



Transportation Commission Management Brief

DATE: SEPTEMBER 19, 2019
TO: Chair Wu and Members of the Transportation Commission
FROM: Andreas Piller, Associate Transportation Planner, 425-452-2931
apiller@bellevuewa.gov
SUBJECT: Bike Share Pilot

PURPOSE

This management brief provides information on the status of Bellevue's 2018–19 bike share pilot and the transition to a revised permit for 2019–20. Staff will not be present to discuss this topic at the September 26 meeting, and no Commission action is requested.

BACKGROUND

Background information about Bellevue's bike share pilot, including its timeline, purpose, and community input received during the planning process, can be found on the City's [bike share webpage](#) and in the [Pilot Permit Framework](#). This pilot is part of the [Pedestrian & Bicycle Implementation Initiative](#), which Council commenced in 2015. The Transportation Commission helped shape the goals and strategies for the pilot at meetings in January and March of 2018, and City Council was briefed in March 2018. Permit special conditions were developed under authority granted to the Transportation Director in the Right-of-Way Use Code (see [BCC 14.30.090](#)). The City launched a one-year bike share pilot on July 31, 2018. Lime was the only permitted operator for the duration of the pilot.

The Transportation Commission received a [staff report](#) at their meeting on December 13, 2018, which described progress installing designated preferred parking areas ("bike hubs"), preliminary performance and customer service data, and community feedback. Staff has been working with the Washington State Transportation Center (TRAC) at the University of Washington to evaluate data collected during the pilot. That data supports review of operator compliance with permit conditions and has helped inform next steps for bike share in Bellevue.

Consistent with condition PI-5 of the [Bike Share Pilot Permit Special Conditions](#), staff notified the Transportation Commission and City Council in July 2019 that Lime's permit would be extended through fall 2019 pending the completion of the pilot evaluation and transition to a new permit with revised conditions.

CONTEXT

New mobility services are in a state of near constant flux. These are public and private transportation services, mostly available on-demand, that are made possible by mobile technology and real-time location data, including ride-hailing, rideshare, car share, microtransit, and shared micromobility. Bike share is a subset of shared micromobility, which also includes the recent phenomenon of scooter-share (see [SUMC](#)).

Nationally, shared micromobility operators have generally shifted from a strategy of rapid deployment and market saturation to leaner, more targeted fleets. Dockless pedal bikes have largely been replaced by electric-assisted bikes (“e-bikes”), some operators have retooled their fleets to focus on e-scooters, and others have introduced other device types like motorized trikes, seated e-scooters, and mopeds (see [NACTO](#), [Washington Post](#)). This rapidly changing industry raises questions about short-term system dependability in individual markets, but a recent study suggests that micromobility “faces a promising future” and has “massive market potential” in communities with high proportions of short-duration vehicle trips that could be served by fast, efficient alternatives to driving (see [INRIX](#)).

Regionally, two operators have exited and one has entered the Seattle market (see [GeekWire](#), [Seattle Times](#)), manual pedal bikes have been replaced entirely with e-bikes (see [Seattle PI](#)), and e-scooters have been piloted in several communities and may be coming soon to others (see [Tacoma](#), [Bothell](#), [Redmond](#), [Seattle](#)). Kirkland has considered but not yet commenced a pilot (see [Kirkland Reporter](#)).

In Bellevue, the bike share pilot provided an opportunity to witness some of these changes firsthand, offering a new mobility option that many have tried and providing insight into issues that warrant further attention. For example, prior to the pilot, a key challenge was preparing to manage multiple operators and potentially an oversupply of bikes. Today, the key challenge is facilitating adequate access to bikes to ensure the service provided is useful. During the pilot, Lime was permitted up to 400 bikes, but they never deployed more than about 300, and after reducing their fleet for the winter, their fleet has not exceeded 150 bikes since. Over a citywide service area, this results in few bikes nearby when and where people want them, hindering the service’s utility.

PILOT EVALUATION

The following is a summary of some of the key results from the pilot evaluation. All figures presented here are based on data collected from July 31, 2018 through May 22, 2019. Additional information will be included in a pilot evaluation report, which is anticipated to be published in October 2019.

At its meeting on March 8, 2018 (see [meeting minutes](#)), Transportation Commissioners suggested that staff facilitate bike share according to the Pilot Permit Framework yet remain flexible to learning from our own experience and working with operators to respond based on the data collected. As circumstances evolved over the course of the pilot, this flexibility has

been imperative, and the lessons learned have helped shape revised permit conditions for 2019–20.

Bicycle Availability and Trips Taken

Period	Days	Bikes Available			Total Trips	Daily Trips		Trips/Bike/Day	
		Max	Min	Avg		Max	Avg	Max	Avg
<i>Overall</i>	296	302	37	154	38,310	309	129	2.5	0.9
<i>July–October</i>	93	284	108*	191	19,110	309	205	2.2	1.2
<i>November–February</i>	120	302	64	164	9,937	249	83	0.9	0.5
<i>March–May</i>	83	139	37	98	9,263	219	112	2.5	1.1

**Reflects minimum after the 7th day of service, when the 100-bike minimum was first met*

- Lime was required to have a minimum of 100 bikes in their active fleet by the 60th day following system launch. There were 115 bikes in service in Bellevue by the 7th day.
- Lime maintained the 100-bike minimum consistently until late January. Fewer than 100 Lime bikes were available from January 23 through April 6, 2019. This minimum was reestablished and maintained through mid-May, but fewer than 100 bikes were available for the last five days of the evaluation period.
- The number of Lime bicycles available in Bellevue peaked at 302 in mid-November and declined steadily thereafter. The fleet shrank to less than 200 bicycles by mid-December and has not exceeded 150 bicycles again since December 26, 2018.

Users

The largest category of riders was the “Occasional” category, which are those who used bike share more than once but less than required to be considered a “Weekly” rider—those who rode at least once per individual week out of half of all weeks for the study period.

Number of Trips Taken in Bellevue	Number of Unique Users
Overall	8,540
1	3,793
2	1,683
3–6	1,840
7–10	495
11–20	430
21–40	198
41–100	78
101+	23

Trip Patterns

Neighborhood Areas	Trip Starts		Trip Ends	
BelRed	1,921	5%	2,032	5%
Bridle Trails	326	1%	361	1%
Cougar Mountain / Lakemont	34	0%	38	0%
Crossroads	899	2%	784	2%
Downtown	20,175	53%	18,358	48%
Eastgate	471	1%	528	1%
Factoria	909	2%	805	2%
Lake Hills	1,486	4%	1,533	4%
Newport	314	1%	384	1%
Northeast Bellevue	241	1%	319	1%
Northwest Bellevue	3,244	8%	3,675	10%
Somerset	55	0%	69	0%
West Bellevue	3,540	9%	3,944	10%
West Lake Sammamish	59	0%	89	0%
Wilburton	1,683	4%	1,825	5%
Woodridge	303	1%	343	1%
Outside of Bellevue	2,650	7%	3,223	8%
Total	38,310			

The most common trip origin-destination pairs are:

- Beginning and ending in Downtown (13,718 trips)
- Beginning in Downtown and ending in West Bellevue (1,819 trips) and Northwest Bellevue (1,724 trips)
- Beginning in West Bellevue and ending in West Bellevue (1,683 trips) and Downtown (1,398 trips)
- Beginning in Northwest Bellevue and ending in Northwest Bellevue (1,378 trips) and Downtown (1,215 trips)
- Beginning in Downtown and ending outside of Bellevue (1,071 trips)

Geographic Distribution

Geographic Areas	Target Weekly Average % of Fleet		Actual Average % of Fleet	Weeks Non-Compliant
	Minimum	Maximum		
Activity Centers	50% of Total	-	47%	5
<i>Downtown</i>	25% of AC	50% of AC	68%	34
<i>BelRed</i>	10% of AC	-	5%	-
<i>Crossroads</i>	10% of AC	-	5%	-
<i>Eastgate</i>	10% of AC	-	2%	-
<i>Factoria</i>	10% of AC	-	9%	-
<i>Wilburton</i>	10% of AC	-	11%	-
FTN	10% of Total	-	25%	-
Neighborhoods	15% of Total	-	28%	-

Non-compliance with the targets established for geographic areas related primarily to over-supplying Downtown. However, the active fleet deployed citywide was less than 150 bicycles during more than half of the non-compliant weeks. No enforcement actions were taken because, under those circumstances, it was determined based on ridership patterns that a reduced percentage allocated to Downtown would likely hinder utility in the area attracting the greatest use.

Parking and Rebalancing at Bike Hubs

This element of the permit conditions has been challenging to measure and evaluate effectively with the data available. Precise GPS accuracy is a critical factor in determining whether a bike is parked at or near a hub without direct observation; however, field observations indicate that bikes are often located more than 50 feet from the GPS coordinates registered—significantly further than the level of accuracy reported in the GPS device specifications. Preliminary results are provided below, but further investigation is required. New methods for assessing compliance with conditions related to bike hubs will be employed in the 2019–20 permit.

	Trip Starts	Trip Ends
At/Near Bike Hubs		
25-ft radius	3%	2%
50-ft radius	7%	4%
75-ft radius	10%	6%
At/Near Bike Hubs and public bike racks		
25-ft radius	5%	3%
50-ft radius	12%	9%
75-ft radius	20%	16%

Parking in No Parking Areas

About 3% of all bike share trips taken in Bellevue ended in city-owned parks, which are designated as No Parking Areas. The following are all parks where at least 20 bike share trips ended. The Transportation Department will coordinate with Parks & Community Services to identify viable specific locations where bike share parking may be allowed in these parks while continuing to restrict parking elsewhere to minimize impacts to these community amenities.

No Parking Areas (city-owned parks)	Trip Ends	
All No Parking Areas	1,299	-
Downtown Park	586	45%
Hidden Valley Sports Park	76	6%
Chism Beach Park	51	4%
Mercer Slough Nature Park	50	4%
Wilburton Hill Community Park	50	4%
Marina at Meydenbauer Bay	42	3%
Clyde Beach Park	36	3%
Robinswood Community Park	36	3%
Ashwood Playfield	35	3%
Meydenbauer Beach Park	34	3%
Crossroads Park & Community Center	28	2%
McCormick Park	26	2%
Lake Hills Community Park	25	2%
Lake Hills Greenbelt	22	2%

2019-20 PERMIT

The Transportation Department will soon finalize revised permit conditions that will apply to operators of shared micromobility services seeking a permit in Bellevue for the remainder of 2019 through December 31, 2020. These revisions are based on lessons learned from the 2018–19 pilot and aim to better facilitate services that reflect the values and goals outlined in the Pilot Permit Framework. Operators will soon be notified that the City is accepting applications. The following is a summary of the most notable revisions relative to the pilot permit.

<i>Permit Revision</i>	<i>Rationale and Intended Outcome</i>
Reframing as a “shared micromobility” permit	Recognizing that the industry is rapidly evolving, and new types of devices are being deployed in cities across the country, this revision will allow the City to be flexible and grant permits for any electric-powered device that is allowed to operate on most local and arterial streets. E-bikes of any class will still be required as part of an operator’s fleet. Because Bellevue City Code 11.48.210 currently restricts the use of motorized foot scooters on most arterial streets, shared e-scooters would not be eligible for this permit unless the code is amended by Council ordinance.
Emphasizing parking at bike hubs, including requiring a minimum percentage of trip ends to be at/near them, and charging a per-trip penalty for trips exceeding the target	Although Lime frequently rebalanced bikes to bike hubs, users rarely parked bikes in these areas when ending a trip, likely because incentives and disincentives were not implemented to encourage their use. Field observations conducted by students at the University of Washington found that bikes not parked at hubs were often parked in violation of permit conditions, though not all were deemed to be an obstruction hazard. Targeting a greater number of trip ends to bike hubs will help reduce obstruction hazards, and charging operators penalties will help ensure that some form of incentives and/or disincentives are implemented to positively influence user parking habits.
Modifying the fee structure to be based on the value of right-of-way occupied	This will better reflect the primary impact of shared micromobility on the general public, which is the occupation of public right-of-way when the devices are not in use. This approach is more consistent with the approach used for other businesses occupying the right-of-way (e.g. sidewalk cafes), and this may be more replicable for other new mobility services (e.g. car sharing) that occupy public right-of-way.
Lowering the maximum permitted active fleet size	Experience suggests that large-scale operations are not currently likely in Bellevue. To ensure that the right-of-way lease fee reasonably reflects the fleets likely to deploy, the

	<p>maximum allowance will be reduced. This will help lower the barrier to entry for new operators, facilitating a more competitive market.</p>
<p>Lowering the minimum allowed active fleet size</p>	<p>This is one of several revisions aiming to encourage additional operators to enter the market, allowing them to start small, test strategies, and grow when they are ready. Ultimately, this should provide the community with more shared micromobility options.</p>
<p>Reframing conditions to be outcome-oriented rather than means-driven</p>	<p>Some pilot permit conditions may be regarded as regulating a particular solution rather than a desired outcome. For example, condition OP-1 required an operations center in King County east of Lake Washington, but the intended outcome was responsive fleet management. Though well-intentioned, such requirements set up a binary compliance scenario that may not meaningfully reflect whether the permittee is operating responsibly. Focusing on outcomes will allow operators to propose innovative approaches to achieving the community’s values for shared micromobility services.</p>
<p>Encouraging innovation by offering values-based incentives</p>	<p>The City has many goals and policies that shared micromobility can support, but they are not necessarily appropriate to require through permit conditions. Operators who commit to values-based operational enhancements related to safety, sustainability, equity, and other priorities may qualify for reduced fees or fleet bonuses as a means of incentivizing services that go above and beyond the basic permit conditions.</p>
<p>Modifying data sharing requirements to conform with emerging national best practice</p>	<p>Over the past year, standardized formats for reporting shared micromobility data have gained popularity nationwide. Requiring operators to provide data in these formats will simplify reporting for operators and provide Bellevue with the information needed to ensure quality analysis and regulation while protecting personal privacy.</p>

NEXT STEPS

The Transportation Department will begin accepting permit applications in the coming weeks, consistent with the revisions described above. Lime will be required to apply for a new permit under the revised conditions, and new operators will be allowed to apply for a permit to begin operating in Bellevue.

A report summarizing the key findings of the bike share pilot evaluation is anticipated to be published in October 2019. Staff is considering opportunities to contract with a third-party analyst that would facilitate receiving and reporting performance data for shared micromobility services on a more routine basis. If pursued, such a contract would leverage Connecting Washington funds allocated for bike share in Eastside communities.

The Transportation Department will undertake two efforts to engage the community about shared micromobility beginning in October, with both launching simultaneously.

- An online interactive mapping tool that will help the City determine where to implement additional bike hubs to support an accessible and orderly citywide bike share system. The tool will allow people to provide location suggestions via a map-based online interface and view, vote, and comment on suggestions submitted by others. This participatory planning process aims to empower the public to help make decisions about how bike share can better serve their community, both extending the benefits and addressing concerns associated with dockless bike share. The results of this map will be reviewed by staff and evaluated for their appropriateness. Subsequent engagement with neighborhood groups may be warranted in some areas, depending on the feedback obtained. New approved locations will be added virtually to the mobile applications of all permitted shared micromobility operators, and corresponding paint and signs will be installed in the winter and/or spring as weather and resources permit.
- An online questionnaire, which seeks to gauge the community's perception of bike share in Bellevue. Together with ongoing performance monitoring, these results will help inform future system improvements and revisions to permit conditions.