lower barriers to use by requiring only that the user have a desire to bike and a smart card, credit card or cell phone.

This section contains an overview of bike share systems, summarizes key elements necessary to success, and discusses next steps that could be undertaken by the CRD to assess the feasibility of a bike sharing system in the region.

Figure 15. Montreal's bike share system, which debuted in 2009, features 2,400 bicycles at 300 stations throughout the city.

Benefits of Bike Share Systems

Bike share programs, such as systems in Montreal, Minneapolis, Melbourne, Barcelona, Paris and Lyon, help increase cycling mode share, complete gaps in the public transit system, reduce a city's travel-related carbon footprint and provide additional 'green' jobs related to system management and maintenance. In North America, many cities are considering bike share programs, though they have not yet been widely implemented.

Transportation Carbon Intensity Reduction

Public bike systems reduce carbon intensity by reducing the number of automobile trips. This is achieved through a direct replacement of automobile trips with cycling trips as well as by extending the reach of the transit system to make it more attractive than travelling by car. European cities with public bike systems have recorded up to a 10% direct replacement of automobile trips as well as an increase in transit ridership. Given that North American cities utilize automobiles for a much higher percentage of short-distance trips than European cities there is potential for even higher automobile trip reduction.

Unlike many other transportation demand management (TDM) measures that reduce automobile trip-making, there is actually a net increase in the number of trips made with a public bike system in place. Because they are essentially zero-emission, this is achieved without any additional contribution to CO_2 or other greenhouse gas emissions.

Urban Mobility Spectrum[1]

Bicycle sharing provides an effective substitute for short distance trips made by automobiles in urban areas (i.e., trips less than five kilometres). This represents a large share of all trip-making. Short-distance automobile trips:

- Make up much of the congestion on urban arterials
- Contribute disproportionately to urban emissions (see below)
- Are involved in numerous automobile crashes

Short-distance automobile trips represent the most carbon-intense portion of the drive cycle. In fact, cold starts are believed to generate approximately 60% more CO_2 emissions than warm starts and even more than general driving. Short distance trips tend to occur in congested areas with high concentrations of traffic control, which require idling and low-speed operation – both of which have a more pronounced effect on emissions than un-congested driving conditions.

Bike share systems are not foolproof; poor design, inadequate supply of bicycles and a lack of maintenance are among the potential pitfalls faced when building and implementing a bike share system.

Public bike systems are holistic mobility solutions and provide environmental, economic, and social benefits. Their potential to reduce carbon intensity by shifting automobile trips to other modes and numerous other benefits are summarized in 1.

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[1] Adapted from Call-a-Bike Factsheet on website: http://www.callabikeinteraktiv.de/kundenbuchung. February 2008.

Table 1. Benefits of Bike Sharing Systems

Category	Benefit	Description
Mobility	Trip Distance	Fills the gap between trips too long for walking but not long enough to justify waiting for transit (1-5 kilometres)
	Travel Option	Provides a low-cost, accessible system to encourage personal mobility
	Increased Mobility	Encourages trips that would not have otherwise been taken with no additional transportation infrastructure (e.g., approximately 3% of bike share trips in Lyon would not have otherwise been made)
	Transit Integration	Improves transportation options for the first and last leg of a transit trip, therefore extending the reach of the transit system
		Increases transit ridership and diversifies service options meaning more and varied service can be offered by transit
	Congestion / Travel Time	Travel time on the cycling network is more reliable than driving (congestion effects) or transit (schedule)
Energy / Environment	Emissions	Replaces auto trips (likely more than 10%) with zero emission mode of travel
	Station Design	Employs solar technology, etc.
	Resource Sharing	Average of 20 registered users per bike
		Number of subscribers / population
Economic	Implementation	Quick and cost-effective to implement compared to other modes (e.g. new transit line, road widening, etc.)
	Job Creation	Creates "green" jobs – short-term during implementation and long-term during operation
	Local Business	Increased business for local retail
Society	Health	Cycling improves individual health resulting in reduced health care costs
	Cost to Individual	Purchase, storage and maintenance of bicycles is borne by system operator
		Cost-effective compared to transit and automobile
	Behavioural Change	Encourages wider behaviour change and increased use of bicycles in general. Positive effects on allocation of road space, improved cyclist safety (in numbers)

Key Elements of Bike Share Systems

Bike Fleet

Fleet bikes should be distinctive, designed for easy city use, and clearly branded to increase their visibility. Bikes typically come with full fenders, chain guards and, in some cases, a locking mechanism attached to the bike's frame. In most systems, bikes come equipped with a Radio Frequency Identification (RFID) tag, used to locate the bike within the system. This function is typically used in fleet management, utilization analysis, and identification of lost or stolen bikes.

Figure 16. Fleet bikes, such as those used in the Deutsche Bahn Call-a-Bike system, should be easily distinguishable.

Parking and Locking Mechanisms

Bikes lock to either a rack or kiosk where users collect and drop bikes using a smart card or credit card. Card-access systems are found throughout the world. These systems are generally simple to operate, making them accessible to the general public.

Kiosks should be secure, intuitive, and well-lit, and should display information about costs and registration. The kiosks should denote availability of bikes through indications of status (typically red or green light). Most systems can show availability of bikes online or on a mobile device. They should also provide a map of other nearby stations and directions on bike check-out and return methods.

Figure 17. The Melbourne bike share program can be accessed with a fob or a credit card.

Station Design, User Interface and Check-in/Check-out Protocols

All bike share programs require a user interface to collect and retrieve bicycles through a check-in/check-out system. The interface should be simple and easy to understand (e.g., give instructions and diagrams and offer multiple languages). Stations should provide clear directions on how to access and return a bicycle. Other recommended elements include:

- Instructions on where and how to return bicycles
- Cost and pricing information
- Contact information to report damaged bikes or stations
- Maps of nearby stations and recommended bicycle routes
- Damage-resistant locking mechanisms
- Quick access to avoid queues and maximize safety

The best systems will offer multiple options to register and pay for bike check out (e.g., smart card or credit card). Programs using a smart card system generally do not provide users with a lock. If users have registered

for the service with a credit card, they can simply swipe the appropriate card and go. Many systems also allow the user to have short term (daily or weekly) access to the system at station locations.

Station Networks

Station networks should be designed with regard to anticipated users and trip types. For example, some systems in the Netherlands target rail commuters who need a bike to get from the rail station to work. In Paris, stations are placed to create a citywide network with stations available about every 300 - 500 meters. A good station network will:

Figure 18. Check-in/check-out procedures at a card-access kiosk. Instructions are available in several languages.

- Place bikes at easily-found, high-traffic locations
- Connect to public transit stops and stations
- Serve the needs of recreation and utilitarian trips
- Appeal to the targeted population by placing stations near desirable destinations
- Include sufficient stalls at each station to exceed anticipated demand under normal conditions
- Take terrain into consideration (most cyclists prefer to avoid hilly terrain when possible)
- Have stations placed within a reasonable travel distance of each other (difficulty created by inconvenient rental/return locations could contribute to underutilization of the system)
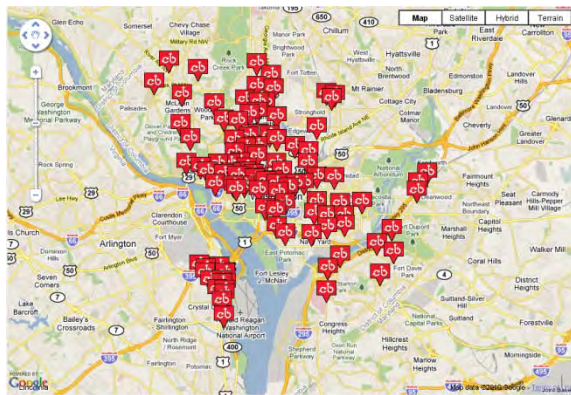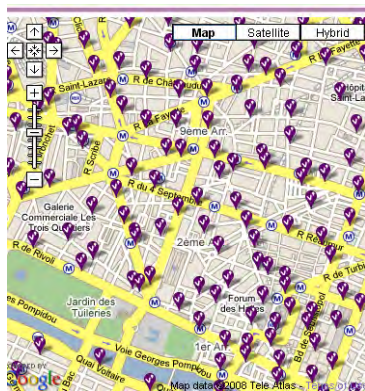

Figure 19. The map on the left shows station locations in a small portion of Paris. The map on the right shows all the stations in Washington D.C. In Paris, the stations are placed evenly throughout the city; in D.C the stations are placed near transit stations and key travel destinations.

Newer "fourth generation" systems are taking advantage of solar and wireless technology to provide flexibility for adjusting the number and location of stations (as well as making station siting and installation easier and cheaper).

Maintenance and Management

A key aspect of any bike share program is system and fleet maintenance and management. These activities can help keep the bike share system in top operating order and provide sufficient bikes to accommodate normal demand.

Status Information System

A status information system will allow operators to:

- Track bike status (e.g., track a bike's location and whether it is in or out of service)
- Track bike location and usage history
- Track station usage
- Track each user's usage statistics and billing information

The bike system status information allows system operators to track management, develop and refine bike redistribution strategies, track maintenance, and perform other critical system activities. Some systems may also handle billing and subscription related activities.

Bicycle Redistribution Mechanism

Users need a high level of confidence that a bicycle will be available at the station of their choice and that a return dock will be available when they are done with the bike. User patterns do not evenly redistribute bikes – stations at the base of a hill will end up with more bikes than ones at the top of a hill, for example, and transit stations may run out of bikes during early morning commute hours, while the evening hours will likely see the opposite result: a lack of empty parking spots to return bikes.

In order to meet user expectations and keep the system balanced, bicycles will have to be redistributed from one station to another from time to time. Past performance of systems in Lyon and Paris indicates that many locations experience peak times of use when a rack will be either completely full or completely empty, making the check-out or return of bikes impossible. Information about bicycle demand should be gathered through Radio Frequency Identification (RFID) tags and any other means used to track bicycle locations. GPS units are not widely used yet, but large-scale deployment is anticipated over the next one to two years. Redistribution may require attention throughout the day as activity patterns shift. Areas likely to require redistribution include:

Figure 20. Maintenance and management are a key part of bike share systems, as in this photo of bike redistribution from Barcelona.

- Transit stations
- Large employment centers (e.g. downtown Victoria and Central Saanich)
- Colleges and universities (according to class schedules) such as the University of Victoria
- Transit stations and interchanges (e.g. Beacon Avenue, Patricia Bay Highway, University Heights)
- Stations located at the top or bottom of large hills (e.g., people may decide to walk or take transit up the hill rather than take the bike)

Fleet and Station Maintenance

Bike fleet maintenance includes common activities such as filling tires with air and tuning up bike gears. Station maintenance may include repairing electronic or communication components, cleaning stations from

soil and graffiti and replacing damaged touchscreens. Bikes and stations not kept in good repair can create safety and liability issues.

Most 3rd generation systems, including Paris, Montreal, and Minneapolis (Minnesota), have sophisticated backend systems so that operators can monitor required bike and station maintenance in real time. Others systems, such as the Bycyklen stations in Copenhagen, have little to no automation and require regular inspection to ensure that stations and bicycles remain in good repair.

Bike fleets and stations will require both scheduled (preventative) maintenance and as-needed maintenance as issues arise. A bike share program should include a plan for fleet and station maintenance. Suggested plan elements include:

- A method for users to report bike damage, necessary repairs or vandalism
- A schedule for regular station inspection and/or maintenance
- A clearly identified party or group in charge of fleet or system maintenance
- A funding source or identified method to pay for scheduled and as-needed maintenance required to keep bicycles and stations in working order

Cost, Funding and Operational Models

Costs associated with a bike share systems fall into four categories:

- Direct capital costs (e.g., bikes and terminals)
- Direct operating costs (e.g., administration, maintenance, and electricity to power terminals)
- Associated capital costs (e.g., streetscape improvements)
- Associated operating costs (e.g., the existing bikeway network, bicycle maintenance, bicycle redistribution, insurance costs)

It is common for a government agency to undertake operation of a bike share system with an operating partner, as most bike share systems are not financially self-sustaining. Funding for

Figure 21. The bike share system in Montreal is partially owned by the City and managed by Bixi.

public bicycle systems commonly comes through a combination of advertisements, user fees, and public government funds, and many systems operate as a public-private partnership. As an example, the Bixi system in Montreal is partially owned by the City and managed entirely by Bixi.

Earlier European bike share systems were developed by outdoor advertising companies such as JC Decaux and Clear Channel Communications. In Paris, advertiser JC Decaux funds the entire system and relies upon revenue from billboard space (granted to the company by the city) and bike rentals to pay the bills. If advertising rights are included as part of the partnership agreement, the region should consider what type of proposals are acceptable, including limitations on content, ad placement, and duration of advertising rights. Municipal codes and provincial laws sometimes place restrictions on where advertising may occur, which could impact the use of this funding mechanism.

This funding model is not being adopted in North America. In fact, Washington DC recently replaced its 100-bike DC Smartbike system operated by Clear Channel Communications, with a publicly funded system that is ten times as large, called Capital Bikeshare. It is widely felt among cities that such a model better incentivizes the operator for good performance and allows for greater accountability to the municipalities.

Most North American cities are now funding start-up and operating costs with a combination of public funding, sponsorship, and user fees. Different sponsorship models for bike share systems are developing every day, with examples from London (25 million pounds for naming rights by Barclays Bank), Toronto (unknown amount of funds by ING Bank), and Minneapolis (one million USD for bike fender sponsorship by Blue Cross Blue Shield insurance company). More models and pricing examples for sponsorship will surely develop even within the next year, as we are just at the beginning of a completely new market.

There are not yet enough data to accurately project when bike share systems will become financially self-sustaining from user fees alone. Early projections indicate a time frame of approximately three years.

System costs vary widely based on program scope and size. The start-up and launch costs for most third generation systems are approximately 5,000 CAD per bike for the whole system, and operating costs are approximately 2,000 CAD per year per bike.

Lessons Learned

The history of bike share programs in the United States and Europe provides an understanding of lessons learned and barriers overcome by technology.

First and Second Generation Bike Share Systems

First-generation bike share programs began in 1968 in Amsterdam and subsequently spread to other cities throughout the world. Program organizers assembled a fleet of bikes and gave them a distinguishing feature, such as painting them white. Bikes were left around the city in key locations for free use. Theft and poor organization were the key reasons given for program failure in many first-generation bicycle programs.

Figure 22. The coin deposit required by the Bycyklen system does not always provide enough incentive for the user to return the rented bike.

Second-generation systems attempted to minimize theft and increase organization by modifying bikes to require a minimal check-out deposit payable at designated bike pick-up/drop-off stations. Like first-generation systems, bikes were still painted or otherwise branded to ensure that each vehicle was recognized as part of the bike share system. Bikes were also equipped or retrofitted with a locking mechanism that allowed them to be checked out and returned. An example of this system is the Copenhagen Bycyklen, founded in 1995, which required a coin deposit to release the bicycle for use. However, the return of the required deposit does not always present the user with enough incentive to return the bike, and theft remains a common problem. It was estimated that 300 bikes (about 15% of the fleet) was lost to the Bycyklen theft in 1996.

The primary problem in historic systems is that users do not feel a sufficient sense of accountability, which results in:

- Little or no reason for borrowers to return bicycles to designated locations

- Bicycles in poor condition due to lack of user regard
- Bicycle theft
- Bicycles in poor condition due to lack of maintenance
- Inadequate or no funding to maintain or advertise the system

Characteristics of Successful Technology-Driven Bike Share Programs

Third and Fourth Generation Bike Share System

The third generation of bike share systems is characterized by credit card transactions and RFID chips. These crucial technology upgrades allow user identification and a security deposit to ensure accountability towards theft and vandalism.

The so-called "fourth generation" has been coined to characterize modular systems that do not require excavation because they use solar power and wireless communication, as opposed to hardwired installation. This system was pioneered by the Montreal Bixi system. The system is actually completely taken in for the winter. Even with this technology available, some cities, such as London, have chosen to utilize a hardwired system.

Match the Bike Share System to the Target Group

Systems experiencing higher levels of success have identified key target groups and tailored their bike share programs accordingly. Smart Card systems may be appropriate in areas where local users will be able to pick up and return bikes at different locations within the city.

Match the Program to the Existing Conditions

Many practitioners mention that bike share systems targeted at the general population work best in moderate to large cities with a minimum population of about 200,000 people. Other case studies have shown that smaller cities have achieved success with systems targeted at a specific population demographic, such as rail commuters. Other bike share programs have targeted university students or employees of one or more large companies.

Figure 23. The Velib system in Paris launched with a large fleet of 10,000 bicycles at 750 stations.

Initial Bike Roll-out

Case studies suggest that a system must have enough critical mass at roll-out to attract users to the system. For example, the Paris program began operation with nearly half its fleet (10,000 bikes at 750 stations). Spring or summer is an ideal time to roll-out a bike share system, as it reduces weather-related barriers to bicycle travel. Starting a bike share program in conjunction with another event will help draw attention to the program.

Provide a Mechanism for Bike Redistribution

It is important for users to be able to rely on the availability of a bike to rent and to find space for a return. Bike redistribution is likely to be most necessary at particular stations, related to travel patterns. Over time, usage trends can be identified and a bike redistribution mechanism developed to help balance the locations of

high demand and availability. In addition, the number and location of docking stations can be adjusted to better meet real-life demand patterns.

Price Bicycle Rental Affordably

Pricing rental on a graduated scale will encourage prompt return of bicycles and reinforce the idea of user accountability. The Montreal Bixi system is free for the first half-hour, and then charges about 1.50 CAD for the second half hour, $3.00 for the third half hour, and $6.00 for the fourth half hour and each additional half hour.

Allowing free rental for the first thirty minutes encourages users to try the system. In Paris and Lyon, this policy has resulted in about 95% of rides being free. A system run by advertiser JC Decaux in Brussels is considered to have poor ridership, in part due to a lack of free service. Even in the now-defunct Washington DC Smartbike system, which gave users 3 hours free, the average trip time was less than 30 minutes. Graduated pricing is also used so as not to compete with private bicycle hire businesses.

Ensure User Accountability

Most successful systems ensure user accountability by providing an incentive to return the bike and treat it well during use. Systems enforce a varying amount of accountability. In systems that require a user to register prior to use, the system operator can bill users for bicycle damages or unreturned bikes. Pre-registration presents a barrier to spontaneous use, however, and will usually rule out use by tourists.

In some programs rental time is restricted to a maximum (typically three hours). If a bicycle is not returned within the allotted window, the user (identified by their check-out code) is fined a set amount, or simply charged for the cost of the bike. This system can be frustrating to users unless stations are frequent and easy-to-find.

The least stringent accountability system is associated with the Copenhagen Bycyklen system. Users receive their coin deposit back, but have very little incentive to return the bike to a designated location.

Create a System Optimized for the Average Bicycle Trip Length

Cities such as Montreal, Paris, and Lyon have been very successful in creating systems where bicycles serve as a major source of public transit within the core downtown area, aimed at trips under five kilometres and lasting fewer than 30 minutes. As the first half hour of bike rental is free in these systems, users are provided with an incentive to use the system for short trips. As users become accustomed to using the bikes, they may begin to use them for longer trips.

Extension of Public Transit System

To function as an effective part of the public transit system, bike share programs should conform to the same standards as other modes for dependability, affordability, and convenience. Recommendations and system characteristics that will help to ensure success include:

- Frequently spaced, convenient stations that take terrain and other environmental factors into account
- Bikes that are consistently and readily available at transit transfer points (e.g., train stations and other transit hubs) to ensure a reliable linkage between other

Figure 24. By locating stations at major public transit hubs, bike share systems can become part of the greater transit system.

modes of public transit and the bike share system

- Bikes available at key trip start and end points in the downtown area (sports stadiums, train stations, major employers, and parks)
- A bike redistribution system to ensure availability of bikes at all station locations
- Unlimited hours of service or hours of service that match those of local transit providers
- Rental window of a suitable duration to allow bicycle use for utilitarian trips (e.g., permitting two or three hour rentals facilitates using a bicycle for a trip to a meeting across town or to the grocery store)

Next Steps for Bike Share Programs in the CRD

A bike share program in the region could benefit both visitors and residents, but it would not come without cost and tradeoffs. Prior to implementing a bike share system, the CRD should consider the potential costs and issues presented below.

- **Cost**: There are many ways to fund both the start-up and the operation of a bike share system, and it is changing every day. There is not enough data yet to know whether a bike share system is financially self-sustaining. Most North American bike shares are funded by public funding to start, and will find sustainability through a combination of public funds, sponsorship, and user fees. Based on cost estimates from North American systems (about 2,000 CAD per bike/year) a system of 1,000 bikes would cost the CRD $2 million/year. Though some of this cost may be absorbed by an operating company and user fees, it is likely that the CRD or other operating agency would still have to provide some form of funding for both launch and ongoing operations, either in financial resources or advertising space.

- **Safety/Liability**: While it is standard practice for system operators to require users to sign a liability release waiver, the system owner/operator will incur some legal responsibility for the system's safety. In many other North American systems, insurance companies have been willing to underwrite the exposure. Although this issue was a big question mark for bike sharing in North America, it has thus far not proved to be an issue in North American deployments. Nevertheless, CRD's tolerance for liability exposure should be examined and measures considered to limit exposure. In addition, mandatory all-ages helmet laws present a challenge to any bike share scheme in the region.

  Melbourne, Australia is the only other place in the world that has deployed a bike sharing system in a region with mandatory helmets. Because the system was launched in the winter, it is not yet clear what the reasons for low ridership are. However, it is clear that a solution must be found for distributing helmets to bike share users, whether helmets are mandatory or not. Currently, the solution is to work with local retailers to help provide low-cost helmets widely. Issues such as public health, logistical costs, and liability prevent easy distribution of used helmets.

- **Existing Bicycle Facilities**: The existing regional network is a patchwork of on- and off-street facilities. =Though complete in many areas, bikeway network gaps in some areas may result in lower ridership. Completion of the recommended bikeway network in areas targeted by the bike share program can help increase system use although there are examples where less extensive bicycle networks have not proved critical and the success of the systems has encouraged investment into expanding the network.

- **Number of Bikes/Size of System**: The fleet size and the number of stations would depend on the target population, the chosen system model and, crucially, on the amount of funding available. A GIS

analysis can be performed to evaluate the optimal size system for the region. In North America, systems are starting with a critical mass core, and growing outward based on demand.

Therefore, the CRD could design a system that serves parts of the region best-positioned for success (e.g. higher density, more bicycle infrastructure, proximity to destinations). This would mean that fewer bikes/docks are needed, costs would be lower, and the number of users/trips would be higher per dollar invested. The challenge to this approach is that each municipality would not receive comparable benefits from the regional system at first, and this might put the CRD in a politically challenging position.

It is important to note that a critical mass of bikes is needed for a successful start. This particular number can be determined with further analysis.

Figure 25. A system may be targeted towards users in the city center or tourists, as well as employees at major workplaces or transit users.

- **System Model**: The CRD should consider the purpose and organization of a bike share system. We list some basic models for consideration. Please note that these models are not mutually exclusive:

  o City Center (e.g. Paris-style): The system is designed for high turnover, short trips and transit connections in the city center. This type of system in the CRD would be deployed in regional growth centers and village centers (e.g. Brentwood Bay, Fairfield Plaza and Keating Industrial Park), particularly where many employees already take transit to work.

  o Tourist Oriented: This type of system would be oriented around major tourist origin points (e.g. Empress Hotel, the cruise ship terminal in Victoria), destination points (e.g. Butchart Gardens, BC Ferry terminal, Gulf Islands, Sooke Pot Holes, Hatley Park, Fort Rodd Hill ,Glendale Gardens, and Woodlands), and multi-use path corridors (e.g. Galloping Goose, Lochside, E&N, Interurban and Trans Canada trailheads). A tourism-oriented system must facilitate on-the-spot registration and will likely benefit from a credit card option (as opposed to just smart card). Tourism agencies, hotels, and tour operators should be included as partners. To the degree that tourism activities overlap with employment centers (e.g. downtown Victoria and Central Saanich), a tourist-oriented system can serve other goals as well.

  o Employer Oriented: An employer-oriented system would be designed to serve employees at major workplaces. Bicycles could be used for connecting from transit stops to workplaces, travel on larger campuses or within large facilities, and midday errands and recreation trips. This type of system could be funded partially or entirely by employers. If the CRD implements a larger regional system, employers could be solicited to fund their own fleet of bicycles that are compatible with the larger system.

  o Transit Oriented: A transit-oriented system would focus on connecting high-capacity transit with residential areas (the "first mile problem") and with employment centers (the "last mile problem"). It can also be used to supplement already congested transit systems over short

distances. This type of system does not experience a high turnover of users throughout the day, so it will be more expensive for the benefit of fewer users.

- **Intra-Regional Coordination**: North Vancouver has just released an RFP for a bike sharing system, Vancouver is expected to in the very near future, and Seattle is currently seeking funding with an RFP to follow. If the CRD implements a bike sharing system that is compatible with some or all of these systems, it will realize synergies in marketing, public comprehension, and acceptance, as well as in the number of users.

- **Governing Structure**: The CRD would necessarily be a leader in implementing any truly regional bike-sharing system, but other partners are likely to be implicated as well. CRD should consider if/how BC Transit, municipalities, electoral areas (Juan de Fuca, Southern Gulf Islands, and Salt Spring Island) and/or non-profit organizations (such as the Greater Victoria Cycling Coalition) would be involved.

  Key questions include:

  o What financial commitments and risks would each partner contribute? What non-financial commitments will each partner contribute (e.g. staff time, providing access to public right-of-way and/or permits for docking space)?
  o How would liability exposure be shared between partners? What additional insurance coverage is needed, if any?
  o How will decisions be made? Will CRD retain final decision-making rights with nonbinding input from partners, or will all partners form a new governing body for the purposes of running the bike-sharing program?
  o What documentation and memoranda of understanding are needed to achieve the desired governing structure?
  o Who will be the public face of the program? Who will speak to the media?
  o How will the success of the program be evaluated, and when and how will decisions be made about expanding, continuing or discontinuing the program?
  o Which entities will decide where stations are located?
  o If municipalities choose not to participate in the initial system, is there an opportunity for them to join in later? How would that work financially and organizationally?

- **System Operator**: Who will manage both rollout and day-to-day operations of the system? Does the CRD wish to manage the system in house, or would it be more advantageous to contract with an experienced team specializing in bike sharing?

- **Selection of Destinations and Station Placement**: A targeted survey and data gathering effort can help identify locations where stations are likely to attract high ridership. The data used to site potential station locations should include transit connections, bicycle network data, day and night time population, key activity centers (e.g., major tourist attractions and employment centers), and topography. These data can be overlaid using maps or Geographic Information Systems (GIS) to create an initial plan for station locations. Site visits should be used to augment user surveys and refine the initial placement plans to create stations that function well in each location and the meet needs of potential customers. It should be noted that certain rural areas in the West Shore area of the CRD (e.g., Sooke, Metchosin, and Juan de Fuca) do not have a minimum residential density that would support bike sharing, and the station placement plan should take this into consideration.

- **Phasing**: Does the CRD have sufficient funding to roll out a complete system immediately? If not, what phasing scheme makes the most sense? Many systems focus on highest-density locations first, then strategically expand to secondary areas and along major transit/retail corridors as time continues.

- **Equity**: Socioeconomically disadvantaged areas are less likely to score well as high-yield locations for bike sharing in part due to the requirement of having a credit card and placing a large deposit for bicycles. Many jurisdictions are sensitive to the possible public perception that a bike-sharing system will only serve the well-to-do. If equity is a major goal of bike sharing, how does that affect funding sources, station placement, phasing, the definition of success, and evaluation efforts?

- **Evaluation**: What is the overall objective of the system, e.g. an extensive of public transportation services, tool to increase visibility of cycling, etc.? How does the CRD and its partners define success of a bicycle sharing venture? What metrics must be collected to evaluate success, and who is responsible for evaluation? If targets are not met, what response will be taken (e.g. discontinuing program vs. investing further to make the system work better)? What are direct opportunity costs of investing in bike sharing (e.g. vs. expanding the bikeway network), and do the benefits outweigh the costs?

- **Weather**: CRD has a significant number fairly cold, rainy days. Potential system users, especially infrequent cyclists, may not choose to utilize the system when they perceive conditions are not optimal or adequate for cycling.

- **Terrain**: CRD's topography could impact the amount of bicycle activity within the city. Hilly terrain could cause a reduction in trip distance or duration or an outright reduction in the number of trips taken. The impact of terrain may be magnified by the weight and gearing of the selected rental bike.

Figure 26. Weather can be a barrier to bicycling and may impact bike share ridership numbers.

Conclusions

Based on experience with bike share systems throughout North America and the world, as well as indications of local characteristics, it is likely that a thoughtfully-designed bike share system could be successful in the CRD. A CRD bike sharing system should be designed to reflect the following factors:

- **Population density**: Areas with low density will struggle to support a bike share system. Victoria, Saanich, areas of Central Saanich Oak Bay, Colwood, Langford, and Esquimalt have residential densities which are more likely to support bike sharing. Rural areas such as Sooke, Metchosin, and Juan de Fuca will not be able to support bike sharing.

- **Demographics**: Many areas of the CRD are home to "older" populations that are traditionally less inclined to cycle. However, a high number of tourist trips throughout the region could support the system, especially in the Inner Harbour area.

- **Target Audience**: As part of deciding on the desired model (e.g. tourist, employer-oriented, etc.), it is important to determine who the target audience is and how they can best be reached. Potential large/concentrated groups of users should be identified (e.g. University of Victoria students/staff/faculty or personnel at the DND Canadian Forces Base Esquimalt) and their travel habits studied to determine whether bike sharing is likely to be an appealing option for them.

- **Mixture of land use and non-residential density**: many areas in the CRD are 'bedroom communities' where residents travel long distances to work. Tying a bike share system would to transit would be essential to the success of any system.

- **Cycle-ability**: the region's topography is generally supportive of cycling, and the bicycle network is improving. For any bike sharing system to succeed, however, improving the overall network and fixing the most challenging "missing links" will be important. If bike sharing is targeted at tourists, for example, improving on-street bicycle connections to the Galloping Goose will be critical to attracting tourist use of a bike sharing system.

- **Cycle culture**: the CRD has the highest cycling mode split in Canada. Policies within the CRD support increased cycling and innovative treatments. A bike share system should be designed with the input and buy-in of agencies and community groups who can champion the system as part of the CRD's cycle culture, thus developing a sense of regional pride in the system.

- **Intermodal Connectivity**: bike sharing will be more successful in areas with a higher transit mode split. There may be opportunities to "fill the gaps" between existing transit coverage, which would have mutual benefits of stretching the transit dollar further.

- **Timing**: A CRD bike sharing system should be implemented only after key bicycle facilities are implemented that would otherwise challenge the success of the system. Likewise, the system should be designed to be compatible with the Vancouver, North Vancouver, and Seattle systems that are currently in development to whatever degree is feasible.

- **Communications**: The CRD already has experience with direct public campaigns (such as those related to recycling, water conservation, and greenhouse gas emissions). These internal resources should be used to assist the success of a CRD bike sharing program by educating the public about the purpose and benefits of bike sharing, and creating awareness of the system prior to launch.

The following next steps are recommended for pursuing bike share programs in the CRD:

- **Focus network improvements on closing gaps in high-use areas.** In particular, connections to the Galloping Goose Trail and U Vic from the downtown area and to tourist destinations such as Butchart Gardens from transit stations.

- **Ensure that policies are supportive of bike share systems.** Policies such as mandatory helmet laws detract from the success of bike share systems.

- **Pursue potential partnerships.** Meet with BC Transit staff and representatives from the tourism industry and employment centers to determine partnerships and explore potential funding scenarios.

- **Decide on system model and analyze station placement.** The goals and overall model (e.g. employer-based, tourism-based, etc.) should be determined and a GIS-based analysis begun to determine optimal station locations.