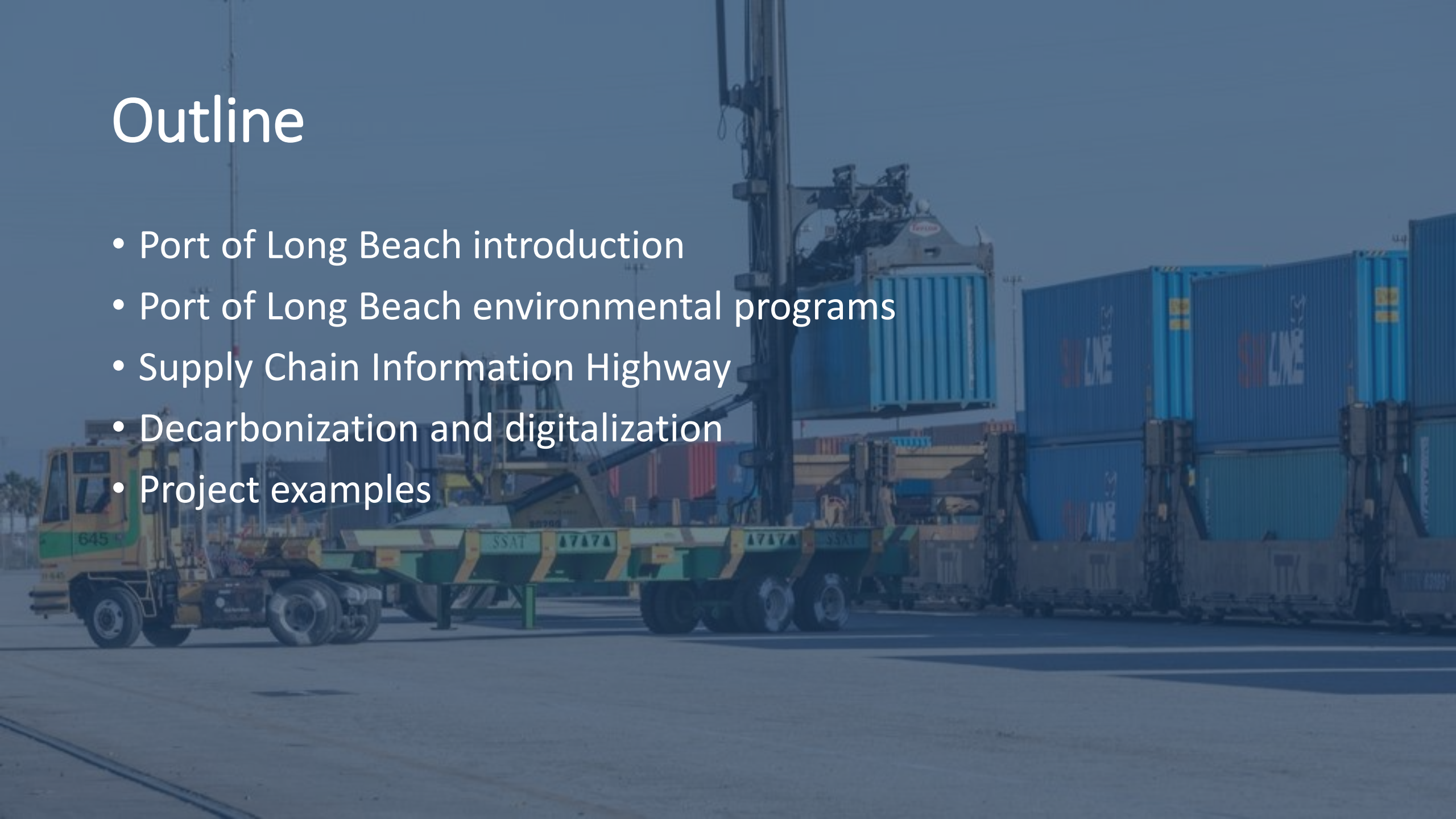# BIPC 2024
Decarbonization and Digitalization

Roger Wu
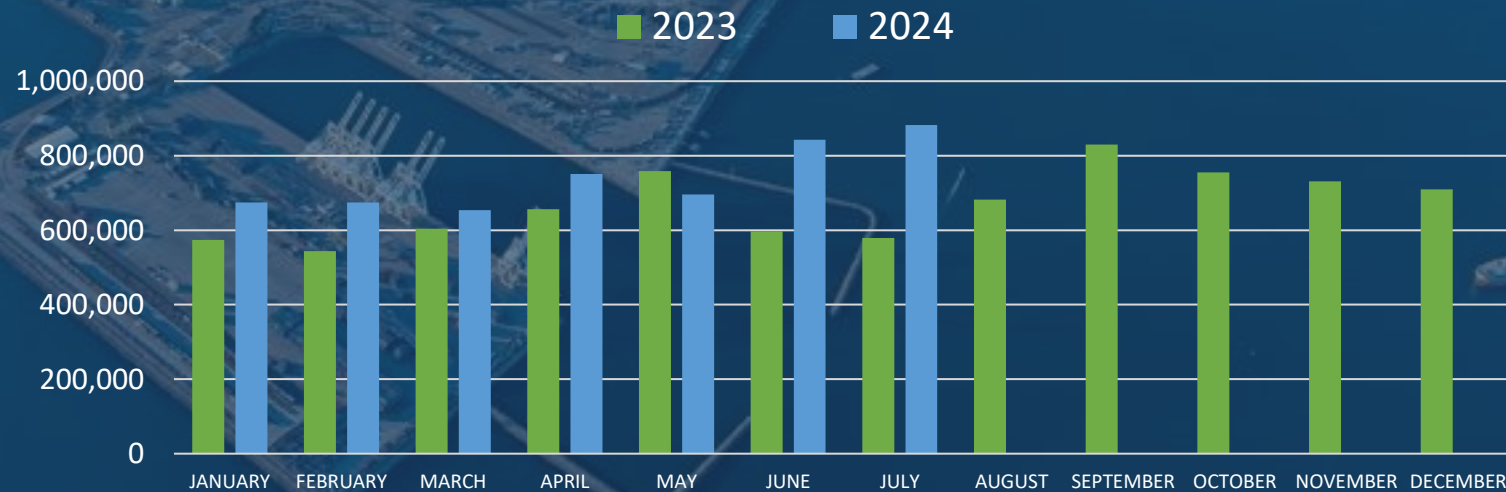**Director, Business Development, Port of Long Beach**

August 25, 2024

Outline

- Port of Long Beach introduction
- Port of Long Beach environmental programs
- Supply Chain Information Highway
- Decarbonization and digitalization
- Project examples

Port of Long Beach

- Located in Southern California, West Coast of the U.S.
- 2nd busiest container port in the U.S.
- A major Transpacific trade gateway for the U.S. Markets
- CY2023: 8 million TEUs and 175 million tons

Environmental Programs

- Clean Air Action Plans (2006)
- Clean Trucks Program (2008)
- Shore-Power Incentive Program (not active)
- Low-Sulfur Fuel Incentive Program (not active)
- Green Flag Program (Vessel Speed Reduction)
- Green Ship Incentive Program
- Additional programs under consideration

Supply Chain Information Highway

- Lessons learned from supply chain disruptions 2020-2022
- Cargo visibility driven by stakeholder data
- Inter-operability and flexibility
- Free to use by stakeholders
- Received $7.8 million state grant funding
  - Universal Truck Appointment System
  - System maintenance and enhancement
  - Sustainability practices tracking
  - Collaboration with U.S. and Asian ports
  - Enhanced reporting capabilities
  - Incorporation of AI technologies

Decarbonization and Digitalization

- Visibility increases operational efficiency
- Data-driven operational enhancements
- Sustainability program tracking and documentation
- Inter-operability for international collaborations
  - Green Shipping Corridor (Shanghai)
  - Green Digital Shipping Corridor (Singapore)
- Digital infrastructure for the future

2022 EMISSIONS INVENTORY

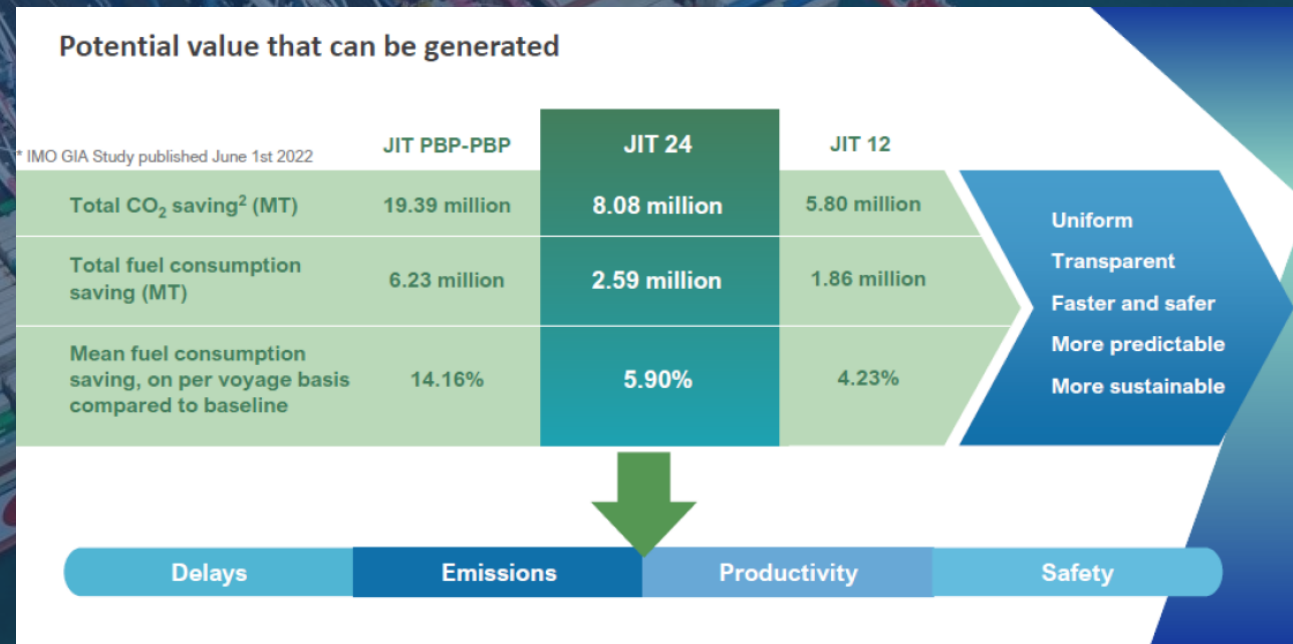91% ↓ DIESEL SOOT   63% ↓ NITROGEN OXIDES   97% ↓ SULFUR OXIDES   1% ↓ GREENHOUSE GASES

THIS WAS DURING A TIME WHEN CONTAINER CARGO JUMPED 36%
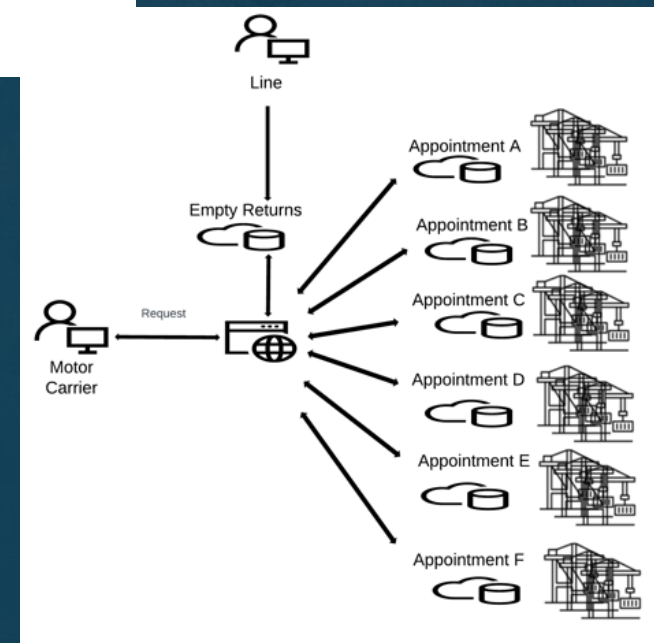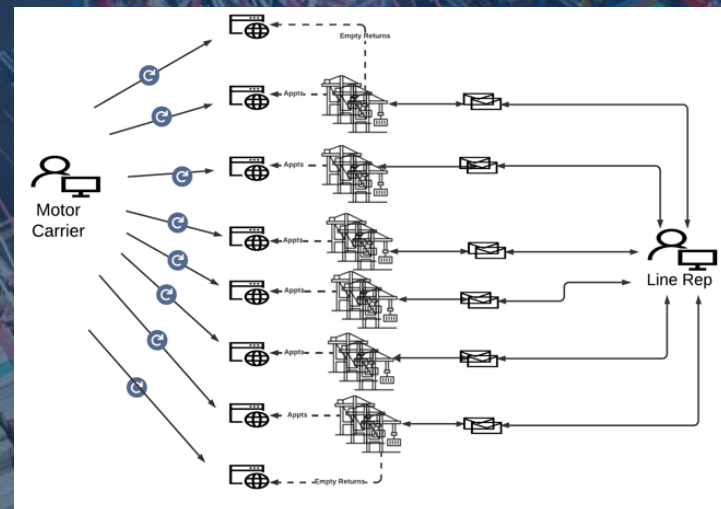
Compared to 2005 Levels

Example: Digital Shipping Corridor

- Vessel routing optimization
  - Arrival/Departure data exchange
  - Vessel position data exchange
  - Single platform data collection
  - Operations conditions input
  - Routing calculation and Optimization
  - Sustainable Benefits

- Alternative fuel usage tracking

Potential value that can be generated

* IMO GIA Study published June 1st 2022	JIT PBP-PBP	JIT 24	JIT 12
Total CO_2 saving[2] (MT)	19.39 million	8.08 million	5.80 million
Total fuel consumption saving (MT)	6.23 million	2.59 million	1.86 million
Mean fuel consumption saving, on per voyage basis compared to baseline	14.16%	5.90%	4.23%

- Uniform
- Transparent
- Faster and safer
- More predictable
- More sustainable

| Delays | Emissions | Productivity | Safety |

Image Source: MPA Singapore

Example: Universal Truck Appointment System

- Single-point access point for truck appointments

- Better visibility

- More efficient use of assets

- Reduces idling and wait-time

- Reduces traffic congestions

- Less truck-based air emissions

Image Source: Advent eModal

Thank You

- Q&A
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