DOT Harbors
Actions & Milestones
Getting to 2030 in the Transportation Sector

August 16, 2016 – 8th Annual Hawaii Clean Energy Day
Port Hawaii

- General Introduction
- Operational Overview
- Energy Efficiency & Sustainability
- JCI Energy Performance Contract
Port Hawaii

- Hawaii imports 80% of its goods, 98.6% of which move through Port Hawaii*

- DOT Harbors manages Port Hawaii to most efficiently move people and goods to, from, and between our islands

- HHUG formed in 2007 to help DOT identify, prioritize, and facilitate Port Hawaii upgrades

DOT Harbors and HHUG
Operational Overview

- As an island state, nearly everything from food and household goods to concrete and asphalt, is delivered by ship.

- If it's not made here, it's brought in through Hawaii’s commercial harbors.

- Cargo comes through the Port of Honolulu as a hub-and-spoke operation and is then shipped to the neighbor islands.

- As a transportation network we don't have railroads we have barges, a system of ship networks that feeds Hawaii and keeps everyone secure.
Operational Efficiencies

- Opening Road No. 2 - Sand Island interior/KMR
  - Opened December 2015
  - Relieves 1,200 trucks per week off Auiki Street
  - Main impacts: Reduced congestion, and motor idling,
New Truck-only Road No. 2 at KMR
Energy Efficiency and Sustainability

- As an energy partner, the state must be cognizant of its operations and efficiency.
- Sustainability goals necessitate finding ways that the state can save in cost and expenses, not just revenue.
- The department needs to be efficient with regard to its bottom line.
- Sustainability is a large part of that formula. Electricity, use of PV’s, anywhere we can save is an opportunity for the department to achieve its goals and to positively affect everybody in the state of Hawaii.
JOHNSON CONTROLS INC. (JCI)
ENERGY PERFORMANCE CONTRACT
JCI Energy Performance Contract

• In September 2015, the State DOT entered into an energy savings contract with a third party, energy-savings company, Johnson Controls, Inc.—which guaranteed reduction of energy use by 40 percent.

• This project provides energy reduction improvements at state harbors facilities and is part of the Department of Transportation’s vision to reduce costs, update equipment, and improve the operations and maintenance of facilities and buildings.

• As required under HRS 36-41, annual “total payments shall not exceed total savings...” for the project. If savings are not achieved as guaranteed for each year, Johnson Controls, Inc., will pay Harbors for the shortfall.
JCI Energy Performance Contract

- Implementing a $26.2 million State contract for energy saving improvements
JCI Energy Performance Contract

PROJECT SIZE
- 1,030,443 sq. ft. of buildings and 18,025,128 sq. ft. of exterior lighted areas.

CONTRACT AMOUNT
- $26,245,564
- Contract amount financed using a Tax Exempt Lease Purchase.

EXPECTED ANNUAL ENERGY SAVINGS
- 40% average annual energy savings (3,658,760 kWh).

EXPECTED ANNUAL UTILITY COST SAVINGS (ELECTRICITY)
- $1.3 million in savings for the first year, $2.0 million average annual savings over the life of the contract.
- $461,761 in energy efficiency rebates from Hawaii Energy
Types of Improvements

- 2,346 High Mast light fixtures, 3,381 interior, roadway and parking lot light fixtures replacements

- 2,702 solar photovoltaic panels installed (with this installation, Harbors will have a total of nearly 740 kW-dc total of photovoltaics installed)

- Upgrades air conditioning systems; installation of smart controls to maximize efficiency, indoor air quality, and occupant comfort
Compliance with HRS 201-8.5 "Night sky protection strategy" (Dark Skies)

- Variable lighting controls allow for compliance with OSHA and USCG requirements of 5-ft candles in work areas
- Able to dim & turn off when not needed
Other Improvements/Benefits

- Addresses other deferred maintenance such as air conditioning systems replacement.

- Contributes to meeting Hawaii’s commitment to the US Department of Energy, Performance Contracting Accelerator Program, under the Better Buildings Initiative.

- For the entire project, 70.1% of the work will be performed in the Oahu District, 10.0% in Maui District, 11.9% in Hawaii District, and 8.0% in Kauai District.

- Over 20 years, the energy saved could power 9,726 homes
  (Source: DBEDT)
Energy Savings Program makes a significant contribution in energy efficiency and economic value by providing the following:

- $36.3 million guaranteed savings in energy costs over the eighteen-year performance period; actual savings realized are estimated to be 2.4% higher

- Economic impacts over the 20-year contract period (including the 2-year construction/ installation period) (source: DBEDT, Research and Economic Analysis Division)
  - $3.1M in tax revenues, measured in 2015 dollars
  - $16.0M in income to households, measured in 2015 dollars
  - 139 jobs generated/supported each year for the first two years (construction/installation period); an average of 1 job generated/supported each year during the next 18 years of the performance period