

2011 Business Plan





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OC Transpo 2011 Business Plan

Toward a Sustainable Transit System for Ottawa





1 INTRODUCTION

This document is the first of four annual integrated Business Plan documents presented to the Transit Commission over this term of Council. In accordance with previous Council direction to produce annual progress updates, and in response to Budget 2011, these Business Plans will provide detail on the progress and direction for continued reform of transit in Ottawa. The intention is to provide Council with a focused opportunity each year at budget time to review and renew policy direction for the Transit Commission to implement system improvements.

The approach to achieving modal split, revenue cost ratio improvements, reduction in overtime, fleet renewal, facility planning, IT improvements and network optimization will be updated in these annual Business Plans. This will be an important opportunity, during the Budget process, for Council to reflect on the progress made and provide high level direction to the new Transit Commission on OC Transpo's planned approach for the year to come. Based on the policy framework approved during the Budget process, the details of route planning, bus stop location, business cases and many other specific decisions will then rest with OC Transpo staff and the Transit Commission to implement.

This Business Plan is animated by four touchstones central to OC Transpo's goals for system improvement: safety, reliability, financial sustainability and customer satisfaction. Every initiative in this document is aimed at achieving improvement within each of these four fundamental goals.

OC Transpo follows 11 specific performance measures carefully to evaluate progress. These measures are reported in the Annual and Quarterly Performance Reports. Continuous improvement metrics are in place reporting on: ridership, customer satisfaction, security, safety, service availability, reliability, reach, occupancy, revenuecost ratio, greenhouse gas emissions and accessibility.

Important changes and improvements have already begun. As part of the 10-Year Tactical Plan, significant investments in new buses, better technology and improved maintenance facilities are already paying dividends.

It is now time to take the next step forward. Budget 2011 provides OC Transpo management and the new Transit Commission with a strong mandate to overhaul the unsustainable service delivery model that has been allowed to evolve over time. This Business Plan advances elements of the 10-Year Tactical Plan for implementation this year and next, setting out the immediate steps that must be taken to achieve a more efficient and effective system.

From 2000 to 2006, the rapid growth of the Urban Transit Area has significantly increased the costs of providing transit service in Ottawa. It is expected that, as the



City continues to grow, there will be an increased demand for quality transit service to new neighbourhoods as well as new shopping and employment centres. OC Transpo must be prepared to meet the changing needs of a growing and evolving City. We will need to improve the cost to deliver an hour of service on the road and the productive capacity of the network as measured in customer-kilometres carried per hour of service.

In many ways, OC Transpo has become financially encumbered by failing to get the most out of its own successes. As the recent peer review from the American Public Transportation Association (APTA) noted, Ottawa's transit system outperforms most of its North American counterparts when it comes to trips per capita. By not adjusting route structures as the system grew, inefficiencies were allowed to persist, ultimately preventing OC Transpo from capitalizing on potential revenues derived through this ridership growth. Further, as APTA notes in its report, this presents a particular dilemma as the expectation for service throughout this large geographic area cannot be met by OC Transpo's resource capacity.

Council approved a plan in 2007 to increase fares by 7.5 per cent in 2008, 2009 and 2010, for a total of 24.2 per cent. Despite these fare increases, the transit system has required an increasing amount of property tax support. In fact, for the last few years public transit has received one-time "bridge" financing to fund operations. But a bridge must lead to the other side. And in recent years, the City has not taken the steps necessary to find a means of doing so. This situation has been further exacerbated with the use of Transit's reserves to fund operations (as indicated in Table 1).

	2010	2011	2012	2013	2014	2015	2016
Operating Cost	-328	-328	-329	-334	-347	-355	-371
Capital Contribution	-73	-81	-94	-100	-101	-103	-10
ParaTranspo	-28	-30	-30	-31	-32	-32	-33
Total Costs	-429	-439	-453	-465	-480	-490	-509
Revenue	159	169	178	188	198	209	219
Provincial Gas Tax – Operation support	16	16	16	16	16	16	10
Provincial Gas Tax – Capital Contribution	10	10	19	19	19	19	19
One-time - From Gas Tax	10	9	0	0	0	0	(
Property Tax with Changes	234	235	240	242	247	246	255
Property Tax without		242	263	269	274	274	288

With the end of the Ontario Bus Replacement Program last year, it is not sustainable to fund operations out of reserves. The amount of gas tax funding capital needs to rise. As the table above shows the growth in demand for property tax support of the



transit system will rise dramatically if the changes set out in this Business Plan are not implemented. By 2016, if this change does not occur, over \$50 million in additional tax support would be required. Put another way, this would see our public transit system demand a property tax increase of at least 5 per cent all on its own.

Budget 2011 sets clear direction to redress this situation and place the transit system on solid and sustainable financial foundation for years to come. If these changes are made, the transit system will be able to properly fund capital and operating within its share of a 2.5 per cent tax increase. If these changes are not made, this will not be possible and the transit service will require a dramatic increase in property tax support.

Ottawa's transit system will undergo tremendous change over the coming decade that will position it well to deliver quality service to a growing city for many years to come. Beginning with the 10-Year Tactical Plan, and now evolving within the 2011 Budget and 2011 Business Plan, changes were identified that have the potential to produce a total of \$100 million in operational savings by 2019, with the opening of Phase 1, Increment 1 of Ottawa's Light Rail Project. In 2010, some of these cost saving measures were advanced. Budget 2011 calls for further advancement, where practical, of those changes and savings for immediate implementation.

Changing the status quo model requires a transformation of the way service is delivered to customers. Over the longer term, further savings will be achieved through the combined benefits of:

- Light rail operations;
- Trunk-and-feeder network; and
- Optimizing routes

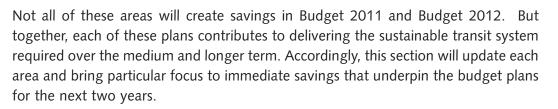
These major initiatives will pay dividends over the next decade. In the immediate term, Budget 2011 provides for containing the annual growth in subsidy by facing the need to move quickly on system inefficiency. This Business Plan sets out how OC Transpo will reduce the demand for tax support and greater than inflation fare increases by achieving \$22 million in additional operational efficiencies versus the status quo, starting next year. Because these changes will begin to take effect in the fall of 2011, \$7.3 million of these savings will be available in this year's Budget. These changes will allow for the increased demand for capital support in the absence of the bus replacement program and the elimination of the one-time bridges built into the budgets of the past.





2 BUILDING A SUSTAINABLE TRANSIT SYSTEM

Putting Ottawa on the road to a sustainable transit system that delivers quality service to a growing customer base requires an integrated plan for improvement. Building on the 10-Year Tactical Plan, the following section lays out progress and immediate action. This section provides an overview of improvements planned for Fleet, Maintenance Facilities planning, Information Technology, as well as better employee engagement, and optimal route network organization.



Moving now to optimize the bus route structure into a more efficient network will help us achieve the bulk of our operational savings in the short term. Efficiencies in this area will help us save money with the smallest impact to our customers. In fact, many of these changes will enable an improved customer experience. The vast majority of trips will be more direct and quicker. About 94 per cent of customers will enjoy either unchanged or improved service as a result. Approximately 1 per cent of peak customers will have to walk a short additional distance, but once they get on the bus their overall trip time will either stay the same or decrease due to more direct routing. During off-peak periods, about 6 per cent of customers will have a short additional walk to catch the bus with similar improvements in travel time.

As a result, the new service delivery model will attract more than 98.6 per cent of the potential transit ridership predicted, but at only 80 per cent of the costs to operate after the opening of the light rail line.

2.1 Fleet Plan

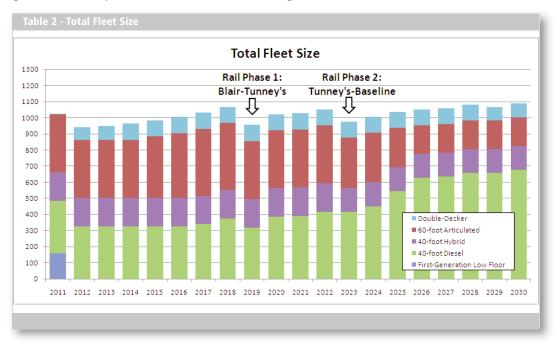
OC Transpo maintains a multi-year fleet plan for the acquisition, refurbishment and retirement of buses. The plan sets out long-term capital costs to ensure high availability of vehicles and efficient use of maintenance resources. The fleet plan is based on projected ridership changes, expected opening dates of new rapid transit projects, and options for the provision of system capacity with different bus types.

In 2010, the decision was made to renew the articulated bus fleet by purchasing 306 new articulated buses. This allowed the retirement of 226 inefficient and problematic older articulated buses, creating substantial improvements in reliability and fuel economy. This renewal moved forward the planned date of replacement of those



buses and changed the fleet plan by eliminating the need for refurbishment of many older buses. All of these new buses are expected to be in service by March 2011. Customers are already receiving the benefits of improved comfort, higher reliability, and higher capacity on some busy trips. The acquisition of these buses has resulted in significant financial savings already incorporated in Budget 2011. The cost of financing these new buses has been more than offset by associated savings in fuel and maintenance of more than \$9 million a year.

The current fleet plan extends from 2011 until 2030, and includes the bus savings from the planned network optimization in 2011. It also includes a reduced requirement for buses enabled by the opening of new sections of Transitway where faster operation requires fewer buses. Further, and as highlighted in the graph below, it anticipates the opening of sections of the light rail system where trains replace buses and requirements for buses to serve expected ridership growth and expanded service to meet that growth.



Double-Deckers

In 2009 and 2010, OC Transpo tested a small fleet of three double-decker buses. These buses have proven to be highly successful, especially for operation on long-distance express routes during peak periods and are well suited for future feeder routes planned for implementation at the opening of the new light rail line through the downtown core.

The chief advantage of double-decker buses is that they can carry more customers – and include more seating – than any other bus type, at approximately



the same capital cost as an articulated bus and in the same road space as a 40-foot bus. Details of the results of the trial are in Document 3 to this report.

In today's system, OC Transpo uses a 45 person standard for a 40 foot bus and a 70 person standard for an articulated bus. The APTA peer review indicated that this standard is low relative to transit systems in comparable cities, leading to higher operating costs per customer. Consideration has been given to moving this standard up to 50 persons for a 40 foot bus and 77 for an articulated bus as such a change would save approximately \$1.9 million a year in operating costs. This would, however, also result in more buses on express routes arriving full during peak periods than customers experience today. Moving now to upgrade older 40 foot buses with double-decker buses would eliminate the need to change this standard, and provide a more comfortable ride for our customers along with additional system benefits. It will also produce better efficiencies saving approximately five times as much annually than increasing crowding standards.

The Transit Commission will be presented in April 2011 with a detailed lifetime business case for the purchase of approximately 75 double-decker buses to replace the oldest, lowest-capacity buses in the fleet. This purchase will result in significant lifecycle savings as well as specific immediate efficiencies. It will allow for substantial operating cost savings, as the same number of customers would be carried on fewer buses, and long-term capital cost savings, as there would be fewer buses in the fleet.

Based on the results of the pilot, the new double-decker buses would be assigned primarily to busy, long-distance express routes, where customers would benefit the most from the increased seated capacity that double-deckers have. On an articulated bus operating at capacity, 20 per cent of the customers need to stand, but on a double-decker bus operating at capacity, only nine percent of the customers need to stand. The articulated buses currently on express routes would then be assigned to Transitway and main-line routes, where they would replace 40-foot low-floor buses. Those 40-foot buses would then move to the local routes where they would replace the retired first-generation low-floor buses.

The first generation low-floor buses, acquired between 1997 and 1999, have disadvantages for customers in that they have only a small number of seats and restricted standing area. They also have many advantages for transit operation because existing buses cannot be assigned to anything other than the lowest-ridership routes, have relatively poor availability, and present high maintenance costs.

The use of double-decker buses may also reduce the capital cost of building the terminal stations for the light rail line. Double-decker buses take up less space than articulated buses and provide the same capacity with fewer trips, reducing the platform and staging space required.



Double-decker buses can also be a vital part of operations during light rail construction, where there will be a need to acquire a large number of buses to temporarily increase the fleet size during the construction period (as outlined in Section 3).

The 158 first-generation low-floor buses in the fleet would be replaced by approximately 75 double-decker buses. This reduction in fleet size could create an estimated \$10 million in operating cost savings per year with a full year financing cost of approximately \$4 million. Overall the replacement of older 40-foot buses with double-decker buses could provide between approximately \$2.5 million in 2012 operating savings net of costs of advancing the purchase. These net savings grow to approximately \$6 million annually from 2013 to 2015 with the full \$10 million savings in annual operating costs enabled by these new buses being realized in 2016.

	2012	2013	2014	2015	2016
Savings	\$2.5 M	\$10 M	\$10 M	\$10 M	\$10 M
Cost to Acquire	\$40 M				
Financing Cost over Base Case	\$ 0	\$4 M	\$4 M	\$4 M	0
Net savings	\$2.5 M	\$6 M	\$6 M	\$6M	\$10 M

The Transit Commission will be presented with the business case for a plan to purchase double-deckers to replace the oldest, lowest-capacity buses in the fleet and drive these efficiency savings. As part of this Business Plan estimates of the required supplementary Capital authority, funded entirely from operational savings, have been tabled for inclusion in Budget 2011. To achieve the estimated savings, the procurement procedure would need approval by May 2011 so that the new doubledecker fleet could be delivered and operating by August/September of 2012.

Over the next two years, comprehensive improvements to the maintenance system will continue, including changes to the supply chain and measures to boost productivity. A move to vendor-managed inventory and point-of-use storage will reduce process steps and create efficiencies. The re-design of the maintenance process along with an enhanced focus on reliability management will enable OC Transpo to maintain high levels of bus availability with a smaller fleet, while reducing capital and operating costs.





2.2 Facility Plan

OC Transpo operates a number of facilities, many of which are concentrated at the St. Laurent / Belfast complex. Currently, there are four bus garages located on St. Laurent, Merivale, Pinecrest and Industrial, along with three support buildings along Belfast. There are a variety of facilities at the St. Laurent complex, a new dispatch centre on Industrial Road and the Walkley Road O-Train maintenance facility. Some of these facilities are over 30-years old and require substantial upgrades and rehabilitation.

OC Transpo has developed a plan to rehabilitate and modernize existing facilities to provide cost effective, sustainable buildings for the long-term. Where new facilities are required, such as the Industrial garage, staff have designed facilities to improve environmental and energy sustainability. The new Industrial garage features both a state-of-the-art maintenance facility and a green-roof dispatch building. The garage is a key component of increasing maintenance productivity, bus reliability and availability, while reaching operational efficiency goals.

OC Transpo will continue to look for opportunities to consolidate facilities to achieve efficiencies and reduce costs. For example, Para Transpo recently moved operations and bus maintenance from the leased Bantree facility to the Merivale garage, where they will be permanently housed by summer 2011. This move improves customer service putting Para Transpo's resources to better use and creating cost savings by eliminating leasing costs.

Transit maintenance will be relocating operations from the Swansea garage to the existing Belfast and St. Laurent facilities in order to reduce the time needed to reposition buses for major repair and to transport repairable parts. Merivale garage dispatch functions were reduced in 2010 for conventional bus operations due to the higher cost of fuel and maintenance associated with the facility being located far from the Transitway. The space has been used to consolidate Para Transpo operations into a City-owned facility.

The Pinecrest garage has limited future potential as a strategic dispatch location due to its limited capacity, need for heavy lifecycle investments, and growth restrictions due to its proximity to a residentially zoned area of the City. It remains an essential part of the current OC Transpo operational model, but opportunities to eliminate this garage and produce savings will be examined over the medium term.

In 2011, additional bus parking and dispatch capacity will be put in place at the Industrial garage, and a new access road from Belfast Road will be opened, as this garage was designed to accommodate every bus type, including double-deckers.





This will enable the assignment of 50 per cent of OC Transpo's fleet to this facility for preventive maintenance. It will also support the low cost transfer of buses between the large St. Laurent complex and the Industrial garage.

A comprehensive program of modernization is being implemented for the garages at St. Laurent, Merivale and Pinecrest and at the Walkley O-Train facility. Each will receive major upgrades to improve the working environment for employees by upgrading restrooms, showers, lockers, and lunchrooms. Major upgrades will also be undertaken to the mechanical and electrical systems to improve efficiency and promote a healthy work environment. These upgrades will include new equipment and tools, better ventilation as well as better lighting.

The capacity of the St. Laurent office building is also being improved through enhancements to the overall design and work environment. Renovations are underway to create more usable and significantly improved office space.

It is anticipated that the site at 805 Belfast, part of the St. Laurent complex, will be used as the future light rail maintenance facility. Currently, the maintenance of light vehicles for Transit and Facilities Maintenance shops, inventory, and offices are located in this complex. It is also a fuelling depot for City vehicles.

2.3 IT Roadmap

Investments in Information Technology will continue to drive improvement at OC Transpo. These new technologies can improve not only productivity and lower costs, but also improve customer experience and help build ridership.

Council approved the OC Transpo IT Roadmap in July of 2010. As part of the guiding principles, OC Transpo and Information Technology Services prepared a framework that would be used to provide new IT solutions to support and streamline the transit business processes.

In a deliberate effort to move away from the "patchwork" approach used prior to the IT Roadmap, these initiatives will seek to:

- Increase the use of common infrastructure to maximize return on investment;
- Minimize the number and variety of platforms;
- Reduce the number of interface points;
- Shift technology from custom in-house software to fully integrated, vendor-supported solutions; and
- Modernize the hardware, network and telecommunications infrastructure that OC Transpo needs to ensure uninterrupted service delivery.



In 2011 staff will complete the work required to implement the PRESTO smartcards in 2012 and present this information to the Transit Commission. This new system will enable lower transaction cost for OC Transpo, further reduce costs associated with fare evasion, and will improve convenience for customers by presenting new, easier to access, payment options and reducing line-ups. New capabilities will also be developed through 2011 for providing customers with real-time bus arrival information on mobile devices. In 2011, a new GPS system will help streamline our internal service while providing our customers with real-time bus information that will enable precision trip planning on home computers or mobile devices. This data stream will be leveraged to create additional revenue from advertising estimated at \$1.1 million by 2014.

Work is underway to implement Information Technology scheduling applications now with OC Transpo management focused on optimizing efficiency and improving usability of this technology for planning. This program is funded in Budget 2011 and, through technology upgrades, deployment will commence this year and continue through 2012. Improvements in on-time performance, cost of operations and reduced IT infrastructure costs will result from this work.

2.4 People Plan

Engaging Employees

Employee engagement and satisfaction is vital to the success of OC Transpo as an organization.

Each OC Transpo employee has an important role in delivering service. In order to build leadership capacity while maintaining a strong and representative workforce, OC Transpo is developing a long-term strategic People Plan that will address leader-ship development, succession planning, recruitment, improved bilingual service, training, and employee engagement.

The APTA Peer Panel Report recommends that OC Transpo establish a labour relations strategy based on an improved engagement and better internal communications with employees. A renewed approach to connecting and collaborating with employees is underway as part of our Service Excellence plan. Specific elements include work area specific recognition programs, the introduction of gain-sharing where possible, the development of a multi-faceted communications program, direct access to management forums by front-line employees, and better supervisory training. These initiatives, and continued work with the ATU and the Federal Mediation and Conciliation Service, are meant to help connect employee aspirations with goals and aims of the organization as a whole.





Team social activities will be promoted throughout the organization including the work of employee sponsored groups such as the Wellness Recreation and Fitness Committee. More events that include the families of OC Transpo staff will be built our efforts to strengthen the team culture throughout the organization.

Workforce

Budget 2011 provides for 74 new bus drivers to be welcomed into the transit service. These new positions will cut the need for overtime that can stress the existing work force. The same wage dollar will yield more service hours and reduce imposition on the lives of the current complement of operators. This will addresses the immediate need right size the work force with the number of employees necessary to assure service levels under the existing collective agreement and within current budgets.

Future analysis will include a workforce strategy for operations during light rail construction and post-implementation. The expansion of O-Train frequency is one element in minimizing changes in staffing levels for bus operations during this time. Workforce stabilization is critical, especially following several years of high retirement rates and growth in service.

OC Transpo revised the bus operator training programs in 2010 toward national standard certification, and continues to build a curriculum that addresses new technologies, improves safety, lowers business risk and focuses on the commitment to customer service. OC Transpo will continue to work on revising these programs in 2011.

The development of recruitment plans will ensure that OC Transpo is an employer of choice with access to qualified and skilled candidates who are bilingual. Work will continue to boost the diversity in OC Transpo by recruiting more broadly including encouraging more women to join the organization at all levels.

2.5 Elimination of Duplication and Delay in the Existing Network

OC Transpo strives to provide quality transit options throughout its service area that are as convenient to as many people as possible. A balanced system provides attractive transit options to as many customers as possible in an economically efficient way.

The current route network design exceeds the Council-approved policy standards that 95 per cent of the population be within a five-minute walk of transit service during peak periods and within a ten-minute walk at off-peak times. The current network also includes a number of routes which are indirect or which have sections



which duplicate other routes. These characteristics stretch the resources of OC Transpo and result in lower productivity and higher costs. These inefficient parts of the route network are not only costly but also little-used by customers. Applying the norms and best practices of more-efficient transit systems will reduce costs significantly without reducing system ridership.

Budget 2011 calls for this network inefficiency to be addressed and for an improved network design to be implemented. The vast majority of transit users will experience either no change or an improvement in the overall service they use through better reliability and more direct routing. Only about 6 per cent of daytime off-peak transit users would have a slightly longer walk to the bus, and in most of these cases, the walk would be limited to one or two additional blocks. At peak periods about 1 per cent of transit users would have a longer walk to the bus.

Approximately 94 per cent of transit users would see no change at all but would gain the benefit of shorter travel times through more direct routes. In 2011, network optimization efforts will aim at meeting the existing Council-approved policy standard of 95 per cent of urban households within a 5-minute walk.

The customer's travel experience is made up of a number of elements:

- i) The time it takes to walk to a bus stop;
- ii) The time it take to wait for a bus;
- iii) In-vehicle travel time;
- iv) The number of times as transfer needs to be made; and
- v) Overall reliability of service.

Though most of the possible route changes described below would increase walking distance or would increase the number of transfers, many of the customers who are affected by those changes would also receive the benefits of a shorter waiting time and a shorter in-vehicle travel time.

While modest, these changes to the route network will dramatically improve productivity. These benefits would come at a significantly lower cost than the existing network design, will reduce upward pressure on fares and taxes, and will put the transit network on a sustainable footing that is consistent with the proposed budgets for 2011 and future years.

As mentioned, there would be no change in the crowding standard for buses as a result of the move to double-decker buses. The carrying capacity of routes would remain the same with more seats available reducing the need for customers to stand. Changing the crowding standard is avoided because it would primarily affect cus-





tomers on the busiest routes, it would substantially reduce service quality on those routes, and it would reduce the reliability of service and increase the likelihood of customers being left behind at stops.

Where routes are being consolidated, the combined routes will operate more frequently than they do today to provide sufficient capacity. At certain times of day, or in areas with lower ridership, frequencies will remain the same as today, as the additional ridership can be accommodated within the existing capacity.

OC Transpo will continue to extend the route network into new areas as they are developed. In fact, in 2011, there are some newly-built areas of the City which already warrant route extensions. These expansions will also be incorporated as part of the revised network.

2.5.1 Unchanged Routes / Enhanced Routes

The vast majority of customers' trips will remain exactly as they are today with no change. Some of these trips will be enhanced through greater frequency on routes or with larger capacity vehicles such as double-deckers and articulated buses. Due to the length and capacity of these buses, we will be able to better accommodate peak ridership while alleviating some congestion through the downtown core.

Bus routes expected not to change or to receive enhanced service include: the O-Train and Routes 1, 2, 7, 8, 14, 15, 20, 21, 22, 24, 27, 33, 35, 38, 60, 61, 66, 67, 68, 69, 70, 71, 73, 76, 77, 86, 87, 94, 95, 96, 98, 99, 114, 118, 122, 123, 124, 126, 128, 135, 146, 148, 157, 164, 170, 172, 173, 176, 177, 183, 184, 186, 187, 189, 194, 199, 245, 261, 262, and 263.

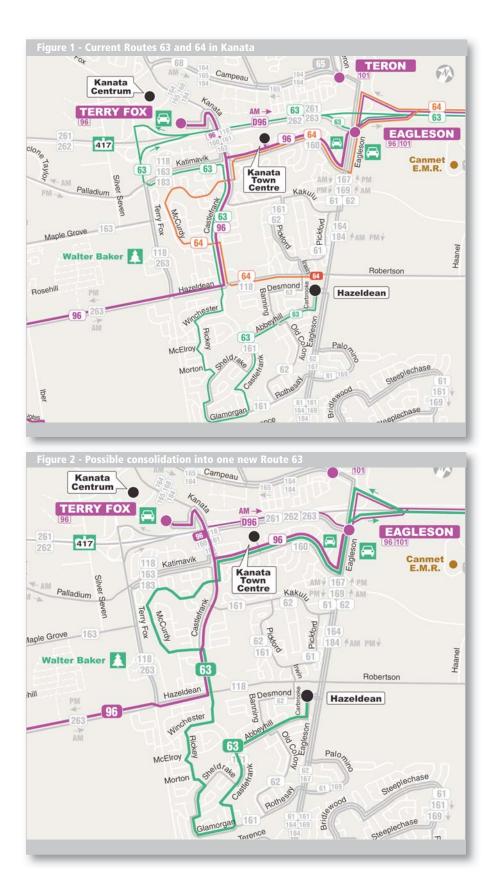
2.5.2 Elimination of Duplication and Consolidation of Routes

Throughout the City, a number of routes have evolved to cover identical ground for large portions of their journey. In some other cases, two or three routes run parallel to one another very close together. These routes will be candidates for consolidation into fewer more efficient routes. For example, instead of having two underused buses serving the same customers, the new design will have one better used route. This category of change will have almost no effect on walking distance to access transit. Customers will, in most cases, not have any further to walk to get to their bus.

An example of this type of change is depicted below in Figures 1 and 2.









In this example, two express routes in Kanata which serve neighbouring areas would be consolidated into a single route, which would operate more frequently but which would have a lower operating cost because the capacity would match more closely to the actual ridership.

While these changes will mean some adjustment for customers to determine which new route to take for their trip or commute, the result will be almost identical service with the realigned route structure.

Routes under review for consolidation to reduce duplication include: Routes 3, 4, 5, 6, 16, 23, 32, 34, 39, 40, 43, 57, 62, 63, 64, 65, 85, 88, 101, 111, 112, 115, 116, 117, 125, 130, 131, 133, 141, 142, 143, 144, 150, 151, 154, 155, 156, 158, 160, 165, 166, 168, 182, 188, 190, 191, and 316.

Not all of these routes will be combined with other routes. They are candidates for consultation with customers and consideration by Transit Commission. In some cases routes listed here will be altered slightly to be able to properly serve customers from discontinued routes that run in parallel to along the same routes.

2.5.3 Removal of Inefficient Local Loops and Crescents

Many of our bus routes take detours down side streets to shorten the walk for particular employment centres and neighbourhoods. These so-called "milk runs" through local residential and collector streets are very costly to maintain and slow travel times for riders already on the bus. Service would be available by walking a short distance to catch the bus for all of the customers affected by these changes.

An example of this type of change is depicted below in Figures 3 and 4. In this example, a local route which now follows a complex route in Overbrook would be changed to follow a simpler and more direct route. The frequency of service would remain the same, travel times for customers would be reduced, and there would be a cost saving because of the reduction in the distance that buses travel to complete each trip.

Routes under review for this category include: Routes 5, 18, 31, 37, 101, 102, 179, 221, 231, and 283.





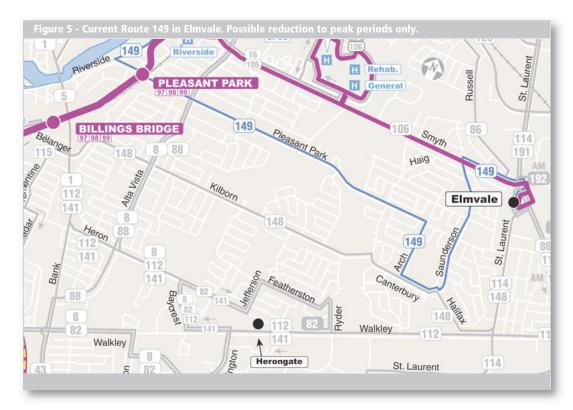




2.5.4 Reduce Hours of Service for Low-ridership Routes or Route Sections

Some routes that have a reasonable number of users at peak times drop off dramatically between peak periods yet continue to run at the same frequency. Others routes have specific sections with very low ridership. These routes starve the rest of the system of valuable resources that could be better deployed in high ridership areas. Where ridership at off-peak times is very low, consideration will be given to eliminating off-peak service or to discontinuing service to sections of the route.

An example of this type of change is depicted below in Figure 5. In this example, a local route in Elmvale would be reduced from its current hours of service (6:00 a.m. to 10:00 p.m., Monday to Friday, plus 9:00 a.m. to 6:00 p.m. on Saturday and Sunday) to operate only during peak periods (generally 6:00 to 9:00 a.m. and 3:00 to 7:00 p.m., Monday to Friday). During peak periods, the route would run at the same frequency as today (every 15 minutes in the morning and every 20 minutes in the afternoon).



Routes under review for this category include: Routes 103, 116, 127, 136, 137, 140, 143, 145, 147, 149, 152, 153, 161, 163, 165, 167, 171, 174, 175, 178, and 306, and certain sections of Routes 5, 6, 9, 12, 16, 18, 40, 82, 97, 105, 106, 115, 120, 121, 125, 129, 131, 151, 154, 156, 166, 169, 190, 191, 192, 197, and 232.

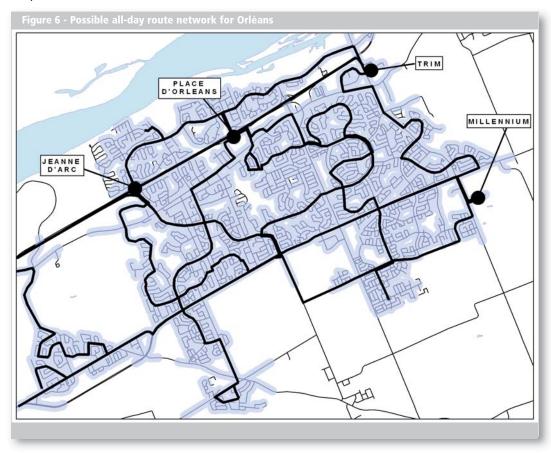


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2.5.5 Overall Results of Network Reorganization

The combined result of route changes such as those outlined in the three sections above will be to create a streamlined, more productive transit network that carries the same number of customers at a considerably lower cost. Generally, some customers will have a longer walk to their nearest bus stop and some will have an additional transfer to complete their trips, but many customers will have a shorter waiting time and a shorter travel time on board the bus, and overall the system will be more reliable and easier to use.

The following map illustrates how different types of route changes on different routes can combine to create an effective, convenient, and reliable transit network. This map shows a possible network of all-day local routes in Orleans. Along with Transitway Routes 94 and 95, five local routes would bring transit service within a ten-minute walk of almost all residents. Such a network would have considerably lower operating costs than the current network, which has eight local routes in Orleans. On this map, the shaded area is the area within a ten-minute walk of a bus stop.





Hawa



In planning the revised route network, OC Transpo staff will be paying particular attention to retaining direct service or easy connections to major points, including downtown. The revised network will have sufficient capacity to carry all current customers. Some routes will operate more frequently than they do now, and many buses which now have available capacity will carry more customers than they do now.

OC Transpo staff are currently examining all routes in the system to identify opportunities to improve productivity as described here, aiming always to minimize inconvenience for current customers while making better use of available resources. Proposals will be made available for consultation with customers and residents, and the input from the consultation will inform the recommendations that staff make for approval by the Transit Commission. The approved changes would begin in September 2011.

2.6 Trunk-and-Feeder Network

OC Transpo's current route network operates as a combination of a trunk network of Transitway routes with local routes feeding into major stations, with an overlaid network of direct routes from residential areas and to employment areas during peak periods. This can be labeled as a trunk-and-branch network. This model has the advantage of providing service closely tailored to the needs of small groups of customers, but comes with the disadvantage of bottlenecks in the downtown core and at the cost of some redundant capacity on the trunk sections.

As bus operation on Albert and Slater Streets downtown has reached its capacity during peak periods, some parts of the network have been converted to feeder routes to hub stations with increased capacity on Transitway routes, replacing the former direct-to-downtown express routes. These changes, between 2004 and 2009, were selected and approved to maintain a reliable flow through downtown, and to require an additional transfer for the fewest customers possible.

With the opening of the core section of the light rail line, the entire system will be converted to a trunk-and-feeder network. Buses from Orleans will feed into Blair Station, buses from Alta Vista and Ottawa South will feed into Hurdman Station, and buses from Barrhaven, Kanata, and Stittsville will feed into Tunney's Pasture Station. And when the light rail line is subsequently extended further west, those routes from the west and southwest will feed into the line at Lincoln Fields and Baseline Stations.



The 10-Year Tactical Plan, adopted by Council in 2009, showed the long-term advantages of changing to a trunk-and-feeder network, along with a grid system of northsouth and cross-town routes inside the Greenbelt. The future network will make better use of capacity, will increase reliability, and will have lower operating costs.

A change to a trunk-and-feeder route structure is not recommended until the light rail line opens. Many of the savings from such a network are being already achieved by the operation of the express routes with higher-capacity articulated buses (and possibly in the future, higher-capacity double-decker buses). It is also not feasible to convert the current network entirely to a trunk-and-feeder network before the opening of the light rail line, because at the major Transitway stations where transferring would need to take place, the current configuration goes not provide enough space for the buses to load, unload, turn around, and wait for their next scheduled trip. The light rail project includes the conversion of Blair, Hurdman, and Tunney's Pasture Stations into major terminals where the required levels of bus operation can occur and where the high numbers of transferring customers can be accommodated appropriately.

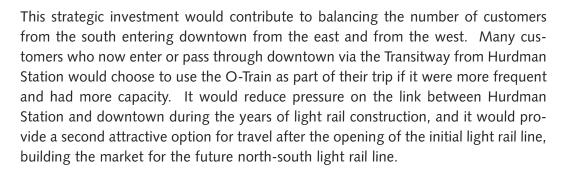
2.7 Increase Capacity of O-Train Service

Initially established as a two-year pilot program in 2001, the O-Train continues to attract more customers every year and has become an essential part of the OC Transpo system. The O-Train serves two predominant travel markets: transportation to and from Carleton University and north-south travel that is not to or from down-town, such as from Ottawa South to Tunney's Pasture. During 2010, with the increased ridership from Carleton University resulting from the introduction of the U-Pass, the capacity limits of the O-Train service are being reached at the busiest times.

Budget 2011 provides funds to acquire one additional spare Talent train to allow for future O-Train service without interruption or reduction due to maintenance programs. Budget 2011 also provides for upgrades and improvements to O-Train stations initially constructed for a pilot period. The new Talent train, bringing the complement to 4 train sets, will allow for a full set of spare vehicles, decreasing service interruptions in the future.

In addition to these investments, staff are exploring the possibility of increasing O-Train frequency, additional system upgrades and putting 4 vehicles in operation on the line at one time instead of 2 as we have today. If O-Train service can be increased from 15 minutes to 10 minute service, O-Train capacity would be increased by 50 per cent, from 1200 to 1800 customers per hour in each direction.





This solution would also decrease the number of buses required during the construction of the light rail line by using the existing fixed infrastructure and reducing overhead. Implementing the new trains would avoid short-term bus acquisitions, stranded costs or higher cost leases required to accommodate the construction of the light rail system.

In early 2011, staff will be evaluating the business case for expanding the capacity of the O-Train service to carry more customers at a lower operating cost than buses. The business case will be presented to the Transit Commission before May of 2011, so that necessary improvements in service can be made in time for light rail construction.





3 MANAGING SERVICE DURING LIGHT RAIL CONSTRUCTION

During construction of the light rail tunnel, the impact on operations on downtown streets, depending on the requirements for periodic lane closures on Albert, Slater, and Rideau streets will be limited. The more significant and challenging impacts will occur when the Transitway is closed for conversion from a busway to a light rail line between the Blair and Laurier stations, and between the LeBreton and Tunney's Pasture stations. In these sections, the Transitway must be closed when construction begins, and will not reopen until the light rail line is complete.

The light rail project team is working very closely with Transit Services, Planning and Growth Management, and other City departments, as well as important provincial and federal stakeholders to identify ways to minimize the impact of construction on transit operations. Construction will affect travel times, as well as the number of buses required to deliver suitable transit services.

When the Transitway closes for construction, current bus operations will need to move onto other corridors, which may be on arterial roads, Highway 417, the Ottawa River Parkway, or in some cases, temporary connecting roadways.

For example, staff are in discussions with the Province on the timing of the MTO's proposed widening of Highway 417. This may allow the opportunity to use new lanes as bus-only lanes until light rail opens.

Final details of construction staging will only be known once the preliminary engineering is completed, the constructing contractor selected, and their construction staging is confirmed. In the interim, preliminary engineering now underway will provide a better understanding of the requirements and a general estimate of the effects of construction on the Transitway. It is anticipated that this information will be available for the 2012 Business Plan.

Current estimates are that disruption from construction will start in 2014 and will increase in 2015 / 2016, reaching its highest level in 2017 / 2018, before the light rail line opens in 2019.

As a result a large number of extra buses, along with their operating and maintenance costs, would be required to ensure adequate transit service capacity for customers. All of these figures are consistent with those provided in the 10-Year Tactical Plan.

- 14 extra buses in 2014 / \$6 million in operating costs;
- 13 additional buses in 2015 (27 in total) / \$14 million in operating costs;





- 30 additional buses in 2016 (57 in total) / \$26 million in operating costs;
- 56 additional buses in 2017 (113 in total) / \$53 million in operating costs; and
- 5 additional buses in 2018 (118 in total) / \$58 million in operating costs.

As these additional buses would not be required after the light rail line opens, it is important to minimize the amount of money spent to establish this additional fleet size. One way of doing so would be to increase capacity of the O-Train line, as outlined earlier in this report, as there would be a continuing benefit of that additional fleet capacity and as it would reduce the number of buses required below the numbers shown above. Another way would be to extend the life of buses that are due to be retired during 2017 and 2018 by one or two years. Staff will examine all feasible options to minimize the capital cost of this requirement with the recommendation to advance purchase of double-decker buses discussed earlier.

Managing the acquisition, maintenance, and disposal of these short-term extra buses, and managing the hiring and down-sizing of the short-term personnel to operate and maintain the buses is a major element of OC Transpo's business planning. Specifically, the Fleet Plan, the People Plan, and the Facility Plan are influenced by this short-term requirement. The parameters of these plans will be developed in the next few years as the engineering, design, and construction plans for the light rail line are developed.





4 FINANCIAL IMPACT

The 2011 Budget operating budget highlights a budgetary deficit of \$8.6 million which, if left unchecked, will continue to grow despite the recovery in the revenue and improvement in cost ratios. If the changes contained in this Business Plan are not implemented, the transit system alone will drive property tax increases to at least 1.5 to 2 per cent over the next four years.

As Budget 2011 and this Business Plan propose, OC Transpo can reduce the demand for tax support and higher fares by moving quickly to redress system inefficiencies to achieve \$7.2 million in operational savings in 2011 with \$22 million in additional efficiencies projected versus the status quo in 2012. These break down as follows:

Initiative	2011	2012
Double Decker Bus Advancement		\$2.5 M (growing to \$10 M)
Moving from 98.5% to 95% of		
customer within a 5 minute walk		
during peak	5.9 M	\$17.7 M
Moving from 99.6% to 95% of		
customers within a 10 minute		
walk during off-peak	.6 M	\$1.8 M
Operating efficiencies	.8M	
Total	\$7.3 M	\$22 M

The Business Plan is driven by conservative assumptions in demand which in the near term follow Conference Board forecasts as described in the 2011 Marketing Plan and aligns with the ridership forecasts with the introduction of light rail. Expectations of inflation are consistent with the last plan at 2.5 per cent. Fuel costs are expected to rise more aggressively in the near term with longer term rate increases expected to be more moderate.

Financial and Operational Results

Without the network optimization savings of \$22 million, it will be difficult and costly to increase frequency and expand service to new areas, ridership growth will stall, and service standards would be compromised through increased crowding of buses or being unable to boost service in high demand areas.

The plan calls for delivering additional efficiencies internal to transit operations. It



is expected that introduction of the Smartcard, moving to paperless processes and simplification of business systems will generate operational savings. New revenue will arise from making better use of marketing opportunities. The two universities have also been informed that it is the City's intention to achieve revenue-neutrality for the U-Pass from the 2012-2013 academic year onward.

The new articulated fleet and the continued conversion to higher capacity vehicles will enable further operating savings. These vehicles enable the same demand to be met with fewer service hours. Lower service hour requirements results in savings from bus operator wages, less fuel consumed, and reduced need for maintenance, saving both labour and part costs. With higher reliability, the availability of the newer fleet is boosted resulting in fewer bus purchases overall and reduced costs of ownership.

Comparison to 10-Year Transit Tactical Plan

In comparison with the 10-Year Tactical Plan, the efficiencies of the light rail transit system and moving to a trunk and feeder system remain for the coming years. However, Budget 2011 advances the Tactical Plan's implementation of the network optimization. This business plan recommends moving now to adhere to Council's existing policy standard of 95 per cent of customers within a 5 minute walk of transit service during peak periods and a ten minute walk at off-peak times. Further network design changes will be possible with the opening of the light rail line in 2019. Additional productivity savings will be possible at this time.

The 2011 plan improvements include the \$9 million in direct operating costs savings attributable to the New Flyer articulated bus acquisition in 2010 which had not been anticipated in the earlier plan. A further \$6.5 million in savings is also anticipated in 2011 from the network optimization.

By 2019 the compliance to area coverage standard amounts to savings of approximately \$25 million. The changing fleet composition including the introduction of double-deckers as an efficient solution to high volume routes results in a \$31million in savings. Last, a more conservative ridership forecast allows for more modest operating growth reducing net operating costs at 2019 by \$16 million.

Cost of Mitigation During Construction of the Light Rail Transit System

The costs associated with congestion mitigation during the construction phase of the light rail system has been retained from the 10-Year Tactical Plan. These costs are not included in the above results and form part of the capital estimates for the first phase for light rail construction. Further, these costs do not contain provisions for



expansion of the O-Train but will underpin efforts to evaluate the cost effectiveness of a rail solution on the North South access to downtown versus added bus capacity.

Construction Costs and Fleet Requirements					
	2014	2015	2016	2017	2018
Operating cost due to detours	6,205	12,720	26,077	53,457	58,310
Revenue loss due to detours	1,252	2,566	5,260	10,783	11,052
Buses leased due to detours	1,082	1,980	4,314	8,725	8,687
Total Construction Costs	8,538	17,266	35,651	72,965	78,050
Fleet Requirement	14	27	57	113	118
Additional Revenue Hours (000)	30	60	120	240	255
Additional Revenue Kilometres (000)	794	1,587	3,175	6,350	6,754

Capital Costs to Sustain the Transit Operation

Transit has forecast its capital needs directly related to continued operation of the system. This would exclude capital estimates for light rail and expansion of Transitway infrastructure. These estimates will form part of the Long Range Financial Plan and Capital Program Review to be tabled later in 2011. These costs incorporate support capital in areas of Information Technology, facility lifecycle maintenance and upgrading of remaining Transitway assets not converted in the first phase of light rail construction.

Transit Capital										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bus Growth, Replacement, Refurbishing	77,543	24,420	27,335	13,580	20,195	70,555	62,570	59,530	102,000	27,505
Normal Transit System Growth	20,852	12,876	7,464	16,291	22,824	38,072	68,785	71,546	9,030	9,585
Renewal of Facilities and Equipment	42,645	4,000	4,500	4,000	4,000	3,000	3,000	3,200	3,200	3,200
Para Bus Replacement	0	13,000	0	0	0	0	0	0	0	13,000
Transit Strategic Initiatives/Regulatory	18,710	5,525	6,950	1,355	5,120	1,055	1,330	3,220	3,105	3,305
Total Capital Costs (OC Transpo)	159,750	59,821	46,249	35,226	52,139	112,682	135,685	137,496	117,335	56,595

The 10 year investment plan above totals approximately \$900 million dollars. Funding comes from various sources including development charges for growth related projects, provincial and federal gas tax funding intended to increase transit investment and the transit tax levy.

A significant source of funding had been the Ontario Bus Replacement Program which shared one third of the capital cost of replacement buses. Approximately \$75





million of funding would have applied to the current 10 year capital bus replacement forecast. This represents a further pressure on the taxpayer and again demonstrates the need for increased productivity.

Higher performing assets, leveraged to minimize the cost of capital, while allowing flexibility to meet changing demands as the network transitions to its future state is a requirement to transit's financial sustainability. Operating and investment plans must be integrated to this effect.





5 PERFORMANCE INDICATORS

All long-term sustainability plans revolve around OC Transpo's key performance indicators. The Financial tables above reflect the 11 priorities established by OC Transpo and Council.

Year-to-Year Bus Service and Fin	ancial Indica	tors	;																
	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020
Bus Revenue Hours (000)	1,891		1,774		1,689		1,683		1,724		1,762		1,815		1,882		1,677		1,799
Bus Service Hours (000)	2,590		2,430		2,314		2,306		2,361		2,414		2,487		2,578		2,297		2,464
% Change in Service Hours			(6.2%)		(4.8%)		(0.4%)		2.4%		2.2%		3.0%		3.7%		(10.9%)		7.3%
Bus Cost per Revenue Hour	\$ 131.2	\$	138.5	\$	147.4	\$	154.6	\$	159.2	\$	163.9	\$	168.1	\$	172.3	\$	178.6	\$	182.3
Passengers per Revenue Hour	53		57		62		64		64		64		64		64		75		74
Ridership	100,119		101,951	1	104,544	1	107,279	:	110,283	:	113,371	1	16,545	1	119,808	1	126,218	1	32,974
Ridership per Capita	108.1		109.2		110.9		112.9		115.0		117.3		119.5		121.8		127.2		132.9

Ridership

With the change in average fare maintained at 2.5 per cent from year to year, Table 3 indicates how ridership is forecast to increase year to year, with a sizeable jump in 2019 coinciding with the opening of the light rail line. Table 4 shows that ridership per capita would also keep increasing year to year.

Network Optimization

As we implement the standard of 95 per cent of households being within a 5-minute walk from a transit stop or station, network optimization will bring improved efficiency. Table 3 shows that the number of service hours, which drives operating costs, decreases from 2011 to 2014. Growth can then be accommodated from that point until the light rail line opens. The adjusted network design will also have a favourable effect on the number of buses required for service, shown in Table 4.

Occupancy

With the improved network design, occupancy, expressed as the number of passenger-hours per seat-hour will increase. Service productivity, in passengers per revenue hour, will also increase as shown in Table 3. Service productivity will further be increased with the revised fleet size requirements, shown in Table 4.

Service Availability

The key objective of the Maintenance Total Rebuild program is to increase the availability of buses for service and their reliability while in service, and reducing mainte-





nance costs at the same time. This has a direct and favourable effect on the bus cost per revenue hour shown in Table 3 and the required fleet size shown in Table 4.

Reliability

Process improvements in maintenance, initiatives in operational support and heightened focus on on-time performance all contribute to increase reliability. Reliability generates financial and resource savings, and it increases customer satisfaction and loyalty.

Security and Safety

Operational support activities aimed at maintaining the high perception of security that our transit system already fosters has a favourable effect on support costs and increases customer satisfaction and loyalty. The same holds true for safety initiatives, which further influence variable operating costs favourably.

Revenue-Cost Ratio

Fare revenue will increase sizable from 2011 to 2012. Non-fare revenue would also increase through innovative advertizing streams, partnerships and sponsorships of various types. On the cost side, process improvements, increased reliability and various administrative initiatives will contribute to keep the operating costs low. As a result, revenue-cost ratio is expected to increase further from 2012 to 2018. The opening of the light rail line in 2019 is also expected to add significant to revenue-cost ratio improvements.

Greenhouse Gas Emissions

Minimizing the size of the required fleet, as shown in Table 4, and populating it with newer, more fuel efficient and cleaner buses will keep emissions low, as well as keep variable costs down.

Accessibility

The approach of the Fleet Plan would make the fleet younger faster, allowing for the entire fleet to be fully accessible earlier than planned previously.

Customer Satisfaction

All of these indicators form a part of how we measure customer satisfaction. If successful in improving the other areas – reliability, safety, and accessibility – OC Transpo improves the service for transit customers in the city of Ottawa.





6 CONCLUSION

Budget 2011 provides the resources and policy direction for OC Transpo to move forward with a strong plan, which will result in higher quality service and a more financially sustainable transit system. This Business Plan, along with future Annual and Quarterly reports, will continue the momentum required to achieve the reform of transit in Ottawa.



Each year the Business Plan will form an opportunity for Council to provide policy direction for the Transit Commission to implement system improvements.

The initiatives and plans contained in this year's Business Plan build on the lessons and directions of the past. The entire OC Transpo team looks forward to working with the new Transit Commission to set in motion these directions, which will achieve a sustainable transit system – one that will be cost effective for taxpayers and one that will produce excellent service for all customers.





APPENDIX A

TEN YEAR BUSINESS PLAN

Table A-1										
Recommended Scenario										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bus Costs	256,337	253,942	257,256	268,456	274,400	288,926	305,185	324,366	299,531	327,994
N-S Rail Costs	5,101	5,232	5,434	5,677	5,819	5,965	6,114	6,267	6,423	6,584
Core Rail Costs	-	-	-	-	-	-	-	-	19,154	19,483
Operational Support Costs	47,623	50,329	51,799	53,432	54,768	56,137	57,541	58,979	60,454	61,965
Corporate Support Costs	19,634	20,125	20,628	21,144	21,673	22,214	22,770	23,339	23,922	24,520
Administrative Initiatives	0	-500	-1,000	-1,500	-2,000	-2,050	-2,101	-2,154	-2,208	-2,263
Subtotal	328,694	329,128	334,117	347,209	354,660	371,192	389,508	410,797	407,277	438,284
Para Transpo	29,641	30,220	30,889	31,585	32,374	33,184	34,013	34,864	35,735	36,629
Capital Contribution	81,211	94,227	99,795	101,364	103,234	105,340	107,516	109,766	133,165	135,865
Total Costs	439,546	453,576	464,801	480,158	490,268	509,716	531, <mark>0</mark> 37	555,427	576,178	610,777
Fare Revenue	-162,848	-170,794	-180,939	-190,315	-200,535	-211,304	-222,650	-234,606	-253,337	-273,570
Para Transpo Revenue	-1,957	-2,006	-2,056	-2,107	-2,160	-2,214	-2,269	-2,326	-2,384	-2,444
Other Revenue	-4,062	-4,562	-4,562	-5,562	-6,562	-6,726	-6,894	-7,066	-7,243	-7,424
Provincial Gas Tax Revenue - Operatior	-16,329	-16,329	-16,329	-16,329	-16,329	-16,329	-16,329	-16,329	-16,329	-16,329
Provincial Gas Tax Revenue - Capital	-10,246	-18,871	-18,871	-18,871	-18,871	-18,871	-18,871	-18,871	-18,871	-18,871
One-time Funding	- <mark>8,6</mark> 25	0	0	0	0	Ó	0	0	0	0
Total Revenue	-204,066	-212,561	-222,757	-233,184	-244,457	-255,444	-267,013	-279,198	-298,164	-318,637
Net Tax Requirement	235.480	241.014	242.045	246.974	245.812	254.272	264.024	276,228	278,014	292.140
% Change in Net Tax Requirement	,	2.4%	0.4%	2.0%	-0.5%	3.4%	3.8%	4.6%	,	
Ridership	100,119	101,951	104,544	107,279	110,283	113,371	116,545	119,808	126,218	132,974
% Change in Ridership		1.8%	2.5%	,	2.8%	2.8%	2.8%	2.8%	,	5.4%
	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%

