

# R. GARY HICKS, Ph.D., P.E.

Technical Director  
CP2 Center  
rghicks@esuchico.edu

## EDUCATION

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<b>Ph.D. University of California</b>	<b>1970</b>
Civil Engineering	
<b>M.S. University of California</b>	<b>1965</b>
Civil Engineering	
<b>B.S. University of California</b>	<b>1963</b>
Civil Engineering	

## TEACHING EXPERIENCE

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Upon completing his Ph.D. in 1970, he joined the faculties of civil engineering at Georgia Tech in 1971 and Oregon State University in 1975. Dr. Hicks retired in 1997.

## LICENSES

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State of California, Registered Civil Engineer  
State of Oregon, Registered Civil Engineer  
State of Alaska, Registered Civil Engineer

## CAREER SUMMARY

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Joined MACTEC in December 2000 as a Senior Principal Engineer with over 35 years of experience in research and practical training in the areas of pavement materials, pavement design and evaluation, maintenance and rehabilitation of highway pavements. Has supervised and/or carried out transportation studies totaling over \$40 million. Worked on significant projects such as the 1972 and 1986 AASHTO Guide for Design of Pavement Structures and was project manager for Phase 1 of the AASHTO 2002 Design Guide (NCHRP Project 1-34). Was Project Manager on 2 projects to provide on-call consulting in the area of pavements to Caltrans (3 year study for \$7,000,000) and the San Francisco airport (2-year study for \$500,000).

Considered an authority in pavement design and pavement maintenance and rehabilitation. Has participated in many projects related to the design, evaluation, maintenance and rehabilitation of highway pavements using innovative approaches and materials. Has been principal investigator on several projects dealing with the pavement preservation and pavement maintenance techniques for state and federal agencies, and for industry. Played a major role on the \$10 million SHRP Project A-003A entitled Performance-Related Testing and Measuring of Asphalt-Aggregate Inter-actions, and served as a principal investigator in a \$2.5 million FHWA contract titled Crumb Rubber Modifiers in Asphalt Pavements.

## REPRESENTATIVE PROJECT EXPERIENCE

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**Caltrans.** Worked for and with Caltrans throughout career, including:

- Five years as an employee of Caltrans responsible for roadway surveying, material testing, and construction quality control.
- Conducted an extensive field evaluation of the modified binder (containing asphalt rubber) specification proposed by Caltrans for the Asphalt Paving Association. This involved field evaluations of pavement failures and laboratory testing and analysis to determine the causes of the failures. Also conducted a study on the cost effectiveness of asphalt rubber using Lifecycle Cost analysis.

- Currently, serves as project manager for an on-call consulting contract with the flexible pavements group. This has included work on a variety of topics including pavement maintenance and rehabilitation, pavement recycling, evaluation of new pavement products, field failure investigations, and conducting training in a variety of these topics. One of the major tasks is the development of the maintenance technical advisory guide (MTAG).

**Oregon DOT.** Developed a mechanistic design procedure for use by the State highway department. The project included laboratory and field materials testing, analysis, reporting and implementation through several training sessions. Also developed performance related specifications for asphalt concrete mixes used in Oregon. This study involved field investigations, laboratory testing using performance tests and development of pay factors - both incentives and disincentives for these types of mixes. Developed mix design procedures and structural equivalencies for open graded mixes and cold in-place recycled mixes used in Oregon. The study involved the use of field evaluations, laboratory testing and analysis and implementation of findings through training sessions.

**Federal Highway Administration.** Conducted a pooled fund study to evaluate current practices in the USA on the use of asphalt rubber for hot mix and for chip seals. The study involved field evaluations of pavements, meetings with State highway officials in selected states, and a state of the practice report, which included information on mix design, structural design and construction.

**Strategic Highway Research Program.** Co-investigator on a \$10 million research effort to develop improved performance tests for asphalt mixtures. Performance tests were developed for fatigue, rutting, thermal cracking, aging, and moisture sensitivity. As such he is familiar with the SHRP products, their strengths and limitations.

**Alaska DOT.** Developed a mechanistic design procedure for flexible pavements. Also evaluated the use of asphalt rubber for applications in Alaska. Both studies involved field evaluations of pavements, laboratory testing, analysis and implementation through training workshops.

**Pavement Training.** Conducted numerous workshops and seminars while at Georgia Tech and Oregon State University for state agencies and others in the areas of pavement design and rehabilitation, preventive maintenance techniques, pavement evaluation techniques, laboratory testing methods for pavement materials and mixes.

## PUBLICATIONS

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**Publications.** Over 150 publications on pavement evaluation, pavement design and materials testing. These have been presented and/or published in national or international conferences.

Authored numerous publications in these areas and lectured throughout the world on these topics. Co-authored with Clarkson Oglesby of a textbook *Highway Engineering*. Active in professional organizations such as the Transportation Research Board (TRB), the Association of Asphalt Paving Technologists (AAPT), American Society of Civil Engineers (ASCE), International Society of Asphalt Paving (ISAP) and the Foundation for Pavement Preservation (FPP).