

# HAWAIIAN CONNECTIONS

THE HAWAII LOCAL TECHNICAL ASSISTANCE PROGRAM

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Please pass this on to other interested parties in your office.

## LEGISLATIVE SESSION 2010

By Brennon Morioka, HDOT Director

After much blood, sweat and tears, the 2010 legislative session turned out to be bittersweet for the state Department of Transportation (DOT). We are proud of all the hard work our staff and our partners put forth, in efforts to improve the quality of life for all residents and visitors who use our transportation system.

When the Ignition Interlock Bill was signed on June 14th, it marked a huge victory for highway safety. For years, Hawaii has had one of the highest DUI fatality rates in the country and this initiative developed by the DOT, Mothers Against Drunk Driving (MADD), county police departments, prosecutors and legislators was aimed at keeping drunk drivers off our roads. The statewide program, which will be implemented January 2011, means DUI offenders must place a small device on their car requiring a breath test before the vehicle will start. National studies have shown that the interlock devices decrease recidivism anywhere from 50% to 90%.

One bill that we hope will transcend administrations is the Highway Modernization Act. This \$4.2 billion, 6-year plan is aimed at saving lives, time and money by implementing

critical highway projects and programs that reduce traffic congestion, improve highway safety and maintain roads. Motorists are growing increasingly frustrated with the current transportation system and business as usual. Under current conditions, every ten minutes of traffic delays on our highways costs each driver roughly \$600 per year

and for commercial vehicles, these costs are magnified to \$3,300 per year. The Highway Modernization Act is a vehicle that will provide the additional funding and commitment in order to meet the transportation needs of tomorrow.



Freeway Safety Patrol (FSP)

With the federal funds that the state DOT and counties did receive through the American Recovery and Reinvestment Act (ARRA) of 2009, we are able to move forward with 22 projects statewide. In June, we will be dedicating the largest completed ARRA project at Kahului Airport. This is in addition to other ARRA projects, including Kuhio Highway and Maalo Road resurfacing on the Garden Isle. Projects with final acceptance include the H-1 Seismic Retrofit, Farrington Highway Separation and Makakilo Drive Separation and Maui's Hana Highway

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# DISTRACTED

April was national distracted driving awareness month. Below we feature an article from the Connecticut T<sup>2</sup> Center on distracted driving and one describing a local effort.

## Distracted Driving Creates Dangerous Situations

By Chief Murray Pendleton, Connecticut Police Chief's Association

**D**riving large municipal trucks and special purpose vehicles, including cars, can be challenging enough even when full attention is given to the road and potential hazards.

It only takes a second for a crash to happen. Distractions occur when drivers concentrate on something other than operating their vehicles – such as engaging in cell phone conversations. NHTSA (National Highway Traffic Safety Administration) estimates that 25% of all crashes involve some form of driver distractions.

National surveys show that most drivers at least occasionally engage in behaviors that draw some of their attention away from their driving task. The most common of these behaviors include such general activities as;

- Talking or texting on a cell phone;
- Talking with passengers;
- Changing radio stations or CD's
- Eating or drinking while driving



Operating municipal trucks is unique. The fact that most of the trucks have special equipment requires more attention to detail, leaving no room for distractions.

Driving is a full-time job, and operating snowplows, trash pick-up trucks, fire engines, etc. while using a cell phone, reading a road map, or talking to fellow employees is potentially dangerous.

- Make adjustments to vehicle controls such as radios, air conditioning, or mirrors before beginning to drive or after the vehicle is no longer in motion

- Don't reach down or behind the driver's seat, pick up items from the floor, open the glove compartment, clean the inside windows, or perform personal grooming while driving;
- You should not eat or drink while driving, but if you do, get something that is not messy and that you can hold in one hand. Set your food up next to you before you take off and make sure you use a cup holder for your drink.
- Know where you are going and how to get there before you start out.

For more than 10 years studies have been conducted which focus on the risks associated with various types of distractions. There clearly is ample information to believe a distracted driver is at an increased risk of a crash.

Your complete attention to driving is not only in the best interest of you and your passengers but can clearly save lives as well as reduce serious injuries.

Below is a list of common distracters:

- Use of cell phones
- Eating/drinking/smoking
- Texting and e-mailing
- Personal hygiene
- Changing radio stations/CD's/DVD's
- Sight Seeing/gawking
- iPods
- In-car information screens
- Adjusting mirrors/heat/AC
- Searching for items
- GPS
- Unsecured objects
- Reading maps/directions/books/magazines/newspapers

Such distractions may not only cause you to lose control of your vehicle, they may cost someone, including you....your life.

*(Continued on Page 3)*

# DRIVING

## Distracted Driving Creates Dangerous Situations *(continued from page 2)*

### Texting is a Major Distracter

The National Safety Council estimates that 80% of Americans admit to using cell phones, and 20% admit to texting, while driving. That amounts to about 100 million drivers.

Driving while using a cell phone incurs a 4 times greater risk of crashing, which is equivalent to driving while drunk (with a 0.08 blood-alcohol level.) For texters, the risk is eight times greater.

Talking on a cell phone while driving slows down the reaction time of even the most experienced driver.

All drivers of municipal vehicles must be committed to reducing serious injuries and deaths on our roadways. This all starts with your commitment to not become a distracted driver.

### **DO NOT BECOME A DISTRACTED DRIVER**



*Adapted from Connecticut Technology Transfer, Spring 2010*

## Hawaii's "Operation Driver Excellence" Competition Attracts Nearly 40 Students Statewide

*By Lance N. Tanaka, Tesoro Hawaii Corporation*

**T**hey were the best of the best, selected by their driving instructors for this annual competition designed to test their driving knowledge and skills. The Tesoro Hawaii Operation Driver Excellence competition, held over a two-day period, attracted nearly 40 students and 20 driving instructors representing 23 high schools from Oahu and the neighbor islands together for fun, friendly competition. The competition involved a written exam, obstacle course and road test.

More than 50 parents also participated in the event, with some daring to take the written exam to see how much they knew – or didn't know. There were generous prizes for the winning students, their instructors and schools, and even a prize for the parent with the highest score on the written exam.

The competition has been sponsored by Tesoro and its predecessor companies in collaboration with the Hawaii Department of Education and the Hawaii Association for Safety and Traffic Educators (HASTE) for the past 22 years.



*Hawaii DOT Deputy Director **Francis Paul Keeno** (in back seat) gets set to be taken for a ride by a student in The Allstate Foundation's "Action Against Distraction Driving Challenge."*

Tesoro Hawaii awarded up to \$300 Tesoro fuel cards to winning students and \$150 in fuel cards for their instructors, with cash prizes up to \$1,000 for the top three school teams.

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## NEWS FROM

## American Council of Engineering Companies of Hawaii (ACECH)

By John Katahira, President

### ACEC Annual Spring Conference Update

This April, several ACEC Hawaii representatives attended the ACEC Annual Spring Conference in Washington DC. In spite of the recovering economy, the conference drew more than one thousand national and international attendees. Each year, ACEC Hawaii officials meet with our congressional delegates to discuss key national and local business issues related to the engineering industry. (Senator Inouye and Congresswoman Hirono each gave us 1-1/2 hours of their precious time!) The following congressional legislation items are currently being advocated by ACEC.



From left to right: **Jon Nishimura, Norman Kawachika, Janice Marsters, Congresswoman Mazie Hirono, Lester Fukuda, and John Katahira**

- New multi-year water infrastructure program: the House has already passed HR 1262, and the Senate is poised to act on S. 1005, which allocates nearly \$40 billion over five years for water and wastewater projects and expands the use of Qualifications-Based Selection (QBS).
- New multi-year aviation bill to boost funding for airport projects: both the House and Senate have passed bills (HR 915 and Senate Amendments to HR 1586) that will significantly increase funding for airport improvements, terminal expansions, and other aviation projects.



AMERICAN COUNCIL OF ENGINEERING COMPANIES  
of Hawaii

- New six-year surface transportation program: House Transportation and Infrastructure Committee Chairman (Congresswoman **Mazie Hirono** is on this committee) has proposed a new six-year \$450 billion highway and transit program to replace SAFETEA LU; the Senate Environment and Public Works Committee is currently working on companion legislation.
- Repeal of 3 percent withholding and thwarting initiatives that threaten the private sector: Repeals the onerous 3 percent withholding mandate applied to projects tied to federal funding. The withholding mandate is set to be enforced in 2012.



From left to right: **John Katahira, Senator Daniel K. Inouye, Jon Nishimura, Lester Fukuda, Norman Kawachika, and Mark Steiner**

## OUR PARTNERS...

### Structural Engineers Association of Hawai'i (SEAOH)

SAVE THE DATES!

**October 7-9, 2010:** SEAOH Annual Convention

This year's SEAOH annual convention will be held in conjunction with the CCPI Annual Meeting on Oct 8 and Oct 9 at the Hilton Hawaiian Village Resort and Spa, Tapa Tower. The theme of this year's convention will be Disaster Preparedness, Mitigation and Response. Performance based Tsunami Engineering guidelines will be presented by Dr. **Ian Robertson**, Ph.D., S.E., and Mr. **Gary Chock**, P.E. Also included will be a presentation by Mr. **Gerard Fryer** of the Pacific Tsunami Warning Center. Besides the excellent technical sessions, exhibits and networking opportunities from the structural engineering profession and the construction industry, there will be various social and family-oriented activities, and a chance to rediscover Waikiki. The traditional Pink Ball golf tournament will be held on the afternoon of Oct 7, and the 2nd Annual Canoe Race between teams from SEAOH and CCPI will be held on the afternoon of Oct 9. Affordable hotel room rates at the Hilton will be available.



For more information or a registration form, please go to the SEAOH website at: <http://www.seaoh.org/>

CONGRATULATIONS!

Mr. **Steven M. Baldrige**, President of the engineering firm of Baldrige & Associates Structural Engineering, Inc., was recently named Small Business Person of the Year. Steve represented the State of Hawaii in the National SBA competition in Washington, D.C. on May 23 to May 29, 2010.

The Steel Bridge Team of the American Society of Civil Engineers (ASCE) Student Chapter at the University of Hawaii at Manoa finished in 2nd Place at the Pacific South West Regional Conference in April 2010, and the team competed in the American Institute of Steel Construction (AISC) National Student Steel Bridge Competition at Purdue University in May 2010.

## LEGISLATIVE SESSION 2010 (Continued From Page 1)

Pavement Preventative Maintenance.

In June, we will also be celebrating our one-year anniversary of the Freeway Service Patrol Program (FSP), which has assisted a total of 11,870 motorists (including drive offs, abandoned vehicles, refused services, non-assists, unable to locate, and driver-to-driver assists). Preparing for the summer months, we just launched two important safety campaigns: Click It or Ticket and Share the Road. We continue to look at transportation systems as a whole, not by just building roads and adding new infrastructures, but by educating the public, working closely with enforcement and finding innovative ways to better manage congestion.

We would like to thank each of you for your continued support and partnership with the state DOT and look forward to continued success for the rest of 2010.

Aloha.



*Safety Campaign: Share the Road*

## HAWAII DOT RES

## HPC for North-South Road Grade Separation Structure

By Harold Hamada, KSF Inc.

The North-South Road Project, in the District of Ewa on the Island of Oahu, HI, involves the construction of a limited access, 2.2-mile (3.5-km) long principal arterial highway that connects Interstate Route H-1 to the proposed Kapolei Parkway. A grade separation structure was required to connect the North-South Road to the H-1 Freeway. The H-1 Freeway is the principal arterial highway connecting West Oahu to Honolulu.

The grade separation structure consists of two separate parallel bridges that span 165 ft (50.3 m). Each bridge is 56 ft (17.1 m) wide, with three 12-ft (3.7 m) wide traffic lanes and two 10-ft (3.1 m) wide shoulders. Eight precast, spliced girders are used in the 56 ft (17.1 m) width. The bridge deck consists of precast concrete planks and a cast-in-place (CIP) topping. Four, 5-ft (1.5 m) diameter drill shafts support each abutment. The grade separation structure is an integral abutment bridge with no joints.



The girder cross section is a 66-in. (1.68 m) deep modified Washington WF74PTG girder. The precaster fabricated 80- and 40-ft (24- and 12-m) long girder segments in Tacoma, WA, loaded the segments on barges, and shipped them to Hawaii. The specifications required a compressive strength of 10,000 psi (69 MPa) at 28 days. The average compressive strength was 12,120 psi (83.5 MPa) with a standard deviation of 1286 psi (8.37 MPa). The concrete was steam cured at a temperature of 140 to 160°F (60 to 70°C) until the concrete achieved a compressive strength of 5000 psi (34 MPa) before release of the prestressing strands. During the steam curing operation, a maturity meter was used to estimate the concrete compressive strength.

The contractor spliced the 40-, 80- and 40-ft (12-, 24-, and 12-m) long segments in the field to achieve the desired 165 ft (50.3 m) span. Concrete for the splice had a specified compressive strength of 9000 psi (62 MPa) at 28 days and a specified slump of 7±2 in. (108±50 mm). The concrete contained a water reducer, high-range water reducer, viscosity

modifying admixture, and a corrosion inhibitor. The post-tensioning operation commenced after the splice concrete reached a compressive strength of 8000 psi (55 MPa).

The bridge deck comprised 3-1/2 in. (90 mm) thick precast planks spanning 7 ft 6 in. (2.3 m) with a 5-in. (125 mm) thick CIP composite topping. The topping concrete materials and proportions were selected to minimize creep and drying shrinkage, have a long fatigue endurance limit, minimize bleeding, and reduce plastic shrinkage. A shrinkage-reducing admixture (SRA) was used to reduce shrinkage. Macro-fibers were used to increase the endurance limit and toughness. Micro-fibers were used to limit plastic shrinkage cracking.

A synthetic air-entraining admixture (AEA) was used to improve the workability of the concrete. A synthetic admixture is more stable than typical surfactant AEA because of the chemically inert polymers. In addition to the SRA

and AEA, a water reducer, high-range water reducer, hydration stabilizer, and a viscosity-modifying admixture were included in the concrete mix. During the deck casting operation, bleeding and plastic shrinkage cracks did not occur.

The 3-1/2 in. (90 mm) thick precast planks were 3 ft 11 in. (1.19 m) wide by 7 ft 11 in. (2.41 m) long and made with 6000-psi (41 MPa) compressive strength concrete. The concrete mix for the planks was similar to the mix for the CIP topping, but without the SRA and fibers. The contractor removed the precast planks from the forms 24 hours after casting when the concrete compressive strength ranged from 2500 to 3200 psi (14 to 22 MPa).

The grade separation structure was opened to traffic in January 2009 and to date no drying shrinkage cracks have been observed. The grade separation structure is functioning as designed.

# RESEARCH PROGRAM

## Kealakaha Stream Bridge Replacement

By David Fujiwara, Dr. Harold Hamada, and Eric Matsumoto, KSF, Inc.

Located on Hawaii Belt Road on the island of Hawaii, Kealakaha Stream Bridge traverses a 165 ft deep and 610 ft wide ravine. This structure is situated approximately 33 miles Northwest of Hilo and services vehicles traveling from Hilo to the Honokaa.

Kealakaha Stream Bridge is a 720 ft long curved concrete bridge with a 6.2% travel way superelevation and 3.46% vertical slope. The bridge has three spans of 180 ft, 360 ft and 180 ft. It provides two 12 ft travel lanes and two 10 ft shoulders. Due to its close proximity to an active volcano, this bridge is subjected to high seismic activity. In order to create a durable and cost effective bridge under these conditions, several elements unique to Hawaii were incorporated in this structure.

**Gary Iwamoto** of Hawaiian Dredging Construction Company, Inc. was instrumental in utilizing friction pendulum bearings and Washington super girders. He also conceived an innovative placement system for these girders.

### Base Isolators

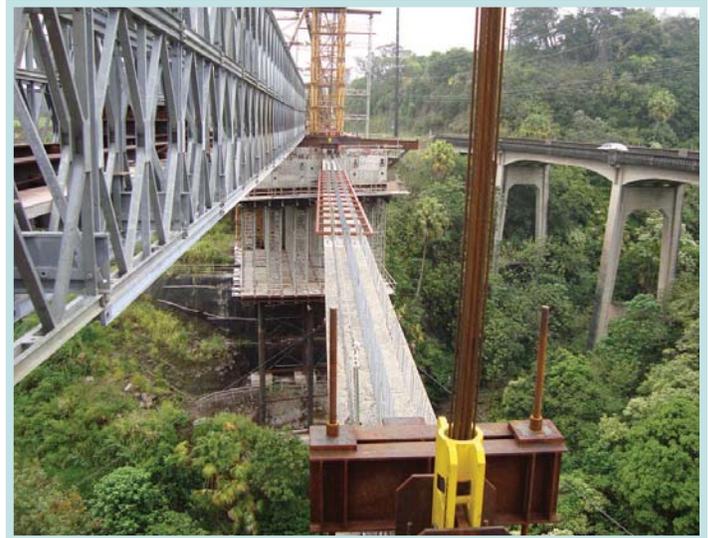
Two Friction Pendulum seismic isolation bearings from Earthquake Protection Systems, Inc. (EPS) are installed on each abutment and pier. Each bearing has an 88" effective radius of curvature that results in a dynamic period of 3 seconds. Displacement capacities are 12" at abutments and 10" at piers.

According to Dr. **Anoop Mokha** of EPS, "Friction Pendulum bearings use the characteristics of a pendulum to lengthen the natural period of the isolated structure so as to avoid the strongest earthquake forces. Since earthquake induced displacements occur primarily in the bearings, lateral loads transmitted to the structure are greatly reduced."

Compared with an earlier design of Kealakaha, which did not incorporate seismic isolation, these friction pendulum bearings allowed for shorter piers, smaller footing sizes and decreased drilled shaft lengths.

### Superstructure

The superstructure of Kealakaha Stream Bridge consists of 100 ft and 205 ft Washington W95PTG precast super girders with cast-in-place concrete deck and 150 ft long box girders above the piers. These components are linked together with post-tensioning tendons.



Washington W95PTG precast super girders, which are 95 inches in depth with 4'-3" top flange and 3'-4" bottom flange, were shipped from Spokane, Washington to Hilo Bay. Due to winding roads leading to the bridge site, maximum length of precast girder segments that could be transported to Kealakaha was 50 ft. Therefore, to produce the required 100 ft and 205 ft girder lengths, 50 ft segments were spliced and post-tensioned at the bridge site.

Precast segments of end spans were set on falsework, spliced and post-tensioned. At each abutment, a continuous end beam connecting the six girders was cast. After the closure between precast girders and box girders cured, six tendons of 22x0.6" post-tensioning strands extending from abutment to the ravine end of box girder were stressed to 483 kips, 50% of final jacking force. Construction continued with installation of midspan diaphragms and cast-in-place slabs for end spans. The six tendons of 22x0.6" post-tensioning strands from abutment to ravine end of box girder were then stressed to 100% of required jacking force of 967 kips. This post-tensioning, combined with tendons in the top slab of the box, supported all loads during construction of the middle span.

The next hurdle in this project was launching 205 ft girders across the ravine. On the Hilo end span, 50 ft girder segments were placed on a custom rail system consisting of wide flange members and Hillman rollers. These precast pieces were then spliced and post-tensioned. To address

(Continued on Page 8)

## DISTRACTED DRIVING (continued from page 3)

Awards were given for the best in written examination, best in obstacle course, individual winners (1st through 5th place) and school team winners (1st through 3rd place).

### New Attraction

The Allstate Foundation added an exciting new dimension of learning to the event this year by having students drive through a course that became increasingly more complicated. The “Action Against Distraction Driving Challenge” augmented the technical side of driver education by highlighting the real-world dangers teens encounter behind the wheel. The program has successfully been rolled out in 46 other U.S. cities.

“We were glad to be partnering with The Allstate Foundation this year and to be able to create real-life challenges to reinforce safe driving among teens,” said **Eric Lee**, Tesoro’s senior regional manager – retail in Hawaii. “It’s always tragic when we hear about crashes involving young drivers. Tesoro Hawaii and The Allstate Foundation want to be a part of the solution by providing students a safe environment to learn how to be better drivers.”

From texting to talking on a cell phone, changing a radio station or even eating, teens experienced firsthand how challenging it can be to drive safely when faced with these common distractions. Despite cell phone bans in Honolulu and neighbor islands, ongoing reports of drivers using cell phones and an increasingly “plugged-in” generation of new drivers make raising awareness on distracted driving more important than ever.



*The 2010 Tesoro Hawaii Operation Driver Excellence first-place team from King Kekaulike High School on the island of Maui is congratulated by Senior Regional Retail Manager **Eric Lee** (left).*

According to Allstate Insurance, nearly three quarters of teen driving crashes are caused by driver error and distraction and driving the course firsthand allowed teens to begin to realize how vulnerable they are to distractions.

Several VIPs were invited to experience the distracted driving challenge first hand. Deputy Director – Administration **Francis Paul Keeno** from the Hawaii Department of Transportation was one of them. Additionally, Sergeant **Emilio Laganse** and Officer **Everett Higa** from the Honolulu Police Department – Traffic Division provided an element of realism to the driving challenge, by giving chase in their police vehicles while students navigated the obstacle course.

## HAWAII DOT RESEARCH PROGRAM (continued from page 7)

lateral stability concerns, a steel truss was installed over the middle 90 ft of the 205 ft girder and two tendons consisting of 4x0.6” strands were placed in the girder top flange and stressed.

Completed girders were then pulled across the ravine on an Acrow truss. Enerpac hydraulic strand jacks, placed 50 ft above the deck on EFCO shoring towers, then lifted the girder above the Acrow truss. The Acrow truss was moved transversely and each girder was set in its final position. This process was repeated until all six girders were placed.

Precast girders were then connected to the two box girders and post-tensioned. Three stages of post-tensioning were conducted. In the first stage, a total of 12 tendons containing 22x0.6” strands were stressed to 483 kips. Diaphragms were poured. Then, the 12 tendons were stressed to 100% of the required jacking force of 967 kips. The concrete deck

was subsequently cast. Third stage of post-tension, another 22x0.6” tendon in each girder line, was then completed. Finally, shoring was released, and the bridge moved into its final position.

### Conclusion

Awareness of innovations, such as deep girders and seismic isolators, leads to more avenues in design and construction of bridges. These additional options can result in easier construction of complex structures and increased cost savings.

Kealakaha’s remote location, steep terrain, seismic activity, and daily deluge created a challenging environment for construction. However, the collaborative effort of all parties involved resulted in a successful completion of the project. Kealakaha Stream Bridge was opened to traffic on March 29, 2010.

## A MOMENT IN HISTORY

By C.S. Papacostas, Hawai'i LTAP

**D**riving an automobile under the influence (DUI) of alcohol has been a major concern since the early years of "automobility." For example, an article in the August 5, 1913 issue of the Honolulu Star Bulletin said, in part:

*The growing feeling due to recent automobilie tragedies has started an agitation for more drastic laws in the territory to punish persons found guilty of driving a machine while intoxicated.*

*Suggestions are being made that a law, similar to statutes in many states of the mainland, notably California, be passed making it a felony to drive a machine while drunk. By an amendment to the law, passed by the legislature at its last session, the license commission may put names of drunken chauffeurs on the "tabu" list which makes it unlawful for saloon keepers to serve them with alcoholic drinks.*

*"The board of liquor license commissioners will do everything in its power to see that drunken chauffeurs are not allowed to drive cars, and to prevent auto accidents due to the intoxication of those at the wheels," said Chairman **A. L. Castle** of the Oahu*

*license commission this morning.*

*"The commission has already put the names of four chauffeurs on this list as the result of the recent agitation in connection with auto accidents. So far as is in our jurisdiction, we will help to check the reckless driving that is due to intoxication."*

*The "tabu" list is posted by the license commission in every saloon an saloon-keepers who do not observe its provisions are liable to lose their licenses or have them suspended.*

Almost 100 years later, the 2010 Hawai'i State Legislature passed a law that would prevent people convicted of DUI from starting a vehicle's engine, if detected to be intoxicated. A device called "ignition interlock system" installed in the vehicle would test the blood alcohol concentration (BAC) level of the driver via a breath sample drawn by blowing into a hand-held sensor unit. If the BAC is above a preset level, the system would lock the engine and prevent the driver from operating the vehicle.

## COSTAS APPOINTED NEW CEE CHAIR



**T**he University of Hawaii at Manoa College of Engineering is pleased to announce the appointment of Professor **Constantinos S. Papacostas** as chair of the Department of Civil and Environmental Engineering, effective January 1, 2010.

Papacostas is a professor of civil and environmental engineering at the University of Hawaii at Manoa and serves as director of the Hawaii Local Technical Assistance Program (LTAP). He is currently president of the Engineers and

Architects of Hawaii (EAH) and has served as Hawaii chapter president for both the American Society of Civil Engineers (ASCE) and the Institute of Transportation Engineers (ITE).

Papacostas received his BE, magna cum laude, in civil engineering from Youngstown State University in 1969. He earned both his MS and PhD in civil engineering from Carnegie-Mellon University in 1971 and 1974, respectively. While at UH Manoa, Papacostas is credited with the development and implementation of the first statewide traffic accident reporting system in Hawaii and the development of one of the earliest internet-served traffic camera systems and traffic flow simulation software.

## Director's Note

by C.S. Papacostas



*This year, it was our turn to host the annual meeting of LTAP Region 9 (extending from Hawai'i to Alaska) on April 15-16 at the Hilton Hawaiian Village.*

*On the national scene, two important manuals (the Highway Safety Manual and the Manual on Uniform Traffic Control Devices) have been published, and a third (the Highway Capacity Manual) is undergoing final reviews prior to issuance.*

*Published by the American Association of State Highway and Transportation Officials (AASHTO), the inaugural edition (2010) of the Highway Safety Manual deploys a new generation of highway safety analysis tools developed under the auspices of the Transportation Research Board (TRB) of the National Academies. The new tools are intended to aid in quantifying the expected effects of safety treatments considered at the planning, design, operation and maintenance phases of project development, and thus contributing to the efficient allocation of limited resources to the reduction in the number and severity of traffic crashes. Instructor-led and web-based training is part of the overall effort.*

*The final rule adapting the 2009 Edition of the MUTCD was published in the Federal Register on December 16. According to the Federal Highway Administration (FHWA) that has been administering it since 1971, "the MUTCD is the national standard for all traffic control devices, including traffic signs, pavement markings, signals and any other devices used to regulate, warn or guide traffic. Ensuring uniformity of traffic control devices across the nation - from their messages and placement to their sizes, shapes and colors - helps to reduce crashes and traffic congestion. This is the first comprehensive update to the manual since 2003." The manual is available for download at <http://mutcd.fhwa.dot.gov/> or may be purchased in hard-copy format from several organizations.*

*Completing the triad is the 5th (2010) edition of the Highway Capacity Manual, a TRB publication that is currently undergoing final adoption. According to TRB, this fundamental guide to capacity and quality of service "has become the model for similar capacity manuals in many other countries." Since the publication of the 2000 edition, "great strides have been made in microscopic traffic simulation, operations analysis, and the management and control of traffic facilities. In addition, better tools are needed for evaluating context-sensitive solutions, travel-time reliability, and over-capacity conditions so that cost-effective capital and operations decisions can be made. These tools must also include non-motorized and transit modes." Plans are to release the new HCM in three printed volumes (Concepts, Uninterrupted Flow, Interrupted Flow) accompanied by a supplementary electronic volume with step-by-step details.*

Meke Aloha!

## Program Manager's Note

by Juli Kobayashi



*In April we hosted the LTAP Region 9 Meeting which consists of the following states: Alaska, Arizona, California, Hawai'i, Idaho, Nevada, Oregon, Utah and Washington. Although some of the states were unable to attend, we had a very successful meeting. There were FHWA and LTAP-TTAP Clearing-house representatives who updated us on all the latest developments from Washington D.C. as well as our Executive Board members.*

*During the meeting, each state LTAP representative shared their accomplishments as well as innovative ways to improve their centers. As an example, Alaska shared their registration software program that keeps track of all the individuals that have taken their workshops and also allows the participants to view all the training that they have ever attended. Although we do keep a record of all the participants in our workshops, this software would really help our program save time and energy whenever we offer training.*

*We also discussed what each center is doing with their libraries and discovered that many of them have trimmed down their libraries by discarding documents that can be found online. They have also put all their old VHS videos onto DVD's and that is something that we have been working on as well. This effort will improve our ability to disseminate information more effectively and easily.*

*On the final day of the meeting we had a wonderful session entitled, "Creative Problem Solving: How to Overcome Obstacles and Create Possibility". It was a lively discussion which was taught by **Jerri Mizrahi**, who has had extensive experience in organizational development, workforce training, and is also a personal life coach. She shared tools to create, inspire and build new ideas while strategically thinking of ways to overcome challenges that get in the way of achieving your goals.*

*As we move into Summer, we hope you have an opportunity to attend one of our training workshops and please visit our website for upcoming events at <http://hltap.eng.hawaii.edu/>.*

*On a personal note, I just wanted to share with you that my daughter Jenna has graduated from high school and hopefully on her way to a bright future. How fast they grow!*



*\*Hawaiian Connections features scenic pictures from various locations of Hawai'i. (Photos courtesy of the Hawai'i Visitors and Convention Bureau)*

In this issue, we are featuring coconut trees. In the Hawaiian Islands, the coconut is regarded as a Polynesian introduction, first brought to the islands by early Polynesian voyagers from their homelands. The meat of the coconut is located on the inner surface of the shell and also contains an edible clear liquid that is used in many dishes around the world. The coconut palm thrives on sandy soils and is highly tolerant of salinity.

## HAWAI'I LTAP ACTIVITIES

Compiled by Gail Yamamoto, Hawai'i LTAP

We began 2010 with a one-day "Hawai'i Asphalt Sustainability Conference" co-sponsored with our partner, the Hawai'i Asphalt Paving Industry (HAPI). Approximately 70 Federal, State, Local Agencies, and asphalt pavement contractors listened as instructors **Kent Hansen** and **Michael Kvach** from the National Asphalt Pavement Association (NAPA) talked about the basic fundamentals of asphalt pavements. Participants also learned basic design principles, how to construct porous asphalt pavements and its applications. We look forward to working with HAPI for future joint workshops later in the year.



*Hawaii Asphalt Sustainability Conference*

In the month of March, together with the Hawai'i Department of Transportation (HDOT) and the Federal Highway Administration (FHWA) we held a one and a half day seminar, "Road Safety Audits (RSAs) for Local Governments". This course was designed to introduce RSAs as an effective tool that can help to reduce injuries and fatalities on the roads. Also in March, we welcomed back **Charles Nemmers** to

conduct his one-day seminar, "Highway Engineering for the Non-Engineer" on O'ahu, Maui, Hawai'i and Kauai. This workshop explained the entire highway development process: financing, planning, environment, right of way, highway and bridge design, construction operations and maintenance. Through this overview participants had an improved understanding of why "engineers do what they do".



*Highway Engineering for the Non-Engineer*

During the months of May and June, we welcomed back **Tim & Laura Ard** of Forest Applications, for "Chainsaw" training at various locations on Maui and the Big Island. This hands on training covered chainsaw usage, maintenance and complex felling tree techniques.

For more information on any of these workshops please contact us at (808) 956-8367.

## HAWAI'I LTAP NEWS



Hawai'i LTAP would like to welcome our new student assistant, **Jonathan Straley**. He graduated from Campbell High School in 2009 and is currently a sophomore studying electrical engineering at the University of Hawaii at Manoa. In high school, Jonathan was the lead producer of Campbell's media program as well as the lead anchor-man for the morning bulletin. Jonathan won several local awards for video production as well as a national award for a Public Service Announcement on getting Flu vaccinations. In his spare time, Jonathan likes to shoot pool and go hiking and has previously worked at the Ewa Beach Boys and Girls Club as a program assistant.

**Hawai'i Local Technical Assistance Program**  
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The Hawai'i Local Technical Assistance (LTAP) is a cooperative program of the University of Hawai'i Department of Civil and Environmental Engineering, the Hawai'i Department of Transportation, Highway Division, State of Hawai'i and the U.S. Department of Transportation Federal Highway Administration, Hawai'i. The LTAP program provides technical assistance and training programs to local transportation related agencies and companies in order to assist these organizations in providing cost-effective improvements for the nation's highways, roads and bridges. Our office is located at:

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The contents of this newsletter do not necessarily reflect the official views or policies of the HDOT, FHWA or the University of Hawai'i. The newsletter is intended to convey useful information to the local highway and transportation personnel. Any references to commercial products or organizations are included only for informational purposes and are not intended as endorsements by the Hawai'i LTAP.