Volvo Buses. Driving quality of life

Volvo Bus Rapid Transit

MASS MOBILITY FOR PROSPERING CITIES

GROW YOUR CITY WITH VOLVO

Free your mind

Prospering cities have a tendency to grow faster than the capacity of public transportation. But progressive cities around the world have proven Bus Rapid Transit, BRT, to be a marvellous way of resolving the public transport issue when growth takes off. And BRT with Volvo is fast and straight-forward to introduce. Compared with rail-bound alternatives the cost – and the time frame – is only a fraction.

The success factors

BRT is scalable and can be implemented gradually to include the proven cornerstones of success:

- High-capacity buses and high frequency
- Dedicated lanes and level boarding
- Low, pre-paid fares and real-time passenger information
- Distinctively branded part of a city's multi-modal public transport

Faster, cleaner and safer

WITH VOLVO BRT

BRT can be implemented in many ways. Even the most basic applications can resolve severe traffic problems, while a full-scale system with double lanes can bring an entire urban district to life. Everything is possible and every city has its own unique opportunities.

Cutting travel time

When a BRT solution is in place things start to happen. Those who choose BRT cut their travel time. In some cases by as much as 50% and that makes BRT a popular choice. A significant share of commuters will choose BRT instead of their private car, which reduces congestion substantially. But there's a lot more to it – the big win comes long-term.

Cleaner and safer cities

Immediate BRT benefits are improved air quality, reduced noise and reduced number of accidents. Emissions per passenger drop by up to 90% compared to commuting by car. And Bogota, Colombia, reported 80% reduction of traffic accidents along the BRT corridor after the TransMilénio-system was introduced in the year 2000.

Mexico City

- 140 km on 7 lines
- 490 Volvo buses in operation
- 1,500,000 passengers/day
- CO_2 reduction of 120,000 tonnes/year
- 50% reduction in travel time
- 17% of passengers leave their cars at home and use BRT instead
- 25–50% reduction of harmful pollutants

Volvo's 6 stages of successful BRT development

BRT is by definition scalable, and once fully developed the resulting benefits are stunning. The table shows typical improvements following upon implemented steps.

	No BRT	1 Dedicated lanes	2 High-capacity buses	3 Pre-payment and level boarding	4 Priority at traffic lights	5 Double lanes, overtake at stops	6 Bi-articulated buses
Travel time, minutes	60	50	50	41	36	30	30
Fleet size, no. of vehicles	168	140	70	58	51	42	25
Operational cost, %	100	88	59	54	51	47	40
Occupied road space, %	100	83	63	52	46	38	38
Average speed, km/h	15	18	18	22	25	30	30


90%
reduced emissions
• Less congestion
• Up to 50% shorter travel time
• Up to 90% reduced emissions/passenger
• Up to 80% less traffic accidents
• Superior return on investment
• Rapid implementation

How to make BRT

A LASTING SUCCESS

Volvo has been at the heart of BRT development from the birth of the idea. We have therefore learned how to meet all the different demands, prerequisites and criteria from cities all over the world. We know that each city has different possibilities and requires a solution of its own, and we know what makes BRT a success for the city.

Volvo's world leadership

Today, over 5,000 Volvo buses operate in BRT applications. Our vehicle range includes everything from 12 m feeders up to articulated and bi-articulated buses up to 30 m in length and with a capacity of 300 passengers. And several cities have introduced Volvo's hybrid buses into their BRT networks.

Expertise, system support and financing

In addition to a comprehensive product portfolio Volvo also offers:

- Advisory and project management expertise.
- Financing.
- Customer-adapted aftermarket solutions.
- Telematics-based tools for vehicle and fleet management, traffic management and passenger information.

Connected services

With real-time information it is possible to conduct proactive planning and maintain an efficient flow and undisturbed traffic. Which leads back to the original purpose of BRT; to add quality of life to urban mobility.

Volvo BRT – tried, tested and trusted

BRT buses are often purpose-built for the specific city. Passenger capacity, floor height, door configuration and engine output are parameters in the equation of optimising a BRT system. With a Volvo chassis the bodybuilders have superior flexibility.

Advanced diesel engines

New emission standards have made the diesel engine an attractive and efficient power source for public transport vehicles, especially when compared to CNG alternatives. Renewable and CO_2 neutral diesel fuels are becoming a viable option in many countries. At Volvo we are eager to proactively support cities and operators with suitable, sustainable and affordable alternatives. We offer advanced diesel technologies and engines up to Euro 6 specification, even for RME and HVO fuels.

Conventional
12 m
Up to 100 passengers

Articulated
Up to 22 m
Up to 200 passengers

Bi-articulated
24–30 m
Up to 300 passengers

Curitiba

- BRT in operation since 1974
- 83 km of exclusive lanes
- 1,400,000 passengers per day
- 320 Volvo buses in operation
- 28% of BRT riders previously travelled by car
- 27 million fewer car trips per year
- 30% less fuel per capita consumed

We give you rail capacity at a

FRACTION OF THE COST

BRT has proven to be a highly cost-efficient way to provide extensive public transport capacity. Of course, there are cases when a railway or metro is the better solution. However, very often the capabilities of BRT will outperform the alternatives. A lot more affordable, flexible – and so much faster to put in place.

Time and money

Introducing BRT is truly a win-win activity. Travel time can be cut by up to 50%, acres of road space is recovered and the operational cost per passenger drops. Another effect is that the average speed increases for all kinds of traffic along the corridor. That's because BRT reduces congestion. And with fewer cars, parking space can be turned into commercial buildings.

But also on a structural level there are massive benefits for the city. Construction time is short. Typically, it's only 1/5 of what a metro project requires and less than half of what it takes to build a new tram line. And this benefit prevails over the years to come. Expansion of the network, or re-allocation of a route, is so much simpler with BRT.

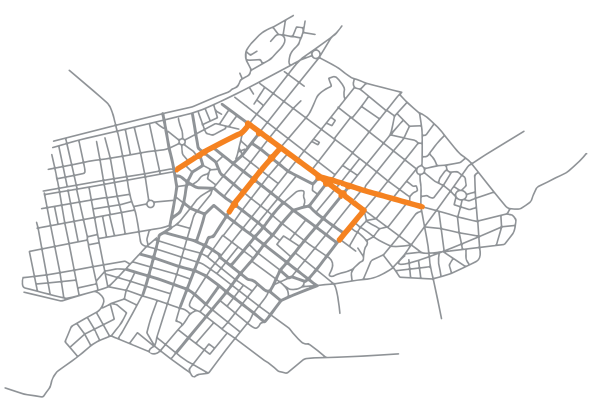
Jakarta

- In operation since 2004
- 251 km – the longest BRT system in the world
- 13 main routes and more than 10 cross-corridor routes
- Traffic safety improved along BRT lines
- 1,000,000 passengers/day
- 119 Volvo buses in operation, supported by a 10-year Volvo Service Contract

What you get for $ 1,000,000,000

A city can implement efficient mass mobility faster and at a fraction of the cost when choosing a BRT solution. The figures are, of course, subject to local variations but it is a fact that BRT gives a lot more capacity for a given investment.

BRT: 200 km



Light Rail: 40 km

Metro: 10 km

Building time and cost

It is in the long run you will benefit the most from a BRT system. However, even from the very start BRT gives so much more to your city. Construction time is a fraction compared to rail-bound solutions. Furthermore, maintenance and vehicle service are a lot more affordable.

1x

Volvo BRT

$ 1,000,000,000
Building and implementing a 200 km BRT system costs approximately $1,000,000,000 and takes 2 years.

4x

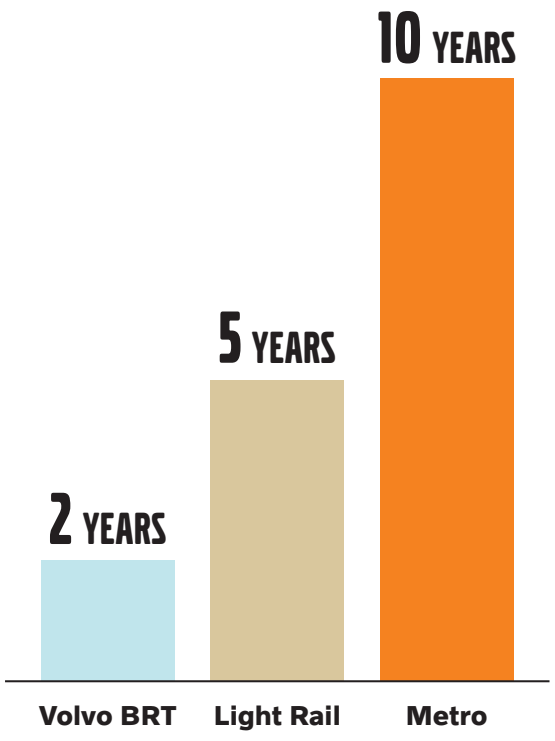
Light Rail

$ 4,000,000,000
A light rail system with the same capacity is 4 times the cost and would have a construction time of 5 years.

20x

Metro

$ 20,000,000,000
Building a metro system would take approximately 10 years and be 20 times more expensive.




Volvo BRT around the world
12,000,000
passengers per day – and counting

DRIVING PROSPERITY

City growth requires, and benefits from, increased density. More people work in the city and create value. To be able to get there, people need affordable and swift transportation. The return on a BRT investment beats all comparable alternatives. From day one and into the foreseeable future.

Growth and wealth

After the initial positive effects, a BRT system continues to facilitate city development. With more people on the move, local business will prosper and new enterprises will appear along the corridor. This will result in rising property values, more job opportunities and a stronger local economy. Increased density is an engine of growth.

Improved safety and health

Looking at the many cities where BRT has been implemented, there are also other long-term effects of the resolved traffic situation. Cleaner air of course means improved public health, and a more direct effect is the reduction in traffic accidents by up to 80%. Both these circumstances mean a reduction in costs for health care and treatment.

Cape Town

- In operation since 2011
- 27 km of trunk line
- 80,000 passengers per day
- 94 Volvo buses in operation
- Euro 5 emission standard
- High- and low-floor buses with three-year full maintenance Volvo Gold Service Contract

Bogotá

- Highest capacity in the world
- In operation since 2000
- 114 km of exclusive lanes and 9 integration terminals
- 12,000,000 km per month
- 2,400,000 passengers per day
- 1,233 Volvo buses in operation
- 80% fewer traffic accidents

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