Dockless Bike/Scooter Shared Mobility Programs

Best Practices

Prepared by the

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Introduction

In January 2017, a new breed of shared mobility technologies began operating on public streets. "Dockless" bicycle and electric-scooter share operators attracted a new audience to shared mobility options by offering a new level of convenience and flexibility. Across the country, many of these companies initially launched without contracts, permits, or business licenses. In response, cities have developed new permitting and licensing structures to manage them and to ensure that public safety and welfare remain at the forefront of new mobility advances.

Local governments across the country have learned that dockless bike/scooter share provides a significant opportunity for:

- Complementing transit service overcoming first/last mile transit connections;
- Replacing short vehicle trips with a clean emissions transportation option;
- Using a low-stress technology to introduce a new audience of residents to active transportation options; and
- Encourage city leaders to invest in bike/scooter infrastructure to support growing demand for bicycle/scooter mobility.

Along with the vast potential of dockless bike/scooter share, local governments have identified key challenges, namely:

- Ensuring equitable access to shared mobility technologies across all neighborhoods;
- Encouraging appropriate rider behavior;
- Maintaining an orderly system and keeping pedestrian pathways clear; and
- A lack of connected bicycle/scooter infrastructure, forcing many users to ride on sidewalks.

Bike and scooter sharing have the potential to play an important role in bridging some of the gaps in existing transportation networks, as well as encouraging individuals to use multiple transportation modes.

Background

Shared mobility enables users to obtain short-term access to transportation as needed, rather than requiring ownership. Shared mobility includes carsharing, bikesharing, scooter sharing, ridesharing, and on-demand ride services.

In bikesharing systems, users access bicycles on an as-needed basis for one-way and/or roundtrips. Some bikesharing systems require riders to return bikes at designated "docking stations," are funded through a mix of public and private funding, and provide annual, monthly, daily, and/or per-trip pricing tiers (**Figure 1**). More recently, several companies have appeared that provide an entirely private version of bikesharing, usually without the need for docking stations or other investments in largely fixed capital assets. These companies are now offering "dockless" bicycles, electric-assist bicycles, and electric kick-scooters for a per-trip cost of 1 dollar to unlock and 15 cents a minute thereafter (**Figure 2**).

"Dockless" refers to company policy that riders may leave the device at any destination, rather than requiring the bicycle/scooter to be physically returned to a fixed set of docking stations. Electric-assist

bicycles offer a bike that includes a small battery and motor that will give the user an extra boost while riding, which can be largely beneficial for hilly city terrains and help those with limited mobility means. Electric kick-scooters started popping up on U.S. city streets without warning in 2017. These battery-powered devices are motorized versions of kick-scooters. They have long, narrow platforms where riders stand, two small in-line wheels at the front and back, and a vertical pole at the front with handlebars, a throttle, and brake controls (**Figure 3**).

Several communities are embracing this new technology as part of the transportation network, but many are also learning that it can become burdensome if unprepared for their arrival. This is an opportunity to be proactive in welcoming new models of transportation within the marketplace, while creating policies to limit their potentially negative impacts.

Best Practices

Today, residents in over 70 U.S. cities are trying shared dockless e-scooters and bicycle services as a new way of getting around town. Based on recent pilot programs, case studies, and surveys, four key practice areas emerged illuminating how cities are putting policy into action and setting themselves up for successful management of dockless shared mobility programs: enforcement of vendor operations, caps in vehicle numbers and number of vendors, and data sharing.

Figure 1   Docked Bikeshare (Santa Monica, CA)

Figure 2   Dockless Bikeshare (Lime Bike)

Figure 3   Dockless Electric Scooter Share (Lime Scooter and Bird Scooter)

1. Enforcement of Vendor Operation

Communities where dockless bicycle and scooter share is available have experienced complaints about improperly parked bicycles and/or scooters blocking sidewalks or littering public spaces. Public agencies are also learning from experiences with these new shared mobility services and want to make sure that dockless systems operate equitably and transparently. Three key options are central to enforce vendor operations: vehicle parking, service areas/equity, and the maintenance of vehicles and public outreach to ensure rider safety.

Vehicle Parking

Guidelines for parking should be clear and unambiguous.

1.1 Establish the "furniture zone" as the designated parking space for dockless shared mobility vehicles (**Figure 4**).

1.2 Require operators to build in mechanisms for educating users about proper parking, including mobile application messaging and external outreach (**Figure 5**).

1.3 Encourage setting aside on-street parking for "corrals" where vehicle use is frequent to expand storage and create more permanent and legible parking areas for dockless shared mobility vehicles (**Figure 6**).

1.4 Incorporate striped "corrals" in the furniture zone of the sidewalk (**Figure 7**), to ensure vehicles do not impeded access by people with disabilities, including loading and unloading areas of transit stops.

1.5 In areas with high pedestrian volumes:

- Introduce "geo-fences" or specific areas where parking is digitally prohibited outright through the operator's mobile application (**Figure 8**)
- Introduce "virtual stations" or recommended parking areas through the operator's mobile application
- Introduce location-based speed reduction zones through the operator's mobile application

Service Areas/Equity

Consider mobility goals such as equity, device density, or first/last-mile trips, and how these may play out geospatially.

1.6 Identify specific areas/neighborhoods that operators must include within their service areas to achieve equity goals related to delivering new mobility options to traditionally underserved areas.

1.7 Require operators to serve individuals without bank accounts and/or smartphones and offer discounted rates to low-income users.

1.8 Require operators to hire locally for their day-to-day operations team.

1.9 Require operators to maintain a website and mobile application in multiple languages, especially Spanish.

Maintenance/Safety

Require operators to prove that their devices are in good repair through reporting and establish a timeframe for answering and resolving customer service requests.

1.10 Establish maintenance records requirements to hold providers accountable for the safety and usability of their devices, these can include: service histories, product recalls, user reports of unsafe or damaged vehicles, collision reports, and tallies of vehicles taken out of service for repair, all on a monthly basis.

1.11 Establish hours of availability for bikes and scooters. Most cities make bikes (including e-bikes) available on a 24/7 basis while scooters are available every day from early morning to night time with a dedicated time frame for recharging.

1.12 Require vendors to implement public education campaigns and distribute helmets.

1.13 Require all operators to provide mobile application messaging that notifies users they must:
- Follow the rules of the road;
- Yield to pedestrians;
- Operate scooters safely; and
- Park responsibly.

1.14 In compliance with California Vehicle Code Article 5 Sec. 21235, the operator of a dockless electric scooter shall not:
- Ride on streets with a speed limit in excess of 25 miles per hour, unless in a bike lane, expect that a local authority may, by ordinance or resolution, authorize the operation of a motorized scooter on streets with a speed limit of up to 35 miles per hour.

1.15 In compliance with California Vehicle Code Article 3 Sec. 21100, local authorities may adopt rules and regulations by ordinance or resolution regarding the operation of bicycles on public sidewalks. In the absence of a bike lane or shoulder, rider may:
- Ride on sidewalks designated by localities (sidewalks over ten feet wide or with low pedestrian volumes are recommended)

1.16 In compliance with California Vehicle Code Article 5 Sec. 21230, notwithstanding any other provision of law, a motorized scooter may be operated on a bicycle path or trail or bikeway, unless the local authority or the governing body of a local agency having jurisdiction over that path, trail or bikeway prohibits that operation by ordinance.

1.17 Helmet use is encouraged but not required for riders over 18 years of age.

Figure 4   Sidewalk Zones (Furniture Zone #3)
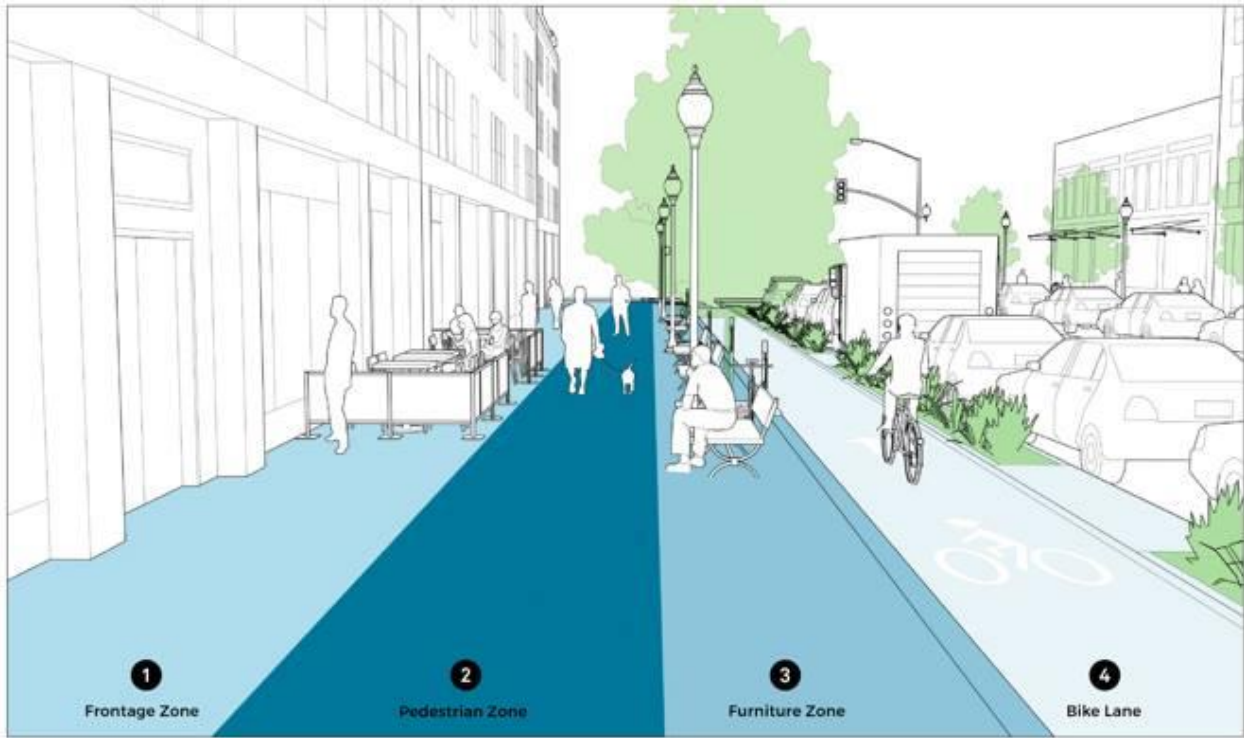
(Source: Urban Street Design Guide, NACTO)

Figure 5   Scooter Parking In-App Messaging
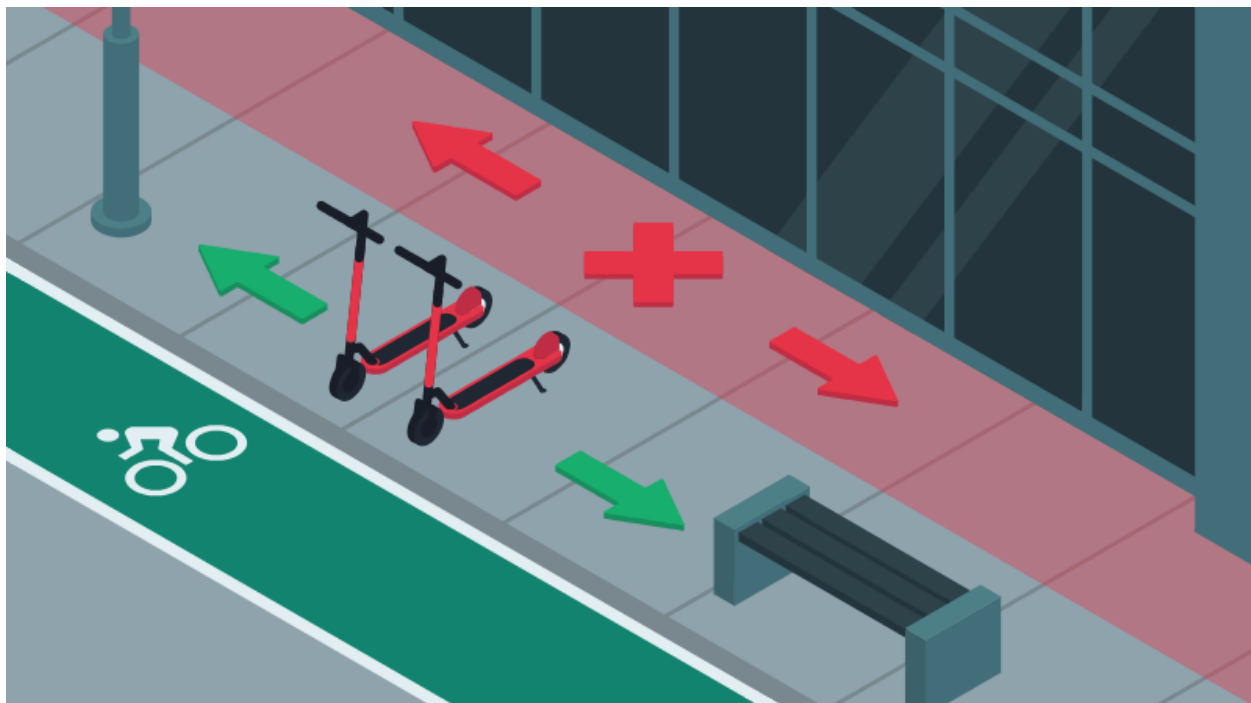
(Source: Scoot)

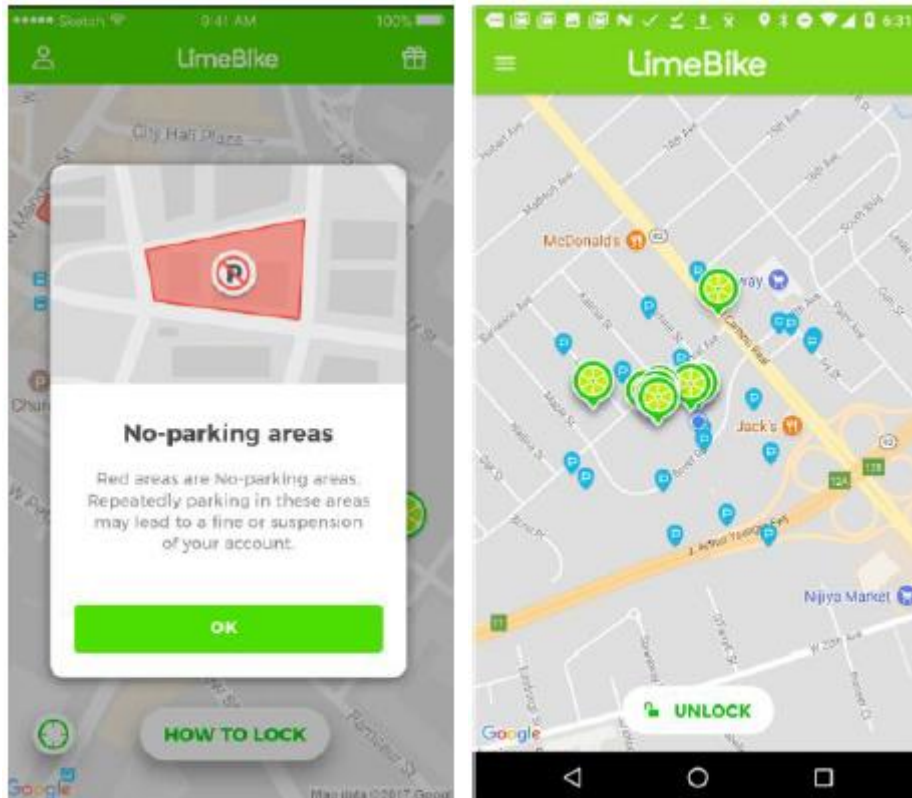**Figure 6   On-street "Corral" Parking (Santa Monica, CA)**

Figure 7   Striped Sidewalk Parking (Santa Monica and Long Beach, CA)

Figure 8   Geo-fencing and Virtual Stations (Lime Bike)

2. Caps

In reaction to early dockless companies dropping thousands of vehicles on city streets overnight, many cities have instituted a fleet cap, or an upper limit on how many vehicles can be on the city streets.

Caps in Vehicle Numbers

2.1   Vehicle caps are not the best strategy for managing the fleet and many times are used as a substitute for stricter parking requirements. Instead, cities should set clear expectations or requirements with the vendor for device utilization (e.g. average rides/per vehicles/per day), relying strictly on this measure to indicate whether steps need to be taken to better balance supply and demand.

- A recommended utilization rate is four (4) average rides per vehicle per day. If this ratio is exceeded**,** then likely more vehicles are needed. If this is too low, the number of vehicles may need to be reduced, or vehicles may need to be redirected to different locations.

Caps on the Number of Vendors

2.2   Having multiple bike or scooter share vendors may result in a greater variety of vehicles in more locations, but they also create confusion for users and more work for cities to manage. It is recommended that small cities start with a single vendor and increase as popularity grows. It is also valuable for adjacent cities to consider utilizing the same vendor.

3. Data Sharing

Dockless bike/scooter operations produce significant data that can be used to support planning both for shared mobility programs and for bicycle infrastructure.

Standardized Data Reports

3.1   Operator must report on the following data, at least monthly:

- Average rides per vehicle per day
- Trip origin and destination information
- Trip number by day, week and month
- Trip length and time
- Total users

3.2   Operators must protect users' personal information.

Conclusion

Shared mobility programs have raised awareness of the need for more and better bicycle infrastructure. Cities will need to pair shared mobility programs with a more robust investment in bicycle lanes, wider sidewalks or full-width multi-use paths.