E-Scooters in Rosslyn Virginia: Rider Demographics, Preferences, and Motivations

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Background: Since debuting in the US in 2017, dockless shared e-scooters have quickly increased in popularity, with Americans taking 38.5 million e-scooter rides in 2018, exceeding the number of rides taken using station-based bikesharing systems. E-scooters have also received pushback from residents, largely due to concerns about parking and riding on sidewalks. To date, little is known about e-scooter rider demographics, ride motivations, and rider and non-rider perceptions of e-scooters generally.

Methods: This paper presents results of an online survey of 182 e-scooter riders and non-riders conducted in April 2019 in Rosslyn, Virginia, a regional job center in Arlington County, across the Potomac River from Washington, DC.

Location Preference for Riding

Sidewalk riding is a common complaint about dockless e-scooters. Our survey indicated that sidewalk riding was only preferred over sharing lanes with cars; e-scooter users would much prefer to ride in bike lanes, especially lanes that are protected **(Figure 1)**.

	Where would you prefer to ride?	Where do you actually ride?				
	Average Rating (5=most preferred, 1=least preferred)	Always	Often	Sometimes	Rarely	Never
Protected bike lane	4.4	24%	30%	30%	5%	11%
Bike lane in the street	3.3	30%	39%	18%	5%	8%
Trail/path	2.9	14%	17%	15%	20%	34%
Sidewalk	2.8	17%	23%	26%	28%	6%
Shared travel lane (same lane used by cars)	1.6	9%	20%	33%	21%	17%

Figure 1

Mode Replacement

One of the more controversial questions about dockless devices is whether they complement or compete with public transit or walking. While 33% would have walked if they hadn't had a scooter for their last trip, 43% would have traveled by car, either taxi/TNC (39%) or their own (4%) **(Figure 2).** There was minimal direct trip replacement for transit (7%). Additionally, 52% of users reported using taxis and TNCs less often since using e-scooters and 35% reported driving their own car less; 28% did report walking less (**Figure 3**).

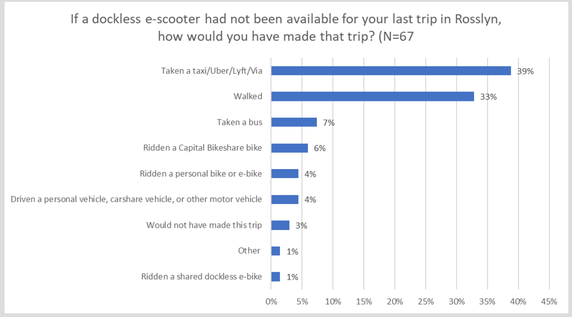

Figure 2

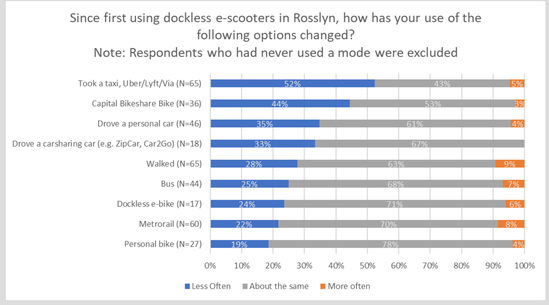

Figure 3

Trip Purpose and Motivations

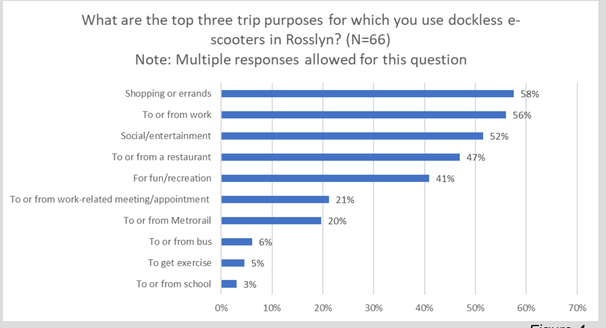

Figure 4

Respondents indicated that they used dockless e-scooters because of their utility. The most popular trip purposes were commutes or errands. More than one in five indicated that they were using e-scooters to connect to public transit **(Figure 4)**. Users also responded that speed and cost were the two biggest factors for choosing a dockless e-scooter over other modes **(Figure 5).**

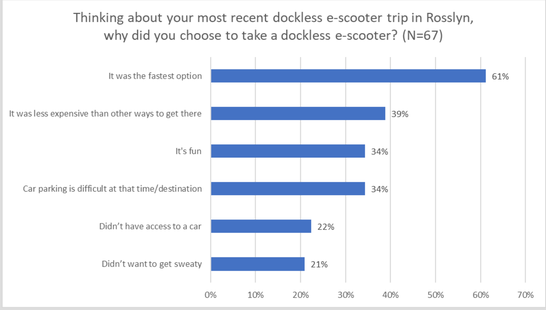

Figure 5

Survey Demographics

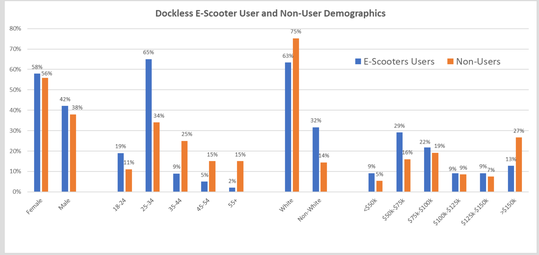

Figure 6

Key Results

- E-scooter users were younger, more racially/ethnically diverse, and less affluent than non-users.
- E-scooters were used for utilitarian purposes
- Users chose scooters because it was the fastest option.
- 43% of e-scooter users reported that their last e-scooter trip would have been by car if an e-scooter had not been available.
- 52% of e-scooter users reported driving personal cars less since the introduction of e-scooters.
- 78% of users reported that they increased or did not change their transit use.
- Respondents were generally unfamiliar with e-scooter laws with over 40% of users reporting they didn't know what the rules were.
- E-scooter users demonstrated a clear preference for riding in protected bikeway facilities.

- For more details see: **Pedestrians and E-Scooters: An Initial Look at E-Scooter Parking and Perceptions by Riders and Non-Riders**, Sustainability 11(20), 5591: https://doi.org/10.3390/su11205591