

DRAFT FINAL Heavy-Duty Zero Emission Truck Transition Plan

June 14, 2022

Agenda Item 14

File No. 2022-0147



Maritime Clean Air Strategy – Health Equity for All



Heavy-Duty Truck Zero Emission Goals

- **40%** zero emission truck trips by **June 30, 2026**
- **100%** zero emission truck trips by **end of 2030**
- **Develop** a Heavy-Duty Zero Emission Truck Transition Plan by **June 30, 2022**

Regulatory Context

ZERO EMISSION TECHNOLOGY

- Advanced Clean Trucks (Approved 2021)
- Advanced Clean Fleets (Draft)

INTERNAL COMBUSTION ENGINES

- Heavy-Duty Omnibus Regulation (Approved 2020)
- Heavy-duty Inspection and Maintenance Regulation (Approved 2021)

Funding

Proposed California Budget
(subject to changes in June)

\$10Billion

OVERALL ZERO
EMISSIONS INVESTMENT

\$400M
Port
electrification

\$935M
ZERO
EMISSIONS
drayage trucks

\$1.1Billion
ZERO EMISSIONS trucks,
buses, and off-road equipment

Federal Bipartisan
Infrastructure Law

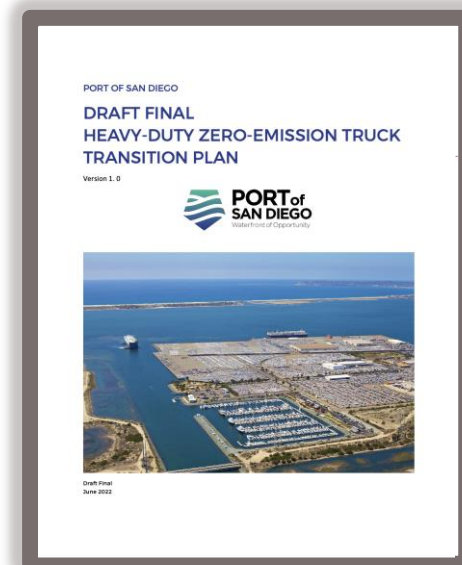
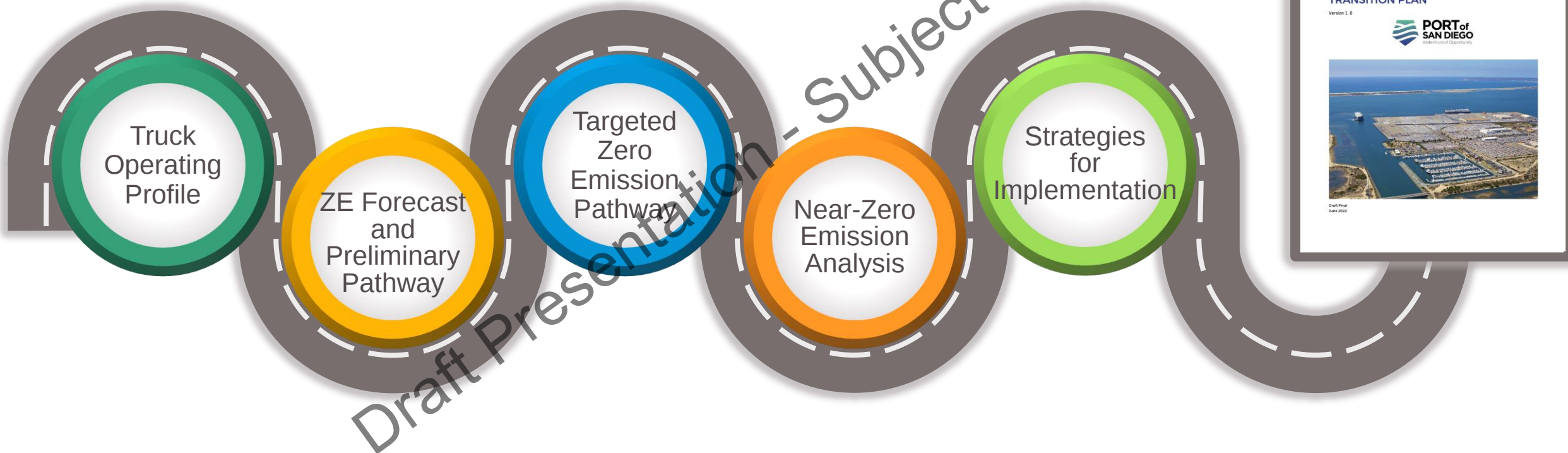
\$318Billion

ROADS, BRIDGES
MAJOR PROJECTS
(EV Infrastructure included)

\$17Billion for Ports

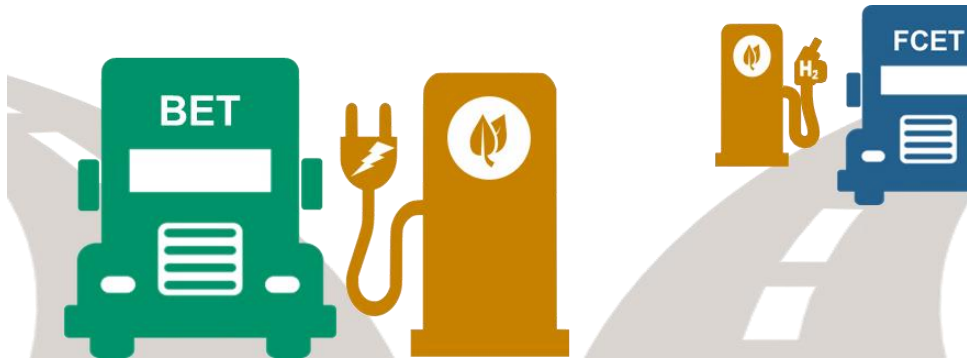
\$7.5Billion
in the National EV
Infrastructure Program

Approach to the Truck Transition Plan



Preliminary Zero Emission Pathway

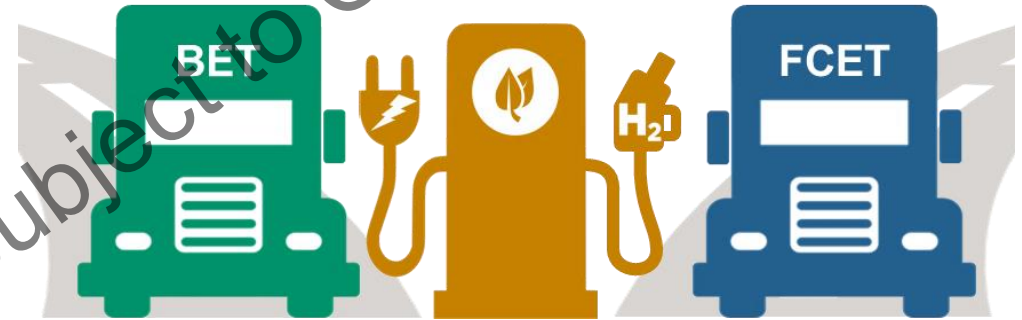
2026



40% Truck Trips

- Battery Electric Trucks (BET)
- Opportunity charging will be necessary
- Accelerated replacement and/or fuel cell trucks is needed

2030



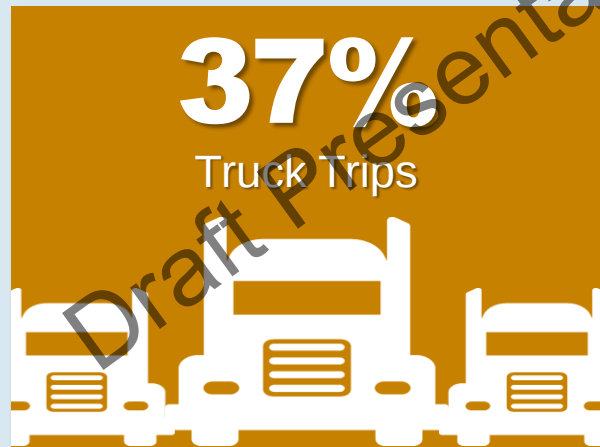
100% Truck Trips

- Combination of BETs and Fuel Cell Electric Trucks (FCET)
- Accelerated replacement is necessary
- Infrastructure needed across western United States

2026 Transition Summary

STANDARD REPLACEMENT

- Roughly **25%** of the truck population may reach their useful life and may be required to turnover to zero emission trucks
- Minimum costs to convert to zero emission is **\$226M**

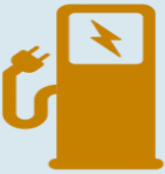


TARGETED PATHWAY

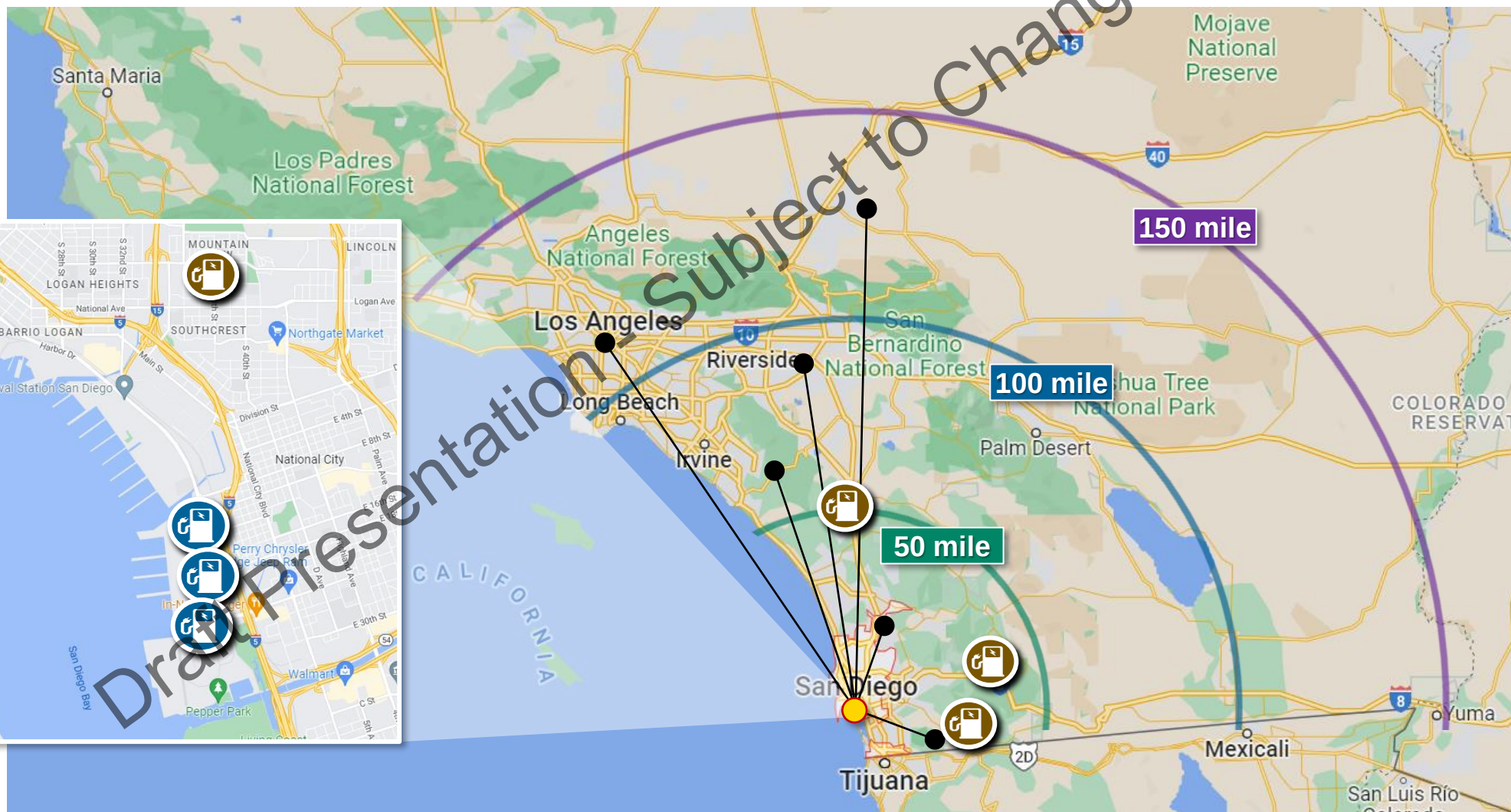
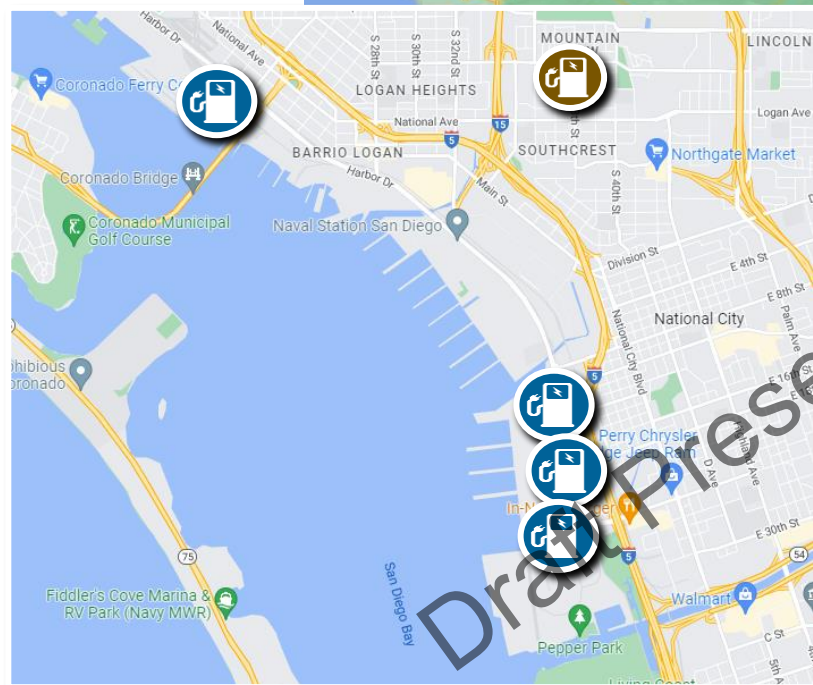
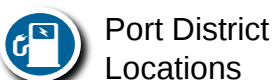
- Target **86 to 153 trucks** that make the **most trips** regardless of age or accumulated mileage
- Minimum cost to convert is between **\$49M** and **\$85M**



Implementation Strategies for 2026

STRATEGY	CONCEPTS
 Provide Technical Assistance	• Offer technical assistance: \$60,000 • Prepare zero emission truck acquisition plans • Navigate funding and incentive programs • Determine cursory infrastructure needs
 Reduce Costs Through Additional Incentives	• Seek funding for the replacement of 86-153 trucks • Pursue \$45K to \$120K per truck (\$4M to \$18M) in addition to state and utility incentives • Jumpstart an initial Program with \$1M investment
 Consider Locations for Supporting Zero Emission Infrastructure	• Identify and deploy opportunity charging infrastructure at or near the port (min. \$16M) • Explore Public Private Partnership Opportunities
 Advocate for Policy Goals	• Charging along major corridors • Increase weight limits • Reduce sales tax burden on zero emission trucks • Provide additional set-asides in state/federal funding

Routes and Potential Infrastructure Locations



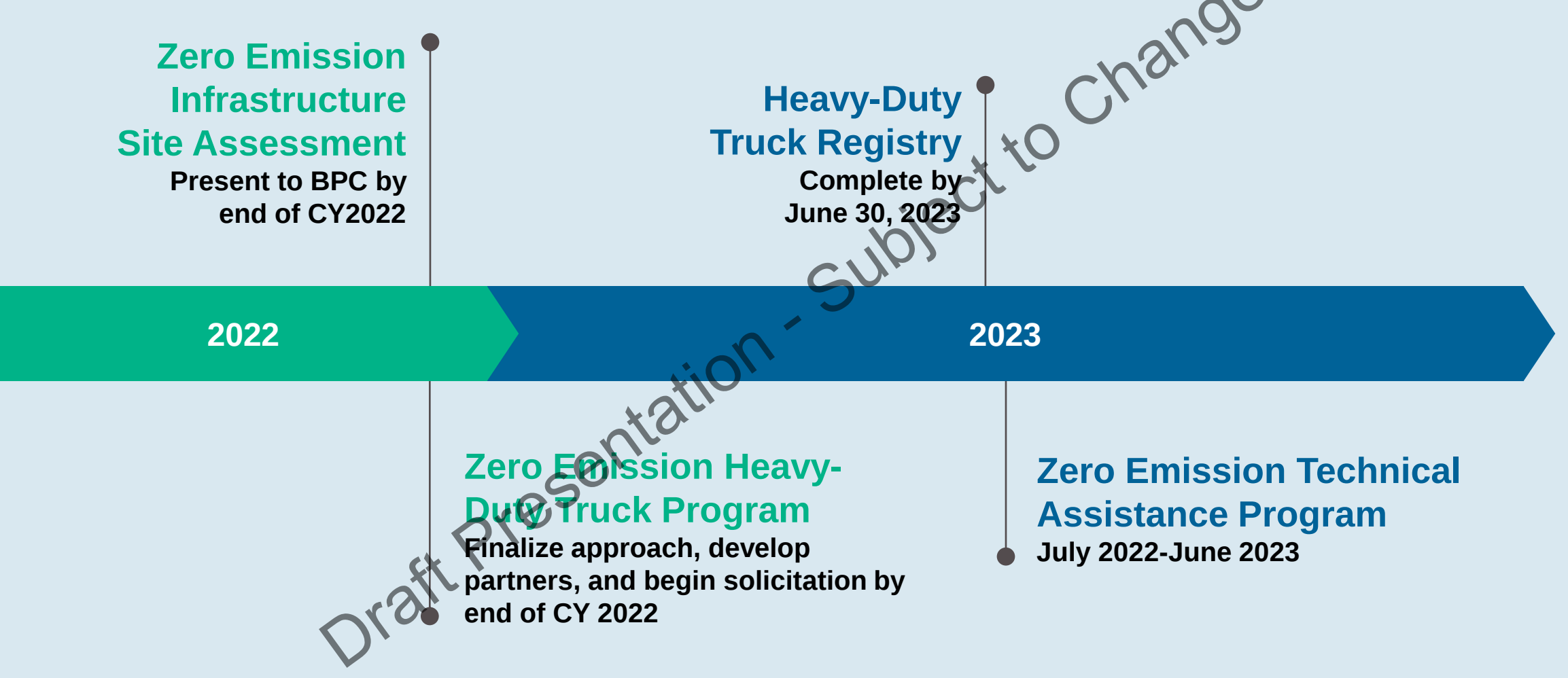
Implementation Framework for 2030

STRATEGY	CONCEPTS
 Develop Truck Registry	• Require all trucks to register • Track truck trips to/from marine cargo terminals • Deploy by June 30, 2023
 Collect data for new leases and projects at the marine terminals	• Review new leases and projects • Collect data on truck types and truck trips • Evaluate status of 100,000 diesel truck trip baseline
 Conduct Biennial Updates to Truck Transition Plan	• Update Truck Transition Plan every 2 years • Review state of Zero Emission technology • Assess regulatory and market conditions • Evaluate funding availability

Near Zero and Low Emissions Trucks

- **Near Zero Emission Trucks**: Plug-in hybrid trucks that can operate in a zero emission mode for a minimum number of miles
 - Proposed regulations allow near zero emission trucks to substitute for zero emission trucks in some instances
 - Produce ~25% less emissions than a conventional diesel truck
- **Lower Emission Trucks**: Natural gas trucks with low-NOx engines
 - Proposed regulations may allow procurement of low emission trucks for some fleets
 - Produce 100% less diesel particulate matter and up to 90% less NOx

Next Steps



Recommendation

RECEIVE THE PRESENTATION AND PROVIDE DIRECTION TO STAFF, ON THE DRAFT FINAL HEAVY-DUTY ZERO EMISSION TRUCK TRANSITION PLAN PURSUANT TO TRUCK OBJECTIVE 1A OF THE MARITIME CLEAN AIR STRATEGY

Draft Presentation - Subject to Change

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