

HAWAIIAN CONNECTIONS

NEWSLETTER OF THE HAWAII LOCAL TECHNICAL ASSISTANCE PROGRAM

VOLUME 6, No. 1

SPRING 2004

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

HISTORIC LOOK GRACES NEW HANALEI BRIDGE

By Fred Reyes, HDOT Kauai Civil Engineer

A new black steel truss one-lane bridge now spans the historic crossing of the Hanalei River that has been called the "Gateway to Hanalei Valley" on Kauai's scenic North Shore. Research at the Kauai Museum showed that prior to the bridge construction, horses and ropes were employed in conjunction with a wooden platform raft to transport passengers and their goods across the river. Although concrete bridges were constructed in the area around 1912, the 106-foot span was beyond the concrete bridge technology of that time. An original steel Pratt truss bridge was designed by then-County Engineer **J.H. Moragne**, fabricated by Hamilton and Chambers Company of New York, and was erected by Honolulu Iron Works in 1912.

By 1967, Warren "pony" trusses were constructed by Hawaiian Dredging Company on the outside of the 1912 truss, thus increasing the load capacity of the bridge.

In the late 1970's, the Hanalei Bridge became the focus of controversy between HDOT officials, having plans for a replacement two-lane bridge, and vocal community

members wanting to preserve the one-lane bridge with its historic look. The bridge achieved notoriety when it was featured on the cover of Conde Nast magazine naming it "most dangerous bridge". In 1978, the Secretary of the Interior determined that the Hanalei Bridge was eligible for inclusion in the National Register of Historic Places. Subsequently the historic bridge was preserved and was designated as the first case

in Hawaii of "a positive resolution of a dispute via mediation between a Hawaii state government agency and the public". Major rehabilitation and repair projects were completed in 1982 and again in 1988. **Dr. Abba Lichtenstein**, a noted historic bridge expert and structural engineer, was retained by HDOT to evaluate the bridge and design the

1988 repairs. But by the mid-1990's, the original 1912 truss had fallen victim to severe corrosion of its structural steel members from the wet conditions of the North Shore, prompting safety concerns and a community outcry for further repair work.



The maile lei unwrapping ceremony and bridge dedication led by **Pastor Richard Kamanu**.

(Continued on Page 8)

HAWAII DOT RESEARCH PROGRAM

By Steven Ege, HDOT Materials Testing & Research Branch

The following research projects were given notices to proceed in January and February of 2004. These projects are funded by the Federal Highway Administration through the State Planning and Research Program and administered by the Materials Testing & Research Branch of the State of Hawaii, Department of Transportation, Highways Division.

Title: Effect of Polymer Modified Asphalt Binders on the Performance of the Asphalt Concrete Mixes used in Hawaii.

Research Organization: University of Hawaii,

Principle Investigator: Assistant Professor Adrian Ricardo Archilla

Need for the Research Project:

Research done in locations other than Hawaii indicates that asphalt concrete mixtures produced with polymer-modified asphalt binder can be a cost effective method to reduce pavement distress. Conditions, such as type of aggregate and environment, at the locations where these results were obtained differ significantly from the conditions in Hawaii therefore validation of these results for conditions in Hawaii is required before polymer-modified asphalt binder can be used with confidence in Hawaii.

Research Objectives:

1. Confirming the inadequacy of existing binder characterization protocols to rank the polymer-modified binders relative to the contribution to mixture damage and validating the usefulness of recently proposed protocols for neat asphalt binder characterization;
2. Evaluating, through extensive laboratory testing of asphalt concrete mixes, the improvements in rutting performance of mixes prepared with the different polymer-modified asphalt binders locally available over mixes prepared with neat asphalt binders under different loading and environmental conditions;
3. Providing information useful to produce test sections for field validation and for the development of pavement deterioration models for Hawaii; and
4. Providing an estimate of the life cycle costs associated with the use of modified asphalt binders assessing their feasibility for use in Hawaii.

Title: Simulation of Westbound Interstate H-1 Freeway Between the Airport Viaduct and Waikele During Weekday Peak

Research Organization: University of Hawaii,

Principle Investigator: Associate Professor Panos D.Prevedouros

Need for the Research Project:

This project will help the Hawaii DOT evaluate alternate westbound improvements to the H-1 Freeway, in addition to the planned westbound lane between the Kaonohii Street Bridge and the Pearl City off ramp, to determine the most effective solution for reducing traffic delay and to prevent solutions that moves traffic flow problems from one area of the freeway to another area of the freeway. Cost, feasibility, and environmental impacts of the traffic solutions are not addressed in this project.

Research Objective:

Establish a reliable representation of current traffic conditions for a freeway simulation model that can be use to determine:

1. Traffic impacts of the planned additional westbound lane on the Waimalu Viaduct.
2. The need for and benefits of adding a second lane to off-ramp 8-B to Waipahu (after a westbound lane is added on the Waimalu Viaduct).

(Continued on Page 11)

MUTCD NEWS

By C.S. Papacostas, Hawaii LTAP

On November 20, 2003, the Federal Register (Volume 68, Number 224) published a final rule relating to the Manual of Uniform Traffic Control Devices (MUTCD). Specifically, the purpose of the rule was

"to revise standards, guidance, options, and supporting information relating to the traffic control devices in all parts of the MUTCD, to expedite traffic, promote uniformity, improve safety, and incorporate technology advances in traffic control device application. The MUTCD, with these changes incorporated, is being designated as the 2003 edition of the MUTCD."

The federal register specified that the final rule was to take effect on December 22, 2003.

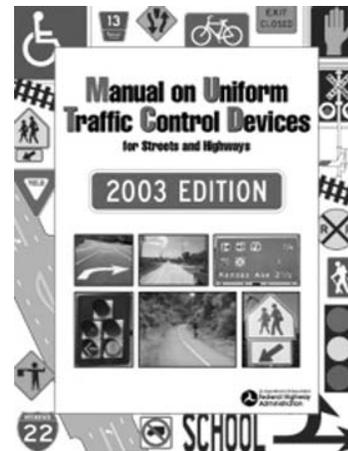
Originally, the new 2003 Edition of the MUTCD was to be designated as Revision No. 2 of the Millenium (2000) Edition. However, based on comments from the American Association of State Highway Officials (AASHTO), the American Traffic Safety Services Association (ATTSA), the Institute of Transportation Engineers (ITE) and others, it was deemed that the changes were of sufficient magnitude to warrant a designation of a new edition of the manual.

According to an FHWA press release dated 9/26/03, major revisions include traffic control for older drivers,

traffic control for incident management, pedestrian and bicycle safety, and safety in work areas.

The new edition, is available for downloading on the MUTCD Internet site maintained by the Federal Highway Administration (FHWA), along with the previous version of the MUTCD. The 2003 edition, however, supersedes all previous editions and revisions of the MUTCD. Change and errata lists in PDF and HTML formats are also available on the MUTCD site (<http://mutcd.fhwa.dot.gov/>). The PDF files take precedence over any potentially conflicting HTML files.

An alternate way of obtaining a hard-copy version of the new manual is via AASHTO, ATTSA or ITE.



Better Mousetrap?

Have you or one of your co-workers built a better mouse trap recently? A modified gadget? An improved way to do a job?

Please let us know about it. The best entries will be featured in a future issue of Hawaiian Connections.



Your Name and Phone Number:

Inventor's name and phone:

Invention:

Please fax this form to (808) 956-8851.

NEWS FROM OUR PARTNERS...

American Society of Civil Engineers



By *Walter Billingsley, ASCE Hawaii Section Vice President*

AN ORDER OF THE ENGINEER RING CEREMONY WILL BE HELD AT THE ASCE APRIL DINNER MEETING APRIL 15, 2004 AT TREETOPS RESTAURANT, MANOA VALLEY



ASCE Hawaii Section President, **Westley Chun**, invites you to participate in the Order of the Engineer Ring Ceremony to be held in conjunction with the April 2004 Dinner Meeting of the ASCE Hawaii Section. **Patricia Galloway**, ASCE National President, will preside over the Ring Ceremony.

The Order of the Engineer was initiated in the United States to foster a spirit of pride and responsibility in the engineering profession, to bridge the gap between training and experience, and to present to the public a visible symbol identifying the engineer. The first Ring Ceremony was held on June 4, 1970 at Cleveland State University. Others like it have since spread across the United States at which graduate and registered engineers are invited to accept the Obligation of the Engineer and to wear a stainless steel ring.

The Ring Ceremonies are conducted by Links (local sections) of the Order, of which ASCE National is one. Over 300 ASCE members have participated in ASCE led Ring Ceremonies since Spring 2003. More information on the Order of the Engineer can be found at www.order-of-the-engineer.org.

Any engineer is eligible for induction into the Order of the Engineer if he or she has graduated from an ABET-accredited engineering program or holds a license as a Professional Engineer. Students enrolled in ABET-accredited engineering degree programs are eligible if they are within two academic terms of graduation. Guests are welcome to witness the induction ceremony.

Participants at the ASCE Hawaii Section Dinner Meeting Ring Ceremony will take the Obligation of the Engineer and receive a stainless steel ring. The cost for the Ring Ceremony will be \$10.00. Engineers need not be civil engineers or members of ASCE to participate in the Ring Ceremony. A registration form for the Ring Ceremony and a ring sizing chart to assist in determining your ring size is available from the ASCE Hawaii Section website at www.asce-hawaii.org.

For additional information on the Ceremony, please contact: **Walter Billingsley**, ASCE Hawaii Section Vice-President, at 846-3232 or wbillingsley@beltcollins.com.

Hawaii Asphalt Paving Industry



By *John Dupuis, HAPI Secretary*

HAPI is proud to announce that we'll be teaming up with LTAP to bring a 4 part hot mix asphalt seminar series to the state. The four basic seminars will be: Hot Mix Asphalt Basics, Hot mix Asphalt Pavement Design, Hot Mix Asphalt Construction, and Hot Mix Asphalt Rehabilitation and Maintenance. The first in the series; Hot Mix Asphalt Basics, has been scheduled for sessions in Maui on March 30, Hilo on March 31 and Honolulu on April 2nd. Be sure to contact LTAP to reserve a seat as we'll also be handing out our new CD-ROM of the HAPI Pavement Guide. **Steve Muench** from the University of Washington will be the lead speaker for the seminar and is also the author of the HAPI Pavement Guide so we're looking forward to a very informative session. The 2nd annual Steve Fong Scholarship Golf Tournament is being planned for the third week in August so be sure to mark your calendar to attend this worthwhile event. HAPI wishes you happy and safe driving during this wet spring season.

NEWS FROM OUR PARTNERS...(Continued from page 4)

Cement and Concrete Products Industry



By Wayne Kawano, CCPI of Hawaii

Aloha!

CCPI continues its activities towards promoting the concrete industry in Hawaii. Recently, at the BIA Home & Remodeling Show, we participated in the "Hawaii Built Green Interactive Exhibits: Creating High Performance Homes, While Protecting our Environment".

We were able to show and explain to the public the surprising environmental benefits of concrete. For example, the thermal mass of concrete buildings saves energy by reducing temperature swings; concrete can be recycled or use recycled materials. When you consider that concrete is strong, adaptable and resistant to fire, water, and weather, there's little wonder it has a longer service life than wood, steel, or other construction products. Its durability conserves resources by reducing maintenance and the need for reconstruction.

Related to environmental concerns, we also had an exhibit on 'pervious' concrete pavements. The Environmental Protection Agency Stormwater Management has mandated public agencies to control rainfall runoff water as well as contaminants in our waterways. An innovative solution is pervious concrete pavements, which allows rainwater to seep through the pavement and to replenish the groundwater aquifer naturally - Great application for parking lots, walkways, or pathways. No standing water, no costly drainage infrastructure, cooler pavement temperatures, and easy maintenance. Pervious concrete is your normal concrete without the fines (sand) and 3/8" chip aggregates. Please call us for more information.

We are certainly looking forward to participating in joint workshops with LTAP later this year.

Mahalo!

Institute of Transportation Engineers



By Susan Uejo, ITE Vice President

The Institute of Transportation Engineers Hawaii Section will be sponsoring a golf tournament at the Hawaii Prince Golf Course, Ewa Beach, Oahu, on Friday, April 30, 2004. First check-in time is at 10:45 a.m. and the first tee time will start at 11:30 a.m. Cost is \$65.00 per person which includes green fee, cart, light pupus and prizes. Non-golfers are welcome to join us for pupus at 3:00 p.m. for \$10.00 per person. Early reservations are encouraged. Please contact **Susan Uejo** at (808) 521-5361 for further information.

American Public Works Association



By Rouen Liu, APWA Hawaii Chapter President

Our APWA National President, **Mr. Dwayne Kalynchuk**, visited this past February from Edmonton, Alberta, Canada. We joked with him how our freezers are warmer than the winter climate he comes from. Although Dwayne and his son Adrian did get a taste of Hawaii in their short stay, we made sure to introduce Dwayne to some key figures in Hawaii to share with them APWA's views on infrastructure. We met with Mayor **Jeremy Harris**, Senator **Robert Bunda**, Senate President, and **Calvin Say**, Speaker of the House. Overall, I'd say it was a positive step for APWA's Hawaii Chapter in taking a proactive approach at getting our infrastructure message out and establishing the connection. And, of letting key people know who they can call (APWA) for information to help them make better decisions for the people of Hawaii.

WHAT'S NEW?

Pedestrian Safety

Wayne Kaneshiro of the Hawaii Division of FHWA keeps us informed of developments in Pedestrian and Bicycle Safety.

In this issue, he brings to our attention the publication "Accessible Sidewalks and Street Crossings: On the Safe Side" (FHWA-SA-03-017). It is a newly released poster-sized brochure that condenses much of the information in the "Designing Sidewalks and Trails for Access: Best Practices Design Guide." One side of the poster has information on the legal framework for the Americans with Disabilities Act (ADA) of 1990, understanding sidewalk users, sidewalk corridors, sidewalk grades and cross slopes, sidewalk surfaces, protruding objects in the

pedestrian environment, driveway crossings, curb ramps, accessible pedestrian signals, and pedestrian crossings. Much of the second side of the brochure contains a map that demonstrates how various ADA treatments look in the roadway environment.

And for those who prefer a booklet format rather than a poster, there is "Accessible Sidewalks and Street Crossings: an Informational Guide" (FHWA-SA-03-019), which has all of the information as the poster sized document, but without the map. The booklet is 40 pages long spiral-bound. For more information, contact **Leverson Boodlal**, Pedestrian Safety Consultant to FHWA, at 202-366-8044 or at leverson.boodlal@fhwa.dot.gov.

Pennsylvania Department of Transportation's Transportation University

By Juli Kobayashi, Hawaii LTAP

While attending the annual Transportation Research Board Meeting in Washington D.C. this January, I went to a very interesting session that focused on workforce development. Part of the session featured the Pennsylvania Department of Transportation's (PennDOT) Transportation University (TU). This corporate university was designed to develop a more agile workforce and to provide a core of technical training, focus on problem solving skills, analyze the workforce to anticipate new skill needs as well as potential skill loss, provide an orientation to motivate new employees, and finally to orient partners of PennDOT.

The mission of the TU is to provide products and services including the delivery of competency and development, experiences, processes, and consulting services, which support the achievement of PennDOT's goals and objectives. The TU implements a competency-based training approach that assists an employee's professional growth.

One of the great resources that the TU produces is their Position Analysis Workbooks (PAWs). It is used as a guide for developing educational opportunities targeted to workplace needs. Each PAWs contains the duties and related tasks that a position may entail. It also lists the skills, knowledge and competencies that are required for each duty. There is a list of recommended courses that



an employee should take and coaching/on-the-job training that they should receive. The workbook also includes a self-assessment/mentor's assessment, a suggested curriculum, an action plan for professional development and resources that are available.

Employees may use PAWs to help plan their own professional development, cross-training experiences and promotional opportunities. Supervisors, mentors and coaches can use PAWs as a guide to make certain that their protégés and subordinates receive suitable learning experiences.

Some of the ways that PAWs may be able to assist your organization are:

- Interviewing job candidates
- Orienting a new employee
- Structuring cross-training experiences
- Planning training and developmental activities
- Preparing for promotion
- Developing an Action Plan for learning

For more information on a particular position, please log on to their website at www.dot.state.pa.us.

WHAT'S NEW (Continued from page 6)

511 Traveler Information

Compiled by Gail Ikeda, Hawaii LTAP



An easy-to-remember three-digit telephone number, regardless of the traveler's location, is intended to give travelers' choices - choice of time, choice of mode of transportation, choice of route - which save lives, time and money.

A 511 system relies on intelligent transportation systems technologies to collect and disseminate traveler information. Callers access the service by dialing 511 from any telephone. They hear a menu of available information on highways and public transit and indicate their choices by using the telephone's touch pad or, for systems with voice recognition technology, by voice. Some 511 systems offer premium services such as personal routing instructions or reservation services, which may involve additional charges.

On March 8, 1999, The U.S. Department of Transportation (USDOT) petitioned the Federal Communications Commission (FCC) to designate a nationwide three-digit telephone number for traveler information. This petition was formally supported by 17 State DOTs, 32 transit operators, and 23 Metropolitan Planning Organizations and local agencies. On July 21, 2000 the Federal Communications Commission designated "511" as the single traffic information telephone number to be made available to states and local jurisdictions across the country.

The FCC ruling leaves nearly all implementation issues and schedules to state and local agencies and telecommunications carriers. There are no Federal requirements and no mandated way to pay for 511; however, USDOT and FCC expect to see some type of nationwide deployment. In 2005, the FCC will review progress in implementing 511.

While the flexibility provided in the FCC ruling is highly desirable, it also presents a challenge. There is a great deal of interest in using 511 throughout the U.S. It is expected that there will be multiple requests for 511, at least in some parts of the U.S., from DOTs, transit agencies, regional and local transportation agencies, as well as private service providers who will offer to implement 511 services for some sort of compensation. If not thoughtfully planned, 511 services could devolve into an inconsistent set of services widely varying in type, quality and cost.

The goal of the 511 Deployment Coalition is "the timely establishment of a national 511 traveler information service that is sustainable and provides value to users." The intent is to implement 511 nationally using a bottom up approach facilitated by information sharing and a cooperative dialogue through the national associations represented on the Policy Committee, the governing body of the program. The mission of the Policy Committee is to provide guidance on how to achieve this goal.

Current active 511 systems:

Cincinnati / Northern Kentucky
 Nebraska
 Utah
 I-81 Corridor in Virginia
 Arizona
 Orlando
 Minnesota
 Southeast Florida
 Washington State
 Iowa
 South Dakota
 Kentucky Statewide
 San Francisco Bay Area
 Montana
 Vermont
 North Dakota
 Alaska
 Maine
 New Hampshire

For more information and additional resources visit www.fhwa.dot.gov/trafficinfo/511htm.

HISTORIC LOOK GRACES NEW HANALEI BRIDGE

(Continued from page 1)

In July 1998, Wilson Okamoto and Associates of Honolulu was retained to perform load testing of the bridge and prepare a repair-or-replace alternatives analysis. U.H. Professor **Dr. Harold Hamada** supervised the load testing. Two public informational meetings were held, in August 1998 and in March 1999 following completion of the load testing and alternatives report. The community rallied behind the steel truss one-lane bridge replacement alternative. Wilson Okamoto with sub-consultant **Dr. Lichtenstein** designed the replacement Pratt truss and repairs to the Warren trusses which had since exhibited corrosion particularly at bolted connections. The deteriorated truss was wrapped with wire mesh as a temporary measure to control falling debris until a more permanent solution could be implemented. In accordance with Section 106 of the National Historic Preservation Act of 1966, a Historic American Engineering Record historic documentation archival process was completed prior to the removal of the 1912 truss.

In 1999, U.S. Senator **Daniel Inouye** stepped to the plate and was successful in securing 100% Federal construction funding through the Federal Lands Program, for the rehabilitation of the Hanalei Bridge.

In September 2001, the contract was awarded to Abhe and Svoboda, Inc.

There were several challenges that arose and were addressed during the construction phase. Since the one-lane crossing is the only road into and out of the communities of Hanalei, Wainiha, Haena, and the world-class trail into Na Pali Coast State Park, careful planning was needed to minimize bridge closures for critical operations such as replacing the floor beams supporting the wood plank deck. A "Safe Span" access platform was installed underneath the bridge deck to accommodate construc-

tion workers and their light equipment, and to allow for removal of the Pratt truss. The allowable closure hours were modified and reduced to facilitate local businesses' employees returning home, and a telephone information line combined with changeable advisory signs notified motorists of upcoming closure dates and times. To comply with environmental laws, a debris catchment system was in place to keep Hanalei River pristine, and specialists were employed to facilitate and monitor lead-containing paint removal operations. Construction work was completed in September 2003 at a cost of approximately \$1.9 million.

The maile lei unwrapping ceremony and bridge dedication held on November 8, 2003 at the bridge site was led by **Pastor Richard Kamanu** of the Kapaa First Hawaiian Church and Master of Ceremonies **Steven Kyono**, Kauai District Engineer. The Federal, State and Kauai County dignitaries included: keynote speaker U.S. Senator **Daniel Inouye**; Federal Highway Administration Hawaii Division Administrator **Abraham Wong**; State Senator **Gary Hooser**; State Representative **Hermine Morita**; HDOT Deputy Director **Bruce Matsui**; HDOT Highways Administrator **Glenn Yasui**; Kauai Mayor **Brian Baptiste**; and Hanalei Roads Committee co-chairs **Carol Wilcox** and **Barbara Robeson**. Also in attendance were **Gary Okamoto** and **Myron Okubo** from design firm Wilson Okamoto and Associates; **Sonny Leong**, construction manager with KFC Airport Inc.; and foreman **Francisco Sierra** of Abhe and Svoboda; along with approximately 30 community members.

HDOT has recognized the importance of the historic Hanalei Bridge to the North Shore of Kauai, and believes the rehabilitation project to be an outstanding example of State government and a supportive local community working together.



Old Hanalei Bridge (right) and the new reconstructed Hanalei Bridge (left).



Free Publications

1. **FHWA-RD-93-070** - Evaluation of Natural Sands Used in Asphalt Mixtures
2. **FHWA-RD-93-076** - The History of the Prestressing Strand Development Length Equation
3. **FHWA-RD-93-080** - Potential Safety Applications of Advanced Technology
4. **FHWA-RD-93-122** - Conceptual Plan For an Interactive Safety Design Model
5. **FHWA-RD-93-129** - Curved Steel Bridge Research Project , Interim Report I, Synthesis
6. **FHWA-RD-93-147** - A Study of the Use of Recycled Paving Material - Report to Congress
7. **FHWA-RD-93-155** - The Semi-Infinite Plate on the Winkler Base, Free Along the Edge, and Subjected to a Vertical Force
8. **FHWA-RD-93-158** - Comparable Systems Analysis: Evaluation of Ten Command Centers as Potential Sites
9. **FHWA-RD-93-161** -Safety Impacts of Different Speed Limits on Cars and Trucks, Final Report
10. **FHWA-RD-93-163** - Nationally Coordinated Program of Highway Research, Development, and Technology: Annual Progress Report Fiscal Year 1993
11. **FHWA-RD-93-168** - Older Driver Perception-Reaction Time for Intersection Sight Distance and Object Detection - Final Report, Volume I
12. **FHWA-RD-94-001** - Cathodic Protection Developments for Prestressed Concrete Components
13. **FHWA-RD-94-002** - A System for Calibration of the Marshall Compaction Hammer
14. **FHWA-RD-94-034** - Horizontal Alignment Design Consistency For Rural Two-Lane Highways
15. **FHWA-RD-94-035** - Relative Visibility of Increased Legend Size vs. Brighter Materials
16. **FHWA-RD-94-042** - A Simplified Field Method for Capacity Evaluation of Driven Piles
17. **FHWA-RD-91-012** - Effects on Safety of Pavement-Truck Tire Interaction
18. **FHWA-RD-91-013** - Laboratory Evaluation of Verglimit and Plusride
19. **FHWA-RD-91-014** - Application of New Accident Analysis Methodologies Volume II: A Users Manual for BEATS
20. **FHWA-RD-91-015** - Application of New Accident Analysis Mehodologies: Volume III: Theoretical Development of New Accident Analysis Methodology

**We are cleaning and reorganizing the Transportation Library!
Please take the time to review this list. Any remaining copies will
be discarded by JUNE 30, 2004.**

Hawaii LTAP Transportation Library

The Hawaii Local Technical Assistance Program Library is located in Holmes 207 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

Publications –
www.eng.hawaii.edu/~tlib

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

For more information, please contact us at 956-8719.



Director's Note

by C.S. Papacostas

As of this writing, the U.S. Congress and the Administration remain at odds about the new transportation bill, dubbed SAFETEA or "Safe, Accountable, Flexible, and Efficient Transportation Act" that was supposed to be enacted in 2003. Federal transportation-related activities are kept alive via continuing resolutions, that is, short-term extensions of the previous law, TEA-21.

As I promised last year, we at Hawaii LTAP have been making extra efforts to consolidate many of the numerous requests for training that we have received from you in order to maximize the effectiveness of our program. With the cooperation and support of one of our long-standing partners, the Hawaii Asphalt Paving Industries (HAPI), we have developed a comprehensive series of four workshops dealing with the major aspects of asphaltic pavements. The workshops will be offered during the rest of the year at multiple locations throughout the state. For a summary of the workshops, please take a look on page 4.

Along the same line of attack, we are discussing with our other industrial partners as well as the Federal Highway Administration and the Hawaii Department of Transportation ways by which we can pull our resources together to optimise program delivery.

Having made the round of all four counties, the most successful annual overseers/superintendents conference is being planned for Maui where it all started. This meeting has grown into a very valuable means of technology transfer. Once again, I strongly encourage county public works personnel to submit the "better mousetrap" entries for this year. Page 3 includes a nomination from that can be used for this purpose. As it has been our past practice, we intend to feature the nominated devices in future issues of the newsletter.

Finally, I hope that, by the time you receive this newsletter, our funding for the balance of this year would be secured.

Program Manager's Note

by Juli Kobayashi

This January, I attended the Transportation Research Board (TRB) Meeting in Washington D.C. Although it was bitterly cold, I felt that it was a great opportunity to participate in some very informative sessions. Since there are so many sessions occurring at the same time during TRB, I focused on the events relating to training, education and workforce development. A particularly interesting session entitled, "Reshaping the Workforce", focused on the Pennsylvania Department of Transportation's Transportation University (see page 6 for more details). Another interesting session focused on technology transfer and how to determine if it was successful. This will help in determining the effectiveness of the training that we sponsor and to ensure that the training was beneficial to the participant.

Also at TRB, I received some very informative material from the exhibitors, such as: Transportation Asset Management, Porous Elastic Road Surface, new Priority, Market-Ready Technologies and Innovation information from the Federal Highway Administration to name a few. You are more than welcome to contact me if you are interested in reading any of these materials.

Another principal reason why I attended the TRB Meeting was to go to the National LTAP meeting and the LTAP Clearinghouse meeting. An important issue that was discussed was the national LTAP/TTAP strategic plan and how that will affect all the LTAP/TTAP programs. We are looking at different ways of assessing our program through collecting data and performance measures.

All the information that I received from attending the TRB Meeting will be helpful to the Hawaii LTAP Program as we plan for the future.

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*Hawaiian Connections features scenic pictures from various locations in Hawaii.

In this issue, we are featuring the island of Oahu which is nicknamed 'The Gathering Place'. On the cover is **Chinaman's Hat**, located off Kualoa Point and on the back is the statue of **King Kamehameha I**, located in front of Ali'iolani Hale.

HAWAII LTAP NEWS



The Hawaii LTAP would like congratulate **Rhen Yamamoto** who recently graduated with a Bachelor of Science degree in Civil Engineering. Rhen was with the program for four years and helped with day to day operations. He assisted in the coordination of the 2003 National LTAP-TTAP Conference held here in Hawaii. Throughout the years Rhen showed great dedication and a commitment to team work. Currently he is working as a Construction Engineer at Albert Kobayashi, Inc. We will truly miss him and wish him all the best in his future endeavors.

For upcoming workshops and past newsletters, visit our webpage at:
www.eng.hawaii.edu/~hltap/

HAWAII DOT RESEARCH PROGRAM (Continued from page 2)

3. The need for and benefits of adding a fourth lane to westbound H-1 through the Waiawa Interchange (after a westbound lane is added on the Waimalu Viaduct).
4. Traffic impacts of modifying high occupancy vehicle (HOV) lane requirements.
5. Benefits and drawbacks of adding a westbound afternoon contraflow lane which merges in t the north bound H-2, westbound H-1, or both a thte Waiawa Interchange
6. Benefits and drawbacks of metering access to the westbound H-1 from the Aiea/Halawa on-ramp, H-3 on-ramp, or both.
7. Other "what if" ideas selected by and oversight committee. For example, if State and City policy makers propose transit or highway improvements outside the H-1 corridor, the project model can be used to evaluate how diversion of traffic will reduce traffic delay on the westbound H-1.
8. Combinations of various scenarios selected by and oversight committee.

Title: Soil Investigation and Soil-Structure Interaction Modeling of the Kealakaha Bridge

Research Organization: University of Hawaii,

Principle Investigator: Associate Professor Ian N. Robertson

Need for the Research Project:

The use of nonlinear software codes is being proposed to model the response of the Kealakaha Bridge to seismic events of moderate to high intensity for comparison to the actual response of the structure. The model requires data that is currently unavailable on the dynamic soil properties and on the nonlinear response of the soil to large deformations. Data on the structure's actual response to seismic events, ambient traffic, thermal effects, and the long-term effects of creep and shrinkage is currently being collected by another research project which is monitoring the instrumentation installed on the bridge by that research project.

Research Objective:

1. Develop a soil-structure interaction procedure for use in design of pile foundations in weathered basalt.
 2. Record the response of the structure during earthquake activity.
 3. Evaluate soil-structure interaction model developed by this research project against the actual bridge performance.
-



HAWAII LOCAL TECHNICAL ASSISTANCE PROGRAM

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The Hawaii Local Technical Assistance Program (LTAP) is a cooperative program of the University of Hawaii Department of Civil and Environmental 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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