



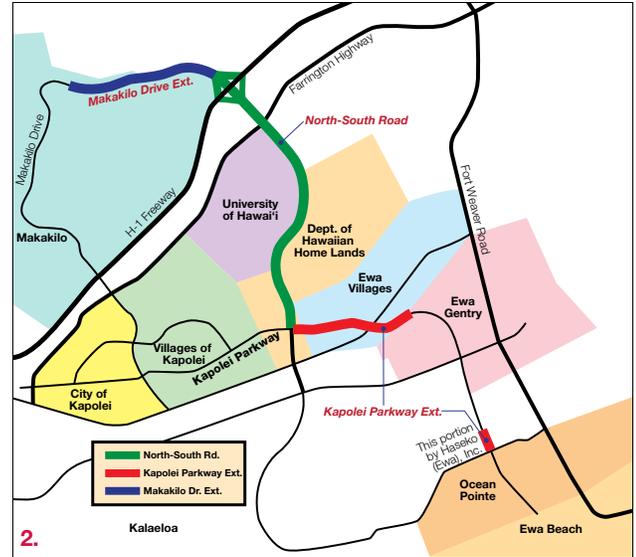
New Roadways Link An Entire Region of O'ahu

O'ahu hasn't seen a major new arterial road and interchange since the H-3 Freeway, but one is slated to open in 2010. The North-South Road project, which has been in the news, and its related projects—the Kapolei Parkway and the Makakilo Drive extensions—will connect the entire region of West O'ahu and provide easier access to the H-1 Freeway. The new roadways will also be important for future West O'ahu projects such as the Salvation Army's Ray and Joan Kroc Community Center, the UH-West O'ahu campus, Department of Hawaiian Home Lands (DHHL) housing projects and, further down the line, major new shopping centers.

Contracted to complete these roadway projects by State, City and private entities, the R.M. Towill Corporation (RMTc) has been working under tight deadlines to provide desperately needed access to the fastest growing areas on the Leeward side of O'ahu, including Kapolei, Ewa Villages, Ewa Gentry, Ocean Pointe, Ewa Beach and Makakilo.

North-South Road was originally planned to begin in Ewa Beach and join with the H-1 Freeway—hence its name—but as the regional master plan evolved, the portion to Ewa Beach became the Kapolei Parkway and North-South Road became the link from Kapolei Parkway to the H-1 Freeway (see map). The State Department of Transportation (DOT) project includes a new diamond interchange at the freeway.

North-South Road has been a long time in coming because of many unforeseen circumstances, including a major change in East Kapolei's development due to a drop in demand for affordable housing in the 1990s. There was also the discovery of red ilima, an endangered, indigenous Hawaiian plant (a habitat had to be created), budgetary concerns, and a push for metrification by the Federal government.



Eventually, however, all the preliminary issues were resolved and RMTc was contracted as the lead designer for the high profile project, providing the major services, including engineering, planning, surveying and coordination of a team of sub-consultants. Pressured by lawmakers eager to see completion of the project, the DOT didn't have much time to complete the design. In addition, the timing of other East Kapolei developments, including the DHHL's and the University of Hawai'i's West O'ahu projects, made it sensible to incorporate common elements for mutual benefit. To add to the complexity, the DOT became responsible for implementing a regional drainage facility into the three-phase, \$131 million roadway project.

In the first phase of the North-South Road project, RMTc engineers completed the design and facilitated an expedited groundbreaking in 2004. The second of two phases, which involved design for more than \$100 million in construction work, was completed in less than two years. Meeting the design deadlines would have been nearly impossible without careful planning and project execution by the RMTc design team. Vernon Lum, RMTc's Sr. CAD Technician and Civil Designer, used the latest Civil 3-D CAD modeling software to design and model the project. The three-phase construction of North-South Road are: 1.) Regional drainage work below Farrington Hwy. and a portion of North-South Road 2.) Kapolei Parkway to Farrington Highway, and 3.) Farrington Highway to the H-1, including the connecting diamond interchange. North-South Road is projected to open as a four-lane, arterial roadway in early 2010; a future phase will complete the roadway as a six-lane thoroughfare.

(Continued on back.)

1. New off-ramp from H-1 Freeway westbound to North-South Road southbound. 2. Map of the region showing RMTc roadway projects.

If you have a passion for something, it helps you pursue that passion all the more if you're involved in the business end of it. That's what RMTC civil engineer Chris Nakamura, PE, did when he started his surfboard business, Progressive Shapes Hawai'i, LLC.

Nakamura was introduced to boogie boarding by his dad when he was about five years old; he was surfing by 10 and never looked back. Both his mom, dad and brothers surf, so he had a lot of encouragement. During high school, the Punahou graduate forsook other sports for surfing. "Surfing is good exercise and it clears your mind," says Nakamura. "The fun part never dies."

When he got to college, Nakamura took some engineering courses even though he wasn't sure exactly where they would take him. Finding that he liked the field, he interned at RMTC in 1999, two years before graduating. After he earned his degree, Nakamura began working full time at RMTC.

Then, in April of 2005, a friend told him about someone who designed a machine that shapes surfboards using a CAD (computer aided design) program similar to the one used at RMTC. For the next six months, Nakamura exchanged emails, did research on the Internet and talked to his contacts in the surfing industry to gauge the possibility of opening a surfboard milling factory. Emotions ran from excitement to fear, he says, but Progressive Shapes Hawai'i, LLC, was established in September 2005.

With the help of close friends, Nakamura located a 2,500 square foot warehouse near the airport, built the infrastructure and learned to use the CAD program with its 25 foot long shaping machine. Things got tough when the only surfboard blank distributor in Hawai'i closed its doors without warning. The unavailability of blanks meant that the factory sat idle and surfboard shapers—potential and actual Progressive Shapes customers—were left jobless. However, a few master shapers wanted to see what the machine could do and supported the new venture by bringing in some of their remaining blanks. Eventually, Nakamura secured high quality blanks from Australia.

Progressive Shapes currently cuts around 4,000 boards a year, and has expanded into other areas, including surfboard blank sales and a factory outlet for finished surfboards and accessories. However, a

A major issue in building the interchange is keeping the H-1 flowing smoothly while constructing a new bridge for the North-South Road undercrossing. The solution was to use freeway on and off ramps as detours from June through November during construction: an entire section of a freeway has been detoured for the first time in Hawai'i. RMTC also worked out a plan with the DOT and farmers to keep freeway disruption between spring and fall in order to least impact farming activities in Ewa and Kunia lands.

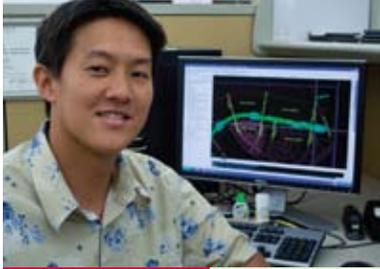
Providing the missing link between North-South Road to Ewa Beach is the Kapolei Parkway Extension. RMTC was contracted by the City's Department of Design and Construction to design the roadway. The project will be completed by the end of 2009 and will provide a six-lane roadway (currently striped for four lanes, but will eventually accommodate six) with easy access to the H-1 and direct connections between Ewa Villages, Gentry and Kapolei. Still in its planning stages, the Makakilo Drive Extension will connect Makakilo to the H-1 Freeway and to North-South Road (*see map, page 1*).

The North-South Road and Kapolei Parkway projects will finally complete a long-awaited roadway system, provide better mobility to fast growing Ewa Plain communities and improve transportation for an entire region of O'ahu.

new challenge has emerged: Chinese-made boards.

"I didn't think [running a business] was so involved," reflects Nakamura, who left RMTC for a year to establish Progressive Shapes. In the end, the experience has been rewarding, but he considers himself an RMTC civil engineer first and business owner second. Now that the company is established, he is back full time at RMTC, designing subdivisions, roadways and utilities, and employees do the daily work at Progressive Shapes. "It makes me appreciate working for a company like RMTC," he says. "It's stable, has a good reputation and I don't have to worry about payroll or health insurance."

It seems like a really busy life, especially with his first son on the way in August, but Nakamura still has time for his business—and of course, surfing. Diamond Head and Ala Moana are his favorite spots. "Originally, I was hoping to [open a retail store] to sell boards and other surfing gear," he says. "It may be something for the future."



Chris Nakamura, PE



Surfboard blanks arrive from Australia.



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