

# The EV Opportunity: Unique Perspectives

**March 27, 2018**

# Agenda

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- **Portfolio Approach**
- **Specific considerations**
- **Targeted analysis**
- **REV demonstration activities**
- **Test and learn**

# Portfolio Approach

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- **Home Charging**
- **Curbside Charging**
- **Workplace Charging**
- **Public Quick Charging**
- **Multi-Unit Dwelling Charging**
- **Transit Bus Charging**
- **Medium Duty Fleet Charging**
- **School Bus Charging**

**The key is utilization!**

# Specific Considerations

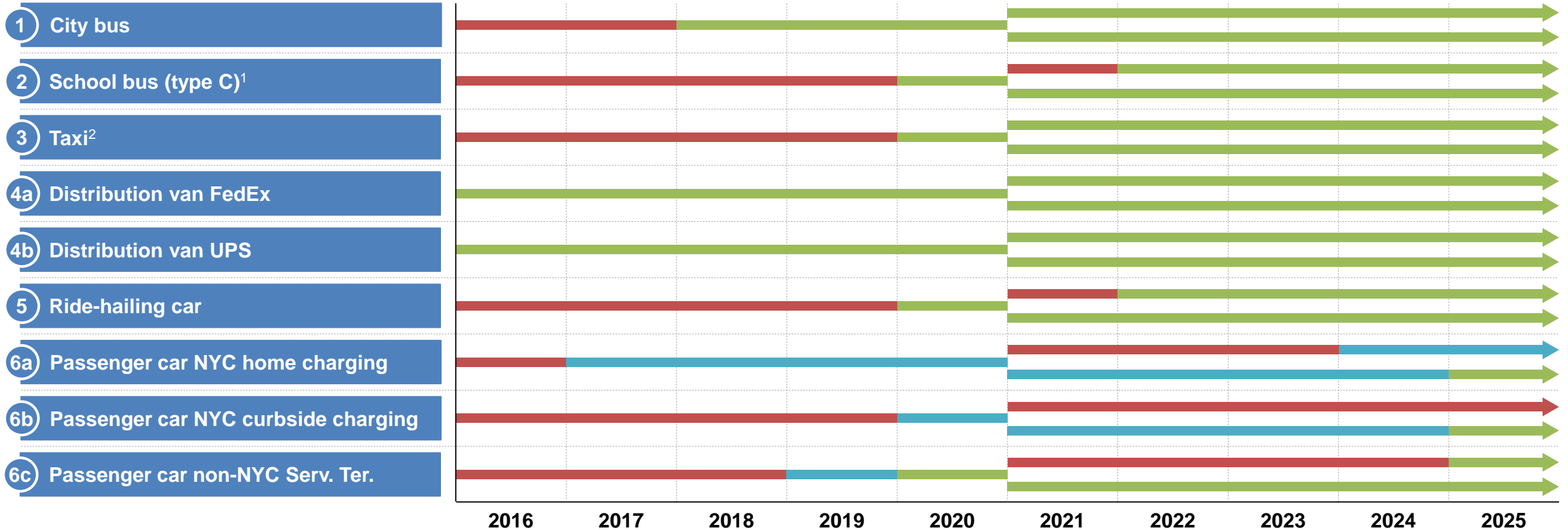
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- **Garage orphans – home, curbside**
- **Renewable penetration - workplace**
- **Access to dedicated charging – public quick charging**
- **Density of MUDs – combined approach**
- **Mass transit electrification – subway and bus**
- **Fleet products and penetration rates**
- **City and municipal ownership – school bus**

# TCO model indicates imminent break-even of EV

Most cost competitive powertrain from TCO perspective (incl. subsidies, upper line: subsidies discontinued after 2020, lower: continued)

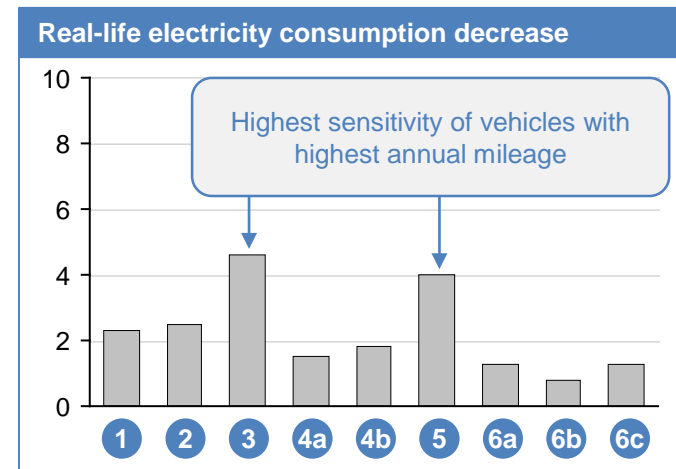
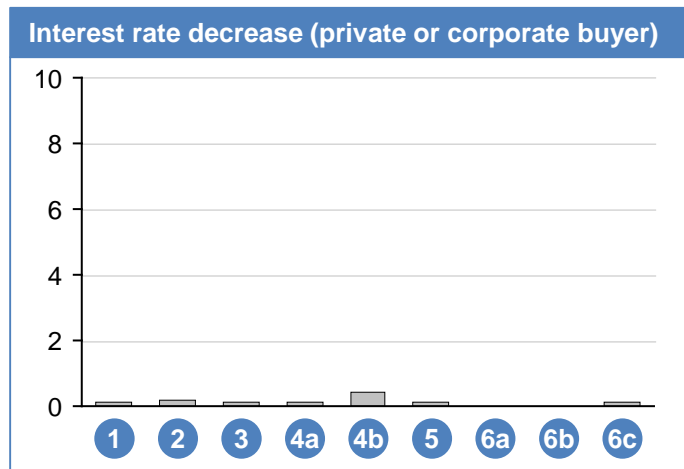
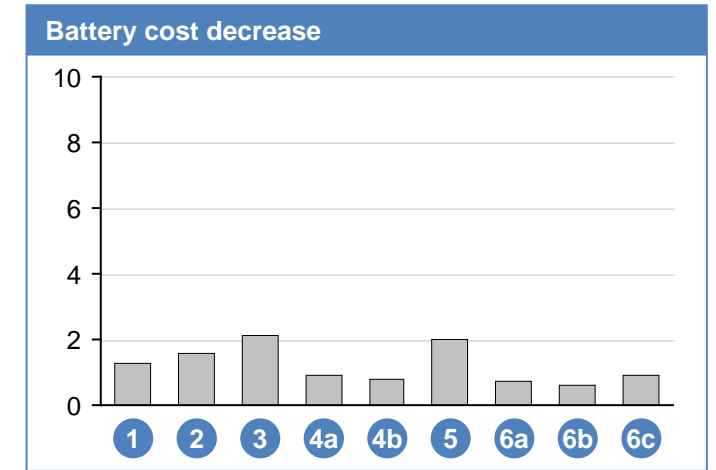
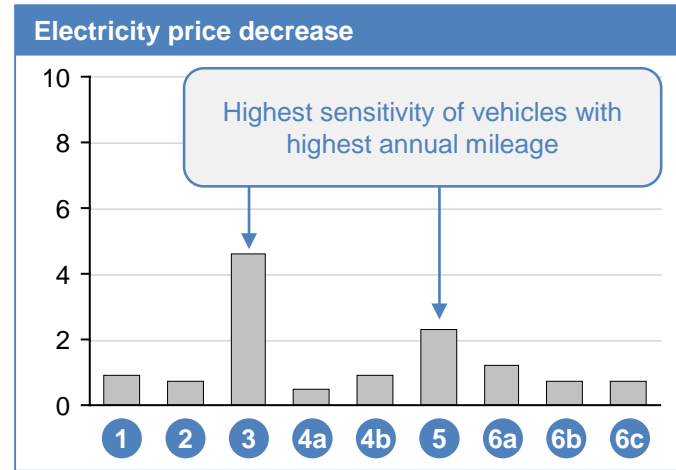
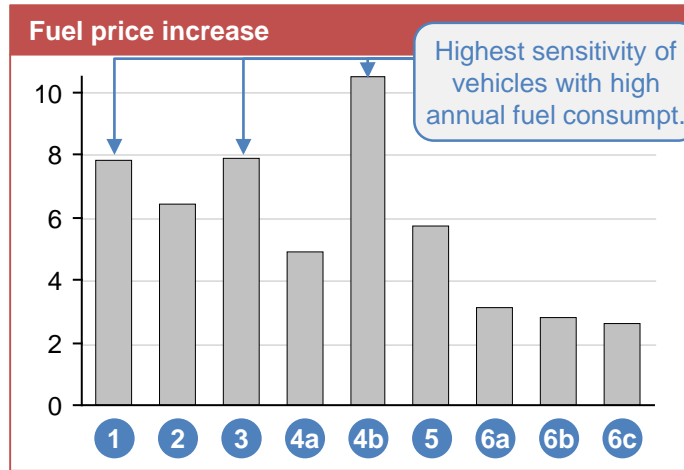
ICE  
BEV  
PHEV



1 Without VTG  
2 Including yellow/medallion taxis, boro taxis  
Source: TCO model Stahl Automotive Consulting

# Although Fuel Prices have the Largest Impact on TCO, Con Edison could Influence EV penetration Mostly via Electricity Prices

Bars display the percentage change of the TCO gap in relation to the EV TCO p.a. for a 10% change of the variable



Use case	Reference EV powertrain
1 City bus (MTA)	BEV
2 School bus (type C)	BEV
3 Taxi	BEV
4a Distr. van (FedEx)	BEV
4b Distr. van (UPS)	BEV
5 Ride-hailing car	BEV
6a Pass. car home	PHEV
6b Pass. car curb side	PHEV
6c Pass. car non-NYC	PHEV

Source: Team

# REV Demos and the way forward

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- **\$25M allocated out of \$130M for EV demonstration projects**
- **Focus on portfolio approach in six areas:**
- **Smart home charging – 80% of charging requires effective load management**
- **Curbside – establish efficacy and franchise rules through demonstration**
- **Transit bus – in-depot and on-route charging with potential for network load diversity**
- **School bus – idle summer assets align well with v2g from batteries**
- **Fast charge hubs – dense vertical MUDs and scarcity of land**
- **Proactive system planning and design – DER hosting capacity aligns with EV load**

# Test and learn

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- **Nobody has all the answers**
- **Ability to test models**
- **Expand stakeholder engagement**
- **Learn from demonstrations**
- **Modify and adjust as we go**
- **Utilize learnings to inform future offerings and business models**



# Thank You!

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