

FROM STRATEGY TO ACTION



Case studies on physical activity and the built environment

Active living in British Columbia - a guide for community leaders



**Provincial Health
Services Authority**

Province-wide solutions.
Better health.

This guide is a project of the Provincial
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Promotion and Protection Program.

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Developed for:

Provincial Health Services Authority
700 - 1380 Burrard Street
Vancouver, BC
Canada
www.phsa.ca

Developed by:

A. Berland Inc.
Box 27
Slocan Park, BC
Canada
aberland@telus.net

LEES+Associates
509 - 318 Homer Street
Vancouver, BC
Canada
www.elac.bc.ca

Table of Contents

INTRODUCTION	1
THE ISSUE	2
The problem with weights	2
Target groups	2
Challenges and opportunities	3
Leading the charge	4
FROM STRATEGY TO ACTION	8
FROM RESEARCH TO PRACTICE	9
INCREASE URBAN RESIDENTIAL DENSITY AND MIXED LAND USE	10
Downtown Concept Plan, Squamish, BC	11
Dockside Green, Victoria, BC	13
False Creek North, Vancouver, BC	15
INCREASE CONNECTIVITY TO PROMOTE WALKING AND CYCLING	17
Galloping Goose, Capital Regional District, BC	18
Grand Concourse, St. John's, NFL	19
Green Necklace, City of North Vancouver, BC	21
ENCOURAGE HEALTHY SCHOOL SITES AND SAFE ROUTES TO SCHOOL	23
Grandview Community Schoolyard, Vancouver, BC	24
Way to Go!, BC	26
Children's Trails Program, Sandnes, Norway	28
INCREASE PUBLIC TRANSIT AND ACTIVE TRANSPORTATION OPPORTUNITIES ..	30
Copenhagen, Denmark	31
Transmilenio, Bogotá, Columbia	33
INCREASE AVAILABILITY OF RECREATIONAL FACILITIES, PARKS AND TRAILS ..	35
Randonnée du vendredi soir, Paris, France	36
Bishop Grandin Greenway, Winnipeg, MB	38
ENHANCE PARK AND STREETScape DESIGN TO IMPROVE AESTHETICS, SAFETY AND SECURITY	40
Wellness Walkways, Vancouver, BC	41
Admiral Park, Liverpool, UK	42
INCREASE COMMUNITY INVOLVEMENT AND PROGRAMMING	44
Penticton Steps Out, Penticton, BC	45
TravelSmart Pilot Project, UK	47
Stoney Creek Community Garden, Burnaby, BC	49
IDENTIFY AND CREATE ACTIVE LIVING FUNDING SOURCES	50
Grade 5 Rec Passes, Delta, BC	51
Quality Foods Rec Bucks, Nanaimo, BC	53
Congestion Charge, London, UK	55
CASE STUDY CONTACTS	57
BIBLIOGRAPHY	58
GLOSSARY	60
FURTHER CONTACTS	61

*We ought to plan the ideal of
our city with an eye to four
considerations. The first, as
being the most indispensable, is
health.*

ARISTOTLE,
Politics (ca.350 B.C.)

Introduction

Daily physical exercise – such as walking to the grocery store or cycling to work – offers significant health benefits. Yet the design of our streets, workplaces and communities often discourages such healthy activity. Evidence from around the globe now shows us that critical health concerns such as inactivity and obesity arise from human interactions with the built environment. Unfortunately, while these interactions are widely acknowledged, change has been slow. Too often, community design decisions do not consider the implications for public health.

During a series of *Healthy Communities Seminars* held across BC in 2006, there was a call for guidance about built environments that support active living. Seminar participants requested a toolkit of strategies combined with specific examples. About the same time the BC Healthy Living Alliance, a provincial coalition, identified a gap in knowledge transfer. While many outstanding examples exist, these are rarely disseminated.

In response, PHSA has developed this made-in-BC resource guide. It aims to strengthen our collective understanding about how to enhance health through effective planning and design. This guide is designed for those who work in health services, urban planning and development, government, and education: from health promoters encouraging use of local trail networks, to municipal planners preparing new developments, to developers designing new communities more attractive to pedestrians.

This guide builds on recent research by Professor Larry Frank, Bombardier Chair in Sustainable Transportation at UBC. Dr. Frank's key messages form the basis of the 8 Action Strategies for creating healthy communities in BC found within this document. To illustrate the Action Strategies, twenty case studies were chosen from throughout the world as examples that advance active living.

Each case study includes a project summary and a *Tools Used* section to identify its policy, programming and procedural devices. For foreign examples, an *Application in B.C.* section explains how similar projects could be undertaken in our province. Each case study also identifies contacts for further information. This document as a whole includes a summary of the issue, a list of resources and key contacts, a bibliography and a glossary.

Current research identifies children and low income families as particularly at risk for obesity, so several case studies focus on these groups. Projects like *Grandview Community Schoolyard* (Vancouver, BC), the *Grade 5 Rec Pass program* (Delta, BC), and *Quality Foods Rec Bucks* (Nanaimo, BC) reduce barriers for children and low income families. Trail networks such as the *Galloping Goose* (Capital Regional District, BC) and the *Grand Concourse* (Winnipeg, MB) provide accessible places to walk, cycle, or skate for all residents.

Read on – and discover other built environment initiatives to increase physical activity and promote public health through community planning and design.

The Issue

The problem with weights

The burden of disease associated with physical inactivity is increasing. Diseases related to obesity are among the leading causes of disability and death, and as weights increase so does the likelihood of high blood pressure, diabetes and heart disease. As of 2004, 58% of adult Canadians were overweight or obese, attributed largely to an increased consumption of high-calorie food, a lack of physical activity, and indirectly, concerns about safety or security (Stats Can 2004).



Way to Go! School Program

In 2004, the Heart and Stroke Foundation of Canada in partnership with the Canadian Institute for Health Research led an obesity conference that identified the built environment as a key area for research and innovation in order to address obesity issues. Although more research is needed, it is widely acknowledged that there is sufficient evidence to take action now (Frank 2007).

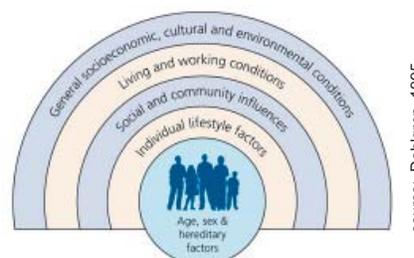
Target groups

At-risk populations for obesity include children and low income individuals. The following statistics are taken from the CPHI *Summary Report on Improving the Health of Canadians, 2004*:

- Rates of overweight and obesity among children aged 7 to 13 rose by 1.5 to 5 times between 1981 and 2001.
- In adults, 43% of women in the lowest income category are identified as being overweight or obese.
- Children in low income families were 1.5 times as likely to be obese as children not in low income families in 1998-1999.

Research indicates that once children begin to struggle with excessive body weight, it becomes very difficult to reverse the problem in later life. To stem the rising problem of obesity in Canadian populations, targeting children is important.

Low income residents also face significant barriers in accessing facilities, services and information related to physical activity. Key barriers for this group include fees, lack of transportation, and lack of accessible amenities. Opportunities for safe, active recreation and non-motorized transportation for these target groups is particularly critical if we are to address the rising weight epidemic.



source: Dahlgren, 1985

Fig. 1: Conceptual model for the main determinants of health.

Challenges and opportunities

Whether an individual, group or community will be physically active is influenced by a variety of factors (see figure 1). Several determinants influence participation in an active lifestyle including sex, age, skill level, ability, beliefs, attitudes and motivation. Barriers to physical activity include concerns over safety and security, perceived lack of time, and lack of motivation. In addressing these barriers the built environment has a critical role to play.

Our everyday environment, including our homes, schools, workplaces, parks, recreation areas and transportation systems must be safe and desirable.

The current evidence suggests that neighbourhoods that encourage walking, cycling and overall active living typically feature:

- Urban residential density
- A mix of land use
- Street connectivity
- Recreational facilities (including parks, bike lanes and paths)
- Street scale design and safety

(Frank 2006, 2007)

A major challenge to implementation is fostering a shift away from auto-dependent movement. To encourage physical activity over the long term it must be made an easier choice in our cities and towns.

Urban Residential Density

Density is closely related to land use mix and street connectivity in terms of positively influencing opportunities for travel by transit, bicycle or foot. High density levels make transit accessible to more people, thereby creating a critical mass of transit users. Moreover, density is believed to reduce transit operating costs. In Canada's urban cities, rates of overweight and obesity seem to be lower in neighbourhoods situated closest to downtown areas (CIHI, 2006). These statistics show that people who live in more compact places tend to walk more.

Land Use Mix

People are more likely to walk when land use is mixed (as when shops, schools, workplaces are close to dwellings). Mixed use developments encourage active transportation behavior because distances between origins and destinations are reduced. One study showed that when neighbourhoods are divided into four quartiles each quartile increase in mixed land-use that facilitates active living was associated with a 12.2% reduction in the likelihood of obesity (Frank, Engelke 2000).



Galloping Goose Regional Trail

Street Connectivity

Transit-oriented neighbourhoods (defined as having grid street networks) have higher average walking and bicycling rates than auto-oriented neighbourhoods (with random street patterns). In higher connectivity systems such as grid-like layouts, travel by foot, bike or transit is eased. Shorter blocks reduce travel speeds, increase pedestrian safety, and provide a large number of alternative trip routes (Frank, Engelke 2000). Results indicating that BC residents of municipalities farthest from urban centres are more likely to be obese are consistent with American research associating obesity with urban sprawl.

Recreational Facilities

Communities that have parks, trails, playing fields, or other facilities have been shown to have more physically active residents. One study showed that the presence of at least one recreational facility within a kilometre of one's dwelling was consistently associated with walking in all young age groups.

Street Scale Design and Safety

Street design can have an influence on different modes of travel. Amenities such as street trees, sidewalks, crosswalks and bike paths make walking and biking more pleasant. In addition, traffic speeds and volumes can be reduced through street calming measures which deliberately slow vehicle speeds and restrict car movement. Areas that are attractive and free from crime have been linked to higher rates of physical activity (Frank 2007).

Challenges and opportunities may vary depending on community context. While offering access to active transportation and increasing safety and security are excellent opportunities for improving the built environment they depend on the community type. Rural communities will struggle with achieving higher density developments more so than urban communities. As well, safety and security may be perceived differently in urban and rural settings. Social and cultural norms that are unique to various BC communities also present slightly different opportunities and challenges. The case studies that follow illustrate how different environmental, social, and cultural contexts can give rise to unique and effective on the ground change that supports active living.

Leading the charge

Emerging leaders are needed who can champion changes in urban planning and design. They are needed in all fields and sectors, from health professionals, decision-makers and elected officials, planners, designers and developers, to government agencies, school districts, non-profit organizations, and community members. Leaders have the unique ability to enable information flow and collaboration within their organizations and promote healthy living issues. They can also support policies, procedures and programs that create built environments where people can and want to be physically active.

Bridge-building and communication are central to the challenge. By building on work already done it is hoped a "community of practice" will emerge that includes a network of leaders who continue to collaborate to share ideas, find solutions, and build innovations. Effective partnerships at the local level are key to success, and solutions may require unlikely partnerships to evolve. Case studies may help point the way for new partnerships. For example, on Vancouver Island,

the Regional District of Nanaimo is partnering with Quality Foods, an Island-based grocery store, to provide a program in which Quality Foods “points” are redeemable at local parks and recreation facilities. In Vancouver, the Coastal Health Authority offered a grant to Grandview Community School to fund a garden coordinator in perpetuity. In other examples, municipal departments



Grandview Community School

have found ways to work together to achieve multiple goals in planning and design projects. In the City of North Vancouver park designers and engineers worked together on innovative infrastructure solutions to integrate an urban greenway in the built up Central Lonsdale area – addressing both stormwater management and active recreation. These are but a few projects that demonstrate the impact of introducing active living into the decision-making process, bringing different departments together, or involving health

officials in community design.

Solutions will require a shared understanding of the problem, and strengthened collaboration amongst leaders in health and built environment fields. Now is the time to take the research and apply it across the province, on the ground, in the schools, parks and streets of every community.





Action Strategies and Case Studies

From Strategy to Action

This document offers examples of active living successes both here in British Columbia and around the world. The case studies profiled in this guide are grouped under 8 strategies which should be employed in creating healthier built environments:

Strategies

- 1. Increase urban residential density and mixed land-use.**
- 2. Increase connectivity to promote walking and cycling.**
- 3. Encourage healthy school sites and safe routes to school.**
- 4. Increase public transit and active transportation opportunities.**
- 5. Increase availability of recreational facilities, parks and trails.**
- 6. Enhance park and streetscape design to improve aesthetics, safety and security.**
- 7. Increase community involvement and programming.**
- 8. Identify and create active living funding sources.**

These strategies come with recommended actions and key messages that have been identified by researchers in the field as among the most promising for creating a healthier built environment in British Columbia. Each strategy is accompanied by 2-3 case studies which demonstrate the strategy at work with a special focus on relating the policy, programming and procedural tools used to the BC context. As children and low income groups have been identified as the greatest at risk, many of the case studies focus on interventions that benefit these groups.

Several criteria were used in selecting case studies. They include:

- examples that best serve children and low income families;
- ability to translate to a BC context;
- comprehensiveness and a diversity of actors, tools and targets;
- initiatives that best illustrate a key strategy at work, and
- applicability to towns and cities that range in size.

The case studies were compiled using a combination of existing research, grant profiles, and interviews. Initiatives range from smart growth planning to regional greenways; from children's mapping to walking school busses and congestion charges. They are 'best practice' examples demonstrating that success can be achieved through many avenues, including planning, recreation, urban design, programming and policy.

The strategies identified in this document can be implemented throughout British Columbia, although each city or town will have different priorities and issues that warrant a suite of applications specific to that community. Strong leadership, partnership-based collaborations and a commitment to increasing opportunities for active living are critical.

From Research to Practice

This guide is designed as a companion to two other documents, both of which have been identified as exceptional resources for improving health and the built environment. Readers are strongly encouraged to read all three. Together, this trio of resources provides a comprehensive understanding of the issue and highlights a myriad of opportunities to translate the research into practice.

The companion documents include:

Frank, L; S Kavage; K Raine. (2007). *Creating a Healthier Built Environment in British Columbia*. Provincial Health Services Authority.

This resource summarizes existing research on health and the built environment, discusses the strengths and gaps of the available evidence, and then articulates key messages for practitioners, policy makers and the private sector.

Leadership for Active Living, San Diego State University. (2003). *Leadership Action Strategies*, Available at: www.activelivingleadership.org/uploads/PDFs/tool_ALL-ActionStrategy_Jan2003.pdf.

This San Diego State University document was developed in 2003 by the Leadership for Active Living program in partnership with the Robert Wood Johnson Foundation and several other collaborating organizations. *Leadership Action Strategies* is an excellent framework that lists more than 25 specific strategies, tactics and policy tools that local governments and leaders can use to support active living. The approaches listed vary in nature from short- to long-term, from inexpensive to costly, and from targeted to comprehensive.

FROM STRATEGY TO ACTION – Case studies on physical activity and the built environment. (2007).

This guide is meant to compliment the exceptional resources described above by providing key examples of how research and strategies can be put into play.

1 Increase urban residential density and mixed land-use

Compact, mixed-use land use planning with shorter blocks, higher levels of street connectedness and high quality pedestrian environments can positively influence residents' ability to engage in routine physical activity. People are more likely to walk when land use is mixed (i.e. shops, schools and workplaces are close to dwellings).

Tactics may include:

- Creating incentive programs for developers.
- Changing zoning requirements.
- Using transfer of development rights (TDR) programs.
- Focusing investment in existing communities to encourage downtown revitalization.
- Discouraging greenfield development.
- Giving development priority to locations able to integrate into effective networks for walking, cycling and public transport.

CASE STUDY: Downtown Concept Plan, Squamish

Squamish is typical of many BC resource towns undergoing transition. Growing interest in ecotourism, coupled with Squamish's natural assets are making it a destination for tourism and recreation. Urban growth in Squamish, however, has meant the town has become increasingly a bedroom community for Vancouver, with higher suburban development and a declining downtown core. In response to growth and development pressures, nearly three-dozen Squamish citizens, officials and other stakeholders came together in 2005 to create a sustainable vision for the future of downtown Squamish. These concerned citizens and municipal leaders recognized that downtown Squamish was in need of re-vitalization. The visioning process was facilitated by Smart Growth on the Ground (SGOG), a partnership between Smart Growth BC, the Design Centre for Sustainability at UBC and the Real Estate Institute of BC. The efforts of their work resulted in a Downtown Concept Plan which was approved by district council in October 2005.

The emphasis of their 30-year vision is on building a vibrant, complete community, and improving ways of "getting around" through a network of commuter trails and pedestrian friendly environments for downtown streets and public places. One challenge has been to ensure continued understanding and buy-in of the plan by new councils. The community-led process helped in this regard: because they helped to create the plan, constituents are generally very supportive of implementation.

District staff are currently preparing the Concept Plan for adoption into the OCP (Official Community Plan), where it will become legislatively binding. In the meantime, council has directed staff to work on applications in accordance with the Concept Plan. Adoption is anticipated for late 2007.

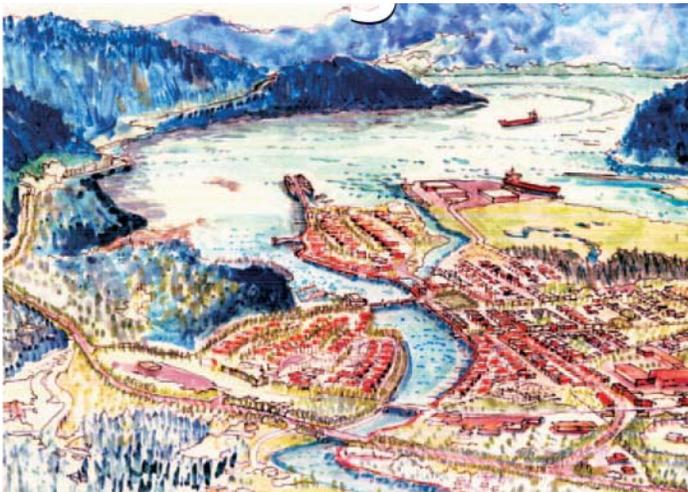
Tools Used

- Financial and in-kind sponsorship. Funding came through Vancity Community Project Grants, Canada Mortgage and Housing Corporation, Transport Canada, Environment Canada Georgia Basin Action Plan, and others.
- Charrettes. SGOG held 4 day-long intensive design charrettes with community-elected representatives.
- Public process. The extensive consultation process included a series of workshops and educational events to highlight the priorities of the community. The SGOG process also allowed developers to become acquainted with the community's expectations.
- Evaluation. Staff are working on a smart growth evaluation framework for developers.

Additional Actions to Consider

- Develop a review process that ensures new developments have pedestrian and bike friendly elements.
- Provide design guidelines aimed at improving the pedestrian experience in downtown areas and retail centres.
- In existing communities, focus investments to encourage downtown revitalization and discourage greenfield development.
- Development priority should be given to locations able to be integrated into effective networks for walking, cycling and public transport.
- Use of design charrettes that present targets related to physical actions as well as other environmental, social and economic goals.

photo credit: Smart Growth BC



For Further Information

Jody Siu
Smart Growth BC
Tel: 604-915-5234
E-mail: jodie@smartgrowth.bc.ca
www.sgog.bc.ca/squamish

Heather Evans
Planning Department
District of Squamish
Tel: 604-815-5020
E-mail: hevans@squamish.ca
www.squamish.sgas.bc.ca

CASE STUDY: Dockside Green, Victoria, BC

Dockside Green, the biggest development of city land in Victoria's history, is being jointly developed by Vancity Enterprises and Windmill Developments. Situated in the heart of the City of Victoria, this new community will occupy 15 acres of former harbourfront industrial land, with a planned total of 1.3 million square feet of mixed residential, office, retail and light industrial space. A network of diverse green spaces provide active transportation choices that include pedestrian and bike trails, dock facilities and a harbour ferry to downtown Victoria.

The Galloping Goose Trail (see Action Strategy 6) passes through the site, offering key regional bicycle and pedestrian linkages. Public transit options include a vehicle-sharing program and a mini-transit system servicing key points downtown as well as a local grocery store. The Dockside site was initially sold to the city by the Province of BC for \$1 due to the extensive environmental liabilities on the site. The city invested a significant amount into the site in order to make it available for development, and needed to recoup these investments as a minimum requirement.

Tools Used

- Zoning regulations. The area was rezoned from business park to allow mixed land use development.
- Incorporation of principles of Smart Growth, New Urbanism, and green building design (LEED platinum certification).
- Transparent bidding. The tendering process was based on Triple Bottom Line (TBL) bidding methodology which allows smaller, more progressive development companies to be competitive. This process gives developers the flexibility to offset a lower bid for the land in favour of social and environmental benefits.
- Development of tailored performance indicators. Healthy lifestyle and active transportation are among the performance indicators to be measured to determine the project's impact on the city and the region. Annual and five year performance reports will be made to the city.
- Ongoing Community Involvement. The Vic West Community Association represented the local community at bimonthly meetings with the developer.

Additional Actions to Consider

- Create incentives for the redevelopment of brownfield sites. For example, the cities of Kingston and Niagara Falls have rescinded developers' charges for contaminated sites to encourage brownfield redevelopment.
- Prioritize approval of dense, mixed-use development in proximity to downtown.



photo credit: Dockside Green

For Further Information

Ryan Slogotski
Development Manager
Windmill Developments
Tel: 250-360-1100
E-mail:
rslogotski@windmilldevelopments.com
www.docksidegreen.com

Detlef Beck
Director, Community Enterprises
Vancity Enterprises and
Dockside Green
Tel: 250-519-4249
E-mail: detlef_beck@vancity.com

CASE STUDY: False Creek North, Vancouver, BC

False Creek North lies along the northern shore of False Creek on Vancouver's downtown peninsula. Like many coastal BC waterfronts, False Creek was a focal point of heavy industry and railway related activities. Prior to 1986 the industries moved out and the area became the home of the Expo '86 World's Fair. After the Fair closed the land was sold to developers and rezoned. Since that time most of the 80 acres have been transformed into 3 distinct communities – Granville slopes, Concord Pacific Place and Citygate.

The redevelopment of the area was guided by 7 major organizing design principles. The result is a dense, mixed-use urban experience. The neighbourhood grid layout eases travel by foot, bike or transit and provides a large number of alternative trip routes. The city grid was extended to the waters' edge bringing the once inaccessible waterfront back into the public realm. The False Creek North site has become a model for inner city revitalization. The development meets the GVRD's Liveable Region Strategic Plan objectives by providing dense, ground-oriented housing close to a range of job opportunities, and by protecting waterfront walkways.

Tools Used

- New pedestrian connections. Pedestrian access from downtown to the water was accomplished by extending the city grid to the water's edge. The extension of the waterfront walkway has resulted in a continuous 10m wide walkway/bikeway linking parks and street ends.
- Street-oriented retail and pedestrian features. Pedestrian amenities include disabled access, wider sidewalks, increased traffic signals, and rights-of-way for rapid transit.
- Mixed-use development. The neighbourhood integrates commercial, residential, live/work housing, and "high tech" offices.
- Human scale development. All large structures feature human-scale development at street level.
- Improved cycling connections. Street redesign included the creation of dedicated cycling lanes, and where necessary, deletion of a vehicle lane.
- Design guidelines. An urban design study was undertaken to develop an urban design concept to guide planning decisions.
- Re-use of existing buildings. The Canadian Pacific Railway (CPR) historic train maintenance facility was adapted to serve as a full-service community centre.

Additional Actions to Consider

- Increase access to the water via public docks and trail systems.
- Apply green infrastructure concepts to increase green space provisions and to increase the community's "walking appeal".

photo credit: City of Vancouver



For Further Information

Michael Gordon
Senior Central Area Planner
Planning Department
City of Vancouver
Tel: 604-873-7040
E-mail: planning@vancouver.ca
[www.city.vancouver.bc.ca/
commsvcs/planning](http://www.city.vancouver.bc.ca/commsvcs/planning)

2 Increase connectivity to promote walking and cycling

Transportation engineers, planners and landscape architects play a major role in shaping the way our roadways accommodate pedestrians and cyclists. A balanced transportation system makes it possible for residents to walk or ride a bicycle to a store, school or work. In fact, walking has been shown to be a favoured activity of those with low incomes because it is inexpensive and easily accessible.

More than two in five Canadian adults strongly agree that a well-linked network of trails would help them become more physically active. While many municipalities report having some trails, few have networks of trails that permit travelling from one point to another on exclusively off-road trails (Campbell, 2004).

Several Canadian cities have seen significant growth in the amount of people cycling after major investments are made in bicycle infrastructure. For example, after the completion of the Vancouver's Adanac Bikeway in 1993, bicycle volumes increased by 225%. The number of cyclists using the bikeway increased as it approached the downtown core (City of Vancouver, 2004).

Tactics may include:

- Creating direct routes for pedestrians and cyclists, especially between dead-end streets and cul-de-sacs.
- Ensuring that paths, sidewalks and trails connect to important facilities and services.
- Creating a comprehensive plan for bicycling and walking in existing and future development.
- Including non-motorized transport in broader transportation planning.
- Creating regional open space corridors using tools such as land acquisition, easements and partnerships with conservation groups.
- Transforming disused rail corridors throughout BC into multi-use trails.

CASE STUDY: Galloping Goose, Capital Regional District, BC

The 60km Galloping Goose Regional Trail accommodates activities such as walking, cycling and horse-back riding along a former railway line that stretches from Sooke to Victoria. The rail corridor, acquired in 1987, is managed and maintained by the Capital Regional District (CRD). The trail passes through urban, working agricultural and semi-wilderness landscapes. At Saanich, it connects with the Lochside Regional Trail, which continues north to Swartz Bay. Significant features along the corridor include a number of Regional Parks such as the Sooke Potholes, and Matheson Lake. The trail connects many communities between Victoria and Sooke, as well as institutions such as Royal Roads University. The trail surface is paved through urban areas, and hard-packed gravel through rural areas. The Galloping Goose is used by an estimated 650,000 people a year (CRD, 2006). CRD staff estimate that about one third of users are commuting from home to work.

Some of the challenges associated with building the entire trail length included working with adjacent landowners to ensure their concerns about issues such as safety were addressed. The popularity of the trail has exploded. The District must now address issues related to overuse of the trail, especially at peak hours during the summer months. The Galloping Goose Trail was named after the gas-powered car that carried mail and passengers twice daily between Sooke and Victoria during the 1920s.

Tools Used

- Land tenancy agreement. Although owned by the Province, the CRD has a License of Occupation which allows them to occupy and manage the corridor.
- Regional trail linkage. The trail is linked to the Capital Regional District regional trail system and the Trans-Canada Trail, a multi-use trail system that connects every province and territory.
- Monitoring. The CRD tracks the number of trail users using trail counters and on-site observation.



photo credit: Gary Robinson

For Further Information

Jeff Ward
Capital Regional District
Victoria, BC
Tel: 250-478-3344
www.crd.bc.ca
www.gallopinggoosetrail.com

CASE STUDY: Grand Concourse, St. John's, NFL

The Grand Concourse is an integrated walkway system for the cities of St. John's, Mount Pearl and the Town of Paradise. Development of the trail started in 1992. It's 120 kilometers of walkways link every major park, river, pond, and green space in the three municipalities. At strategic points throughout the network are rest areas, playgrounds, storyboards and other amenities to make the walks as enjoyable as possible.

The walkway system was developed and is managed by the Grand Concourse Authority, a non-profit organization established through provincial legislation. The owners of lands on which the walks are situated are all members of the Authority. These include all levels of government, various institutions, foundations, commissions and other local authorities. A key factor in securing the lands that now make up the Grand Concourse system was a Newfoundland law that places in the public realm all lands within 15 metres of a waterway. This has enabled walkway continuity along and around rivers, ponds and coastlines. Funding was provided by the federal, provincial and municipal governments as well as the Johnson Family Foundation. Civic planners across Canada have recognized the standards and use of technology used on the Grand Concourse as among the finest in North America.

The network has grown steadily since the development of the first walk in 1993, and will now be in place for generations to come. It serves primarily recreational walkers and cyclists, but as it grows and links destinations more effectively it is more likely to serve utilitarian transportation purposes. An estimated 38,000 local residents use the Grand Concourse on an average summer day. In a 2002 telephone survey of area residents, nearly 85% of respondents said they use it at least once a week during the summer months. Walkway users (including local residents and tourists) are estimated to spend over \$7.8 million annually on incidental expenditures like refreshments, film and sunscreen.

Tools Used

- Professional expertise. The Authority relied on professional expertise, particularly that of landscape architects, at all stages of planning and design, and made public participation an integral part of the process.
- Provincial legislation. The Newfoundland legislature passed an act to incorporate the Grand Concourse Authority, giving it the power to prepare a master plan, establish priorities for development, develop criteria for conservation and enhancement, and conduct any required scientific, environmental, economic, tourism and cultural studies.
- Linking of ecology, economy and health. The Authority identified and linked the ecological, social and economic benefits of the project in order to secure funding.

- Marketing. The Authority published a interpretive *Walker's Handbook*. This 148-page guide includes detailed maps, photographs of all 37 walks in the system, information on the length, duration and grades of walks, notes on common wildflowers, shrubs and birds, and histories of prominent buildings and places.
- Maintenance system. The Grand Concourse Authority created a Maintenance Management System and manual intended to help agencies and groups in the 3 communities maintain their own walkways.
- Technology. A GPS-based inventory of the network is used for maintenance management.
- Monitoring. Surveys of Grand Concourse users are regularly conducted on the ground.

Application in B.C.

- Design walkway systems to link major destinations such as schools, seniors homes, parks and workplaces. Create a “destination” trail that links natural assets within your community.

photo credit: Grand Concourse Authority



For Further Information

Neil Dawe
Executive Officer
Grand Concourse Authority
Telephone: 709-737-1077
E-mail: info@grandconcourse.ca
www.grandconcourse.ca

CASE STUDY: Green Necklace, North Vancouver, BC

The Green Necklace project is a 7km long urban greenway encompassing the Central Lonsdale area. It is spearheaded by the City of North Vancouver. The Green Necklace will link components of the City's park and open space system in a continuous network providing safe, alternative transportation routes through the city for pedestrians, cyclists and inline skaters. The trail surface is asphalt, providing access for people in wheel chairs and other mobility assistance vehicles. As the majority of the Green Necklace route passes through built-up areas of Central Lonsdale, a major challenge has been to come up with a way of integrating the greenway with existing roads, sidewalks, and buildings. The greenway designers have worked with municipal engineers to design and include innovative stormwater management features along the trail, such as rain gardens and bio-swales to keep stormwater out of pipes and to put more 'green' into the urban fabric of the city. In this project, like many projects in the City of North Vancouver, the landscape architect and park technicians worked closely with municipal engineers, a collaboration which is facilitated by the fact that they all work in the same department. The idea of the Green Necklace grew from the City's original 1907 town plan which laid out the bold idea of a continuous green loop around the centre of the future city. This system of parks within walking distance of a dense urban core establishes the green lungs of the community.

Tools Used

- Integrated design approach. Designers and engineers worked together to create rain gardens and bio-swales that infiltrate stormwater and help make the greenway 'green'. The rain gardens have been a success and may be incorporated elsewhere in the city.
- Community consultation. City staff consulted with community members, the North Vancouver School District, Translink, and Better Environmentally Sound Transportation (BEST).
- Collaborative community design process. Thanks to a Green Streets Canada grant, the City partnered with Evergreen who facilitated a design process with Queen Mary School. Over 250 students participated in the design and planting of rain gardens and naturalized areas along the route. Over 1000 plants were planted by students.
- Commemorative donation program. While the base greenway will be built by the city, enhancements such as benches, drinking fountains and interpretive signage will be realized through donations and sponsorship by members and organizations in the community.

- Transportation funding. The city received a grant through the provincial government's Cycling Infrastructure Partnerships Program, a cost sharing initiative in which provincial and municipal governments work together to provide new cycling infrastructure.
- Public art. The North Vancouver Arts Commission selected art pieces to be integrated into the development, as mandated by the City's Public Art Master Plan.

Additional Actions to Consider

- Volunteer stewardship groups are a vastly under utilized and underestimated force. Consider partnering with volunteer organizations and including volunteer groups in activities such as tree planting, stream marking, biophysical inventories, landowner contact programs and awareness and education events.

photo credit: City of North Vancouver



For Further Information

Dave Hutch
Landscape Architect
Engineering, Parks + Environment
City of North Vancouver
Tel: 604-983-7394
E-mail: dhutch@cnv.org
www.greennecklace.org

Heather Sadler
Park Technician
Engineering, Parks + Environment
City of North Vancouver
Tel: 604-990-4207
E-mail: hsadler@cnv.org

3 Encourage healthy school sites and safe routes to school

The school environment is a critical setting for active living. Whereas 15-20 years ago, most kids walked or cycled to school, today almost half of BC's urban and suburban children make the trip by car. Most of these trips are less than 1 kilometre long. The trend towards less active commuting may be influenced by parents' concerns about crime and traffic (Frank, Engelke 2000). Trips to and from school account for an average of 25% of children's travel. If safe routes to school are provided, walking or cycling can be an important routine that happens on all school days.

Tactics may include:

- Making school grounds important settings for recreation, gathering and outdoor education.
- Starting a walking event such as Bike Month, Walking Wednesdays or Bike to School Day.
- Supporting walk-to-school and safe-routes-to-school programs.
- Developing new schools near existing parks and open space.
- Including non-motorized transportation in broader transportation planning, and consider schools as hubs in the transportation system.
- Supporting community mapping projects that help identify popular routes walked by children and adults.

CASE STUDY: Grandview Schoolyard, Vancouver, BC

The Grandview/Uuqinak'uh Community Schoolyard grew out of a profound need to transform an inner city environment. Population density, poverty, and a great deal of crime were affecting the health and safety of children. The project transformed the underused school field to improve quality of life for children and other community members and to provide a healthy environment for children to learn and play.

The new schoolyard includes an outdoor classroom, community garden plots, an ecological drainage system and an ethnobotanical garden featuring plants traditionally used by First Nations. The design and construction was a collaborative effort involving: two University of British Columbia graduate students, Tracy Penner and Illène Pevec; Grandview/Uuqinaku'uh administration; students and teachers; community members; the Vancouver School Board; the City of Vancouver Child Care Services; and the Britannia Community Centre Association. Design workshops were held with the students, school staff, and community members. The goal of the schoolyard redevelopment included the creation of a healthier, more positive neighbourhood environment and improvement in the livability of the community as a whole.

Key challenges included securing sufficient financing to build the project, establishing a year-round maintenance schedule, and addressing concerns around increased safety with additional plantings. While maintenance continues to be a challenge (gardens need care that students and teachers cannot always fully provide) safety has increased as more community activity after school hours now occurs on-site. The schoolyard revitalization was initiated in 1998, and completed in 2001.

Design features including a large grassy knoll and a sandy dissipation pond have encouraged active play on the grounds. Prior to the project, the grounds were often flat, wet and muddy fields that discouraged student use.

Tools Used

- Participatory design and planning process. Public workshops were held for students, staff, interested parents and neighbours to generate program and concept ideas.
- 'Parceling out'. Finding donors for smaller pieces of the project made securing funding more manageable. There were dozens of small donations from individuals, churches, banks, retailers (both large national chains and small independent retailers) and non-profit groups. Larger donations (over \$20,000) were received through a Vancouver Parks Board Neighbourhood Matching Grant, a Real Estate Foundation of BC grant, as well as several foundations.

- Leveraging Volunteer Contributions. Many components were built, installed, maintained, and fundraised for through volunteer efforts. A number of community garden amenities such as tools, benches, planters, and fences were provided by volunteers. The longhouse design was provided in-kind by a local architecture firm.
- Health funding. An ongoing operations grant from the Vancouver Coastal Health Authority provides funding for a garden/community health education coordinator in perpetuity.
- Community gardens. The community garden acts as a tool to address safety concerns, as greater community use means more “eyes on the street”. It also improves understanding around healthy eating as students witness the growing and harvesting of fresh fruit and vegetables.

photo credit: Tracy Penner



For Further Information

Tracy L. Penner
Landscape Architect
Vancouver, BC
Tel: 604-732-0088
E-mail: tracypenner@telus.net

Illène Pevec
University of Colorado
Illene.Pevec@Colorado.edu

CASE STUDY: Way to Go!, BC

The Way to Go! school program is coordinated and funded by ICBC and the Insurance Brokers of BC, who work closely with school districts, municipalities, police departments, and parents. The overall goal of the program is to change the culture of a school community so that its identity is strongly and positively associated with choosing to walk, bike or take the bus to school. Through the program, many partners work together to build a supportive community around non-vehicle travel and develop a strategy tailored to each individual school.

Walking school buses are a typical solution implemented through the program, which see parents take turns walking a group of children who live along a particular route to school. Other solutions may involve consultation with an engineer. In Richmond, one elementary school worked with a traffic engineer to lengthen the pedestrian light at a tricky intersection. Today, nearly 2/3 of BC's elementary and middle schools have requested the Way to Go! Tool Kit and 1/3 are actively participating in the program.

Tools Used

- Traffic safety program. Way to Go! provides resources for schools and parents to increase traffic safety awareness among pedestrians, cyclists, small wheels and drivers. This is essential to increasing the numbers of people walking and cycling.
- Tool Kit. This resource includes educational and instructional materials for parents, teachers and children to start tailoring a Way to Go! program in their own school community.
- Mapping strategies. Strategies included mapping where students and volunteers live, charting each child's route to school, and conducting vehicle and pedestrian counts.
- Student travel survey. Surveys are conducted over the period of a week to assess the numbers of children walking / biking / traveling by bus / traveling by car to school.
- Parent travel survey. This survey is an important communication device, and a means of collecting information about barriers to and opportunities for developing walking and biking strategies. The parent survey is also a way to identify new volunteers and valuable support.
- Promotion. Way to Go! sends email bulletins and biyearly newsletters to its BC school contacts. These messages include ideas for schools, helpful web sites and other relevant news and information.

Additional Actions to Consider

- Plan a weekly walking/wheeling event starting on International Walk to School Day (held yearly in October). Designate Walking Wheeling Wednesdays, Trekking Tuesdays, or Fuel Free Fridays.
- Start an oral history project. Students in one Delta school were asked to interview their grandparents about how they traveled to school when they were children.
- Allow community residents to use school facilities to exercise during non-school hours, and promote the use of the school grounds for active living programming and education.



photo credit: Go for Green!

For Further Information

Bernadette Kowey
Provincial Coordinator
Way to Go! School Program
Vancouver, BC
Tel: 604-732-1511
Toll free: 1-877-325-3636
E-mail: waytogo@telus.net
www.waytogo.icbc.bc.ca

International Walk to School
www.iwalktoschool.org

CASE STUDY: Children's Trails, Sandnes, Norway

Sandnes, Norway is a community of 56,000. The city has a burgeoning population and has adopted a policy of densification to accommodate growth. In order to protect existing local environments, the city made a systematic effort to identify young people's use of urban areas. The Children's Trails program was launched as a way to improve the environment in which children and young people grow up, and to strengthen their interest in city planning. The program is a joint venture between the Department of Culture, Department of Parks and Outdoor Environment and the Department of Education. It is funded by the Ministry of Children and Family Affairs.

As part of the initiative, children 8-13 years old at all schools recorded on maps their informal play areas, paths and trails. In all, the children identified 1265 play areas, 550 short cuts, 130 reference areas for schools and 185 reference areas for nurseries. The information was transformed into digital form and made available through the municipal mapping program. Consideration of the Children's Trails report is a permanent routine in all physical planning.

Tools Used

- Mapping exercises. On maps of the city, children recorded their informal play areas as well as important trails and paths. The mapping was supplemented with qualitative information about what was positive about each area, and what could be improved.
- Digital media. Municipal technicians transferred the children's data into the municipal mapping system.
- Information dispersal. The children's trails information is part of a package handed out to developers at the start of their planning process.
- Centralized health planning. In 1994, the municipality established a Healthy City Office which has 3 full-time employees who oversee projects aimed at improving health.

Application in B.C.

- A similar program could be linked with events such as Bike Month, Walking Wednesdays or Bike to School Day.
- Use of municipal digital mapping systems could allow digitization and public access to data for children's planning.

- Youth councils established through city planning departments could help in delivery of mapping workshops.
- Municipalities may want to establish Healthy City Offices within planning, parks or engineering departments.

Additional Actions to Consider

- Create a 'Children's City Council' with delegates from primary and secondary schools that could meet in City Hall and make recommendations concerning the interests of children in the city.
- Consider designating a Children and Youth's Representative in the city.

photo credit: World Health Organization www.thepep.org



For Further Information

Hans Ivar Sømme
Healthy City Project Coordinator
Sandnes, Norway
E-mail:
hans.ivar.somme@sandnes.kommune.no

4 Increase public transit and active transportation opportunities

Active commuting can be supported by improving connections between destinations and by providing safe routes and facilities. Especially important is the need to design with pedestrians and cyclists in mind. This strategy requires integrating active transportation options into broader transportation planning.

Walking is the most popular form of physical activity with 69% of Canadians reporting that they walk for exercise. Fifty-four percent of Canadians report that they cycle. A large majority of Canadians (82%) support government spending to create dedicated bicycle lanes and paths (Campbell, 2004).

Tactics may include:

- Developing a bicycle master plan to identify ways to expand trails and improve connections, concentrating on continuous cycle routes that connect homes with employment centres, schools and shopping districts.
- Considering measures such as narrower, slower streets, planted buffers between cars and sidewalks, raised crossings and advanced stop lines.
- Putting bike racks on buses to encourage multi-modal transportation.
- Providing mixed surfaces for urban trails to support travel by walking, cycling, roller-blading, and running.
- Providing incentives for employees to use transportation modes other than the single-occupancy vehicle.
- Strong regional transportation planning that puts to maximum use a mix of rapid bus, train, and light rail to move people over longer distances.

CASE STUDY: Copenhagen, Denmark

Copenhagen is known as the “City of Cyclists”. Copenhagen cyclists travel more than 1 million kilometres per day using specially designed cycle tracks and lanes. The network consists of cycle lanes on both sides of major roads and a total cycling network length of over 300km. Currently, one out of three Copenhageners cycle to work. The municipality considers bicycle traffic a distinct traffic category on par with vehicle traffic and pedestrian traffic. The chief element in the bicycle network is cycle tracks – these are permanent lanes that are separated from vehicles by curbs and have their own traffic lights. “Reinforced cycle lanes” where lanes are indicated solely by road markings, are used as a temporary measure until cycle tracks can be introduced. Bicycles are prioritized over cars at places where they meet.

The City initiated a project called “City Bikes” in which bicycles are available for rent within the city centre for \$3 and can be returned to city bike racks for a refund. Public transit is seeking to target cyclists as potential customers by removing restrictions applying to bicycles on commuter trains and improving bicycle parking facilities at train stations and bus terminals.

Tools Used

- Infrastructure design. This includes bike lanes separated from vehicles (normally wider than 2m across), traffic calming measures, white and blue marked crossings through intersections and separate traffic lights for cyclists.
- Cycling amenities. Extensive bike racks are located throughout the city. Covered, locked bicycle parking facilities are available at major transit stations.
- Integrated planning. Bicycle planning is an integral part of main-stream traffic planning. In 2002, one third of the city budget for road construction was earmarked for the improvement of cycling conditions.
- Policy development. In 2000 the City published its first cycling action plan titled the “Bicycle Account” which outlined the City’s quantitative goals for bicycle planning for the next 11 years. The plan is updated every two years.
- Promotion campaigns. The City works with Copenhagen Health and Care Administration to coordinate an annual “We bike to work” campaign. On-going initiatives include a cycling map, the biannual “Bicycle Account”, and traffic safety campaigns.
- Research and monitoring. A bicycle survey is conducted every two years to continuously improve the system.

Application in B.C.

- Consider reallocating road space to increase sidewalk width and construct cycle lanes.
- Create bicycle transportation plans alongside master plans and parks and trails plans and integrate non-motorized transport planning with broader transportation planning.
- *Vancity Bike Share* is an experimental community bike sharing program that aims to provide free or low cost public access to bicycles for inner-city transportation. Vancity has 'released' 45 bikes into the community for people to use and pass along to others.



photo credit: www.i-sustain.com

For Further Information

Niels Jensen
Planner
Roads and Parks Department
City of Copenhagen
Denmark
E-mail: niejen@tmf.kk.dk
www.vejpark.kk.dk/byenstrafik/cyklernesby/uk.aspx

CASE STUDY: Transmilenio, Bogotá, Columbia

Transmilenio is a rapid bus transit (BRT) system throughout the city of Bogotá, Columbia. It consists of 850 buses and has a demand of 1,400,000 passengers per day. Commencing service in December 2000, the system was carrying over one million passengers per day by early 2006. The buses run on a 64km network of high capacity trunk corridors supported by feeder services that extend system coverage to peripheral areas of the city. Transmilenio is the centerpiece of a long-term urban renewal and mobility strategy that prioritizes walking, cycling, and public transit and discourages private vehicle use.

The system has helped transform a city that in the mid-90s was known for its crime, traffic deaths and haphazard bus service provided by individual bus owners. The situation changed when mayor Enrique Peñalosa took office in 1998 and began to rethink the system. The mayor's four main goals in creating the system were to improve public transit, restrict private automobile use, expand and improve bicycle paths and enhance public space. As a result, auto-dominated public space is being handed over to public transit and pedestrian areas, allowing a revitalization of the city core. Implementation of Transmilenio began in 2000, and it is now expanding to Phase III.

By 2012, the system will have 130km of new dedicated lanes, 1200 new articulated buses operating on trunk routes, and 500 new large buses operating on feeder lines. The project is jointly financed by the national government (70%) and the municipal government (30%). Primarily through the efforts of a visionary mayor, Bogotá is now globally lauded as a model of livability and urban renewal. The city's policies are being championed by planners and politicians across North America. Bogotá's citizens are also embracing the change. Residents voted to make February 1st Dia Sin Carro (car free day), banning private vehicles for this annual affair. Also, every Sunday since the 1970s Bogotá has blocked off its major roads so that citizens can jog, walk or bike in safety. The avenidas are transformed into vast, linear parks, where more than two million Bogotáns go to play, picnic, and do aerobics.

Tools Used

- The rapid bus network. It functions like an urban metro with dedicated bus lanes, large capacity articulated buses and elevated bus stations that allow pre-board ticketing and fast boarding.
- Leadership. Strong leadership from former Mayor of Bogotá, Enrique Peñalosa and from succeeding administrators. Peñalosa formed a planning team that existed outside of the partnering institutions to oversee the implementation of the new system. Mr. Peñalosa leads by example – the former mayor can often be seen pedaling through the streets of Bogotá.

- Road allocation. Prime road space on main arteries was reserved for the Transmilenio system.
- Transportation hubs. These nodes link bike and pedestrian paths with the rapid-bus network.

Application in B.C.

- Increase dedicated bus lanes and make more bike racks available on buses. Wherever possible, give transit priority over private vehicles.
- Rapid bus networks are capable of moving more people than urban rail-transit systems at a fraction of the construction cost.
- Car free festivals – Commercial Drive in East Vancouver is closed to cars during two Sundays each summer.



photo credit: Centre for Design Innovation www.designinnovation.ie

For Further Information

Deysi Rodriguez
Operations and Environmental
Office
Bogotá, Columbia
E-mail:
deysi.rodriguez@transmilenio.gov.co

5 Increase availability of recreational facilities, parks and trails

Access to recreation facilities, parks and trails is positively associated with higher levels of physical activity, especially among children and youth. The presence of these facilities, combined with educational programming, makes a strong contribution towards healthier communities. The more of these elements in a community, the more people will engage in an active lifestyle.

Recreation infrastructure may range from community centres and fitness centres to walking trails, bike lanes or public greenways. Temporary street closure for festivals or events can also support physical activity.

Many municipalities lack facilities and infrastructure supporting walking and cycling. Only one-third of Canadian municipalities report having on-street bike lanes, and sidewalks on both sides of at least some major arterial roads (Campbell, 2004).

Tactics may include:

- Constructing new facilities along existing trails or transit routes.
- Creating open space corridors that can be used as recreational green ways.
- Promoting special events that encourage active recreation and transportation.
- Considering redevelopment of marginal spaces such as utility corridors for multi-use trails.

CASE STUDY: Randonnée du vendredi soir, Paris, France

During this Friday night trek through Paris, France gathers the largest number of rollerskaters and rollerbladers in the world. The event is staged through a unique partnership between the non-profit organization Pari Roller and the Paris Police Department, who provide traffic control and security along the route. Every week, a new 30 km trek through the city streets is designated for rollerskaters. Open to everyone, the journey begins in front of the Gare Montparnasse at 10pm and continues for 3 hours. The jaunt attracts an average of 15,000 participants every week, but may range from 1000 to 25,000 depending on time of year and weather. In order to promote safety, participation requires at a minimum that you be able to stop as well as turn and skate. Entry is limited to those on skates although bicycles, skateboards and scooters may follow at the back of the pack. For beginner or novice rollerskaters, a weekly ride is held every Sunday.

The randonnée attracts a wide variety of people from office workers to tourists to children and families. The event promotes active transportation and at the same time allows people to discover the city in a new way. The Vice-President of Paris Roller describes it as a mix of sport and fun that people in cities need in their lives. Other Friday night skates take place around France and Europe, such as London's CitiSkate, but the Paris Roller skate remains the largest night skate in the world.

Tools Used

- Modified use of existing infrastructure. Roads are temporarily closed to vehicles or have reduced open lanes.
- Partnership with the Paris Police. The Paris Police Department dispatches a contingent of 30 officers on rollerblades to accompany the group as well as 4-6 motorcycles to direct traffic at major intersections.
- Volunteers. A team of 150 Paris Roller volunteers patrol the route on rollerblades to ensure the security of participants and work with the Paris Police to manage automobile traffic at intersections. A second team of first aid certified volunteers, recognizable in their red T-shirts, are charged with delivering basic first aid and alerting officials of more serious incidents.
- Promotion. The weekly route is posted on the Pari Roller website and maps are distributed at the meeting place prior to the skate.

Application in B.C.

- Temporary closure of streets for Friday night skating or bicycling, markets and festivals, performances or other community events that promote physical activity.

- Critical Mass is a bike ride and skate through downtown Vancouver to raise awareness about cycling issues. It is held the last Friday of every month, and is open to the general public.

Additional Actions to Consider

- Provide bicycles for government staff, especially police, park employees and meter-readers, to use on neighbourhood routes.



For Further Information

Pari Roller
16 Blvd Saint Germain
Paris, France
75005
www.pari-roller.com

CASE STUDY: Bishop Grandin Greenway, Winnipeg, MB

The Bishop Grandin Greenway (BGG) is a major transportation and recreation project that is getting residents of south Winnipeg out of their cars and onto trails. Running alongside one of Winnipeg's busiest highways, the greenway is being developed along a narrow corridor that serves as the right-of-way (R.O.W.) for several high-voltage electrical transmission lines and a major underground aqueduct. These types of service corridors often represent rare opportunities for natural trails within cities.

The idea for an active transportation corridor in the right-of-way was born during a community meeting. When subsequent open houses were held to determine community interest in the project over 160 people participated. Eighteen volunteers formed a Steering Group and Bishop Grandin Greenway Inc. was formed. The organization is a non-profit registered charity with a mandate to address the need for improved history, health and wellness along Bishop Grandin Blvd. BGG Inc. is spearheading the development of the greenway, in conjunction with Manitoba Hydro and the City of Winnipeg.

To date, 3 km of pathway have been built providing year-round multi-use access to major commercial developments, schools, parks and other amenities. When complete, the greenway will contain the longest linear trail in Winnipeg and will connect over 22 communities. The group has been contacted by various community groups and councillors wanting to connect the trail to further destinations around Winnipeg.

Tools Used

- Utility R.O.W. Use of the right-of-way reclaims a marginal space for community use.
- Land tenancy. The City of Winnipeg currently owns the land and leases some of it to Manitoba Hydro. BGG Inc. is negotiating a formal lease agreement with the City to facilitate trail use.
- Community outreach. With the help of a landscape architect, workshops were held to develop a conceptual plan. Later workshops assessed conceptual designs for the trail.
- Community sponsorship. Some amenities are provided through sponsorship such as the 'Adopt a Bench' program.
- Volunteer support. The BGG organizes a spring clean-up event and annual volunteer tree plantings. BGG volunteers were recognized in 2007 with a service award by the City mayor.

Application in B.C.

- Work with the British Columbia Transmission Corporation (BCTC) to determine Memorandums of Understanding (MOU's) that allow for utility corridors to be used as public greenways.
- Increased maintenance of the utility R.O.W.'s may need to be addressed.

Additional Actions to Consider

- Use the corridors as educational opportunities. For example, it is anticipated that local schools will use the Bishop Grandin Greenway as an outdoor classroom to teach biology, ecology and local history. Funding has also been secured and plans are underway to build community gardens along a portion of the greenway.



For Further Information

John Shearer
Bishop Grandin Greenway Inc.
Winnipeg, MB
Tel: 204-255-4840
E-mail: jashearer@shaw.ca
www.BishopGrandinGreenway.com

6 Enhance park and streetscape design to improve aesthetics, safety and security

Increasingly, people choose not to actively commute or recreate due to perceived threats such as traffic, fear of unfamiliar neighbourhoods, distance, or fear of crime. Well-designed streets are likely to encourage more physical activity by making pedestrians feel safe and welcome (Frank, 2005). Addressing both real and perceived safety issues can help foster active living and boost opportunities for recreation.

Tactics may include:

- Implementing traffic-calming measures including curb bulges, extended sidewalks and adequately time traffic lights.
- Providing clear signage about traffic patterns.
- Cleaning up and patrolling vacant properties.
- Working with businesses and chambers of commerce to improve outside maintenance and safety.
- Employing design principles such as CPTED (Crime Prevention Through Environmental Design) that discourage crime.
- Providing curb cuts to support sidewalk use by the elderly and people with disabilities.
- Using art and landscape plantings to positively increase pedestrian street experience.
- Ensure streetscapes around hospitals and care facilities meet the needs of the residents.

CASE STUDY: Wellness Walkways, Vancouver, BC

The Mt. Pleasant neighbourhood in Vancouver has a high demographic of seniors in care facilities and people with special needs. The streetscape of a 14 block area of Mt. Pleasant was incrementally retrofitted with modest design interventions by the City of Vancouver Planning Department following recommendations from the Canadian Institute for the Blind and the BC Coalition for People with Disabilities. Funding was provided through a combination of provincial grants and normal city programs, such as the local improvement (cost sharing) program and street tree and ramp funding programs.

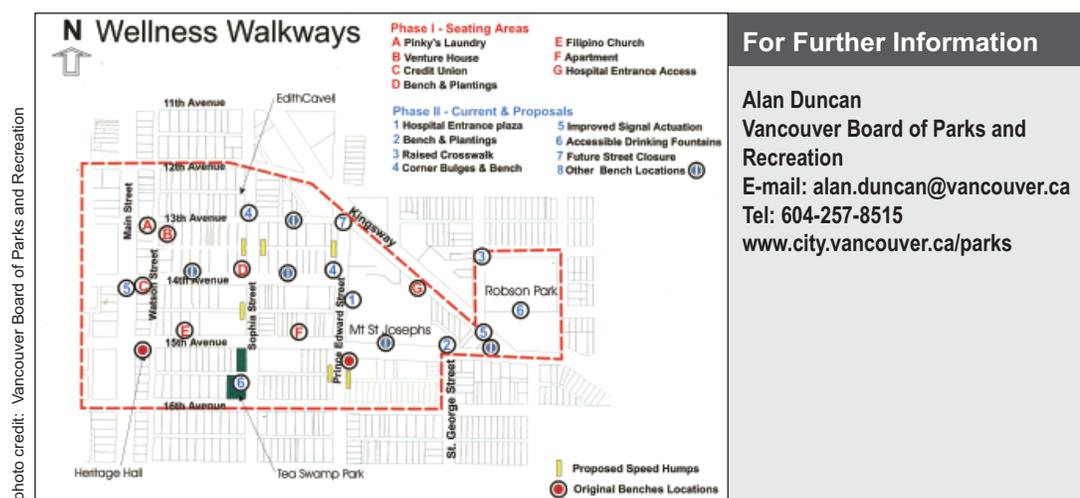
The area was redesigned to increase universal access with consideration for the visually impaired, those in wheelchairs, and seniors with limited mobility. Streetscapes were retrofitted with curb ramps; extra wide, tinted sidewalks; and rest points at corners and mid-block points. Special landscape areas feature fragrant plantings and wheelchair accessible benches. Through increased pedestrian comforts, safety and beautification, the neighbourhood now has a network of supportive and barrier-free walking circuits.

Tools Used

- Wider sidewalks. Extra wide sidewalks accommodate two wheelchairs abreast.
- Saw-cut joints. Sidewalks feature saw-cut rather than trowelled joints to reduce jarring for those in wheelchairs.
- Curb bulges. These help increase the visibility of crossing pedestrians.
- Traffic calming. Pedestrian controlled lights and traffic circles were implemented to calm traffic and improve pedestrian safety.

Additional Actions to Consider

- Involve the elderly in the design process when redesigning or retrofitting a neighbourhood.



CASE STUDY: Admiral Park, Liverpool, UK

Three local non-profit agencies worked with schools and the Liverpool City Council to turn a derelict playing field into a neighbourhood recreational destination. After four years of work the formerly rundown area now has grass fields, athletic facilities, a multi-use hard court for tennis and basketball, and a changing pavilion.

The fields are used extensively by local schools and community sports groups. Since the playing facilities first became operational the park has become a focal point for school physical education and extra-curricular sports, and has become a centre for mini-soccer and the development of girl's football.

Local school children were involved in the design of the space and voted to select the name of the facility. Students also designed pictures and artwork that have been incorporated into the site. The site is managed and maintained by Include Neighbourhood Regeneration, a non-profit company set up by the Liverpool City Council.

Tools Used

- **Partnerships.** Three local non-profits (Include Neighbourhood Regeneration, Liverpool Sport Action Zone and Dingle Granby Toxteth Education Action Zone) worked in conjunction with local schools and Liverpool City Council.
- **Diverse funding.** Funding came from Include, Liverpool City Council, the Neighbourhood Renewal Fund and the Football Foundation. The Football Foundation grant was crucial in ensuring the final stage of development - the pavilion - was completed for September, 2004.
- **Revenue stream.** The parking lot on the site is shared with the adjacent police station, an arrangement which increases site security and provides a valuable revenue stream.

Application in B.C.

- Identifying and improving derelict or unsafe green spaces, particularly close to schools and neighbourhoods.
- There is an increased trend to rely on Public Private Partnerships (P3s) to deliver services and infrastructure. While there are both limitations and opportunities that come with this type of partnership arrangement, P3s may be used to effectively improve public spaces or public lands that allow for public use.
- Examples of successful partnerships to improve public spaces include the City of Vancouver's Green Streets program (municipality partners with residents), or schools that partner with non-profits to improve their grounds.

Additional Actions to Consider

- Work with businesses and chambers of commerce to improve outside maintenance and safety as ways to encourage economic growth and active living.



7 Increase community involvement and programming

Community involvement means collaboration and information sharing within the community – this is key to increasing the role of active living in decision-making. Engaging citizens in dialogue about community design and opportunities for physical activity gives municipalities access to the experience, local knowledge and expertise within the community. It also provides opportunities to educate the public about priorities and constraints. Championing active living programming is another way to encourage physical activity within existing built environments.

Tactics may include:

- Encouraging collaborative public design sessions for streets and trails during planning processes.
- Funding active living programs.
- Entering into partnerships with community agencies, volunteer organizations, religious organizations and sports clubs to promote and enable active living for children and families.
- Developing signage.
- Giving and promoting awards for walkable community efforts.
- Encouraging the media to write feature stories on active living issues.
- Supporting community gardens.

CASE STUDY: Penticton Steps Out, Penticton, BC

Led by the dedicated staff at the City of Penticton Community Centre, the Penticton Steps Out initiative challenges the community to unite in walking to New York. Participating residents are provided with a pedometer to track the number of steps they take daily. Weekly totals can be posted by participants on the web. The custom designed Steps Out website, developed by Edis Computers, tallies the number of steps taken by the community and has an interactive map that tracks the city's progress towards its chosen destination. The program has inspired many inactive residents to lace up – of the first 400 people to sign up, half had never registered for a community centre program. To date, 897 citizens have participated, logging a total of 381,000,000 steps.

Currently, 26 communities across BC have adopted the Steps Out program including Bella Coola, Burnaby, Central Saanich, Colwood, Delta, Esquimalt, Highlands, Kitimat, Lake Country, Langford, Metchosin, Oak Bay, Osoyoos, North Saanich, Penticton, Peachland, Quesnel, Saanich, Sidney, Sooke, Sparwood, Summerland, Trail, Victoria, View Royal, Westside and West Shore.

Tools Used

- Information technology. The City of Penticton Community Centre worked with Edis Computers to develop a custom made website. The website is an interactive, personal tool that helps participants stay accountable. The Steps Out website won the 2006 BC Public Sector Information Technology award for Citizen Engagement.
- Health partnerships. The Interior Health Authority and the Healthy Heart Society have become allies of the program, helping to organize free day-long Active Living Health Fairs at the community centre which incorporate hearts@work.
- Community outreach. For \$20, program participants are provided with pedometers, logbooks, walking maps, and entry to the website. Annual renewals cost \$10.
- Education. Participants have access to Community Centre seminars, speakers and films focused on active living.
- Significant marketing. The program is marketed through seasonal recreation guides, local radio, newspaper, direct email, and word of mouth. Penticton Steps Out is part of *Get Active! Penticton*, a challenge to community members to commit to becoming 20% more active by 2010.

Additional Actions to Consider

- Enter into partnerships with community agencies, volunteer organizations, religious organizations and sports clubs to promote and enable active living for children and families.
- Link into other programs across the province. For example, on May 10th, 2007 Penticton challenged Burnaby to determine which city would be more active on Move for Health Day!
- Social marketing campaigns can make use of a broad range of media outlets from blogs and facebook to TV and radio informational ads.



photo credit: City of Penticton

For Further Information

Penticton Steps Out
E-mail: info@stepsout.com
Tel: 250-490-4045
www.stepsout.com
www.stepsout.com/Penticton

Bob Pope
Recreation Coordinator
City of Penticton
Tel: 250-490-2436
E-mail: bob.pope@penticton.ca

CASE STUDY: TravelSmart Pilot Project, UK

This pioneering project uses communication, information, and direct contact to help increase the personal motivation of local citizens who indicate they are willing to try to change their travel behavior. The project design and delivery is a collaboration amongst charitable organizations. The project was delivered by the civil engineering charitable organization, Sustrans, in cooperation with Socialdata, an international transport and social research institute. Together they completed a dozen pilot studies in the UK and have branded the scheme under the trademark TravelSmart. The TravelSmart method involves targeting particular suburbs and conducting in-depth dialogues with particular households, where members indicated a willingness to attempt some change in their travel behavior. After each interview with household members, participants were then offered personalized information and support. The strategy allows people to make a few changes to their daily travel behavior when and where it suits them most.

The effect of the project is an increase in walking, cycling and use of public transport, resulting in a reduction of car trips between 9 and 14%. TravelSmart has proven to be a catalyst for improvement in travel information by articulating, for example, gaps in bus information. In some cases this led local authorities to produce neighbourhood travel maps for other areas in their jurisdictions. Sustrans and Socialdata are currently working on three large scale TravelSmart campaigns targeting over 100,000 households in the UK.

Tools Used

- Individualized Travel Marketing (ITM). ITM is a behavior change technique that involves working with individual households to offer tailor-made information and support.
- Information collection and distribution. This method entails tackling subjective barriers to active living such as lack of information, or misconceptions about journey time and the quality of alternatives to the car.
- On the ground delivery. The campaign is implemented by a team of specially trained household canvassers, delivery staff and travel advisors.
- Personal contact. Interested households receive individualized packages which are hand-delivered, as well as a home advice session with a local travel expert or transit operator.
- Detailed travel behavior surveys. These are conducted before and after each ITM campaign in order to evaluate the outcomes of TravelSmart.

Application in B.C.

- A cost-effective approach that is based on information-dispersal rather than changes in infrastructure.

Additional Actions to Consider

- Develop a community-wide active living map that includes routes for cycling, walking and public transport.
- Train-the-trainer approach whereby former program participants can offer outreach services in their own neighbourhood.

photo credit: World Health Organization

Main mode of transport	Gloucester		South Perth	
	Before Travelsmart® %	After Travelsmart® %	Before Travelsmart® %	After Travelsmart® %
Walking	27	30	12	14
Cycling	2	3	2	4
Motorbike	1	1	0	0
Car as driver	44	40	60	54
Car as passenger	22	21	20	21
Public transport	4	5	6	7
TOTAL	100	100	100	100

For Further Information

James Ryle
Senior Projects Officer
Sustrans
E-mail: jamesr@sustrans.org.uk
www.sustrans.org.uk

Angela Wescott
Senior Project Officer
TravelSmart
E-mail:
Angela.Wescott@sustrans.org.uk
www.activetravel.org.uk

CASE STUDY: Stoney Creek Community Garden, Burnaby, BC

This community garden, proposed in 1993 by a local citizen, is a community-based organic garden located adjacent to Burnaby's Stoney Creek. The garden provides opportunities for people to share in physical activity, and exchange information on gardening and environmental issues. Regular weekend 'workbee' events are scheduled to gather members for collective gardening and a shared lunch. Presently, there are 48 garden members, including residential gardeners and organizations such as the Mental Health Society. The garden also donated 10 community plots to local kids clubs including girl guides, brownies, pathfinders, and cub scouts. Fifteen plots are used by the adjacent Stoney Creek Elementary as part of their education program. This community garden makes use of a piece of interstitial land in Burnaby.

Tools Used

- Community governance. The garden is managed and maintained by the North East Burnaby Community Association (NEBCA).
- Corporate giving programs. Financial contributions have been made by TD Friends of the Environment Foundation and Shell Canada Ltd.
- Tool sharing. Shovels, spades, rakes, trowels, wheelbarrows and water hoses are provided in the tool shed for everyone's use.
- Volunteer program. The NEBCA board organizes weekend 'workbee' sessions to maintain the garden and secures funding for larger maintenance projects.
- Land tenure arrangement. Land was donated to the community garden association (NEBCA) by Trans Mountain Pipelines.

Additional Actions to Consider

- Create food security policies that support the development of community gardens on vacant public and private property. For example, the City of Montreal offers tax free status on vacant lots leased by owners to community gardens.

photo credit: North East Burnaby Community Association



For Further Information

North East Burnaby Community Association
Tel: 604-664-8852
E-mail: garden@nebca.org

8 Identify and create active living funding sources

Securing and dedicating funding for active living is critical to reducing barriers for physical activity. There are many methods to ensure funding for active living projects; the biggest challenge is securing a sustainable funding stream to support long-term initiatives. Another challenge is increasing the profile of active living needs, so these become a budget priority amidst all levels of government. Currently, there are a number of provincial grants available to municipalities that would support the development of active living infrastructure. These range from Local Motion grants to those available through the Public Transit Infrastructure Program (PTIP) and coordinated by the Union of BC Municipalities (UBCM). Funding is also available under the provincial Public Transit Agreement (PTA).

Tactics may include:

- Developing location-efficient mortgages that encourage residents to live near work.
- Giving priority in the budgeting process to projects that promote healthy weights.
- Teaming up with non-governmental groups to get the most out of spending on projects.
- Providing incentives for people to walk or bike to work, such as bonuses.

CASE STUDY: Grade 5 Rec Passes, Delta, BC

When Grade 5 students in Delta were offered free one-year Community Activity Passes, nearly 80% of them used the passes to increase their physical activity. The Grade 5 Rec Pass initiative gives the students free access to attend public skates, swims and gymnasium-based activities as often as they like throughout the year. The idea for the program came from Parks, Recreation and Culture Commissioner Garry Wilson – he presented the idea to the Commission, gained Commission approval, and then took it to Council as a report with recommendation. The program was up and running within two and a half months.

The rationale behind targeting Grade 5 students is that this age group is generally able to attend supervised programs by themselves, but young enough that such a program can help them to establish healthy lifestyle habits. Statistics also indicate that this is an age when many children start to drop out of organized sports. In the 2005/06 school year, 1090 Delta Grade 5 students enrolled and 52% used the pass more than ten times. Five of the children enrolled used the pass more than 75 times!

Tools Used

- Promotion. School District staff assist with distribution of flyers, classroom posters and inclusion of program information in school newsletters for parents.
- Reducing financial barriers to recreation. Beginning in September, 2007 any child using a Grade 5 Rec Pass may bring along a youth, adult or senior for free when they drop in.
- Targeting at-risk groups. Grade 5 students were selected for the program as they represent a critical age for establishing healthy living habits.
- Physical activity surveys. This year, each child will be asked as they apply for the pass, to complete a short survey about their activity level and activity choices to gain a better understanding of what the students like to do to get fit and stay fit.

Additional Actions to Consider

- A North Vancouver proposal may be put forward to the Union of BC Municipalities which would see community centre passes made transferable throughout the Lower Mainland or even the province.
- The government is working with the BC Medical Association on an “Act Now Prescription” which would allow doctors who prescribe exercise therapy to refer patients to community centres for ten free passes.

- Grade 5 Rec Pass programs are underway in School District 43 which includes Coquitlam, Port Coquitlam and Port Moody.
- Delta has initiated a pilot program for Grade 6 students making them eligible for a ten pass admission card which can be used throughout the year.



photo credit: City of Port Coquitlam

Hey, Grade 5... **Get Active!**

For Further Information

Julie Halfnights
Delta Parks, Recreation and Culture Corporation of Delta
Tel: 604-952-3540
E-mail: jhalfnights@corp.delta.bc.ca

Therese Mickelson
Manager Corporate Communications
City of Coquitlam
Tel: 604-927-3019
E-mail: tmickelson@coquitlam.ca

CASE STUDY: Quality Foods Rec Bucks, Nanaimo, BC

The Rec Bucks program is a joint venture between the Regional District of Nanaimo (RDN) and Quality Foods, a Vancouver Island based grocery store. In October 1991, Quality Foods Nanaimo introduced a Q-Card points program in their store. Each dollar spent in the store automatically earns Q-Points, while selected products earn bonus Q-Points. Since 2002, these Q-Points are redeemable for Rec Bucks, which can be used at any Parks & Recreation facility in Quality Foods' areas. Rec Bucks may be redeemed for any recreation program or service including facility and equipment rentals, program registration, camping fees, swimming or skating. A collection of 200,000 Q-Points are redeemable for a \$20 Rec Buck voucher.

A challenge for the Regional District is to provide recreation programs and services to all families regardless of income level. The Rec Bucks program aims to increase access and choice for low income families as participants can control how and when they use their points. In its flagship year, the program saw 83 families in the district participate. Since then, there has been a 25% annual growth in the program and the Regional District expects over 400 families to make use of the Rec Bucks program in 2007.

Rec Bucks are available in six mid-island communities including the Regional District of Nanaimo, the City of Nanaimo, the City of Port Alberni, the City of Courtenay, the Comox-Strathcona Regional District and the Town of Comox.

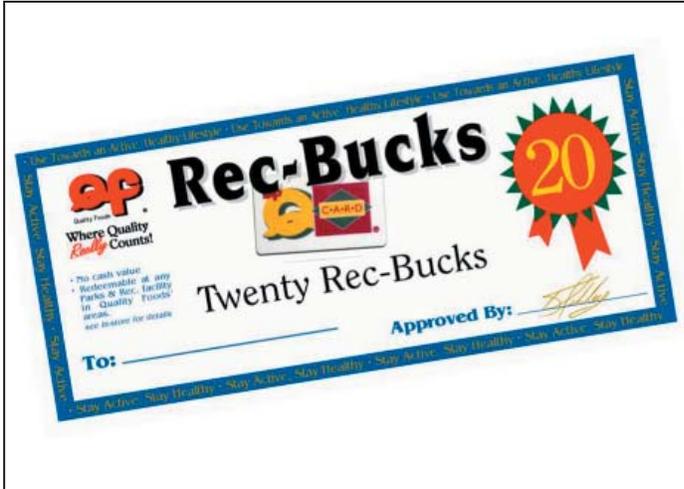
Tools Used:

- Community development approach. According to Cathy MacKenzie with the RDN, "it was as simple as 2 community partners sitting down with an idea and formalizing an agreement and accounting procedure to make it work". Both groups have been happy with the partnership. Quality Foods feels the program provides a healthy, positive "incentive" for people to shop in their store.
- Promotion. Quality Foods advertises the Rec Bucks as part of their QF Points catalogue; RDN promotes the program in their Active Living Guide, printed twice per year.
- Evaluation tools. Use of Rec Bucks is tracked through an accounting system; the vouchers are used as a method of payment. Participant numbers are calculated at the end of each season.
- Community fundraising. Clubs and community groups have used this program as a way of fundraising to pay for facility rentals (swim club, minor hockey, etc).

Additional Actions to Consider:

- Give priority in issuing permits to fair and street vendors who offer healthy food choices.

photo credit: Regional District of Nanaimo



For Further Information

Cathy MacKenzie
Recreation Programmer
Regional District of Nanaimo
Recreation and Parks
Tel: 250-248-3252
E-mail: cmackenzie@rdn.bc.ca

CASE STUDY: Congestion Charge, London, UK

Congestion charges have been implemented with success in London as well as Oslo, Stockholm and Singapore. The US and Canada have been slower to apply this concept on the roads, although congestion pricing is in effect on freeways in Orange County and San Diego. There, tolls vary throughout the day based on traffic conditions, normally peaking at the evening rush hour. The London congestion zone covers 22 square kilometers at the heart of London and aims to encourage people to choose alternative forms of transportation.

Since congestion charges were introduced in central London in 2003, bicycle journeys have increased by one third and road accidents have decreased by 11% within the charging zone. Walking and stair climbing have most likely also increased as a result of increased use of public transport (Transport for London). The system costs about \$184 million a year to run and generates \$430 million in revenue, including fines. Revenue generated is re-invested into London's transport infrastructure to support the Mayor's Transportation Strategy.

Tools Used

- Congestion charges. These are in effect from Monday to Friday from 7:00am to 6:30pm for driving and parking within the congestion zone. The charge may be paid at various Paypal outlets or by internet.
- Fines. Cameras photograph license plates as cars enter the congestion zone. Vehicle owners not registered as having paid the charge receive a fine notice in the mail.
- Exemptions. Taxis, motorcycles, buses, disabled persons, and certain alternative fuel vehicles are exempt from the charge. Residents of the congestion zone can register for a 90% discount.
- Reinvestment. Revenues from the congestion charge are re-invested into transportation infrastructure to improve public transport.
- Public information. Recent developments include a downloadable computer desktop reminder to pay the charge and a radio campaign reminding motorists of the hours of operation of the charge.
- Monitoring program. There is extensive monitoring through surveys and data collection to measure the effects of the charge, assess changes to travel behavior, and to improve operations.

Application in B.C.

- Congestion charges need to be developed within a complete policy framework to ensure that they do not backfire and contribute to sprawl.

- Congestion charges need to be implemented along with increased public transit opportunities.
- Increased population growth means a congestion toll strategy may be applicable in selected urban centres within the Lower Mainland, or along congested provincial highways.
- High-occupancy toll (H.O.T.) lanes can be used by individual motorists willing to pay fees that vary throughout the day, depending on traffic conditions.
- Increase parking fees during times when spots are harder to come by.

Additional Actions to Consider

- Give funding priority to public transport and to projects such as sidewalks, paths, traffic calming and bicycle lanes and paths.

photo credit: Transport for London



For Further Information

Congestion Charging
PO Box 2985
Coventry, UK
CV7 8ZR
www.cclondon.com
www.tfi.gov.uk

Case Study Contacts

A THANK YOU goes to the following people for contributing to the case studies:

Gary White

Liverpool Sport and Physical Activity Alliance, City of Liverpool
(*Admiral Park, Liverpool*)

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Glossary

Active commuting

Any “self-propelled” mode of transportation to get to and from work school, or play.

Active living

A way of living that integrates physical activity into daily routines.

Active transportation

The idea of integrating physical activity into everyday tasks, as by walking to school, work, or shops.

Brownfield

Abandoned or under-utilized industrial and commercial land where redevelopment is complicated by real or perceived environmental contamination.

Built environment

The human-made physical structures and infrastructure of our communities.

Connectivity

The degree to which roads and paths are connected and allow direct travel between destinations.

Density

Number of people or jobs per acre or hectare.

Greenfield site

An area of land, usually in agricultural use, that has not previously been developed.

Health impact assessment (HIA)

Any combination of procedures or methods by which a plan, policy or development proposal may be judged as to the effects it may have on the health of the population.

Mixed-use

The close proximity of residential, commercial and institutional land uses. Mixed use development may be achieved vertically within a single project or horizontally within several developments.

Multi-use trail

A trail shared by multiples types of users such as pedestrians, people with mobility aides, cyclists and inline skaters.

Neighbourhood

An area of a municipality which is identifiable by a common use, a common atmosphere or a common business area.

Physical activity

A term that encompasses all forms of muscle movement. This includes walking or cycling for transport, dance, traditional games and pastimes, gardening and housework as well as sport or deliberate exercise.

Urban design

The art of making places. It involves the design of buildings, groups of buildings, spaces and landscapes, in villages, towns and cities, to create successful development.

Urban sprawl

Form of development whereby large percentages of the population live in low-density residential areas.

Walking audit

An assessment of streets used to identify barriers to pedestrian movement and comfort.

Further Contacts

Active Living Network

www.activeliving.org (USA)
A gateway to tools and resources for promoting active living and healthy community design. Their website includes a 'storybank' of active living case studies.

Better Environmentally Sound Transportation

www.best.bc.ca (Canada)
Non-profit society promoting sustainable transportation.

Centre for Urban Health Initiatives

www.cuhi.utoronto.ca (Canada)
Funding and support for research related to urban health.

City Farmer

www.cityfarmer.org (Canada)
Non-profit organization working to promote environmentally responsible urban agriculture.

Evergreen

www.evergreen.ca (Canada)
A national non-profit environmental organization with a mandate to bring nature to our cities through naturalization projects.

Feet First Seattle

www.feetfirst.info (USA)
Resources to help people create more walkable communities.

Go for Green

www.goforgreen.ca (Canada)
Non-profit that encourages Canadians to pursue healthy, outdoor physical activities that protect, enhance or restore the environment.

National Association of County and City Health Officials

www.naccho.org (USA)
NACCHO has compiled a list of links that pertain to health impact

assessments (HIA) including toolkits, research and proven examples, available at: www.naccho.org/topics/hpdp/land_use_planning/LUP_HealthImpactAssessment.cfm

National Center for Safe Routes to School

www.saferoutesinfo.org (USA)
Programs for enabling more children to safely walk and bike to school.

NHS London Healthy Urban Development Unit

www.healthyurbandevlopment.nhs.uk (UK)
Organization that provides support for increasing the British health service's engagement in local urban planning and development.

Project for Public Spaces

www.pps.org (USA)
Non-profit dedicated to creating and sustaining public places that build communities.

Rails to Trails Conservancy

www.railstotrails.org (USA)
Organizes communities to pursue Active Transportation Funds.

Vancouver Area Cycling Coalition

www.vacc.bc.ca (Canada)
Cycling resources and advocates for British Columbia's Lower Mainland.

Walking School Bus

www.walkschoolbus.org (USA)
Guide for implementing a walking school bus.

Vancity Bike Share

www.changeeverything.ca/vancity_bike_share (Canada)
A three month experimental community bike sharing program.



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