Dockless Bike Share

A bicycle-sharing system is a service in which bicycles are made available for shared use to individuals on a very short term basis for a price. Bike share began in Europe in 1965 and a viable format emerged in the mid-2000s thanks to the introduction of information technology. Public bike share systems are available in 50 countries and more than 700 cities. Of the world’s 15 biggest public bike share programs 13 of them are in China.

Dockless Bike Share developed in China in 2014. Dockless bike shares are designed whereby a user need not return the bike to a kiosk or station; rather, the next user can find it by GPS. Dockless bike share is designed as a frictionless system for short, spontaneous or planned trips. While the cost of using traditional bike share for a single trip (typically, $7/day) could be seen as a barrier to ridership, most dockless bike share models offer single trips for $1/30-60 minutes.

The North American Bike Share Association (NABSA) is the bike share industry’s membership organization with representation from system owners, operators, host cities, equipment providers and technology providers.

By the Numbers

Docked Bike Share in the US: 2010-2016 (NACTO, 2016)
- There are 55 systems with over 42,000 bikes available in cities of all sizes.
- Bike share trips nationwide have increased from 2.3 million to over 28 million in 5 years.
- 85% of trips are taken within just five big systems: Citi Bike in New York, Capital Bikeshare in D.C. Citi Bike in Miami, Divvy in Chicago, and Hubway in Boston.

Docked & Dockless Bike Share Facts (NABSA, 2018)
- As of 2017, more than 130 North American cities use bike share
- 28 million bike share trips were taken in 2016. This is a 25% increase in ridership from 2015.
- By 2016, North America had 50K bike share bikes, compared to 40K in 2014, and 20K in 2012.
- More than 12 North American cities have been piloting “dockless” bike share technology.

Field Review of Dockless Bike Share (2017)
- 12% parked in private spaces
- 12% had major defects which pose safety hazards
- # of bikes exceeds stated fleet size by up to double
- Companies aren’t opening up ridership data
- 0.18 trips/bike/day (Aurora, CO), 0.68 trips/bike/day (Seattle)

Large Dockless Systems

Seattle
Discontinued Pronto docked bike share 4/1/17. First major city in North America to pilot dockless bike share. Ofo, LimeBike, Spin are each permitted up to 2,000 bikes.

Washington DC
Complementing Capital Bikeshare (3,700 bikes) with a pilot program to allow up to 400 for each provider (Mobike, LimeBike, Spin, Ofo, Jump DC). Mostly well-received so far, especially in addressing social justice issues.

Dallas
20K largely unregulated bikes from VBikes, LimeBike, Ofo, Spin & MoBike. Lack of regulation has led to widespread complaints and general disarray.

San Diego
Newest battleground, with Ofo, MoBike & LimeBike (& Bird dockless scooters) entering the market in February, complementing docked DecoBike.
Twin Cities

Nice Ride MN’s RFP process chose NY-based Motivate Int’l to launch dockless bike share, replacing its existing 200 stations and 1,800 bikes. Docks will be maintained through 2021, and dockless bikes will double the fleet if St. Paul cooperates.

St. Louis

The City is currently reviewing permit applications from Ofo & LimeBike and then the companies will bring 500-750 bikes for a launch event and expand to 2,500 bikes.

LARGE DOCKED SYSTEMS

New York
citibike operates 750 stations and 12,000 bikes currently. NYCDOT has issued a request for expressions of interest to consider the possibility of bringing dockless bikes to places Citi Bike doesn’t serve. Sent “rogue” operator Spin a cease & desist letter summer 2017.

San Francisco
Ford GoBike operates 540 stations and 7,000 bikes in 5 cities. Exclusive pilot program with 50 JUMP eBikes (in collaboration with Uber). Rogue presence from Bluegogo. Official programs from LimeBike & Spin elsewhere in Bay Area.

Chicago
Divvy (run by Motivate) operates 580 stations and 6,000 bikes.

Miami
citibike Deco Bike operates 160 stations and 2,000 bikes. They face dockless competition from nearby Key Biscayne and South Miami.

Boston
Hubway operates 185 stations and 1,800 bikes in 4 municipalities. Adding 70 stations in 2018 with an exclusive contract through 2022. Incursions into other suburbs.

Los Angeles
Metro Bike Share was first system linked to public transit agency and operates 115 stations and 1,400 bikes in downtown LA, Pasadena, Port of LA, and Venice. The City permitted a pilot in November with Spin, Ofo and LimeBike in underserved areas.

Portland
BIKETOWNpdx operates 100 stations and 1,000 bikes, but City is being heavily courted by LimeBike & Spin.

Philadelphia
Indego operates 100+ stations and 1,000 bikes. The city issued a Request for Information to “boost” existing bike share.

Austin
Considering augmenting its BCycle program of 69 stations and 505 bikes with dockless after rogue experience with Spin.

DOCKLESS PLAYERS

*Ofo (yellow)
The Beijing-based company that has attracted $1.3 billion in venture capital from Didi Chuxing, China’s version of Uber, and online retail giant Alibaba. It operates six million bikes in 120 cities in five countries. It has 20K bikes in 20 cities in US.

*Lime Bike (green)*
Silicon Valley startup owned by 2 Chinese entrepreneurs and backed by $225M from venture capital firm Andreessen Horowitz and others. Available in 32 cities and 16 university campuses.

*Spin (orange)*
Seattle-based firm founded by an ex Lyft executive, with $8M in venture capital. Operates in 2 dozen cities & universities, now offering e-bikes & scooters.

Mobike (grey)
More than $1B in venture capital from tech giant Tencent and others.

*Zagster*
Docked system with 200+ bike share systems, plus new Pace dockless system in Tallahassee and soon in Albuquerque, Rochester, Bloomington, etc.

*BCycle*
Docked system in 47 cities, including DSM. Rolling out dockless Dash in 2018 and Universal Bluetooth Unit releases 2019 Q3 to convert docked bikes to dockless.

*Have expressed interest in providing dockless services in Des Moines

LEGISLATION

A Florida bill that would have preempted local control of dockless bike share failed to pass through the 2018 legislative session. Following its lobbying efforts, Ofo was expelled from NABSA 3/21/18 for violating the organization’s code of conduct.
OPPORTUNITIES
- Perfect tool for navigating the city while still feeling connected to it
- **Double bicycle transportation mode share** and solve first mile/last mile challenge of transit
- Cost of docked systems leads to undersized, poorly balanced or incomplete bike share systems.
- Advance equity and access to biking, especially in lower-income neighborhoods without good access to other transit options.
- Shared Trip Data optimizes dockless bike placement and distribution. This shows desire lines for future infrastructure improvements and provides the data to justify it in a democratic and human-scale way. **Data Mining** is still a concern.
- Dockless bike share companies are riding an enormous wave of venture capital.
- Shared mobility is in line with an increasing trend towards disownership.
- **33% of U.S. cities** have a “very poor” relationship with sharing companies – What’s our attitude?

CHALLENGES
- **Bike Quality** As the government role recedes, so does public oversight of goals like ensuring the equipment is safe and well-maintained. Dockless bikes are $200/ea. vs. $1,200/ea. for docked versions, accounting for the high rate of defects and the sense of disposability
- **Bike Availability** Reliability is a key factor in any user’s modal choice.
- **Bike Parking** Blocked sidewalks and curbs create obstacles for people walking or using a wheel chair in the public right of way (cf. #DocklessBikeFail photos from Seattle). Availability of existing bike parking is insufficient.
- **Infrastructure** A safe on-street bike network, not Dockless Bike Share, makes a city bikeable.
- **Education** How can we anticipate and respond to complaints most effectively.
- **Oversupply** Market bubble may lead to Bike Graveyards (e.g. China, defunct Bluegogo & Didi).

REGULATORY FRAMEWORK
- Modify Seattle permit or borrow from St. Louis
- Important elements include vandalism, geographic scope, competition, permit cost, time frame
- In the absence of regulation, the community becomes collateral damage (e.g. Dallas)
- Consider more stringent permitting regulations (e.g. Sacramento)
- Consider requiring bikes lock to a fixed object (e.g. Zagster) or in a designated area (e.g. Seattle)
- Consider Geofenced Service Area and credits for returning errant bikes (e.g. Social Bikes)
- Guiding Principles for Emerging Mobility (e.g. San Francisco)

PATHS FORWARD IN DES MOINES
1. **Wait, observe & continue investing in existing** Des Moines BCycle docked system (20 stations and 125 bikes) as is currently the case in NY, Chicago, Boston, Portland.
2. **Complement existing system BCycle system** with dockless bike share. Good models are Charlotte (4 providers with 1,700 bikes added to existing 24 stations & 200 bikes) and Washington DC (5 dockless providers with up to 2,000 bikes complement 3,700 docked bikes).
3. **Transition to a dockless system**, as has been done in Seattle and Minneapolis (soon).

THOUGHTFUL READS
- China’s Revealing Spin on the “Sharing Economy” (New York Times 11/20/17)
- I Rode Dockless Bike Share Around D.C. for a Week (Bicycling, 11/30/17)
- How Bike-Sharing Conquered the World (Economist, 12/19/17)
- Seattle Test Will Lead to Regulating Dockless Bike Share (Next City, 12/21/17)
- Bring On the Bikocalypse (Wired, 2/1/18)
- Is the Dockless Bike Share Revolution a Mirage? (Streetsblog, 2/7/18)