



TOWN OF CARRBORO
NORTH CAROLINA

TRANSMITTAL

PLANNING DEPARTMENT

DELIVERED VIA: *HAND* *MAIL* *FAX* *EMAIL*

To: David Andrews, Town Manager
Mayor and Board of Aldermen

From: Zachary Hallock, Transportation Planner

Date: February 5, 2019

Subject: E-Scooters and other Shared Active Transportation

Summary

The purpose of this report is to provide an overview of Shared Active Transportation vehicles and systems, active programs in North Carolina, and a summary of data taken from completed pilot programs around the country.

Overview of Shared Active Transportation Vehicles

- Bike Share: The initial wave of shared active transportation vehicles, these tended to be heavier and have fewer gears than privately owned bicycles; both for security purposes and ease of maintenance.
- Electric-assist Bikes: Bikes with a built-in electric motor which automatically assists once the rider starts pedaling. Improves mobility up hills but prevents low-speed (walking speed) movement. Same modifications for security and maintenance apply.
- E-Bikes: Bikes with a built-in electric motor which is activated by a throttle, can still be ridden without use of electric assistance. Same modifications for security and maintenance apply.
- E-Scooters: Two-wheeled, electric vehicles with a top speed of 15-20 MPH.
- Jitneys: Small, 4-wheeled, electric vehicle which can sit up to 6 people; or fewer with additional cargo. Devised to be a ridesharing option in conjunction with other vehicles to provide an alternative for inclement weather or for carrying larger loads.

Overview of Shared Active Transportation Systems

- Docked: A system primarily applied to traditional, municipality operated bike share system where all bikes must be locked at a designated station.

- Imposes the most restrictions on a bikeshare system and has the least flexibility, but leaves little room for issues regarding parking of vehicles in public sidewalks, travel lanes, or private property.
- Dockless: A system developed by private companies wherein company vehicles (bikes or scooters) are ‘released’ into an urban environment with minimal oversight from the company.
 - Tends to require additional regulation or permitting to be done by the municipality to maintain safety, but system remains highly flexible.
- Semi-docked: A new system presented to Town staff by Gotcha wherein, designated areas (often referred to as mobility hubs) are geolocated within the system for parking bikes/scooters. Any user parking a bike/scooters outside of a mobility hub will be subject to an additional fee.
 - Midpoint between other two systems, limited physical infrastructure is required for a ‘mobility hub’, but supporting improvements (as provided by the Municipality) like signage or pavement markings can help assist users in locating the designated parking area.

Current Shared Active Transportation Programs in North Carolina

Greensboro Scooter Pilot Program

<https://www.greensboro-nc.gov/departments/transportation/gdot-divisions/planning/scooter-rentals>

Durham Shared Active Transportation Program

<https://durhamnc.gov/3219/Shared-Active-Transportation>

Charlotte E-scooter Share Pilot Program

<https://charlottenc.gov/Transportation/Programs/Pages/EScooterSharePilotProgram.aspx>

Highlights of Charlotte Pilot:

- The average Dockless bikeshare user: Took 1-3 trips, trip length of 0.9 miles, 12 minutes per trip
- Since launch in November 2017, about 266,000 trips were taken on dockless bikeshare
 - Average of ~19,000 trips per month
- The average E-scooter user: Took 1-3 trips, trip length of 1.7 miles, 12 minutes per trip
- Since launch of E-scooters in May 2018, over 726,000 trips were taken
 - Average of ~91,000 trips per month over that period

Highlights of DC Pilot:

- Dockless bikeshare and scooters didn’t conclusively demonstrate impact on the city’s docked bikeshare program, Capital Bikeshare

- Dockless bikeshare providers had a lower rate of trips per vehicle per day when compared to Capital Bikeshare
- Capital Bikeshare members and dockless e-bikes are the most similar. They have clear peak hours at 8-9 a.m. and at 5-6 p.m. with a smaller peak around noon at 12-1 p.m.
- Casual Capital Bikeshare riders, riders who do not have a membership, do not have a morning peak. Ridership gradually increases starting at 6 a.m. until 5 p.m. after which it drops off sharply.
- For dockless bicycles and dockless scooters, the AM peak lasts longer: from 8-10 a.m. Scooters have their highest usage between 12 p.m. to 6 p.m. and they have the lowest usage after 6 p.m. due to their charging needs.
- Around 80% of all shared mobility rides during the weekends occur during 10 a.m. and 6 p.m.

Highlights of Portland Pilot:

General Usage:

- Pilot lasted 120 days
- Bird, Lime, and Skip were permitted during this process. Total scooters deployed were evenly split among the three companies (681 scooters each).
- Average trip length 1.14 miles
- 2.9 trips per scooter per day
- 62% of Portlanders viewed e-scooters favorably. Higher rating for those under 35 years old, people of color, and low income.
- 34% of local scooter riders, and 48% of visitors took an e-scooter instead of a car. 42% of total scooter riders would have either walked or ridden a bicycle.
- Scooter riders preferred low-speed streets and bike lanes over sidewalks.
- 74% of scooter riders had never used Portland's bike share program. 42% of scooter riders never used a bicycle.

Community and Safety Information:

- Portland distributed 5,000 physical copies of educational material about proper riding and e-scooter laws.
- Scooter companies displayed e-scooter laws, rules, and safety info on the scooter, in the app, on flyers, and on social media.
- Scooter companies handed out or mailed 2,292 free helmets.
- 6% of scooter users got rid of their car because of the 120 day e-scooter program, another 16% considered it.
- 71% of scooter riders used them for to get to a destination, while 29% for recreation or exercise.
- E-scooter injuries accounted for 5% of all traffic crash injuries.
- 90% of scooter riders did not wear helmets
- 73% of scooters were parked correctly on the sidewalks

- Each company was required to deploy 100 scooters into East Portland. Bird performed the best, deploying >100% of the requirement, while Lime and Skip deployed <90% of the requirement.
- All three companies were required to respond to city complaints within 60 minutes. All three companies performed made a good faith effort to meet these requirements.

Sidewalk Riding Data:

- When riding on a street with a public greenway, 0% of scooter riders used the sidewalk
- When riding on a street with a protected bike lane, 8% of scooter riders used the sidewalk
- When riding on a street with a standard bike lane, 21% of scooter riders used the sidewalk
- When riding on a street with no bike lane, 39% of scooter riders used the sidewalk
- When riding on a 20MPH street, 18% of scooter riders used the sidewalk
- When riding on a 30MPH street, 50% of scooter riders used the sidewalk
- When riding on a 35MPH street, 66% of scooter riders used the sidewalk

Other References:

Charlotte Shared Mobility Pilot Factsheet:

<https://charlottenc.gov/Transportation/Programs/Documents/Factsheet-SharedMobility.pdf>

Charlotte Draft E-scooter Plan:

<https://charlottenc.gov/Transportation/Programs/Documents/2018-1126-DRAFT-E-ScooterPlan.pdf>

Washington, D.C. Dockless Vehicle Sharing Demonstration Report:

<https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/Dockless%20Demonstration%20Evaluation%2010319.pdf>

Portland, OR 2018 E-Scooter Pilot Project Report:

<https://www.portlandoregon.gov/transportation/article/709719>