



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>