

# **53rd Paving and Transportation Conference 2016**

Albuquerque, New Mexico, USA  
4 - 5 January 2016

Volume 1 of 2

ISBN: 978-1-5108-4739-2

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2016) by Department of Civil Engineering-University of New Mexico  
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact Department of Civil Engineering-University of New Mexico  
at the address below.

Department of Civil Engineering-University of New Mexico  
MSC01 1070  
1 University of New Mexico  
Albuquerque, NM 87131  
USA

Phone: (505) 277-2722

Fax: (505) 277-1988

civil@unm.edu

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: curran@proceedings.com  
Web: www.proceedings.com

## Contents

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
State of State Transportation	Tom Church	12
Innovations in Paving and Transportation – FHWA Perspective	Walter Waidelich, Jr.	15
Transportation Funding: Challenges and Opportunities	Paula Hammond	32
SHRP-2 IAP Renewal Update – Pavement Products	Steve Cooper	52
MAP-21 Performance Measures and NMDOT Transportation Asset Management Plan	Tammy Haas	92
Local to Federal Funding: the Detours of 98 <sup>th</sup> Street	Kellie Shaw and Eric Froberg	113
Introduction to the National Center for Rural Road Safety	Natalie Villwock-Witte	144
Introduction to Intelligent Compaction	George Chang	170

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
NM Fisher 529 Project – Contractor’s and NMDOT’s Perspectives	Shawn Hammer and Donna Gililland	221
IC Retrofit System	Dennis Kelly	264
Small Growth, Environmental Justice and Exposure to Toxic Air Pollutants: Competing Regional Transportation Planning Objectives	Mohammad Tayarani, Amir Poorfakhraei, Razieh Nadafianshamabadi, and Gregory Rowangould	280
PROWAG 101	Jill Mosher	297
Evaluating Complete Streets Projects Around New Mexico	James Foty	319
Getting the Most from Roadway Investments	Leif Wathne	382
Clovis Street Construction	Billy Copeland, Patricio Garcia and Lee Montoya	439
2015 Roadway Bicycle Guideline Map	Rosa Kozub	481

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
The Effect of Bicycle Facilities on the Decision to Commute by Bicycle: New Evidence from Albuquerque, New Mexico	Gregory Rowangould	494
Albuquerque Bike Share Program	Valerie Hermanson	518
Recycling & Thin Hot Mix Overlay	Buzz Powell	536
Mix Design Using Emulsions and Challenges	Everett Crews	562
Tack Coat Best Practices	Dave Johnson	601
Pueblo of Laguna Bicycle and Pedestrian Route Project	Sharon Hausam and Mike Brazie	623
Road Safety Audit San Mateo and Central	Kristal Metro	646
Safety Performance Evaluation of Rumble Stripes with Elements: an Empirical Study on U.S. 285 in New Mexico	Cong Chen, Qiong Wu, Rafiqul Tarefder, Timothy Parker, Francisco Sanchez and Guohui Zhang	671

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
Sustainable Pavement Development Through Recycling	James Emerson	702
Chip Seal with Millings	Mo Moabed	753
Sustainable Flexible Pavements	Everett Crews	779
Highway Safety Manual	John Nitzel	814
Strategic Highway Safety Plan and Highway Safety Improvement Program	Jessica Griffin	841
Road Safety Audits	Afshin Jian	861
Full-depth Recycling & Soil-cement	Jamie Johnson	890

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
LTPP SPS-10 Experiment: Construction Practice and Preliminary Outcome	Tahmidur Rahman	932
RCC Construction for Pavement Applications	Kevin Wentland	962
GIS & Civil 3D Tools for Drainage Analysis	Mike Brazie and Judith Brazie	1003
Mobility Mindset of Millennials in Small Urban and Rural Areas	Natalie Villwock-Witte	1039
Proper Technique and Applications of Loop Detection	Matt Zinn	1069
Sinkholes as Transportation and Infrastructure Geohazards in Southeastern New Mexico	Lewis Land	1127
Automated Plate Load Testing of Geogrid Stabilized Aggregate Base	Aaron Schlessinger	1176

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
Positive Connection to Replace MSE Wall	Bryan Klock	1203