Bike Sharing

Peter Midgley
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Bike Sharing: Definitions

Bike-sharing (bīk-sher-in)
1: short-term bicycle rental available at unattended urban locations;
2: bicycle transit

Smart-bikes
1: Make use of applied technology (smart cards and/or mobile phones);
2: Provide users with real-time bike availability information on the internet/smart phones.
Bike Sharing: Objectives/Benefits

Flexible mobility
Emission reductions
Individual financial savings
Reduced congestion and fuel use
Health benefits
Improve multimodal transport connections
Provide “last mile” connection to public transport
Bike Sharing: Characteristics

- Attractive
Bike Sharing: Characteristics

Bikes

Velib (Paris)

- Attractive
- Rugged
- Simple
- At least 3 gears
- Baggage racks
- Unisex
- Weather proof
- **Vandal “proof”**
Bike Sharing: Characteristics

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Citibike (New York)
Bike Sharing: Characteristics

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- Rugged
- Simple
- At least 3 gears
- Baggage racks
- Unisex
- Weather proof
- **Vandal “proof”**
- + Pedelecs (Electric Bikes)
Bike Sharing: Characteristics

Docking stations

- 24/7 “pick-up” and “drop-off”
Bike Sharing: Characteristics

Docking stations

- 24/7 “pick-up” and “drop-off”
- Easy “smartcard” access
Bike Sharing: Characteristics

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- Modular and movable
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Bike Sharing: Characteristics

Docking stations

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- Easy “smartcard” access
- Solar powered
- Modular and movable
- Some even provide helmets
- All require “rebalancing”
Bike Sharing: Characteristics

Smart Technology

- Real time bike availability on the internet

Bike Pernambuco
(Recife Metro Area, Brazil)
Bike Sharing: Characteristics

Smart Technology

- Real time bike availability on the internet
- And on Smartphone apps
Bike Sharing: Characteristics

Smart Technology

- Real time bike availability on the internet
- ...and on Smartphone apps
- Monitors bike movements

London Weekday Journeys

Bike Sharing: Characteristics

Smart Technology

- Real time bike availability on the internet
- ..and on Smartphone apps
- Monitors bike movements
- Provides data on bike use, fleet performance, etc.

![Capital Bikeshare Dashboard](image)
Bike Sharing: Characteristics

Smart Technology

- Real time bike availability on the internet
- ...and on Smartphone apps
- Monitors bike movements
- Provides data on bike use, fleet performance, etc.
- Handles payments and subscriptions
Bike Sharing: Characteristics

Bike lanes

- For a bicycle-sharing to function, cyclists must be able to move around the city easily and safely
Bike Sharing: Characteristics

- For a bicycle-sharing to function, cyclists must be able to move around the city easily and safely.
- A network of bicycle lanes is essential.
Bike Sharing: Characteristics

Providers and Operators

Many options possible!
- Private provider
  .....and operator
- Public provider
  .....and private operator
  .....and operator
Bike Sharing: Issues

- Vandalism
- Helmets
- Insurance
  - Valencia offering supplemental liability and accident insurance
- Weather
- Terrain
Bike Sharing: Impacts

Modal shift

- Little impact on car trips
- Most impact on public transport trips
Bike Sharing: Impacts

Performance

- Accessibility (35% weight)
- Information (26%)
- Ease of rental (25%)
- Bikes (14%)

Key performance demands:
- Lots of stations
- Easy to use
- Clear-cut rates
Bike Sharing: Countries

Countries with Bike-Sharing Systems 2000-2013
(Source: Peter Midgley)
Bike Sharing: Countries

52 Countries with Bike Sharing Systems in 2013
Bike Sharing: Countries

Countries with Bike Sharing Systems by region 2007-2010-2013
Bike Sharing: Systems

Growth in Bike-Sharing Systems 2000-2013
(Source: Peter Midgley)
Bike Sharing: Systems

Bike Sharing Systems by region 2007-2010-2013

- **North America**: 10, 34, 175
- **Europe**: 175, 386
- **Middle East**: 43, 108
- **Asia and Pacific**: 17, 2, 469
- **Latin America**: 445
- **Worldwide**: 635, 4, 175

Numbers represent the number of bike sharing systems in each region for the years 2007, 2010, and 2013 respectively.
Bike Sharing: Fleet

Global Bike-Sharing Fleet 2000-2013
(Source: Peter Midgley)
Bike Sharing: Fleet

Bike Sharing Fleet by region 2007-2010-2013

- **Worldwide**: 2013: 451,257

*Note: Data for 2007 and 2010 are not provided.*
Global Consultation for Decision-Makers on Implementing Sustainable Transport

Bike Sharing: Winners

USA: 17 new systems (2012-13)
Bike Sharing: Winners

USA: 17 new systems (2012-13)

Citibike New York

Bikenation Anaheim CA

B-Cycle Boulder CO

Capital Bikeshare Washington DC
Bike Sharing: Winners

“The Ministry of Environment, Energy and Climate Change “Green Fund” provided 100% financing to create Bike Sharing systems in 16 municipalities.”

Greece: 18 new systems (2013)
Bike Sharing: Winners

“The Ministry of Environment, Energy and Climate Change “Green Fund” provided 100% financing to create Bike Sharing systems in 16 municipalities.”

Greece: 18 new systems (2013)
Bike Sharing: Winners

China: 30 new systems (2012-13)
Bike Sharing: Winners

China: 30 new systems (2012-13)
Bike Sharing: Losers

Bike Sharing Systems closed 2012-13

-62 Worldwide

-34 Spain
-5 France
-5 Germany
-5 UK
-1 Norway
-1 Greece
-6 Italy
-5 Brazil
-1 New Zealand
-1 Denmark
-2 France
-2 UK
-5 Norway
Bike Sharing: Losers

Most closures (34) in Spain (2013)
Bike Sharing: Losers

Most closures (34) in Spain (2013)
Bike Sharing: Information

Bike Sharing World Map (Meddin and DeMaio)
Bike Sharing: Information

Real Time Bike Availability

Capital Bikeshare
(Washington DC Metro Area)

Bike Pernambuco
(Recife Metro Area, Brazil)
Bike Sharing: Information

O’Brien Bike Share Map (100+ Cities in real time)
Bike Sharing: Information

O’Brien Bike Share Visualisation (London)
Bike Sharing: Information

UN DESA Report 2011
Bike Sharing: Thank You

Sorry I could not be with you!

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