



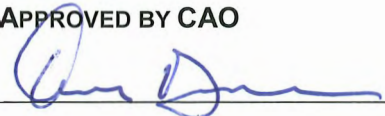


To: Public Works and Transportation Committee **Date:** July 27, 2021
From: Lloyd Bie, P.Eng.
 Director, Transportation **File:** 02-0775-50-7204/Vol
 01
Re: **E-Scooter Pilot Project – Recommendation to Award Contract for Shared System**

Staff Recommendation

1. That Contract 7204P - Provision of Public E-Scooter Share Pilot Project be awarded to Lime Technology, Inc.;
2. That the City enter into an agreement up to three years in length with Lime Technology, Inc. based on the terms as outlined in the staff report titled “E-Scooter Pilot Project – Recommendation to Award Contract for Shared System” dated July 27, 2021 from the Director, Transportation; and
3. That the Chief Administrative Officer and General Manager, Planning and Development, be authorized to negotiate and execute the above agreement on behalf of the City.

Lloyd Bie, P.Eng.
 Director, Transportation
 (604-276-4131)
 Att. 4

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Parks Services	<input checked="" type="checkbox"/>	 Acting GM
Recreation and Sport Services	<input checked="" type="checkbox"/>	
Business Licences	<input checked="" type="checkbox"/>	
Law	<input checked="" type="checkbox"/>	
Purchasing	<input checked="" type="checkbox"/>	
Sustainability	<input checked="" type="checkbox"/>	
Risk Management	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

At its June 28, 2021 meeting, Council endorsed the implementation of an e-scooter pilot program for a period of up to three years that will allow the operation of privately-owned and shared e-scooters on selected roadways and cycling facilities in the city. On July 12, 2021, provincial Cabinet approved an Order in Council designating Richmond as a pilot community within the Province of BC's Electric Kick Scooter Pilot Project. On July 26, 2021, amendments to Traffic Bylaw No. 5870 and Public Parks and School Grounds Regulation Bylaw No. 8771 received adoption thereby permitting the legal operation of e-scooters in Richmond per the parameters of the bylaws.

This report recommends the award of a contract up to three years in length to Lime Technology, Inc. (Lime) to operate a public shared e-scooter and e-bike system as a pilot project.

This report supports Council's Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.

2.2 Policies and practices support Richmond's sustainability goals.

This report supports Council's Strategic Plan 2018-2022 Strategy #4 An Active and Thriving Richmond:

An active and thriving community characterized by diverse social and wellness programs, services and spaces that foster health and well-being for all.

4.1 Robust, affordable, and accessible sport, recreation, wellness and social programs for people of all ages and abilities.

This report supports Council's Strategic Plan 2018-2022 Strategy #6 Strategic and Well-Planned Growth:

Leadership in effective and sustainable growth that supports Richmond's physical and social needs.

6.3 Build on transportation and active mobility networks.

Analysis

Request for Proposals (RFP) to Operate Shared E-Scooter System

An RFP for the development and operation of a pilot public e-scooter share program was issued by the City on April 29, 2021 with a closing date of May 26, 2021. Seven proposals were received. The proposals were evaluated by a staff team from Transportation and Parks per the following evaluation criteria identified in the RFP:

- compliance with provincial requirements,
- proponent qualifications and past projects,
- implementation and operations plan,
- device specifications, maintenance and security plans,
- parking and right-of-way management,
- user experience and safety,
- marketing and communications plan,
- technology and data sharing,
- consumer protection plan,
- circular economy and sustainability practices, and
- value added services offered to the City.

Award of Contract

Following the proposal evaluation process (Table 1), staff recommend that Lime be awarded a contract to serve as the public e-scooter system owner and operator for a pilot project term of 18 months with an option to renew, upon mutual agreement of both parties, for an additional 18 months (i.e., the maximum allowable term of the provincial pilot program). As Lime’s proposal includes the provision of e-bikes as a value added service, staff further recommend that the contract also permit Lime as the owner and operator of a public e-bike system for the same pilot project term. In this owner/operator role, Lime will:

- manage, fund and maintain the operations;
- assume the financial, operational and liability risks associated with the system;
- establish and maintain any infrastructure associated with geo-fenced parking stations;
- operate and optimize e-scooter and e-bike redistribution; and
- be responsible for sales, education, marketing, and customer service.

Table 1: Summary of RFP Evaluation Results

Score	Bird Canada Inc.	Lime Technology, Inc.	Neuron Mobility (Canada) Limited	Roll Technologies Inc.	Superpedestrian Canada Ltd.	ZIP Dockless Inc.
Total	73.5%	89.1%	76.5%	57.0%	54.6%	38.5%

Note: A proposal from Boaz Bikes was not evaluated as the proposal was non-compliant with the Province of BC e-scooter device requirements.

The City will provide support to the pilot program in the forms of:

- access to City lands including streets and paved pathways for the operation of the devices;
- in-kind support primarily comprised of staff support for the station siting process; and
- monitoring system performance during the pilot period.

Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development, be authorized to negotiate and execute the agreement on behalf of the City.

Proposed Shared E-Scooter and E-Bike System

Lime is the largest and most experienced provider of micromobility services in the world and operates in more than 170 cities worldwide. Lime was the first dockless shared micromobility

company in Canada, launching in 2018. Within Canada, the company currently operates in Kelowna, North Vancouver (e-bikes only), Edmonton, and Ottawa. For Richmond, Lime proposes a comprehensive pilot program designed to safely introduce new sustainable mobility options for the community to encourage reduced private vehicle use and complement transit, cycling and walking trips.

The proposed pilot program will run without any capital or operating funding required from the City. Consistent with shared e-scooter and e-bike systems in other North American cities, the operator will pay an annual licensing fee plus a per device administrative fee. The funds generated will be used to compensate for staff time and any materials required (e.g., signage). The operator will also provide a security deposit and obtain general commercial liability insurance.

Fleet Size and Deployment Areas

Based on Lime's experience operating in similarly sized markets in Canada and the USA, Lime proposes a two-phase deployment plan. An initial test area will focus on the City Centre bounded by the Middle Arm of the Fraser River, Alderbridge Way, Garden City Road, Blundell Road, and No. 2 Road with a total proposed deployment of 153 e-scooters and 63 e-bikes (Attachment 1). This test area will enable Lime and the City to confirm system use, safety, and assess any operational issues. Starting in City Centre will allow for access to community services and transit, and first/last mile connections.

If operations within the test area are deemed successful, expansion will occur to cover the majority of Richmond's population and key points of interest including but not limited to waterfronts, community centres, and shopping centres (Attachment 2). The deployed fleet will expand up to 500 e-scooters and 200 e-bikes. Overall, 32% of the fleet is anticipated to be focused in the City Centre, 13% allocated to Steveston and the remainder allocated relative to population and area size to provide an equitable fleet distribution across the city. If demand warrants, the distribution can be adjusted and the fleet could ultimately expand up to 1,000 e-scooters and 500 e-bikes.

Parking Locations and Rebalancing

To enable easy access to devices and maintain a tidy fleet, Lime proposes parking corrals in areas of high density and a "lock to" requirement throughout the rest of the city. Around Canada Line stations, in the City Centre, Steveston, and other areas of high ride concentration, Lime will create designated parking corrals typically located within the boulevard or on-street that are equipped with U-shaped bike racks (Attachment 3). In the rest of the service area, riders will be required to lock their e-scooters to a bike rack. Staff will require Lime to provide its own branded bike racks to ensure that public bike racks remain available for all other users. Each Lime vehicle is equipped with a LimeLock, which enables the vehicle to be tethered to fixed structures.

All parking corrals and bike racks in the designated areas will be geo-fenced and riders will only be able to end their rides in a parking corral or at a bike rack. Before riders are able to end a trip, riders are shown guidance regarding proper parking and must actively document that they have parked correctly with a photograph showing the parked vehicle.

Lime will set minimum and maximum quantities of devices to be deployed per zone and continually monitor the distribution of the devices throughout the day. When concentrations exceed the maximum or fall below the minimum, a notification is automatically triggered to rebalance the vehicles. When the maximum number of vehicles has been deployed, the zone disappears from the app and no additional vehicles can be deployed in that zone to avoid overcrowding and clutter.

Lime pledges to resolve a report of a damaged vehicle or one that is parked in a non-compliant manner within 15 minutes and no more than one hour of notification by the public or the City. User incentives within the app encourage riders to move vehicles from less desirable to more desirable locations to reduce an oversupply in certain places, move improperly parked vehicles, or return devices that are outside the service area.

Lime Patrol teams will be deployed as on-the-ground ambassadors in the community, educating the public, proactively responding to parking and rebalancing issues, and providing customer support. Lime Patrol will circulate through dense areas and those with high utilization to rebalance or repark vehicles before they impede pedestrian or vehicle movements.

The City will have the contact details for the Operations Manager, who is the first point of contact and on-call 24/7. A local base of operations will be established to store, repair and recharge devices, and to respond to public concerns.

Devices to be Deployed

The e-scooters meet the Province's legislated requirements. The e-scooters and e-bikes are equipped with GPS, which provides the ability to track the real-time locations of the devices (Attachment 4). The e-scooters feature a seven cm (2.8") colour LCD screen with a speedometer display and can be used to improve rider awareness and behaviour such as notifying riders when they have entered geo-fenced no parking zones. The devices will be deployed between 5:00 am and 7:00 am, and picked between 9:00 pm and midnight to be charged overnight. Ten percent of the fleet will remain on the street for overnight usage.

A helmet will be provided with each vehicle using Lime's on-vehicle helmet lock mechanism. Free helmets will also be distributed at in-person promotional events when permitted. Safety messages will be affixed to the devices to remind riders to wear a helmet, park appropriately and to not ride on the sidewalk. Operations will include COVID-19 protocols (e.g., daily sanitization of devices) that will remain in place until updated guidance is received from B.C.'s Provincial Health Officer.

The GPS capability of the devices will enable geo-fence technology to provide effective low-speed zones consistent with the parameters of the City's bylaws (maximum speed of 20 km/h on roadways and 15 km/h on shared paved pathways). The e-scooter speed can be automatically reduced to a walking speed when the e-scooter is taken into a no-ride zone.

The e-scooters have technology to help determine if a rider is riding on a sidewalk instead of the street based on the vibration of the underlying riding surface. At the end of the ride, the user will be sent an email and/or in-app message that provides educational materials and an image outlining when and where the sidewalk riding occurred. Lime will also implement a progressive

discipline program for those who continually ride on sidewalks, beginning with mandated education and progressing to fines and account deactivation.

Pricing and User Experience

Price will be consistent across Lime's operations in Canada: a \$1.15 unlocking fee to start the trip and then \$0.35 per minute. Daily and monthly passes will be available as well as discounted fares for people enrolled in any federal, provincial, or local subsidy program. The minimum age for users is 18 years old and the app can accommodate multiple rentals of up to four additional devices. Users without smartphones can text a dedicated phone number to access devices and those without credit cards can pay with PayPal or via a prepaid card.

In addition to English and French, Lime's customizable user application is also available in more than 20 languages, including Richmond's top languages of English, Mandarin, Cantonese, and Tagalog. The application automatically adjusts to the language of the user's phone. Lime's 24/7 customer service is available in 39 languages through phone, text, email, social media, and website. Lime reports that the majority of customer issues are responded to within 15 minutes and all issues are addressed in no more than one hour.

Lime or the rider can choose "Training Mode," which allows the rider to reduce their maximum speed to 11 km/h while they become more confident riders. Lime has implemented mandatory first ride Training Mode in Seattle and Rio de Janeiro, and staff recommend that it be implemented in Richmond, as studies have indicated that over one-third of e-scooter crashes happen on a first ride. As impaired riding is also a documented source of crashes, the app can discourage or prevent this behaviour by requiring riders to perform a cognitive task and see advisory messages before unlocking a vehicle between, for example, 10:00 pm and 5:00 am.

When COVID-19 protocols permit, Lime will offer in-person First Ride events, which are recurring, interactive hour-long safety sessions to educate riders on best practices to safely ride and properly park an e-scooter. Lime proposes to partner with local stakeholders to host these events around the city. Lime will offer also monthly First Ride training in partnership with HUB Cycling for users seeking a supervised first trip.

Promotion and Community Engagement

Lime will provide a multi-channel, multilingual marketing campaign during the pilot program. The company proposes to partner with local community groups to identify culturally-appropriate and effective ways of reaching ethnic populations, and business groups to deliver the service in a way that supports local business and reduces potential issues. Incentive partnerships to cross-promote local businesses and connections via Lime will include rider credits if they visit local business districts, discounts and/or special experiences at local businesses if they used Lime to get there, or if they parked correctly in a nearby parking corral. Lime also proposes to partner with Tourism Richmond to create a tourist-focused website that will include safety information and self-guided tours to destinations in Richmond.

Lime will work with TransLink to integrate the services through initiatives such as offering TransLink riders a free connection via Lime e-bike or e-scooter, integrating journey planning and fare payment, and offering a unified low-income pass.

Launch communications and media will include “how to” and key safety and regulatory guidance such as prohibition on riding on sidewalks, how to park, and potential repercussions for non-compliance. The launch will also be used as an opportunity to highlight Richmond regionally as a city where people should consider visiting to explore on an e-bike or e-scooter. Lime will use ride discounts and incentive programs to both increase ridership while simultaneously supporting other community priorities, such as tourism, transit ridership, sustainability and safety. Lime will leverage sustainability-focused events such as Earth Day to provide free rides to new riders to discover the service as part of a pledge to reduce car use.

Monitoring and Performance Measurement

The City will be provided with regular reports to assist in understanding system use and meet provincial monitoring and reporting requirements including data such as:

- number of registered and active users,
- number of rides and devices being used,
- trip start and end points and the route used,
- trip distance and time,
- system usage by time of day and day of week,
- parking corral capacity and number of available devices,
- reported injuries by severity and conflict areas, and
- quarterly user surveys.

A set of key performance indicators will track and evaluate Lime’s overall performance. Staff will meet with Lime regularly to discuss and resolve any operational issues. Indicators include safety information or training offered, share of trips that would otherwise be a car or walking trip, customer service response times, and degree of user compliance with regulations. Lime will conduct quarterly customer surveys to assess user satisfaction.

Circular Economy

Lime anticipates that the e-scooters will have a lifespan of at least five years. As the devices are modular and every component replaceable, the devices typically are not decommissioned due to wear, tear, or standard usage. As vehicles reach the end of their lifespan, Lime states that nearly 100% landfill diversion is achieved with its end of life partners. Globally, Lime reports that more than 96% of the material is recycled.

A fleet management system optimizes field tasks to reduce vehicle kilometres travelled (VKT). The devices are charged with 100% renewable energy and Lime will use e-vans and a fleet of e-cargo bikes to collect, rebalance, and redeploy e-scooters in the more dense areas of the city.

Timeline

Should Council approve the staff recommendation, Lime anticipates being able to launch the system approximately four weeks after contract finalization and execution.

Financial Impact

None. Staff time and resources can be accommodated within existing departmental operating budgets.

Conclusion

The City's participation in the Province's Electric Kick Scooter Pilot Program will support mobility targets and GHG emission and carbon reduction goals consistent with the Official Community Plan and the Community Energy and Emission Plan 2020-2050 Directions. E-scooters and e-bikes can provide an additional travel option that support first/last mile connections to transit and help make it easier for people to leave their car at home more of the time.

Staff recommend that a shared e-scooter and e-bike system be permitted to operate in Richmond on selected roadways and off-street paved pathways as a pilot project with the shared system to be provided by Lime Technology, Inc. at no cost to the City. Overall, the pilot project provides an opportunity for the City and the Province to research, test and evaluate the safety and efficiency of e-scooters and e-bikes to support cleaner and more sustainable transportation. This proposed shared system will replace the City's public bike-share pilot project that ended in March 2020.

Based on staff's evaluation, Lime's proposal will provide the community and the City with the following benefits:

- provision, management, operation, and maintenance of a public e-scooter and e-bike share system at no cost to the City;
- an engaging, easy to use and affordable user model; and
- an adaptable and responsive operations plan.

Acceptance of Lime's proposal will enable the City to explore and evaluate the potential of a public e-scooter and e-bike share system to advance the objective of providing expanded travel choices in support of the City's mobility goals and targets in a cost-effective manner.



Joan Caravan
Transportation Planner
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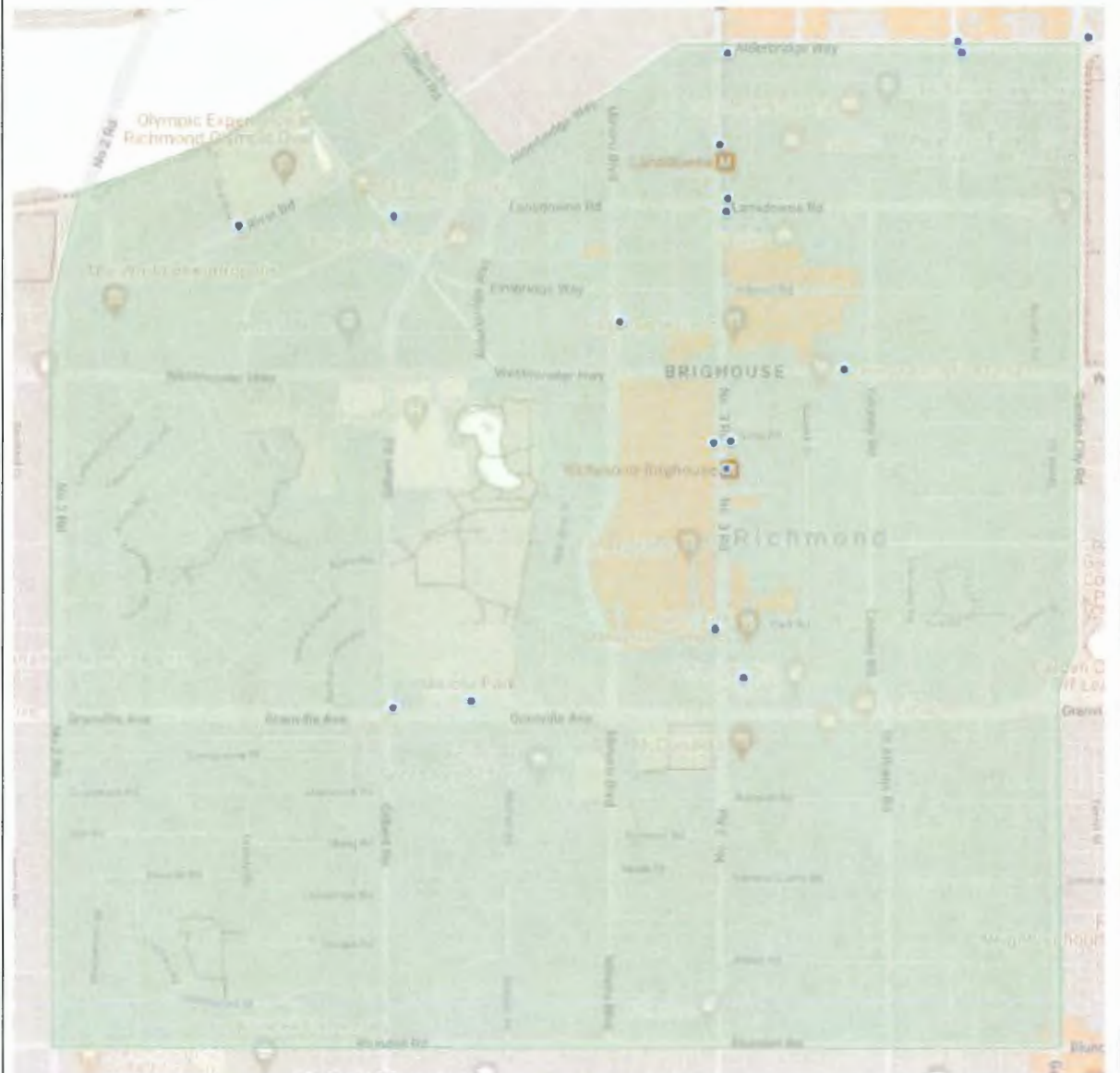
Sonali Hingorani, P.Eng.
Transportation Engineer
(604-276-4049)

JC:jc

- Att. 1: Initial Test Deployment Area
- Att. 2: Expanded Deployment Areas
- Att. 3: Proposed Parkade Locations and Typical Parking Corral Layout
- Att. 4: Typical E-Scooter and E-Bike to be Deployed

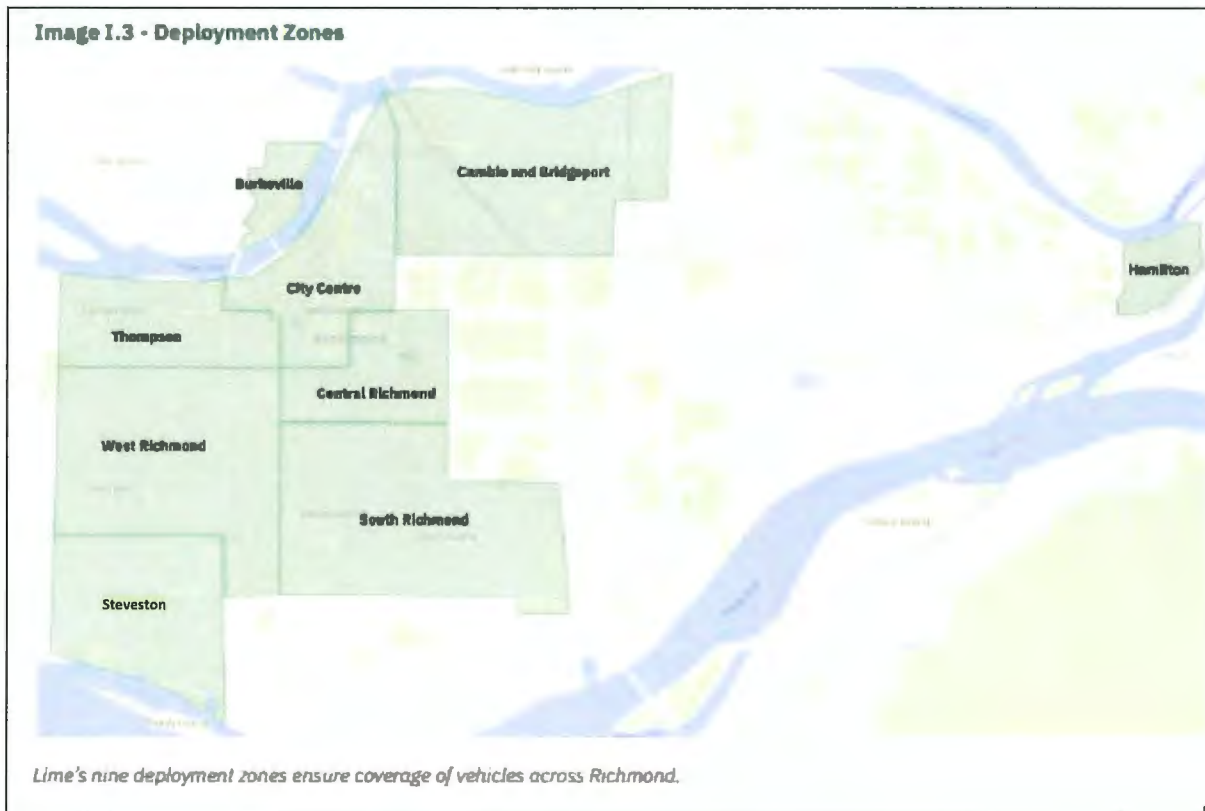
Initial Test Deployment Area

Image 1.2 - Initial Test Area



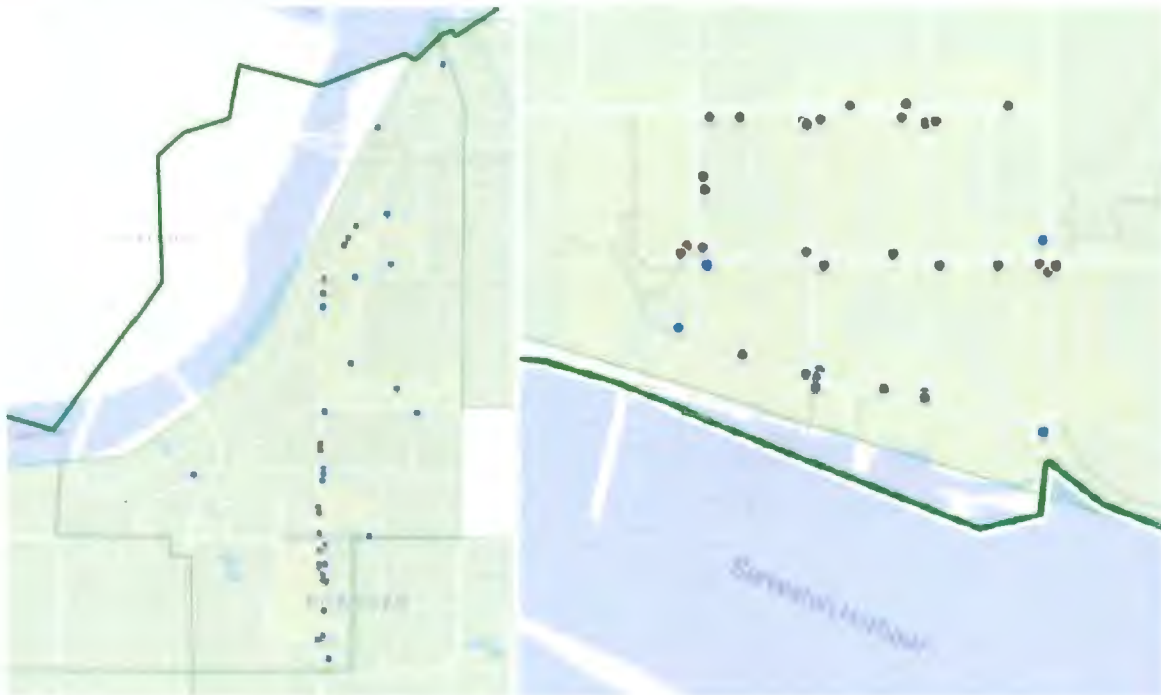
Lime's initial test area (green) and recommended parking corrals (blue dots).

Expanded Deployment Areas

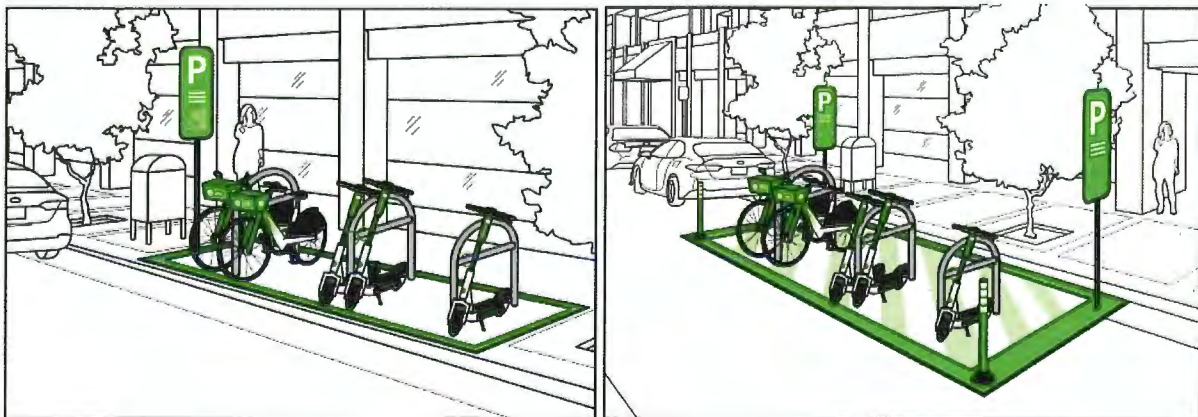


Proposed Parkade Locations and Typical Parking Corral Layout

Image I.5 - Suggested Parkade Locations



Lime recommends 2 areas of designated parking corrals. The above maps illustrate both existing bike racks (grey dots) and suggested supplemental corrals (blue dots) which Lime will install.

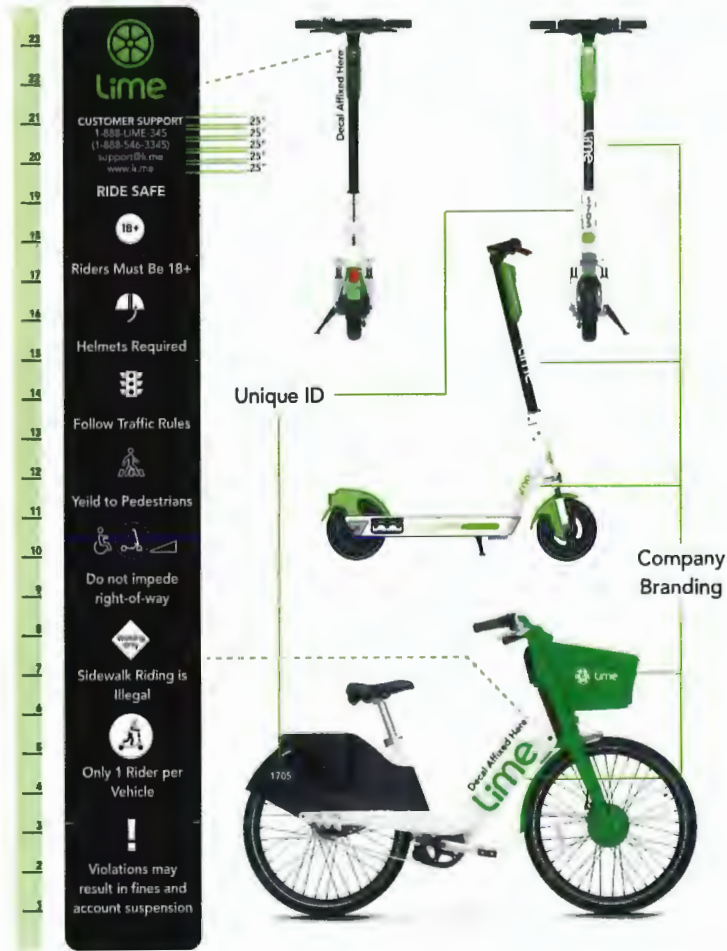


Typical E-Scooter and E-bike to be Deployed

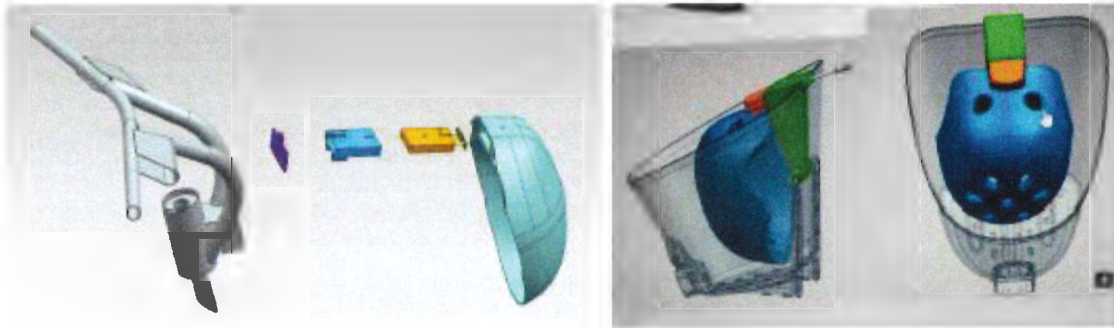
Designed from the ground up with safety, comfort and sustainability in mind

Lime Gen 4 Integrated E-Scooter

Gross weight: 23.7 kg
 Dimensions: 116.4 cm L x 48.6 cm W x 120.5 cm H
 Top speed: 24 km/h



Typical E-Scooter and E-bike to be Deployed



On-Device Helmet Mechanism