

Kapolei Interchange Phase 2 now open

A dedication ceremony on February 10, 2020, formally celebrated the completion of the long-awaited Kapolei Interchange Phase 2 project which gives motorists yet another way to drive in and out of the Kapolei's urban core.

How the Interchange improves traffic flow

The interchange gives motorists an extended overpass of Wakea Street above the H-1 Freeway, connecting on and off ramps, and directional signage. They now have an alternate route into Kapolei via an offramp from the Westbound H-1 Freeway to Wakea Street, and another way to leave Kapolei via the offramp to Westbound Farrington Highway from the Wakea



Street extension. This will greatly improve traffic flow by reducing the number of motorists taking the Makakilo offramp, as well as those driving on Kalaeloa Boulevard between Farrington Highway and Kapolei Parkway.

The Interchange is a public-private partnership

The Kapolei Interchange project began in mid-2016 with the support of federal, state and private funding. The total cost of the project is \$64.5 million, with 80% federal funding and 20% state funding. The James Campbell Company, LLC provided approximately \$5.7 million in land value, design fees, and other consultant fees that was considered as part of the state match on the project.



Above: Untying of the maile lei by Ed Brown (Goodfellow Bros), Rep. Stacey Lynn Eli, Ralph Rizzo (Hawaii Division Administrator for FHWA), Gov. David Ige, Rep. Sharon Har, Steve Kelly (Kapolei Properties Division), Ed Sniffen (HDOT Highways Deputy Director), and Kahu Kordell Kekoa.

Left: Wakea Street offramp from H-1 westbound.

Photos courtesy: Hawaii Department of Transportation.

Project included sustainable concrete mix test

During the project, the Hawai'i Department of Transportation took the opportunity to test a new concrete mix designed to reduce the carbon footprint of road construction. The test involved a pour of 150 cubic yards of carbon-injected concrete next to an equivalent pour of standard concrete mix on an access road for the Kapolei Interchange. HDOT will use the test to determine specifications for the use of carbon-injected concrete in future projects.

The findings

The HDOT said that depending on the final specifications, the

use of carbon-injected concrete could reduce embodied carbon by 25 lbs. per cubic yard. A mile of concrete pavement uses roughly 21,000 cubic yards of concrete. The amount of concrete poured in the HDOT demonstration project will save 1,500 lbs. of carbon dioxide, offsetting the carbon dioxide emissions from 1,600 miles of highway driving.

The carbon-injected concrete used in the test was produced by Island Ready-Mix Concrete using waste dioxide from Hawaii Gas. The carbon dioxide was mixed into the concrete using CarbonCure technology. The resulting product traps carbon dioxide in mineral form within the concrete and

improves the comprehensive strength of the material. Carbon-Cure is the developer of the technology that uses CO₂ during the concrete manufacturing process to make greener and stronger concrete. The test was also supported by Elemental Excelsior, a Hawai'i-based startup accelerator that has supported more than 50 projects alongside startups, local businesses, and government agencies.

Concrete is the most abundant manmade material on earth and is responsible for seven percent of global manmade greenhouse emissions, making it the world's second largest industrial source of carbon dioxide, according to the International Energy Agency.

Kapolei Shopping Center hosts HECO's 18th electric vehicle fast charger

Kapolei Shopping Center is the site of the newest Hawaiian Electric fast charger for electric vehicles. The charger is located near the Longs, McDonalds and Chilis end of the shopping center.

The fast charger supports CHAdeMO (used mostly by EVs like the Nissan Leaf and the Tesla with their proprietary adaptor) and CCS (used by American and European EVs like the BMW i3 and as an option on the Chevy Bolt.)

A fast charger can provide 43 miles of addition range for a typical EV in 15 minutes, reducing "range anxiety" and helping more people take advantage of the benefits of electric vehicles.



"We are excited to make fast charging available to our customers and move Hawai'i closer to a clean energy economy," said Sylvia Nanbara, Kapolei Shopping Center general manager.

