

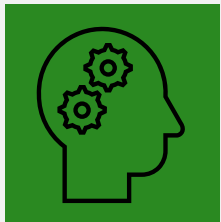
# The Importance of Data in Fleet Management & EV Update

WMABC Annual Conference - 2024



**innotech**  
FLEET STRATEGIES





# Data - The Benefits

- Informed decisions and better business cases
- Improved defect and cost tracking by asset and/or sub-component
- More effective PM programs
- Improved uptime and operational efficiency
- Staffing impacts



# Data - The Challenges

- Fleet management system, setup and data entry
- Lack of current data to build a business case
- Staff training
- Upfront costs and implementation time
- Review and use of data



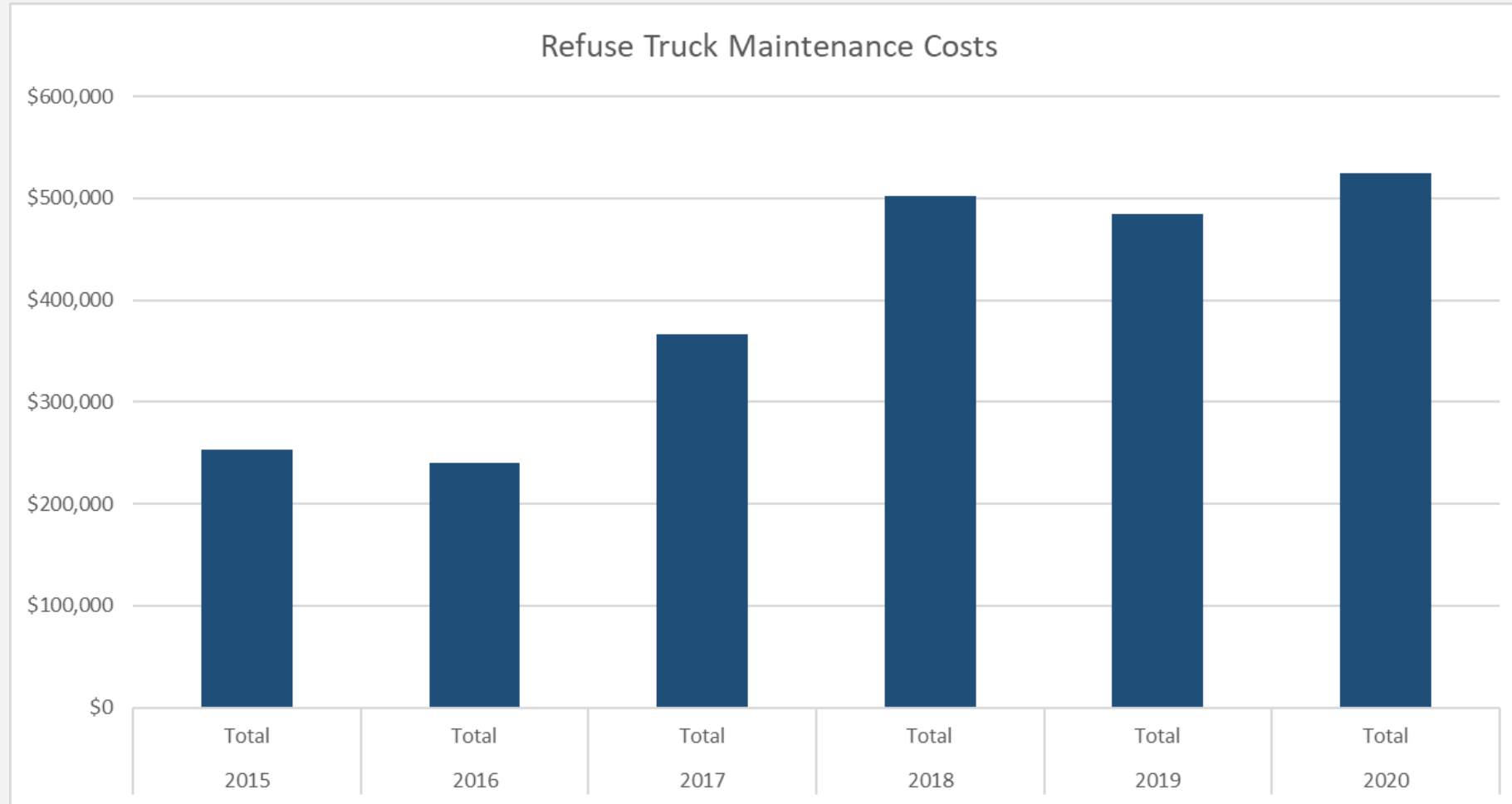
# Sample Data

	Year 1	Year 2	Grand Total
<b>AUTOMATED ARM</b>	<b>\$ 753,138</b>	<b>\$ 783,531</b>	<b>\$ 1,536,669</b>
LABOUR	\$ 234,428	\$ 227,978	\$ 462,406
ARM CONDITION	\$ 4,962	\$ 2,750	\$ 7,711
BUMP STOPS	\$ 3,810	\$ 13,485	\$ 17,295
CHAINS	\$ 50,371	\$ 55,199	\$ 105,570
CYLINDERS	\$ 80,125	\$ 62,967	\$ 143,091
ELECTRICAL	\$ 79,730	\$ 50,938	\$ 130,668
FINGERS	\$ 84,856	\$ 92,335	\$ 177,191
HYDRAULIC LINES AND HOSES	\$ 66,732	\$ 58,050	\$ 124,783
JOYSTICK	\$ 72,165	\$ 81,535	\$ 153,700
<b>PINS AND BUSHINGS</b>	<b>\$ 63,681</b>	<b>\$ 113,618</b>	<b>\$ 177,299</b>
RUBBERS	\$ 12,279	\$ 24,677	\$ 36,955

Year 1	
Labour-Preventive	\$ 31,482
Labour-Reactive	\$ 6,466
Maintenance	\$ 24,002
<b>Total</b>	<b>\$ 61,950</b>

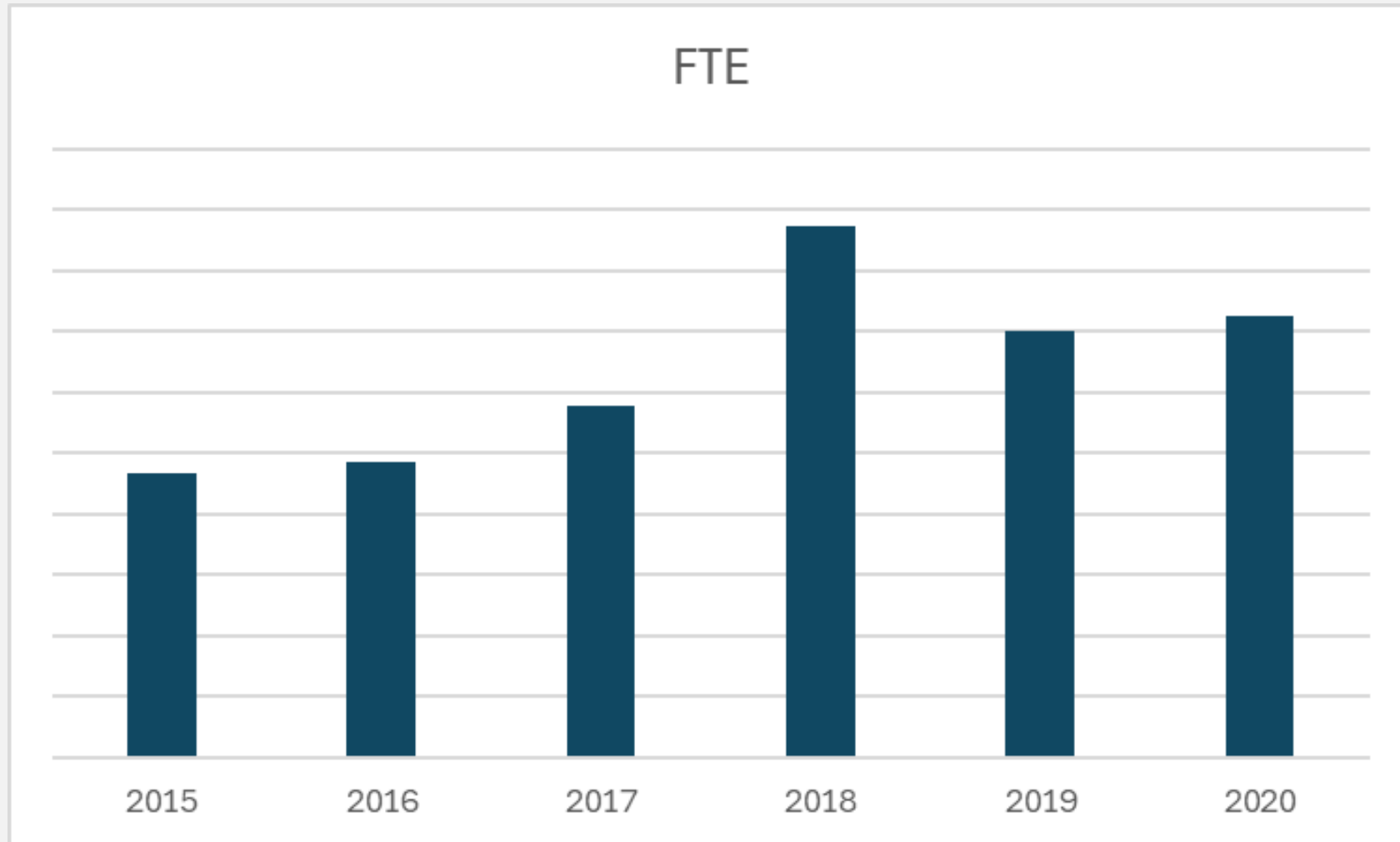


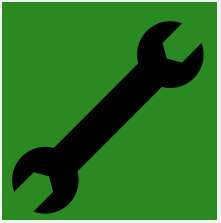
# Maintenance Costs





# Staffing Impact





## The Future

### Predictive Maintenance

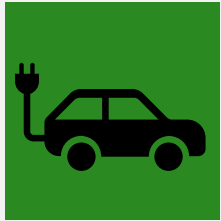
- Onboard systems use cycle counts or wear indicators to define service life of individual components
- This data will assist in determining maintenance tasks and intervals
- Combined preventative and predictive approaches are likely needed
- Regulatory requirements still need to be met



# Why It's Important

- Challenging economy and industry
- High inflation
  - Equipment costs increased ~30% over the past 3 years
- Labour shortages
- Reduce costs and improve profit margins
- Prepare for the future by modernizing fleet management





# Electric Vehicles - Need to Know

- Technology is progressing, but commercial vehicles are still in early development – know the risks
- Fleet and infrastructure assessments are recommended as part of your EV transition planning
- Zero Emission Vehicle Act
  - 2035 – mandate for all new light duty vehicle sales to be EV.
  - Commercial vehicle timelines in development
- Take advantage of incentives



# Canadian Stats

- Transport Canada iMHZEV website is a great resource for vehicle availability in Canada
- Excluding cargo vans and buses, there are approximately 250 commercial EVs operating in Canada
- Refuse trucks
  - 2 in BC with more on order
  - First one just delivered in Ontario



## Electric Refuse Truck Pilot

- University Endowment Lands
- Mack LR electric w/ Labrie automizer
- In service January 2023
- Data and performance tracking underway
- Innotech is developing a report that's expected to be made public late spring or summer 2024



## Results Preview

- Uptime – Very good June 2023 to current.
- Cool temperatures (0-5C) have a larger impact on efficiency than expected
- Significant carbon emission reduction
- Payload has minimal impact on efficiency



# Questions

## Contact

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