6. Transform Ottawa's Transit System

Chapter Overview	
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Ottawa enjoys a higher level of transit ridership than any other Canadian city of a similar size. OC Transpo's share of travel in the morning peak period was just over 22% in 2011, and this Plan aims to increase that mode share to 26% by 2031. This will require the City to continue making transit more attractive than automobile use for an even greater number of residents. Ongoing efforts to improve the availability, reliability, speed, accessibility and comfort of transit service will improve the transit customer experience and make transit a more viable transportation choice.

In the last five years, City Council made a number of major decisions that have set the stage for an unprecedented transformation of Ottawa's transit system. Council approved construction of the Confederation Line and O-Train expansion, double-decker bus acquisition, PRESTO card implementation, and access to real-time customer information—all of which have either been started or fully implemented as of 2013, and which together constitute a huge positive change for transit customers in a short few years. At the same time, OC Transpo has also maintained a number of shorter-term priorities, including efforts to improve safety and security, engage employees, upgrade transit facilities, replace the Para Transpo fleet, enhance accessibility, strengthen

community partnerships, increase operational efficiencies and improve service reliability.

From a planning perspective, this Plan addresses two major themes of Ottawa's long-term transit system transformation: the expansion of rapid transit and transit priority networks, and the development of rapid transit stations into multimodal hubs integrated with the surrounding community. These subjects are discussed in more detail in the following sections.

6.1 Expand the Rapid Transit and Transit Priority Network

The successful implementation of an expanded rapid transit and transit priority (RTTP) network—which will include light rail transit (LRT), bus rapid transit (BRT) and O-Train facilities plus on-road transit priority measures—will be a critical element in the achievement of the City's transit objectives. Expansion of the RTTP network will significantly increase the ease of mobility and attractiveness of transit use for residents. The City has developed a strategic approach to expanding its RTTP network in response to future transportation needs and towards the goal of achieving an ultimate RTTP network (see Map 3).

Action 6-1: Implement the Affordable RTTP Network by 2031, while protecting opportunities to develop the 2031 RTTP Network Concept

2031 RTTP Network Concept. Chapter 2 identified an expected growth in peak period transit trips by 2031, and a 2031 RTTP Network Concept was developed to both accommodate this growing demand and provide a level of service that will attract it. The 2031 RTTP Network Concept (see Map 4) includes several currently approved and funded projects, and its component projects are listed in Annex A. While the 2031 RTTP Network Concept may not be fully implemented by 2031, it is important for the City to protect lands that would be required for its eventual implementation, such as through the transfer of transit corridor rights of way through planning application approvals, or the purchase of surplus railway rights of way and selected utility corridors (e.g. hydro lines) as they become available.

Affordable RTTP Network. The City recognizes that capital investment must be affordable. For that reason, this Plan recommends the implementation of a subset of the 2031 RTTP Network Concept, called the Affordable RTTP Network (see Map 5), that will provide as many of the 2031 RTTP Network Concept's benefits (e.g. ridership gains, opportunities for land use intensification, operating cost savings) as possible within the City's projected funding envelope. The projects of the Affordable Network were strategically selected to maximize gains in transit ridership within available funds.

Implementation of projects. The Affordable RTTP Network includes LRT, BRT and O-Train projects that are listed (generally in order of declining priority) with their capital construction costs in Exhibit 6.1 and shown on Map 5. It also includes a number of transit priority projects, listed in Exhibit 6.2 and shown on Map 5. Instead of phasing these extensions over time to 2031, a single project, dubbed Stage 2, is proposed that will bring LRT rail west, south and east to Orléans along with resulting operational savings well in advance of the previous schedule proposed in the 2008 TMP.

The prioritization of rapid transit projects resulted from a complex exercise that considered each project using factors such as ridership gains, opportunities for land use intensification, congestion reduction, and operating cost savings. It should be noted that several projects identified in the Affordable RTTP Network are intended to serve growing communities. If those communities do not develop at the pace projected, some of these projects may be required later than expected. Conversely, if communities are developed faster, then some projects may be required sooner. Ongoing monitoring of performance measures that describe transit levels of service in key corridors, as described in Section 7.1, could also identify emerging needs that warrant adjustments to the proposed prioritization. Future updates of the Transportation Master Plan will review and confirm these project priorities.

In the staging of rapid transit corridor development, the City will provide enhanced transit service elements as early as possible. These may take the form of surface transit routes with accelerated frequencies, accompanied by transit priority measures. While the City is protecting the eventual opportunity for complete grade-separation of all elements of the rapid transit network (i.e. intersections where rapid transit corridors intersect with streets, or pedestrian crossings at rapid transit stations), where practical,

it will defer the costs of grade-separation by using transit priority measures that reduce delay and improve service reliability by isolating transit from mixed traffic. Section 1.6 addresses the environmental assessment requirements for new RTTP Network infrastructure, and Section 7.7 identifies objectives and actions to minimize the environmental effects.

Transit priority measures. A majority of Ottawa's transit service is delivered on roads, where traffic congestion increases delay and reduces the reliability and efficiency of transit services. Transit priority can improve the competitiveness of transit by reducing travel times and improving service reliability, while allowing more transit service to be delivered with the same resources. Transit priority measures (e.g. dedicated bus lanes, transit signal priority treatments, bus queue jumps, special bus stop arrangements, and traffic management techniques such as queue relocation) are intended to eliminate delay to transit services caused by congestion, and to minimize delay caused by traffic signals. Equipping road corridors with a set of coordinated transit priority measures can substantially improve the quality of service enjoyed by transit customers without incurring the costs of a fully grade-separated rapid transit corridor. In addition to the transit priority corridors identified as part of the RTTP Network, transit priority measures may be implemented at other locations across the transit network, such as at intersections near rapid transit stations, or intersections of roads with at-grade BRT corridors.

In some locations, transit priority measures can be introduced without significant impacts on other road users, although in many other cases (e.g. busy arterial corridors and other roads with limited rights of way) they will require a decrease in the level of service for other road users. For example, the introduction of a bus-only green phase at a traffic signal may reduce green time for mixed traffic and may reduce the capacity available for other modes. The City will strive to identify and mitigate such impacts; one important tool in this regard is education and promotion, which can build public awareness and a positive attitude toward transit priority measures.

Exhibit 6.1 2031 Affordable RTTP Network Projects – LRT, BRT and O-Train

Type	Project	Description
Currently under construction or funding secured		
LRT	Confederation Line	Conversion of Transitway to light rail between Tunney's Pasture and Blair stations
2014-2031		
BRT	West Transitway: Bayshore Station to west of Moodie Drive	Extension of the Transitway to bypass congestion on Highway 417
LRT/ O-Train	O-Train: Greenboro Station to Bowesville/ Riverside South Station	Extension of the O-Train from Greenboro Station to Bowesville Road, including new stations at Gladstone, Walkley, South Keys and Leitrim
	Western LRT (1): Tunney's to Baseline Stations	Extension of the LRT line now under construction, from its western terminus at Tunney's Station to Baseline Station
	Western LRT (2): Lincoln Fields to Bayshore Stations	Extension of the Western LRT to join the West Transitway (at Bayshore) and the Phase 2 Western LRT extension (at Lincoln Fields)
	Eastern LRT: Blair to Place d'Orléans Stations	Extension of the LRT line now under construction, from its eastern terminus at Blair Station to Place d'Orléans
BRT (at-grade)	Baseline Transit Corridor: Baseline to Heron Stations	New BRT corridor in the road right of way with at-grade intersections, connecting the Southwest and Southeast Transitways
BRT	West Transitway: March Road to Terry Fox Station	New Transitway segment to bypass congestion on Highway 417
BRT (at-grade)	Kanata North Transitway: Corkstown Road to Solandt Road	New BRT corridor following March Road connecting the West Transitway with the Kanata North employment node
Total Infrastructure Costs (2013 dollars)		***$2,267M***

Exhibit 6.2 2031 Affordable RTTP Network Projects – Transit Priority

Project	Limits	Description
Airport Parkway	Hunt Club Road to MacDonald-Cartier Intl. Airport	Peak period bus lanes made available by road widening project
Bank Street	Billings Bridge Station to Wellington Street	Transit signal priority at select intersections
Baseline Road	Baseline Station to Bayshore Station	Transit signal priority and queue jump lanes at select intersections
Blackburn Hamlet Bypass / Brian Coburn Boulevard	Innes Road (west) to Tenth Line Road	Peak period bus lanes made available by new road projects and reallocation of lanes
Beechwood Avenue/ Hemlock Road	St. Laurent Boulevard to Vanier Parkway	Transit signal priority at select intersections
Carling Avenue (1)	Lincoln Fields Station to Carling O-train Station	Exclusive bus lanes made available via reallocation of existing traffic lane
Carling Avenue (2)	Carling O-train Station to Bronson Avenue	Transit signal priority and queue jump lanes at select intersections
Carling Avenue / Richmond Road	Bayshore Station to Lincoln Fields	Transit signal priority and queue jump lanes at select intersections
Chapman Mills / Strandherd / Earl Armstrong	Barrhaven Centre Station to Bowesville/ Riverside South Station	Transit signal priority and queue jump lanes at select intersections
Eagleson Road	Hazeldean Road to Highway 417	Transit signal priority and queue jump lanes at select intersections
Elgin Street	Gladstone Avenue to Wellington	Transit signal priority at select intersections
Fisher Avenue / Holland Avenue	Prince of Wales Drive to the Confederation Line	Transit signal priority at select intersections
Gladstone Avenue	Gladstone O-train Station to Elgin	Transit signal priority at select intersections
Hazeldean Road	Stittsville Main Street to Eagleson Road	Transit signal priority and queue jump lanes at select intersections
Hemlock Road / Codd's Road	St. Laurent Bl to Montreal Road	Exclusive bus lanes made available via new lanes
Hunt Club Road	Albion Road to Uplands Drive	Exclusive bus lanes made available via new lanes
Innes / Blair	Millennium Station to Blair Station	Transit signal priority and queue jump lanes at select intersections

Exhibit 6.2 2031 Affordable RTTP Network Projects – Transit Priority

Project	Limits	Description
Jeanne d'Arc Boulevard	Innes Road to Jeanne d'Arc Station	Transit signal priority and queue jump lanes at select intersections
March Road	Corkstown Road to Solandt Road	Transit signal priority and queue jump lanes at select intersections
Merivale Road	Baseline Road to Carling Avenue	Transit signal priority and queue jump lanes at select intersections
Montreal Road / Blair Road	Blair Station to Rideau Station	Extension of bus-only hours on existing priority lanes and new exclusive lanes east of St. Laurent
Murray Street / St. Patrick Street / Dalhousie Street	Rideau Street to Vanier Parkway	Transit signal priority at select intersections
Orléans Boulevard	Jeanne d'Arc to Orléans Boulevard Station	Transit signal priority and queue jump lanes at select intersections
Richmond Road / Wellington Street W. Somerset Street	Woodroffe Avenue to Bank Street	Transit signal priority and queue jump lanes at select intersections
Robertson Road / Richmond Road	Eagleson Road to Baseline Road	Transit signal priority and queue jump lanes at select intersections
St. Laurent Boulevard	Montreal Road to Innes Road	Transit signal priority and queue jump lanes at select intersections
Stittsville North-South Arterial	Palladium Road to Fernbank Road	Transit signal priority and queue jump lanes at select intersections
Tenth Line Road	Charlemagne Boulevard to Ottawa 174	Transit signal priority and queue jump lanes at select intersections
Total Infrastructure Costs (2013 dollars)		***$199M***

6.2 Integrate the Rapid Transit and Transit Priority Network into the Community

Action 6-2: Provide walking and cycling opportunities along and across rapid transit corridors

Pathways and crossings. The implementation of rapid transit corridors can present both opportunities for, and obstacles to, walking and cycling. To take advantage of long, linear rapid transit corridors that are separated from busy roads, the City will provide multi-use pathways in or adjacent to those corridors where physical constraints allow, and will aim to construct those pathways as part of rapid transit projects. Furthermore, rapid transit station designs will focus on connectivity to pathways in the immediate vicinity. The City will also provide grade-separated opportunities for pedestrians and cyclists to cross rapid transit corridors, where physical constraints allow, considering the nature of demand and the existence of alternative crossing opportunities.

Action 6-3: Encourage quality development close to rapid transit stations

Intensification. Intensifying development around rapid transit stations is the best way to bring as many potential transit riders as possible within easy walking distance of high-quality service. Employment, educational, and commercial densities are more reliable generators of transit ridership than residential density, although they are all beneficial. The City's land use policies, as contained in the *Official Plan* and summarized in Chapter 3, outline strategies to encourage integrated office and commercial developments at selected rapid transit stations. The *Official Plan* also sets out intensification and density targets for key areas, which include many rapid transit stations.

Design. The quality of the built environment around stations is also critical to transit customers arriving from or heading to nearby homes, workplaces, schools, stores and other destinations. Good planning and design practices can help customers reach the station with convenience, safety, security, accessibility and comfort. The City will strive to reduce the impacts of surface parking on pedestrian routes around stations, as discussed in Chapter 3.

Action 6-4: Make rapid transit stations convenient, comfortable and accessible to all users including pedestrians and cyclists

Walking and cycling access. At all rapid transit stations, but particularly those with significant nearby development, the quality of access for pedestrians and cyclists is of the utmost importance. The City will pursue opportunities, alone or in partnership with developers and landowners, to provide and improve pedestrian and cycling connections between rapid transit stations and adjacent developments. The City will limit pedestrian crossing distances at intersections that transit customers must cross. It will also work to improve the quantity, security and weather protection of bicycle parking at rapid transit stations. Sections 4.1 and 5.2 of this Plan also discuss these important measures.

Customer amenities. At rapid transit stations, high customer volumes pass through and also spend time waiting for their bus or rail vehicle to arrive. The experience of customers within all stations should be as comfortable, secure and convenient as possible, and the design of heavily-used transfer stations (such as those at the ends of the light rail and O-Train lines) will provide a superior level of comfort and convenience. Valuable measures will include shelter from the elements, seating, heating, wayfinding signage, accessibility for people with disabilities, natural surveillance for customer safety, and possible convenience retail and service uses. The City will also take steps to enable convenient transfers by transit customers to and from other modes (in addition to walking and cycling, as discussed above) through features such as direct telephone access to taxi companies, taxi loading areas, customer drop-off and pick-up areas, and connections with regional and intercity buses and trains.

Park-and-ride lots. Park-and-ride lots are an important feature at selected rapid transit stations. They serve transit customers arriving by car who live in the urban area and drive to transit in order to meet other needs en route (e.g. childcare, shopping, appointments), as well as customers who live in the rural area. The City will build or expand several park-and-ride lots as part of the 2031 Affordable RTTP Network (see Map 5). New park-and-ride lots will encourage commuters to transfer to transit at the edge of the urban area or at the outer edge of the Greenbelt, thereby minimizing automobile travel across the Greenbelt and towards the centre of Ottawa. The design of park-and-ride lots will provide safe, convenient and comfortable connections for pedestrians and cyclists to travel through them, as needed, to and from the adjacent community.

Intercity passenger terminals. VIA Rail's two stations at Tremblay Road and Fallowfield Road are both co-located with existing Transitway stations, with Tremblay Station currently being upgraded to rail as part of the Confederation Line project. Macdonald-Cartier International Airport is currently served by a Transitway bus route and would be served by a light rail station in the 2031 RTTP Network Concept (see Map 4) and by an improved bus service in the Affordable Network (see Map 5). Only the Greyhound Bus Terminal on Catherine Street in the downtown is not served by a rapid transit bus route. If the terminal is to be moved in future, the City would prefer that it be located at a rapid transit station, especially as sections of the LRT network are completed and put into service.

While there are no formal plans to implement High Speed Rail (HSR) in the Quebec-Windsor corridor, any HSR line in the corridor would need to include Ottawa. Ottawa's station(s), should be connected by rapid transit, subject to land use compatibility of the line with adjacent uses and appropriate setbacks.

Action 6-5: Meet or exceed municipal, provincial, and federal guidelines and legislation for people with disabilities

Accessibility. Over the life of this plan, there will be an increased demand for accessible transit, as Ottawa's population of seniors continues to rise and medical advances increasingly allow persons with disabilities to lead fully independent lives. All Transitway, O-Train and Confederation Line stations have been designed as barrier-free as possible, and all buses are low-floor models able to carry customers who use mobility devices such as wheelchairs.

An important strategic objective of Ottawa's transit service is to continue to offer full accessibility to transit for residents and visitors who have permanent or temporary disabilities, through both specialized services (Para Transpo) and barrier-free conventional services that meet or exceed legislative requirements and guidelines.