

# Seven world-class cities riding tall in bike-share boom, solving 'the last mile' without cars

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Seven cities can boast of world-class bike-share systems, according to a new publication by the Institute for Transportation and Development Policy (ITDP) that identifies the best practices embraced by these cities. An estimated 400 cities on five continents have implemented bike share, according to ITDP, because it addresses pressing urban mobility issues that include traffic, air pollution, transit finance, and the "last mile" problem of getting commuters to and from rail and bus stops.

"Very few transport innovations have spread as quickly as bike share," said Walter Hook, ITDP's Chief Executive Officer. "The vast majority of bike-share systems have all been implemented in the last 10 years. As world-class cities increasingly strive to remain competitive, we wouldn't be surprised to see continued exponential growth in the next 10. Of course, some cities have done better than others, and [The Bike Share Planning Guide](#) presents best practices and case studies of successful systems that is essential reading for anyone planning a bike-share system anywhere in the world."

The new publication, *The Bike Share Planning Guide*, highlights two metrics for determining whether a bike-share system is efficient, reliable and cost-effective—the average number of daily uses for each public bicycle and the average daily trips per resident within the coverage area. Seven cities hit the mark with both high market penetration and high infrastructure usage:

- **Barcelona**, which averages 10.8 trips per bike and 67.9 trips per 1,000 residents;
- **Lyon**, which averages 8.3 trips per bike and 55.1 trips per 1,000 residents;
- **Mexico City**, which averages 5.5 trips per bike and 158.2 trips per 1,000 residents;
- **Montreal**, which averages 6.8 trips per bike and 113.8 trips per 1,000 residents;
- **New York City**, which averages 8.3 trips per bike and 42.7 trips per 1,000 residents;
- **Paris**, which averages 6.7 trips per bike and 38.4 trips per 1,000 residents; and
- **Rio de Janeiro**, which averages 6.9 trips per bike and 44.2 trips per 1,000 residents.

"Some of the most cosmopolitan cities around the world have implemented bike-share systems that not only serve as a preferable transit option, but also help extend the brand of the cities themselves," said Colin Hughes, ITDP's Director of National Policy and Project Evaluation. "It's no longer true that a huge investment in a big new bridge or highway brings the most growth to a city—it is often smaller, more strategic investments in quality of life and sustainability that makes a city a desirable place to live and work."

"Many cities are dealing with crisis situations due to congestion, pollution, and health related to vehicle traffic," Hughes continued. "These cities want solutions. A great bike-share system indicates that the city is thinking progressively about transit, the environment, and quality of life."

The report identifies five elements of a bike share system that are critical for driving up the key metrics used to rate bike-share systems. These elements include:

- **Station Density:** A quality system needs 10-16 stations for every square kilometer, providing an average spacing of approximately 300 meters between stations and a convenient walking distance from each station to any point in between. Lower station densities can reduce usage rates.
- **Bikes per Residents:** 10-30 bikes should be available for every 1,000 residents within the coverage area. Larger, denser cities and metropolitan regions with an influx of commuters into the area served by the system should have more bikes available to meet the needs of both commuters and residents. Systems with a lower ratio of bikes to residents may not meet this need during peak demand periods, reducing system usage and reliability.
- **Coverage Area:** The minimum area covered by a system should be 10 square kilometers, large enough to contain a significant number of user origins and destinations. Smaller areas may drive down system usage.
- **Quality Bikes:** Bikes should be durable, attractive and practical (with a front basket to carry bags, packages or groceries). The bicycles should also have specially designed parts and sizes, which discourages theft and resale.
- **Easy-to-Use Stations:** The process of checking out a bicycle should be simple. The payment and authorization technology utilized should have an easy-to-use interface, a fully automated locking system and real-time monitoring of occupancy rates (to track whether more or fewer bikes are needed for each station).

## Cost-Effective and Flexible Urban Transport

The arrangements of bike-share operations span the gamut, from publicly-run programs (e.g., Buenos Aires, Montreal, Shanghai and Taipei) to programs run by non-profit organizations (e.g., Boulder, Denver, Minneapolis and San Antonio) or private enterprises (e.g., Barcelona, Mexico City, New York City, Paris and Rio de Janeiro). All

successful systems share a pricing structure that incentivizes short trips—usually a half hour or less—which helps maximize the turnover of the bicycles.

Bike-share systems are typically one of the most cost-effective mass transit modes available. Washington D.C., for example, pays Alta Bicycle Share (a private enterprise) to run its Capital Bikeshare system, but the revenue the city receives from the fee collection completely covers the operating payments. In contrast, the city's subway and bus fareboxes only recover half of those systems' operating costs.

"Bike-sharing is a model of cost-effectiveness both for users and cities," said Hughes. "Using bike share to commute is cheaper than public transit for system members. It is also relatively inexpensive for a city to implement; a well-run system can actually be cash-positive instead of requiring large subsidies. The bottom line is bike share can often move more people at a lower cost and with many more positive benefits to health and environment than other modes."

## **Practical and Political Benefits**

The question of the "last mile" is one that has vexed urban planners for generations. In the suburbs and exurbs where commuter trains bring riders into the urban employment centers, riders often drive to stations that have acres of parking lots. Stations in urban mass transit systems (such as train or bus routes), on the other hand, do not have the acreage for extensive lots. These transit stations are instead better served by well-stocked bike-share stations that allow riders to get from the train or bus station to their final destination without using a car or taking a local bus, reducing commuting times significantly.

"The flexibility of bike share in providing quick, short trips on demand is essential," added Hughes. "In dense cities like New York and Mexico

City, biking is usually the fastest way to get around, often much faster than a car—and that is without even factoring in parking time."

From a planning standpoint, the reasons for implementing a bike share program also center on practical goals of increasing cycling, improving air quality and offering residents an opportunity for physical fitness, benefits that have been quantified. As of November, 2012, for example, Washington, D.C.'s 22,000 bike share members had [reduced the number of miles driven](#) (in cars) per year by nearly 4.4 million. And numerous studies have shown that [spending twenty minutes every day on a bike](#) has a significant positive impact on mental and physical health.

From a political standpoint, bike share is an exceptionally simple transportation solution to implement because of its low capital costs and short implementation timeline. It is possible to devise and install a complete system in one mayoral term—typically two to four years—which means that the public sees results much more quickly than with most transportation projects.

## **Just Add Technology: Speedy Adoption of a Two-Wheeled Trend**

The first public bike-share system was proposed in 1965 by Amsterdam city councilman Luud Schimmelpennink, who advocated for a free system with 20,000 bicycles to help alleviate automobile traffic in the city. Amsterdam's [city](#) council rejected the proposal, and while a free system of that size has never been implemented, two U.S. cities—Madison, Wisconsin, and Portland, Oregon—have implemented smaller free systems.

In 1993, the cities of La Rochelle, France, and Cambridge, England, implemented free bicycle systems that had limited use and range; users

had to return bikes to the stations where they received them, making only round trips possible.

The first system using technology to allow point to point trips was introduced in two French cities, Rennes in 1998 and Lyon in 2001. Both systems proved successful, and the transport mode began to spread in popularity. In 2006, bike share popularity began to skyrocket, and now, in 2013, more than 400 cities deploy more than 700,000 bicycles.

"Bike sharing is a post-ownership transport system that is environmentally sustainable, healthy and business-oriented," said Walter Hook. "It's the transport of the future."

Provided by Burness Communications

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