

# HAWAIIAN CONNECTIONS



NEWSLETTER OF THE HAWAII LOCAL TECHNICAL ASSISTANCE PROGRAM

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

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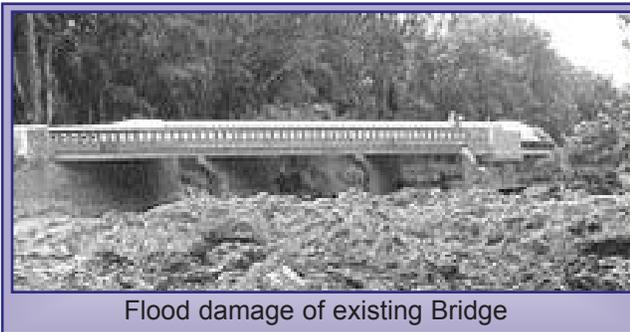
## KEAIWA STREAM BRIDGE BACK IN OPERATION IN 7 MONTHS!!

By *Richelle Suzuki, FHWA*

*Neal Fukumoto, Wesley R. Segawa & Associates, Inc.*

*David Fujiwara, KSF, Inc.*

**a** record-breaking downpour, up to 37 inches of rain in 24 hours, occurred on November 1 and 2, 2000 on the east side of the Big Island. The rainstorm caused flooding that washed out roads and bridges. The 80 foot long Keaiwa Stream Bridge in the town of Pahala, on Hawaii Belt Road, the only route around the southeast side of the Big Island, was severely damaged.



Flood damage of existing Bridge

The abutment and approaches on the south end (Pahala side) of the existing bridge were entirely washed out. Residents going into and out of this quaint, peaceful town, were greatly inconvenienced. As a result, the government had to find a way to allow vehicles to cross the stream.

The County of Hawaii, Department of Public Works, coordinated with the neighboring land owners to upgrade an existing ranch road, to allow cars to by-pass the disaster area.

This bypass allowed the Hawaii DOT, Highways, time to clear and repair 3 miles of Hawaii Belt Road as well as to determine the best course of action for the damaged bridges. The HDOT and the FHWA determined that it was best to replace the damaged Keaiwa Bridge.

The HDOT constructed a ford crossing next to the Bridge but, there was a concern that another storm could make this area impassable again. The County agreed to maintain a temporary detour road and the HDOT expedited the design and construction phases.

Continue on page 3.



How many people does it take to inspect a bridge on Oahu? Workshop highlights p. 6

# Walter Lum's Rules of Thumb

*Editor's Note: Walter Lum, consulting engineer, through many years of experience has developed quick and easy ways to solve complex problems. He has shared his rules of thumb with us.*



## A QUICK SLOPE STABILITY ANALYSIS WITH SEEPAGE (Part 2 of 3 parts)

**S**lope stability analysis can be performed very quickly by the following semi-graphical procedure, if the slope and slip surfaces are known and drawn to scale.

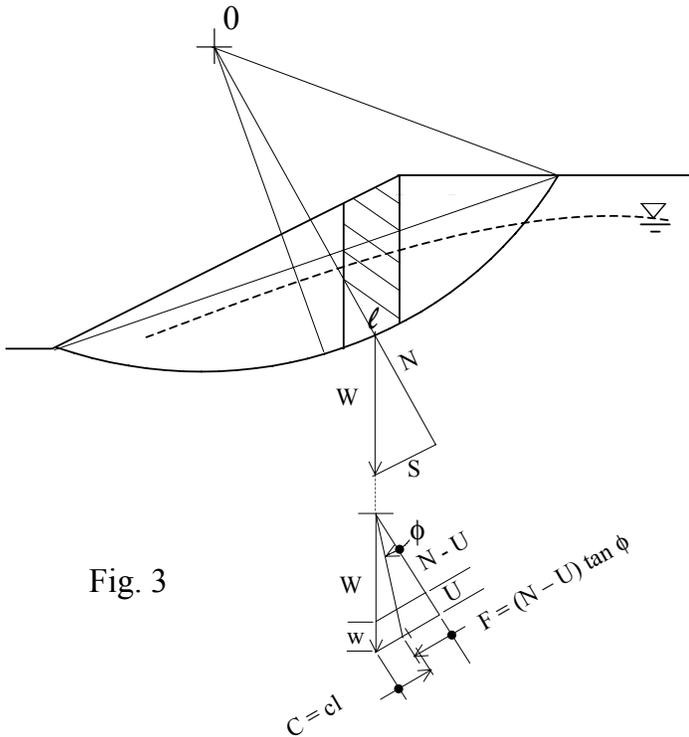


Fig. 3

Given:  $c$  = cohesion  
 $\phi$  = friction angle  
 $\gamma$  = unit weight of soil

**For F.S. = Factor of Safety of a Slice, Fig. 3**

$W$  = weight of slice  
 $N$  = normal through the origin "0"  
 $S$  = shear required for equilibrium  
 $w$  = weight of seepage water  
 $U$  = water force

$C = c \times l$  = cohesion available  
 $F = (N - U) \times \tan \phi$  = friction available

$$F.S. = (C + F) / S$$

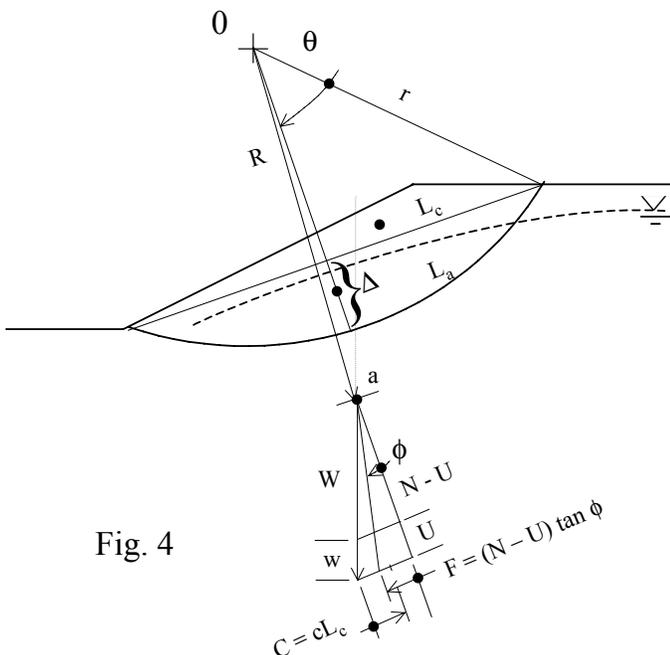


Fig. 4

**For F.S. = Factor of Safety of total Slope, Fig. 4**

Begin force polygon at point "a", the intersection of weight  $W$  and radius  $R$

$$R = r \times L_a / L_c, \quad L_a / L_c = \theta / (57.3 \times \sin \theta)$$

$W$  = weight of triangle and circular segment  
 (weight of segment =  $\gamma \times \Delta \times L_c \times 0.68$ )

$w$  = weight of seepage water

$U$  = water force

$$F.S. = [c \times L_c + (N - U) \times \tan \phi] / S$$

$$F.S. = (C + F) / S$$

Check it out with a known problem and see, it works!

# Keaiwa Stream Bridge *(continued from page 1)*

## Design Phase

A team consisting of Wesley R. Segawa & Associates, Inc., KSF, Inc., GeoLabs, Inc., Mitsunaga and Associates, and M&E Pacific was hired in 6 days and the design commenced November 15. The new reinforced concrete bridge consists of two abutments and seven continuous spans with expansion joints at the abutments. It is 230 feet long and has a 40-ft wide roadway with two (2) 11-ft lanes, and two (2) 9-ft shoulders. The bridge approaches, reinforced concrete wing walls and concrete rubble masonry (CRM) walls were designed to stabilize the stream's banks.

The superstructure consists of 11-inch thick prestressed-precast planks composite with six (6) inches of cast in place concrete topping. Precasting was selected to expedite the construction time. The substructure consists of six wall piers on narrow continuous footings, embedded in the basalt subgrade. The wall piers are skewed 42.5 degrees, i.e., 47.5 degrees from the longitudinal axis.

For a historical appearance, an open rail structural system consisting of reinforced concrete posts and beams was utilized.

A major challenge encountered was to design the bridge structure to respond to a peak ground acceleration of 0.8g. Response spectrum analysis showed lateral forces equal to twice the dead load. To resist these high seismic forces, the foundation was designed as a hybrid "sheet pile - continuous footing" structural system, where the passive resistance of the basalt provided the lateral and overturning restraint on the embedded portion of the wall piers.

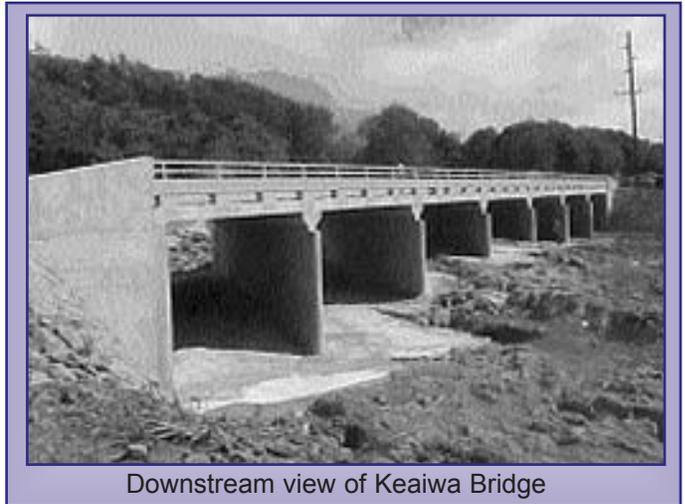
The large 42.5° skew caused high stresses in the bridge deck, due to transverse bending. 3D finite element analysis modeled the bridge as "sandwich" shell elements.

The large skew also caused the superstructure to "lock-up," due to shrinkage of the concrete topping in the deck, resulting in large tensile stresses in the center spans. A 30-day delayed poured strip was recommended over pier 3. Placing the topping on each side of pier 3 and casting the pour strip 30-days later would eliminate 50% of the shrinkage effects over the entire structure.

A total team effort among FHWA, HDOT and the Design Consultant Team enabled the design to be accomplished in six weeks, compared to a typical 6 month period.

## Construction Phase

The contractor, Hawaiian Dredging Construction Company (HDCC), received the Notice to Proceed (NTP) on March 5, 2001 and immediately began work.



Downstream view of Keaiwa Bridge

To minimize construction time, the contractor requested FHWA, HDOT and KSF, Inc., to consider using a Shrinkage Reducing Admixture (SRA), such as Tetraguard AS20, in the concrete topping in the deck to reduce the shrinkage in lieu of the 30-day delayed poured strip. FHWA and KSF, Inc. performed a literature search and discovered that SRA has been used in Japan, but not in the U.S.

On April 26, it was decided to use the SRA. To determine its effectiveness and the effects of reinforcing, a research project was undertaken to monitor the shrinkage strains in the bridge deck and in eight 36 x 36 x 8 inch concrete specimens. The specimens were categorized in two groups, with and without the SRA and varying reinforcements in the four specimens within a group.

Vibrating wire strain gages were placed in the bridge deck and specimens that will be monitored for twelve months. HDCC funded the test specimen preparation and provided the SRA at no cost to FHWA and HDOT.

The bridge deck was poured on May 5 and opened to two-way traffic on May 25. The innovative solution of using the SRA allowed the roadway to be opened to traffic thirty days earlier than originally targeted.

With the cooperation and coordination of innovative, energetic, and dedicated employees from public agencies and private companies, the bridge was constructed in 7 months.

## **A special Mahalo to:**

Hawaii Department of Transportation, Highways  
County of Hawaii, Department of Public Works  
Wesley R. Segawa & Associates and the Design  
Consultant Team

Hawaiian Dredging Construction Company  
Federal Highway Administration

## INTERAGENCY NHPA SECTION 106 TRAINING

By Laura Kong, FHWA, Hawaii Division

**n**early 150 staff from the FHWA, state and county transportation agencies, Hawai'i State Historic Preservation Division (SHPD), Office of Hawaiian Affairs (OHA), Island Burial Councils, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service, participated in the 3-day training, August 13-15, 2001, at the Pagoda Hotel.

The training focused on the National Historic Preservation Act (NHPA, 36 CFR 800, Protection of Historic Properties) Section 106 and the U.S. DOT Section 4(f) consultation processes for transportation projects, including Section 106 coordination with the National Environmental Policy Act. In addition, relevant Hawai'i laws and rules were summarized, and stakeholder organizations described their processes and identified areas needing improvement. Case studies illustrating the Section 106 consultation process and lessons learned from each were discussed, with the third day specifically focusing on Native Hawaiian consultation and Hawai'i projects. The Hawai'i LTAP and the FHWA Western Resource Center, in cooperation with the Hawai'i Department of Transportation (HDOT), the University of Hawai'i Department of Civil Engineering, and the FHWA Hawai'i Division, sponsored the workshop.



FHWA Hawai'i Division Administrator Abe Wong welcomed session attendees on day 2 of Training

Partnering between the FHWA, the Advisory Council on Historic Preservation (ACHP), OHA, and the SHPD resulted in a valuable and informative session bringing together transportation and preservation professionals, and Native Hawaiian Organizations (NHO) to learn, share information, and identify ways to achieve more meaningful consultation under NHPA Section 106. This was the first time our agencies have worked

together in a cooperative, learning atmosphere, as our missions are traditionally very distinct and in many ways divergent. We realized an urgency to work together to help preserve our unique environment and diverse historic and cultural resources, while meeting the public's desire for an efficient transportation system.

The training was very well received, useful, and important to the participants. They indicated that networking with people from the different resource agencies, and the cooperative learning environment were extremely valuable. Almost all judged the subject matter as an important component of their jobs.

Under Section 106, federal agencies must take into account the effects of their undertakings on historic properties. Consultation should involve the State Historic Preservation Officer through the SHPD, Historic Hawai'i Foundation and other boards, and NHOs who might attach religious and cultural significance to the historic properties. The goal is to identify the historic properties, assess their effects, and seek ways to avoid, minimize or mitigate any adverse effects on them. Consultation should commence as early as possible and should be conducted in a manner sensitive to the concerns and needs of the NHO.

The formal part of the 106 Training was team-taught by FHWA Historic Preservation Officer Mary Ann Naber, ACHP Historic Preservation Specialist Jane Crisler, and ACHP Native American Program Coordinator Valerie Hauser. Especially valuable were Hauser's insights from her past Section 106 consultations with Native American and Native Hawaiian organizations.

DeSoto Brown of the Bishop Museum Archives gave an excellent lunch talk. She traced Oahu's transportation from 1880's photos of horse carriages in Waikiki, though the mule-drawn and electric trolley cars, railroads, and the construction of the H-1 freeway through the 1970's as these transportation systems continually and forever changed the landscape and economic prosperity of Oahu.

*Continue on page 9.*

## NEWS FROM OUR PARTNERS...

### "Congratulations to the new ACI Certified Concrete Technicians"

*By Wayne Kawano, President CCPI*

**t**he Cement and Concrete Products Industry of Hawaii in partnership with LTAP, proudly congratulates all the participants, from the County of Hawaii Public Works, in the ACI Certified for Concrete Field Technicians Grade I program recently completed earlier this year. We also extend our congratulations to the newly certified technicians.

The American Concrete Institute (ACI) is a nonprofit organization dedicated to advancing the standards for the design and construction of concrete structures. Many organizations now require that anyone fabricating concrete testing be ACI certified to properly perform and record the results of seven basic field tests (ASTM) on freshly mixed concrete. CCPI is the only local organization authorized by ACI to provide instruction and testing for its Concrete Field Testing Technician Grade I certification program.

CCPI conducted a workshop to review the ASTM concrete sampling and testing procedures. This was followed by a written and performance test, per ACI.

All of the enthused attendees benefited with a better understanding of concrete testing procedures.

#### **Congratulations !!**

Stanley Higuchi  
Ben Ishii  
George Kaitoku  
Joseph Lucas  
Paul Nash

Robert Northrup  
Gordon Sakuda  
David Sato  
Allan Simeon  
Gerald Yorita

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## Americans with Disabilities Act Workshop

**t**he **Hawaii LTAP** program along with the **American Society of Civil Engineers (ASCE)** and **Hawaii American Public Works Association (APWA)** have partnered to hold a Americans with Disabilities Act workshop featuring the design of public service works to meet the requirements of the ADA act particularly in regards to the public rights of way. In addition to design, workshop participants will gain State and City and County guidelines and perspectives, as well as discussion on efforts underway by the Public Rights of Way Access Advisory Committee (PROWAAC) and other current issues.

Location: Pagoda Hotel, International Ballroom

Date: October 25, 2001

For more information please contact Keith Niiya at (808) 533-3646, email [kniiya@atahawaii.com](mailto:kniiya@atahawaii.com) or via website [www.ascehawaii.org/asce\\_news.html](http://www.ascehawaii.org/asce_news.html).

State DOT and county personnel please contact Juli Kobayashi (Hawaii LTAP) at 956-9006 or [juli@eng.hawaii.edu](mailto:juli@eng.hawaii.edu) by October 1, 2001.

For upcoming workshops visit our website at:

[www.eng.hawaii.edu/~hltap](http://www.eng.hawaii.edu/~hltap)

## HAWAII LTAP WORKSHOP SUMMARY FOR THE THIRD QUARTER

By Matthew Alonzo, Hawaii LTAP

The Hawaii LTAP program sponsored 6 workshops in the third quarter contributing to over 10,500 training hours. From our partners, **Wayne Kawano** of Cement and Concrete Products Industry of Hawaii coordinated a Concrete Pavement workshop and **Lisa Economy** of Hawaii Asphalt Paving Industry coordinated a Warranties & Hot Mix Database workshop. **Laura Kong** from the Federal Highways Administration, Hawaii Division, coordinated the most recent workshop, National Historic Preservation Act Section 106.

Starting off the third quarter was the **Concrete Pavement** workshop. Participants were trained on how to use the windows-based version of the Pavement Analysis Software (WINPAS) that included the new AASHTO guidelines for Design of Pavement Structures released in 1993. Information on PCA Design Procedures for new pavements and pavement rehabilitation using concrete overlays were presented. Training included Rigid Pavement Design, Jointing Basics and Intersection Joint Layout. On behalf of the participants, Hawaii LTAP would like to thank CCPI for providing lunch throughout the workshop. For highlights, turn to page 5 "News From Our Partners."

**Safety Inspection of In-service Bridges** was a two-week workshop based on the "Bridge Inspector's Training Manual 90." Participants with satisfactory completion fulfilled the training requirements of the National Bridge Inspection Standards (NBIS). The workshop covered bridge inspection programs, basic concepts, safety, inspection documentation with Pontis inspection report, inspection and evaluation of bridge decks, common timber, steel and concrete superstructures, fracture critical bridge members, bridge bearings, substructures, waterways, underwater inspections and culverts. To put theory into practice, participants were divided into groups and

inspected two bridges at Moanalua Gardens.

The **Manual Classification of Motor Vehicle Traffic Accidents (ANSI D-16.1)** workshop was held on Oahu for two sessions and once on Maui. The objective of this workshop was to establish a common foundation for the reporting of motor vehicle traffic accidents by classifiers, analysts and users of traffic accident data.

The **Warranties & Hot Mix Database** workshop was a 2-day workshop at the Royal Hawaiian Hotel. Topics included types, development and performance of asphalt. Participants obtained FHWA, DOT and industry perspectives. The online hot mix database was demonstrated. It includes information on infrared imaging, mat density, virtual simulations and an electronic pavement guide. Hawaii LTAP would also like to thank HAPI for providing the wonderful breakfast and lunch services.

The **Honolulu Tier II ITS Architecture** 3-day workshop was held at the end of July. The development of Oahu's Regional Intelligent Transportation System (ITS) Architecture was initiated and existing and planned ITS systems and services were identified. The workshop developed a draft of the architecture that defined the stakeholders and interfaces between systems and agencies to serve as a regional architecture for an integrated transportation system on Oahu.



Kenneth Lai (left) gathers his team before inspection



Guy, Curtis, John and Eric from OTS at Tier II

The **National Historic Preservation Act Section 106** concluded our offerings during the third quarter. A related article appears on page 4.

## INSTRUMENTATION AND MONITORING OF BRIDGE SCOUR AND SAND PLUGGING AT SELECTED STREAMS IN HAWAII

By Michelle Teng and Edmond Cheng, University of Hawaii

According to Federal Highway Administration (FHWA), the scouring of bridge foundations is the most common cause of flood damage to bridges. For example, during the 1994 flooding in Georgia, more than 500 state and locally owned bridges were damaged due to scour. For the state of Hawaii, flood has also been a serious threat as evidenced by the severe damage to private properties and public transportation facilities during the 1987 New Year's Eve flood on Oahu and the recent November 2000 flood on the Big Island. Coastal highways in Hawaii also face another problem that may cause damage to bridges and roads during a flood: blockage of culverts and bridge openings by sand during dry seasons. How to mitigate the sand-plugging problem is of great interest to HDOT.

In May of 2000, HDOT and FHWA approved funding for a research project to investigate the problems of bridge scour and sand-plugging in Hawaii. For bridge scour, the project objectives are (1) to test and install state-of-the-art instrumentation on selected bridges for monitoring bridge scour during floods; (2) to compare measured scour depth with the predicted results of the existing empirical formulas; and (3) if appropriate, to modify the values of the empirical coefficients in the scour prediction equations to render them applicable to Hawaii. For sand plugging problems, the objectives are: (1) to conduct field observations of bridge openings and highway culverts; (2) to conduct field surveys to examine how sand blockage affects culvert drainage during floods; and (3) to carry out theoretical analysis and numerical simulation to predict under what conditions a sand-blocked bridge or culvert needs dredging and under what conditions the sand blockage can be self-cleaned during floods.

Our research team consists of UH faculty Michelle Teng and Edmond Cheng and three research assistants: Gavin Masaki, Tsung I Liao and Matt Fujioka. During the past year, we surveyed all scour-critical bridges identified by HDOT on Oahu. After analyzing flood risks and accessibility to the bridges, we have selected Kahaluu Bridge and Kailua Bridge for instrumentation. The specific variable that will be measured is the scour depth near bridge piers and abutments. Two types of scour tracker systems have been purchased, assembled and tested in the hydraulics lab at

UH. One is the sonar scour tracker system whose sonar transducers measure scour depth by measuring the elapsed time that an acoustic pulse takes to travel from the transducer to the river bottom and back. The other type is the magnetic sliding collar system. For this system, a long steel pipe with sensors inside will be driven into the river bed



Magnetic Sliding Collar System

near a bridge pier or abutment. A magnetic metal collar is attached to the vertical pipe and initially rests at the river bed. As scour depth develops during a flood, the collar will drop along the pipe. The sensors inside the pipe can detect this drop and will record the scour depth. Sonar trackers will be installed on Kahaluu Bridge while magnetic sliding collars will be installed on Kailua Bridge. For both sensor systems, data for scour depth will be recorded by a data logger mounted on the bridge and then transmitted remotely to a computer in the hydraulics lab. The computer can activate the data logger remotely by dialing through a phone line a modem inside the data logger. This remote control will enable us to record the dynamic development of scour holes during flood events. So far, installation design and planning and laboratory testing of the instruments have been completed, and installation permit applications have been submitted to HDOT and the City and County of Honolulu. Long term monitoring of bridge scour during floods will help to ensure public safety and will also provide a useful database for developing more accurate formulas for predicting scour depth in bridge design.

*Continued on page 8.*

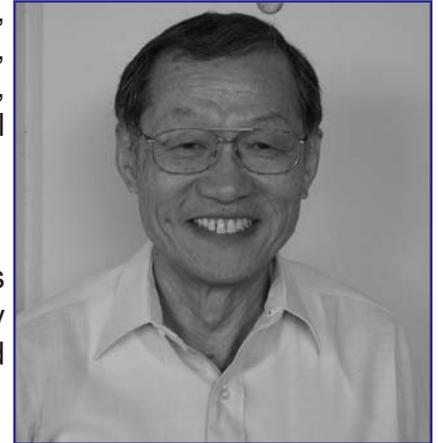
## Congratulations Gary Choy!

**t**he Hawaii LTAP program would like to extend congratulations to Gary Choy on his new position as the Highways Design Engineer in the Hawaii Department of Transportation Highways Design Branch.

Gary Choy earned his Bachelors and Masters Degrees in Civil Engineering at the University of Hawaii. He began his career as a Construction Project Engineer for the Hawaii DOT. He was involved with the construction of the H-2 freeway at Waiawa, the Halawa Interchange and Moanalua freeway. In 1975 he became the Services & Development Engineer at the HDOT's Materials Testing & Research Branch. For the next ten years, he was involved in research, research implementation and the development and implementation of the division's highway noise program. In 1985 he managed the HDOT Contracts Office and was responsible for the processing of all construction, service and consultant

service contracts. From 1997 Gary managed the Materials Testing & Research Branch. The branch is involved in research, materials testing of soils, aggregates, portland cement concrete and asphaltic concrete, quality assurance, pavement design, and geotechnical services.

Gary has served as HLTAP advisory committee and board chair.



We would like to thank Gary Choy for all of his hard work, his involvement with Hawaii LTAP and wish him the best of luck.

## Bridge Scour and Sand Plugging *(continued from page 7)*

For the sand plugging problem, we surveyed many culverts of various shapes and sizes along the entire coast of Oahu during the past year. Our field investigation has provided us with first-hand knowledge of the severity of the problem. Based on survey, two box culverts and two circular culverts in the Punaluu and Kaaawa areas have been selected for long term monitoring. Currently, we are planning to construct culvert models and carry out laboratory testing on the models to investigate sand movement inside culverts under different simulated flood discharges. The final objective is to seek an effective engineering solution that can help to mitigate the problem. One of the potential solutions is a combination of channelizing the culvert outlets and installing a sand collector and remover (with a venturi pumping system) for the culverts. This solution is being investigated in collaboration with a mainland firm Streamside Systems, Inc. that specializes in removing sand from streams without dredging.

In order to better understand the stream conditions and sediment transport around selected bridges and culverts, the research team has also surveyed the

stream geometry, took samples of streambed material and analyzed their soil properties in the geotechnical lab.

The first phase of the project will be completed by May 2002.



Surveying sand-plugging

## Section 106 Training *(continued from page 4)*

Several Hawai'i-specific panels provided breadth through case studies and real-world examples, and provided insight into the cultural values of Native Hawaiians.

Charles Langlas, a UH-Hilo anthropologist and Kaho'ulani McGuire of Cultural Surveys, Hawai'i, described their work with Native Hawaiians. La France Kapaka-Arboleda, OHA Kaua'i Community Resource Coordinator and Kaua'i Island Burial Council (KIBC) chair, poignantly told of her personal experiences as the one chosen by her elders to be the tradition bearer for her family, and of her participation in the reinternment of human remains at Maha'apūlehu on Kaua'i. Shad Kane of O'ahu Council of Hawaiian Civic Clubs described the cultural aspects of Pu'u o Kapolei, O'ahu, and Norma Wong presented their analysis process and thresholds for the cultural impact assessment study being done for the Bus Rapid-Transit Project in Honolulu.

The Waimea emergency road repair project (Menehune Road, 2000) was highlighted as an example of a successful consultation where HDOT, FHWA, SHPD, the O'ahu Island Burial Council (OIBC), the archaeologist (Pacific Legacy, Inc., Paul Cleghorn), and lineal descendants (led by Alice Greenwood) worked together to restore transportation services while respecting and following Native Hawaiian cultural protocol.

The workshop concluded with a working panel comprised of the FHWA, HDOT, SHPD, OHA, OIBC and KIBC on the use of cultural monitors and liaisons. This panel allowed agencies and the audience to comment on cultural monitor and liaison definitions, roles, minimum qualifications, and procurement. OIBC chair Van Diamond described the progress of the interagency Cultural Monitors Task Force that is trying to answer those same questions. SHPD and ACHP suggested that agencies might employ or share a cultural liaison since project managers or consultants may not have the specific expertise; ACHP gave the example of a liaison position within the Rhode Island DOT for consultations with the Narragansett Indian tribe.

Our interagency team is now considering similar training for consultants and on the neighbor islands, and greater participation by Native Hawaiians to provide an essential level of knowledge to all participants in the 106 process.



Panel discussing effort undertaken during the Waimea Menehune Road emergency last year

### **A note from the FHWA Engineering Team:**

We would like to take this opportunity to thank the HDOT, the counties, the resource agencies, and the private sector for meeting the FHWA's August 15, 2001 project deadline. We appreciate everyone's effort and look forward to improving the quality of the project submittals for fiscal year 2002.

The FHWA has designated August 15, 2002 as the project deadline for fiscal year 2002. This project deadline applies to projects listed on the fiscal year 2002 STIP. Please ensure that the Section 106 and other environmental processes are completed prior to August 15, 2002.

As a reminder, Section 106 of the National Historic Preservation Act applies to all projects requiring federal funds or permits. This includes, but is not limited to, projects under the stewardship agreement (less than \$1.0 million), research projects, rights-of-way acquisition, and construction projects.

Please contact your local FHWA representative(s) if you have any questions or need further assistance. Thank you.

## Director's Note

by C.S. Papacostas

Our hard-working staff has put together a full plate (no, a banquet) of activities for the balance of the year. Three of them merit special notice.

Organized jointly with ASCE and APWA, a workshop on the design of public rights of way to meet the provisions of the Americans with Disabilities Act (ADA) is scheduled for October 25 (see p. 5).

The 2nd Annual Overseer Conference will be held on the Big Island November 7-9. Stanley Nakasone and Kelly Galdones are working with colleagues from the other counties to ensure a stimulating agenda.

This year's Traffic Safety Forum will span a 3-day period beginning on November 26. It will feature national and local experts on the three E's of traffic safety: Engineering, education, and enforcement. Also, several vendors have agreed to set up booths displaying the latest technology and practices.

Our advisory committee and board chair Gary Choy will move on to head the HDOT Highways Design Branch. Gary has been most valuable to HLTAP not only because of the breadth and depth of his professional expertise but also because of his congenial personality, his superb people skills and his ability to help resolve difficult situations.

Good luck, Gary, and please keep in touch!

## Program Manager's Note

by Juli Kobayashi

The 2001 National LTAP conference was held in St. Petersburg, Florida from July 29 - August 2, 2001.

This year involved an international collaboration of Technology Transfer Centers. Participants as far away as Pakistan and Saudi Arabia were present. Gail Ikeda, our Program Assistant, and I attended the conference where we had the privilege of meeting many of these international attendees. We learned, how to market our program more effectively, how a university based LTAP center differs from a DOT based LTAP center, and technology transfer practices around the world. The most valuable part of this conference was the networking opportunities available with other national centers.

We are looking forward to hosting the National LTAP conference in Hawaii in 2003 and ask for your support in this extensive effort. Please check our website for our upcoming exciting workshops.

As a new member of the LTAP staff, Program Assistant Gail Ikeda said:

"As a 'newbie' at the National Conference my overall experience of the conference was very positive. I learned a lot about National LTAP and the different organizations that work with them. I will always remember this conference especially during the international dinner when everyone sang Happy Birthday to me."

## STAFF

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Group picture of some of the participants of the "2001 International Symposium on Transportation Technology Transfer" at St. Petersburg, FL.

*Picture taken at the St. Petersburg Pier.*

## Hawaii LTAP Transportation Library

The Hawaii Local Technical Assistance Program Library is located in Holmes 207A at the University of Hawaii. The library houses over 10,000 transportation-related technical reference materials. Informational and workshop videos may also be found in the library. Reference materials and videos are available to the public and may be borrowed or copied.

Database of all materials may be found on the web at:

### Videos –

[www.eng.hawaii.edu/~hltap/video.html](http://www.eng.hawaii.edu/~hltap/video.html)

### Publications –

[www.eng.hawaii.edu/~tlib](http://www.eng.hawaii.edu/~tlib)

### Website:

<http://www.eng.hawaii.edu/~hltap/>

For more information, please contact Juli Kobayashi at 956-9006.

# Staff News

The Hawaii LTAP program would like to bid a farewell to computer technician **HongKham (HK) Ouanesisouk** and student assistant **Lynne Yasui**. HK has undertaken the responsibility of a Laboratory Manager in the Information Technology Systems Department at Kapiolani Community College. Lynne has gone back to Washington State University to continue her undergraduate studies. We wish the best to them.

*Is it a bird, is it a plane?*

*Bridge Inspection workshop*



Continental Breakfast at the Warranties Seminar, Thank you HAPI!!



Tier II ITS Instruction Team

Kathy Bonaffini

Susan Walker

Charnita Wilson

Richard Hooper

## Free Publications

1. **FHWA-HI 98-031:** Hazardous Bridge Coatings, Design and Management of Maintenance and Removal Operations
2. **FHWA-L-UH-98-05:** Reducing Soil Erodibility and Runoff by Use of Polyacrylamides on Hawaiian Soils
3. **Work Zone Safety:** Guidelines for Construction, Maintenance, and Utility Operations.

*For free copies (while supplies last) please call (808) 956-9006.*



# HAWAII LOCAL TECHNICAL ASSISTANCE PROGRAM

## Executive Committee

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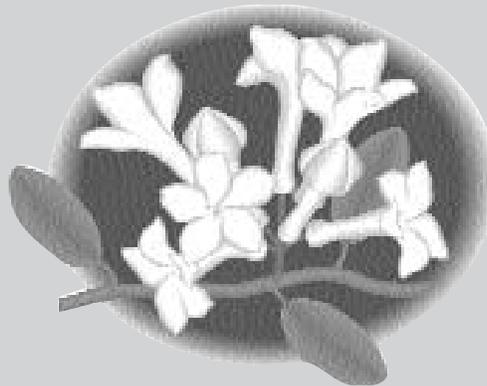
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The Hawaii Local Technical Assistance Program (LTAP) is a cooperative program of the University of Hawaii Department of Civil Engineering, the Hawaii Department of Transportation, Highway Division, State of Hawaii and the U.S. Department of Transportation Federal Highway Administration, Hawaii. 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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