Seattle Department of Transportation

2019 QUARTER 1
BIKE SHARE SUMMARY REPORT

Seattle
Department of
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 facilitate this mobility option, the Seattle Department of Transportation (SDOT) created a free-floating bike share permit program. This program, built upon the lessons learned in the 2017-2018 bike share pilot, allows private vendors to operate on Seattle's streets and sidewalks. Lime, Lyft, and Jump (Uber's bike share affiliate) each received a permit to operate up to 6,667 bikes each in Seattle – provided they adhere to the outcome-oriented terms of the bike share permit. These terms were designed to ensure that bike share is a safe and equitable mobility option that does not block access for pedestrians or people living with disabilities.

The second year of the bike share permit program (Permit 2.0) officially kicked off in November 2018, when SDOT awarded the first permit to Jump. Lime officially transitioned from the bike share pilot permit to Permit 2.0 in the beginning of January 2019. The third and final permitted company, Lyft, was also awarded a permit but has yet to launch in Seattle. They are aiming for a summer launch date.

SDOT has been publishing monthly reports summarizing key data since December 2018. This quarterly report is meant to summarize all activities occurring in the bike share permit program between January and March 2019, including compliance audits.

After awarding the final permits in early 2019, SDOT spent the first quarter of 2019 focused on three important program elements:

- **Data sharing:** Seattle, like many other cities, mandates data sharing from vendors to the city. SDOT has been coordinating with Seattle's Information Technology Department, the bike share vendors, and other cities to pilot a new data sharing standard, the Mobility Data Specification (MDS). The bike share team spent much of the first quarter setting up the technology systems to support this data collection and creating initial data compliance reports. This data helps SDOT determine if companies are within their permitted fleet size, count the total trips taken in different time periods, and identify locations with high usage.
- **Compliance auditing:** SDOT's bike share permit details clear compliance targets that dictate how the bikes should be parked and maintained. This includes SDOT's commitments to audit the fleet of bikes on a periodic basis to ensure the vendors are meeting permit requirements. During the first quarter of 2019 staff focused on three main tasks: establishing a methodology for staff-led field audits, creating an audit/survey instrument, and conducting field audits to collect data to inform future iterations of the audit methodology and instrument. Staff spent close to 40 hours in the field collecting bike parking and maintenance data. In addition, to increase SDOT's auditing capacity the Department released a request for proposals to contract with a third-party to assist with audits moving forward, allowing for more comprehensive quarterly audits.

- **Bike parking:** SDOT is using permit revenue to increase the amount of bike parking installations in 2019. The goal is to expand the number of bike parking spots by 15% or approximately 1,500 spaces across the city by year-end. Bike parking installations are focused on opportunities to connecting bike share access to transit as well as increasing the number of racks and corrals in both areas of high usage and equity focus areas.[1]

Data Sharing

SDOT receives the following types of data from the bike share vendors as a condition of their permits to operate in Seattle:

- Trip records that include start and end date and time, start and end location, distance, and duration.
- Status change records that indicate when devices are available, unavailable, reserved, or removed.
- Total individual users in the previous month and in the previous three months.
- A log of all reports from operators related to improperly parked devices, including time the report was received, whether the report indicated an obstruction hazard, and time the report was addressed.
- A summary of all maintenance complaints, including the nature of the maintenance issues and when they were resolved.
- A log of all incidents, including crashes and other incidents not related to improper parking.

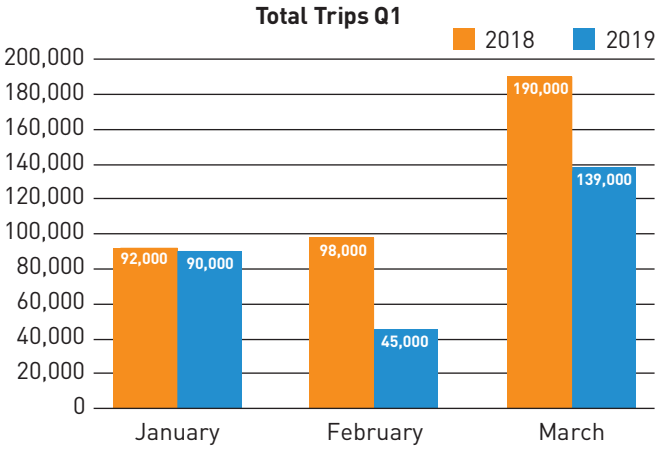
BIKE SHARE Q1 DATA

Fleet Size

Quarter 1 2019 was a period of growth and change. During this time, Jump launched its electric bike fleet and then expanded to serve all of Seattle. Lime removed all pedal bikes from Seattle in Q1, making Seattle's vendors' fleets **100% electric-assist**. The third permitted company, Lyft, has decided to delay their launch until summer. With the snowy weather this winter, neither Lime nor Jump reached their fleet maximum of 6,667 bikes. The total fleet size across the two vendors ranged from week to week between 5,000 and 7,000 bikes. In contrast, there were close to 10,000 total bikes available throughout Quarter 1 2018.

Number of Trips

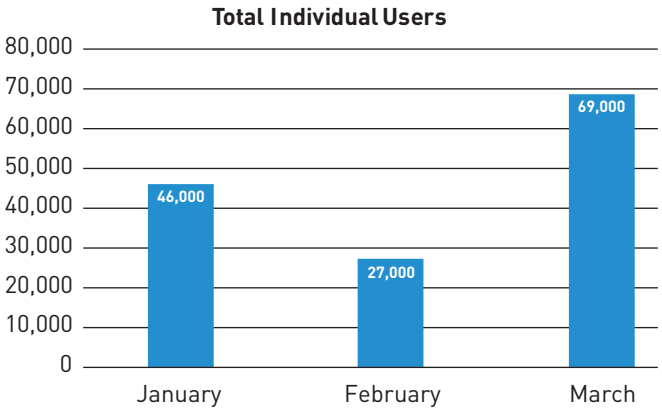
Total Trips (rounded to the nearest thousand)[2]



[1]See Appendix D in the Free-Floating Bike Share Program Permit Requirements for 2018-2019.
[2]SDOT 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.

Number of Users

Total Individual Users (rounded to the nearest thousand)[3]



In Quarter 1 2019, bike share continued to see heavy usage in Seattle, with over 271,000 trips taken in January, February, and March. This is fewer than the approximately 380,000 trips taken during Quarter 1 2018, and is congruent with the lower number of available bikes. Additionally, February 2019 was one of the coldest and snowiest Februaries on record, which coincided with dramatically fewer trips that month.

The number of individual users also varied from month to month, with more users recorded during the months with a higher number of rides.

PERMIT COMPLIANCE

Compliance Goals

Informed by the findings from the bike share pilot evaluation and outreach process, SDOT set the following compliance goals for the 2019 permit cycle:[4]

1. No audited bikes (0%) can present blockages to a clear pedestrian pathway that violate the standards set forth in the Americans with Disabilities Act (ADA) ("ADA-prohibited obstruction hazards").
2. No more than 3% of audited bikes can present obstruction hazards to pedestrians and people living with disabilities.[5]
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.
4. No more than 10% of audited bikes can be deemed unsafe to operate, as defined in permit section ES4 Maintenance.

If these terms are not met, SDOT can take enforcement actions such as reducing the maximum fleet size of the offending companies.

Response time regarding improperly parked devices

The bike share permit (section CE3) 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. As these requirements are more stringent than in other cities, the vendors spent Q1 working towards providing complete and accurate logs to allow SDOT to track and ensure compliance. SDOT has informed the vendors that incomplete logs will be

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[3]This 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.
[4]See sections CE4.2 and CE4.3 of the Free-Floating Bike Share Program Permit Requirements.
[5]Obstruction hazards are defined in section P1.6 of the permit and generally include the sidewalk clear pedestrian path, curb ramps, bus stops, building access, and the sidewalk frontage zone.

counted as non-compliant in Quarter 2 and that appropriate enforcement action will be taken.

Compliance Audits

Improperly parked bicycles can pose a hazard to pedestrians and people living with disabilities. To address these and other safety hazards, SDOT's permit standards address parking, maintenance, and data sharing, and are written to compel the bike share vendors to meet desired outcomes while avoiding prescriptive management approaches that might stifle innovation.

In addition to the data sharing requirements, SDOT is developing a new, first-of-its-kind bike share auditing program to verify compliance. As described above, SDOT is hiring a third party to conduct compliance audits. The Quarter 1 audit was conducted by SDOT staff and the results are being used to inform the compliance audit process. SDOT staff and the bike share companies took corrective action on obstructing bikes and any safety issues.

Methodology

Compliance audits conducted to date were based on the following methodology:

1. Establish **audit focus areas**. This involved dividing the city into 162 areas that could be reasonably audited by foot or bike in a 3-5 hour period. See Figure 1 for a map showing these audit areas.
2. Establish the **audit/survey instrument**. This involved developing an instrument with fields for each data point collected. A paper survey instrument was used in Q1; however, we intend to move to mobile app-based forms in Q2. See Appendix A for a sample data collection form.
3. Conduct **field audits**. SDOT staff collected data from nine audit focus areas across Seattle throughout the quarter. Two of these areas were randomly selected, and the other seven included targeted areas with high bike share usage during the bike share pilot. Each audit consisted of staff visually inspecting every block face in the audit area. For every bike share bike observed, staff completed a corresponding survey.

Location of Audits Performed

A list of the random and targeted audit areas is included below:

Date	Neighborhood	Area #	Selection
1/30/2019	Alki	96A	Target
2/7/2019	Atlantic	90	Target
2/15/2019	South Beacon Hill	104.02	Random
2/21/2019	Ballard	32B	Target
3/1/2019	Belltown	80.01	Target
3/12/2019	Hawthorne Hills	42A	Random
3/15/2019	Pioneer Square	91-92	Target
3/29/2019	University District	53.02A	Target
3/29/2019	University of Washington Campus[6]	53.02C	Target

[6]Audit Area 56.02C is mostly on the University of Washington campus and off SDOT right-of-way. SDOT staff audited this area with permission from UW to inform SDOT and UW's collaborative audit efforts.

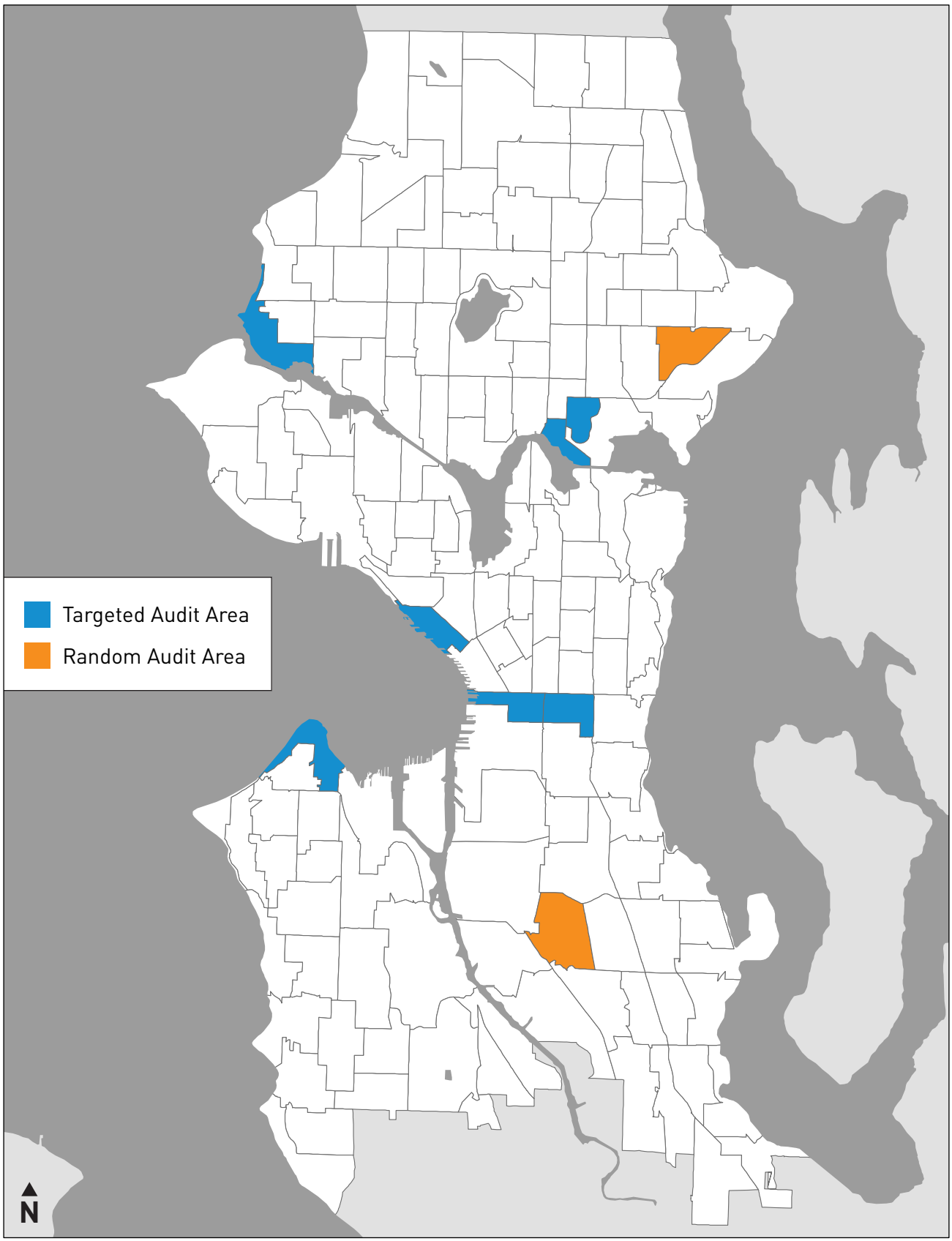
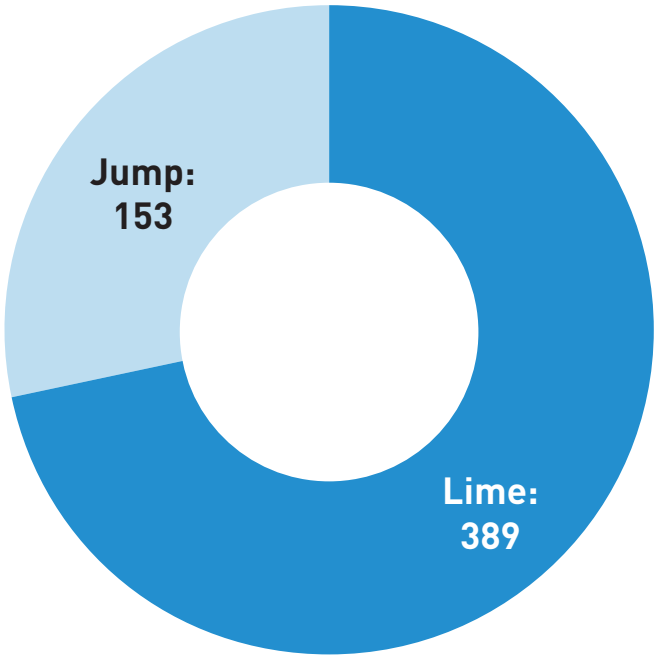


Figure 1: Map depicting Seattle's 162 audit focus areas, including targeted and randomly selected areas in Quarter 1 2019.

Audit Results

Total Bikes Audited	545
Lime Bikes Audited	389
Jump Bikes Audited	153

Q1 Bikes Audited per Company



Audit Results (detailed below)	Lime	Jump	Total	Target
ADA-prohibited obstruction hazard	2.1%	0.7%	**1.7%**	**0%**
Obstruction hazard (including above)	15.7%	13.9%	**14.3%**	**< 3%**
Incorrectly parked (including above)	25.7%	24.3%	**25.1%**	**< 30%**
Parked correctly	74.3%	75.7%	**74.9%**	**> 70%**
Maintenance safety concerns	2.1%	0.0%	**1.5%**	**< 10%**

Bikes parked as ADA-prohibited obstruction hazards: All bikes parked that leave less than 4' of clear pedestrian passage.

Target	0%
Number and percent ADA-prohibited obstruction hazards - Total	9 bikes (1.7%)
Number and percent ADA-prohibited obstruction hazards – Lime	8 bikes (2.1%)
Number and percent ADA-prohibited obstruction hazards – Jump	1 bike (0.7%)

Bikes parked as obstruction hazards: It includes all bikes that were left blocking the sidewalk, curb ramps, and building access (see Figure 2). 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	14.3%
Percent obstruction hazards – Lime	13.9%
Percent obstruction hazards – Jump	15.7%

Figure 2: 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	25.1%
Percent incorrectly parked – Lime	25.7%
Percent incorrectly parked – Jump	24.3%

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	2.1%
Percent with safety maintenance issues – Jump	0.0%

Discussion

Throughout the Quarter 1 audits, SDOT staff observed 545 bikes in 9 audit focus areas located across the city. Most bikes (75%) met our criteria for properly parked bikes. Of the 25% that were improperly parked, 14% were considered obstruction hazards and an additional 11% were considered "incorrectly parked" but not "obstruction hazards" (e.g., bikes left on unpaved surfaces or tipped over). Nine bikes total, or 1.6% of the observed bikes, were considered ADA-prohibited obstruction hazards - each a potential violation of the bike share permit. SDOT staff immediately re-parked each of the bikes that presented an ADA-prohibited obstruction hazard.

While the overall percentage of incorrectly parked bikes met our permit target threshold, 14.3% of sampled bikes were considered "obstruction hazards." This number is significantly higher than the 3% compliance target established in the permit. SDOT set the 3% target based on findings from the 2018 Bike Share Pilot Evaluation, which found that 4% of bikes were considered to be "impeding access."

Under Bikeshare 1.0 the definition of "obstruction hazard" did not include bikes left in the building frontage zone, on sidewalk corners, or on the sidewalk with less than 6 feet of clear space. This year's expanded definition under Bikeshare 2.0 is based on in-depth discussions with disability advocates and their feedback about the negative impacts that improperly parked bikes can have on the mobility of people living with disabilities.

Audit Next Steps in Q2

1. **Begin issuing fleet-reduction penalties for permit non-compliance:** In response to the initial results, SDOT plans to begin issuing fleet-reduction penalties for instances of permit non-compliance in Quarter 2, including a 20-bike reduction per ADA-prohibited obstruction hazard.

2. **Onboard third-party audit assistance:** As discussed earlier in the report, SDOT is contracting a third-party to assist with audits and data verification. The auditor is expected to begin mid-Quarter 2 and will lead audits on bike parking, bike maintenance, report-response times, data verification (e.g., customer service complaints), and service features (e.g., alternative payment options).

BIKE PARKING

SDOT's bike share program is committed to 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. This year, two vendors (Jump and Lyft) are deploying bikes with a new locking mechanism that enables users to lock the bike to an object (e.g., a bike rack) when they end their ride. Although the vendors are not currently requiring users to take this step, the lock-to feature can assist directing bikes to appropriate parking locations at the end of the ride. This functionality was not available in 2017 during the pilot as all bikes were wheel lock bikes.

SDOT is installing parking for both lock-to bikes (i.e., bike racks) as well as open free-standing space for the wheel-lock bikes (i.e., corrals). Those two different typologies are represented in our bike parking tallies below, 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 corral is roughly six feet long by two feet wide, which provides room for three wheel-lock bikes.

During Quarter 1 2019, the bike share program worked with other SDOT staff to improve the parking installation process install bike parking in areas of high-use such as the University District and along Alki Beach. The team also expanded the availability of bike parking in one priority neighborhood (Atlantic), and developed internal partnerships with other SDOT workgroups to identify appropriate sites more quickly.

With these internal process enhancements and initial installations complete, SDOT is on track to install 1,500 spaces by the end of 2019.

See the table below for complete bike parking installations in Quarter 1 2019 and the current pipeline of work:

Bike Parking Installations
January 1, 2019 to March 31, 2019

Spaces Installed		Spaces Awaiting Installation		Spaces Pending Approval		Spaces in Outreach[7]	
Lock-to	Wheel-lock	Lock-to	Wheel-lock	Lock-to	Wheel-lock	Lock-to	Wheel-lock
130	59	36	16	12	6	28	12

[7]Outreach phase means that a site has been selected for installation and doorhangers have been placed at adjacent businesses/residences. The outreach period is 1 week long for sidewalk installations and 2 weeks long for on-street installations.

APPENDIX A

Sample audit form from Q1 audits. Auditors would fill out a column for each bike or cluster of bikes found.

Focus Area _____ **Date**_____ **Time**_____

Star for follow-up by PM							
# of Devices							
Device ID (primary)							
Vendor							
Device type (reference letter)							
Location: Street							
Location: Cross-street(s)							
Location: Block face (N, S, E, W)							
Parking							
Properly parked							
Not an obstruction hazard							
Not an ADA-hazard							
Maintenance							
Safe to operate							
• Frame							
• Wheels							
• Lights and reflectors							
• Handlebars							
• Brakes (inspect physically)							
• Pedals							
Good working order							
• Kickstand							
• Locking mechanism							
Informational signage							
• Unique identifier							
• Vendor contact info							
• Rider education signage							
Other: • Alternate device ID • Parking description • Action taken							