

5. Develop A Great Cycling City

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The popularity of cycling is one indicator of a vibrant, sustainable city. Along with walking, transit and carpooling, cycling conserves natural resources and reduces pressure on the road network while improving health, supporting more compact development, preserving the environment and supporting economic activity. It offers speed and convenience for shorter trips, and for many people it can also be attractive for longer trips. Key factors that can motivate more people to cycle include:

- Suitable distances from trip origins to destinations
- Pleasant, direct, safe, well-maintained cycling routes that provide as much separation from traffic as possible
- Convenient, secure bicycle parking, shower and change facilities at destinations
- Convenient, secure connections between cycling and transit facilities
- Individual cycling skills appropriate for the routes available
- Positive social attitudes towards cycling

An updated version of the *Ottawa Cycling Plan* was prepared in concert with this Transportation Master Plan, and addresses improvements in all of these key areas.

Readers are referred to it for more comprehensive details on how Ottawa will become a truly great city for cycling.

Action 5-1: Implement the Ottawa Cycling Plan

Strategies. The *Ottawa Cycling Plan* contains a number of policies and actions for the City to implement. These elements represent an integrated, multi-disciplinary approach to increasing the safety, convenience and comfort of cycling in Ottawa over the next two decades. They address land use, cycling network development, street and cycling facility design, bicycle parking, cycling-transit integration, funding, maintenance, safety programs, wayfinding assistance, information, promotion, stakeholder engagement, inter-jurisdictional cooperation, and performance measurement. This chapter focuses on three key elements, namely cycling facility development and maintenance (Section 5.1), intermodal connections and trip-end facilities (Section 5.2), and cycling safety and promotion (Section 5.3). As future budgets are struck, the City will focus on these fundamental infrastructure and program needs, while also supporting key partners in their initiatives (e.g. the Capital BIXI bike sharing program initiated by the NCC).

Targets. Section 2.4 of this Plan sets a 2031 target for morning peak period cycling mode share of 5% across the entire city, and a more refined target of 8% for travel inside the Greenbelt. These objectives represent significant increases above current levels (i.e. the 2011 city-wide morning peak period mode share of 2.7%) as well as the targets set in the 2008 Transportation Master Plan, and will require a more continuous and connected network of quality cycling routes and programs.

5.1 Build and Maintain a Network of Quality Cycling Facilities

The existence of safe, direct and well maintained facilities for cycling is a major factor in motivating people to ride their bicycles. A range of facility types is available to address different situations. The Cycling Network includes facilities on roads or within road rights of way, as well as off-road multi-use pathway facilities for cycling and walking, for both utilitarian and recreational purposes. Multi-use pathways are generally constructed in rapid transit and arterial road rights of way (primarily in suburban areas), abandoned rail corridors, utility corridors, along rivers and in parks, and they may be surfaced with asphalt or stone dust. Their development is closely coordinated with the NCC's comprehensive network of multi-use pathways.

Action 5-2: Implement the Cycling Network by 2031

The networks. Maps 1 and 2 show the designated routes contained in the Cycling Network. The networks are based on those in the 2008 TMP, as revised and augmented based on additional work such as:

- The *Downtown Moves* study, which identified an extensive future network of quality cycling routes in the urban core
- Community Design Plans, TOD plans and other planning studies
- An analysis, conducted for the *Ottawa Cycling Plan* update, of five large employment nodes that have a high number of short trips

Ongoing changes to the networks shown on Maps 1 and 2 will not require Council approval, provided that any changes maintain continuity in the same general location and preserve access to key destinations. Note that many multi-use pathways are owned and maintained by the NCC.

Cycling route connectivity and quality. The Cycling Network reflects the need for better cycling *connectivity*—the ability of residents to cycle from their homes to work, school, errands, transit and recreational opportunities—across the city, including:

- Where there are gaps (or missing links) in its existing cycling route infrastructure

- In suburban areas and rural villages where there will be a growing number of local trips
- Around future light rail stations, enabling residents to combine cycling and transit in a single convenient trip

However, it is the need to provide routes of higher *quality* that will lead to the most visible changes in Ottawa's cycling routes. The goal of a dramatically higher mode share for cycling means that new types of cycling facilities will be needed to attract novice cyclists and others who are concerned about cycling in mixed traffic. On-street cycling facilities that are separated from vehicular traffic are required to increase cycling safety (both actual and perceived), especially on streets with high traffic volumes and/or speeds. Examples of these types of facilities include Laurier Avenue as well as approved designs for Churchill Avenue and Main Street.

Cycling route types. The Cycling Network shown on Maps 1 and 2 includes several types of routes:

- *Cross-Town Bikeways* are continuous on-road or off-road links over long distances. They serve as major connecting routes between more distant parts of the city, and provide a consistently high level of comfort with cycling-friendly features such as bike boxes, coloured intersection crossings, route signage, and signal timing adjustments. Cross-town bikeways are a priority for both implementation funding and maintenance.
- *Neighbourhood Bikeways* are generally found on low-traffic roads and neighbourhood pathways. They provide quiet, comfortable cycling routes in local communities, giving residents access to institutions, parks, natural areas, historic sites, transit, amenities and businesses. A greenway might have pavement markings to show lane configurations, cycling signage, traffic diverters at intersections that block motor vehicles but not cyclists, traffic calming measures such as road narrowings or curb extensions, and bike/walk-only pathways or bridges that provide continuity.
- *Spine routes* provide access along major road corridors, connecting cross-town bikeways and major multi-use pathways to neighbourhood bikeways and feeder routes. Spine routes will generally provide dedicated on-road cycling space (subject to localized constraints), ideally either a cycling track or a buffered bike lane.

- *Feeder routes* typically provide access from residential streets and shopping areas to the spine routes and cross-town bikeways that serve longer-distance cycling trips. They are typically on-road, and could be either painted bicycle lanes or shared lanes.
- *Multi-use pathways and recreational routes* serve a mix of cyclists and pedestrians, and are typically three- to four-metre wide asphalt paths with a solid yellow line separating two-way traffic. They are ideal in continuous corridors with few intersections, such as in NCC lands along the Rideau River, Ottawa River and Rideau Canal, and through the Central Experimental Farm. Multi-use pathways also exist in more urban settings where they provide short connections between roads, or along rapid transit and hydro transmission corridors, such as the O-Train corridor.

Prioritization and funding of projects. The City will follow a three-phase implementation of projects toward development of the Cycling Network shown on Maps 1 and 2. Exhibit 5.1 summarizes the capital costs of projects for each type of cycling facility, by phase. Total capital costs for each phase fit within this Plan’s affordability criteria. Other projects will also be enabled through external sources of funding such as road construction or reconstruction projects, repaving of rural roads, and land developments.

Exhibit 5.1 2031 Cycling Network projects – Capital Costs by Facility Type (\$ millions)

| Facility type | Phase 1: 2014-2019 | Phase 2: 2020-2025 | Phase 3: 2026-2031 | Total |
|--|-----------------------|-----------------------|-----------------------|-------------|
| Cross-town bikeways | 7.8 | 11.7 | 2.0 | 21.5 |
| Transit-oriented development links | 1.8 | 1.5 | 2.3 | 5.6 |
| Institutional and employment links (outside downtown) | 1.9 | 2.5 | 0.0 | 4.4 |
| Community links (neighbourhood bikeways, missing links) | 9.7 | 7.5 | 17.0 | 34.2 |
| Bicycle parking and city-wide enhancements | 0.4 | 0.8 | 2.8 | 4.0 |
| Recreational links | 0.3 | 0.0 | 0.0 | 0.3 |
| Total | 22.0 | 24.0 | 24.0 | 70.0 |

Note: All costs are in 2013 dollars.

Action 5-3: Introduce new level of service measures for cycling facilities.

Facility pre-selection. As part of the Ottawa Cycling Plan update, the City developed a facility pre-selection tool that, for any combination of average daily traffic volume and 85th percentile traffic speed on a road, will identify a preliminary preferred type of cycling facility for that road: a shared curb lane, a painted bicycle lane, or a separate bicycle facility (such as a buffered bicycle lane or cycle track; and if one of these is preferred but not feasible, then the tool recommends picking an alternate route). The facility pre-selection tool has been used to help estimate the costs summarized in Exhibit 5.1.

Level of service measures for cycling facilities. To assess the quality of different cycling facilities, new level of service performance measures will be introduced. This concept, based on a recent paper from the Mineta Transportation Institute, is related to the safety (both actual and perceived) of different cycling facilities and uses basic road characteristics (e.g. vehicle speed, number of lanes, presence of parking) to determine the level of service. In general, a low level of perceived safety (e.g. cycling next to fast-moving traffic) leads to a high level of traffic stress, and a high level of perceived safety (e.g. cycling in a segregated bike lane) leads to a low level of traffic stress. Four different levels are identified (Levels 1-4) with Level 1 having the lowest level of traffic stress and thus the highest level of service which appeals to the widest range of residents. As a new performance measure, the City will continue to assess and refine this methodology as required.

Action 5-4: Maintain cycling facilities

The importance of maintenance. Proper maintenance of on-road and off-road facilities is fundamental to safe and comfortable cycling. Cyclists are more susceptible than motor vehicles to surface irregularities, and they risk injury from cycling over potholes, road cuts and cracks, and debris. Experience elsewhere has shown that reorganizing existing maintenance priorities, even though it may delay service in other areas or add time and operating costs, can contribute to the safety and popularity of cycling.

As part of the continued updating of maintenance practices, the City will pursue updates to the Maintenance Quality Standards (MQS) to include the new definitions for the cycling route types described in Section 5.2.

Seasonal maintenance activities. The City carries out a spring street clean-up from the end of winter until mid-May, and then continues to sweep roads throughout the summer based on roadway classification. Cyclists are the road users most affected by any delay in spring street sweeping because motor vehicles push road debris—including grit and sand used for winter maintenance—toward the curb, which can adversely affect cyclists. For this reason, the City will endeavour to give greater priority to springtime street sweeping on cross-town bikeways, followed by spine routes. The spring clean-up on key cycling routes should be initiated as early as possible each year, and re-prioritization need not impact operating costs although services in other areas of the City may be delayed.

Action 5-5: Maintain a basic winter cycling network

The network. Because cycling volumes tend to decrease dramatically during winter, the City has not previously designated and maintained a network of winter cycling routes. To support winter cycling, the updated *Ottawa Cycling Plan* identifies a network of cycling routes that are proposed to be maintained to bare pavement throughout the year. In identifying winter routes, consideration was given to feasibility issues such as the type of surface (paved vs. stone dust) and presence of sufficient space for snow storage. The winter cycling network includes 37 km of routes along roads and pathways (including those owned by both the City and the NCC), and is focused in the core area and along the East-West Bikeway where cycling rates are highest. About 21 km of the network routes are on roads or multi-use pathways where no changes to current winter maintenance practice would be required.

Testing and expansion. The winter cycling network is proposed to be implemented in the winter of 2014-2015, and will be reviewed during the next *Ottawa Cycling Plan* update. The network may ultimately be expanded as winter cyclist volumes increase, and as the City builds more separated or buffered cycling facilities to provide winter cyclists with separation from vehicular traffic.

5.2 Offer Attractive Intermodal Connections and Trip-end Facilities

Facilities for the movement of bicycles are a vital component of a cycling-friendly city, but facilities to store bicycles securely at the start and end of trips, and facilities to allow cyclists to transfer conveniently to other modes, are also critical.

Action 5-6: Provide cycling connections to transit

Bike-ride-walk and bike-ride-bike. As light rail is implemented in Ottawa, customer transfers between buses and trains will be common. However, cycling to light rail stations could be more attractive for many transit customers, allowing them to reduce waiting delays and get some daily exercise. The updated *Ottawa Cycling Plan* places a special emphasis on enabling such “bike-ride-walk” trips. It will take advantage of new bicycle parking spaces at light rail stations, comfortable neighbourhood cycling routes to rapid transit stations, and customer promotions. Continued expansion of the Rack and Roll program, which offers bicycle racks on-board OC Transpo buses, will make bike-ride-bike an equally feasible travel option for many transit customers. It is also expected that the City’s new light rail line will permit a limited number of bicycles on-board, outside peak periods; bicycles are already welcome on the O-Train.

Action 5-7: Provide public bicycle parking

Short-term public bicycle parking. The City provides 2,000 short-term public bicycle parking spaces in public rights of way through a contractual agreement with an advertising company. Recently over 1,150 parking meters were converted to ring-and-post bicycle parking spaces along with customized art racks as part of streetscaping projects. As recommended in the updated *Ottawa Cycling Plan*, the City will also consider the creation of seasonal bicycle corrals, which convert on-street motor vehicle parking spaces to ten or so bicycle parking spaces in locations where bicycle parking demand cannot be met elsewhere in the public right of way.

Long-term public bicycle parking. In places where cyclists leave their bicycles for longer periods of time, security and weather protection are important. Examples include rapid transit stations and municipal buildings. In the downtown core there may also be sufficient demand to warrant a secure, weather-protected public bicycle parking facility, and the City will investigate the need for and feasibility of such a service.

Action 5-8: Require bicycle parking and end-of-trip facilities in new developments

Zoning and promotion. The City's Zoning By-law currently requires developers to provide a specified capacity of bicycle parking spaces, based on the size and type of land use. To provide more effective guidance, the City endeavour to update the Zoning By-law to identify separate requirements for short-term and long-term bicycle parking, where appropriate. The City will also provide guidance on the location and design of bicycle parking facilities—for example, that they be provided in highly visible and lighted areas, and be sheltered from the weather as much as possible—and promote the inclusion of shower and change facilities for active commuters in new workplace developments. It will encourage owners and managers of existing buildings, especially workplaces and multiple-unit residential buildings, to provide quality bicycle parking and end-of-trip facilities.

5.3 Improve Cycling Safety and Promotion

The City's overall framework for road safety (see Section 7.4) identifies cyclists as one group of vulnerable road users that warrants special action, and the framework for transportation demand management (see Section 8.1) also considers existing and potential cyclists as key market segments. Below, this section provides an integrated, holistic review of the ways in which the City will work to improve cycling safety and promotion.

Action 5-9: Deliver cycling safety programs

New roadway treatments. In coming years, the City pursue new roadway markings and bicycle-specific traffic signals (once approved by the Ministry of Transportation) to support the operation of cycling lanes that are separated from traffic. It will conduct campaigns to inform cyclists and other road users about these treatments.

Fixing problem locations. The City will continue to address road environments that pose hazards to cyclists. Currently, the Cycling Safety Improvement Program (CSIP) applies measures such as signs and pavement markings to improve locations where cycling safety issues are identified through collision records and stakeholder input.

Building skills and awareness. The City will continue to improve safety by directly addressing cyclists and other road users. Currently, elements of the Cycling Safety Awareness Program (CSAP) include safety messaging (e.g. posters, videos, public service announcements, bus boards, new driver training information), cycling skills training (e.g. full and abbreviated CAN-BIKE courses, primary school outreach), workplace outreach, and helmet use promotion for youth.

Safe routes to school. In Ottawa, a number of partners work together to promote cycling and other modes of safe, healthy travel to school. The City will continue its support for special events and school travel planning, which is an intensive, multi-disciplinary initiative that involves a number of area schools.

Action 5-10: Raise awareness and visibility of cycling

Promotion. Consistent with the discussion of workplace engagement in Section 8.1 of this Plan, the City will continue to promote cycling to work through campaigns such as the month-long Bike to Work event, and through targeted promotions in areas around new or improved cycling facilities. As discussed in Section 5.2 of this Plan, the City will promote multimodal cycling-transit trips, both bike-ride-walk and bike-ride-bike. The City will also promote its cycling facilities and services to residents of new developments through channels such as builders' welcome packages.

Route advice and wayfinding. The City will continue to update its cycling network maps, and will pursue an interactive online cycling route planner. It will also develop a policy for the implementation of wayfinding signage to help cyclists identify and follow new cross-town bikeways and neighbourhood bikeways. The Tourism and Public Service Sign Policy (June 2003) will be amended to include wayfinding for cyclists to provide network and route advice for cross-town and neighbourhood bikeways.