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YORK REGION TRANSIT CONVENTIONAL TRANSIT PERFORMANCE REVIEW

The Transit Committee recommends the following:

- 1. The presentation by Irene McNeil, Manager, Service Planning, York Region Transit, be received;**
- 2. The recommendation contained in the following report, April 22, 2008, from the Commissioner of Transportation Services, be adopted.**

1. RECOMMENDATIONS

It is recommended that this report be received for information.

2. PURPOSE

This report evaluates the 2007 performance of the York Region Transit (YRT/Viva) system and provides an overview of the system's performance based on commonly used industry indicators. It also compares YRT/Viva performance with selected transit systems in the GTA and elsewhere in Canada. This report reflects conventional transit services only (including Viva) and does not pertain to YRT's Mobility Plus service.

3. BACKGROUND

Key indicators have been applied to measure system performance and to facilitate continuous improvement

Performance measurement and benchmarking is used to monitor performance, enhance accountability, provide a basis for continuous improvement initiatives and provide strategic direction for the delivery of services. In several recent employer and resident surveys, public transit and traffic congestion in general, continue to be considered 'top-of-mind' issues. For example, an Environics survey conducted in Fall 2007 found that 27% of York Region residents feel that transit use would increase if it were more accessible and available, and that 78% of York Region residents are in favour of dedicated public transit ways to decrease travel time and increase ridership.

The concept of performance measurement is not new to the public transit industry. For many years, Ontario transit agencies were required to submit detailed financial and

operational data in order to qualify for provincial subsidies. In addition, Statistics Canada, the Canadian Urban Transit Association (CUTA) and the Ontario Ministry of Transportation (MTO) collect and publish detailed annual system statistics and performance measures. As a result, the public transit industry is well-advanced in the development and monitoring of performance measures.

Within the transit industry, some of the more common and relevant performance indicators are typically categorized in terms of:

- **Service Provision** – Revenue Hours; Revenue Hours/Capita
- **Service Utilization** – Ridership; Passengers/Capita; Passengers/Revenue Hour
- **Financial Performance** – Revenue/Cost Ratio (R/C); Cost/Hour (Revenue Hours and Total Hours); Average Fare (Passenger Revenue/Passenger Trip); Cost/Capita; Cost/Passenger

4. ANALYSIS AND OPTIONS

YRT commenced operation on January 1, 2001, with the amalgamation of the transit systems formerly operating municipally within the Region. Since the amalgamation, transit services across the Region have been standardized and a significant amount of investment has been made to increase service coverage and levels. In 2007, YRT/Viva operated over 80 individual transit routes, as well as high school extras, GO shuttles and Express services.

When referring to York Region's transit system, Toronto Transit Commission (TTC) routes operating north of Steeles Avenue are included, since costs and revenues associated with these services form part of the total system's operating budget. The 2007 Performance Review report evaluates the system in terms of trend analysis for the past seven years and makes comparisons to a select peer group for benchmarking purposes.

4.1 PUBLIC TRANSIT PERFORMANCE INDICATORS

Public transit performance indicators provide good insight into YRT's system performance

Performance statistics have been compiled for YRT/Viva for the period 2003-2007, and for a selected peer group of transit systems for 2006 (*see Attachment 1*). In addition to this time series data, budgeted data for 2008 and 2009 is also presented and compared. The 2008 and 2009 data assume that all service improvements and associated ridership growth would be implemented as recommended in the YRT/Viva 2008 Service Plan. Since the majority of local service improvements have not passed the 2008 budget process, ridership associated with these initiatives will not materialize. The deferred 2008 initiatives will be considered again as part of the 2009 operating plan and budget. The operating expenditures associated with these deferrals will need to be implemented to

meet next year's ridership targets. It should be noted that for the peer group comparators, 2006 CUTA data is the latest available.

Individual route statistics have also been compiled (*see Attachment 2*). This data includes ridership, revenue hour, cost, and revenue statistics by route, as well as performance indicators such as revenue/cost ratio and boardings/revenue hour.

York Region is a fairly unique jurisdictional area, which makes peer group analysis rather complex. Several factors must be given careful consideration when attempting to compare performance indicators. At the end of 2007, York Region had a transit service area population of approximately 975,000, comparable to the service area of Mississauga (704,000), Calgary (991,800) or Ottawa (770,100). However, due to its suburban type of development and close proximity to a major city (with subway and commuter rail systems), the Region is more akin to the situation that exists in the city of Laval, north of Montreal.

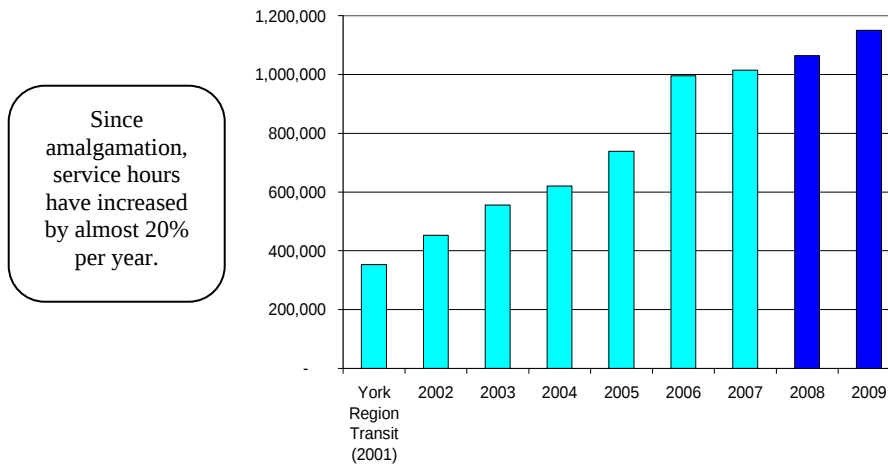
Other systems are noted for a variety of reasons. For example, TTC and Brampton Transit were chosen due to their immediate vicinity to York Region and cross-boundary travel patterns of our passengers. Mississauga, Victoria and Laval were chosen, among other reasons, for comparable fleet size or revenue hours operated. Grand River Transit (Kitchener-Waterloo) is included because they too have recently amalgamated services. Canada-wide average data (2006) is also included as an overall indicator representing the national market.

4.1.1 Service Provision – Revenue Hours

On average, service hours have been increasing by almost 20% per year

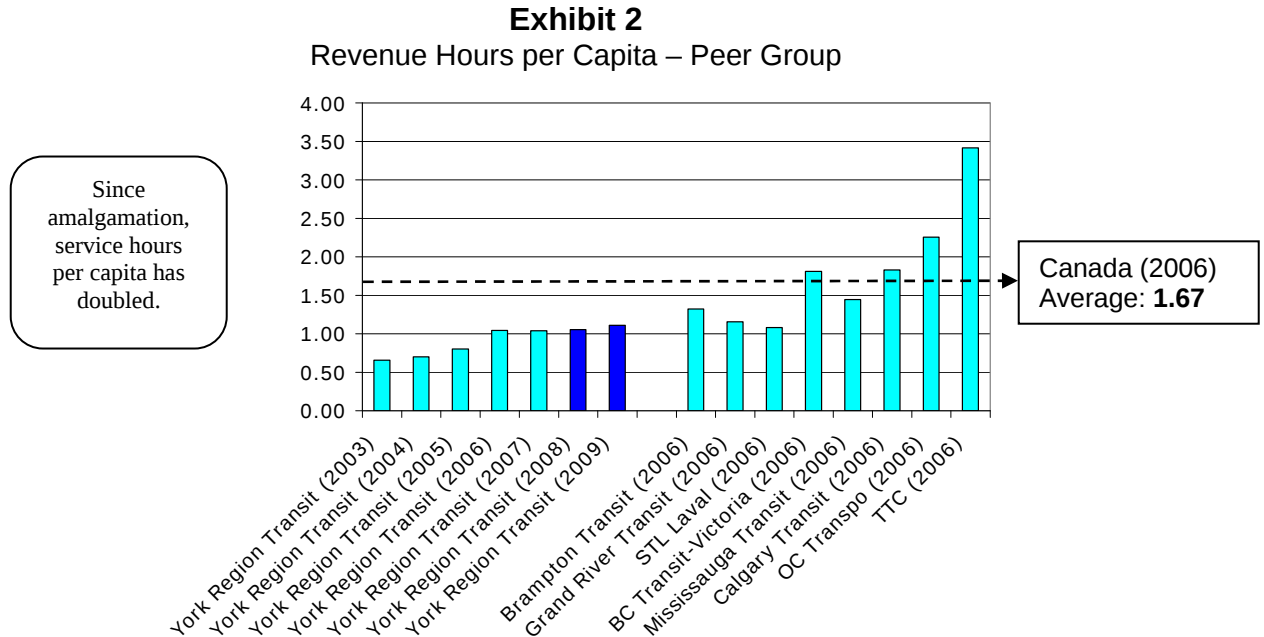
The amount of service provided is most appropriately measured by *revenue vehicle hours*. This figure represents the annual vehicle hours operated by active "in-revenue" vehicles and does not include deadheading, charters, training, road tests or maintenance related travel. Between 2001 (amalgamation year) and 2007, YRT/Viva revenue service hours have increased significantly - an average of almost 20% per year (Exhibit 1).

Exhibit 1
Revenue Vehicle Hours – York Region



Revenue hours/capita is measured by dividing hours by the service area population. Since 2001, the amount of service per capita has doubled – a significant accomplishment when taking into account the capital infrastructure lead times required to implement new services (e.g. fleet orders, terminal improvements, etc.). As indicated in Exhibit 2, this indicator has steadily increased, doubling from 0.51 in 2001, to 1.03 in 2007.

Even with these steady increases, York Region's 2007 service level is lower than the peer group's 2006 data, which ranges from 1.08 (STL Laval) to 3.42 (TTC). As indicated in Exhibit 2, even with the significant new Viva service hours implemented since Fall 2005, York Region still provides one of the lowest rates of service per capita. Having said this, it should be recognized that it is much easier to provide higher service frequencies to more highly urbanized cities with higher density corridors and well-defined downtown cores.



4.1.2 Ridership

Annual revenue ridership has grown by almost 11 million trips since amalgamation or an average of 1.8 million trips annually

Ridership is measured by *revenue passenger trips* and does not include transfers or charter trip activity. Since the amalgamation of transit services in 2001, total annual revenue ridership on the YRT/Viva system has grown by more than 10.6 million trips. It should be noted that this increase includes the shift of riders resulting from YRT's assumption of GO Transit services in the Yonge and Bayview corridors.

Ridership growth is directly related to the significant investment in service expansion, as well as growth of the Region's population and employment.

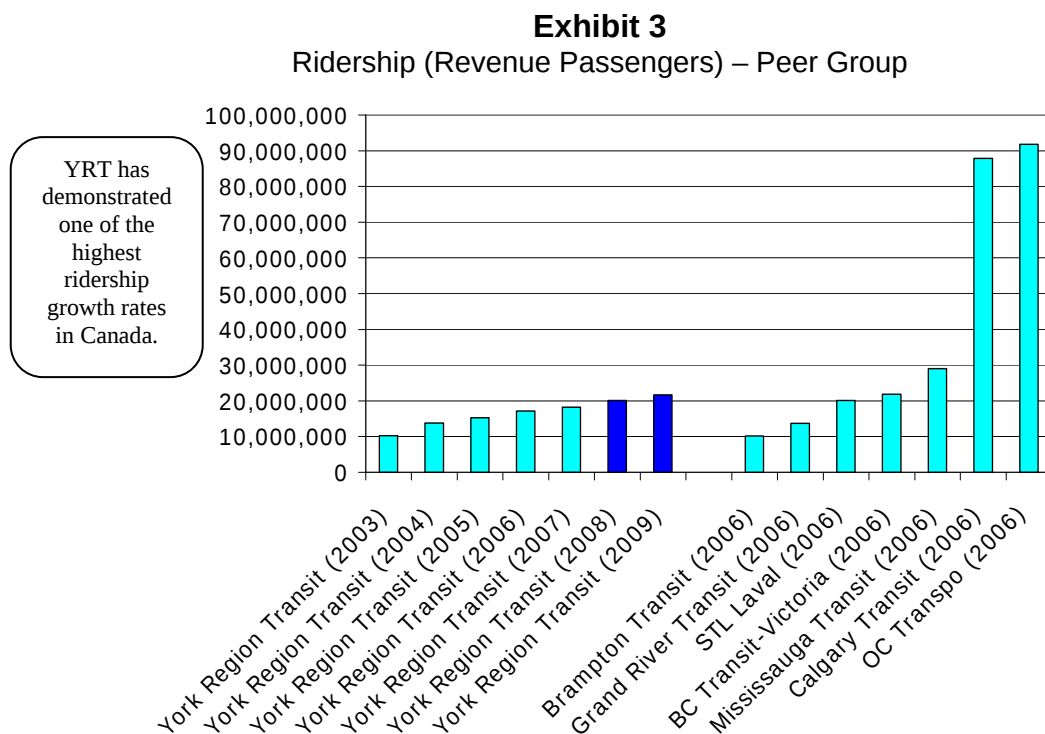
Aside from increases in service in the Viva corridors, there has been very limited increase to service levels or service coverage across other parts of the Region in the past two to three years. It is important to continue to grow the feeder network (which includes both local and core YRT routes), with particular emphasis on the provision of service to new development areas. Continued investment in service, along with the significant increase in fuel prices, a heightened environmental awareness and aggressive marketing activities, will all contribute to continued ridership growth.

In terms of peer group comparators, YRT/Viva ridership is similar to Laval or Victoria. However, many cities with much smaller population levels have significantly higher ridership levels. For example in 2006, Mississauga Transit carried more than 29 million

riders, while Ottawa reported almost 92 million trips. At the far end of the scale, TTC carried over 444 million riders or about 26 times the ridership of YRT (Exhibit 3).

Despite similar population levels, Ottawa and Calgary have significantly higher ridership levels. This can be attributed primarily to higher levels of service, including higher order transit (Ottawa's BRT and Calgary's light rail), parking fees in the downtown areas and a well-defined central employment area.

It should be noted that, with just a few other exceptions, York Region has demonstrated one of the highest ridership growth rates in Canada over the past seven years.



4.1.3 Service Utilization

Although service utilization rates are increasing (passengers/capita has doubled), continued emphasis on transit-supportive policies will help to achieve even stronger gains

In order to understand actual service utilization levels, it is important to look at ridership in the context of the service area population and the number of service hours provided. Two indicators provide these measures: *passengers per capita* and *passengers per revenue hour*. Passengers per capita measures actual market penetration, while passengers per revenue hour measures the average number of passengers riding the system during an hour of service (without regard to time of day or day of week). In terms

of passengers per capita, York Region's system levels have almost doubled - from 11.1 in 2001 to an estimated 20 by the end of 2008. The increase in trips per capita can be attributed to the significant ridership increases which are occurring at a higher rate than the Region's population growth rates.

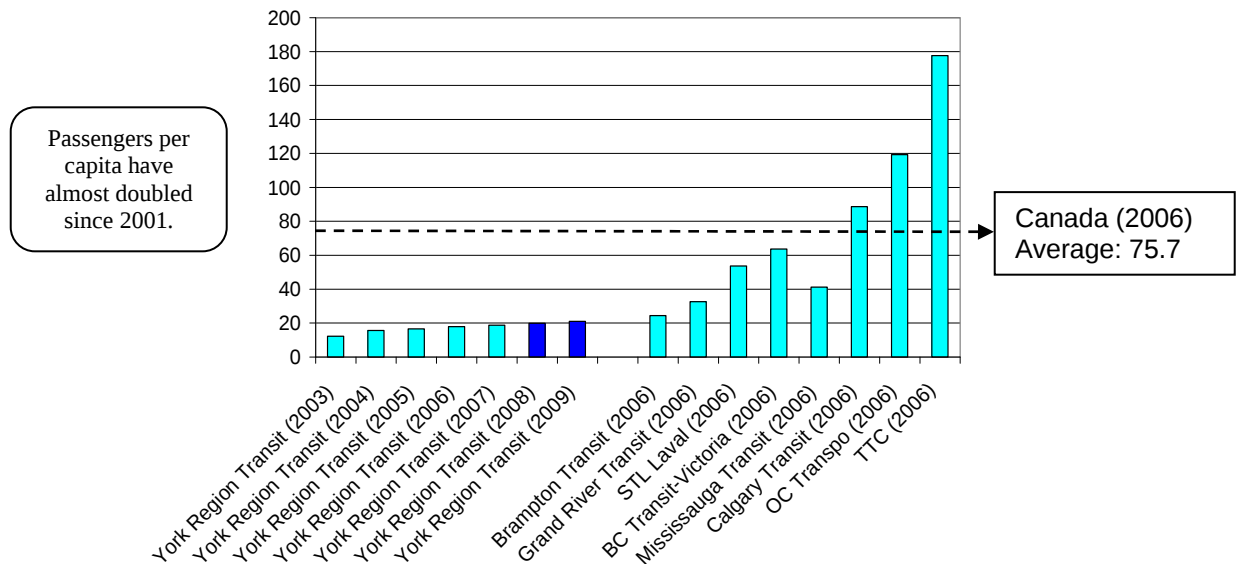
In terms of passengers per revenue hour, rates have increased, however not as consistently as the previous measure. For example, with the significant increase in service hours in 2006 (35% - due to the annualization of service hours on the Viva routes), this measure temporarily decreased from 21 to 17 passengers per hour. However, as anticipated for 2007, this indicator returned to a positive trend and achieved a rate of 18 passengers per hour. It is expected that this rate will continue to moderately trend upwards in 2008.

In the peer group, York Region's transit usage rates are still at the lower end of the scale in terms of both passengers per capita and passengers per revenue hour. YRT/Viva's market penetration in 2007 is 19 passengers/capita and is the lowest amongst the peer group which, in 2006, ranged from 24 (Brampton) to 178 (TTC), with the Canadian average being 76 (Exhibit 4).

Several factors contribute to York Region's low service utilization rate including prevailing low density development, abundant free parking, relatively high levels of income and car ownership, combined with relatively limited transit service levels.

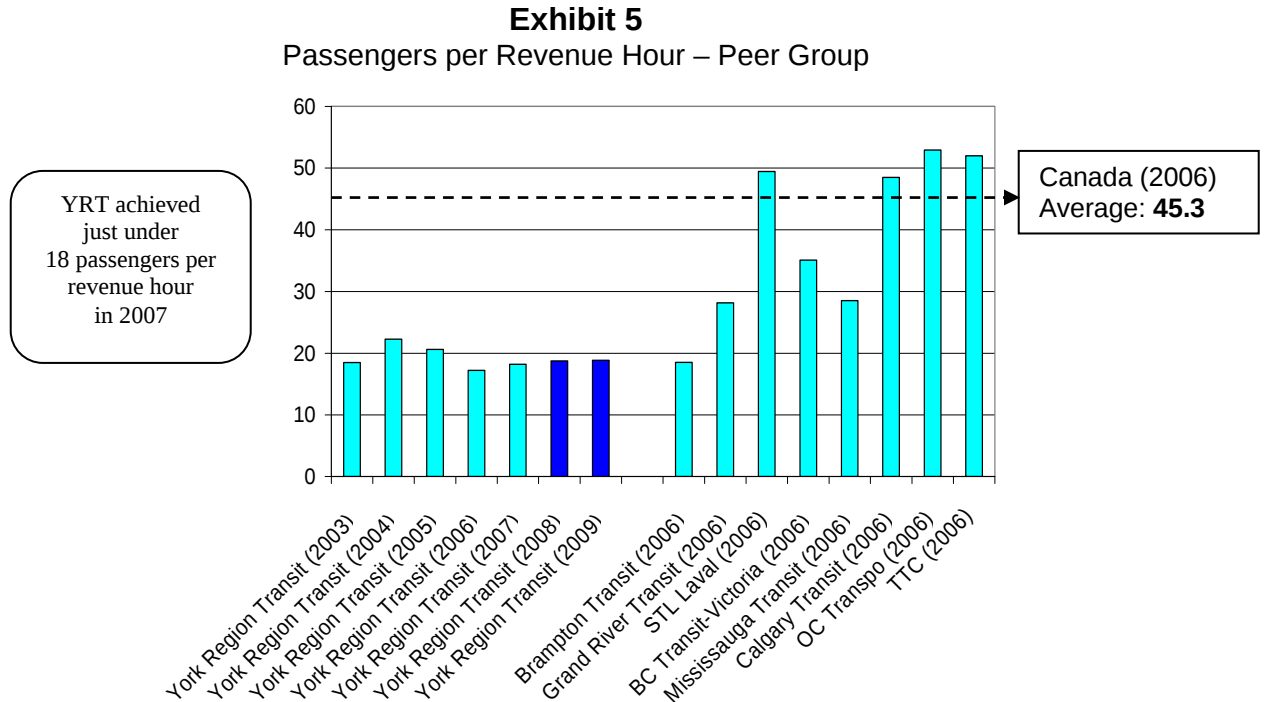
Systems like Grand River Transit and Brampton Transit both have higher levels of per capita usage. At Grand River Transit, this can be attributed to the fact that the area is home to two university campuses (University of Waterloo and Laurier) plus slightly higher levels of service. In Brampton, there are socio-economic factors, in addition to about 30% more transit service on a per capita basis.

Exhibit 4
Passengers per Capita - Peer Group



Similarly, the passengers per revenue hour rate is also lower than the peer group, although there is not as pronounced a difference as the previous utilization measure. At an estimated 2008 rate of 19 passengers per revenue hour, the 2006 peer range is between 19 (Brampton) and 53 (Ottawa). The same contributing factors as noted for the passengers/capita measure can be applied to this performance indicator (Exhibit 5).

Although transit ridership growth has increased, on average about 10% over the past five years, the Region's population has also increased by about 32,000 new residents each year. This has the effect of slowing the ridership per capita growth rate. On the other hand, the rate of ridership growth has certainly outpaced the rate of population growth, which currently is about 3.5% per year.



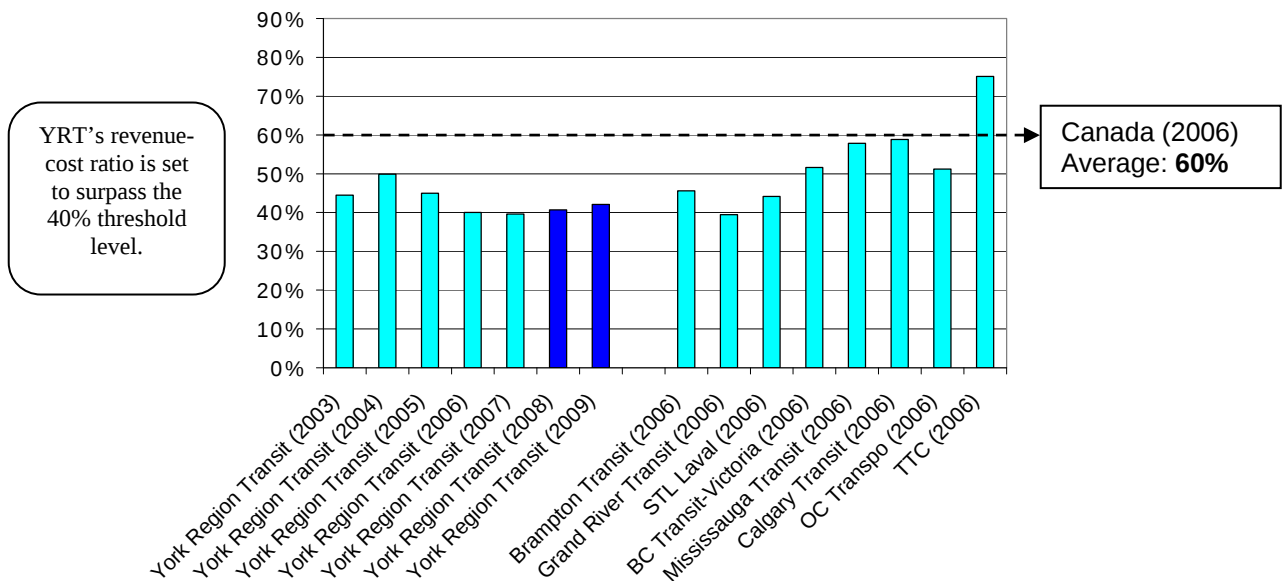
4.1.4 Financial Performance

System financial performance is affected by ridership growth rates that need time to respond to recent service-related investments

Financial performance can be measured using a variety of indicators including *revenue to cost ratio* (total operating revenues expressed as a proportion of total direct operating cost; simply referred to as r/c ratio), *net operating cost per capita* (municipal operating cost contribution after revenues divided by service area population) and *net operating cost per passenger*.

The r/c ratio is a direct reflection of the amount of annual expenditures relative to the system revenues and will fluctuate relative to the changes in the rate of expenditure and ridership levels. Although the r/c ratio has decreased since 2005 (primarily due to the operating costs associated with the introduction of Viva services), once ridership increases are realized and service levels stabilize, the r/c ratio will increase. In fact, by 2008, it is expected that the overall system r/c ratio will surpass the 40% level as a result of sustained ridership increases and less significant rates of operating cost increases. The 2009 r/c ratio is likely to improve slightly again, as a result of anticipated revenue increasing at a faster rate than expected costs.

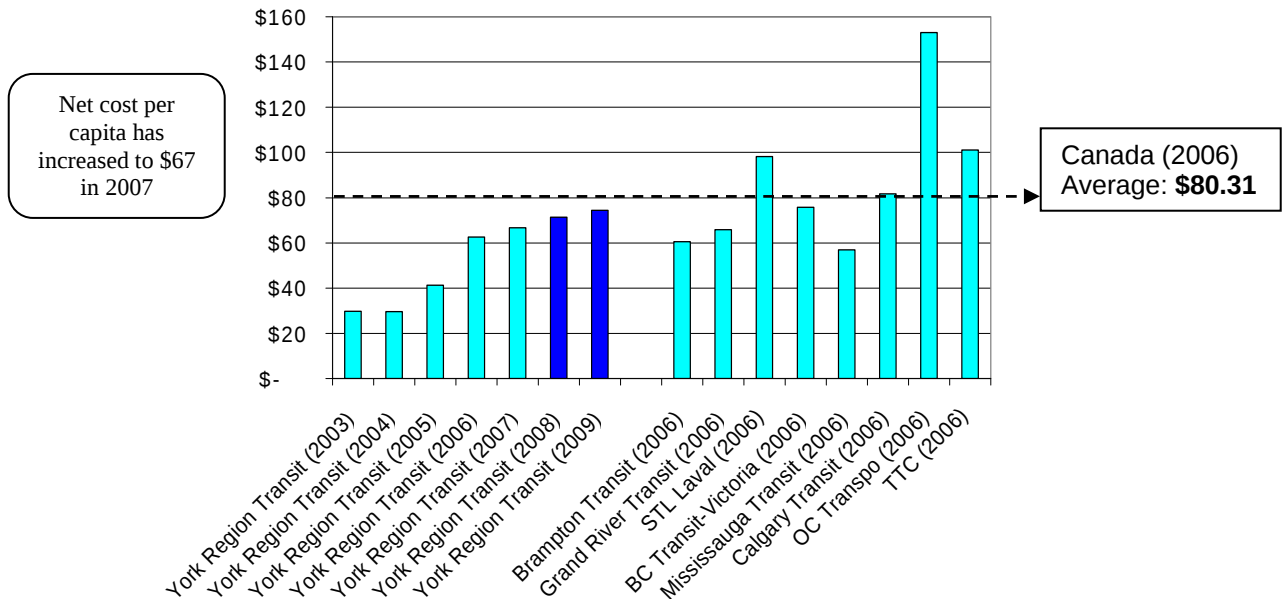
Exhibit 6
Revenue Cost Ratio – Peer Group



Within the peer group, the 2006 r/c ratios range from a low of 39% (Grand River Transit) to a high of 75% (TTC). It should be noted that TTC has one of the highest r/c ratios in Canada, and also exceeds most international cost recovery measures (Exhibit 6). This high level of cost recovery can be attributed to a mature transit system operating within a relatively high density urbanized market, a relatively high average fare and well-developed rapid transit (subway and LRT) corridors.

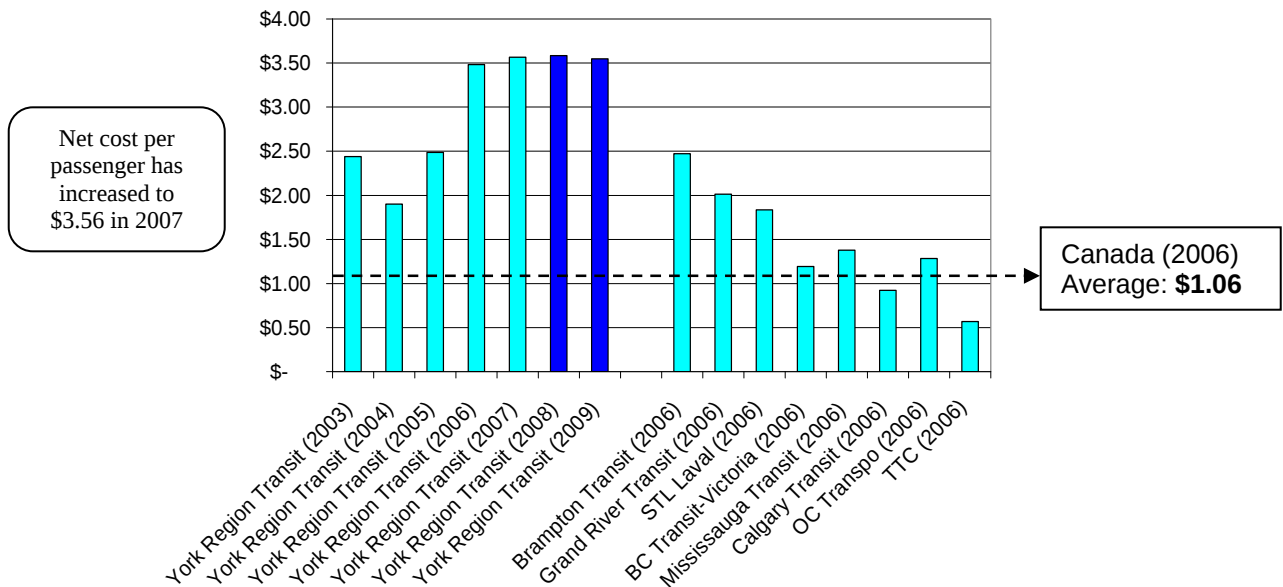
The net operating cost/capita and net cost/passenger measures provide indicators of expenditures after taking into account farebox and advertising revenues (Exhibit 7). They have risen steadily over the past several years, with the net cost/capita rate approaching \$67 in 2007 – equivalent to four times the investment made in 2001. The increase will be even more pronounced, rising to just over \$71 per capita, with the approval of the proposed 2008 budget.

Exhibit 7
Net Cost per Capita – Peer Group



In terms of peer group comparison, it is estimated that by the end of 2008, York Region's expenditures on a per capita basis will remain below the 2006 Canadian average of \$80. The range among the transit systems in 2006 varied significantly with Brampton at a low of \$60 and Ottawa at a high of almost \$153. It should be noted that the transit systems at the higher end of the range are more likely to operate higher order or rapid transit facilities and generally have more highly evolved transit programs and advanced system technologies. These comparators provide York Region with a reasonable estimate of expected per capita expenditures for the future.

Exhibit 8
Net Cost per Passenger – Peer Group



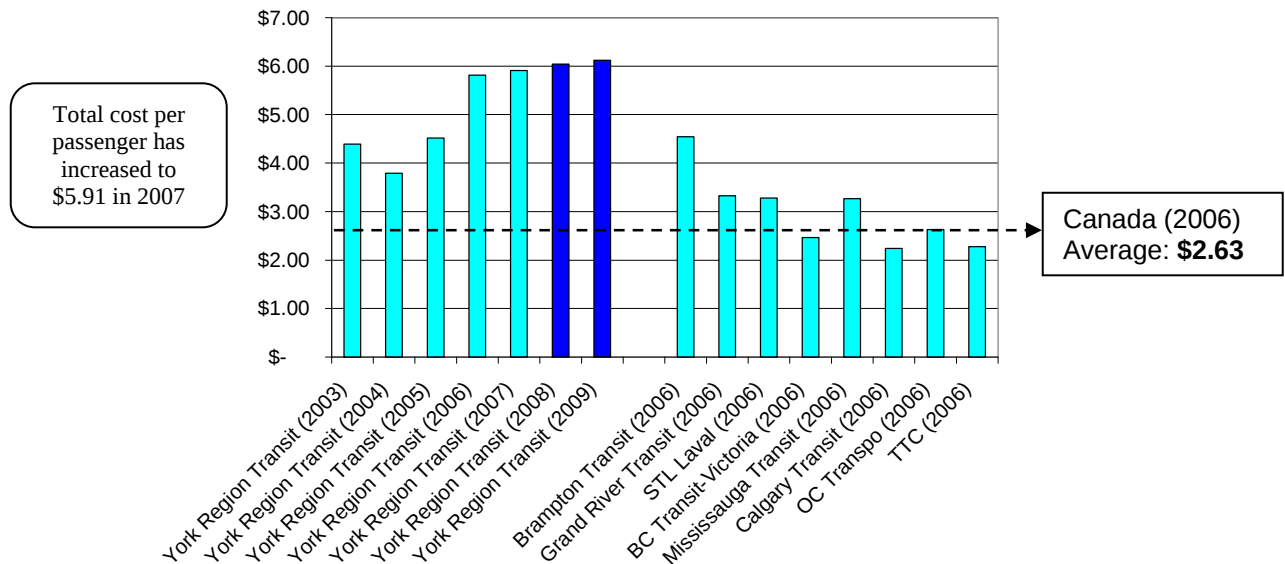
In terms of net cost/passenger peer group comparison, York Region's 2007 expenditures on a per passenger basis are relatively high at \$3.56 (Exhibit 8). The 2006 peer group ranges from a low of \$0.57 (TTC) to a high of \$2.47 (Brampton). The higher rates can be attributed to the relatively high cost of service delivery in systems with large geographic coverage coupled with relatively low ridership levels. The rate for 2008 also reflects investments in the Viva bus rapid transit program and the lag in ridership growth. Over time, this net cost/passenger figure can be expected to decline, as is anticipated for 2009.

4.1.5 Cost Effectiveness and Cost Efficiency

Total cost per passenger, and per revenue hour, have increased over the past several years due to added system capacity and higher operating costs

Cost effectiveness is measured by total cost/passenger while cost efficiency is measured by total cost/revenue hour.

Exhibit 9
Total Cost per Passenger – Peer Group



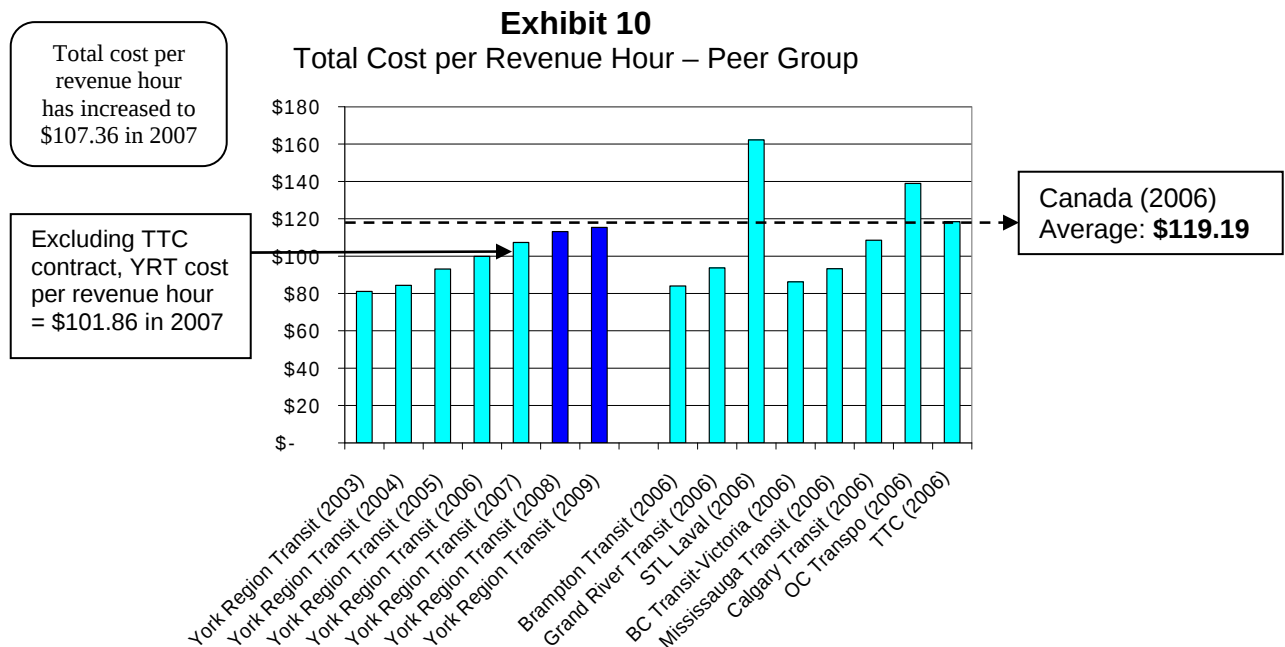
York Region's total cost/passenger in 2008 is estimated to be \$6.04 and has been increasing steadily since amalgamation (Exhibit 9). While it is true that costs have increased significantly, the cost per passenger measurement has grown largely because ridership has not grown at the same rate.

Similarly, the York Region total cost/revenue hour in 2007 was \$107.36, and has been steadily rising since 2001 (Exhibit 10). This can be attributed to direct increases in operating costs (e.g. annualization of the new Viva services, increases in call centre hours, new fare enforcement costs, introduction of smart technologies (AVL, APC), increased marketing programs, etc). There will also be a marked increase in total cost/revenue hour in 2008 to \$113.15, related primarily to higher service contract rates, fuel rate increases and expansion of smart technology to cover more of the YRT system.

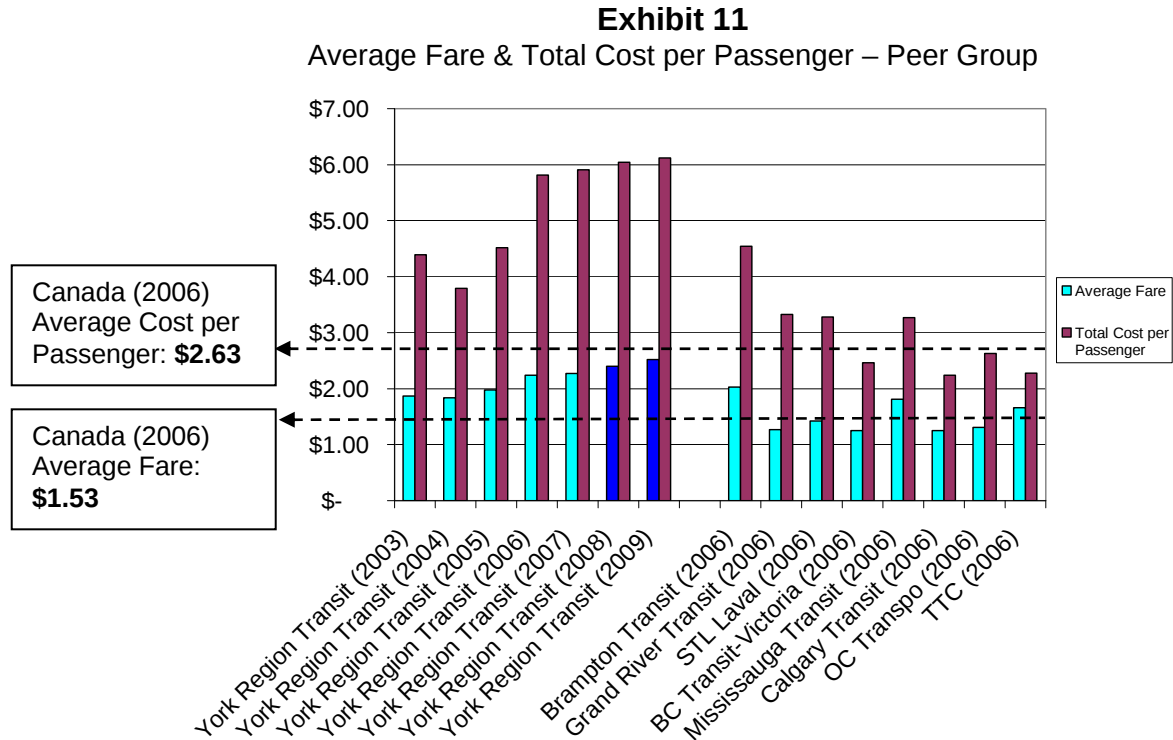
Another factor contributing to high hourly cost is the lag in ridership growth in a couple of the Viva corridors (green & orange). For example, the cost recovery in these two corridors is only 23% (annual cost = \$7.5 million, annual revenues = \$1.7 million).

York Region's total cost/revenue hour in 2007 was \$107.36 – roughly equivalent to the peer group average – and just slightly less than the 2006 Canadian average of \$119.19. The lowest cost/hour is once again in Brampton (\$84.07) and the highest being Laval at \$162.24 (it should be noted that Laval's revenue hours vs. total hours comparison are somewhat of an anomaly with almost a 50% of their total hours as non-revenue hour operation). Calgary, Ottawa and TTC all operate in the \$100 - \$140 per hour range, although this higher range can be primarily attributed to the operational costs related to rapid transit facilities (light rail, subway, BRT).

It should also be noted that the TTC contract is approximately 12% of the Region's revenue hours, which in the past has significantly contributed to our system's relatively high costs. However, with recent increases to our own operating rates, TTC operating rates are now only slightly higher than our other contractor costs. When the 2007 TTC service hours and associated costs are isolated, the 2007 YRT/Viva system total cost/revenue hour decreases to \$101.86 (from the system \$107.36). This, however, is still 15% lower than the Canadian average.



Another interesting financial statistic is the *average fare* (Exhibit 11). This measurement calculates the passenger revenues divided by passenger trips and reflects the relative affordability of the transit system. In 2007, YRT/Viva's average fare was \$2.27. This was the highest compared to the 2006 peer group which ranged from \$2.03 (Brampton) down to as low as \$1.25 (Calgary and Victoria). This relatively high rate is largely due to YRT's large market of adult commuters (70%) who are paying the higher Adult fares, as well as a large portion of fares still being paid in the cash category. It should be noted that with the Federal government's tax credit for monthly passes, cash usage is decreasing, thus having a stabilizing effect on the 2007 average fare and decreasing the portion of cash usage to approximately 38%.



4.2 RELATIONSHIP TO VISION 2026

The primary reason for undertaking a performance review is to ensure that the transit system's performance indicators are identifying trends and providing benchmarks for future strategic planning purposes. YRT's latest Five-Year Service Plan (2006-2010) did set specific targets including ridership and cost recovery targets through to 2010.

YRT's mandate also includes a major role in contributing to an increase in the Region's a.m. peak hour modal share from 8% to 12% during the same period.

Vision 2026 includes a goal statement relating to the 'Development of Infrastructure for a Growing Region', which states that:

"In 2026, York Region will have effective, efficient and environmentally sensitive transportation, waste management and water systems."

To support this goal, the Region has identified specific action areas. The following action areas have been considered for this report:

- Continuing to improve service and infrastructure for successfully integrated transit service.
- Developing an optimal mix of transit service types.
- Promoting transit usage as a practical and wise alternative to private vehicle use.

By measuring key indicators such as levels of investment (costs), returns (ridership and revenues) and various efficiency measures, York Region continues to develop a transit-supportive and thus balanced transportation network.

5. FINANCIAL IMPLICATIONS

Greater direct investment will stimulate ridership, however supportive planning and development policies will also help to improve transit modal share

As part of a continuous improvement process, the monitoring of performance measures provides YRT/Viva management and staff with the tools to evaluate both the efficiency and effectiveness of service delivery strategies. These measures and resulting trends can then be used to develop short-term budget forecasts and longer-term strategic plans. For instance, increases in transit ridership and transit service levels will have a positive impact on the transit modal split (percentage of transit market share vs. automobile use). This increase is critical if the Region is to achieve a more balanced transportation system.

The significant increase in public transit investment is resulting in record transit ridership. However, it is clear from the current performance indicators, that York Region will require still greater investments in its transit system in order to have a measurable impact on future transit market share. As noted earlier, between 2001 and 2007, annual ridership on the YRT/Viva system has increased significantly, resulting in almost 10.6 million new trips. However, these increases do not come without associated costs. Expenditures, both in terms of capital and operating, have been significant, especially when compared to pre-amalgamation levels. The result is relatively high costs on a per passenger basis (in 2006 per passenger cost was \$5.81 vs. the Canadian average of \$2.63). The YRT/Viva system total operating costs per capita are still well below expenditures in cities such as Mississauga, Ottawa or Calgary. Although there have been significant annual cost increases, it is expected that these costs will stabilize over the next couple of years and that the overall system cost recovery rate will slowly improve as ridership increases surpass the rate of investment.

Investment in public transit cannot be made in isolation. Public policies governing planning and development practices to encourage higher density development are also needed to support a more supportive public transit environment. Paid parking policies, transportation demand management initiatives, GTA integration and solid marketing campaigns are all factors that can contribute to bringing about a demonstrable, positive change in transit usage.

6. LOCAL MUNICIPAL IMPACT

Monitoring performance measures provides staff with the necessary tools to make good decisions regarding service improvements. The YRT/Viva system is comprised of over 80 routes operating across the Region. Each route is evaluated on an individual basis as part of the annual service plan review. As a result of this review, service level improvements, possible route restructurings and monitoring of service standards will continue in order to increase ridership levels and improve convenience and efficiency.

7. CONCLUSION

Public transit performance indicators measure service provision, ridership levels and service utilization. Over the first six years of amalgamation, although YRT/Viva experienced significant increases in both ridership and service levels, the passengers/capita and cost recovery indicators were still below those of many other transit systems. With the implementation of Viva in September 2005, investment in smart technologies and off-board fare payment directly affected system costs. In addition, the use of performance-based contracts and higher cost of fuel and insurance rates, financial performance will need to be closely monitored to ensure the effective use of transit funds.

It is envisioned that, with the continued introduction of higher level transit services (eg. Viva Phase 2, the Presto Smart Card and subway expansion projects), increased population and employment density will follow, resulting in significant increases in transit market share.

Along with financial investment and targeted marketing campaigns, a demonstrated commitment to supporting increased development densities and transit supportive development will also be required, particularly in the main transit corridors.

In summary, a number of indicators provide clear direction in terms of future transit strategy:

- YRT/Viva net cost/capita is below average for systems of our size, indicating the need for continued financial investment.
- The low service utilization rates represent the most significant challenge - not only do we need to increase ridership, but a real change is needed in the overall transit market share.
- The relatively high operating cost per hour also needs to be closely monitored to ensure that service delivery is efficient while at the same time service demand is met. Market factors such as contractor rates, fuel and insurance costs have had a significant impact on total system costs. To a lesser extent, marginally higher costs for the contracted TTC routes have also impacted costs.

- For the two months of 2008, ridership increased by 6%. Although this increase is somewhat lower than expected, ridership increases should continue throughout this year and next, as approved service initiatives are implemented, resulting in ongoing ridership gains and an upward trend towards more positive performance indicators.

For more information on this report, please contact Irene McNeil, Manager, Service Planning (ext. 5628) in the Transit Branch of Transportation Services.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)