

Seattle Department of Transportation

2019 QUARTER 2 BIKE SHARE SUMMARY REPORT



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Transportation

INTRODUCTION

Seattle's free-floating bike share permit allows area residents and visitors to easily access a bicycle – for a quick errand, a commute trip to Link light rail, or an all-day adventure. Users can find and rent the closest bike share bicycle, ride the bike to their destination, and leave the bike appropriately parked for the next user.

To track on-going issues, data, and program accomplishments, SDOT regularly publishes monthly and quarterly bike share reports. The monthly reports summarize key data points and have been published since December 2018. This quarterly report follows the [Q1 report](#) and is meant to summarize all activities occurring within the bike share permit program from April through June 2019. This includes ridership data, program accomplishments, compliance audit results, and any permit-related enforcement actions taken.

Q2 Key Takeaways

- **High ridership:** Ridership continued to rise as the weather improved, with over a half-million rides taken in Q2 alone, and almost 900,000 trips taken so far this year. These numbers are similar to 2018 ridership (on a smaller 2019 fleet) and indicates that people are readily using this low-carbon mobility option.
- **Parking and sidewalk obstructions:** Q2 compliance audits showed that too many bikes continued to be parked as obstruction hazards, restricting mobility for pedestrians and people with disabilities. Based on these results SDOT took maximum-allowed fleet reduction enforcement actions, further restricting the number of bikes authorized to be on the street until compliance improves.
- **Building bike parking areas:** The bike share team continued to install bike parking at a rapid pace, building parking for more than 700 bikes through Q2. This keeps SDOT on-track to add parking for 1,500 bicycles this year, mostly in the form of in-street bicycle corrals located near intersections. These corrals not only provide more space for bike share and personal bikes but can also help pedestrian safety by shortening crossing distances and increasing crosswalk visibility.
- **Rooted in Rights video:** SDOT partnered with disability-rights non-profit Rooted in Rights in Q2 to produce an educational video aimed at educating users and non-users about proper bike share parking behavior. The goal of the video was to help reduce the number of bikes obstructing our sidewalks and curb ramps, etc. SDOT and Rooted in Rights released the video via social and traditional media, while the bike share vendors emailed the video to all of their users in Seattle. Through Q2, the video had been viewed over 50,000 times.
- **Outdoors for All adaptive cycle access:** SDOT used bike share permit fees in Q2 to partner with local nonprofit Outdoors for All, a leading organization that works to increase outdoor recreational opportunities for people with disabilities. This partnership increases access to their nation-leading adaptive cycle fleet, making hand-cycles, tandems, and other cycles designed for people with various disabilities available for no-cost rental seven days a week at their Magnusson Park headquarters. Additionally, this partnership allows Outdoors for All to bring adaptive cycles to ten south-end events this summer. By the end of Q2 this partnership had already exceeded usage goals for the total year with more than 100 unique riders using these adaptive cycles.
- **Contracted with 3rd party auditor:** SDOT kicked off a partnership in Q2 with Bluewater Project Management Services to assist SDOT with auditing the bike share fleet. This neutral third-party auditing will be an important part of ongoing program management and evaluation, ensuring that the bike share fleet will continue to undergo regular audits throughout the remainder of the year.

Q3 Look-Ahead

As bike share usage has ramped up in the summer months, SDOT is now gearing up to perform our second evaluation of our bike share permitting program. The first [evaluation](#), published in August 2018, found that bike share was a safe and popular mobility option for most of the city, with more work needed to improve equity and impacts to people living with disabilities. For 2019, we will

be able to track progress from last year with new and more detailed data. This data, combined with more robust audit data, will give us a better understanding of how people are using bike share to get around the city and the overall positive mobility and carbon impacts, while also helping us better understand the potential negative impacts of improperly parked bikes to pedestrians and people living with disabilities.

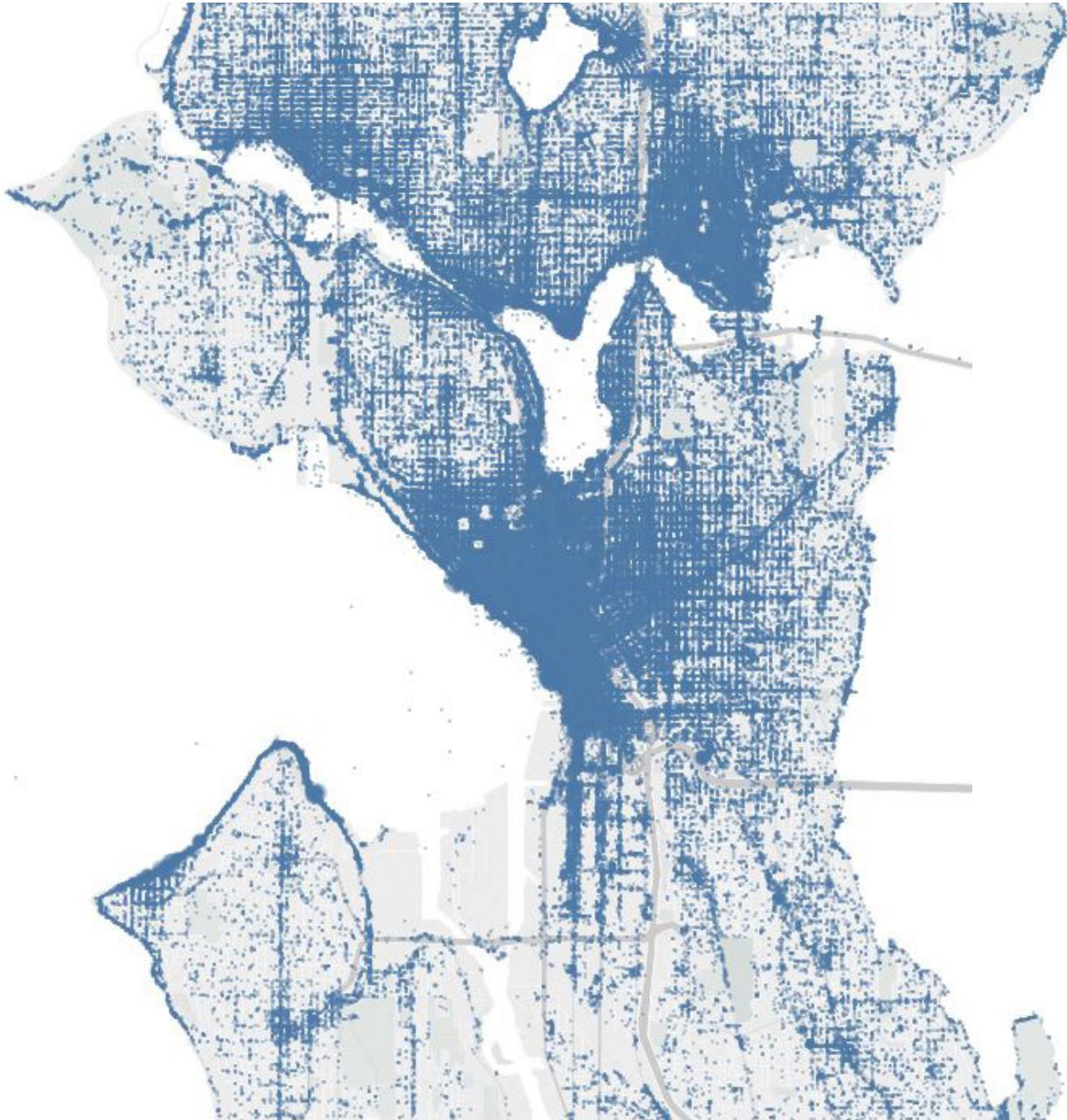


Figure 1: Q2 Trips ends: This map shows the location, as reported by the bike share vendors, of each trip end in Q2 2019. This type of data will give SDOT a rich understanding of how and where people are using bike share.

BIKE SHARE Q2 DATA

Fleet Size

Lime and Jump continued as the only bike share operators in Seattle, with Lyft, although permitted, not yet launching service. Bike share fleets fluctuated between 4,000 and 6,000 devices throughout Q2. This combined fleet remained smaller than the 10,000 bikes that were operating on Seattle's streets in Q2 2018. This could be related to a number of factors, including e-bike production delays experienced by bike share vendors and nationwide market shifts. SDOT will continue to keep a close eye on fleet size with a goal that bike share provide a readily-available transportation option throughout the city.



Figure 2: On-street corral on Republican St, at 1st Ave N

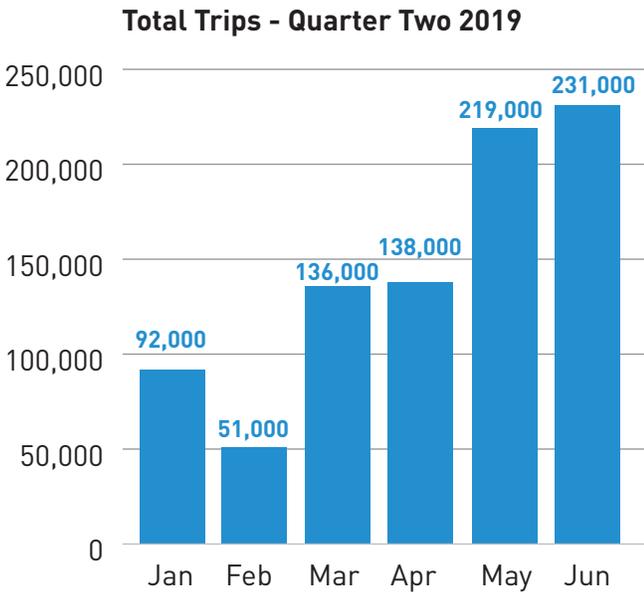
2018 vs 2019: What Has Changed?

Launching just two years ago in 2017, free-floating bike share continues to be a quickly evolving market in the US. In 2017 and 2018, mobility companies heavily invested in the nascent field of free-floating (and largely non-electric) bike share. 2019 has seen marked shifts with company consolidation in the market, mobility providers becoming publicly traded entities, and a move to electric bicycles, which are both more expensive to produce and more expensive for the consumer. As a result of these changes, Seattle's 2019 bike share fleet is significantly smaller than 2018 while the costs per ride have risen. To compare, in 2018 the free-floating bike share fleet was around 10,000 bikes and many rides were completely free (standard pricing was five cents per minute). 2019's fleet size fluctuates between 4,000 – 6,000 bikes, and rides now cost at least 25 cents per minute.

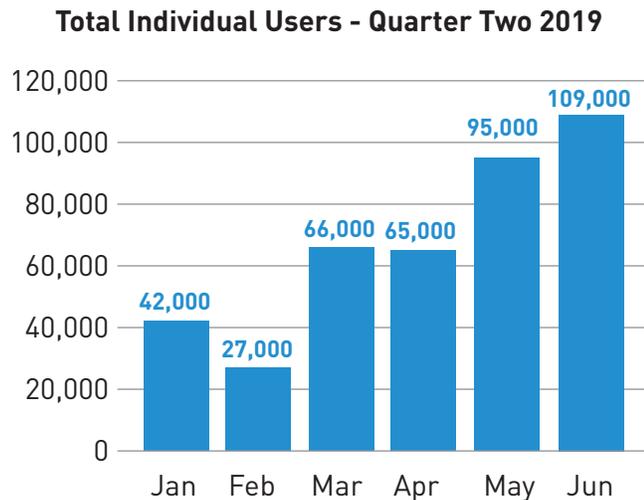
In part because of these market changes, Q2 ridership was down slightly compared to the year prior, from 595,000 trips in 2018 to 588,000 trips in 2019. Considering that the fleet size has been roughly cut in half, a reduction in only 7,000 trips demonstrates that demand for bike share remains exceptionally high, despite significant changes to price and fleet availability. We anticipate changes in this sector will continue through 2020 and SDOT will continue to closely monitor bike share performance to ensure that the program continues to meet our mobility and equity goals.

Number of Trips

Total Trips (rounded to the nearest thousand)¹



Total Individual Users (rounded to the nearest thousand)²



Quarter two 2019 saw dramatic ridership growth as the weather improved from the cooler and wetter winter months. This trend tracked similarly in 2018, with **588,000 total rides** taken in the second quarter. This more than doubled the trips taken in Q1 2019, and about even with trips taken in Q2 2018 with about half the total number of bikes.

The total number of individual users also grew as the weather improved each month, topping more than 100,000 individual users in June 2019. In all of Q2, there were **224,000 individual users**, more than double the 102,000 individual users in Q1.

¹SDOT defines a trip to be any bike share trip record where the distance is greater than 0 meters and the duration is greater than 30 seconds.

²This value is the sum of each vendor's unique user totals and does not account for users that are registered with both companies. This is because each vendor reports its total unique users separately to decouple rider information from trip information.

PERMIT COMPLIANCE

In addition to adding a healthy, efficient, and low-carbon mobility option to Seattle, it is important that bike share vendors are held to clear, consistent permit standards related to fleet parking and maintenance. This gives bike share vendors a level playing field and helps SDOT proactively manage the system. It also ensures that bike share bikes are parked according to the terms of the permit and are not posing blocking hazards to pedestrians, people who are blind or have low vision, and people living with disabilities.

To meet this goal, SDOT worked with key stakeholders and bike share vendors to develop free floating bike share permit requirements that set clear standards with defined compliance thresholds and fleet-reduction enforcement actions. In applying for and receiving a permit, each vendor agreed to abide by these standards. The standards are written to compel the bike share vendors to meet desired outcomes while avoiding prescriptive management approaches that might stifle innovation. Those goals are:

1. No audited bikes (0%) can present blockages to a clear pedestrian pathway that violates the standards set forth in the Americans with Disabilities Act (ADA).
2. No more than 3% of audited bikes can present obstruction hazards to pedestrians and people living with disabilities, as defined in Permit Section P1.6.
3. No more than 30% of audited bikes can be incorrectly parked at all, which includes all obstruction hazards and ADA-prohibited obstruction hazards in addition to parking on an unpaved surface, tipped bikes, and other non-blocking violations (Permit Section P1.5).
4. No more than 10% of audited bikes can be deemed unsafe to operate (Permit Section ES4).
5. At least 70% of the audited sample is in good working order and available for rental (Permit Section ES4).

To determine whether vendors are meeting these standards, SDOT has developed a first-of-its-kind bike share auditing program to verify compliance. Working collaboratively with our third-party auditor, bike share staff completed the first full quarter of audits in Q2 2019, examining bikes in 13 audit-focus areas citywide while also auditing complaint report and response logs submitted by each vendor.

Compliance Audits

Methodology

Building upon the work done in Q1 to establish audit focus areas and run sample audits, in Q2 SDOT staff finalized audit methodology. Compliance audits conducted to date are based on the following methodology:

1. Further developed the **audit/survey instrument**: SDOT staff modified the Q1 paper audit forms and developed a Google Forms-based platform. This digital collection method allows staff and consultant auditors to use smartphones to quickly and accurately record each audited bike in the focus areas.
2. Developed a **stratified random selection process** of audit focus areas: SDOT and consultant staff collected data from thirteen audit focus areas across Seattle throughout the quarter. These areas were selected via a stratified random sampling process. Based on bike parking data, the 162 areas were split into four tiers, with Tier 1 having the most trip ends and Tier 4 the least. We randomly selected out of each tier the following number of audits:
 - a. Tier 1: 6 audits
 - b. Tier 2: 4 audits
 - c. Tier 3: 2 audits
 - d. Tier 4: 1 audit
3. Conduct **field audits**: In addition to the work done in Q1 where staff visually inspected each bike to determine parking compliance and maintenance issues, auditors in late Q2 began renting a selection of bikes to judge if the bike was available for rental, in good working order, and safe to operate.

Location of Audits Performed in Q2³

Date	Neighborhood	Tier
4/12/2019	South Lake Union	1
4/17/2019	North Queen Anne	2
4/18/2019	Westlake	1
5/10/2019	Portage Bay	2
5/15/2019	Minor	2
5/15/2019	West Woodland	1
5/31/2019	Fremont W	1
6/2/2019	Fremont E	1
6/17/2019	Alki S	2
6/18/2019	Central Business District	1
6/25/2019	N Beacon Hill	3
6/25/2019	S Beacon Hill	4
6/25/2019	Seward Park	3

Q2 Audit Results

Total Bikes Audited Q2⁴	832
Lime Bikes Audited	540
Jump Bikes Audited	292

Bikes parked as ADA-prohibited obstruction hazards: All bikes parked that leave less than four feet of clear pedestrian passage.

Target	0%
Number and percent ADA-prohibited obstruction hazards - Total	13 bikes (1.6%)
Number and percent ADA-prohibited obstruction hazards - Lime	8 bikes (1.4%)
Number and percent ADA-prohibited obstruction hazards - Jump	5 bikes (1.7%)

³Although randomly selected, the audit areas were assigned dates based on proximity to each other to reduce travel time and gain efficiencies.

⁴Proportion of the number of bikes audited per vendor roughly matched each vendors respective fleet sizes in Q2.

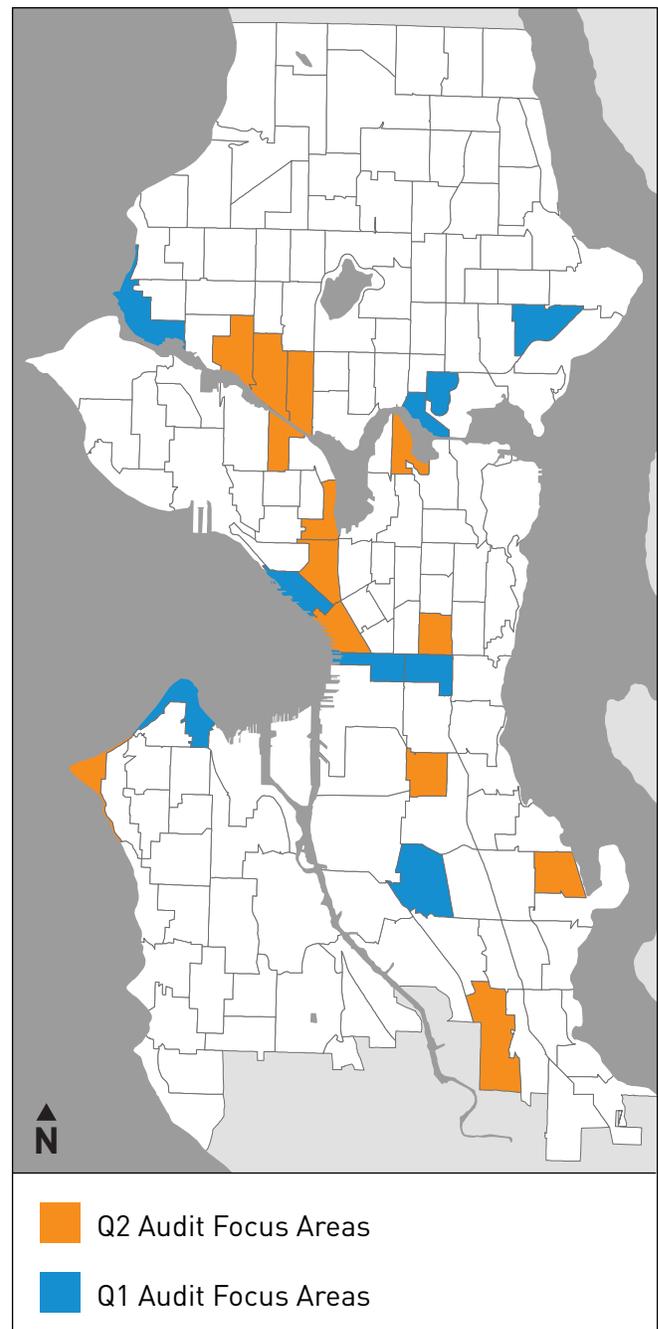


Figure 3: Map depicting Seattle's 162 audit focus areas, including areas audited in Q1 and Q2, 2019.

Bikes parked as obstruction hazards: All bikes that were left blocking the sidewalk, curb ramps, and building access (see Figure 3). This also includes bikes left on corners within corner-curb radius area, all bikes left in bus zones, and all bikes left in continuous building frontage zones.

Target	< 3%
Percent obstruction hazards – Total	17.4%
Percent obstruction hazards – Lime	18.0%
Percent obstruction hazards – Jump	16.4%



Figure 4: This bicycle blocks the sidewalk and is categorized as an obstruction hazard. It does leave over 4' of passage so is not an ADA-prohibited obstruction hazard.

Bikes parked incorrectly: All bikes that were incorrectly parked. These include all bikes that were judged to be “obstruction hazards,” all bikes that were judged to be ADA-prohibited obstructions, as well as bikes left on unpaved surfaces, tipped, or otherwise incorrectly parked.

Target	< 30%
Percent incorrectly parked – Total	32.5%
Percent incorrectly parked – Lime	33.5%
Percent incorrectly parked – Jump	30.4%

Bike maintenance - safety: All bikes that were found to have visible safety issues, including issues with brakes, handlebars, frame, wheels, or pedals.

Target	< 10%
Percent with safety maintenance issues – Total	1.5%
Percent with safety maintenance issues – Lime	2.0%
Percent with safety maintenance issues – Jump	1.4%

Bike maintenance – not in good working order: All bikes found to have non-safety related maintenance issues, including bikes missing required signage, bikes in maintenance mode and not available for rental, and bike with broken kickstands.

Target	< 30%
Percent not in good working order – Total	4.8%
Percent not in good working order – Lime	5.6%
Percent with not in good working order – Jump	3.4%

Response time regarding improperly parked devices

The bike share permit ([section CE3](#)) also requires vendors to respond to reports of improperly parked devices and devices needing maintenance within the following time periods:

- **2 hours** for reports of obstruction hazards made between 6:00 AM and 11:59 PM.
- **4 hours** for reports of obstruction hazards made between 12:00 AM and 5:59 AM.
- **24 hours** for reports of improperly parked devices that are not obstruction hazards, and for reports of devices needing maintenance.

Vendors are expected to respond by locating and visually inspecting the device and re-parking or removing the device if it is in fact improperly parked or requires maintenance. Vendors are also required to submit monthly logs to SDOT that detail:

1. The time, date, and location of each report
2. The alleged violation
3. When the vendor responded by either moving the bike or verifying that the bike had already been moved or no violation occurred

The first quarter of 2019 was spent working with the vendors to ensure that these logs were complete and submitted in the proper format, providing feedback for each inaccurate and/or incomplete log submitted. In Q2 2019, vendors continued to have trouble meeting these reporting requirements. Both Lime and Jump continued to submit inaccurate and incomplete monthly logs that did not include all of the reports and/or did not include all of the required information. SDOT took permit-specified enforcement actions for logs submitted in April 2019 (detailed below) and will continue to monitor these submissions with the goal of each vendor meeting these service level agreements for report logs and responsiveness.

Discussion

Seattle's bike share vendors continue to struggle to meet permit-compliance thresholds for bike share parking: 17.4% of audited bikes were defined as obstruction hazards, and our audits cited 13 separate incidents of ADA-prohibited obstruction hazards (a reduction of the clear pedestrian pathway to less than four feet). In total, 32.5% of audited bikes were parked incorrectly in some manner. These numbers exceed the stated goals and demonstrate that bike share vendors are not meeting their obligations. Too many bikes are left as hazards to pedestrian and people living with disabilities.

The audits did show that the vendors have been meeting fleet maintenance obligations, with only 1.8% of audited bikes having maintenance safety concerns and 3.4% of bikes not being in good working order and/or not available for rental. Both of these numbers fall well within compliance thresholds.

The Q2 bike share parking audits showed a higher proportion of poorly parked bikes than seen in our sample Q1 audits, in which 14.3% of bikes were obstruction hazards and 25.1% of bikes were parked incorrectly in some way. This change could be due to a combination of factors. Q1 audits focused more on the downtown neighborhoods where wide paved sidewalk areas present ample opportunity for proper parking. The Q2 audits aimed to not repeat any Q1 areas, and therefore included more high-use neighborhoods in Fremont and Ballard with narrow sidewalks and unpaved furniture zones, and therefore less opportunity for proper parking. Another potential reason for the drop-off in parking performance is the rise in ridership in the warmer Q2 months. With more bikes being ridden more often, there is a greater chance the audits were observing bikes left by users rather than vendors in the Q2 audits. It is important to note that, whatever the reasons for the increase in obstruction hazards in Q2, neither bike share vendor made changes in their bike share operations that addressed this ongoing issue.

ENFORCEMENT ACTIONS

Enforcement actions can occur on either a **monthly** or **quarterly** cadence. Monthly enforcement actions happen when **per-instance** infractions occur. Infractions could be conditions such as ADA-prohibited obstruction hazards as well as inaccurate or incomplete reports and logs sent to SDOT. SDOT imposes enforcement actions on a quarterly cadence on issues that involve compliance percentage thresholds. These include parking obstruction hazards and maintenance concerns, and are limited to the quarterly cadence to ensure that SDOT has a robust sample size per-company before issuing any potential penalties. Due to the above issues of Q2 permit non-compliance, SDOT took fleet-reduction enforcement actions against Lime and Jump this quarter on both a monthly and quarterly basis.

Monthly Enforcement Actions

For **inaccurate and incomplete report response logs** submitted in April 2019 and following the recommended enforcement action specified in Permit Section CE2, SDOT reduced both Lime and Jump's maximum allowed fleet by 1,000 devices. This reduces their maximum allowed fleets for each company from **6,667 to 5,667 devices**. In May and June, SDOT did see improvement in these logs, but neither vendor reached full compliance. However, as each company has communicated regularly about steps taken to reach full compliance, SDOT agreed to waive further penalties for incomplete and inaccurate May and June logs for both Lime and Jump. Q3 logs will be expected to be complete and accurate.

For instances of **ADA-prohibited obstruction hazards** in May and June 2019, and following the recommended enforcement action specified in Permit Section CE4.2(c), SDOT reduced each company's maximum allowed fleet by a further 20 devices per incident. For Lime and its eight incidents, SDOT reduced the maximum-allowed fleet by 160 bikes from **5,667 to 5,507 bikes**. For Jump and its five incidents, SDOT reduced the maximum-allowed fleet by 100 bikes from **5,667 to 5,567 bikes**.

Quarterly Enforcement Actions

For **exceeding the threshold of audited bikes presenting obstructions hazards** and following the recommended enforcement action specified in Permit Section CE4.2(b), SDOT reduced both Lime and Jump's maximum allowed fleets by a further 1,000 devices. This leaves Lime's current maximum allowed fleet size as **4,507 bikes** and Jump's as **4,567 bikes**.

The Q2 audits also determined that too many bikes were parked incorrectly in any manner. These bikes include all obstruction hazards (above) and also include bikes tipped over or left on unpaved surfaces, but not otherwise blocking. However, to encourage vendors to focus on actual obstruction hazards, SDOT chose to exercise the flexibility granted in the Permit Recommended Enforcement Actions and did not further reduce vendor fleets at this time. SDOT will continue to monitor the situation and may take enforcement action in the future if we continue to see too many bikes incorrectly parked.

Because both Lime and Jump currently have fleets below their new maximum allowed fleet sizes, neither company was required to immediately remove devices. However, these enforcement actions have a cumulative impact, and unless improvement is seen, further reductions may require vendors to temporarily or permanently remove bicycles.

BIKE PARKING

To add more bike parking capacity, SDOT's bike share program is expanding bike parking by 15% throughout the City of Seattle during the 2019 permit cycle, translating to an increase of 1,500 bike parking spaces citywide. 2019 bike share vendors include bikes with both a simple wheel-lock that immobilizes the back wheel, and bikes that include an integrated traditional bike lock that enables users to lock the bike to an object (e.g., a bike rack) when they end their ride.

SDOT is installing parking for both lock-to bikes (bike racks) as well as open free-standing space for the wheel-lock bikes (corrals). Those two different types are represented in our bike parking tallies shown in Table 1, and are defined as follows:

- **Lock-to:** A single bike rack allows space for two lock-to bikes. A typical bike corral with three racks provides space for six lock-to bikes.

- **Wheel-lock:** A wheel-lock bike space is roughly six feet long by two feet wide. A typical single on-street bike corral has a little over six feet of open width on one side, which provides room for three wheel-lock bikes, while a double on-street corral can include up to twelve feet of open space, providing room for six bikes.

At the end of Q2, SDOT has installed 708 total spaces (see Table 1), with an additional 176 approved spaces awaiting installation and 96 in outreach (see Figure 5). Of the installed locations, 69% were in the form of on-street corrals, with the remaining 31% located as either sidewalk corrals or individual bike racks. Looking forward to Q3, staff will shift focus to center city neighborhoods, looking to install more corrals in Queen Anne, Belltown, the Downtown Core, Pioneer Square, and the Chinatown International District.

Table 1. Bike share parking installations

January 1, 2019 to June 30, 2019

Spaces Installed		Spaces Awaiting Installation		Spaces Pending Approval		Spaces in Outreach ²	
Lock-to	Wheel-lock	Lock-to	Wheel-lock	Lock-to	Wheel-lock	Lock-to	Wheel-lock
462	246	110	66	0	0	60	36

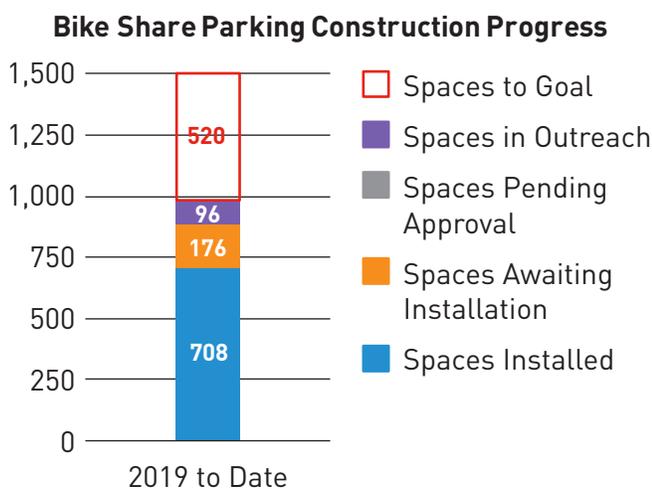


Table 2. Spaces installed on-street vs on-sidewalk

January 1, 2019 to June 30, 2019

Installation Location	Number of Spaces	Percent of Installed Spaces
Sidewalk	222	31%
On-street	486	69%

Figure 5. Bike share parking construction progress

January 1, 2019 to June 30, 2019: 47% of the 2019 goal delivered, with another 18% currently in the delivery process.



Figure 6: SDOT Employees Terrance (left) and Sam (right) on-site after installing a new corral at University Way NE and NE 55th St

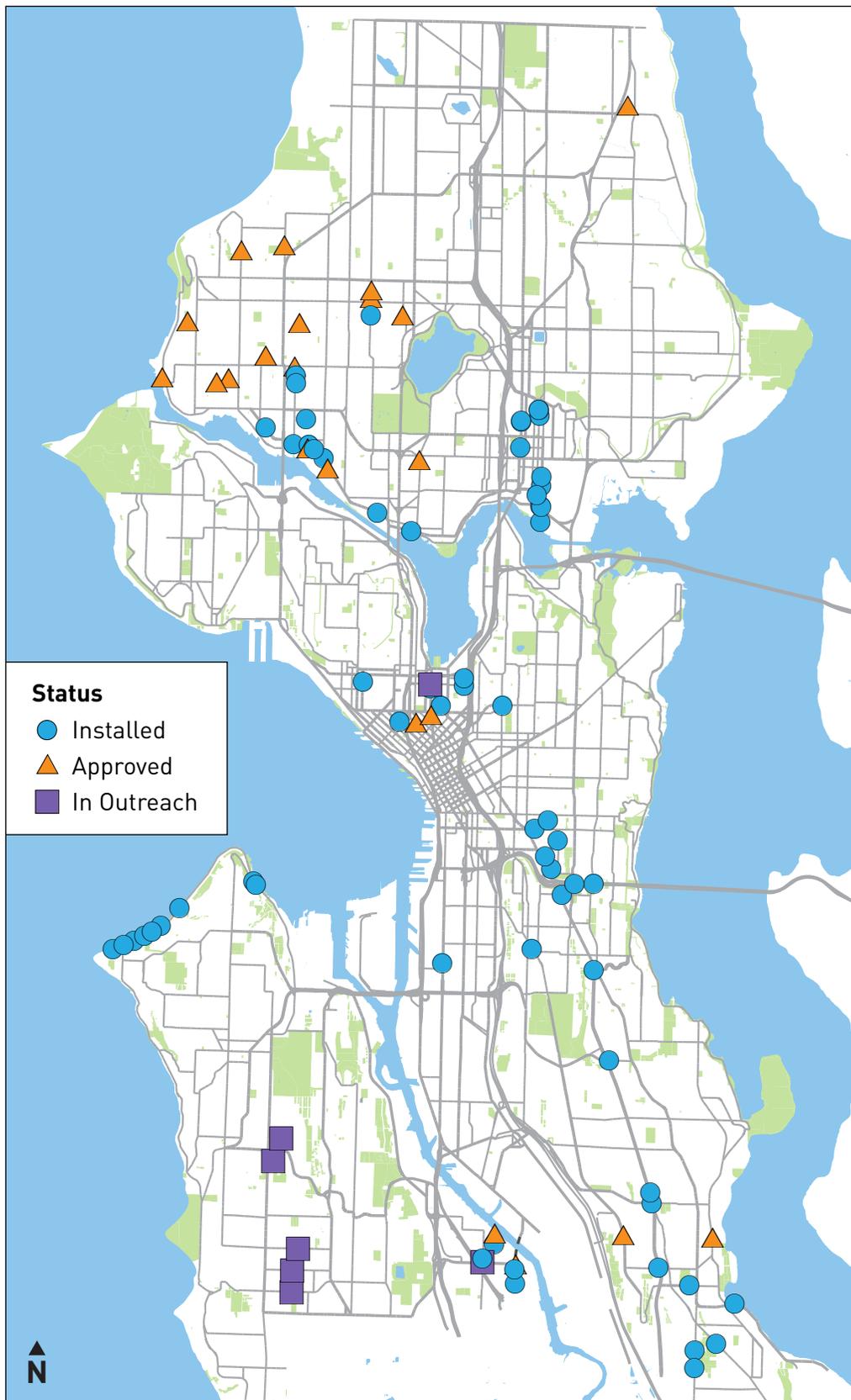


Figure 7: Bike parking installation locations
 January 1, 2019 to June 30, 2019