

Background

Bus Rapid Transit (BRT) is an alternative mode of public transportation that is often considered superior to the conventional bus system. The purpose of this report is to compare a newly established BRT system (VIVA) to a well-established BRT system (OC Transpo), to examine the strengths of BRT, establish how BRT systems can learn from one another, and determine how to improve current systems to become more attractive to potential riders. This report seeks to answer three related research questions:

1. How does York Region's BRT system compare to Ottawa's BRT system?
2. What can York Region Transit learn from OC Transpo?
3. What can OC Transpo learn from York Region Transit?

These questions will be answered using a case study comparison, examining and comparing seven common BRT criteria taken from the literature.

Case Study Cities

York Region is located within the Greater Toronto and Hamilton Area (GTHA), just north of the City of Toronto and is comprised of nine towns and cities (See Figure 1).

Figure 1: York Region

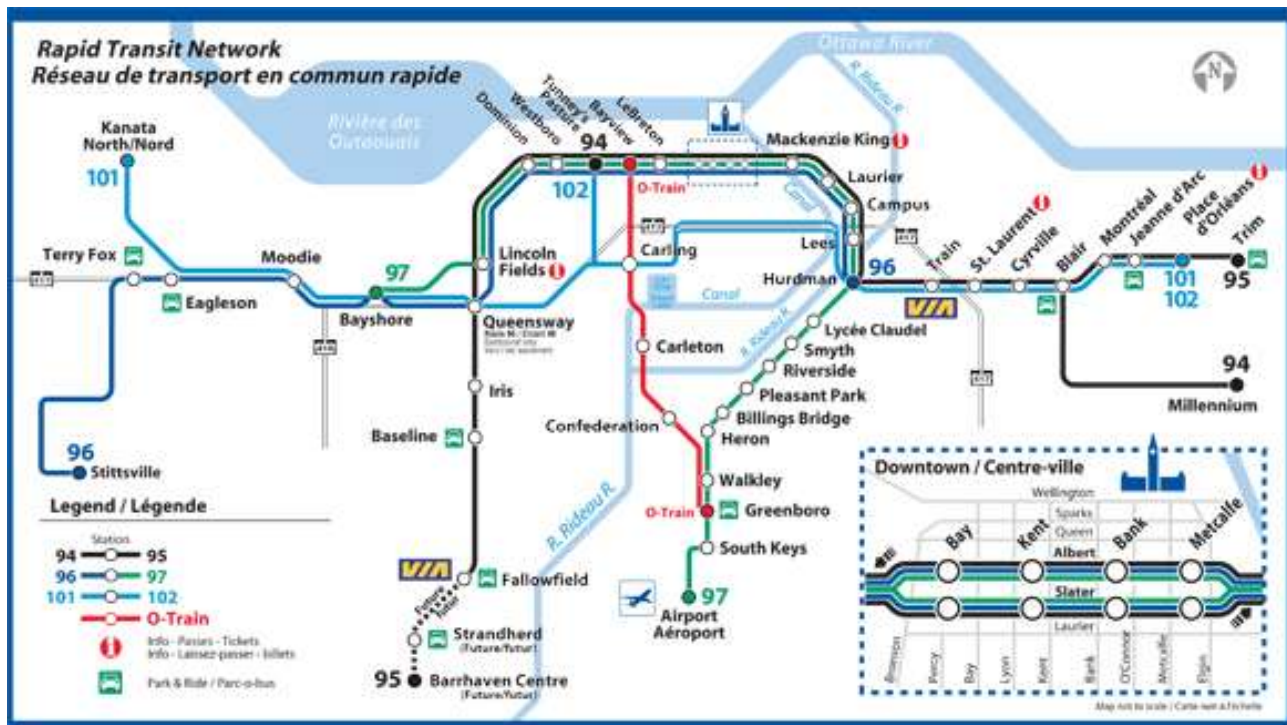


York Region is one of the fastest growing areas in the GTHA and population and employment levels are on the rise, which has led to increased traffic and congestion. York Region Transit (YRT) is the agency that provides transit service across the Region and they developed a BRT

system “VIVA” in 2005. VIVA currently runs on five routes and uses articulated buses which are branded as specialized rapid transit vehicles. The goal of VIVA is to increase transit mode share in York Region, as well as to support Transit Oriented Development and attract new riders to bus transit. Phase One of VIVA is complete, and Phase Two is currently underway, which consists of the development of five separated running ways to increase service efficiency and reliability.

Ottawa is Canada’s capital City and is located in Eastern Ontario, adjacent to the Quebec border. Ottawa is considered to have one of the best BRT systems in North America, due to its development of the Transitway. The Transitway opened in 1983 and comprises of over 30 kilometers of separate roadway specifically for buses. The Transitway currently spans across the entire City, serving approximately 100 million passengers every year (See Figure 2). The success of Ottawa’s BRT system and Transitway is due to early transit supportive policies in the 1970s and 1980s, as well as a lot of government funding.

Figure 2: OC Transpo’s Transitway System



Methodology

This report uses a comparative case study to compare YRT’s VIVA system to OC Transpo’s BRT system. The two systems are compared based on seven common BRT criteria extracted from two Transit Cooperative Research Program (TRCP) reports and include: running ways, stations and bus stops, vehicles, fare collection, route structure and servicing, ITS technology and marketing and branding. Data was collected using three methods: document review, observations and interviews. Each criteria contains common features and elements that are compared and displayed in a variety of tables. A summary of the general comparison is outlined below in Table 1.

Analysis

Table 1: Summary of York Region Transit and OC Transpo's BRT Criteria Comparison

BRT Criteria	York Region Transit	OC Transpo
Running ways	<ul style="list-style-type: none"> No running ways present - VIVA buses run in mixed traffic 	<ul style="list-style-type: none"> Has its own Class 1 running way (the Transitway)
Stations and Bus Stops	<ul style="list-style-type: none"> Clearly branded "vivastations" Real-time information present at all stations Wide variety of passenger amenities Lacks security and public telephones and trash containers at stations and bus stops 	<ul style="list-style-type: none"> Lacks station and Transitway branding No real-time information at any stations Wide variety of passenger amenities Security and public telephones and trash cans are located at all stations and bus stops
Vehicles	<ul style="list-style-type: none"> 40 and 60 ft. buses Interior and exterior branding Passenger information on-board Electronic signboards and automated voice announcements 	<ul style="list-style-type: none"> 40 and 60 ft. buses Limited exterior branding and no interior branding No passenger information on-board Electronic signboards and automated voice announcements
Fare Collection	<ul style="list-style-type: none"> Off-board, proof-of payment only Accepts passes (weekly or monthly) Fare zones 	<ul style="list-style-type: none"> On-board and off-board payment Accepts passes (weekly or monthly) System-wide fares
Route Structure and Servicing	<ul style="list-style-type: none"> No express routes Limited peak/counter peak routes 5 BRT routes 3.5 minutes – 11 minutes peak wait times 	<ul style="list-style-type: none"> Many express routes Many peak/counter peak routes 8 BRT routes 2 minutes – 3 minutes peak wait times
ITS Technology	<ul style="list-style-type: none"> All buses equipped with GPS technology Real-time information No task-force 	<ul style="list-style-type: none"> Some buses equipped with GPS technology No real-time information Transit Priority Task Force
Marketing and Branding	<ul style="list-style-type: none"> Offers promotional programs Extensive branding and unique system name 	<ul style="list-style-type: none"> Offers promotional programs Limited branding and lack of system name

Conclusions

The most significant difference between the two BRT systems is the running way criteria; OC Transpo has a famous Transitway system which consists of a separate roadway for buses only. In contrast, YRT currently has no running ways. However, YRT has managed to provide a rapid bus service that is more reliable and efficient compared to the conventional bus and is currently in the process of developing five rapidways. The two systems have many of the same features and benefits, but another major difference is the fact that Ottawa's government supported rapid transit years ago, before York Region Transit even existed. Lastly, this research has demonstrated that both YRT and OC Transpo can learn from each other. Each system has key strengths, but also areas for improvement. The lessons learned from each BRT system is translated below into recommendations.

The use of qualitative methods has demonstrated the role that BRT has in the public transportation industry, including the specific features that this type of bus service offers, compared to a conventional bus system. Learning about the strengths and weaknesses of both BRT systems can help planners to understand BRT's influence on public transportation, including ridership levels.

Recommendations

Recommendations for York Region Transit

- Continue with VIVA rapidway construction and model its design after OC Transpo's Transitway
- Connect and expand future rapidways to allow for greater running way service
- Install security telephones and/or public telephones at all Viva stations
- Provide trash cans at every Viva station
- Increase the amount of information on VIVA's electronic signboard to include the current time and upcoming intersection at the next stop
- Install two ticket vending machines at all Viva stations
- Offer a wider variety of peak-hour and express routes
- Add more traffic signal priority measures to VIVA's system
- Develop and implement a Transit Priority Task Force
- Create a YRT/VIVA customer service centre located in a high passenger volume area
- Offer more marketing and advertising campaigns (e.g. reduced rate for university students and free transit to seniors on a specific day)

Recommendations for OC Transpo

- Install real-time information at all Transitway stops and stations
- Equip a greater percentage of OC Transpo's fleet with Automated Passenger Counting
- Improve branding for the Transitway and Transitway vehicles
- Provide more on-board passenger information (e.g. maps, brochures, or advertisements)
- Implement a two-hour use on all fare purchases
- Consider the possibility of implementing fare zones for the entire system