



Managing Innovations



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PMI – Northern Nevada Chapter – January 26, 2013



Managing Innovations



- First of its kind...in many ways
 - Innovative design
 - Innovative delivery methods
- Step through the project in connection to the PMBOK Knowledge Areas
- Construction Results & Lessons Learned



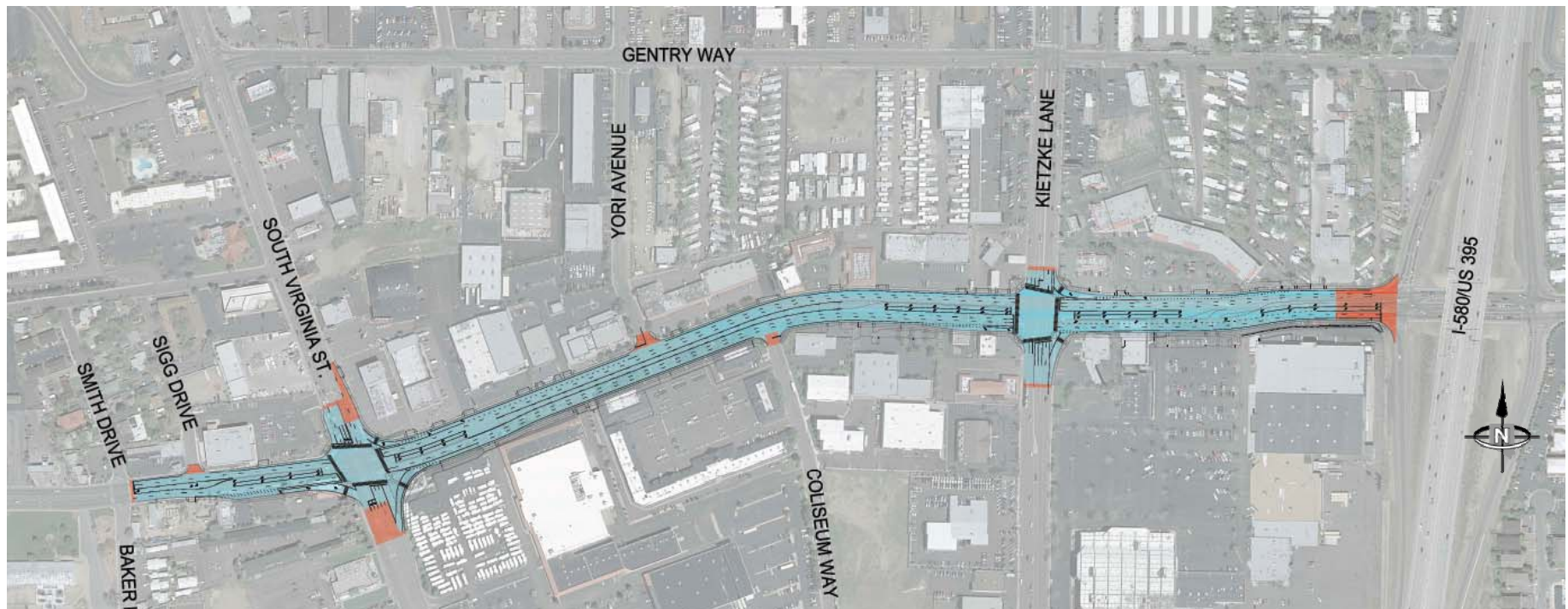
Moana Lane Widening Project



Regional Transportation Commission of Washoe County



- 6-8 months
- Widen from 4 to 6 lanes

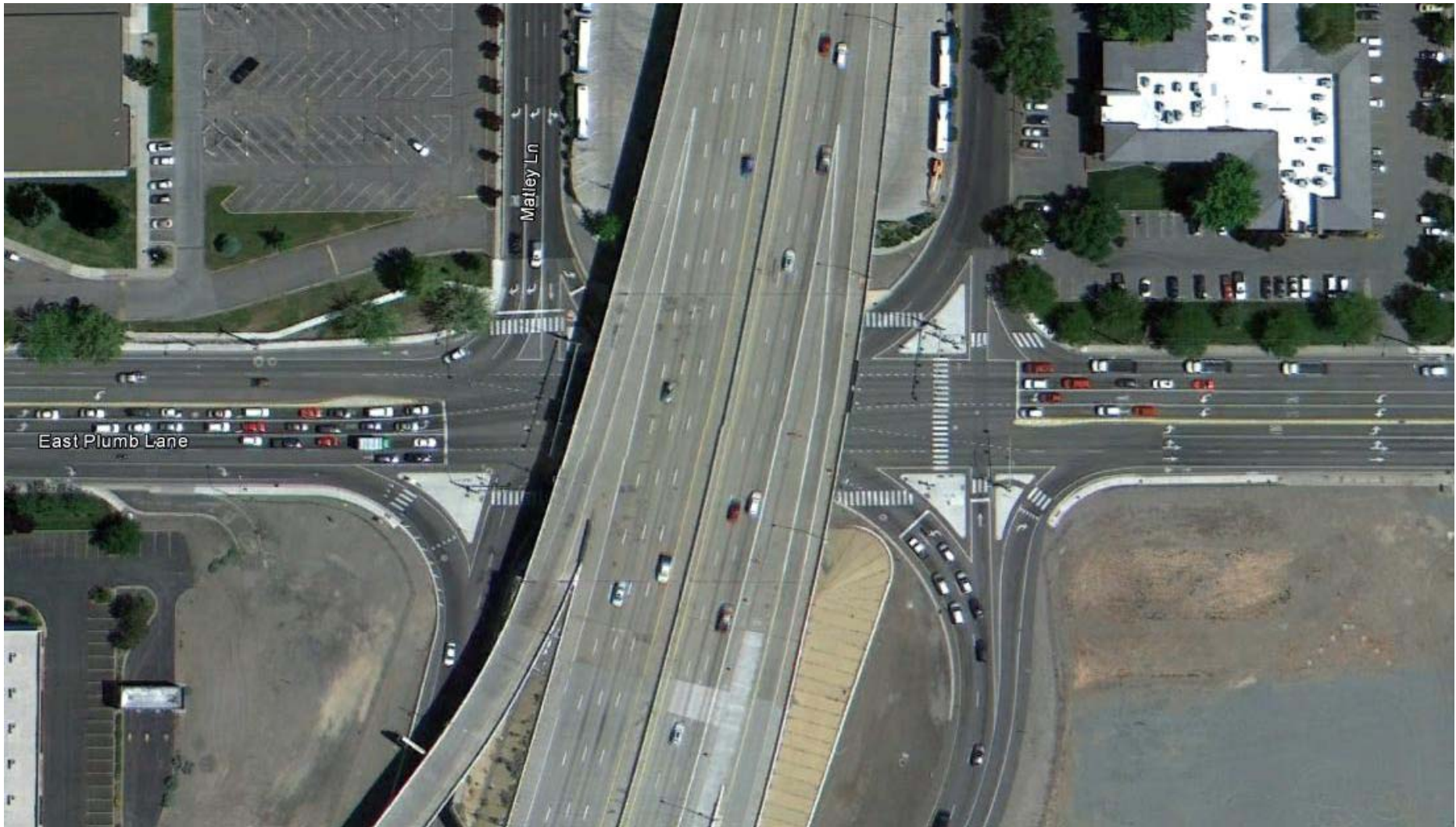




Existing Moana Interchange



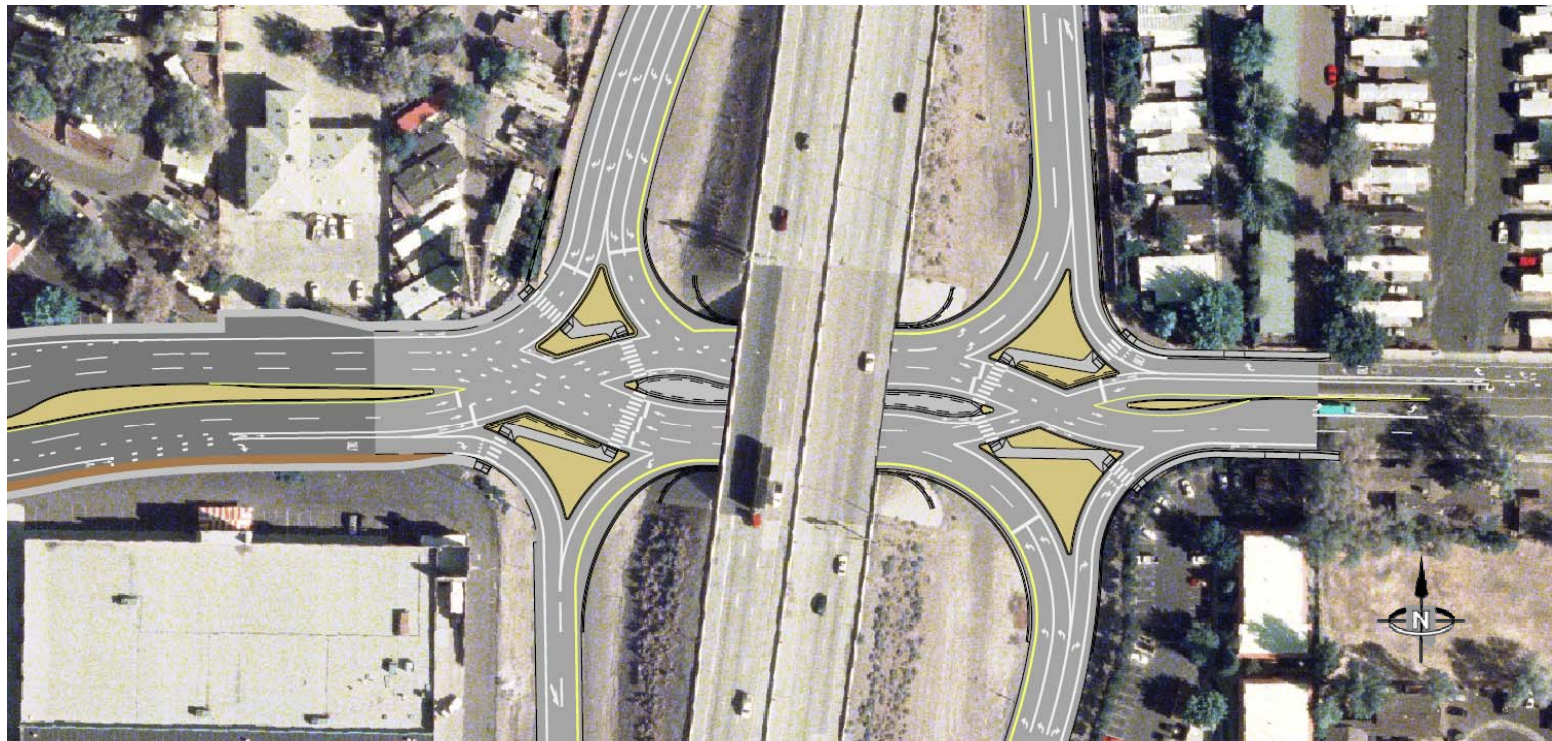
Existing - Moana Lane and I-580 Interchange



Existing - Plumb Lane and I-580 Interchange

Diverging Diamond Interchange (DDI)

- Free left turns
- Two signal phases
- Fewer conflict points



Proposed - Moana Lane at I-580 DDI Interchange



Visual Simulation



Proposed - Moana Lane and I-580 DDI Interchange



Innovative Project Delivery



GRANITE™



CMAR

Construction Manager At Risk

Constructability – Schedule – Cost – Value

QUALITY ... a team effort

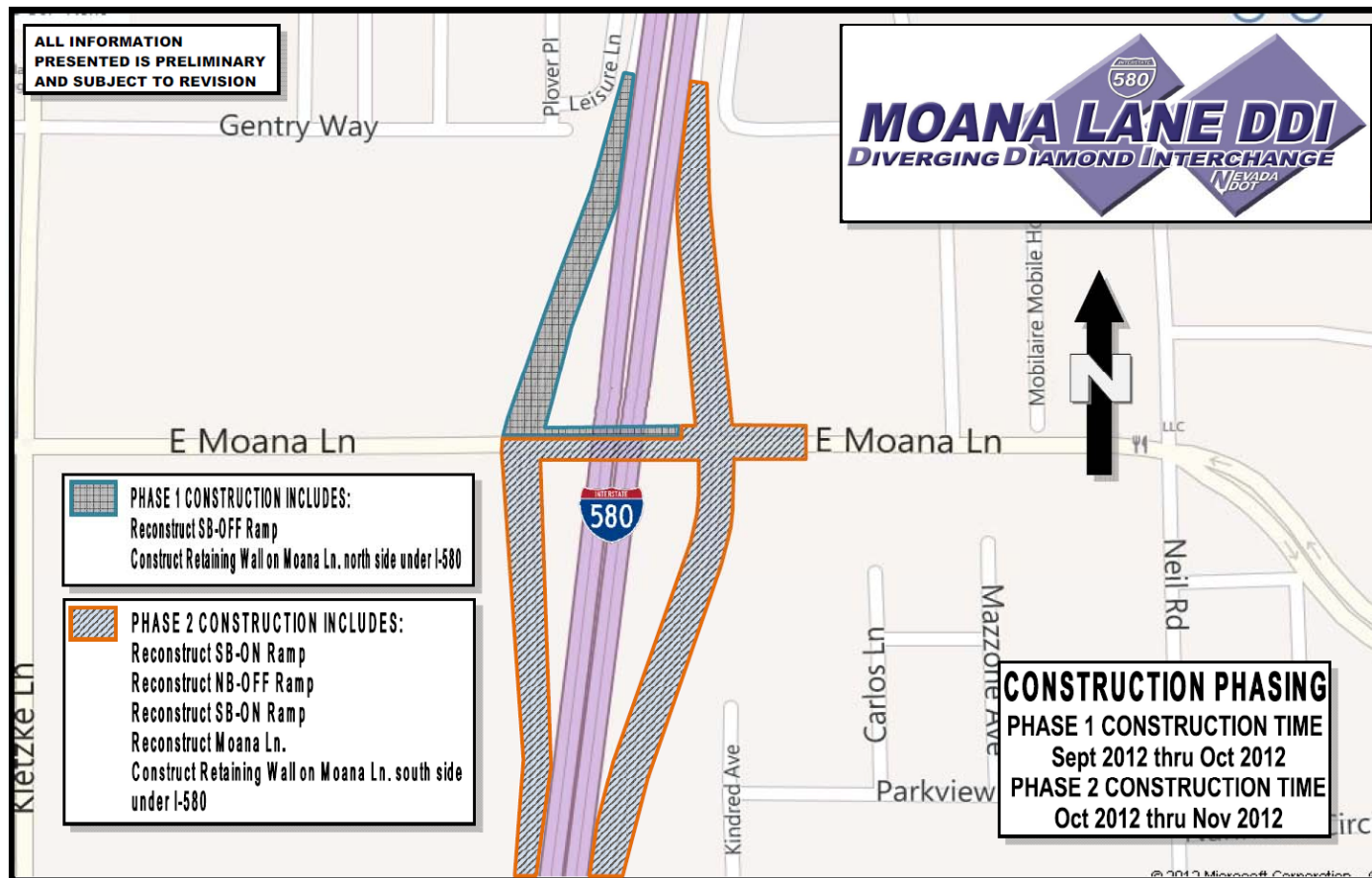


Construction Phasing



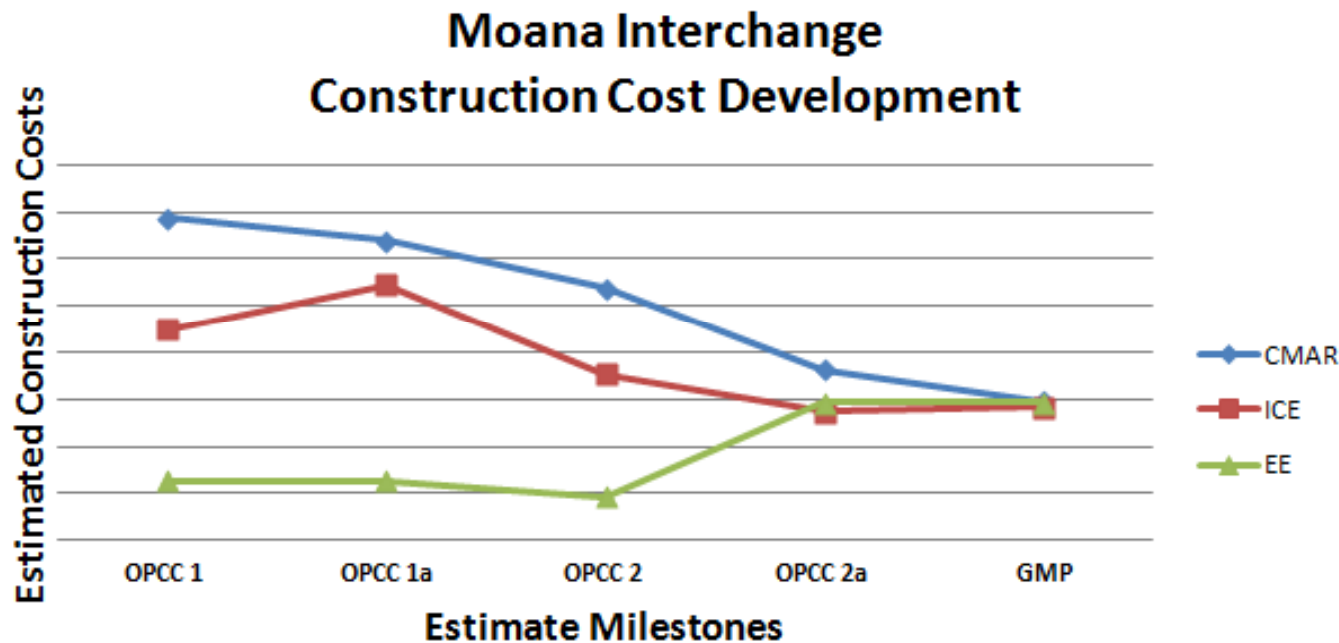
Phase 1 (mid Sept – mid Oct 2012):

Phase 2 (mid Oct – mid Nov 2012):



Day & Night work to “Get In, Get Out, and *MINIMIZE IMPACTS*”

- Iterative cost estimate reviews
 - ✓ Revealed true construction costs of the design
 - ✓ Dialogue led to more efficient construction
- Negotiated Contract = Fair Market Value



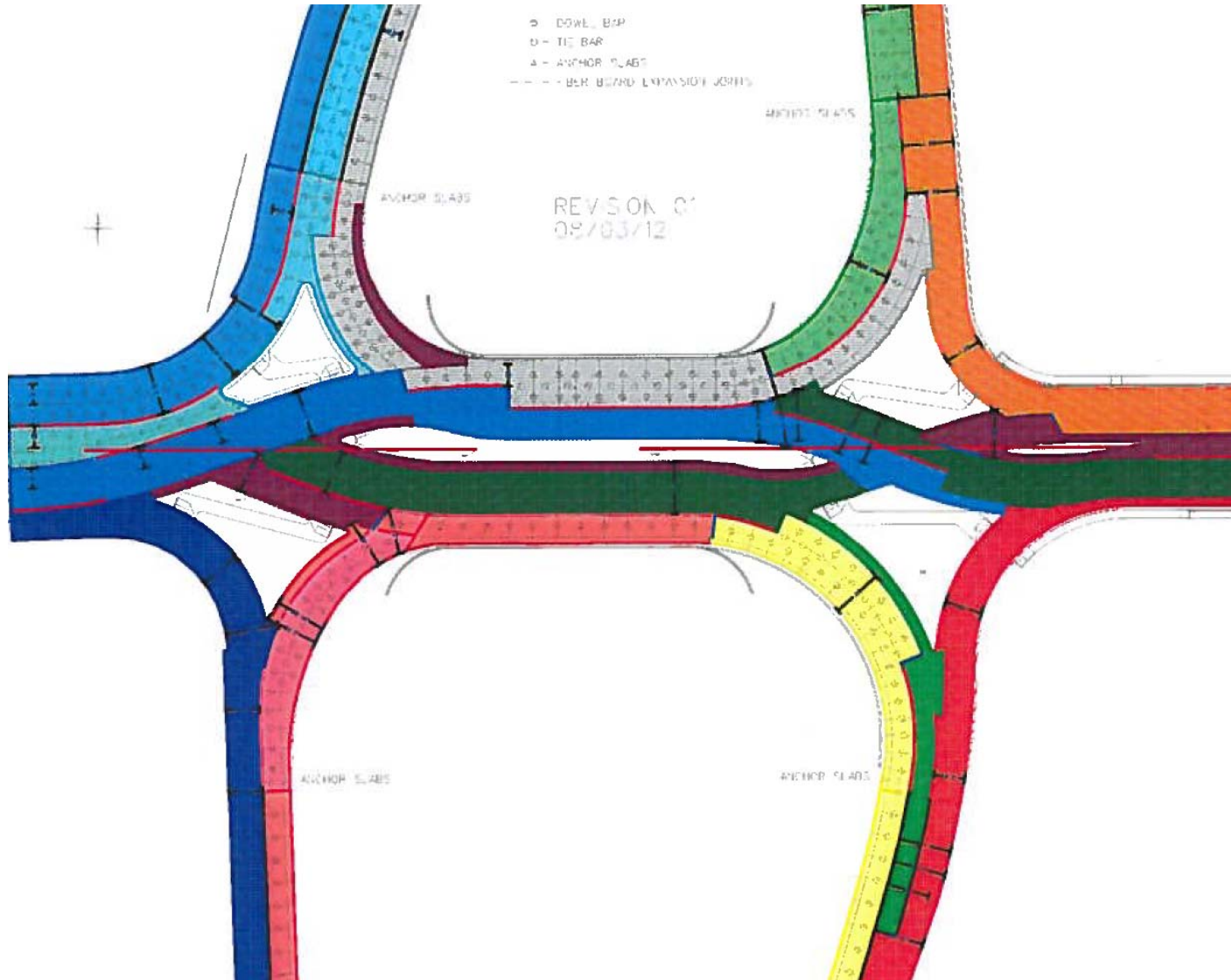


Innovation Management



Decision Analysis and
Resolution Team (DART)
Tracking Matrix

- Preconstruction fee paid to Granite ~\$250k
 - Construction savings from Granite input ~\$1.5M
- This doesn't account for the value of the PLAN
- Value is EARNED during design...
- And REALIZED during construction



Complex Joint Layout and PCCP Pour Plan

- Slope paving replacement with large rock
- Barrier rail glare screen
- Metal sculpture – strategically located





Teamwork & Attitude

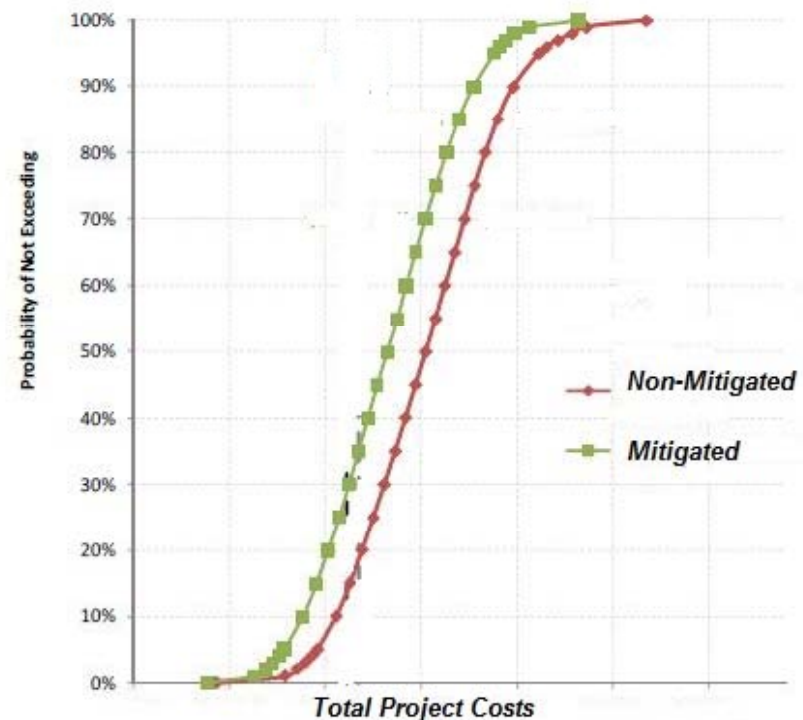


- Value based selection
- New roles require the right personalities
- Process (DBB vs CMAR)
 - Same process with only minor differences?
- Attitude

Identify...Mitigate...Manage

- Contractor involvement in Risk Workshops
- Risk Reserve – owner retained balances
- Contractor ownership of plan quantities

Risk Based Total Project Cost



- Higher Quality Design
- Greater Cost Certainty



Innovative Procurement



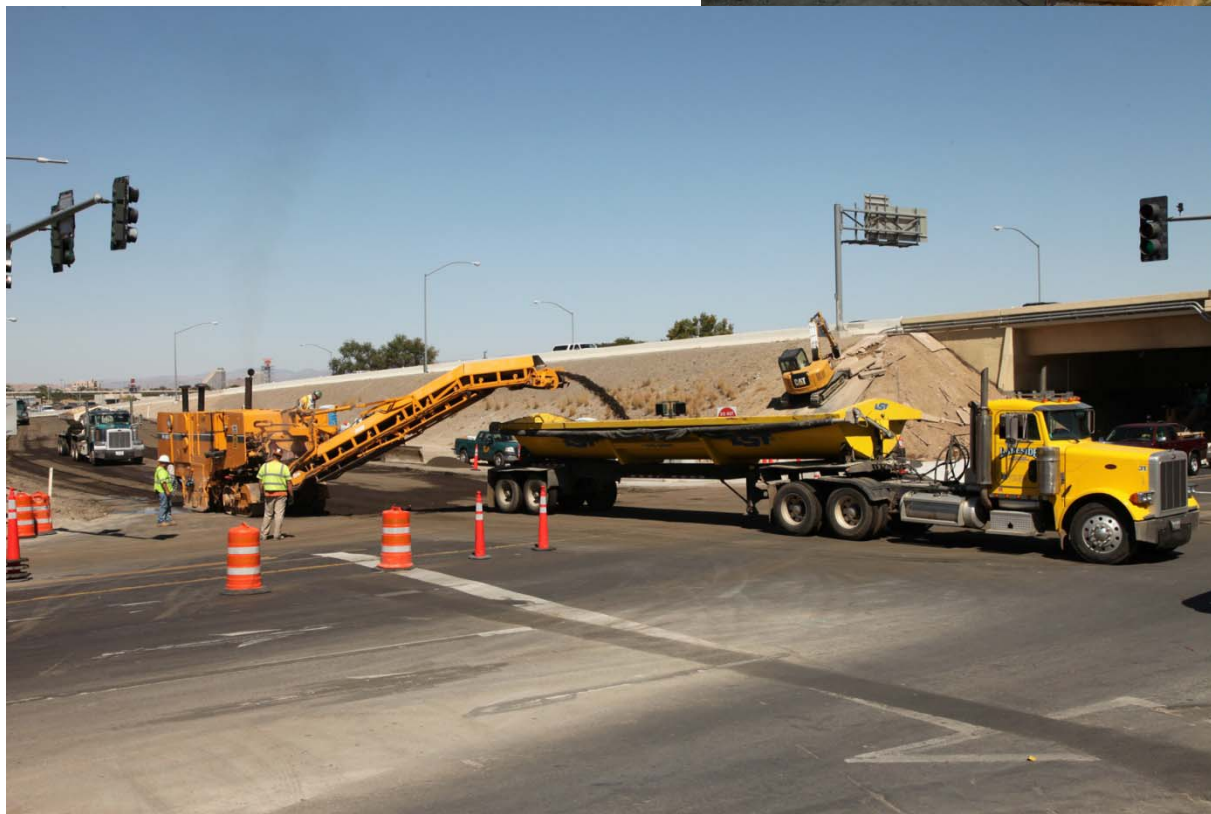
- Subcontractor procurement process
 - This process was new to everyone and immediately became the critical path
- Long lead time materials – IDENTIFIED
- Worked with team to procure them
 - Non-standard purchasing process
 - Allowed the team to break ground on day 1

1. Stakeholder input on Phasing
 - ✓ Major Stakeholders
 - ✓ Public Meeting
 - ✓ Confidence through CMAR
2. Construction impacts awareness
3. DDI education
 - ✓ Visual Simulation
 - ✓ Fox 11 commercial
 - ✓ Bobo's raffle
4. Follow up





Construction Progress



Week 1 (September 12th NTP)



Construction Progress



Phase 1 (Soil Nail Walls & Southbound Off Ramp)



Construction Progress



Phase 1 (Soil Nail Walls & Southbound Off Ramp)



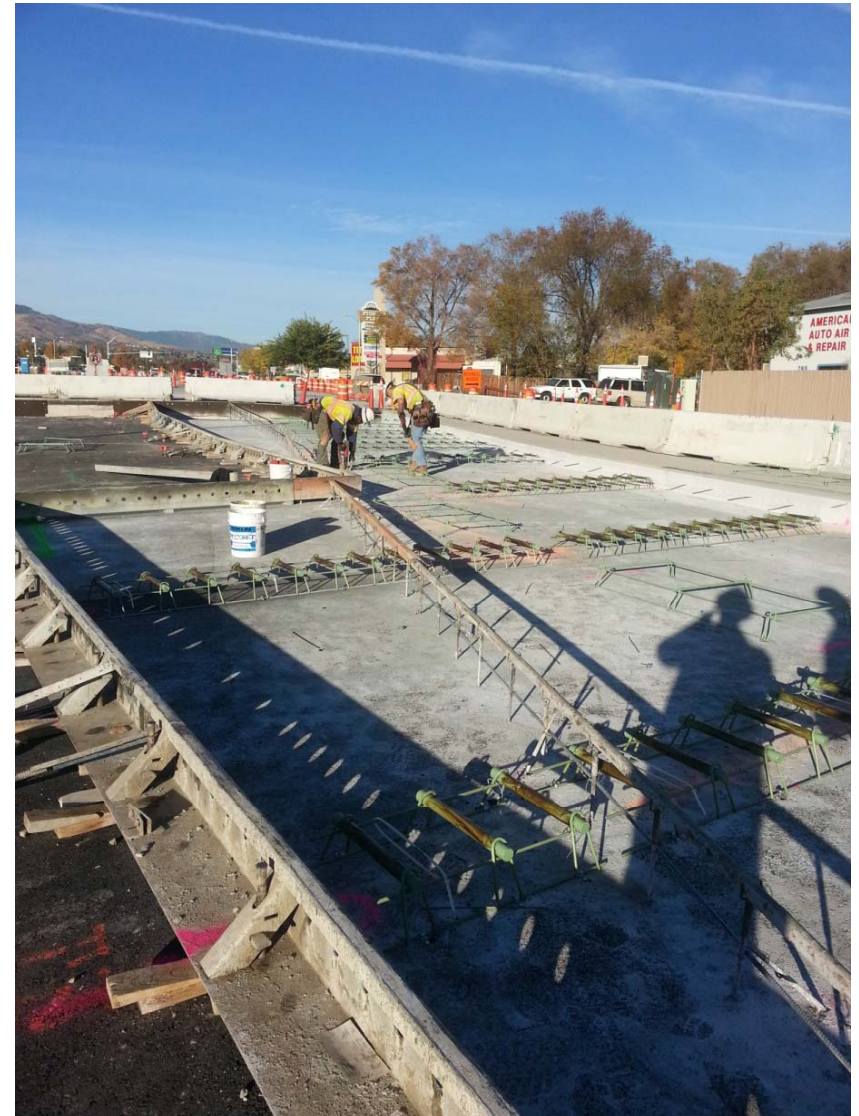
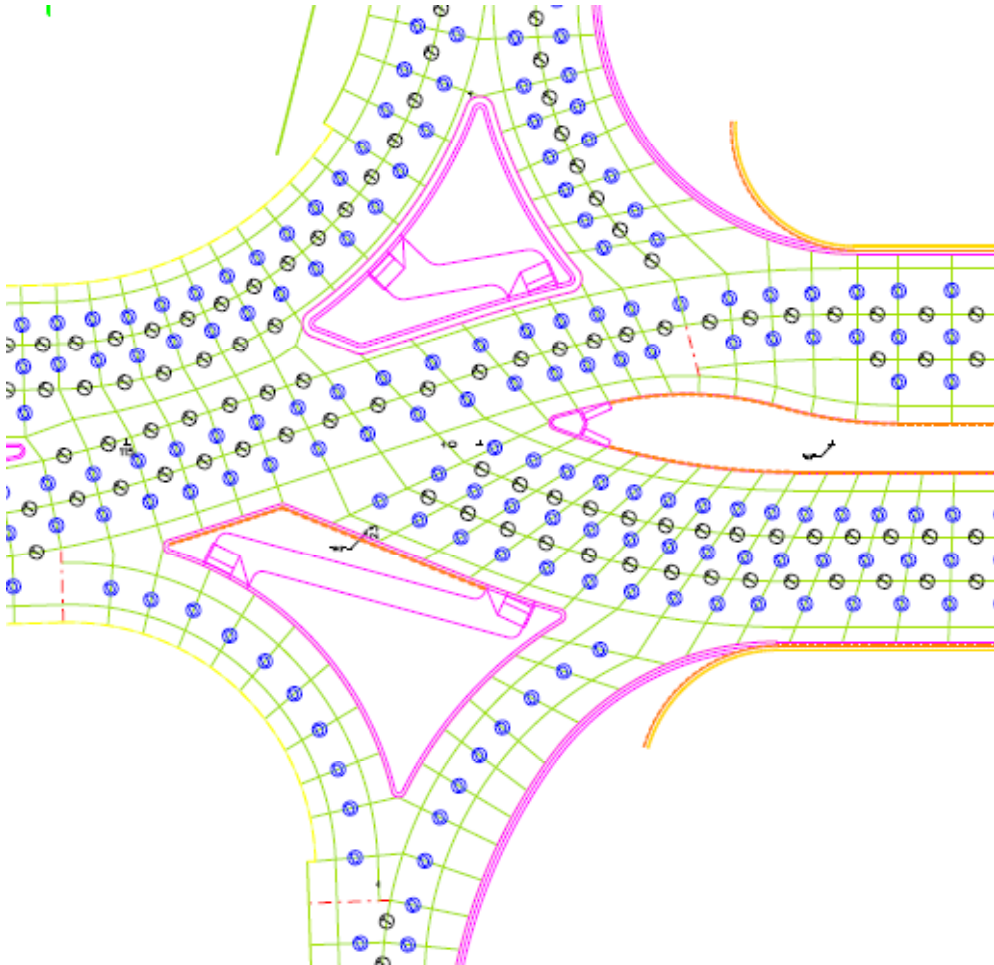
Shallow (and flat) Storm Drain



Construction Progress



High Groundwater Conditions



Complex Joint Layout and PCCP Pour Plan

- Green bike lane symbols aid bicycles & drivers
- Center median will be 10' wide with barrier rails and decorative fencing





The Right Team



- ✓ NDOT's 1st ever CMAR
- ✓ State of Nevada's 1st ever DDI
- ✓ NDOT's 1st ever Green Bike Lanes
 - Reduced construction costs by ~\$1.5M
 - Opened on Nov 21st – one day before Thanksgiving





Quality Results



Certificate of Sena

Presents

Nevada Department

*In honor of the
Nevada's first Diverging
that includes Northern Nevada
Best wishes in all of yo*

November 20, 2012
DATE

CONGRESS



NEVADA DEPAR

*IN HONOR OF
DIVERGIN
THANK YC
TO 9*

Date: November 2

United States Senator Harry Reid

Certificate of Commendation

presented to

Nevada Department of Transportation

**In commemoration of the ribbon-cutting ceremony of the
I-580/U.S.395 Moana Diverging Diamond Interchange.**

November 20, 2012

Date

Harry Reid
United States Senator



Quality Results



“The Department of Transportation deserves praise – as well as the gratitude of every driver in Reno-Sparks – for keeping its promises”

- RGJ Editorial Board 11/29/12

RENO GAZETTE-JOURNAL/RGJ.COM

THURSDAY, NOVEMBER 29, 2012 • 3A

THE OPINION OF THE RGJ EDITORIAL BOARD

Completed road projects have been worth the wait

The Nevada Department of Transportation deserves praise — as well as the gratitude of every driver in Reno-Sparks — for keeping its promises.

NDOT said that its two big projects on Interstate 580/U.S. 395 in the Truckee Meadows would be open to traffic in time for Black Friday, one of the busiest shopping days of the year, and they were, giving drivers in Reno-Sparks a lot to be thankful for at this year's Thanksgiving feast.

Although there still is work to be done, particularly on the long-awaited interchange at Meadowood Way, a project first discussed more than 30 years ago, traffic was flowing on its ramps and those of the new interchange at Moana Lane by last Thursday morning, just in time for the holiday shopping season.

Finally, drivers had clear sailing on the freeway ... at least until the next highway project comes along. Trying the improvements out this week, it's been clear that they have been well worth the wait.



The new diverging diamond interchange at Moana Lane and I-580 is the first of its kind in Nevada and opened last week. MARILYN NEWTON/RGJ

SNAPSHOT

ISSUE: Highway improvements

OUR VIEW: The Nevada Department of Transportation has improved traffic flow in the Truckee Meadows, while beautifying the community visually, too.

NDOT and other agencies have committed to public art to go along with the road improvements. It's a recognition that road-building doesn't have to create a blight on the landscape but can instead beautify the community visually, too. They've succeeded.

There now are pylons along I-80, for instance, that welcome drivers to Reno. The soundwalls built during a previous construc-





Lessons Learned



- ✓ Value is EARNED in the Planning
- ✓ The individuals make all the difference
- ✓ No such thing as a small process change
- ✓ Attitude can overcome most



Efficient...Effective...Innovative



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