

Bikeability Audit

Greenfield Tool Box

DESIGN

✓ PROCESS..... Evaluation Metric

IMPLEMENTATION



Credit | Creative Commons | Jukelululuke



Credit | Creative Commons | sfbike



TOOL DESCRIPTION

A bikeability audit objectively evaluates the cycling environment of an area and identifies potential improvements to enhance the experience for users. The audit appears in different forms, but a checklist is most commonly used. Recommendations include a range of issues, such as connections, pavement design, facilities, signage, etc.

Bikeability Audit Checklist

A bikeability checklist is one of the easiest ways to evaluate the compatibility of bicycles with other infrastructure in the community. It can also be used as a guide to evaluate development plans in areas where bicycling is being promoted. Checklists consist of a series of questions that address the physical environment and/or planning policies related to cycling. These may include questions such as:

- › Are bicycle parking facilities available at the neighbourhood transit station?
- › Are identified cycling routes as direct as practicable given slopes and major intersections?
- › Do routes provide continuous and convenient links to adjacent streets?

Bikeability Audit Tool – Use of GIS

Tools in Geographical Information Systems (GIS) can evaluate the bikeability of a community and provide a general index score to describe suitability. These tools can also be used to evaluate the bikeability of proposed changes to a neighbourhood, such as a new development.

Systematic Pedestrian and Cyclist Environmental Scan (SPACES)

SPACES¹ is a comprehensive instrument designed to measure factors in the physical environment that may influence walking and cycling in local neighbourhoods. This instrument includes an observer manual describing the tasks to be done to evaluate the site and an associated checklist. All street segments are evaluated using a checklist and the results are compiled using GIS.

1. <http://www.activelivingresearch.org/node/10617>

Tool Intent

To identify potential concerns for cyclists related to access, comfort, destination, facilities, and safety in the cycling environment, and help to create a physical environment that encourages cycling.

Bikeability audits should be performed by a multidisciplinary team which could be composed of engineers, planners, and transportation specialists.

USERS

Municipal Officials

- ✓ Municipal Planning Staff
- ✓ Planning + Design Professionals
- Engineers
- Land Developers
- Landowners
- Community Members

a) On the road, sharing the road with motor vehicles?

- Yes Some problems (please note locations):
- No space for bicyclists to ride
 - Bicycle lane or paved shoulder disappeared
 - Heavy and/or fast-moving traffic
 - Too many trucks or buses
 - No space for bicyclists on bridges or in tunnels
 - Poorly lighted roadways
- Other problems: _____

b) On an off-road path or trail, where motor vehicles were not allowed?

- Yes Some problems:
- Path ended abruptly
 - Path didn't go where I wanted to go
 - Path intersected with roads that were difficult to cross
 - Path was crowded
 - Path was unsafe because of sharp turns or dangerous downhill
 - Path was uncomfortable because of too many hills
 - Path was poorly lighted
- Other problems: _____

Example of a bikeability audit checklist

Source | http://www.bicyclinginfo.org/pdf/bikeability_checklist.pdf

WHEN IN THE PROCESS IT IS USED?

While most of the bikeability audit tools are designed for auditing existing environments, some audits can be performed at different stages including planning, design, and construction. A bikeability checklist may also be useful when revising a proposed development plan to ensure that the physical environment encourages cycling.

POLICY SUPPORT

Calgary Municipal Development Plan

2.4.3 Enhancing the public realm - Policies

a. Safe pedestrian connections, transit shelters, bicycle parking, benches and clear wayfinding signage should be provided to facilitate all travel modes.

2.3.4 Parks, open spaces and outdoor recreation

Outdoor recreation - Policies

u. Support linear parks and linkages, where appropriate, to promote connectivity and facilitate walking and cycling.

CASE STUDIES | BEST PRACTICES

City of Portland, Oregon



Credit | Creative Commons | itdp

The City of Portland, Oregon, is a leader in North America for developing innovative bicycle facilities such as bicycle boulevards, neighbourhood greenways, coloured bicycle lanes, and cycle tracks. Portland has the highest bicycle commuting mode share of large cities in the United States, estimated at 5.8% in 2009, and reaching up to 10-15% in some neighbourhoods. The Portland Bicycle Plan for 2030, adopted in February 2010, establishes a framework for bicycling policy, and identifies a series of design guidelines and programs to achieve the vision of bicycling as a fundamental pillar of Portland's integrated transportation system.

Some of Portland's bicycle facilities include:

- › Coloured bicycle lanes
- › Bicycle lockers
- › Bicycle traffic signal
- › Buffered bicycle lanes
- › Bicycle parking

CASE STUDIES | BEST PRACTICES

Calgary Cycling Strategy



Credit | O2 Planning + Design Inc.

The City of Calgary developed a cycling strategy which includes an action plan organized into three pillars:

- › Plan, design and build;
- › Operate and maintain; and
- › Educate and promote.

The action plan includes the revision of a Bicycle Parking Handbook to "provide additional guidance on the quality and quantity of bicycle parking, locker rooms, and shower facilities provided in developments, such as new privately owned buildings, parks, transit hubs, and regional shopping centres." New developments must provide the quantity and types of bicycle parking described in the Land Use Bylaw.

The City of Airdrie Municipal Development Plan

Policies 2-1.1 Residential Development

v. Providing high-quality pedestrian and cycling connections within the Centre City and to communities, Activity Centres and Corridors beyond its boundaries.

Canmore Municipal Development Plan

1.3 Growth Management Policies

Alpine character: site design and landscaping that provides a comfortable pedestrian and cycling environment and reflects a concern for integration with the natural landform and vegetation.

High River Town Plan

2.5 Mobility - Objective

2.5.1 Provide a safe and efficient transportation network, which includes the coordination and construction of safe and efficient roads, bicycling and pedestrian facilities.

Policies

2.5.1.1 Undertake a comprehensive multi-modal transportation study, which identifies policies and standards related to the movement of private and commercial vehicles, bicycling and walking.

RELATED TOOLS

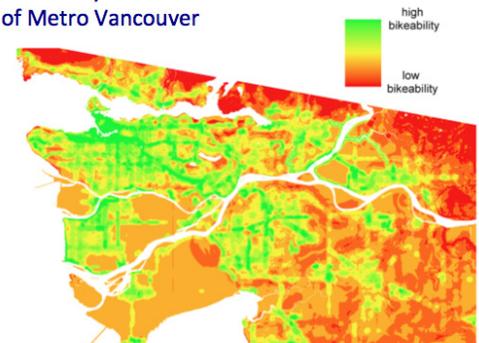
Walkability Audit

Transportation Demand Management (TDM)

CASE STUDIES | BEST PRACTICES

Bikeability Index, The University of British Columbia

Bikeability surface of Metro Vancouver



The University of British Columbia developed a bikeability index based on 5 components:

- › Bicycle route density
- › Bicycle route separation
- › Connectivity of bicycle-friendly streets
- › Topography
- › Destination density

The index has been used to create bikeability maps that identify areas more or less conducive to cycling. These maps can be used to guide local governments to improve cycling conditions.

Source | The University of British Columbia:
(<http://www.cher.ubc.ca/cyclingincities/tools.html>)

ADDITIONAL RESOURCES

SHAPE Safe Healthy Active People Everywhere (<http://www.shapeab.com/PDF/ShapeManual.pdf>)

Cycle Vancouver (<http://www.cyclevancouver.ubc.ca/cv.aspx>)

bicyclinginfo.org (<http://www.bicyclinginfo.org/index.cfm>) (<http://www.bicyclinginfo.org/problems/concerns.cfm#audits>)

Bikeability Checklist for Local Government (<http://sydney.edu.au/medicine/public-health/cpah/research/bike.php>)

Technical Handbook of Bikeway Design, 2nd Edition, Vélo Québec Association, 2003.