

# **51st Paving and Transportation Conference 2014**

**Albuquerque, New Mexico, USA  
6-7 January 2014**

**Volume 1 of 2**

ISBN: 978-1-63439-241-9

**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© (2014) by the Department of Civil Engineering-University of New Mexico  
All rights reserved.

Printed by Curran Associates, Inc. (2014)

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

Department of Civil Engineering-University of New Mexico  
MSC01 1070  
Albuquerque, NM 87131-0001

Phone: (505) 277-2722

Fax: (505) 277-1988

[civil@unm.edu](mailto: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: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## Contents

<b>Presentation</b>	<b>Presenters</b>	<b>Page</b>
NMDOT Repairing Damage Caused by Floods	Tom Church	11
To Live and Die By Gen Y	Todd Clarke	40
2040 Statewide Long Range Multimodal Transportation Plan	Claude Morelli	70
Map-21	Nathan Masek	101
New Mexico Strategic Highway Safety Plan	Afshin Jian and John Nitzel	105
Innovative Financing – Looking Ahead: Future Transportation Issues	Phillip E. Russell	130
Proper Loop Installations and Detector Setup	Matt Zinn	155
Complete Streets and Linking Transportation to Land Use: New Initiatives Coming up in the Metropolitan Transportation Plan	Julie Luna	179

I-25/Paseo del Norte Interchange Intelligent Transportation Systems	Paul Barricklow and Charles Remkes	220
RAP Binders and Materials	Rebecca McDaniel	248
RAP Usage in Asphalt Mixtures – A Contractor Perspective	Shawn Hammer	264
RAP Asphalt Pavement – NMDOT’s Perspective	James Gallegos and Jessica Sena	296
Formulating Alcohol-Impaired Driver Injury Severities in Intersection- Related Crashes in New Mexico	Qiong Wu, Cong Chen, and Guohui Zhang	304
Investigating the Effect of Impact Speed on Pedestrian Fatality in Traffic Accidents	Amir Poorfakhraei	328
Road Safety Audits: A Pathway to Complete Streets	Kristal Metro	347
Life-Cycle Cost Analysis for Concrete Pavements	Jamie Johnson	381
Full-Depth Reclamation with Cement	Don Clem	426

Concrete Overlays (Whitetopping)	Jamie Johnson	468
Modern Transportation Funding and the User Pays Principle	Aaron Fackler	514
Transportation to Better Health	Shannon Barnes, Christina Perea, Perdita Wexler, Kristine Tollestrup, Sue Forster-Cox	526
Central New Mexico Climate Change Scenario Planning Project	Aaron Sussman	549
Public Investment in Private Freight Rail Infrastructure	Gregory Rowangould	577
In Place Recycling Tests and Performance Based Specifications	Charlie Atherton	601
Controlling Quality – Cold In-Place Recycling	Darren Coughlin	621
Bounded Asphalt Overlay	Jeff Weitzel	650
Warm Mix – Where Are We Now	Bob Hicks and Mike O’Leary	678

Smart Growth and Affordable Housing Challenges	Matthew Palm	691
Pueblo of Laguna Bicycle and Pedestrian Planning and Design	Sharon Hausam	707
Integrating Shuttles at Chimney Rock National Monument	Valerie Hermanson	772
Creating Access to the Southwest's First Urban Wildlife Refuge	Marisa Rodriguez-McGill	787
Los Alamos Regional Multi-Use Path: Alternative Transportation and Recreation for Bandelier National Monument and Surrounding Communities	Lucy Gent Foma	797
Temperature versus Traffic Induced Fatigue Damage on I-40 Instrumented Pavement Section	Rashadul Islam	803
Results of Field Instrumentation to Study Temperature Effects on Pavements and Bridge Structures	Gerald Miller	858
Pueblo of Laguna 2013 Flood Impacts	Mike Brazie	912

Geosynthetic Technology for Roadway Design: Pavement Optimization	Aaron Schlessinger	946
Doing More with Less	Rusty Smallwood	984
Pavement Bond	Eric Tulk	1018
Soil Stability: Methods of Predicting Risk	John Gibbons, John Hawley, and Charles Reynolds	1078
Non-Destructive Testing of Unknown Bridge Foundations	Arup Maji, Tang-Tat Ng, Saman Rashidyan, and Michelle Mann	1090
Discrete Element Simulations of Granular Soils-Shaft Interaction of Smooth Drilled Shafts	Tang-Tat Ng and Robert Meyers	1107
Automated Data Collection	Kelly Montoya	1146
Custom Applications for Data Processing and Analysis	Michelle Langehennig	1165
On-Call (Rapid Response) Type Research	Virgil Valdez	1205

