



Ministry of  
Environment and  
Climate Change Strategy

# Tales from the Trenches Fleet Electrification Part 2

BC Hydro

Plug In BC

Ministry of Citizens' Services

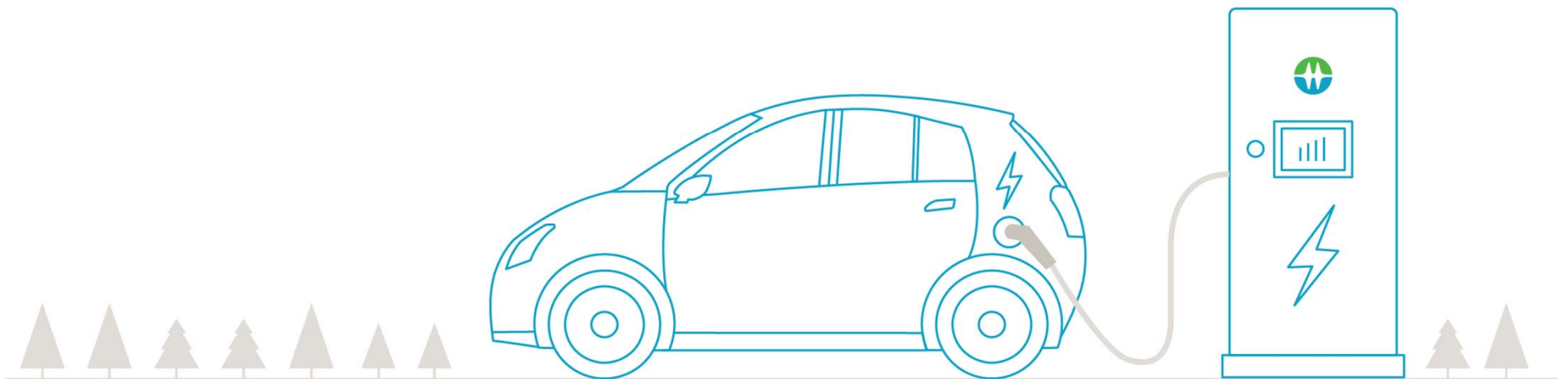


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# BC HYDRO

# Best Practices for EV Planning and Infrastructure

Jason Scultety, Key Account Manager – Fleet Electrification  
BC Hydro

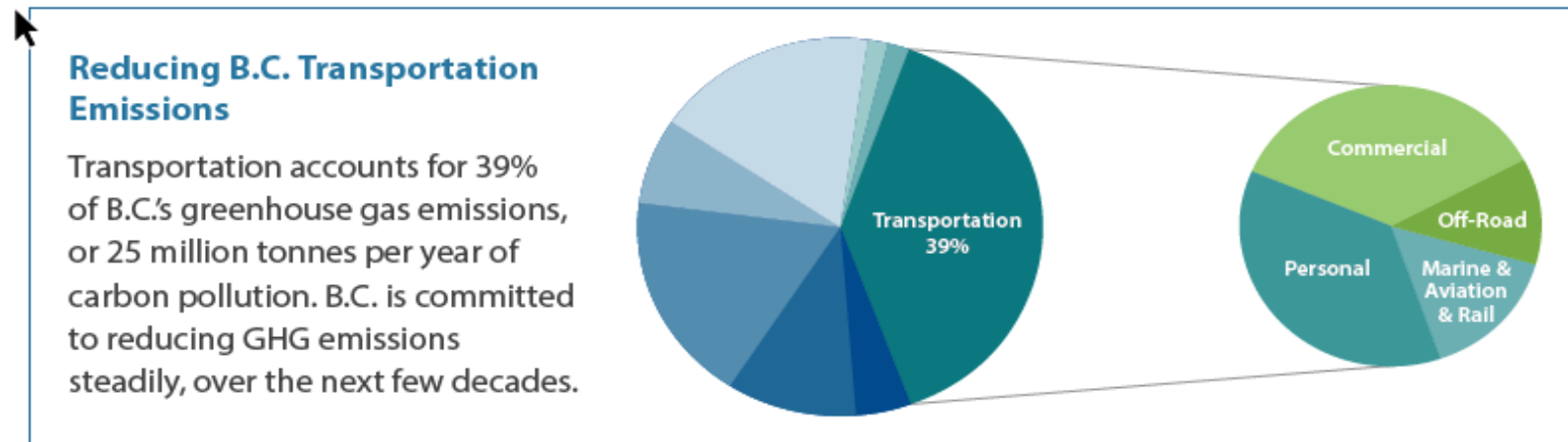




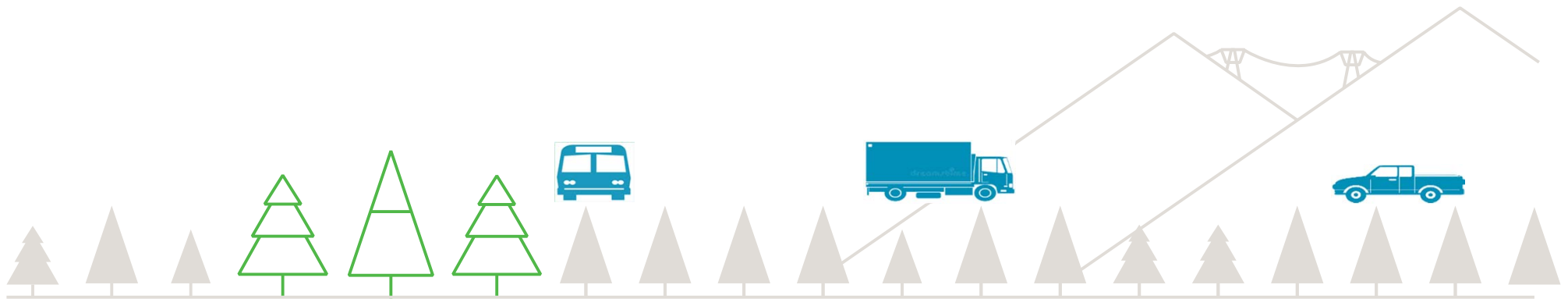
**cleanBC**  
our nature. our power. **our future.**

# Transportation

**Electrification of the transportation sector is a key priority**



# Planning and Practices



# Develop your EV roadmap

## Know your fleet and know what you need

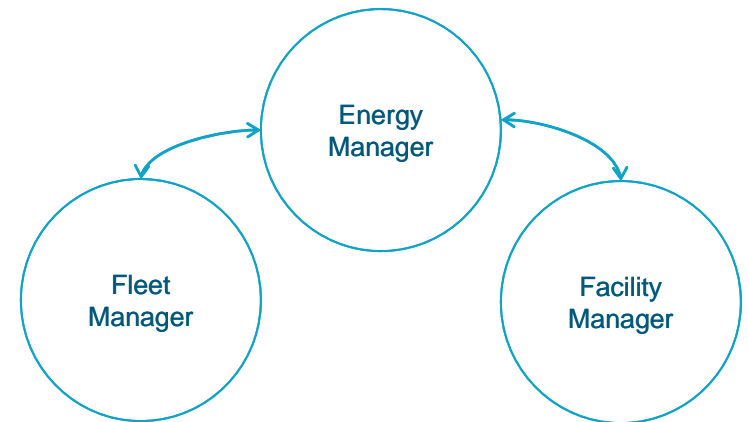
- Fleet audit & EV assessment
  - What part of my fleet is EV ready?
  - What is my EV fleet strategy?
  - Where are my fleet vehicles currently being used and how?



# Engage with BC Hydro

Engage early and often with BC Hydro to help plan your EV roadmap

- Cooperation between Energy Managers, Fleet Managers, Facilities
- Consider site location carefully and be flexible
- Future load planning – expansions
- Package your projects into an EV Fleet plan
- Your electricity bill depends on how you charge





# Choose your site wisely

There are a number of factors to consider when selecting an EV charging site



- Safety
- Accessibility
- Washrooms
- Coffee/food
- Egress
- Sight lines
- Lighting
- Nearest station
- Density
- Access to power
- Expandability
- Amenities
- Many more...

# Knowing what you need is the first step

Do the charging requirements analysis



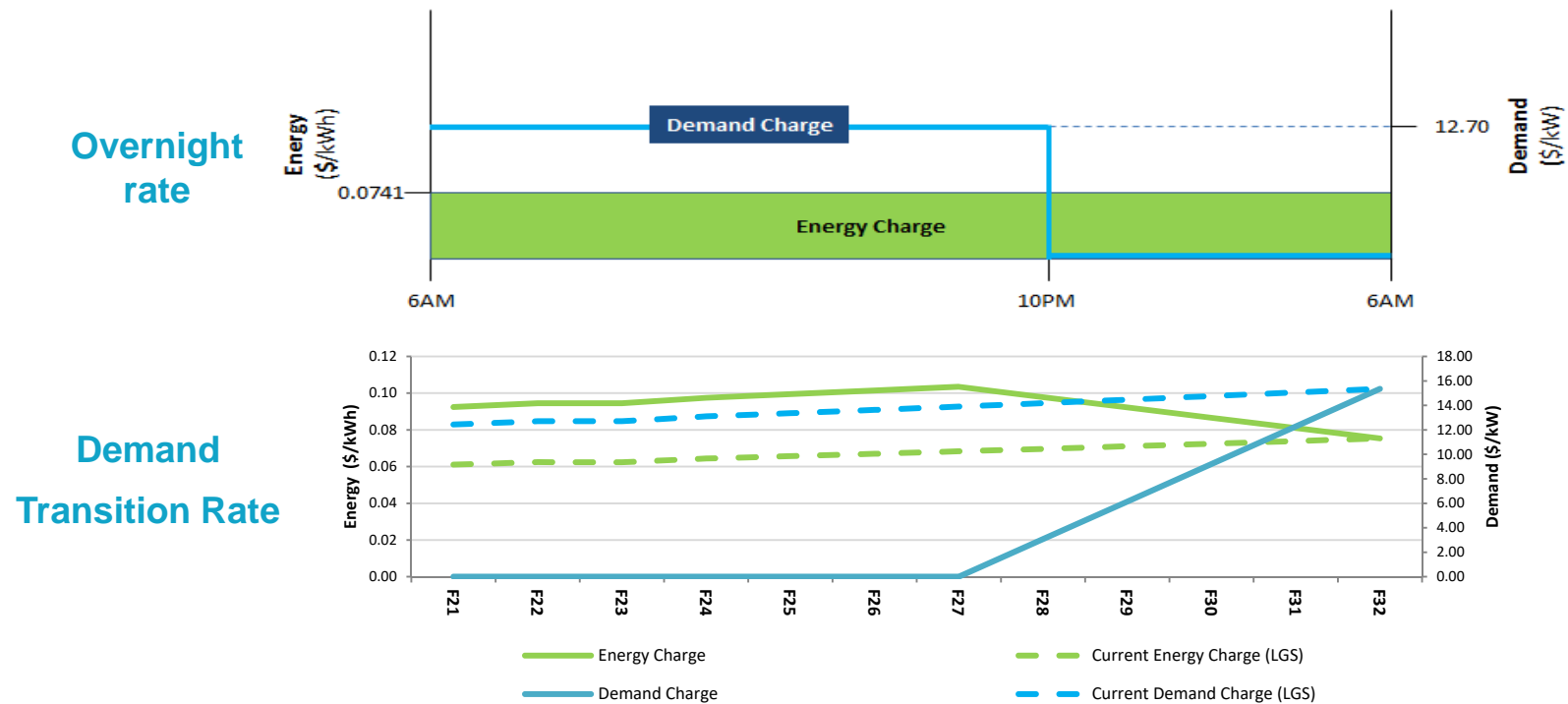
Energy Requirement	Charging Window	Average Power Demand	Per Vehicle Charging
20 Chevy Bolts X 50 km/day X 0.2 kWh/km = 200 kWh/day	8pm – 6am = 10 hours per day	200 kWh/day ÷ 10 hours/day = 20kW ↑ Peak Demand	20kW ÷ 20 Chevy Bolts = 1kW ↑ Charging Requirement



Charging Station  
Charging Station  
Needs  
Needs  
10 dual port L2  
20 L1  
Load sharing  
~1.4kW per port  
~3.5kW per port

# Fleet electrification rates

## Two optional rates that will support electrification





Electric vehicles can improve your bottom line through lower operating and maintenance costs



Reliable power when you need it



Transportation accounts for 39% of B.C.'s GHGs—it's time to plug in



EVs are fueled by B.C.'s 98% clean, green electricity generation

We want to hear from you. Contact our EV Fleet team and tell us how we can support your fleet electrification projects.

**Contact our ev fleet team today**  
[evfleet@bchydro.com](mailto:evfleet@bchydro.com)





# PLUG IN BC, FRASER BASIN COUNCIL



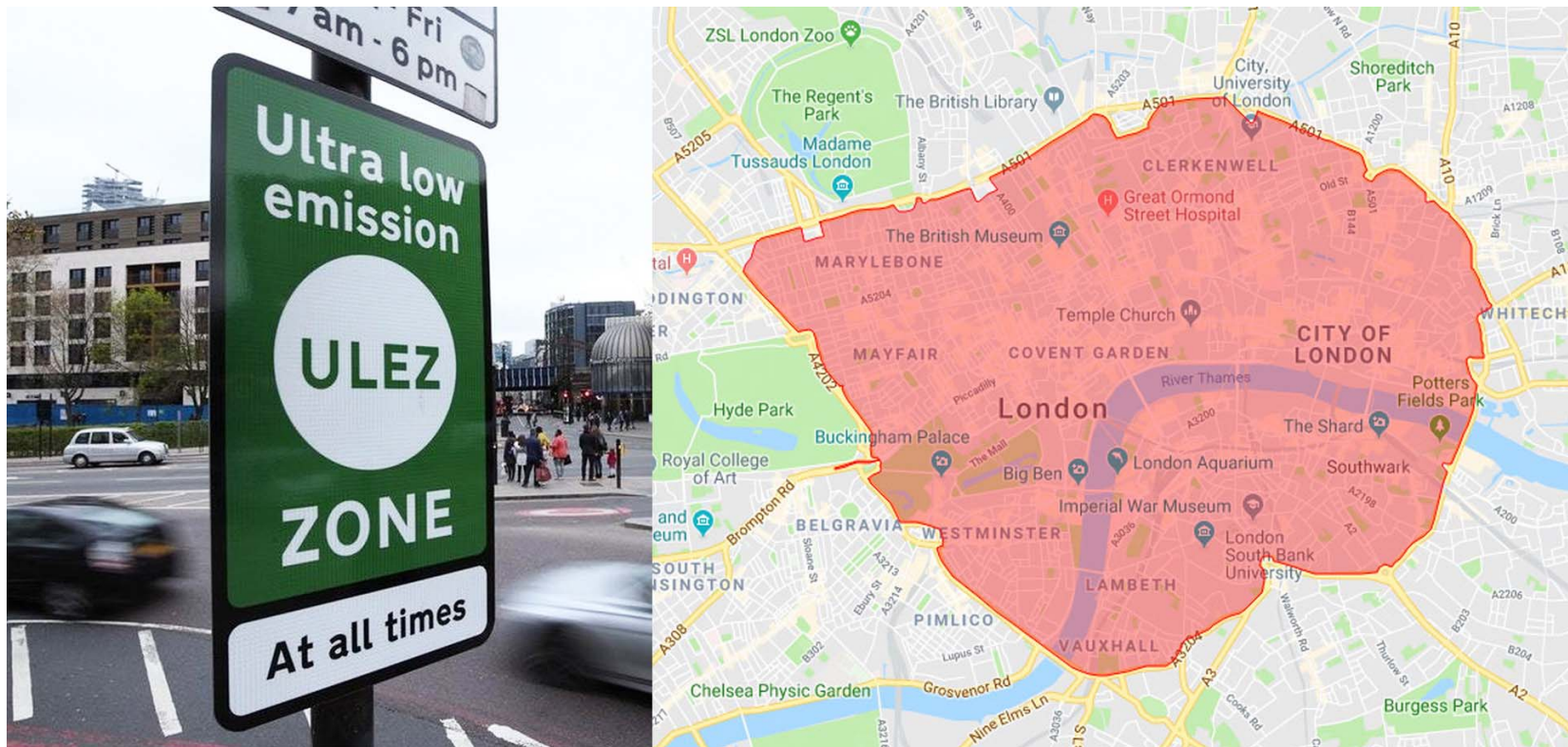
# How to develop a business case & implement For fleet electrification

revised Nov 14, 2019

EV Advisor, Plug In BC  
Patrick Breuer



# Setting the scene





# Project : Charge Forward



## Stakeholders

- Executive team
- Board of directors
- Union reps
- Fleet managers
- Estates manager

# Drafting the plan



- Define the goal or target for the project

- Collect data on your fleet and analysis the information

- Come up with solutions and compare alternatives

- Develop the details that describe the pros and cons of each recommendation.

- Implement the plan and track progress against the project goal

# Results







[www.pluginbc.ca](http://www.pluginbc.ca)

**Patrick Breuer**  
EV Advisor, Plug In BC  
Fraser Basin Council  
P: 778-779-4339  
E: [pbreuer@pluginbc.ca](mailto:pbreuer@pluginbc.ca)

# MINISTRY OF CITIZENS' SERVICES

# Ministry of Citizens' Services

## Electric Vehicle Charging Stations 2019

### 8<sup>th</sup> Annual Public Sector Climate Leadership Symposium



Ministry of  
Citizens' Services

# Ministry of Citizens' Services

## Real Property Division

- Asset Management Branch
- Corporate Sustainability



Ministry of  
Citizens' Services



# Context – The Portfolio

- Diverse portfolio: Office, Courthouses, Correctional Centres, Laboratories
- More than 1500 owned, leased or managed buildings across 111 communities
- Over 1.3M m<sup>2</sup> (14M sq.ft.) of space
- 473 owned buildings - 55% of the total portfolio
- 75% of our office space portfolio is leased





# CleanBC Government Buildings Program

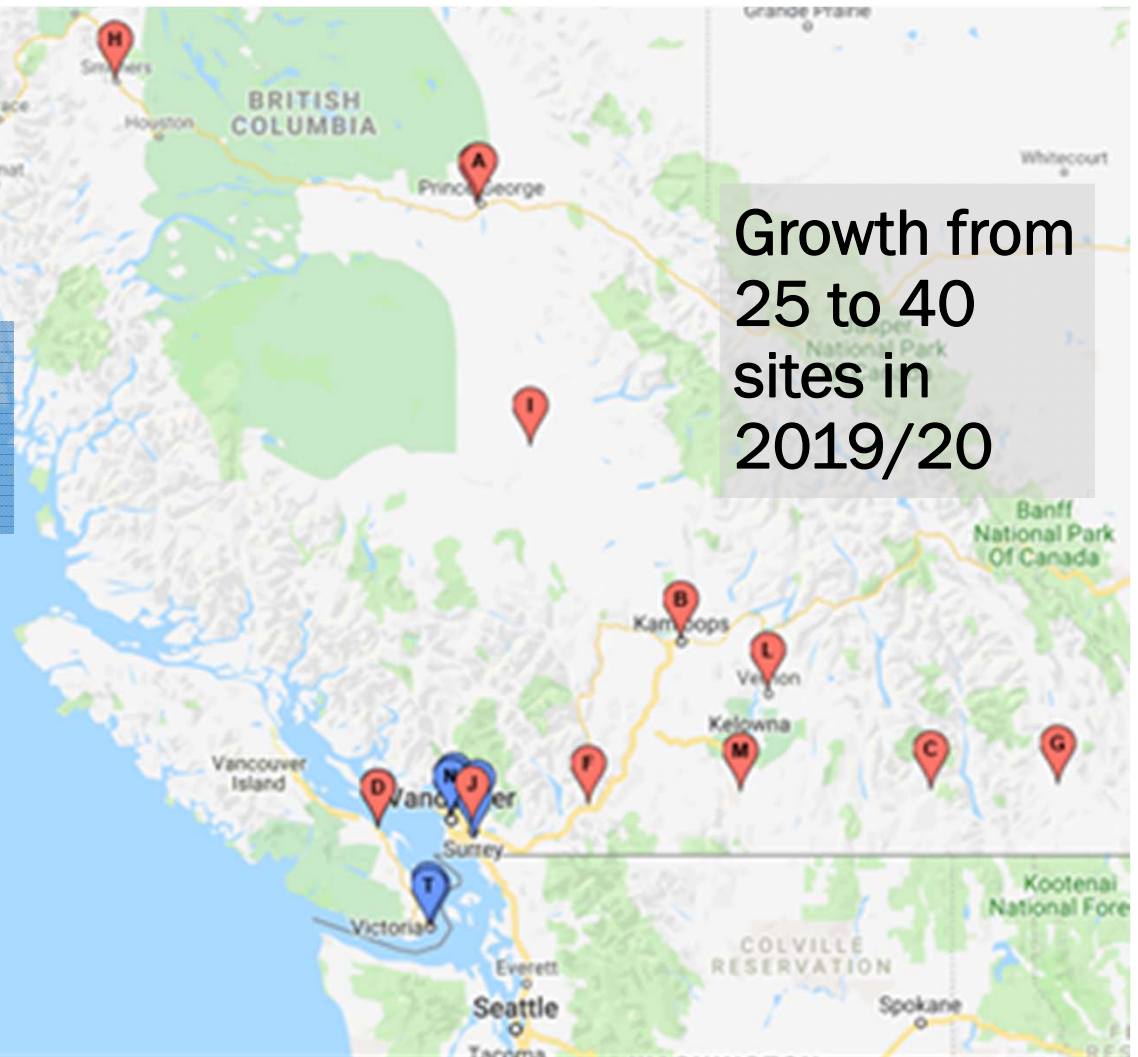
- Dedicated program for Ministry of Citizens' Services managed buildings
- Energy retrofits, clean energy, space planning, adaptation &
  - Mandate to install EV charging stations



## EV Charging & Government Buildings

- 25 EV charging stations have been installed in 2018/19:
- 12 stations at 9 sites for employee/visitor use
- 13 stations for fleet vehicles

Growth from  
25 to 40  
sites in  
2019/20



# Site Photos

4000 Seymour Pl, Victoria BC



999 Water Ave, Hope BC



4000 Seymour Pl, Victoria BC



2100 Labieux Rd, Nanaimo BC





# Lessons Learned

- Process Issues

- Training for the app
- Users not respecting 2 hour limits on charging

- Safety protocols

- Protruding cables into motorcycle lane

- Security

- Vandalism

Questions?



# Questions & Answers