



Engineering, Operations, & Technology Committee

Zero Emission Vehicles - Transition and Funding Strategy

Item 6e

August 19, 2024

Item 6e

Zero Emission Fleet Update

Subject

Update for transition to zero emission vehicles (ZEV)

Purpose

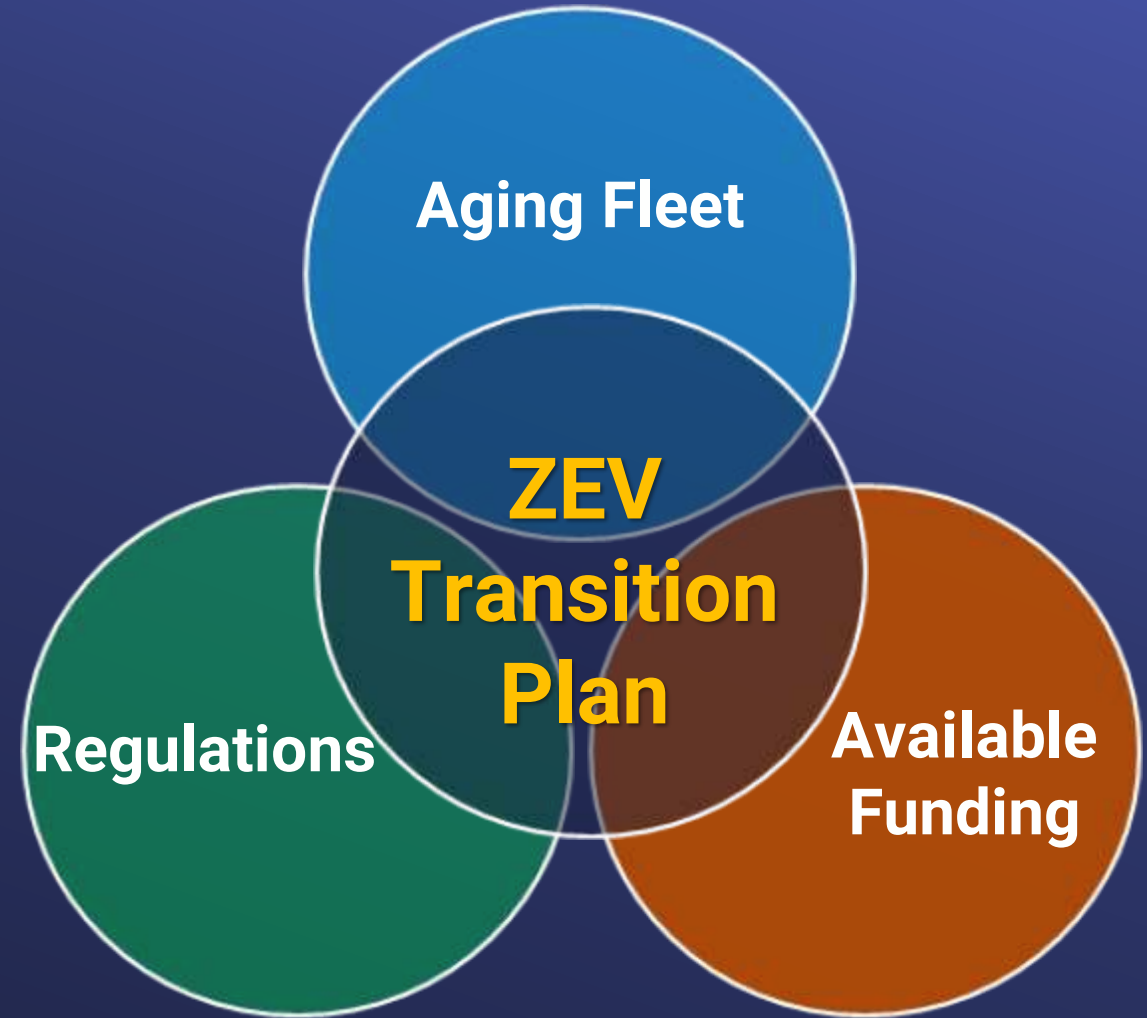
Provide an overview of various ZEV transition strategies balancing regulations, condition of existing fleet, and available funding

Next Steps

Seek Board input on ZEV transition plan and return with options later in 2024

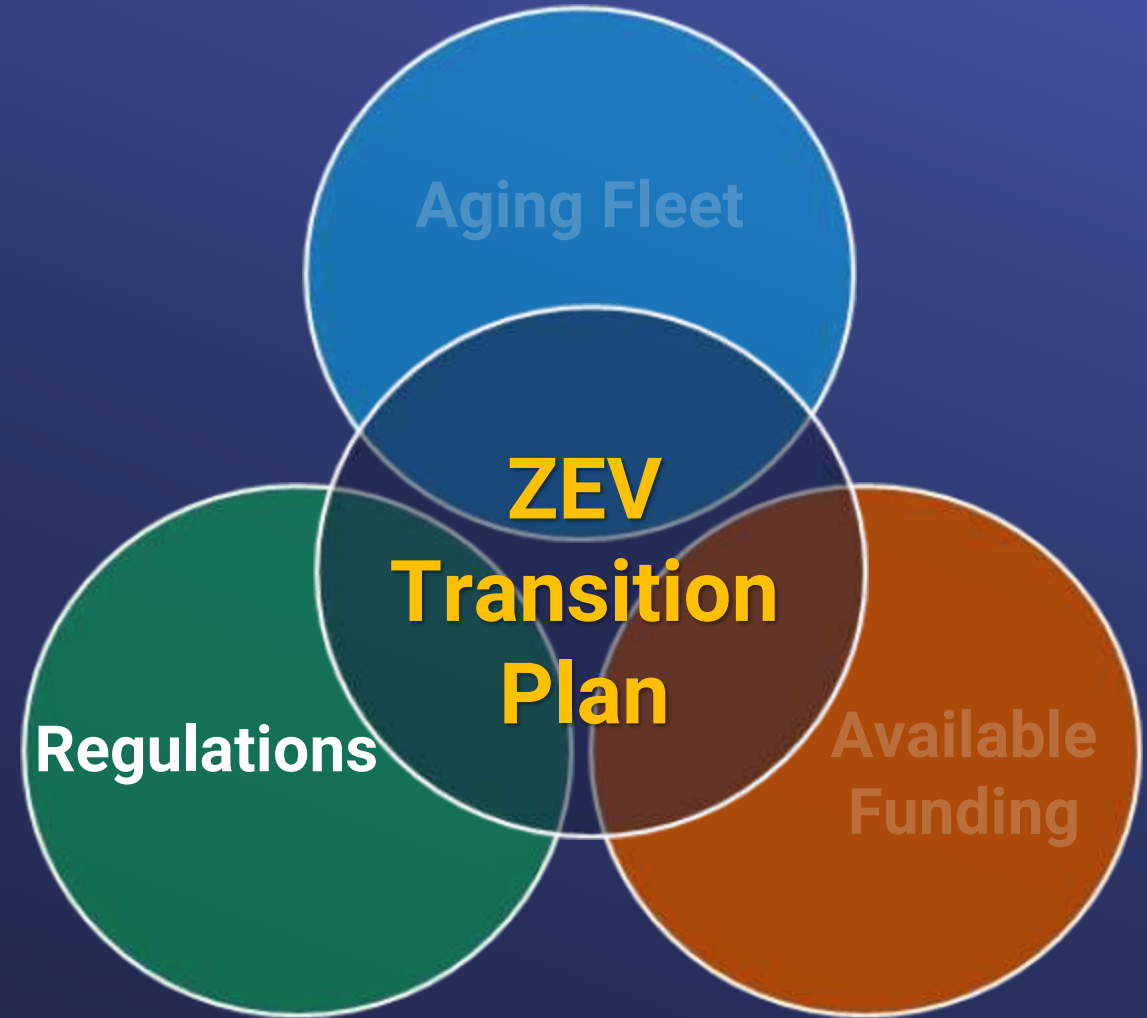
ZEV Transition Challenges

- Reliable Fleet is central to our ability to be resilient
- Staff committed to ZEV transition
- Three competing components to managing fleet
 - ZEV regulatory requirements
 - Backlog of aging fleet
 - Limited funding available

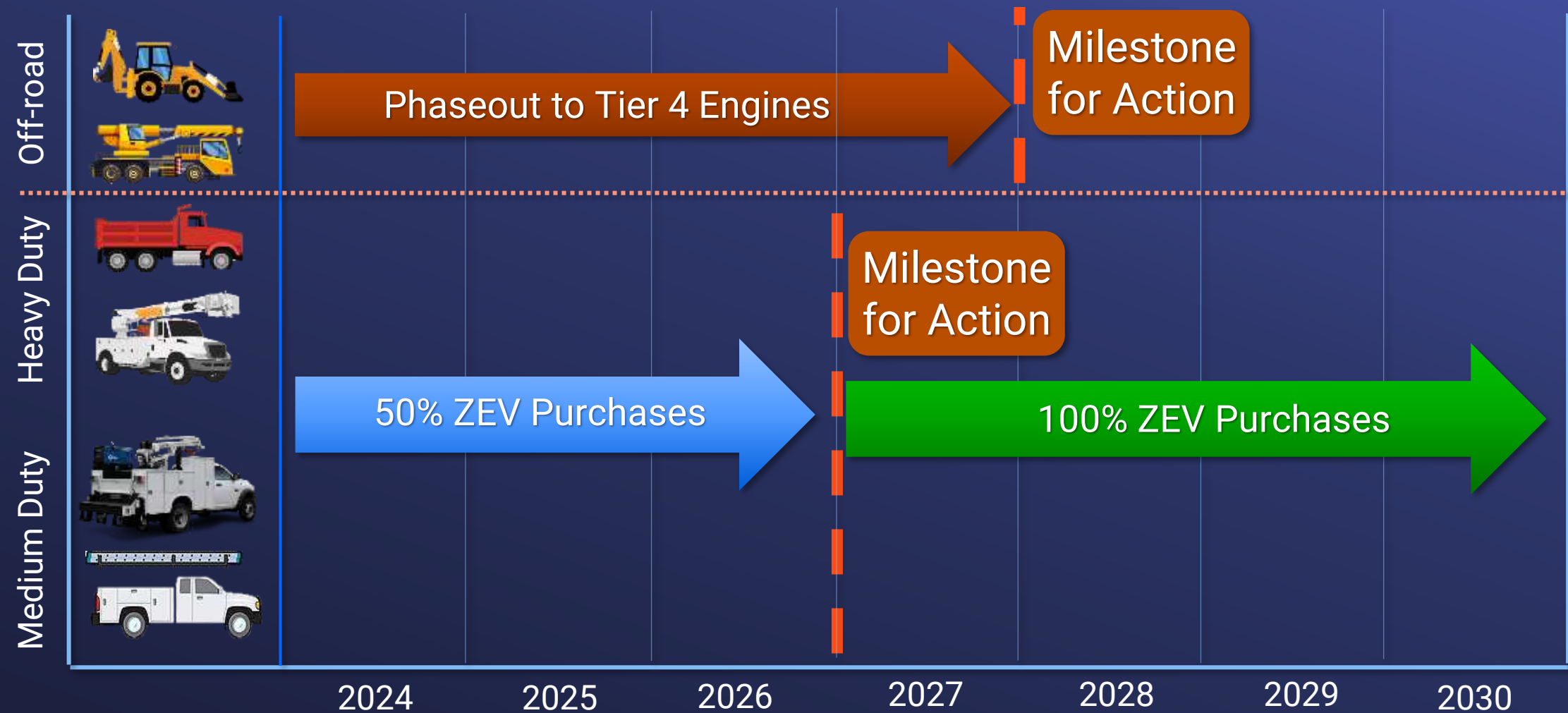


Regulatory Constraints

- Limited time to act considering regulatory milestones
- On-road vehicles
 - Regulations apply to new purchases only
- Off-road vehicles
 - Regulations apply to existing fleet & new purchases
- Administrative and civil penalties for non-compliance

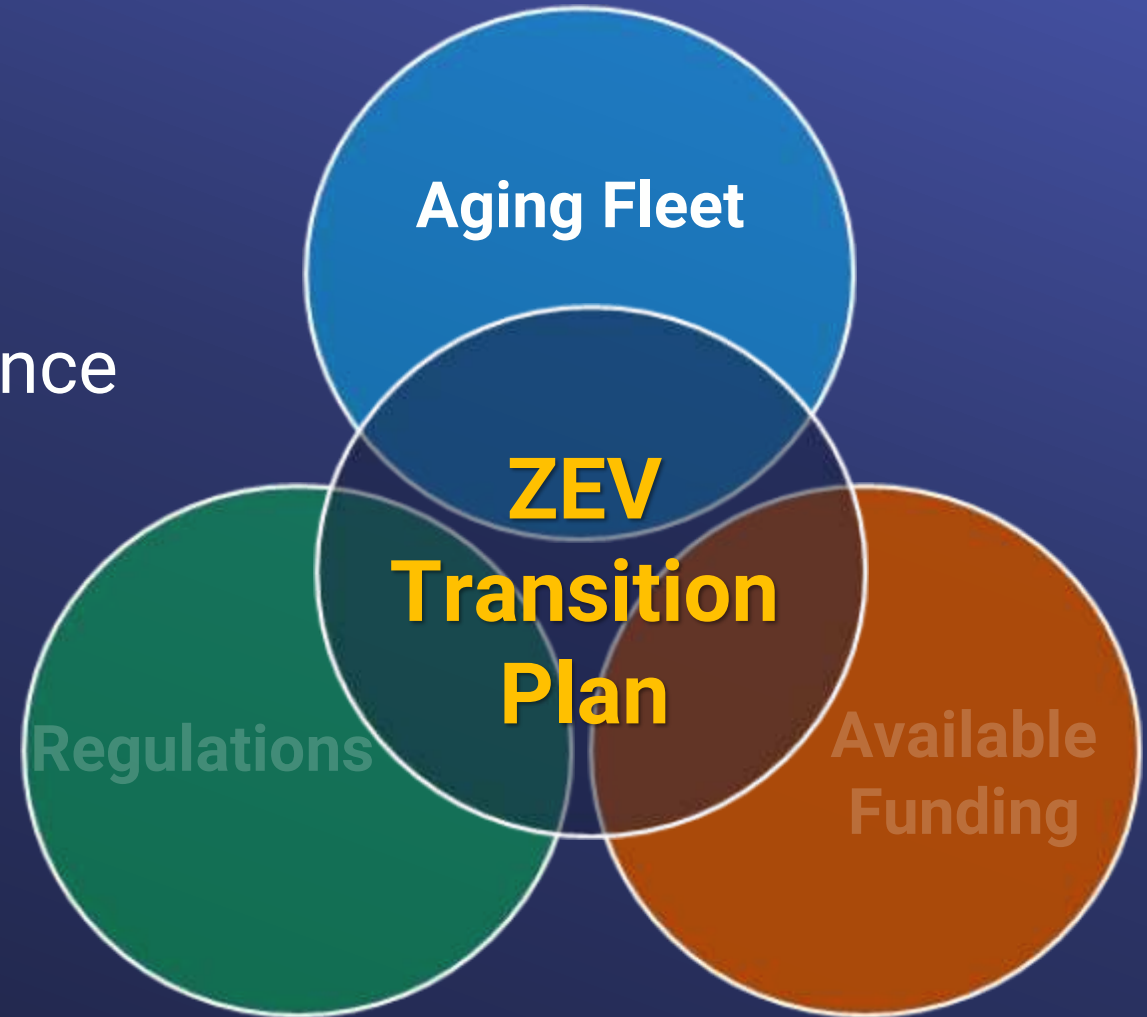


Regulatory Timeline



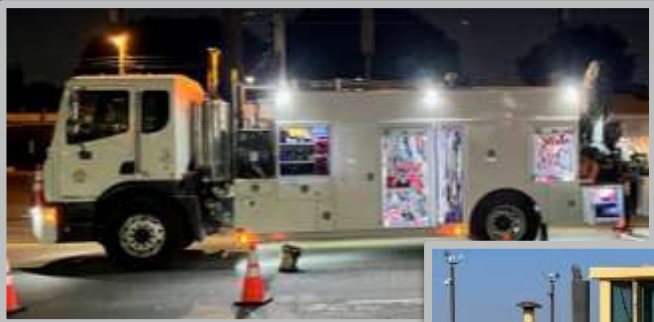
Aging Fleet Challenges

- Customized fleet
- Utilizing vehicles beyond useful life
- Stretching limited staff for maintenance
- Backlog of aged vehicles



Metropolitan's Fleet

Not critical
for reliability



Low
Criticality
397

High
Criticality
356

Mission critical for
emergency response
and reliability

Moderate
Criticality
286



Supports
emergency
response
and reliability

Estimated Asset
Replacement Value
\$180 M
(1,039 vehicles; 2024 dollars)

High Criticality Fleet in Action

Santa Monica Feeder Leak Repair



Utility Truck

Upper Feeder Bellows Replacement

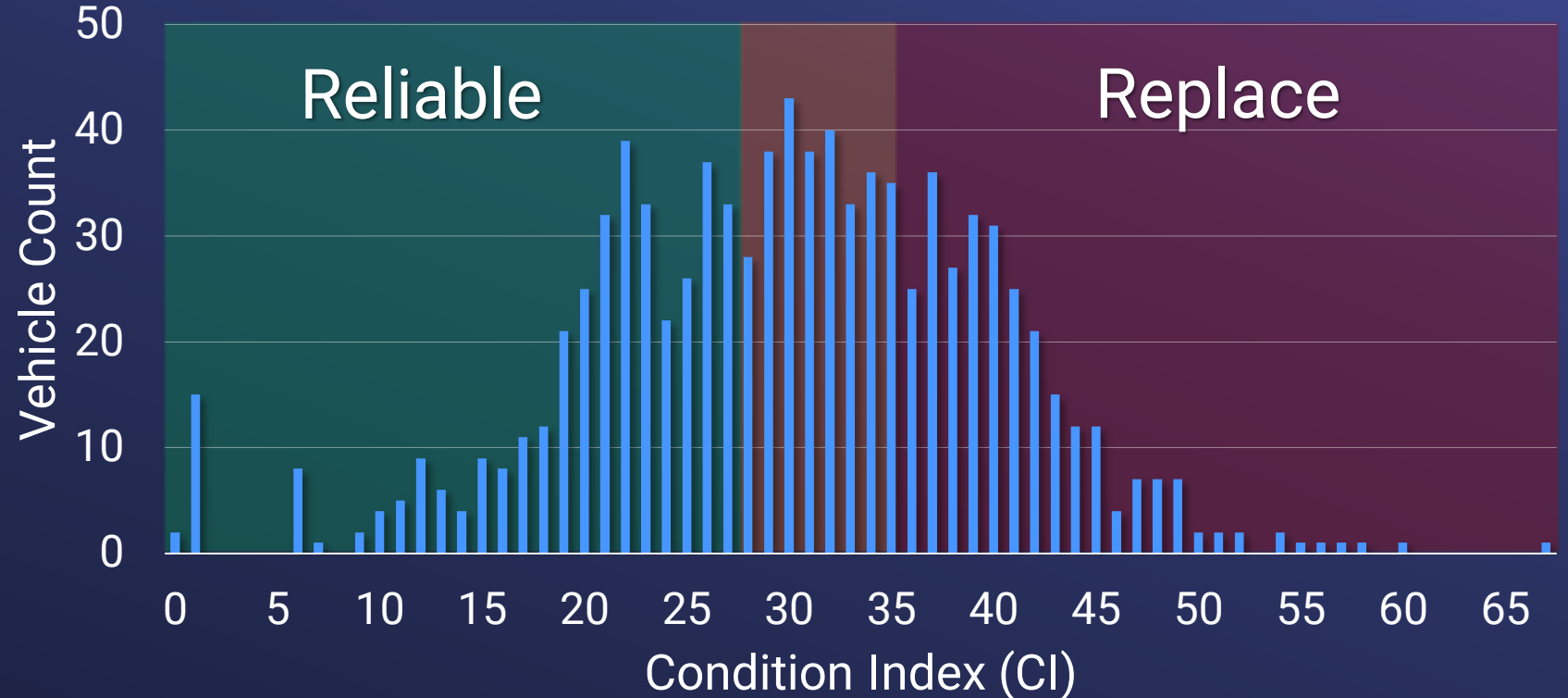


Line Truck with Crane

Impact of Deferred Replacement Needs

Over 50% of Fleet vehicles have Cond. Index (CI) above 28

- Condition index is based on mileage, maintenance history, and physical condition



Examples of High Condition Index

Condition Index = 59



33-year old dump truck with 103,000 miles used by Metropolitan Forces

Condition Index = 42



5-year old Line-truck with 186,000 miles operating in remote desert conditions

Fleet Risk Mitigation Costs

- Costs to mitigate high risk is approx. \$83 million (red zone)

Low
Criticality



Moderate
Criticality



High
Criticality



$CI > 35$

\$15M

\$13M

\$40M

$28 \leq CI \leq 35$

\$11M

\$9M

\$30M

$CI < 28$

\$13M

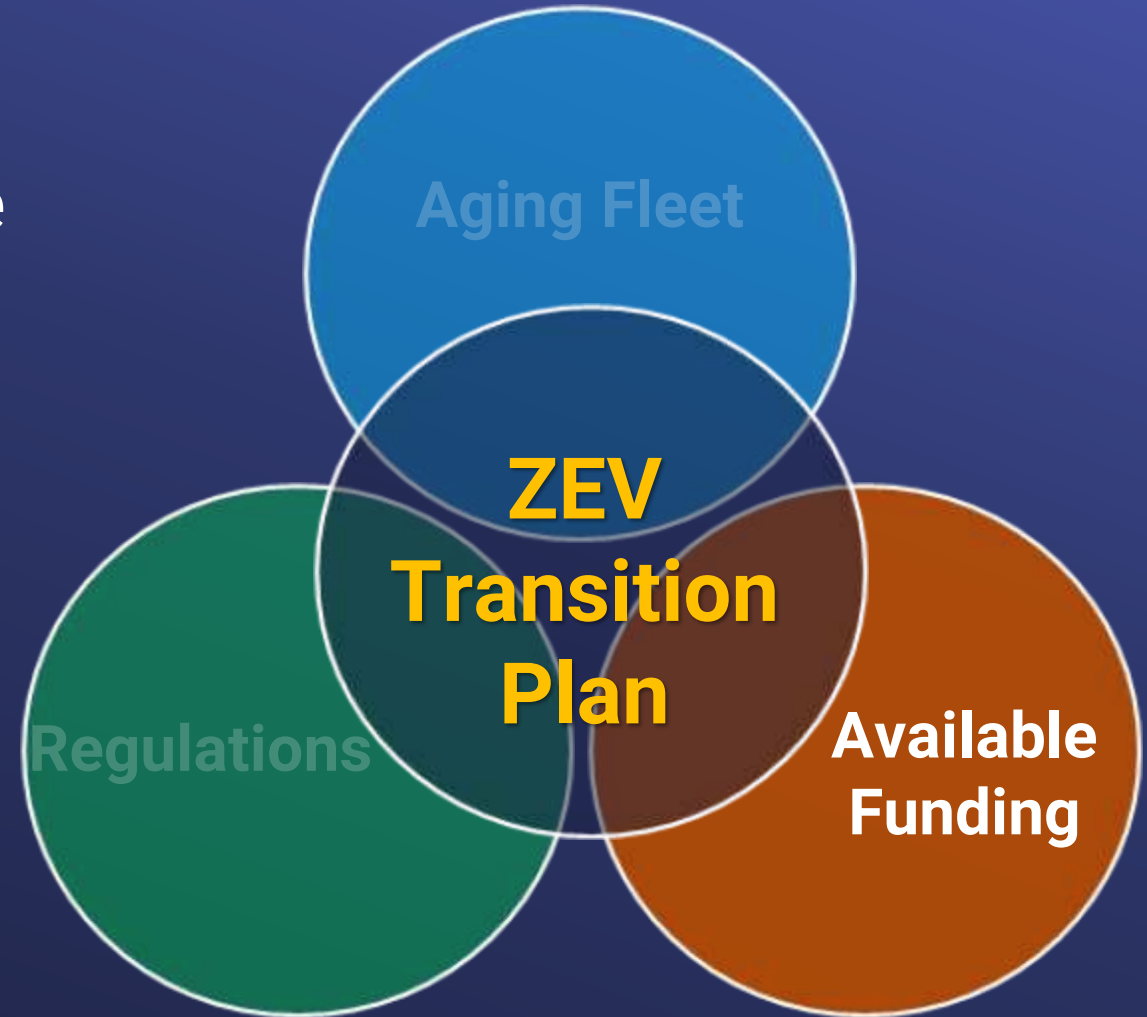
\$18M

\$32M

Note: Amounts shown are in 2024 dollars

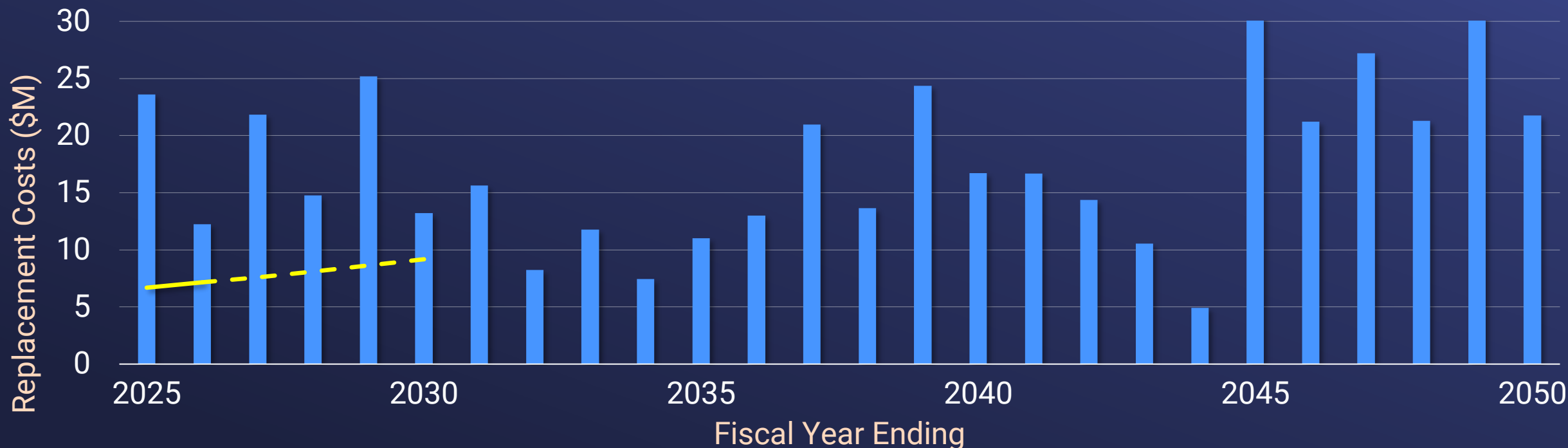
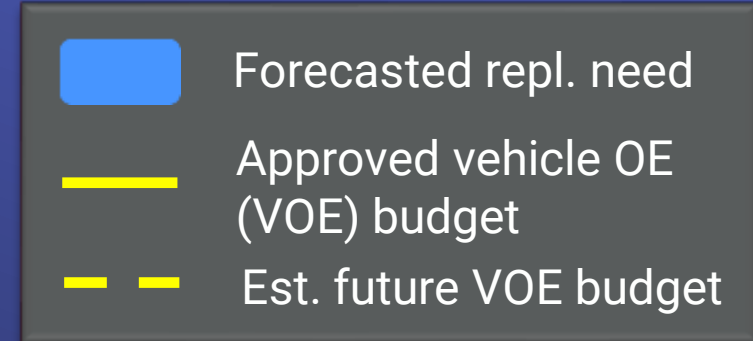
Budgetary Challenges

- ZEV replacements generally cost more than an equivalent ICE vehicle
 - Limited availability of customized ZEVs
- Staff developed a long-term replacement forecast



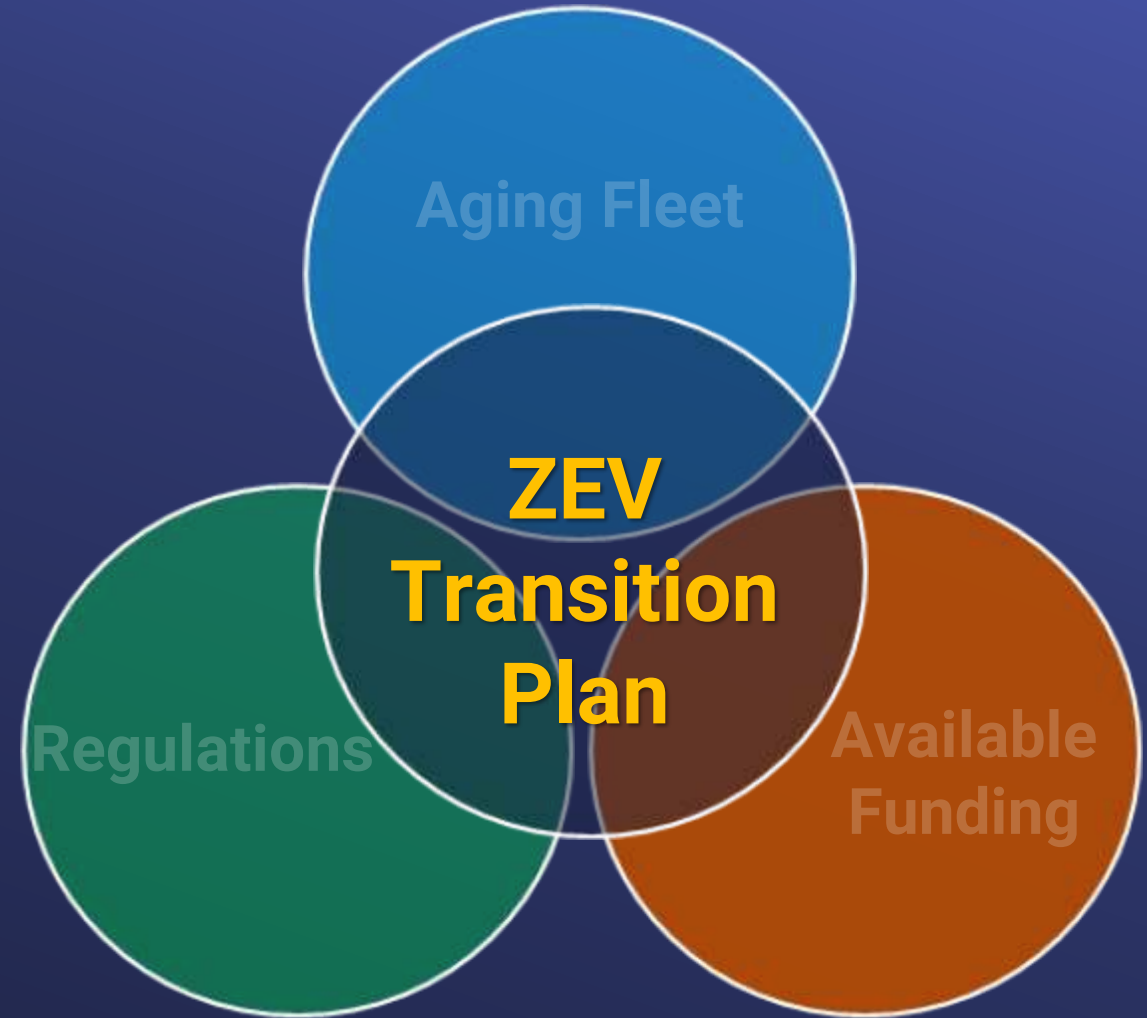
Long-Term Replacement Forecast

- Forecasted replacement needs exceed the planned Vehicle Operating Equipment budget
- Consider expanding funding “bandwidth” to mitigate risk



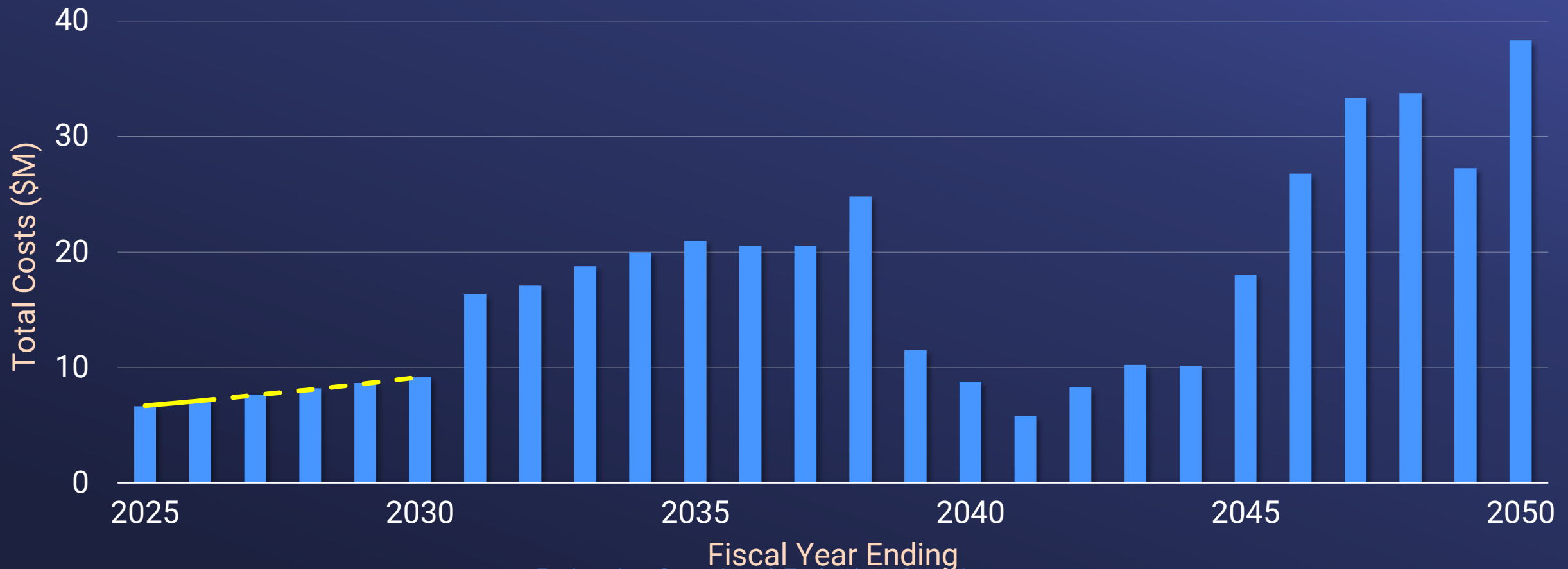
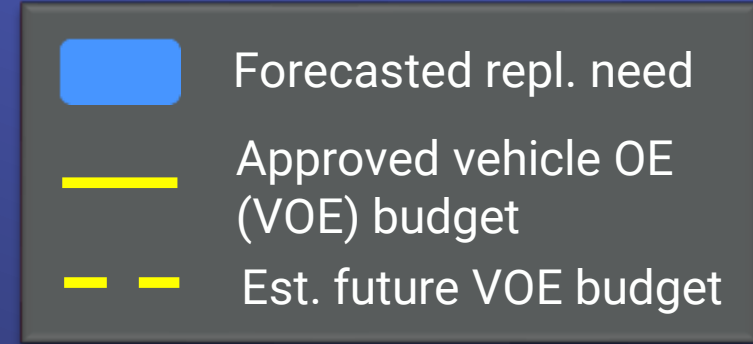
Solutions Criteria

- Remain resilient at all times
- Comply with all regulations
- Balance funding with fleet risk through 2030
 - No Financing – High Risk
 - High Financing – Low Risk
 - Low Financing – Moderate Risk



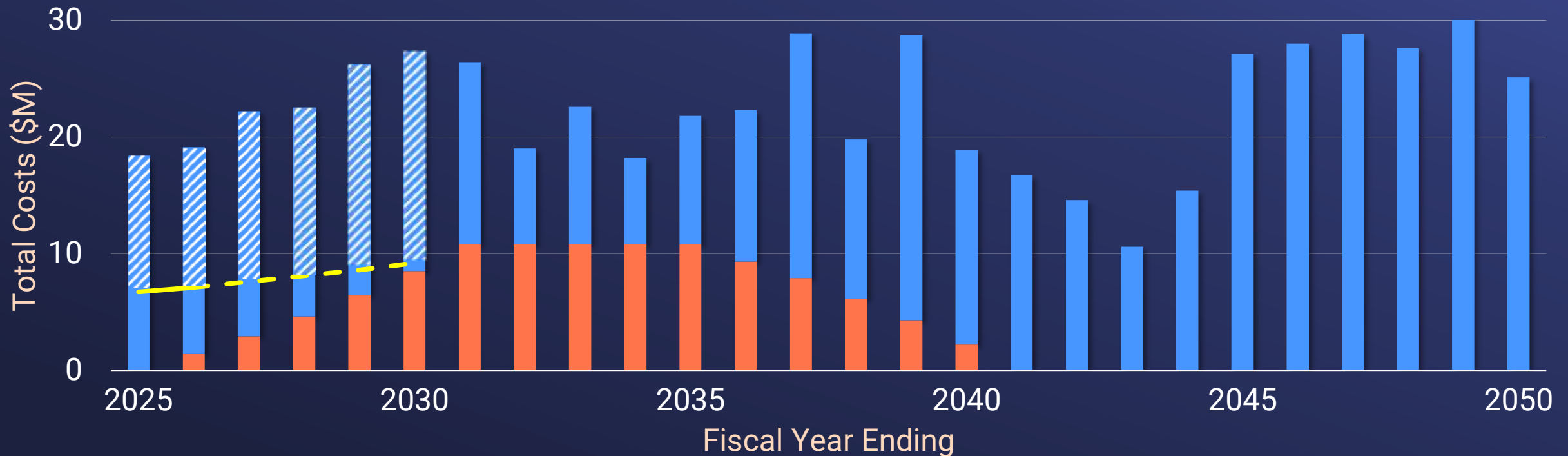
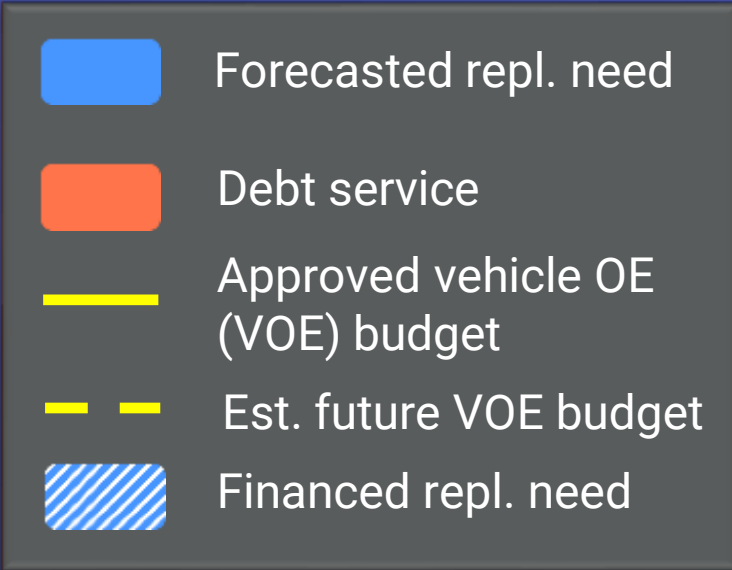
No Financing – High Risk

- Defer High, Moderate, & Low criticality vehicles
 - High risk to operations through 2030
- Fund with VOE budget only. No debt financing



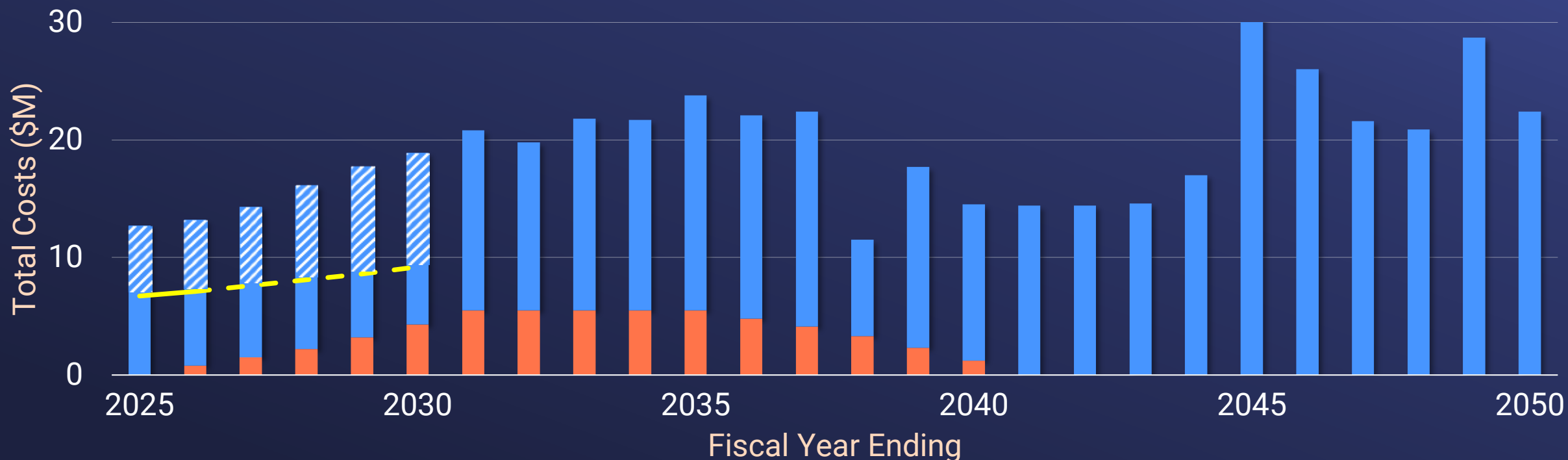
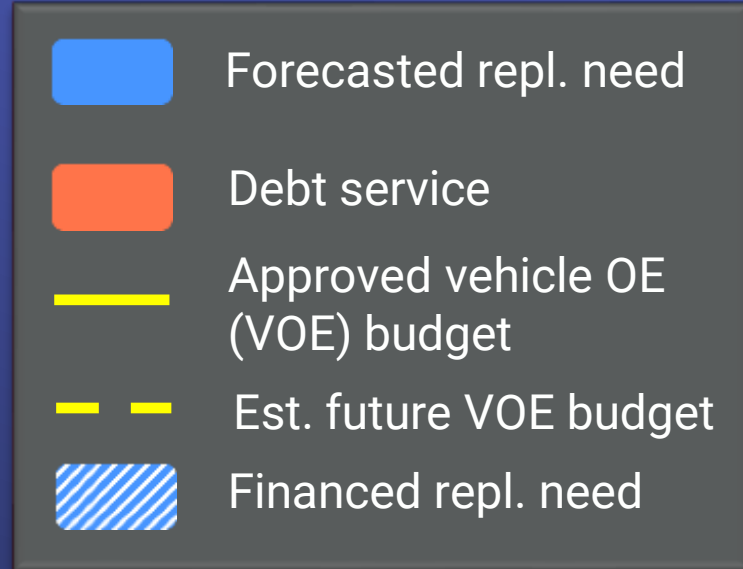
High Finance – Low Risk

- Minimal deferrals of Moderate & Low criticality vehicles
 - Low risk to operations through 2030
- Large portion of VOE needed for debt service



Low Finance – Moderate Risk

- Defer Moderate & Low criticality vehicles
 - Moderate risk to operations through 2030
- More VOE available for purchases



Preliminary Findings

	High Risk	Low Risk	Moderate Risk
	No Financing	High Financing	Low Financing
Funding Strategy	Use est. vehicle OE budget	Use more financing with est. vehicle OE budget	Use less financing with est. vehicle OE budget
Replacement Needs	Defer High, Moderate, Low criticality vehicles	Minimal deferrals	Defer Moderate, Low criticality vehicles
Operational Impact	Potential delayed response to critical events	None	Some impact to daily O&M activities
Financing Costs	-	Higher	Lower

Notes: Preliminary results only. Results are in nominal dollars with escalation, unless noted otherwise.

Fleet costs for Pure Water are not included.

Zero Emission Vehicle Transition Plan

Next Steps

- Seek Board feedback on ZEV transition plan
- Continue with transition to ZEV with approved OE budget
- Continue to pursue exemptions, grants, and incentives
- Share strategies and lessons learned with member agencies and other utilities
- Return to Board to request authorization for debt financing for ZEV transition plan
- Oct 2024: CIP for ZEV Infrastructure Buildout

