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The Corporation of **THE CITY OF NORTH VANCOUVER**  
**PLANNING & DEVELOPMENT DEPARTMENT**

**REPORT**

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To: Mayor Linda Buchanan and Members of Council

From: Elicia Elliott, Manager, Transportation Planning  
Michelle Lam, North Shore Mobility Options Coordinator

Subject: NORTH SHORE E-BIKE SHARE PILOT PROGRAM – END OF PILOT  
EVALUATION

Date: October 10, 2023 File No: 16-8350-20-0045/1

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*The following is a suggested recommendation only. Refer to Council Minutes for adopted resolution.*

## **RECOMMENDATION**

PURSUANT to the report of the Manager, Transportation Planning, and the North Shore Mobility Options Coordinator, dated October 10, 2023, entitled “North Shore E-Bike Share Pilot Program – End of Pilot Evaluation”:

THAT staff be directed to conclude the pilot program and formalize the City’s commitment to Shared Micro-mobility by transitioning to a more permanent E-Bike Share operation with the North Shore Partners;

AND THAT a permit extension with the current operator, Lime, be approved for up to 12 months.

## **PURPOSE**

The purpose of this report is to provide Council with a comprehensive end-of-pilot evaluation of the North Shore E-Bike Share Pilot Program. This report summarizes pilot program operations, insights from qualitative and quantitative data, potential improvements and overall performance evaluation of the program against its initial objectives.

## **SUMMARY**

The North Shore E-Bike Share Pilot Program is approaching its conclusion. Through a survey, North Shore staff (City and Districts of North Vancouver and West Vancouver)

have collected data from program operators and gathered community feedback and user experience. This pilot program has demonstrated a growing ridership and user base, increasing fleet size, environmental benefits, and efforts on safety and rider educations. By all accounts, the E-bike Share pilot program has been a resounding success, enriching mobility options on the North Shore and firmly placing North Shore municipalities as micro-mobility leaders in the region.

The insights from this report will play an important role in shaping recommendations for the E-Bike Share program's future on the North Shore.

## **BACKGROUND**

The success of the North Shore E-Bike Share program is a result of the collaborative approach between the three North Shore municipalities. The planning phase of this project took more than two years to complete. Following implementation, the program has operated successfully for a further two years, with the current operational permit ending December 31, 2023.

### **Program Implementation**

In the fall of 2019, staff from the City, District of North Vancouver (DNV) and District of West Vancouver (DWV) collaborated to create a permitting and licensing framework aimed at establishing a joint North Shore E-Bike Share Pilot Program. The framework allowed staff to engage in negotiations with operators during the application phase of the program and establish operational permit conditions. This regulatory approach was previously used in numerous Canadian jurisdictions, such as Kelowna, Calgary and Montréal.

### **Program Operations**

In May 2021, Lime (the operator) was selected as the single operator for the E-Bike Share pilot. The operator was then granted a Street Use Permit (SUP) and a business licence to operate e-bike share services in the City. Lime first launched the program in the CNV and DNV in July 2021, followed by the involvement of DWV in July 2022.

Since the program launch, the operator has been responsible for all operations and program administration related to the E-Bike Share service, based on the operating permit and direction from staff. This includes fleet deployment and maintenance, user membership management, establishing parking zones, offering customer service, and advocating rider safety through education and promotional events.

### **Staff Involvement**

North Shore municipalities co-created and co-funded a position to support the advancement of micro-mobility on the North Shore, including the management of the E-Bike Share pilot. This shared coordinator model is highly regarded across the region, spurring liaison with other governments, and garnering attention at local and international shared mobility conferences.

Throughout the pilot period, staff played a crucial role in several key areas. They actively collaborated with the operator to streamline operational processes and provide continuous guidance and support to facilitate the development of the program, contributing to its overall success. Public engagement was a top priority, with staff gathering valuable feedback through surveys and other engagement methods, helping to shape the program based on community input.

Lastly, through rigorous monitoring of service performance, staff tracked the program's progress and made informed adjustments as needed. This multi-faceted approach underscored the commitment to ensuring the program's effectiveness and responsiveness to both operational and community needs.

## Reporting and Analysis

**Quantitative Data:** In August 2022, the "Ride Report" tool was adopted for monitoring and assessment of the E-bike Share pilot program. It provides comprehensive ridership metrics including real-time data and heat maps, and is integral to this report's source data. As well, the operator's dashboard "Lime Insight," facilitates key metric monitoring.

**Qualitative Data:** A digital and analog survey, launched by North Shore staff in spring 2023, garnered 380 responses. This survey provides an overview of the level of interest in the pilot. Community feedback was captured via Lime's platforms and shared municipal email inboxes that were documented by staff. Furthermore, the operator has provided data on various aspects of the E-bike Share service, from incidents to sustainability and equity considerations; offering a deep dive into the program's broader benefits to the community.

## DISCUSSION

### Pilot Success Highlights as of August 2023:

Trips Completed	Distance Travelled	Lime Groves
156,000	391,000 km	96
E-Bikes Deployed	Unique Users	Frequent Users (10 + Trips)
435	35,000	3,400

### Key Insights

- **Ridership:** The E-Bike Share pilot program has continued to experience year-over-year growth in ridership and user base.
  - Since the program launched, 156,000 trips have been completed. Ridership across the North Shore is highest in the City, boasting 70% of the total trips. (Figure 1)
  - A relatively small subset of frequent users, consisting of 11% of the user base, has contributed to 60% of the total trips, demonstrating strong support from local and loyal users.

- E-Bike Share is attractive for short-distance trips, with a median distance of 2 km/12 minutes, affirming that E-Bike share is being used for first-and-last-mile trips connecting to transit and key destinations.

Reported Serious Injuries or Crashes	CO <sub>2</sub> Avoided	Vehicle Trips Replaced
0	25 m tons	36,000

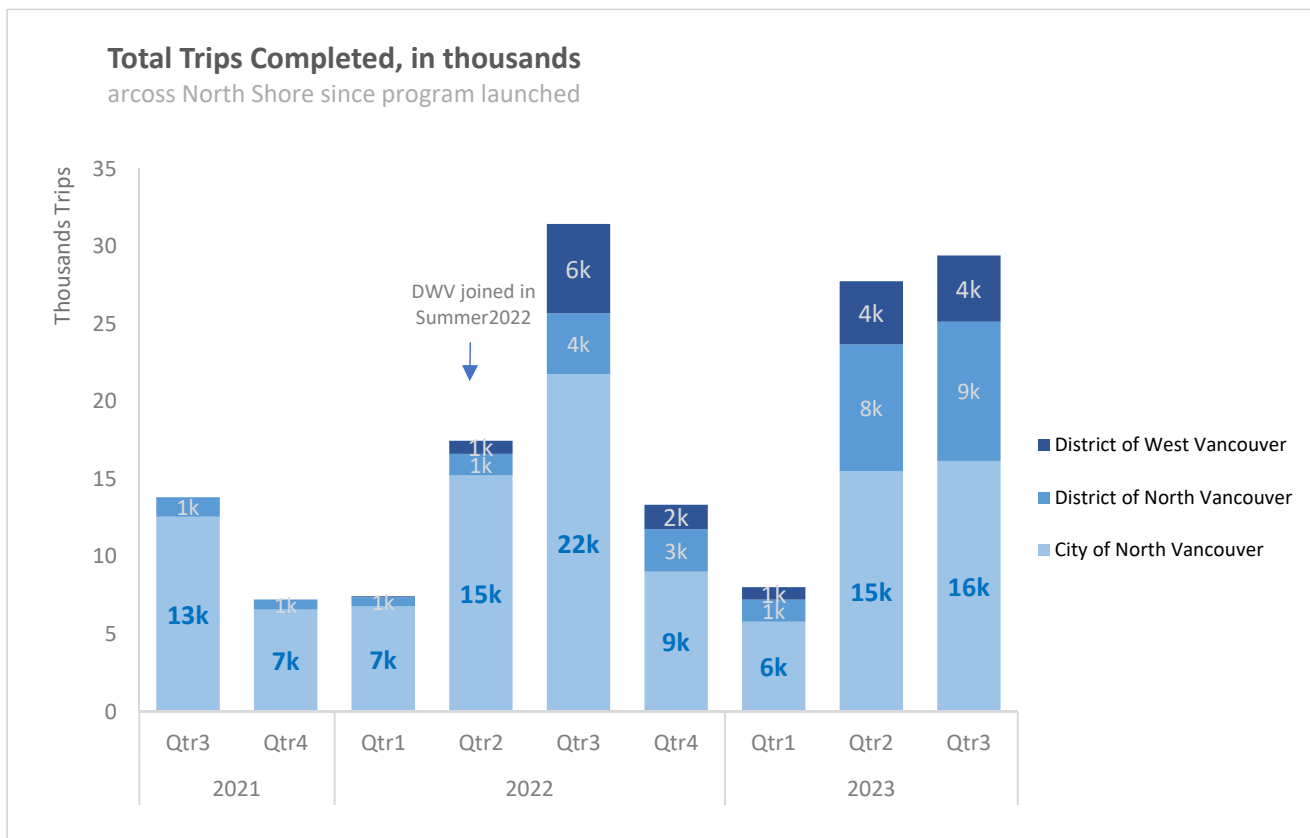


Figure 1 Total Trips Completed across North Shore

**Fleet Size and Availability:** The fleet size and ridership have steadily grown and has consistently met minimum requirements outlined in the operational permit.

- The peak fleet size has doubled each year and reached its peak in August 2023 to over 400 E-Bikes.
- Most (92%) of the users can always or sometimes find a bike when they needed.
- **User Experience:** E-Bike Share is becoming a widely accepted mode of transportation on the North Shore.
  - A significant majority (73%) of the surveyed users indicated they are satisfied with the pilot program.
  - Social outings were the top reason for utilizing the E-Bike Share service.
  - Users found the E-Bike Share to be a more enjoyable mode of travel (16%), valuing its efficiency and direct connections (26%), and the ability to avoid traffic congestion and parking issues (24%).

- Features most appreciated by users include the user-friendly app (24%), environmental benefits (23%), and overall program convenience (23%).

For both users and non-users, suggestions for future improvements revolved around reduced pricing, increased parking availability, and improved cycling infrastructure.

- **Parking and Compliance:**

- Across the North Shore, there are different policies in managing parking:
  - Within CNV and DWV jurisdictions, users are required to park their bikes at the Lime Groves, or are subject to fines. In-app prompts require photo documentation of proper parking before a trip (and associated payment) can be completed.
  - Within the DNV, a free-floating model allows users to have the flexibility to park at Lime Groves or any location that does not obstruct the path of travel for other road users or pedestrians.
- The allocation of designated parking spots called “Lime Groves” has expanded to 96 across the North Shore. (Figure 2)
- Parking violations per total trips have remained below 5% in 2023.
- To ensure parking compliance, the operator mandates end-trip photos, imposes fines for repeated improper parking, and regularly communicates safety and parking guidelines via in-app messaging and email.
- Figure 2 showcases the most popular groves and high traffic areas across the North Shore.

Top Five Lime Groves
1. Lonsdale Quay / Chadwick Court – CNV
2. Lonsdale / Carrie Cates Court – CNV
3. Lonsdale Avenue and East 13 <sup>th</sup> Street – CNV
4. Marine Drive and Hanes Avenue – CNV
5. Spirit Trail and Argyle Avenue – DWV

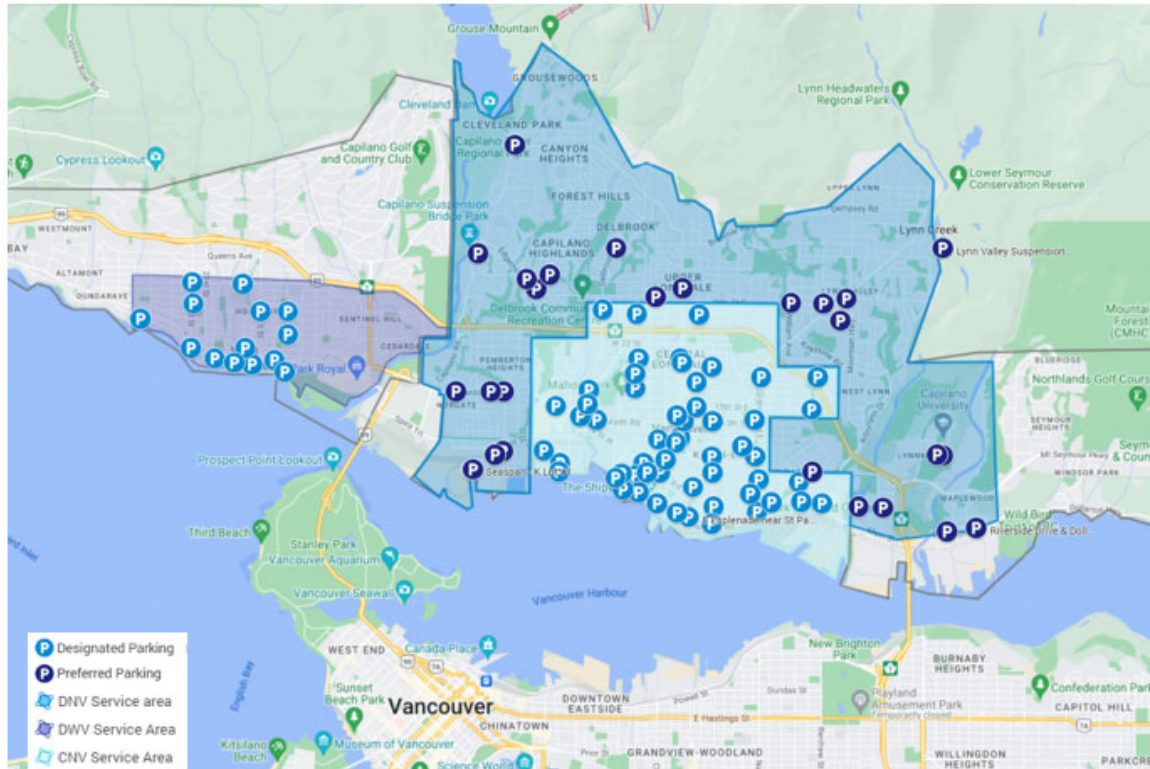


Figure 2-Lime Groves Location Map

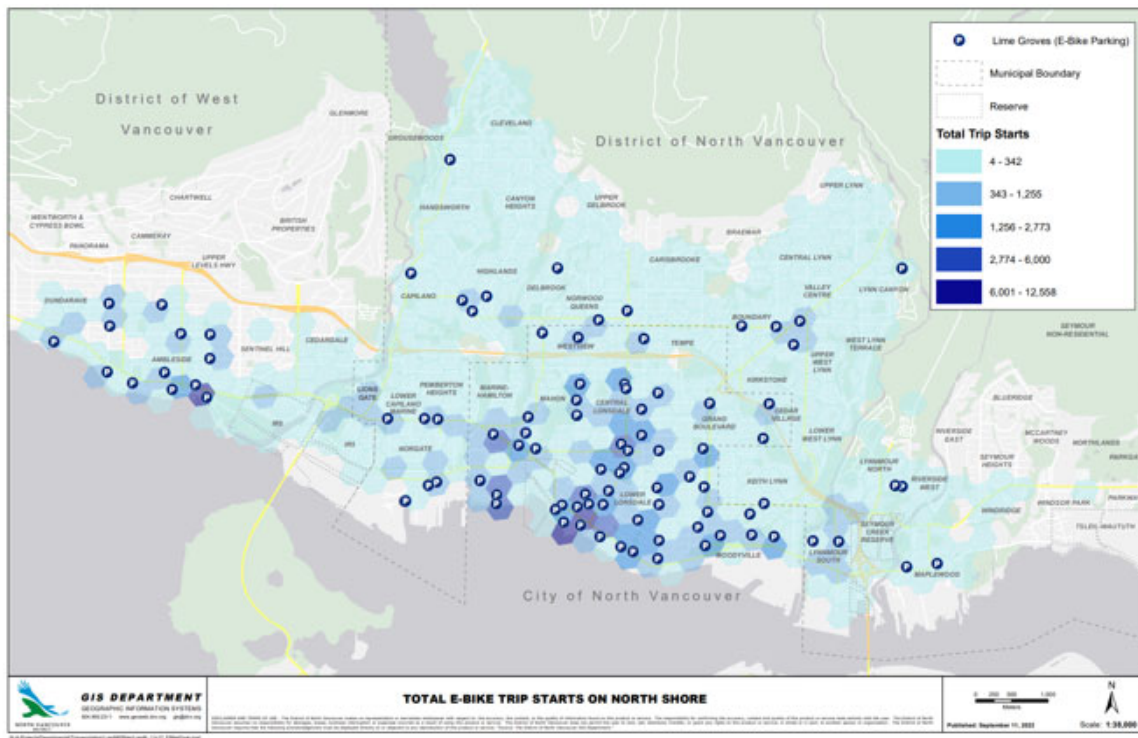


Figure 3-Total E-bike Trip Starts on North Shore

Most Popular Areas Accessed by E-Bikes
• Shipyards Common – CNV
• Lower Lonsdale - CNV
• Central Lonsdale – CNV
• Ambleside – DWV
• Marine / Hamilton – DNV
• Moodyville - CNV

- **Environmental Impact:** The E-Bike Share pilot initiative contributed to GHG reduction targets, reducing vehicle usage, and supporting public transit use and first- and- last-mile trips.
  - Most users (72%) are more likely to use public transit when E-Bike Share is available.
  - Majority of users (63%) have used the E-Bike Share to connect to transit.
  - Over 36,000 car trips were replaced.
  - 25 metric tons of CO<sub>2</sub> were avoided.
- **Operations and Safety:** The pilot program operates safely in accordance with municipal and provincial laws and regulations, and per industry best practice.
  - No major injuries have been reported to the operator or North Shore municipal staff.
  - The operator has installed helmet brackets and helmet locks on over 60% on the fleet to provide shared helmets.
- **Public Outreach:** Public outreach and education efforts have promoted the pilot program across demographics to enhance rider education and build awareness on safe travel behaviour, proper parking and helmet compliance by attending Go by Bike Week, Shipyards Festivals, Let’s Talk Expo and other community events.
- **Social Equity and Accessibility:** The operator offers adaptive vehicles and discounted programs to enhance the accessibility of shared mobility vehicles. Usage data was not sufficient to provide insight during the pilot phase. A more permanent program could offer targeted partnerships, education and awareness, and removal of barriers to ensure equitable access to E-Bike Share.
- **Financial Considerations:** The current permit and licensing framework ensures the E-Bike Share pilot program is self-sustaining. The operator absorbs all program costs, including equipment, operating, and promotional costs.
  - North Shore municipalities have received \$28,000 collectively in permit fees since summer 2021.
  - The permit fee offsets the program cost and staff time.

### Future Considerations

In consideration of these insights, staff recommend transitioning from pilot operations to more permanent operations of the E-Bike Share program and extending the permit with the current operator, Lime, for up to 12 months.

This extension will allow staff to:

- Gather insights from other shared micro-mobility programs in the region.
- Deepen partnerships with local and regional stakeholders, businesses, employers, TransLink, BC MoTI, and neighbouring First Nations governments to further explore shared mobility opportunities.
- Refine the vendor evaluation criteria and consider the potential inclusion of additional or alternative vendors.

Concurrently, staff will continue efforts to streamline operations in close collaboration with the operator, which include:

### **Service Area Expansion**

- Investigate potential expansion zones considering user demand and existing bike infrastructure on the North Shore.
- Engage with other municipalities and investigate potential opportunities and challenges associated with cross-border riding and/or satellite parking.

### **Boost Fleet Availability and Reliability**

- **Fleet Size and Distribution:** Given the growing demand, an increase in fleet size is recommended to ensure service reliability.
- **Minimum Deployment:** Maintain a baseline number of E-Bikes at key destinations like town centres and transit stations.
- **Fleet Rebalancing:** Ensure a regular redistribution of bikes in line with demand and user behavior to increase bike availability.

### **Strengthen Parking Management**

To improve optimal user experience and community harmony. This may include exploring benefits and trade-offs of docked systems.

- **Parking Expansion:** increase the number of designated Lime Groves at key destinations.
- **Wayfinding:** Boost the visibility of parking zones with clear upright signage, especially in popular parking areas.
- **Review Penalties:** Re-evaluate penalties by considering escalated fines or offering incentives for proper parking.

### **Enhance Social Equity and Accessibility**

- The operator has control over the E-Bike share pricing system based on the type of devices they deploy and their competitiveness in the market.
- The City will further amplify efforts to promote social equity, liaising with local organizations to reduce mobility barriers for marginalized and underserved communities.
- **Discounted Program:** Continue to support the discounted program to provide affordable transportation options to marginalized groups.
- **Adaptive vehicles:** Advocate the availability and benefits of adaptive vehicles to the community.



## **Continued Emphasis on Rider Education and Awareness**

- **Enhance Communication:** Regularly update users on parking protocols through in-app messages and emails.
- **Awareness Campaigns:** Organize targeted events in areas with high traffic area to raise safety awareness and promote compliance.

## **STRATEGIC PLAN, OCP OR POLICY IMPLICATIONS**

The E-Bike Share program supports key goals and objectives in the City's Official Community Plan, including prioritizing the use of non-automobile modes of travel (Objective 2.1), encouraging technological innovation to overcome transportation barriers (Objective 2.3.7), encourage low-emission transportation options (Objective 2.3.8), and collaborating with neighbouring municipalities to improve the connectivity of the transportation system (Objective 2.3.10).

Enabling an E-Bike Share system is in alignment with the 2022-2026 Council Strategic Plan priorities, including exploring innovative solutions to transportation challenges, and continuing to integrate land use and transportation planning to support connectivity across the region. Likewise, the continuation of the pilot through 2023 aligns with the Plan's priorities of fostering A City for People, A Resilient City, and A Connected City.

The E-Bike Share program also aligns with the Mobility Strategy by making walking and rolling the easiest choice for more of our shorter distance trips. (Strategy 1), encouraging people to make sustainable travel choices (Strategy 4), and supporting sustainable mobility (Strategy 8).

Finally, the pilot demonstrates strategic alignment with goals and objectives of North Shore Connects' mandate (formerly INSTPP), through which this pilot was initiated.

## **CONCLUSION**

The North Shore E-Bike Share pilot program, in collaboration with Lime and the three North Shore Municipalities, has demonstrated E-Bike sharing has strong potential as an efficient and sustainable mode of travel in the region. Staff recommend concluding the pilot and formalizing the City's commitment to shared micro-mobility by transitioning to a more permanent E-Bike Share operation with the North Shore partners.

Staff further recommend a permit extension with the current operator, Lime, for up to 12 months. This extension will allow staff to finalize selection criteria, garner further data points, and allow for the preparation in transitioning to a permanent operator over time, as well as report back to Council on the program prior to selecting the future program supplier. By harnessing the insights gained and maintaining a commitment to sustainability, equity and community, the E-Bike Share program stands well-positioned to continue to elevate shared micro-mobility on the North Shore.

RESPECTFULLY SUBMITTED:



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