



# TERM REPORT

---

## Transportation Infrastructure

Office of the Governor  
State of Hawai'i



## Transportation Infrastructure

### Overview

The Ige administration has prioritized investments in the state's transportation infrastructure because these investments improve the daily experience of residents and those who visit Hawai'i. They also provide the best and most direct way to drive the state's economy and create jobs for its people. In addition, these transportation infrastructure investments help to safeguard the environment and create a more sustainable, equitable place for all.

Infrastructure investments are helping to reduce the carbon footprint of transportation. In 2015, the Hawai'i Department of Transportation (HDOT) executed a 20-year energy savings contract to reduce energy use by installing energy efficient systems and photovoltaic panels. This is projected to save \$775 million in energy costs over the life of the contract. The results began rolling in immediately, however. By replacing light fixtures with high-efficiency Light Emitting Diode (LED) equipment, the annual energy use by HDOT Highways improved by 43.4 percent. At 11 airports, energy use was cut in half.

In addition, a Wastewater & Water Treatment System was installed at the Kahului Airport to produce R-1 water.

The department is also saving an average of 25 pounds of carbon dioxide per cubic yard of concrete poured in transportation construction projects. Concrete is currently responsible for seven percent of global manmade greenhouse emissions according to the International Energy Agency.

The Department's Highways Division is protecting against and planning for sea level rise. In August 2019, the Statewide Coastal Highway Program Report (available [here](#)) ranked roadway segments by their risk of structural damage from coastal erosion. Highways crews have already made repairs to four of the top ten priority sites as of October 2019.

The Department's Airports Division continues to modernize and expand the state's facilities for future growth. A new permanent federal inspection station was constructed at the Kona International Airport. The facility opened in October 2019, two months ahead of the agreed upon date and was completed more than half a million under the contract price. This \$50 million investment makes the system

more resilient should the other international entry point in Honolulu be unusable, and it provides significant economic benefits to the state.

New Consolidated rent-a-car (ConRAC) facilities at Honolulu (\$377 mil) and Kahului (\$340 mil) airports are improving efficiency of operations and the customer experience. These were funded entirely by a daily Customer Facility Charge of \$4.50 for all rental cars.

The Mauka Concourse terminal improvements (\$255 million) in Honolulu allowed for the development of additional air service in the long-term. And by partnering with concessionaires at Honolulu International Airport, the department was able to make \$29.9 million in improvements that improve the passenger experience throughout the airport at no cost to the state. The \$91 million terminal modernization project was completed at the Kona airport. The restrooms were renovated at the Honolulu and Kahului airports, and hold rooms were renovated, statewide. WiFi was installed at the five primary airports.

The administration has moved forward with a comprehensive Harbor Modernization Program to revitalize and upgrade Hawaii's commercial harbor facilities. This is particularly important as ninety percent of all goods consumed in Hawaii'i are imported, and nearly 99 percent of those goods pass through Hawaii's commercial harbors.

As part of this effort, the entry channels and harbor basins for five of Hawaii's commercial harbors (Honolulu, Kalaeloa, Kahului, Hilo and Nawiliwili) in 2016. Hilo Interisland Cargo Terminal improvements were completed in 2016. In December 2017, a blessing was conducted for Hilo Harbor's newly completed Pier 4 cargo wharf project, the Pier 1 cargo yard and passenger terminal improvements.

In Honolulu Harbor, the Kapālama Container Terminal (KCT) Phase 1 was dedicated in March 2021. It was completed on time and as budgeted with a cost of \$174 million. Ground has broken on Phase 2 of the project.

When Gov. Ige took office, he promised to make better use of federal transportation funds. In the first year of the administration, the Department's Highways Division reduced the Federal Highway Administration unexpended federal obligation balance ("pipeline") by \$101 million. After the first two years, the pipeline was the lowest it had been in 16 years. As a result, the state got tens of millions more in funding from the federal government for highways projects.

The Highways Division has done a terrific job of conducting emergency road maintenance to ensure major arterial roadways statewide remain safe and open for travel. They reopened Kūhiō Highway on Kaua'i following historic rains in 2018 (\$77 million) and the 2020 flood event, and they reopened the Pali Highway in Nov. 2019, after stabilizing the slopes following the rockfall and landslide. They also ensured access during the 2018 Kīlauea eruption in the Lower East Rift Zone on Hawai'i island.

The Highways crews have been very creative in finding solutions to mitigate traffic congestion by making low-cost changes that produced real results. For example, they adjusted lane widths and created shoulder lanes on the H-1 freeway for peak periods and added a second zipper lane for drivers from the H-1/H-2 merge to the Pearl Harbor area. On Farrington Highway, they setup a 1.5-mile contraflow operation to add an additional lane in the westbound direction during the busy afternoon commute. And they completed widening projects on the neighbor islands, such as the Queen Ka'ahumanu Highway widening. All of these – and more – contribute to less time spent in traffic and a better quality of life.

From airports to harbors and highways, the state's investments in transportation infrastructure are more efficiently moving people and goods to and within the state.

## **Governor Ige's Mission**

Invest in infrastructure projects – particularly transportation facilities – around the state to improve the daily experience of our residents and those who visit Hawai'i. These investments provide the best and most direct way to drive our economy and create jobs for our people, and they support healthy and resilient communities.

## **Commitments**

“The biggest roadblock to developing more homes is the lack of adequate infrastructure that allows housing projects to even begin. The state can make a major contribution by funding projects such as roads and water systems.”

Governor David Ige, State of the State 2016

“The state's continued investment in public infrastructure will improve the quality of life in our communities. Highways projects will reduce time stuck in traffic, airport improvements will provide a better experience for our visitor industry, and harbor modernization will lower the cost of living. And these projects will create thousands of jobs.”

Governor David Ige, Construction Preview 2017

## Progress & Milestones

### 2015

#### Restoring trust in government

Gov. Ige's vision is for the state government to be honest, transparent and responsive to its citizens while restoring trust in government. The Hawai'i Department of Transportation (HDOT) has contributed to this mission by:

1. Identifying reforms that streamline processes and cut red tape, particularly in qualifying for and spending of federal funds. Reforms were made via Executive Memorandum, Administrative Rules and e-SIGN.
2. Legally seeking accountability from vendors who do not fulfill their contractual obligations such as in the Ciber lawsuit.
  - a. As a result, the state successfully recovered \$31,775,000 from its litigation stemming from a failed project to upgrade the HDOT Highways Division financial management system.
  - b. May 18, 2021: <https://hidot.hawaii.gov/administration/over-31-7-million-recovered-by-the-state-in-litigation-over-botched-software-implementation/>
3. Participating an average of three or more community meetings statewide. For example, in October 2015, HIDOT attended the Kuli'ou'ou/Kalani Neighborhood Board meeting, Hawai'i Energy Policy Forum, 'Aiea Transit Oriented Development Community Workshop, Windward Townhall Meeting and the Moped Noise Special Meeting. In addition, the HIDOT formed the Sustainable Transportation Forum which consists of 98 advocates from various organizations to address sustainable modes of transportation and related infrastructures that promotes Hawaii's renewable future.

#### Supporting Economic Growth

The DOT continues to promote policies that support economic growth, including attracting more air carriers to Hawai'i and expanding the U.S. Customs Pre-clearance Program. Specifically, the department is:

1. Attracting air carriers like Virgin America who opened operations this November. There are also plans to expand the Asia market with Jin Air service to Incheon, Air Asia X with service to Kuala Lumpur and Cebu Pacific with service to Manila by early next year.

[http://www.bizjournals.com/pacific/blog/morning\\_call/2015/09/virgin-america-airasia-x-jin-air-to-begin-hawaii.html](http://www.bizjournals.com/pacific/blog/morning_call/2015/09/virgin-america-airasia-x-jin-air-to-begin-hawaii.html)

2. Proposing an appropriation of \$50 million for a federal inspection station at Kona International Airport as a second international hub to better accommodate additional flights.
3. Supporting a U.S. Customs Pre-clearance program with Japan as well as providing additional Global Clearance kiosks.  
[http://www.bizjournals.com/pacific/blog/morning\\_call/2015/05/pre-clearance-operations-at-tokyos-narita-airport.html](http://www.bizjournals.com/pacific/blog/morning_call/2015/05/pre-clearance-operations-at-tokyos-narita-airport.html)
4. Removing derelict vessels like the Judy K to better enhance commercial activity at our Harbors. <http://hidot.hawaii.gov/blog/2015/09/30/submerged-vessel-removed-from-honolulu-harbor-commercial-pier-returned-to-full-service/>
5. Completing the Kawaihae Harbor Pier 2 Terminal project to meet the demands of Hawai'i island's growing communities.  
<http://hidot.hawaii.gov/blog/2015/03/18/hdot-dedicates-kawaihae-harbor-pier-2-terminal-improvements-on-big-island/>
6. Improving DOTA bond rating from stable to positive lowers borrowing cost to enable the Airports Division to finance its 6-year airport modernization plan.  
<http://hidot.hawaii.gov/blog/2015/11/02/hdot-airports-division-improves-bond-ratings/>
7. Opening the Honolulu International Airport rental car facility which consolidates five car rental companies into one efficient location.  
<http://hidot.hawaii.gov/blog/2015/10/28/new-car-rental-facility-to-open-at-honolulu-international-airport-nov-4/>
8. Instituting an energy savings program, HIDOT is able to utilize green and energy efficient technologies aimed at reducing its energy consumption in half. <http://hidot.hawaii.gov/airports/airports-to-go-green-reduce-energy-costs-by-518-million/>

### **Supporting those experiencing homelessness**

HDOT also supported Gov. Ige's efforts to transition those experiencing homelessness from sidewalks, beaches, and parks and provide them with the necessary services so they can attain more permanent housing. HDOT offered its harbor lands for consideration to address homelessness so that the broader community may enjoy public spaces, as intended.

## Mitigating traffic congestion

The DOT continues to alleviate roadway traffic by:

1. Ensuring the safety of our roadways with regular maintenance that addresses resurfacing, potholes, landscaping, proper lighting, and other safety features.
2. Meeting regularly with the Honolulu Authority on Rapid Transit, Board of Water Supply, utility companies to coordinate road work and road closures to minimize congestion on O'ahu roadways.
3. Conducting emergency road maintenance projects statewide like the Kamehameha Highway in Ka'a'awa to ensure major arterial roadways statewide remain safe and open for travel.  
<http://hidot.hawaii.gov/blog/2015/09/03/247-lane-closure-for-kamehameha-highway-shoreline-emergency-repairs-in-kaaawa-to-end-friday/>
4. Adding lanes with striping modifications and redesigning shoulder lanes as approved by the Federal Highway Administration such as on H-1 westbound.  
<http://hidot.hawaii.gov/highways/hdot-update-on-the-pearl-city-viaduct-widening-improvements-project/>
5. Initiating widening projects on the neighbor islands like the Queen Kaahumanu Highway Widening, Phase 2 Project. <http://buildqueenk.com/>
6. Completing emergency repair projects like Wilson Tunnel on time and on budget. <http://hidot.hawaii.gov/highways/wilson-tunnel-repairs-complete-likelike-highway-to-fully-reopen-thursday-morning/>
7. Opening lanes systematically as in the H-1 Contraflow project provided commuter benefits as improvements forged towards completion.  
<http://hidot.hawaii.gov/highways/h-1-freeway-westbound-lane-modifications-begin-sunday-morning-on-pearl-city-viaduct/>
8. Launching *MyGoAkamai*, a free personalized alerting service that enhances its GoAkamai traveler information program at the annual "Beat the School Jam" campaign. <http://hidot.hawaii.gov/blog/2015/08/17/state-city-launch-beat-the-school-jam-campaign-and-mygoakamai-a-personalized-alerting-system/>
9. Supporting the County of Kauai's Transportation Investment Generating Economic Recovery (TIGER) grant for the Lihu'e Town Core Mobility and Revitalization Project.  
[http://www.kauai.gov/Portals/0/Finance\\_Acct/HI\\_DOT\\_LOS.pdf?ver=2015-06-09-095011-303](http://www.kauai.gov/Portals/0/Finance_Acct/HI_DOT_LOS.pdf?ver=2015-06-09-095011-303)

10. Qualifying Hawai'i for more federally funded road projects by reducing the Federal Highway Administration pipeline by \$101 million in fiscal year 2015. [http://www.staradvertiser.com/newspremium/20151026\\_feds\\_praise\\_state\\_for\\_spending.html?id=337052841](http://www.staradvertiser.com/newspremium/20151026_feds_praise_state_for_spending.html?id=337052841)

## 2016

### Improving Hawaii's harbors

Ocean surface transport of cargo is critical to Hawaii's economy as the state imports 80 percent of all goods consumed, and 98 percent of these imported goods are delivered through our commercial harbor system. The Hawai'i Department of Transportation (HDOT) Harbors Division recognizes that every resident of Hawai'i relies on the goods that arrive here through the commercial harbors and is improving harbor infrastructure to be better equipped to adapt to changing needs and trends in the cargo shipment and transport industry. The improvements made by HDOT Harbors Division in 2016 will allow for the efficient movement of goods and for maximization of operational efficiencies.

- In April and May of 2016 HDOT Harbors Division partnered with the U.S. Army Corps of Engineers (USACE), the U.S. Coast Guard, and the Hawaii Pilots Association to bring the USACE's hopper dredge, the Essayons, to Hawai'i to dredge the entry channels and harbor basins for five of Hawaii's commercial harbors (Honolulu, Kalaehoa, Kahului, Hilo and Nawiliwili). This operation ensures that harbor channels and basins are at the required depth and are consistent with posted facility guidelines.
- HDOT Harbors Division completed relocation of the University of Hawai'i School of Ocean and Earth Science and Technology (UH SOEST) to a newly renovated Pier 35 research facility, making way for wharf construction and dredging in support of the Kapālama Container Terminal development.
  - Result: In March 2021, HDOT dedicated the Kapālama Container Terminal (KCT) Phase 1 and broke ground on Phase 2 of the project designed to improve cargo handling capabilities at the hub of Hawaii's commercial harbor system.
  - "The need for expansion and investment in Honolulu Harbor has been recognized for decades," said Governor David Ige. "Without vibrant, efficient harbors we would have a hard time enjoying life in Hawai'i as we know it. I was a senator when the basic modernization plan was approved, and I'm proud that when fully completed in 2024, this

approximately half billion-dollar project will increase cargo capacity by 40-percent and ensure our communities can be served in a more efficient way.”

- [News Release, March 2, 2021](#)
- Piers 12 and 15 construction improvements to relocate and consolidate the Clean Island Council (CSC) and Marine Spill Response Corporation (MSRC) spill response operations were completed in June 2016. Both vessels and barge have been permanently relocated to the recently constructed piers thereby freeing much needed pier space within the harbor. This recently vacated pier space is now available for use by cargo vessels and small to moderate sized passenger cruise ships.
- Improvements to the Hilo Interisland Cargo Terminal are anticipated to be completed at the close of 2016. To date HDOT Harbors has completed dredging work and construction of a third access road to Hilo Harbor at Kumau Street. These improvements will enable the terminal to support modern equipment and heavy cargo handling operations.
  - Result – In December 2017, a blessing was conducted for Hilo Harbor’s newly completed Pier 4 cargo wharf project, the Pier 1 cargo yard and passenger terminal improvements.
  - “These projects are more than brick and mortar improvements, they’re about providing opportunities for our people and meeting the needs of our communities,” said Gov. David Ige. “We are ensuring the viability of our commercial harbor system and encouraging a healthy job market that includes work opportunities in transportation, maritime related trades, hospitality and tourism, not to mention the local consultants and contractors the state has employed to complete the job.”
  - [News Release, Dec. 22, 2017](#)

### **Public-Private partnerships lead to improvements at Honolulu International Airport**

HDOT Airports Division has partnered with concessionaires at Honolulu International Airport (HNL) to make \$29.9 million in improvements throughout the airport at no cost to the state. These improvements were designed to make HNL more attractive and enhance safety for visitors, businesses, and kama’aina. The Public-Private Partnership Improvements to HNL included:

- \$13.7 million towards the central concourse expansion and modernization upgrades including additional retail and restaurant space
- \$6 million toward revitalization of the Asian and Hawaiian cultural gardens
- \$5 million in new facades and white box works
- \$3.1 million toward concourse upgrades of the overseas terminal and diamond head extension concourse
- \$2.1 million towards air conditioning the central checkpoint screening station

HNL concessionaire HMS Host is also expanding its outside seating areas and restaurant offerings in the Ewa Concourse. In the past year, the company opened a new Starbucks at the Diamond Head Concourse and will be opening a Starbucks in the baggage claim area shortly.

### **Automated Passport Control (APC) kiosks added at Honolulu International Airport**

In the effort to promote economic growth and enhance the attractiveness of Hawai'i as an international destination, HDOT Airports Division installed 32 self-service APC kiosks at the HNL Customs facility. The APC kiosks are part of the effort to expedite the entry process through U.S. Customs and Border Protection (CBP) for eligible travelers. On average 6,000 international passengers arrive in Honolulu daily. These new APCs have improved the entry process into Hawai'i by reducing passenger processing times by 35-45 percent, saving international arrivals 5-15 minutes in line while continuing to maintain the highest level of safety and security. The APC kiosks at HNL are a free service that does not require membership or pre-registration. The cost for equipment and installation of the 32 machines was \$1.7 million paid for by the HDOT Airports Division.

### **Reduction in the unexpended federal obligation balance ("pipeline")**

HDOT Highways Division reduced its unexpended federal obligation balance, also known as the "Pipeline" by more than \$108 million in 2016. As of June 2016, Hawaii's Pipeline balance is \$548 million with 444 open projects. The Federal Highway Administration agrees that Hawaii's goal of a \$450 million Pipeline balance by 2018 is acceptable. HDOT Highways Division estimates this goal will be reached by 2017.

It is important to note the Pipeline amount should never reach zero since HDOT receives new federal funding each year and because funds are not fully reimbursed until the work is complete.

The reduction was achieved in part because HDOT Highways Division was able to close 87 projects in FY 2016, in addition to 49 the previous year. HDOT Highways Division is also working to issue the notice to proceed on projects within 180 days, which is quicker than in the past.

The Pipeline is the difference between what is obligated for all projects and what HDOT has expended and been reimbursed for by the federal government. Every state carries an unexpended balance because of the reimbursement nature of the program and the time it takes to deliver projects.

### **Second zipper lane**

Improvements were made to the zipper lane to add a second lane for drivers from the H-1/H-2 merge to the Pearl Harbor area. As a result, more carpool vehicles can travel through the zipper lane which also reduces the number of vehicles in the freeway single occupancy lanes.

### **Shoulder lane from Kualakai Parkway to Kunia**

A shoulder lane on the H-1 freeway eastbound from the Kualakai parkway onramp to Exit 5 offramp was opened to morning commuters in August 2016. This shoulder added another lane of travel for those traveling to Kunia, Waipahu, and 'Ewa on weekday mornings.

### **Nānākuli contraflow**

HDOT Highways Division setup a 1.5-mile contraflow operation on Farrington Highway to add an additional lane in the westbound direction during the busy afternoon commute. The Nānākuli contraflow increased Wai'anae bound lanes to help get vehicles move through the bottle neck in Nānākuli.

## HOV adjustments

High occupancy vehicle lane hours were adjusted throughout O‘ahu to match traffic patterns and boost efficiency. In some cases, HOV hours were extended. In other areas HOV hours were removed and the lane was made available for single occupancy vehicles. These operational improvements were part of Gov. Ige’s initiative to find projects that improve traffic congestion quickly, inexpensively, and without impact to the environment.

## Energy-efficient lighting solutions for State Highways on O‘ahu and Maui

In April 2016, HDOT Highways Division began execution of an energy performance contract with Johnson Controls. This contract is anticipated to improve the annual energy use by HDOT Highways Division by 43.4 percent by replacing approximately 20,000 highway and tunnel light fixtures and more than 5,200 interior and parking lot light fixtures with high-efficiency Light Emitting Diode (LED) equipment.

## 2017

Ongoing projects are highlighted in blue texts.

### Statewide

- Launched myGoAkamai, a traffic alerting service that provides access to traffic conditions through personalized traffic pages on GoAkamai.org; the app is available on most mobile devices; launched August 2015

### Hawai‘i County

- Hilo - Constructed a faculty parking lot at Waiakea Elementary School to allow parents to park while waiting for students afterschool. The additional parking alleviates the traffic back up on Puainako Street.
- Kona to Waimea - Route 190 (Hawai‘i Belt Road) widened by excavating rock out cropping to provide better sight distance and an unpaved shoulder for emergency stopping.

### Maui County

- Kahului – Airport Access Road, a four-lane 4,700-foot stretch of road between Pu‘unene Avenue and the Hana Highway, constructed and opened to alleviate congestion at Kahului Airport. Dual left turn lanes from Pu‘unene

Avenue to the Airport Access Road were also added to enhance traffic circulation. (Federally funded)

- Kahului Airport Access Road - Connection between the Highways portion of the Airport Access Road to the Airports portion and brings traffic directly into the Kahului Airport Terminal. It takes traffic off Dairy Road; funded by Airport funds (no tax payer dollars)
- Kahului – Haleakalā Highway, west bound - Added left turn lane onto Hanakai Street.
- Kahului – Kuihelani Highway - Added right turn lane to Pu‘unene Avenue.

### **City and County of Honolulu**

- Honolulu - H-1, westbound, Punahou Street to Pali Highway off ramp - Adjusted lane and shoulder width to add an additional fourth lane.
- Honolulu - Moanalua Freeway, eastbound, Tripler off ramp - Extended off-ramp and widened shoulder to alleviate traffic back up during morning rush hour.
- Honolulu/‘Aiea - Moanalua Freeway, westbound - Added a new 2.5 mile lane and shoulder lane to accommodate more than 2,000 cars per hour; completed October 2015
- Honolulu/Kalihi/Sand Island Access – Collaborated with DOT Harbors Division to open Road No. 2 to divert 1,500 commercial truck loads off of Auiki Street weekly; completed December 2015
- Pearl City/‘Aiea - H-1, westbound, Shoulder lane on Pearl City Viaduct – Extended hours to 3:00 to 7:00 PM on weekdays to accommodate commuters; completed May 2016 (Federally funded)
- Pearl City/‘Aiea – H-1, eastbound - Use of pre-cast concrete slab system technology to cost-effectively repair 10,000 square feet of concrete pavement; reduced repair time from six to two weeks and reduced the required lane closures; March 2015
- Wahiawa – Kamehameha Highway, town bound – Added a lane by eliminating street parking.
- Waipahu - Farrington Highway and H-1 – Lane modifications to allow greater usage by vehicles using the H-1 Waipahu Exit ramp; two westbound lanes restriped to merge into the rightmost lane near the Waiawa Road intersection; Farrington Highway lanes will also be restriped at the end of the H-1 Waipahu Exit ramp to allow exiting vehicles access to both the left and center lanes to allow for greater traffic flow and capacity; completed June 2015

- Waikele – Kamehameha Highway – Add a dedicated left-turn lane on Lumiaina Street (eastbound) to K Kamehameha Highway towards Mililani to move more Mililani-bound vehicles through the intersection with each green light cycle and reduce traffic congestion; completed June 2015
- Kunia – Intersection of Kunia Road and Anonui Street – Lane improvements, dedicated left turn lanes, widened roadway, and new traffic signals to improve traffic flow through the intersection; completed May 2015
- Ewa - Ft. Weaver Road, southbound – Added a lane near Queen’s Medical Center West.
- Kapolei – Intersection of Kapolei Parkway and Fort Barrette Road – Lane modifications to improve traffic flow, reduce queue lengths, and move more vehicles through each traffic light cycle; collaboration with City; completed July 2015
- Nānākuli – Farrington Highway, westbound – Establish contraflow pilot project to create a third lane of travel 3:00 to 7:00 PM on weekdays to accommodate commuters (Federally funded)
- Kapolei/Ewa - H-1, eastbound, Kualakai Parkway to Kunia off ramp – Add shoulder lane open to traffic during rush hour.
- Zipper lane – Add second lane in zipper from Waikele to Nimitz Highway, increase shoulder, extend zipper lane hours.
- Waipahu – H-1 – Modify off ramp to add second lane.

### **Kaua‘i County**

- Hanalei - Kūhiō Highway/Route 560 (North Shore Section) – Added delineators along centerline of highway in a blind curve to prevent u-turns and to alleviate safety concerns noted by the public.
- Hanalei - Kūhiō Highway, between Kalihilo Road and Hookui Road - Added crosswalks and signage to improve pedestrian safety.
- Līhu‘e - Kaumualii Highway Improvements Project, Phase I and Līhu‘e Mill Bridge - Accommodates two lanes of westbound traffic from Downtown Līhu‘e to the Kukui Grove shopping district; removes bottleneck to improve traffic flow through congested area; completed March 2015 (Federally funded)
- Puhi - Kaumualii Highway Resurfacing, Kipu Road to Huleia Bridge
- Waimea - Kaumualii Highway Resurfacing, Waimea Canyon Drive to Waimea River Bridge
- Līhu‘e - DOT Highways to take over three county signals to optimize traffic signal timing; Add cameras and active management software

## 2018

### **Completing Phase 1 of Energy Saving Project**

In FY 2016, the Airports Division completed the Statewide Energy Saving Performance Contracting project (the ESPC Project), which is a collection of projects to implement energy conservation measures throughout the Airports System. In January 2012, the Airports Division selected Johnson Control, Inc. (JCI) to implement the ESPC Project pursuant to HRS 36-41, and entered into an agreement with JCI to conduct an Investment Grade Audit as the first step of the ESPC Project. In December 2013, the Airports Division issued a series of Certificate of Participation notes to fund approximately \$150 million of the ESPC Project costs.

The implementation of the ESPC Project is a significant milestone in achieving energy initiatives identified by the Governor. The ESPC Project is estimated to reduce total electricity consumption by more than 49 million kilowatt hours or more than 40% of usage of calendar year (CY) 2013, improve utility management, reduce facility life cycle costs, improve indoor environmental benefits for occupants, and address deferred maintenance issues. The cost savings are achieved through lighting upgrades, HVAC upgrades, transformer and equipment replacement, and other improvements. Compared to CY 2013, DOTA has reduced electricity usage by 26.9 million kilowatt hours in CY 2016, the first performing year. Usage in CY 2017 continued to drop.

The ESPC Project is one of the largest in the nation and has significant impact to the State of Hawaii, which relies on fossil fuels to generate electricity. It established a proven approach to address the State's energy needs and encourages other state agencies and departments to implement similar projects.

### **Initiating ESPC Phase 2**

In April 2017, the DOTA completed a private replacement to fund \$48.6 million of the project costs for the phase 2 of the ESPC Project. This phase includes the LED conversion, lighting for additional area, additional photovoltaic improvements, and other energy-saving initiatives. JCI has provided guarantee to cover the anticipated debt service during the performance period.

## **Earning Level 2 Carbon Accreditation Certification**

With more than 18% reduction in carbon emission, Daniel K. Inouye International Airport (previously Honolulu International Airport or HNL) received Level 2 carbon accreditation from Airport Carbon Accreditation. HNL was one of the first ten airports in North America to receive accreditation when ACI North America (ACI-NA) formally adopted the ACA program in 2014. Received Airport Carbon Accreditation Level 1 in 2015 and Reduction Level 2 in 2016. HNL is one of 20 airports in North America to receive the Reduction Level 2 accreditation.

## **Water scalping**

The Airports Division has recently implemented a project to install a Wastewater & Water Treatment System at the Kahului Airport. This pilot project will implement water scalping technologies per the recommendations of the water scalping feasibility study including a membrane biological reactor treatment unit at the Kahului Airport to produce R-1 water.

## **Renewable energy power generation plant**

The Airports Division is evaluating opportunities to procure firm renewable energy at the Kahului Airport with the possibility of utilizing on-site Combined Heat and Power or other means of renewable power generation to replace power currently generated by fossil fuel for the entire airport. Due to the volatility of fossil fuel, the intent is to obtain a fixed price, provide savings and clarity for budgetary purposes. Again, this will materially decrease our carbon footprint.

## **Planning other sustainability initiatives**

DOTA has also pursued many sustainability initiatives throughout the capital planning process, including the use of electric trams for the OGG consolidated rental car facility (ConRAC) that will replace the current rental car busing service, and selection of green buses at HNL via a pilot program to evaluate electric, compressed natural gas and hydrogen fueled buses. DOTA is further evaluating opportunities to install additional PV and renewable systems at other airport locations.

## **Strengthened air service development**

DOTA's achievements on air service are reflected in the following: (a) increasing air service from new entrants, (b) reopening KOA as the 2<sup>nd</sup> port of entry for the State, (c) installing automated passport kiosks to speed up passenger processing, and (d) promoting for pre-clearance at Japan airports.

### **Added air service from new and existing carriers**

In FY 2017, enplaned passenger count increased by 644,000 compared to FY 2016, driven by growth of Hawaii Island Air (+319,000), Hawaiian Airlines (+251,000), Virgin America (107,000) and Delta (94,000), among other airlines.

For the 12 months ending June 30, 2018, DOTA anticipates a 3.8% increase in departing seats, driven primarily by the announced service expansion of United Airlines, continuing expansion of Hawaii Airlines network, and strength of overseas operations, offset by the loss of Hawaii Island Air, which ceased all operations in November 2017. DOTA expects the enplaned passenger count in FY 2018 to increase by 3.5% despite of the service loss of Hawaii Island Air.

Looking forward, DOTA anticipates continuing strength in air service, including new service from Southwest Airlines to start in late 2018 or early 2019. Southwest Airlines announced it would serve 4 primary Hawaii Airports from 4 California airports, with intentions to expand overseas service and provide interisland service in the coming years. In addition, ANA announced that it would upgrade its existing service by using A380 in 2019. DOTA has initiated a project to provide A380 compatible gates at current gates 29 and 34.

### **Reopening KOA FIS as the 2nd Port of Entry for Hawai'i**

International flights to the State had two ports of entry before December 2012: HNL and KOA. Japan Airlines served KOA with nonstop international service from June 1996 to October 2010 and ceased service due to corporate downsizing. Up until December 2012, all foreign arrivals at KOA were cleared at KOA by local USCBP staff, supplemented with USCBP officers traveling in from Honolulu. In December 2012, the KOA CBP facility was closed since it did not meet airport technical design standard.

Since 2014, DOTA has invested tremendous amount of time to reopen KOA as the 2<sup>nd</sup> port of entry, because it would not only provide economic benefit to the local community but also protect the State's tourism industry, in case the HNL operation is disrupted. DOTA officials submitted multiple request to the CBP, and travelled to Washington to discuss this issue with the CBP Commissioner. In 2016, DOTA submitted two Section 559 reimbursement, requesting permission to reimburse the CBP for overtime. This allows the CBP to have adequate staff for reopening at KOA, using the interim facility before a permanent facility is built. Both reimbursement agreements have been executed as of 2018.

Hawaiian Airlines started service between KOA and Haneda in December 2016 and Japan Airlines resumed daily service between KOA and Narita starting September 2017. The daily service from Japan Airlines is expected to generate more than \$84 million in visitor expenditure and about 9.8 million in annual state tax revenues, in addition to \$7 million in annual state tax revenues from Hawaiian Airlines service.

### **Installation of automated passport kiosks**

The ability to process international arrival passengers within a reasonable time period provides a positive impression of the State. Due to Hawaii's unique geographic location, more than 80% of international flights arrive between 8 AM and noon, causing a congestion at HNL's international arrival building. The Airports Division installed more than 32 automated passport kiosks, deployed airport staff to guide foot traffic, and coordinated with Custom and Border Protection (CBP) for staffing issues, which effectively reduced average passenger waiting time by approximately 5-15 minutes. DOTA continues to implement the phase 2 at HNL and additional APCs at KOA for better customer service.

### **Promoting pre-clearance at Japan airports**

As discussed above, installing APCs partially addressed the congestion issue at HNL international arriving building, but the peak arriving schedule still hinders the DOTA's ability to reach higher level of service. Therefore, DOTA has worked intensively with congress delegate, promoting pre-clearance at Japan Airports. In November 2016, Department of Homeland Security announced that it would add another 11 foreign airports for pre-clearance consideration, including Kansai

International Airport. Narita International Airport was added to the list in May 2015. If established, the preclearance facility would enable the Japan tourists from these two airports to have a seamless travel experience when visiting Hawaii.

### *Improved customer service*

Due to outdated facilities and limited airport resources, the customer service ranking of Hawai'i Airports System among U.S. airports remains challenged. In the 2016 J.D. Power survey, HNL was ranked the 19th out of a total of 31, and OGG was ranked the 32 out of a total of 33. Improving customer service becomes a strategic priority of DOTA management.

### **Renovating HNL and OGG Restrooms**

DOTA developed a comprehensive plan to renovate restrooms at both HNL and OGG.

- Phase 1 of OGG restrooms was completed in 2015 under project AM1042-36. Phase 2 was completed in 2017 under project AM1042-38 with a budget of \$5.2 million. Additional restroom improvement is going on under project AM1042-41 with a budget of \$7.5 million. DOTA has also engaged in discussions with the airlines regarding options to improve facility at OGG
- Restroom renovation at HNL will start from the Overseas Terminal under project AO1037-30 with a budget of \$30 million. The project went out for bid in January 2018. Interisland Terminal project AO1037-29 is ready for bid as of February 2018 with a budget of \$24 million.

### **Renovating statewide hold rooms**

DOTA has also developed a plan to address holdroom conditions throughout the airport system. The concourse improvement at Ewa Concourse has been recently completed, providing state-of-the-art facilities and concession offerings to the traveling public. The renovation at Central Concourse is ongoing, and the renovation of Diamond Head Concourse has started. In addition, DOTA has completed multiple holdroom renovation projects at Kahului.

## **Replacing HNL 2nd level metal roof**

The original metal roof was constructed in 1971. It was recently modernized to accommodate larger tour buses and also extends over the walkway to provide shelter for passengers accessing the Ticket Lobbies. The metal roof canopy and structural framing is approximately 38,930 SF in total area, stretching the length from the Overseas Terminal to the Inter-Island Terminal with an aesthetic outrigger canoe design compliment. The project not only provides functionalities but also improves the appearance of the airport system.

## **Providing Wi-Fi and Wayfinding**

In 2015, DOTA issued request for interest for Wi-Fi and advertising for HNL. Several parties have expressed interest, of which DOTA has been negotiating regarding the potential scope and business arrangement. DOTA completed contract negotiation with advertising concessionaires and received a minimum annual guarantee of \$500,000 for advertising at HNL and \$275,000 at other airports. The advertising concessionaires have started renovating advertising equipment throughout the terminal, providing revenues and additional wayfinding guidance to the traveling public. The Wi-Fi installation at HNL has also been completed and provides travelers with free wireless internet throughout its terminals. The remaining 4 primary airports will be completed by November 2018.

## **Transportation Network Companies (TNCs)**

The rapid global development of TNCs has brought convenient transportation options for travelers. To improve customer service, the Airports Division has amended the Hawai'i Administrative Rules to allow TNCs to operate at the Daniel K. Inouye International Airport, effective August 27, 2018.

### *Implemented major capital improvement projects*

In FY 2017, the Airports Division has spent \$276 million on capital projects. Of the \$3.1 billion capital program that Airports Division is tracking, \$1.1 billion was spent, or more than 34%. In the recent two years, the Airports Division substantially completed the following projects:

- Taxilanes G and L from Taxiway A to the existing Maintenance Facility at HNL, to include shoulder strengthening and other related improvements, which allows dual aircraft group V taxiing. This project is an enable project to the Mauka Concourse project.
- HNL Taxiway Z Structural Improvements (\$50M). This project provided for the design and construction of asphalt pavement reconstruction of Taxiway Z at HNL, which brought HNL into compliance with FAA Part 139 Airport Certification requirements.
- Relocation of Maintenance and Cargo Facilities (\$95M). This group of projects provide the relocation of tenant facility to the west side of Taxilanes G&L, and is an enable project of Mauka Concourse Project. The Airports Divisions completed approximately 85% of the projects and has reached an agreement for Hawaiian Airlines to complete the projects. This is a creative solution to push the entire program forward during the contract dispute with the construction contractors.
- Emergency power generator, which provides emergency power to cover all of the HNL facilities. This project was completed in May 2017.
- OGG security checkpoint reconfiguration and build-out of infill area. The streamlined security checkpoint reconfiguration has enabled the DOTA to dramatically reduce the wait time at the security checkpoint, improved customer service as well as reducing security concerns. The build-out of in-fill area allows the concessionaires to expand concession offerings and increase payments to the DOTA at the same time.
- Hilo Cargo Building. The building includes 63,000 square foot of pre-engineering cargo facility. It provides a centralized location for freight forwarders and government agencies overseeing cargo activities. The facility is located adjacent to the passenger terminal complex and can be expanded in the future to accommodate additional activities.
- HNL Interim Rental Car Facility (\$36M). The completion of this interim facility allowed DOTA to relocate all on-airport rental car operations at one location and vacate the lot for permanent HNL facility construction.
- Numerous other projects. The Airports Division also completed many other projects, such as two new fire stations at the KOA and ITO, financed mainly

from FAA grants, which provides improved work and living quarters for firefighters. The facilities are FAA compliant and will also accommodate larger sized ARFF vehicles and provide training facilities to help firefighters perform at their highest capabilities.

In addition, the Airports Division started many major projects within the capital program:

- OGG Consolidated Rental Car Facility (\$377M). The proposed ConRAC is a multi-level facility encompassing a customer service building (CSB), ready/return spaces, quick-turn-around (QTA) facilities, four 15,000-gallon fuel storage tanks, a people mover system to/from the terminal, related improvements, and potential flat plate non-reflective photovoltaic panels. The notice to proceed was issued in April 2016 and the construction is expected to be completed in October 2018.
- HNL Consolidated Rental Car Facility (\$330M). The proposed ConRAC will be located directly across the Overseas Terminal including multi-level ready/return space and QTA area for washing and fueling rental vehicles, the CSB and other improvements. The proposed ConRAC also provides environmental benefits by consolidating shuttle operations of all rental car companies. The notice to proceed was issued in July 2016 and the construction is expected to be completed in November 2021.
- HNL Mauka Concourse (\$255M). This project will provide for construction and soft costs required to construct the new Mauka Concourse building. The building footprint will be approximately 257,360 square feet in area consisting of airline gates capable of accommodating six wide-body aircraft, six new hold rooms, operations areas, new security screening lanes, concessions, a restroom and service core, common areas and public area furnishings, space for an airline Premier Club, elevators and escalators, moving walkways, passenger loading bridges, fixtures and equipment and other associated work integral to the building construction. This project is expected to start in June 2018 and be completed in May 2020.
- KOA Terminal Modernization (\$91M). The project scope would include the construction of a centralized security checkpoint, baggage handling system,

and the connectivity of the north and south holdroom areas. Additional restrooms in the non-secured and secured areas, concession spaces and the integration of the Flight Information Display (FIDS) and Public Address (PA) Systems will provide an increase in passenger convenience and comfort. This project is expected to be completed in May 2019.

- A380 Improvements at Gates 29 and 34 (\$16M). This project provides improvement to Gates 29 and 34 to accommodate the A380 aircraft, including the installation of a third loading bridge from the third level, installation of a third level corridor from the loading bridge to the international arrivals' sterile corridor, strengthening of the hardstand and pavement areas, upgrade to the electrical capacity, and other miscellaneous improvements as necessary. This project is expected to be completed in December 2018. The first A380 is expected to operate at HNL in April 2019, with another 2 more planned to arrive at HNL by April 2020, replacing 3 B787 currently serving HNL. Estimated annual spending in Hawaii's economy is \$315M and \$40M in tax revenues.

### **Conducted major renovation of existing facilities**

As the DOTA continues to implement the CIP, the DOTA has also been focusing on renovating and preserving existing facilities. Such activities include:

- Repairing drainage pipes that are more than 40 years old.
- Reroofing of gates 12 and 13 in-house, which has been traditionally carried out by the contractors.
- Replacing sliding doors throughout HNL for energy savings.
- Renovating 3<sup>rd</sup> level of HNL roadway, which has not been fully maintained during the last 20 years.

### **Obtained additional hardstand capacity by coordinating with Air Force**

Due to construction requirement of the Mauka Concourse, the Airports Division is facing a shortage of aircraft hardstands. After coordination with Air Force, the Airports Division was able to reach a memorandum of understanding to temporary use two aircraft parking spots, which will allow the Airports Division to accommodate additional international and overseas flights during the peak hours.

This is the first agreement of its type, which addresses a major concern during the Mauka Concourse construction period.

### **Established public-private partnership**

Act 126, Session Laws of Hawai'i 2014, extended the Act 46 in 2012 through June 30, 2015, which permitted the Airports Division to extent lease agreements in exchange of capital investments. DOTA management systematically reviewed all existing concession contracts and engaged in negotiations with key concession operators to improve nonairline revenues and to receive committed capital investment. The DOTA's efforts resulted in significant benefits to the State, including:

- **Duty free:** DFS group, as the duty-free operators, agreed to increase its minimum annual guarantee to \$40 million in 2018 and 2019, \$47.5 million in 2020, and subject to annual reset thereafter. DFS group also committed \$39.2 million in improving terminal concession facilities and an additional \$27.9 million for landlord improvements. DFS started the project in 2016, including renovating central concourse security checkpoint, and duty-free facilities near central concourse.
- **HNL retail:** according to Amendment No.3 dated October 31, 2014, DFS will invest at least \$19.6 million to construct revenue enhancing area at HNL. MAG stayed at \$12 million through March 31, 2016, and is subject to annual reset thereafter. In 2018, MAG is \$9.3 million. The percentage rent ratio stayed at 20%.
- **OGG Retail:** according to an amendment being processed, DFS will invest \$1.375 million for concession improvements, and an additional \$1.375 million for infrastructure improvements. The MAG will be changed to \$2.1 million for the first year of the extension, and the percentage fee ratio will remain unchanged at 22%. MAG is \$1.96 million in 2018.
- **HNL food and beverage:** According to Amendment No.22 dated June 5, 2015, Host will invest at least \$13.6 million for improvements, including \$2.0 million of improvements to the infrastructure that would normally be paid by the Airports Division. In exchange, the agreement expiration date is revised from 2020 to 2029; MAG is \$4.8 million in 2018; the percentage fee ratios would be increase by 1 percentage point for sales below \$52 million for food sales and \$8.5 million for alcohol sales.

- OGG food and beverage: according to Amendment No.7 dated June 5, 2015, Host will invest at least \$1.8 million to infill an area in the OGG terminal. The contract expiration date is revised from 2019 to 2022 to allow amortization of related costs. The improvement is expected to provide more seating and improve sales.
- LIH food and beverage: according to Amendment No.4 dated June 5, 2015, Host will relocate one of its bars at its own cost, estimated to be \$650,000.

### **Cleared hurdle on Hawaiian hangar development**

To construct a new Mauka Concourse with related Taxilanes G&L, DOTA must relocate the current Hawaiian cargo and maintenance hangars away from the terminal complex. DOTA issued the notice to proceed in March 2013 after DOTA received the FAA approval for the environmental assessment. DCK started the HA Project in 2013 with a scheduled completion date of November 2014. However, due to financial difficulties, DCK was delinquent on paying subcontractors as early as April 2014. DCK's continued financial difficulties eventually resulted in subcontractors walking off the project in November 2015, and the DOTA terminating the contract with DCK in December 2015, with the project approximately 85% completed.

Termination of a contract was a first for the DOTA, if not for the State. If DOTA were to rebid the contract, DOTA would need to request appropriation, which would not have been available until July 2016 due to the Legislation schedule, at which time, the DOTA could then begin procurement of a new contractor. In addition, a lengthy review of facility conditions would need to be conducted before any contractor procurement.

DOTA management invested tremendous amount of time in order to accelerate completion of this major project. DOTA conducted extension negotiations with Hawaiian Airlines to protect the State's interest, worked with the Department of Attorney General to review lease terms, discussed this unique situation and solution with the Land Board, and received support of all related parties. The lease agreement was executed in late 2016, and Hawaiian Airlines completed the construction in late 2017.

## **Initiating next phase of HNL terminal modernization**

With increasing overseas traffic, HNL and other airports in the airports system are facing a gate shortage. At HNL, virtually all gates are occupied during the noon peak hours. With the implementation of the Mauka Concourse Program, the Airports Division will receive 6 wide-body or 11 narrow-body gates. To ensure continuing successful of the Airports System, which is a major economic engine for the State, the Airports Division has started discussing the next phase of terminal development with the Signatory Airlines. In October 2017, the Signatory Airlines has concurred to a \$1.1 billion Diamond Head Extension Program, which is anticipates providing required capacity in the next two decades. This marks a major achievement of the Airports System, which clears the hurdle to develop additional air service in the long-term.

### *Improved financial status*

To successfully implement the capital program, DOTA continues reviewing its operations to improve financial results, which was recognized by bond rating agencies.

## **Executing rental car agreements**

After intensive negotiation with rental car companies, DOTA executed a new concession agreement and facility lease in June 2014. The new agreement has tremendous positive impacts on DOTA's operations, including:

- Paving the way to start consolidated rental car facilities at both HNL and OGG. Rental car companies have agreed to provide supplemental facility rent in case of inadequate revenues, eliminating DOTA's risk in constructing both facilities.
- Guaranteeing future revenue growth. When off-airport rental car companies move on-airport after the completion of HNL and OGG ConRAC, those companies would start paying 10% of gross receipts as a concession fee. It was estimated that HNL rental car revenues would increase 20% to 30% as a result.
- Providing immediate ground rent.

- AT HNL, rental car companies will pay an annualized \$1.29 million of ground rent for the interim facility starting November 2015. Upon completion of the HNL ConRAC, rental car companies will pay \$3.26 million of annual ground rent.
- At OGG, rental car companies will start paying \$2.2 million of annual ground rent upon completion of the OGG ConRAC. The Airports Division can lease the existing land to other tenants. Therefore the \$2.2 million will be a net increase of ground rent.

### **Securing highest ratings for new consolidated rental car facility bonds**

In July 2017, DOTA received highest bond ratings (A+) for customer facility charge revenue bonds from all three rating agencies. This is in recognition of the strength of the state economy as well as the prudent financial approach adopted by DOT management. The higher bond rating results in lower borrowing costs, further enabling the DOTA to consider additional capital investment at other airport locations. The underwriters have estimated the higher ratings, compared to BBB+, resulted in approximately \$24.8 million of savings.

### **Developing additional revenue sources**

When the long-term leases of the properties on Ualena Street are close to expire, the DOTA has not received adequate interests to lease the properties. The DOTA has worked closely with the local business community and was able to fully lease the properties on Ualena Street before lease expiration.

### **Achieving bond rating upgrade for airport revenue bonds**

In November 2015, the Airports Division successfully completed the issuance of the Series 2015A/B Bonds and received \$250 million of bond proceeds for its capital program. The Airports Division received bond rating upgrade from Standard and Poors (from A to A+), and from Moody's (from A2 to A1), and a positive outlook from Fitch. The rating report focused on the successful outcomes of the Airports Division management, include low cost of airline operations, strong cash liquidity, among other factors. The bond rating agencies noticed the DOTA's efforts to improve nonairline revenues through public-private partnerships, and the resulting higher

nonairline revenues. The bond rating upgrade is a good indicator of the progress that the Airports Division has achieved in strengthening its financial positions for a large capital program.

In August 2018, the Airports Division issued the Series 2018A/B Bonds of \$415 million, which, together with other funds, provided \$426 million for its capital program. The Airports Division also issued the Series 2018C/D Bonds to refund a portion of the principals of the Series 2010 Bonds, and will realize refunding savings of \$27 million over the next 16 years. Standard and Poors raised the long-term rating of the Airports Division's revenue bonds from A+ to AA-, citing "extremely strong enterprise risk profile" including extremely strong market position, extremely strong service area economic fundamentals, low industry risk and very strong management and governance.

## 2019

### **Reducing the carbon footprint of transportation**

In 2015 HDOT entered into a 20-year energy savings contract that guaranteed a 40-percent reduction of energy use at state airports, harbors and highway facilities through the installation of energy efficient systems and photovoltaic panels. The combined HDOT investment in the energy savings contract is \$305 million with a projected savings of \$775 million in energy costs over the life of the contract.

As of October 2019, HDOT Airports has installed:

- 21,298 Photovoltaic Panels at the Daniel K. Inouye International Airport, Hilo International Airport, Kahului Airport, and Kapalua Airport
- 78,750 high efficiency Light-Emitting Diode (LED) fixtures at Hawai'i Airports
- Replacement of Air Conditioning Systems with variable frequency drives at 12 airports
- Installation of Chilled Water Air Conditioning upgrades at the Daniel K. Inouye International Airport, Kona International Airport, Līhu'e Airport, Kahului Airport, and Kapalua Airport
- Upgrades of the Ewa Chiller plant and associated piping at the Daniel K. Inouye International Airport as well as the Terminal 2 underground piping

HDOT Highways Division has replaced over 18,000 fixtures statewide with LEDs and is currently testing conversion of its fleet to electric vehicles (EVs) through a service

contract. A request for proposals for the EVs and charging stations was released in November 2019.

A special focus of our Highways Division has been reducing the carbon footprint of the construction of roads and bridges. In May 2019, HDOT tested a carbon-injected concrete mix on a section of an access road for the Kapolei Interchange Phase 2. The test put the carbon-injected concrete side by side with HDOT's approved concrete mix. Results of the test allowed HDOT to set specifications for carbon-injected, or CO<sub>2</sub> mineralized concrete, in all future concrete flat work (e.g., bridge decks and roads).

The demonstration test itself, which involved a pour of 150 cubic yards, saved 1,500 lbs. of carbon dioxide from being released into the environment. This is equivalent to offsetting the carbon dioxide emissions from 1,600 miles of highway driving. Carbon-injected concrete reduces carbon dioxide emissions into the atmosphere in two ways: first, it captures waste carbon dioxide for use within the mix, and second, it allows for reduction in the amount of cement in the concrete mix while retaining the material's strength.

Moving forward HDOT expects the use of carbon-injected concrete in its construction projects to save an average of 25 lbs. of carbon dioxide per cubic yard of concrete poured. Concrete is currently responsible for seven percent of global manmade greenhouse emissions according to the International Energy Agency.

### **Repaired and strengthened vital routes**

In 2019 HDOT completed emergency repairs to three routes affected by natural disasters. The emergency work on Kaua'i and O'ahu not only restored the affected highways to pre-disaster conditions, it improved the resiliency of the roadways that connect our island communities to future events such rockfalls and flooding.

On Hawai'i Island, HDOT used ground penetrating radar, boring, and camera reconnaissance to aid in repair of subsurface voids caused by seismic activity during the Lower East Rift Zone Event on Kilauea. The repairs were completed in early 2019 and ensured that a critical corridor between east and south Hawai'i Island was safe for motorists.

<https://hidot.hawaii.gov/highways/update-to-seismic-repairs-to-mamalahoa-highway-route-11-in-volcano/>

HDOT was able to reopen Kūhiō Highway on Kauai's north shore after a record-breaking flood washed away two sections of the highway and dumped several thousand pounds of mud and debris on the communities of Wainiha and Haena. The \$77 million emergency project substantially completed on June 17, 2019, included extensive slope stabilization above and below the highway to ensure the only access to Wainiha and Haena would be better protected from future weather events.

<https://hidot.hawaii.gov/blog/2019/06/07/kuhio-highway-past-waipā-will-reopen-on-june-17-after-the-full-closure-of-waikoko-bridge/>

On Nov. 4, 2019, HDOT completely reopened Pali Highway in the Kailua/Kaneohe bound direction and reopened Honolulu bound lanes with Sunday to Friday night closures for repaving work. The \$27 million repair project addressed the slopes that needed to be stabilized following the Feb. 18, 2019, rockfall and landslide and ensured that the area—previously identified as priorities 8-10 on the Statewide Rockfall Priority List—would be protected through a redundant system including a new tunnel structure and an attenuator/soil nail installation.

<https://hidot.hawaii.gov/highways/pali-highway-to-open-daily-starting-monday-november-4-2019/>

### **Improved Financial Performance Reflected in Positive Bond Ratings**

Across the Department, HDOT continues to receive positive bond ratings in response to its strong financial management. Positive bond ratings allows HDOT to sell and refinance bonds at low interest rates, allowing for more funds to finance large infrastructure projects such as Consolidated Rental Car Facilities. Financing through bond sales is crucial as HDOT is primarily special funded and does not generally receive General Obligation funding for operations or Capital Improvement Projects.

In calendar year 2019 HDOT received the following ratings:

- AA- rating from Fitch on Harbor System Revenue Bonds
- A2/A+/A ratings from Moody's, S&P, and Fitch on Airports System Customer Facility Charge Revenue Bonds allowing HDOT to save \$37.5 million in debt service on the 2019A CFC series bonds
- Upgraded rating from Moody's on Harbors Bonds to Aa3 from A1
- Aa1/AA+ ratings from Moody's and S&P on Highway Revenue Bonds allowing HDOT to save \$4.5 million in refinancing

More information on HDOT's bond ratings:

*Harbor System Revenue Bonds*

[https://hidot.hawaii.gov/harbors/files/2019/02/2019-02-22\\_Hawaii-Harbors-System\\_Final-Press-Release-Fitch-Ratings.pdf](https://hidot.hawaii.gov/harbors/files/2019/02/2019-02-22_Hawaii-Harbors-System_Final-Press-Release-Fitch-Ratings.pdf)

<https://hidot.hawaii.gov/harbors/harbor-division-bond-rating-upgraded-oct-2019/>

*Airports System Customer Facility Charge Revenue Bonds*

<https://hidot.hawaii.gov/blog/2019/08/19/hdot-airports-division-finances-the-hnl-rental-car-facility-at-historical-record-low-rates/>

*Highway Revenue Bonds*

<https://hidot.hawaii.gov/blog/2019/11/14/hdot-highways-division-funds-100-million-at-historically-low-rates-refinances-debt-for-significant-savings/>

## **Advanced Airport Modernization Program**

The Airport Modernization is a continuous program and in 2019 HDOT has made significant progress in the improvement of state Airports: by adding rideshare pick up locations at the Daniel K. Inouye International Airport (HNL), Kahului Airport, Līhu'e Airport, Ellison Onizuka Kona International Airport at Keāhole, and Hilo International Airport; adding holdrooms at HNL to accommodate new airlines and flights; completing renovation and enlargement of holdrooms, terminal space, and restrooms in HNL's Diamond Head Concourse; completing facility improvements at HNL gates C4 and C9 to become the 9th U.S. airport capable of accommodating the Air Bus A380; and, improving airport signage at the Daniel K. Inouye International Airport.

More information on these airport improvements can be found at:

<https://hidot.hawaii.gov/blog/2018/11/20/hdot-improves-parking-structures-at-hnl-to-help-travelers-remember-their-parking-location/>

<https://hidot.hawaii.gov/blog/2019/04/01/new-ride-share-pick-up-location-established-at-hnl/>

<https://hidot.hawaii.gov/airports/hdot-improves-g-gates-in-diamond-head-concourse-at-hnl/>

## **Protecting against and planning for sea level rise**

In August 2019, HDOT released its finalized Statewide Coastal Highway Program Report (available [here](#)). This report ranks state roadway segments by its risk of structural damage from coastal erosion and supports a prioritized coastal highway protection program. Highway crews have already taken action and made repairs to four of the top ten priority sites as of October 2019.

HDOT estimates that approximately 15-percent of Hawaii's coastal highways would be affected by sea level rise by 2100. Estimated cost to relocate the coastal highways and bridges identified as being at risk would be \$15 billion--\$7.5 million for every mile of road realigned or raised and \$40 million per mile for every bridge to be rebuilt outside of the forecasted inundation area.

## **Completed rehabilitation and shoulder work on H-1 Freeway**

HDOT announced completion of a project to rehabilitate and improve safety on a crucial stretch of Hawaii's busiest freeway, the H-1 in Waimalu, on Oct. 28, 2019. The H-1 Freeway Shoulder Widening and Portland Cement Concrete Pavement Rehabilitation replaced some of the worst pavement on the state system with new precast concrete pavement in both directions between Pearl City and Halawa, as well as widened the eastbound shoulder lane between the Waimalu Viaduct and the Aiea Pedestrian Overpass. The shoulder will serve as a safety area during morning contraflow operations and can be converted to a shoulder lane to provide more capacity in the future.

<https://hidot.hawaii.gov/blog/2019/10/28/h-1-freeway-paving-and-shoulder-widening-project-finished-ahead-of-schedule/>

## **Completed Maui CONRAC**

The Consolidated Rental Car facility at Kahului Airport was opened on May 15, 2019. The \$340 million project was completed on time and within budget. It is designed to provide convenient access to ground transportation for those travelling to the State's second busiest airport. The CONRAC is a Leadership in Energy and Environmental Design (LEED) Silver certified building and features an electric tram to take passengers to and from the terminal as well as a reclaimed water feature.

<https://hidot.hawaii.gov/blog/2019/05/14/new-kahului-airport-rent-a-car-center-completed-on-time-and-on-budget/>

## **HNL became 9th U.S. airport with facilities capable of accommodating the Air Bus A380**

In April 2019, HDOT completed improvements to Gates C4 and C9 of the Daniel K. Inouye International Airport (HNL) to facilitate All Nippon Airways (ANA) A380 service between Japan and Honolulu. HDOT invested between \$12-13 million in the improvements which included: addition of a third level bridge to allow passenger loading and unloading on two levels; access to the third level via a new elevator, escalator, and staircase; reconfiguration of the outside of the terminal to accommodate the A380's 80-meter wingspan; and holdroom and restroom renovations along the corridor. ANA's A380 service, which began in May 2019, increases the capacity for arrivals from Japan to HNL by 500 daily passengers.

## **Harbor modernization program progress**

The cornerstone of the Harbor Modernization program is the Kapālama Container Terminal (KCT) on O'ahu. Commercial shipments in Hawai'i operate on a hub and spoke system with the majority (approximately 80-percent) of imported goods first arriving at Honolulu Harbor. The Kapālama Container Terminal will add much needed capacity to Honolulu Harbor. In 2019, HDOT received the permit from the U.S. Army Corps of Engineers that will allow Phase 2 of the KCT project to proceed. The KCT Phase 2 project will make improvements such as wharfs, bulkheads, and berths to complement the 84-acre cargo yard currently in construction.

Phase 1 of the KCT project is currently 70-percent complete with a scheduled completion date of November 2020. The KCT, when completed, will be the new terminal for Pasha and will allow the direct discharging of cargo onto Young Brothers barges destined for the neighbor islands. This will reduce cost and time in the transfer of cargo as well as remove approximately 50,000 truck trips on Nimitz Highway.

## **Compliance with clean air standards**

Maritime industry vessels have been outfitted with alternative fuel capabilities, "scrubbers", and will use low sulfur fuels to meet the aggressive International Maritime Organization (IMO) 2020 standards. IMO is the United Nations agency responsible for ensuring a clean, safe, secure, and efficient global shipping industry. The initiative reduces sulfur emissions by 85 percent.

## **Hawai'i Commercial Harbors Authority**

The Hawai'i 2019 House Resolution No. 61 directed the DOT Harbors Division to lead a Task Force to study the feasibility of establishing a Hawai'i Commercial Harbors Authority. The Task Force conducted research, discussed information, benefits, impacts and concerns of Harbors Division being converted to an Authority, and consulted with ports authorities in Long Beach, CA, Oakland, CA, Seattle, WA, and Tacoma, WA. The Task Force submitted their findings in a report to the 2020 Legislature concluding there was not consensus in the support for or opposition to an Authority and recommended further evaluation particularly of the concerns to be better able to make a decision on an Authority.

## **Vessel Incidental Discharge Act**

In support of Hawai'i 2019 Senate Resolution S.R. No. 121 that "Urging all applicable State agencies to work together with interested stakeholders, including the [Hawaii] Harbor Users Group, in assessing the risk of aquatic invasive species to Hawaii, vectors, and possible mitigations, in preparation for the establishment of new Federal standards in 2022", the DOT Harbors Division is working with the DLNR to establish preventative measures for the maritime industry to reduce the risk of further introduction of alien pest species via waterborne commerce.

## **Nēnē hazing pilot project**

U.S. Department of Agriculture's Wildlife Services Hawai'i program (WS-Hawai'i), HDOT, Department of Land and Natural Resources (DLNR), and Hōkūala Resort, are working together to protect the flying public utilizing the Līhu'e Airport (LIH) while also ensuring the protection the federally and state listed as endangered native Hawaiian goose or Nēnē. A one-year pilot project which started June 2019 was created to minimize/prevent nesting of Nēnē at the Hōkūala Resort. The pilot project involves continuous nonlethal hazing of the birds by two border collies and their handlers. The goal is to have the Nēnē population move and relocate off the Hōkūala Resort, which is situated near the Līhu'e Airport runways, to minimize the potential of bird strikes.

## 2021

### **Hawai'i Airport modernization underway**

The formal Hawai'i Airport Modernization organized the various airport improvement projects into a comprehensive program to meet the air travel needs of Hawai'i residents, visitors, and industry. During Gov. Ige's administration, HDOT has completed all the original modernization projects, most recently the Mauka Concourse at the Daniel K. Inouye International Airport (HNL), the Federal Inspection Service facility at the Ellison Onizuka Kona International Airport (KOA), and the Consolidated Rental Car facility (CONRAC) at HNL. The CONRAC at Kahului Airport (OGG) was also completed during the Ige Administration.

Hawai'i Airports have long been described as out of date. Modernizations such as way finding signage along the roadways, terminals and parking structures at HNL and restroom renovations at HNL, OGG, and Hilo have been completed to welcome returning residents and visitors as they enter the state. Restroom renovations at KOA and Līhu'e are currently being designed. HDOT has also addressed sustainability and energy savings through airport improvements such as the installation of over 21,000 solar panels and the replacement of nearly 98,000 light fixtures with LED fixtures statewide.

Airport modernizations create economic opportunity for the surrounding communities by increasing capacity for onsite services such as retail and by making continued operations more pleasant and efficient. In the case of the Federal Inspection Service facility at KOA, this modernization project allows use of Hawai'i Island as the second international entry point into the state. This makes the system more resilient should the other entry point at HNL be unusable.

### **No one left behind—maintaining highway access following natural disasters**

HDOT Highways has responded to and recovered from multiple natural disasters in the eight years of the Ige Administration. Notably the 2018 and 2020 Kaua'i flooding events, the Lower East Rift Zone (Kilauea eruption), and Hurricane Lane caused what could have been long-lasting disruptions in access for communities with a single access road.

For the Kaua'i flooding events, multiple sections of Kuhio Highway on the north shore were impacted preventing hundreds of people from getting to their jobs,

school, and supplies. HDOT worked on clearing emergency access for these communities and on slope stabilization projects to reduce the chance of a similar disaster happening again. Slope stabilization was also done on Pali Highway on O'ahu following a rockfall event in 2019.

During the 2018 Lower East Rift Zone eruption, heat and cracks made Keaau-Paho Road (Highway 130) in Puna unpassable. HDOT first used steel plates and then calcium aluminate cement panels combined with heat sensing cameras to allow vehicles to safely travel the road.

To keep the communities that depend on our roads informed we began using a distribution service for public notices and organized our notices by island, district, and topics such as construction lane closures or emergency lane closures. For the Kaua'i communities that only had access to the road at certain times of the day, we provided a weekly newsletter updating on the progress on the 2018 emergency work.

### **Considering the climate now and in the future**

By planning for resilience now and forming climate adaptation strategies, HDOT Highways serves the public by ensuring access to roads and bridges they depend on. Following the many disasters HDOT has responded to in the eight years of the Ige Administration, HDOT published the Climate Adaptation Action Plan and vulnerability study in May 2021. This study provides a comprehensive overview of the threats to the State Highways system and recommendations for actions to mitigate those threats. HDOT has already completed many of the actions in this plan and continues to use the plan as a starting point in conversations with planning and land use agencies on issues such as managed retreat and beach replenishment.

Actions taken to improve climate resiliency include electrification of our light duty fleet and setting new policies for facilities in sea level rise areas such as consideration of less costly, more immediate fixes. Examples of this policy in action include changing the design of Mākaha Bridges No. 3 and No. 3A to a steel bridge instead of concrete and pursuit of a small realignment of Kamehameha Highway at Laniakea Beach that will protect the road for 30-40 years. On the electrification front, HDOT Highways procured an EV as a service contract usable by most State and county agencies that greatly reduces the upfront cost of converting fleet vehicles.

In addition to policy, HDOT is researching new environmentally friendly materials for construction. In May 2019, we tested carbon mineralized concrete on a service road for the Kapolei Interchange Phase 2. After the successful test we developed specifications for the use of this product for concrete flatwork and shared it with state and county agencies. In 2020 we used a polymer coating similar to High Friction Surface Treatment as a pavement preservation technique on the Waimalu viaduct. We will also be piloting recycled plastic in asphalt on a section of Kalanianaʻole Highway (Route 61) between Kapaʻa Quarry Road and Castle Junction in late 2021/early 2022.

This willingness to pilot and innovate extends to coastal highway protection where Kyowa bags filled with surge rock were used to diffuse wave energy in Hauʻula. The bags were installed as part of our emergency repairs in January 2020 as an alternative to hard revetments that may potentially cause erosion of adjacent shorelines. We will also be piloting evaluation of perforated coastal structures to reduce sand erosion rates at five locations on Kauaʻi and Oʻahu.

HDOT Highways takes public feedback into account frequently. The Mākaha Bridges No. 3 and No. 3A must be replaced to ensure people living west of Kili Drive are not stranded on the other side of the bridge should the wooden structure fail. During the public outreach for this project, HDOT heard many Mākaha residents express concern that we were planning on installing concrete structures. In consideration of these concerns the project team revised the plan to switch to a temporary steel structure.

### **Harbor modernization increases shipping efficiencies**

When the Kāpalama Container Terminal (KCT) Phase 1 was dedicated on March 1, 2021, it represented the fruition of decades of planning. The completion of this and other Harbor Modernization projects such as Hilo Harbor's Pier 4 cargo wharf, Pier 1 cargo yard, and passenger terminal improvements serve the public by adding cargo capacity and space for revenue generating services.

KCT is the keystone of the Harbor Modernization Plan due to Honolulu Harbor's role as the hub of Hawaii's hub and spoke shipping system. Phase 1 features a 65.9-acre container yard, support buildings, entry and exit gates, security fencing, a truck weigh station, and other ancillary features. This phase was completed on time and as budgeted with a cost of \$174 million.

HDOT broke ground on the remaining Phase 2 on the same day as the dedication of Phase 1. When Phase 2, which involves waterside improvements such as construction of piers, is complete, the cargo capacity of Honolulu Harbor will be increased 40-percent.

The Harbor Modernization Program addresses the needs of the shipping industry and the public it serves. HDOT continues to dialogue with stakeholders such as the Hawai'i Harbor Users Group and area businesses to address concerns on congestion, capacity, and efficient movement of freight from container yards. One example was the reconstruction of internal Road No. 2 to divert containerized traffic from local roads. Another example is the design of KCT Phase 2 piers at 9.81-feet in consideration of anticipated sea level rise.

The Harbor Modernization Program is a comprehensive plan to revitalize and upgrade Hawaii's commercial harbor facilities as a means of effectively managing and operating a statewide commercial harbors system that facilitates the efficient movement of people and goods to, from and between the Hawaiian Islands. The efficient operations at Hawaii's port harbors are extremely important to the state's economy, especially when one considers that 80-percent of all goods consumed in Hawai'i are imported and that nearly 99-percent of those goods pass through Hawaii's commercial harbors.

## Looking Ahead

State investments in transportation infrastructure will continue to play a major role in addressing climate change and more effectively moving people and goods, allowing commerce to thrive and improving the lives of Hawaii's residents and visitors.