MAJOR ELEMENTS OF BRT

Wide choice of running ways

BRT systems can operate on all types of running ways—mixed flow arterials, mixed flow freeways, dedicated arterial lanes, at-grade transitways, fully grade-separated surface transitways, managed lanes, and in tunnels.

Enhanced stations

Aesthetically-designed stations make BRT systems attractive while providing passenger amenities such as shelters, benches, lighting, ticket vending machines, security features, and next vehicle arrival information.

Innovative vehicles

Stylized and specialized buses can operate along BRT corridors, with emphasis on comfort, aesthetic enhancements, easy access, passenger circulation, and environmentally-friendly propulsion. Purchase costs for higher-end BRT vehicles can range from $370,000 to $1.6 million, depending on the size and propulsion technology.

Improved fare collection

Electronic fare cards, off-board fare collection, or proof-of-payment options allow for shorter dwell times and shorter overall travel times.

State-of-the-art technologies

BRT incorporates ITS (intelligent transportation system) applications such as transit signal priority, advanced communication systems, automated scheduling and dispatch systems, and real-time traveler information at stations and on vehicles for faster and more convenient trips.

Improved service

BRT systems generally include rapid transit features such as all-day service spans, greater spacing between stations, and more frequent service than local bus service. The flexibility and lower-cost of BRT allow it to provide greater network coverage.

Modern branding and marketing

Distinctive logos, colors, styling and technologies for vehicles and facilities help develop a system identity. BRT services can be marketed as a new bus route or a new tier of service or as part of a multi-modal rapid transit network.

SYSTEM PERFORMANCE

Significantly decreased travel time

Exclusive transitways have been shown to operate at an average of 17 to 30 miles per hour. This can achieve an overall travel time savings as high as 55% compared to regular bus services and compares well with rail transit.

- The Silver Line Washington Street has experienced reductions in mean running times as high as 25%, especially in the midday and PM peak periods.
- Las Vegas experienced 37% (northbound) and 43% (southbound) reductions in running times compared to pre-MAX bus services.
- With the implementation of BRT, travel time in the BRT corridor in Pittsburgh decreased 55%.
- In Los Angeles, the MetroRapid achieved travel savings as high as 40%, equally attributed to fewer stops, transit signal priority, and low floor vehicles.

Increased reliability

BRT's use of exclusive transitways, level boarding, improved fare collection, and automated vehicle location technologies allow for greater reliability.

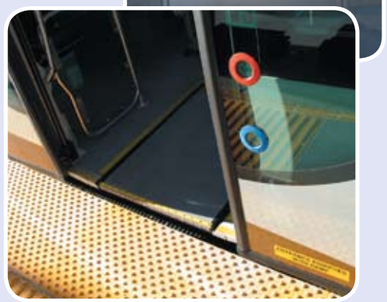
Improved accessibility

Vehicle, station, ITS, and fare collection design options can greatly improve the accessibility of a BRT system to mobility-impaired and other riders.

Increased safety and security

With modern technologies and facilities, customers report BRT systems to be safer than other local bus service.

- In Boston, passengers rating the safety as "above average" increased 19% after the Silver Line began operating.
- In Las Vegas, 69% of riders rated MAX vehicles as "excellent" and 54% rated safety at MAX stations as "excellent."



Increased capacity

Because of larger vehicles and greater frequency, BRT systems can offer capacities comparable to other rapid transit modes. Seated capacity on BRT vehicles can range from 40 to 85 passengers, while the maximum number of passengers that can be carried per hour per direction can range from 10,000 on arterials to 30,000 on exclusive rights of way. In Bogotá, Colombia, the TransMilenio system has experienced a capacity of 41,000 passengers per hour per direction in some segments.

BENEFITS OF BRT

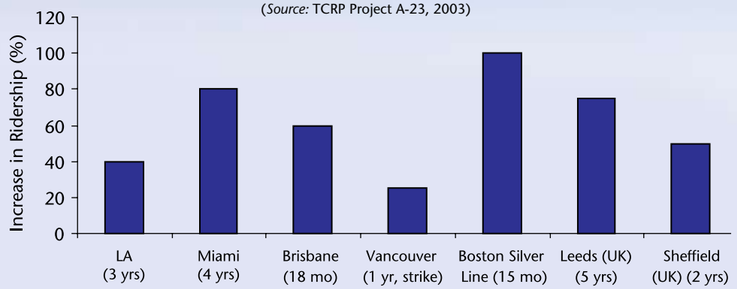
Increased ridership

The integration of system elements has demonstrated that BRT can attract choice riders and greatly increase corridor ridership. Ridership gains of 20% to 96% in BRT corridors have been noted in practice (see chart below).

- Boston's Silver Line Phase I experienced a 96% increase in weekday corridor ridership, with ¼ of new riders previously using other modes.
- On Pittsburgh's West Busway, ⅓ of riders used an automobile previously.
- San Pablo's Rapid Bus accounted for a 43% increase in corridor ridership.

Net Corridor Ridership Gains with BRT

(*Source:* TCRP Project A-23, 2003)



City (time data collected after BRT implemented)

Improved capital cost effectiveness

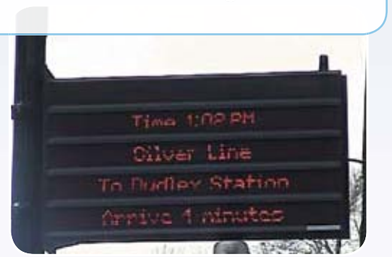
BRT systems can use less costly or existing infrastructure and reduce fleet requirements with better vehicle utilization. Overall, capital costs are less than other rapid transit modes such as light rail (LRT) or heavy rail (HRT).

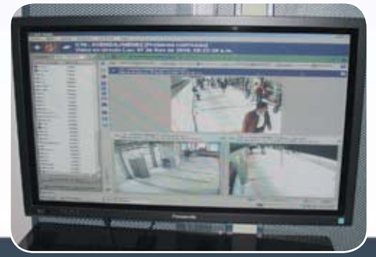
	Mode	Length (Miles)	Capital Cost (millions of US$) per Mile (2003$)
Las Vegas MAX Las Vegas Blvd., North	BRT (surface)	7.5	$2.70
Boston Silver Line Phase 1 - Washington St	BRT (surface)	2.3	$11.90
Los Angeles Orange Line	BRT (exclusive ROW)	14.0	$23.07
Bogotá TransMilenio (Phase 1)	BRT (exclusive ROW)	25.6	$13.30
Bogotá TransMilenio (Phase 2)	BRT (exclusive ROW)	25.6	$24.80
Salt Lake North South Corridor	LRT (surface)	15.0	$26.50
Minneapolis Hiawatha Corridor	LRT (surface, 1.5 mile tunnel)	11.6	$52.80
Los Angeles (LACMTA) Red Line	HRT (underground)	16.5	$337.60
Washington (WMATA) Entire Metrorail System	HRT	112.0	$145.50

WHAT IS BUS RAPID TRANSIT?

Bus Rapid Transit (BRT) is an innovative, high-capacity, lower-cost public transit solution that can achieve the performance and benefits of more expensive rail modes. This integrated system uses buses or specialized vehicles on roadways or dedicated lanes to quickly and efficiently transport passengers to their destinations, while offering the flexibility to meet a variety of local conditions.

BRT system elements can easily be customized to community needs and incorporate state-of-the-art, low-cost technologies that attract more passengers and ultimately help reduce overall traffic congestion.





Bus Rapid Transit

Elements
Performance
Benefits

Improved environmental quality

By capturing choice riders and using advanced vehicles with cleaner propulsion systems and emissions controls, BRT may improve air quality and noise level and reduce overall congestion.

Improved operating cost efficiency

Performance indicators such as passengers per revenue hour, subsidy per passenger mile, and subsidy per passenger can improve when BRT service is introduced to a corridor.

- Metro Rapid in Los Angeles reported high vehicle utilization, reduced subsidy per passenger mile ($0.15 to $0.18), and increased passengers per revenue mile (51 to 59.7).
- The Washington Street corridor in Boston experienced a 15% increase in riders per passenger hour with the implementation of the Silver Line.

Transit-supportive land development

Investments in BRT infrastructure and related streetscape improvements can result in significant positive development effects much like other high-quality transit modes.

BRT Land Development Benefits

City	Benefits
Pittsburgh	$300M in development around stations
Ottawa	$700M in development around stations
Boston	$650M in development occurred along the Washington Street corridor
Brisbane	+20% gain in residential values near stations, initiation of several joint development projects

The data in this brochure were compiled by the National Bus Rapid Transit Institute (NBRTI) using evaluation reports and from the Federal Transit Administration's publication "Characteristics of Bus Rapid Transit for Decision-Making." These and other resources are available at www.nbrti.org.

Cover photo: Metro Orange Line, courtesy of Los Angeles County Metropolitan Transportation Authority

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