

Improved B Line attracts transit riders

City of Hamilton, Ontario



An articulated bus displays the new B Line branding. (Photo: David Arthur)

OVERVIEW The City of Hamilton launched several initiatives to improve one of its main express bus routes. These were the first steps toward eventually introducing rapid transit. Since 1986, Hamilton has seen significant growth in traffic on the primary east-west corridor known as the B Line. The project involved buying 12 hybrid buses (including seven articulated ones), expanding the express route's hours of service, increasing frequency and improving bus shelters. It also involved a B Line branding initiative. These measures succeeded in getting people to choose bus transit over private automobiles, increasing ridership on the B Line significantly despite a slight system-wide drop in ridership. While clocking more kilometres and carrying more passengers, the improved B Line reduced emissions by an estimated 1,829 tonnes in 2008.

PROJECT TEAM

City of Hamilton
Hamilton Street Railway

Green Municipal Fund Case Study

B Line Bus Rapid Transit Light: Hybrid Bus, Service Improvements and Ridership Growth Initiatives (GMF 9458)

Date project completed: March 2010

Total project value: \$9,997,023

GMF grant: \$2,793,420

- City set out to improve the express bus service in one of its busiest corridors
- Project boosted frequency and capacity on the B Line, and extended the service beyond rush hour
- New hybrid buses helped cut greenhouse gas and other emissions
- B Line ridership rose significantly in first two years

CONTEXT The City of Hamilton's public transit system, the Hamilton Street Railway, transports more than 20 million passengers over 30 routes every year. The transit system placed a priority on improving service on the city's primary east-west transit corridor, known as the B Line. The city was planning a dedicated light rail or bus rapid transit corridor for the B Line, but this was at least 10 years away. The interim step was to improve the existing express service.

The B Line had been run since 1986 as a rush-hour express service on King and Main streets, connecting McMaster University and Eastgate Square via downtown Hamilton. It used conventional buses operating in mixed traffic and making only limited stops. Over the last 20 years, passenger demand on the B Line — and other routes in the corridor — had grown consistently and often exceeded capacity. During peak hours, waiting passengers were left standing as fully loaded buses passed. Off-peak demand had grown too, with midday routes operating near capacity as well.

A GMF Case Study



transportation

APPROACH The city replaced 12 of its standard buses with new low-floor hybrid diesel-electric vehicles. Seven of these were articulated buses that carry more passengers (85 as opposed to 53 passengers). Service launched in September 2007 with these buses as well as a number of conventional diesel buses. Another 18 hybrid articulated buses were bought with funding from Metrolinx (formerly the Greater Toronto Transportation Authority) and joined the fleet by September 2009. Today, the B Line uses low-floor hybrid articulated buses exclusively.

To increase ridership, a number of improvements were made to B Line service. The new B Line covers a route that is two kilometres longer, with rush hour service every 10 minutes (rather than 12) over most of the route. Monday-to-Friday daytime service (between 9 a.m. and 2 p.m.) was added.

A colour scheme and logo were chosen through a community contest to create a distinct B Line brand. The branding focuses on the environmentally friendly nature of the hybrid buses. It can be seen on buses, bus stops, signage and route maps.

RESULTS The B Line project saw an 18.7 per cent increase in boardings in 2007 and a 19.3 per cent increase in 2008, at a time when the transit system as a whole had zero growth. This represents hundreds of thousands of automobile trips avoided. For 2008, the city estimated that this reduced car use meant more than a million litres of fuel saved and 2,600 fewer tonnes of greenhouse gas and other emissions. When the fuel used and emissions produced by B Line operations was factored in, the city estimated a net savings of 686,822 litres of fuel and 1,829 tonnes of emissions in 2008.

The exclusive use of low-floor buses makes the B Line more accessible to people with mobility limitations or small children. Improved bus stops and terminals better shelter commuters from inclement weather and minimize their exposure to traffic risk, noise, dust and splashes.

People can feel safer travelling by transit thanks to the highly visible transit stops and increased pedestrian traffic around stops and along the corridor.

By using hybrid buses, the city has substantially cut fuel, operating and maintenance costs. The brakes used on conventional diesel buses, for example, are typically replaced twice a year. Since the first hybrid diesel-electric buses went into service in September 2007, no brakes have been replaced.

LESSONS LEARNED "Hybrid transit buses provide great environmental benefits," said Don Hull, Hamilton's transit manager. However, as with all new technologies, he advises that you have to "stay on top of the research" and understand the product. Hamilton is constantly upgrading its knowledge of the various fuel options and the relative strengths of different technologies and manufacturers.

The city had to create a reserve fund to cover the possibility that any of the \$25,000 hybrid batteries might fall short of its expected six-year life.

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ADDITIONAL RESOURCES To read the full report or to learn about other GMF-funded initiatives, please visit the GMF website at www.fcm.ca/gmf or contact us at 613-907-6208 or at gmf@fcm.ca.