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SOME PLEASANT SURPRISES ABOUT THE PERFORMANCE OF RECYCLED CONSTRUCTION MATERIALS

by

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Time: **11.00 am to 12.00 noon**
Venue: **Main Bldg Room 151, The University of Hong Kong, Pokfulam Road, Hong Kong**

ABSTRACT

As the existing inventory of infrastructure accumulates, an attractive source for construction materials is material recycled from the old infrastructure. This is especially true for road and highway infrastructure, because recycling the materials in-place eliminates hauling expense. Although recycled materials are more variable than new materials and their performance is difficult to predict, they may bring benefit to the constructed facility in ways that are different from those of new materials.

In this presentation the performance of recycled pavement materials used for base or intermediate pavement layers is examined. Both Cold In-place recycled asphalt roads and recycled Portland cement concrete pavements will be discussed. In both cases, the performance of the recycled pavements was as good as or better than the non-recycled alternative. An analysis of field and laboratory testing is reviewed to identify characteristics that are associated with good performance. The results are somewhat counterintuitive, because some of the characteristics that would be associated with poor performance in new materials appear to be associated with good performance in the recycled materials. Conclusions are drawn on how the use of these recycled materials affects design and construction processes.

ABOUT THE SPEAKER

Charles T. Jahren is the Warren Scholar for Distance Education in Civil Engineering and an Associate Professor of Construction Engineering at Iowa State University. He also serves as the Editor-in-Chief of the American Society of Civil Engineers (ASCE) Journal of Construction Engineering and Management, Chair of the ASCE Construction Engineering Education Committee and a member of the Transportation Research Board Pavement Maintenance Committee. He earned is Bachelor of Science in Civil Engineering and his Master of Business Administration from the University of Minnesota and his PhD in Civil Engineering (Construction Engineering and Management Emphasis) from Purdue University. He has prior experience as an Assistant Professor at the University of Washington and over six years of industrial experience as a bridge construction project engineer for a construction contractor and as a research engineer for the Navel Civil Engineering Laboratory in Port Hueneme California. His teaching interests include construction equipment, cost estimating and construction process design. His research interests include highway and heavy construction methods, road maintenance methods and innovations in construction process administration.

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