



THE MILEPOST

THE QUARTERLY NEWSLETTER FOR THE NEVADA LTAP CENTER

JANUARY 2013



Table of Contents

New Moana Lane Interchange.....Page 2, 3
SurveyInsert
LTAP Staff.....Page 4

Upcoming Workshops



Reno

January 23, 2013—8 a.m.-12 p.m.
Asphalt Pavement Maintenance
Review and Update
TMCC Meadowood Center \$39

Elko

January 24, 2013—8 a.m.-12 p.m.
Asphalt Pavement Maintenance
Review and Update
Stockman's Hotel & Casino \$39

Las Vegas

March TBD
Traffic Engineering Fundamentals
Location TBD \$99

For more information or to register, call
the Nevada LTAP Center at 775-829-9046
or visit: <http://www.tmcc.edu/ltap/>

Hello and welcome to the Nevada Local Technical Assistance Program (NVLTAP)!

by Jim Nichols, PE, Nevada LTAP Center director

The new, reorganized NVLTAP is ready to serve you at Truckee Meadows Community College in Reno. My associate, Mindy Gonzalez and I, will work very hard to provide the most up-to-date technology from the transportation research and training in best practices and new procedures. The areas we will address are:

- Safety
- Infrastructure management and
- Workforce development

We plan to offer at least 30 courses around the state this year and are eager to hear your thoughts, needs and wants regarding what subjects you would like covered. We will publish the "Milepost" newsletter on a quarterly basis with announcements, tips and articles as to how you can improve your operations and provide a forum for your ideas which may help other agencies in Nevada.

Read on to find out how to reach us, our backgrounds and an article about the new Diverging Diamond Interchange which has just opened here in Reno. If you have projects of interest we would be happy to include them in future issues.

Mindy and I will be travelling around the state as classes are presented and we both look forward to meeting as many of you as possible.

Finally, we wish you and your families the best that the New Year can bring. Stay safe if you are travelling and enjoy the times with friends and family.

Happy New Year.

What workshops are important to you?

Please go to <https://www.surveymonkey.com/s/NVLTAP> by Feb. 15, and check the workshops you or your employees would like to attend. Also, let us know if your agency would like to host any of the workshops. If a workshop you are interested in is not listed, please write it in.



“I am excited about all this new center has to add to our program: easy on-line registration, professional expertise, and a genuine desire to provide excellent service to all our transportation partners” Ken Chambers, NDOT research chief

NEW MOANA LANE INTERCHANGE

by Adam T. Searcy, P.E., NDOT senior project manager



Meeting the challenges at the intersection of an urban arterial and an interstate spur, the Nevada Department of Transportation has implemented a solution never before seen in the state. This design solution, known as a Diverging Diamond Interchange or DDI, was pioneered in Europe and has been implemented by approximately 12 states across the U.S. NDOT delivered this design solution at a cost to the public that was a fraction of what a traditional solution might have been. In order to reach this completion, we wanted to describe the journey back to near its beginning.

In conjunction with the Moana Lane Widening Project, administered during 2011-2012 by the Washoe RTC, the concept was originally proposed to investigate the suitability of a DDI for this location. The widening of Moana Lane from 4 lanes to 6 would exacerbate an already congested location without a significant improvement to the interchange. The existing facility was a standard Tight Urban Diamond Interchange (TUDI) configuration with a 100-foot-long bridge passing the northbound and southbound traffic of I-580 above it. This interchange was not only near capacity in its existing condition, but it was critical to the local businesses and community as a whole. Local residents and businesses had long discussed the improvements but were highly sensitive to lengthy construction impacts that this project could potentially cause; a significant challenge for designers and contractors.

Substantial analysis by NDOT confirmed that the DDI would be the optimal solution for this location for several reasons:

- Existing traffic patterns: Over 80 percent of the eastbound traffic at this location turns left to northbound I-580. The free left of a DDI makes this movement safer and more efficient by eliminating a second traffic signal for these drivers.
- Capacity vs. footprint: Constrained by residential and commercial properties on all four quadrants and squeezed beneath the bridge, a solution must fit into the existing footprint or risk massive impacts of both time and cost. The DDI was found to convey the projected traffic volumes without any impacts to adjacent right-of-way or the existing bridge; saving the public tens of millions of dollars and possibly years of delay.
- Safety: The DDI has shown positive results when properly utilized elsewhere in reducing crashes by eliminating the conflict between left turns and through movements. Additionally, we were able to place pedestrians in a protected median area to cross the interchange making the journey much safer in this neighborhood with high foot traffic.

With the final design determined, NDOT looked to the construction industry for their expertise. Using the Construction Manager At Risk (CMAR) approach to contract delivery for the first time, NDOT hired Granite Construction as a consultant advisor during the final design phase. Attending every meeting alongside engineers in Carson City, the Granite team provided valuable constructability design input that was documented to have saved the project direct construction costs of approximately \$1.5 million. During this phase, the team also considered draft cost and schedule projections for the project in an effort to reach a truly achievable baseline prior to construction. Through a collaborative process between NDOT and Granite, the team was able to better identify risks and quantify the most likely costs for the project, ultimately resulting in an on-time, on-budget delivery.

In addition, an extensive public outreach campaign was conducted to reach stakeholders and the community. Not only was this an educational effort to introduce drivers to the

Granite broke ground on Sept. 12, 2012. The schedule included a nearly continuous work effort, including many night and weekend shifts, all within an urban environment, literally adjacent to and concurrent with the Moana Lane Widening Project being completed by another contractor. The project itself included many physical challenges including arguably one of the most complex concrete pavement designs that NDOT has ever developed. However, success was achieved as the atmosphere of partnership migrated into the construction phase with many NDOT engineering staff learning from and assisting the Granite team in the execution of this complicated and aggressive construction schedule.

"I have never worked on a project where the owner and the design team were more actively engaged during construction than the Moana DDI. It created a very positive environment and greatly helped the team overcome challenges" commented Granite Project Engineer Taylor Polan.



DDI, relying heavily on our computer-generated visual of the design, but it was also to gain support for the full-closure construction approach. While more impactful temporarily, Granite had proposed shaving approximately four months from the construction schedule, culminating in substantial completion prior to Thanksgiving, if a full closure was allowed. Through extensive communication with the public and local businesses, we determined the preferred approach was to get in and get out to dramatically reduce overall impact to the community.

completion to all stakeholders made it a very happy holiday season for everyone affected by the closure.

For more information on the Moana Lane DDI Project, visit www.Moana395.com

Adam T. Searcy, P.E. is a Senior Project Manager with the Nevada Department of Transportation with 10 years of experience successfully delivering projects as a Construction Manager and Project Manager for both Private and Public owners.

Through the negotiation of NDOT's first ever CMAR construction contract, to the safe and on-time opening of the State of Nevada's first DDI, the Moana Lane DDI Project was a tremendous success. The construction phase was completed in just 64 working days with zero injuries and without a single contract change order. Through detailed planning and steadfast execution, Nevada's first DDI opened to the public on Nov. 21; one day before Thanksgiving. Keeping our promise of

Nevada has about 50,000 miles of paved road, much of it has been featured in films like "Vanishing Point," "Breakdown," "Rainman" and "Lethal Weapon 4."

<http://www.50states.com/facts/nevada.htm>

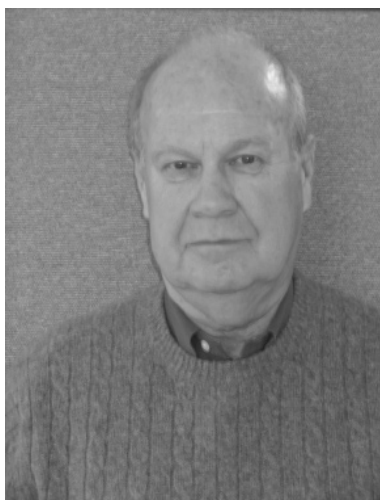
TMCC is an EEO/AA (equal opportunity/affirmative action) institution and does not discriminate on the basis of sex, age, race, color, religion, disability, national origin or sexual orientation in the programs or activities which it operates.



Truckee Meadows Community College
Nevada LTAP Center
7000 Dandini Boulevard
Reno, NV 89512-3999

Non-profit Org.
U.S. Postage
PAID
Reno, NV
Permit No. 412

Nevada LTAP Center Team



Program Director
Jim Nichols, P.E.
775-829-9022 or
jnichols@tmcc.edu

Jim Nichols has been associated with the transportation industry for the past four decades. He was principle investigator for the Long Term

Pavement Performance Study in the Western Region and started Nichols Consulting Engineers which specializes in pavement research, design and management systems. A part of the company was tasked with education and training for the National Highway Institute, a program of the Federal Highway Administration. He was recruited to establish an engineering program at Truckee Meadows Community College in 2006 and has worked to develop a civil engineering practitioner program at the college. He has a masters of engineering from the University of Texas at Austin and is a registered civil engineer in Nevada and California.



Program Manager
Mindy Gonzalez, MBA
775-829-9046 or
mgonzalez@tmcc.edu

Mindy has more than 20 years of professional experience and 16 years experience in higher education. She has developed and taught classes for the custom training section of TMCC. As registrar

at the National Judicial College (NJC), she helped develop registration procedures and database management. As a course administrator at NJC, Mindy also assisted in the organization, coordination and implementation of courses in Reno and other states. She has a bachelor's in business management and earned her MBA from Morrison University, Reno, Nevada.

Our new offices are located at TMCC Meadowood Center, 5270 Neil Road #302, Reno, NV, 89502.

KNOW SOMEONE WHO SHOULD BE RECEIVING THIS NEWSLETTER?

Email the person's name and address to Mindy Gonzalez at mgonzalez@tmcc.edu.