



# GREEN FLEET UPDATE: PATH TO A ZERO CARBON FUTURE

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Equipment Services Team  
Presented to Council  
Nov 1<sup>st</sup>, 2017

- o Context
- o Initiatives
- o Electric Vehicles
- o Low Emission Fuels
- o Going Forward



- Following on the Renewable City's Action Plan Update – The City's fleet will **lead by example** to reduce Carbon Pollution – achieving our Greenest City Targets
- Greenest City
  - Renewable City Strategy
    - **Target:** Achieve 100% renewable energy use before **2050**
  - Greenest City Action Plan
    - **Target:** Reduce vehicle and equipment greenhouse gas (GHG) emissions by 30% from 2007 levels by **2020**



- To shape our path to a zero carbon future and grow our renewable energy usage, the City's "Green Fleet" is pursuing two strong initiatives:
  - Electric Vehicles
    - Expanding the EV fleet and the types of EVs that comprise the fleet
  - Low Emission and Renewable Fuels
    - Transitioning to fuels with a higher proportion of renewable, biologically-derived content





# ELECTRIC VEHICLES – CURRENT STATE

- Leader in Canadian Electric Vehicle Fleets
  - Across VPD, VF&RS, Parks, and Engineering services
    - 36 light duty (including 2 motorcycles)
    - 27 recreational vehicles
    - 53 hybrid electrics



- Pushing beyond the Status-Quo
  - driving adaption of emerging EV types and classes
  - targeting the heavier classes of EV's – Our biggest Emitters
    - Sweeper trucks, Bucket trucks, landfill tractors, dump trucks, etc.



- **Challenge:** The market for these vehicles in North America is emerging and is expected to develop significantly in the coming years



## ○ Learning from the Market

- The City will be reaching out to the local EV industry by way of a Request for Expression of Interest (RFEOI).
  - provide insight into the local EV market – vehicle availability and timelines.
  - The City will be releasing the RFEOI in late **November 2017**.

## ○ Learning From Each Other

- The City is establishing an advisory committee with other public sector entities, educators, and technology producers
  - share knowledge and assist with mapping our our path to a fully renewable fleet'

## ○ Learning from Early Adopters

- Asia has heavy duty EV's (produced in the 1,000s) – hasn't translated locally
  - Proprietary charging is a challenge
  - Differing safety standards

- 2017-2018 Upcoming Fleet Arrivals

- Ford Focus – Late 2017

- Ordered 20 units
    - Fully Electric passenger Vehicles

- Mitsubishi eCanters – Early 2018

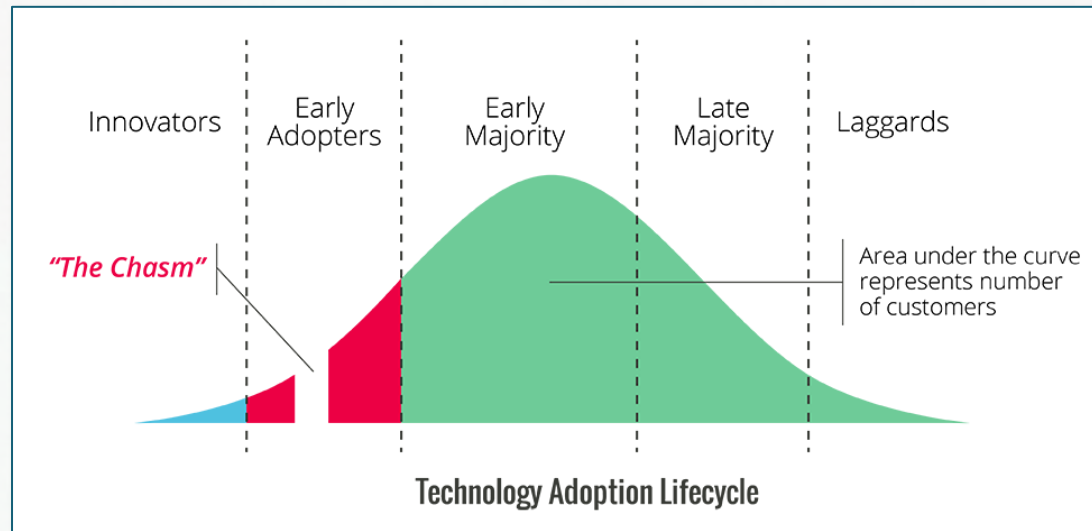
- Pre-Ordered 6 units
    - Fully Electric Class 5 Vehicles

- 2018-2022 Replacing 122 Fleet Units

- 5 year plan to replace 122 Medium and Heavy Duty fleet units
  - Including infrastructure upgrades for Charging







Credit: "Crossing the Chasm"

- As we wait for the Electric Vehicle market to fully develop, we need to look at alternate means to reduce our Carbon footprint
- Renewable fuels and low emission fuels present an excellent opportunity to reduce our Carbon footprint
  - With the targeted introduction of these fuels into our operations, we will see immediate reductions in our GHG emissions.

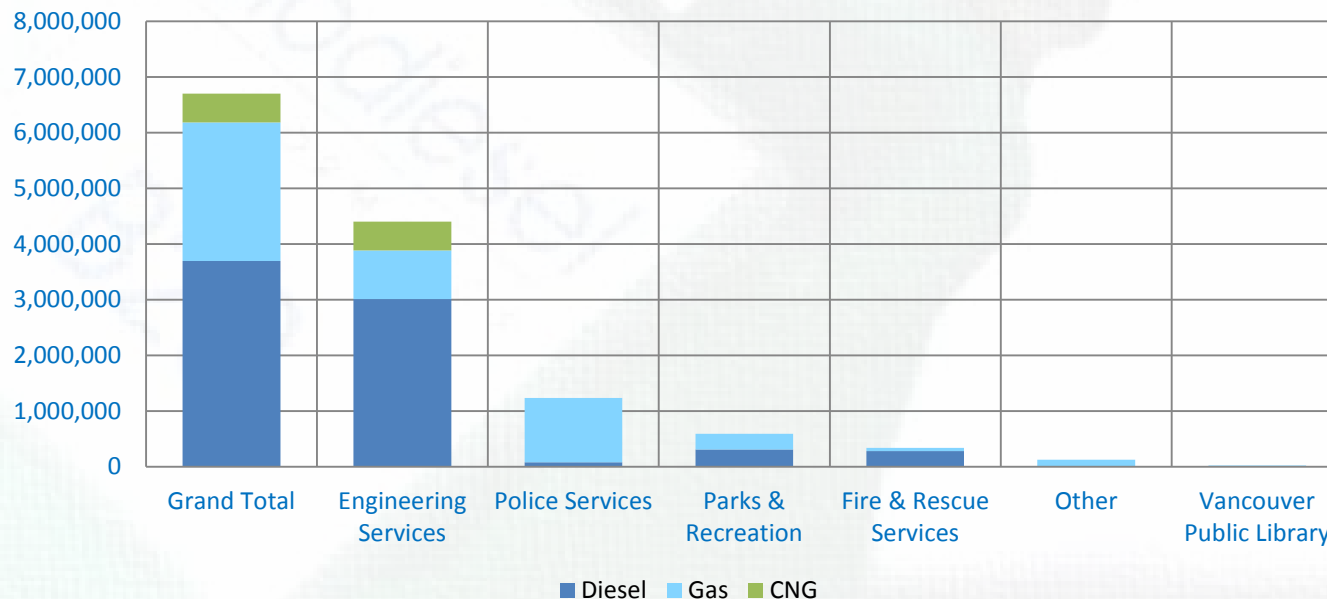
- Fuel reduction initiatives

- GPS - monitor idling and fuel utilization
- VPD IdleRight – idle reduction system to allow emergency vehicles to operate essential services while parked

- Annual fuel use distribution for the City's 6.7 Million Liters:

- 55% Diesel
- 37% Gasoline
- 8% CNG

### Fuel Mixture of the City of Vancouver Fleet

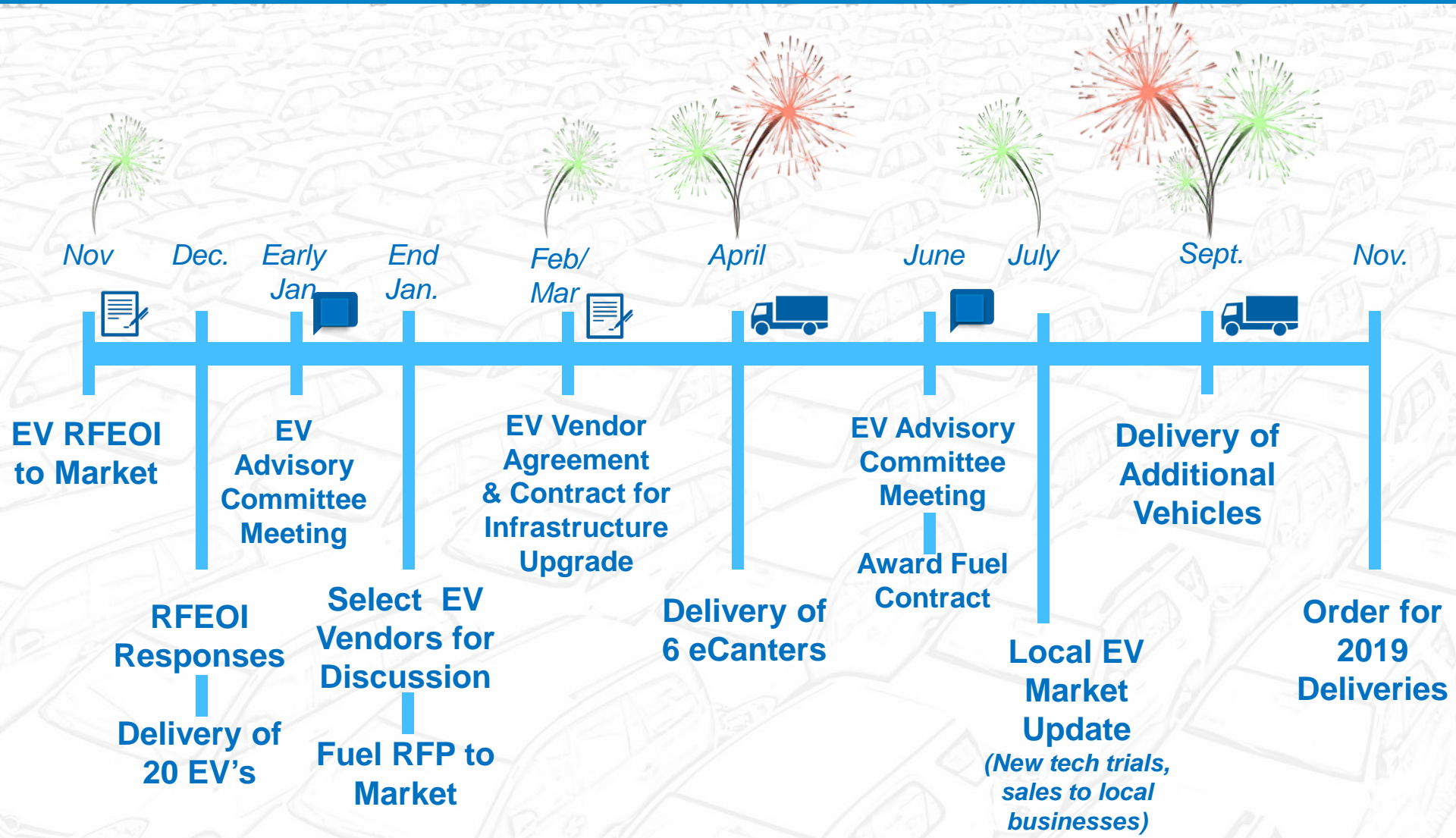




- Increasing the use of low emission and renewable fuels
  - biodiesel and renewable diesel is one of the most impactful opportunities to reach our 2020 target
- Reviewing the local low emission and renewable fuels market
  - to develop a fulsome transition strategy
- Our finalized fueling transition strategy will be used to construct a Request for Proposal (RFP)
  - to approach the market in early 2018.
- The RFP will aim to identify a company and partner capable of providing a full complement of fuels to power the City's fleet
  - the only exception being CNG which is covered under a separate contract



# GOING FORWARD





THANK YOU

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QUESTIONS?