Bike Share Overview – A Revolution on 2 Wheels

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LINCOLN, NEBRASKA BIKE SHARE WORKSHOP
SEPTEMBER 18, 2014
Agenda

- Global emergence of bike share
- Bike share benefits
- What is bike share
- Planning, launching and operating a system
- So... how do we get it going?
Global Emergence of Bike Share

US Bike Share Systems

Over 30 systems in operation
A Little History: 1\textsuperscript{st} Generation

Amsterdam White Bikes and Portland Yellow Bikes - no locks, no tracking
A Little History: 2\textsuperscript{nd} Generation

2\textsuperscript{nd} Generation: Copenhagen Bycyklen - Coin-operated
A Little History: European Ad Battle

3rd Generation RFID

Rennes, France 1998
Trondheim, Norway 2001
Drammen, Norway 2001
Bergen, Norway 2002
Oslo, Norway 2002

Porsgrunn, Norway 2002
Lyon, France 2005
Brussels, Belgium 2006
Aix-en-Provence, France 2006
Sandnes, Norway 2001
Burgos, Spain 2006

Paris, France 2007
A Little History: Export from Paris
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Why are cities embracing bike share?

- Increased mobility options
- Spontaneous bicycle trips
- Complement transit and other modes
- Environmental, social, economic and health benefits
- Reduced traffic congestion
Why are cities embracing bike share?

- High profile, fast and CHEAP way to change a city’s transportation infrastructure

- What do you get for $10 million?
  - Fleet of 15 buses
  - 0.5 miles of streetcar
  - 0.02 miles of heavy rail / subway
  - 0.1 miles of light rail
  - 1 mile of road
  - **2,000 bike / 200 station bike share system (20 square miles) in 6 months!**
Bike Sharing Benefits

- Increased accessibility - CONVENIENT
- Complement and expand transit
- Economic development and competitiveness - INEXPENSIVE
- Reduce household transportation expenditure
- Improve physical and mental health
- Environmental benefits

![Bike Share by the Numbers](image)
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- **What is bike share**
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What is bike share?

- Automated self-service bicycle rentals
- Short, one-way trips
- Membership based
- Dense network of stations located conveniently
Elements of a Smart Dock System

- Bicycle
- Dock
- Automated kiosk
- Advertising / information panel
- RFID card

Bicycle Station
Elements of a Smart Bike System
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What’s involved behind the scenes?
Infrastructure Development vs. Bike Share

Best results are when development happens in parallel

**Boston**
- 0.5 miles bike lane in 2008, city starts investigating bike share
- 38 miles in 2011 at bike share implementation

**New York**
- 42 miles of bike lane in 2007, city starts investigating bike share
- 314 miles in 2012 before bike share implementation

**Paris**
- Built 273 miles of bike lanes 2001-10
- Introduced bike share in 2007
- Planning 435 miles by 2014

**London**
- Introduced sponsored Cycle Superhighways in parallel with bike share
- Unveiled £1.3 cycling vision plan in 2013 to parallel bike share growth
System Planning

○ Demand-based network
  • GIS analysis
  • Preliminary station locations (w/in 2-3 blocks)
  • Preliminary station size

○ Public input
  • Wikimap crowdsourcing
  • Public meetings / community outreach

○ Station guidelines and checklist

○ Station refinement
  • Adjust station locations, configurations and sizes
  • Field assessment

○ Station site design

○ Permitting

○ Installation
System Planning

- Analyze existing conditions
  - Bike infrastructure
  - Bike parking
  - Residential density
  - Employment density
  - Public transit
  - Retail
  - Tourism

- Align with system goals

- Result: Bike share heat map
  - System area
  - Number of bikes
  - Number of stations
  - Phasing
  - Density

Proposed system map from Eugene, OR study with multiple phases
Station Layout and Density

Washington DC region  Salt Lake City
San Antonio  Bay Area
Public Input

Eugene’s station suggestion website

Philly’s location-based outreach program

NYC public meeting on station locations
System Naming and Branding

[Logos of various bike share systems]
Launch Planning and Implementation

- Launch timeline from finalizing branding
- Branding & Marketing
  - Website
  - Bicycle supply
- Site planning and permitting
  - Station supply
- Operations preparation
  - Facilities and equipment
  - People and training
- Equipment delivery and logistics
  - Station installation
  - Bike assembly
- System launch
On-Street Operations

Station Maintenance
- Scheduled cleaning and preventative maintenance
- System monitoring and issue response

Bike Maintenance
- Monthly maintenance and safety checks
- Damaged bikes
- Annual service

Rebalancing
- Pre-balancing and re-balancing
- Corrals
- Alternative vehicles

Snow emergencies
- System shut down and re-opening
- Snow and ice removal
Equipment Management

- Inventory
- Pricing
- Rust Protection
- Cold Weather Performance
Marketing and Promotions

○ Marketing Plan Elements
  • Public Relations
  • Online (website, social media)
  • Community partnerships
  • Member community building
  • Corporate / bulk sales
  • Sponsor activation

○ Measure Outcomes
  • Metrics and reporting
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System Ownership and Management

Owner/Operator Models

- SNC: Sobel Bike-Share, Boise, ID
- Bike Hub: Minneapolis, MN
- Citi Bike: New York, NY
- Capital Bikeshare: Washington, DC
- Deco Bike: Miami Beach, FL
- San Antonio B-Cycle: San Antonio, TX
- Boulder B-Cycle: Boulder, CO
- Spartanburg B-Cycle: Spartanburg, SC
- Public Agency Owner
- Private Company Owner
- Nonprofit Org. Owner
- Nonprofit Org. Operator
- Public Agency Operator
- Private Company Operator

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Bike Share Funding Needs

**Cost**
- Capital purchase + startup + installation
  - USD $2,500 to $6,000 per bike (including stations) *
- Operations
  - USD $1,500 to $2,500 per bike per year **

**Source**
- Public funding
- Private investor
- Outdoor advertising
- Financing
- System Revenues
  - Sponsorship
  - Outdoor advertising
  - Public funding

* Depends on smart bike or smart dock system, and exact role of contractor for system startup (site planning, marketing)
** Variates based on service levels and exact role of contractor
Outdoor Advertising

Paris, Lyon, Barcelona, Mexico City

Outdoor advertising company (not on bikes) funds bike share system

JC Decaux advertising funds bike share in Paris

Clear Channel’s EcoBici in Mexico
Public Funding

Capital Bikeshare, many Chinese systems

Public funding, private operations

Public funding, private operations
Title Sponsorship

London’s Barclays Cycle Hire, New York Citi Bike, Itau system in Santiago

London  

NYC  

Sao Paulo
Multiple Sponsors

Boston

Charlotte
Investor Funding

Miami Beach DecoBike
## Bike Share Data

|                        | Launched | # Bikes | # Stations | Covered Population | Population Density (People / Sq. Mi.) | Estimated Annual Tourism (millions) | Annual Subscription | Annual Members | Annual Members / Population | Annual Members / Bike | Casual Members / Station | Casual Members / Annual Member | Annual Members / Casual Member | Annual Members / Station | Casual Members / Day | Casual Members / Trips / Bike / Day | Casual Members / Docks / Station | Casual Members / Stations / Sq. Mi. | Casual Members / Farebox Recovery |
|------------------------|----------|---------|------------|-------------------|----------------------------------------|-------------------------------------|-------------------|----------------|-----------------------------|---------------------|-----------------------------|-------------------------------|---------------------------------|------------------------|-----------------------------|----------------------------------|---------------------------------|-------------------------|
| **NYC (Part Year 2013)** | 2013     | 6,000   | 330        | 4,218,000         | 45,043                                 | 52.7                                | $                 | 95              | 96,000                      | 354,000                           |
| **Boston (2012)**       | 2011     | 704     | 79         | 879,000           | 14,027                                 | 22.5                                | $                 | 85              | 7,000                       | 69,000                           |
| **Washington DC (2013)**| 2010     | 2,500   | 244        | 2,000,000         | 3,366                                  | 18.9                                | $                 | 75              | 24,000                      | 256,000                           |
| **Minneapolis (2012)**  | 2010     | 1,328   | 146        | 684,000           | 6,452                                  | 17.9                                | $                 | 65              | 3,500                       | 54,000                           |
| **Boulder (2012)**      | 2011     | 125     | 22         | 101,000           | 3,943                                  | NA                                  | $                 | 70              | 900                         | 9,000                            |
| **San Antonio (2012-2013)** | 2011   | 450     | 53         | 1,400,000         | 2,880                                  | 30.0                                | $                 | 60              | 556                         | 16,000                           |

<table>
<thead>
<tr>
<th></th>
<th>Annual Members / Population</th>
<th>Annual Members / Bike</th>
<th>Casual Members / Station</th>
<th>Rides / Casual Member</th>
<th>Rides / Annual Member</th>
<th>Trips / Bike / Day</th>
<th>Docks / Station</th>
<th>Stations / Sq. Mi.</th>
<th>Farebox Recovery</th>
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<td><strong>NYC (Part Year 2013)</strong></td>
<td>2.3%</td>
<td>16.0</td>
<td>1,073</td>
<td>2.1</td>
<td>56.0</td>
<td>4.7</td>
<td>35.1</td>
<td>19.7</td>
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<td><strong>Boston (2012)</strong></td>
<td>0.8%</td>
<td>9.9</td>
<td>873</td>
<td>2.5</td>
<td>52.0</td>
<td>3.0</td>
<td>17.8</td>
<td>3.6</td>
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<tr>
<td><strong>Washington DC (2013)</strong></td>
<td>1.2%</td>
<td>9.6</td>
<td>1,049</td>
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<td>86.8</td>
<td>2.9</td>
<td>16.8</td>
<td>10.7</td>
<td>97%</td>
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<tr>
<td><strong>Minneapolis (2012)</strong></td>
<td>0.5%</td>
<td>2.6</td>
<td>370</td>
<td>1.9</td>
<td>49.0</td>
<td>0.8</td>
<td>18.2</td>
<td>4.3</td>
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<td><strong>Boulder (2012)</strong></td>
<td>0.9%</td>
<td>7.0</td>
<td>412</td>
<td>1.3</td>
<td>15.6</td>
<td>0.8</td>
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<td><strong>San Antonio (2012-2013)</strong></td>
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<td>1.2</td>
<td>377</td>
<td>NA</td>
<td>NA</td>
<td>0.5</td>
<td>15.7</td>
<td>6.4</td>
<td>48%</td>
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Challenges in Bike Share

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Capital Bike Share Sucked Today - I'm going to make a big deal of it

Capital Bikeshare Had Its Biggest Day Ever Tuesday

DEATH BY BICYCLE: Wall Street Journal Goes Absolutely Ballistic Over New York's New Bike Share Plan

BIKE SHARE – Details of a Transportation Revolution
Social Equity

Systems are used by majority
- Educated
- Middle-upper class
- Caucasian
- Males

Barriers for minority and/or low-income members
- Digital divide (most marketing is digital)
- Cultural (cycling seen as lower-class; auto ownership is success)
- One-time annual payment difficult
- Trust
- Credit card requirement
- Geography – lower income neighborhood outside of downtown and lack good bike infrastructure

Source: Cleveland Bikeshare Feasibility Analysis
Low-Income Programs and Challenges

- Capital Bikeshare Bank on DC
- Boston Public Health Commission

Challenges
- Credit card requirement
- Low adoption
- Little or no funding for marketing and outreach

- Philadelphia $5.9 million foundation grant
  - 20 stations
  - Local marketing and outreach
  - Credit card program
  - National best practices through NACTO
  - National matching grant through People for Bikes
Technology

- Market is public sector, large organizations and demanding
- Market wants fast development
- Companies are small and have grown too fast
- Very little private investment into industry
Integration with Public Transit

- Only a few systems in the world have transit fare card integration
  - Paris, France
  - Bordeaux, France
  - Some Chinese systems

- Biggest issue is that bike share requires financial coverage for bike theft and ability for recurring billing (for usage fees)

- Requires either:
  - Transit system that has option for an individual to be connected to transit card (not anonymous)
  - Transit system card that holds significant funds on it to cover in case of bike theft
Not a Challenge: Safety

- Proactive bike maintenance
- Communicating rules of the road
- Helmets
Not a Challenge: Theft and Vandalism
THANK YOU!

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and
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