NDOT MAJOR PROJECTS AND INNOVATIVE DELIVERY

2017 NEVADA TRANSPORTATION CONFERENCE

COLE MORTENSEN, PE

ASST. CHIEF OF PROJECT MANAGEMENT



PM DIVISION RESPONSIBILITIES

- FHWA MAJOR PROJECTS
 - TOTAL PROJECT COST > \$100 MILLION
 - FHWA PROJECT MANAGEMENT PLAN & FINANCE PLAN
- NDOT'S MAJOR CAPACITY IMPROVEMENT PROJECTS (TYPICALLY > \$25 MILLION)
- PIONEER PROGRAM
 - INNOVATIVE PROJECT DELIVERY (CMAR, DB, DBF)
 - UNSOLICITED PROPOSALS

NEVADA MEGA/MAJOR PROJECTS (LATE 2007 - ESTIMATES)

SOUTHERN NEVADA

- INTERSTATE 15 15 PROJECTS, \$4.6 \$5.7 BILLION
 - I-515/US 95 4 PROJECTS, \$3.3 \$4.4 BILLION
 - US 95 NW 5 PROJECTS, \$0.6 \$0.7 BILLION

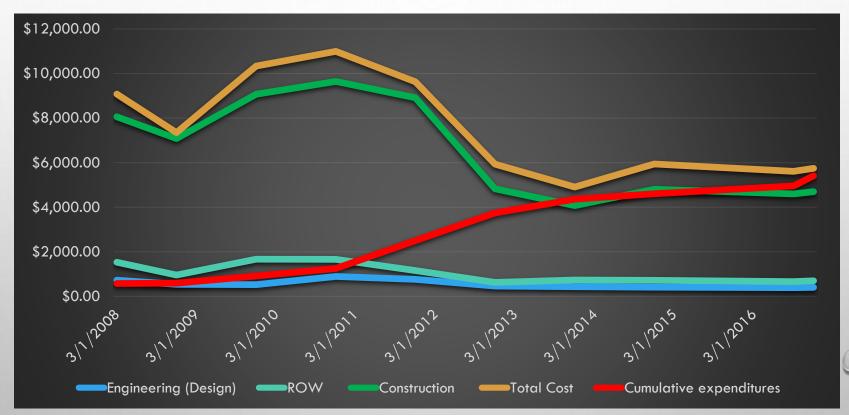
NORTHERN NEVADA

I-80, US 395, PYRAMID HWY - 8 PROJECTS, \$2.5 - \$3.2 BILLION

TOTAL — STATEWIDE

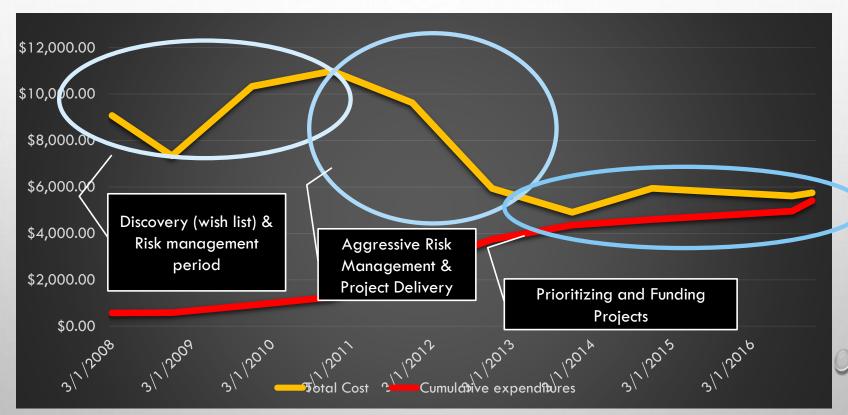
• \$11 - \$14 BILLION

MAJOR AND MEGA PROJECTS - ESTIMATED COST TREND (HIGH RANGE OF ESTIMATE)



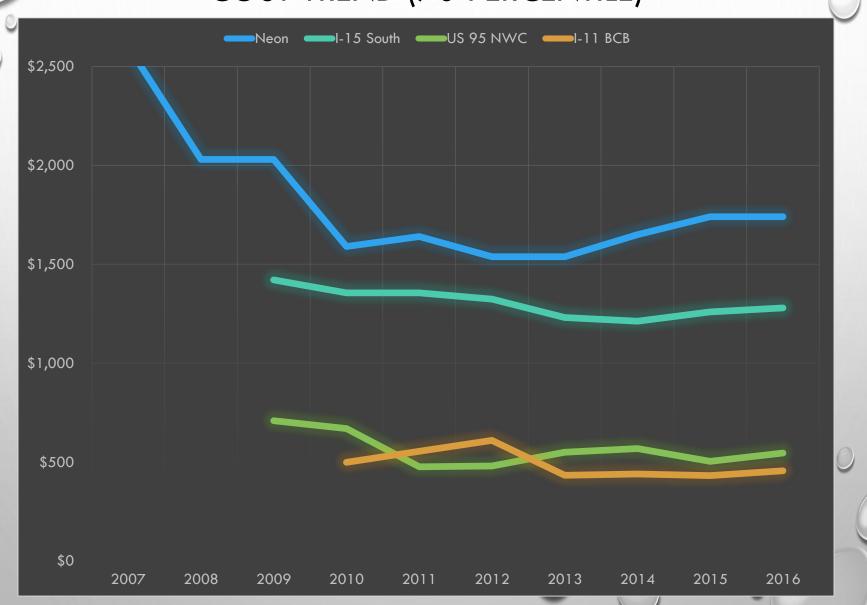
Major Projects (>\$100 M); Mega Projects (>\$500 M)

BALANCING NEED VS AVAILABLE FUNDING



Major Projects (>\$100 M); Mega Projects (>\$500 M)

NEVADA MEGA PROJECTS (>\$500 M) ESTIMATED COST TREND (70 PERCENTILE)



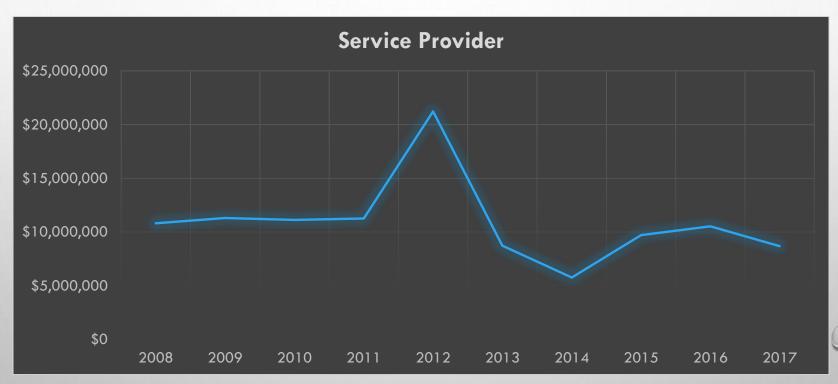
EXAMPLE OF COST/RISK MANAGEMENT - PROJECT NEON

IN 2008 NDOT EMBARKED ON A MISSION TO CUT AND CONTROL COSTS AND MAKE THE PROJECT NEON MORE AFFORDABLE. THE RESULT WAS HUNDREDS OF MILLIONS OF DOLLARS OF SAVINGS AND A PHASED APPROACH TO IMPLEMENTING THE PROJECT.

Minimize ROW Impact NEON VA Study CEVP #1 CEVP #2 **Scoping Workshop** Phase 1 CEVP **TAC Workshop** MLK+I VA Study **Every Day Counts ABC Workshop Every Day Counts Risk Allocation Workshop** P3 R/W CEVP 2013 ICE P3 R/W CEVP **Future Phase CEVP** P3 Construction CEVP

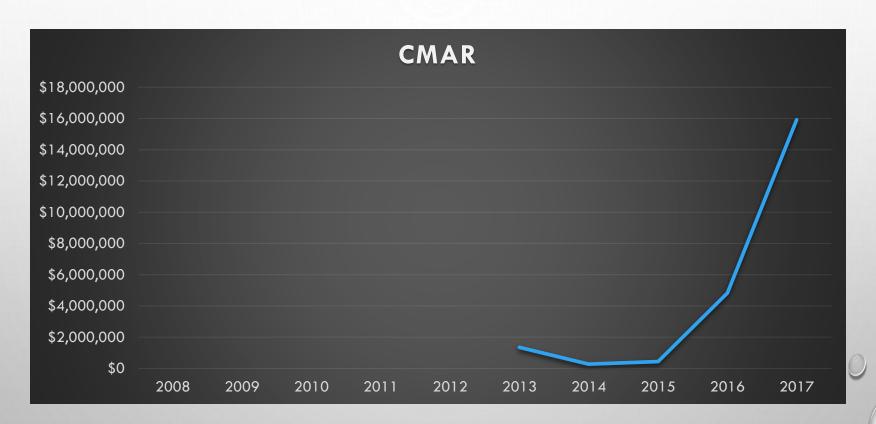
2008 October 2008 December 2008 October 2010 November 2010 March 2011 August 2011 November 2011 December 2011 March 2012 September 2012 June 2013 September 2013 October 2013 January 2014 February 2014 **April 2014**

ANNUAL PROGRAM EXPENDITURES - PM DIVISION



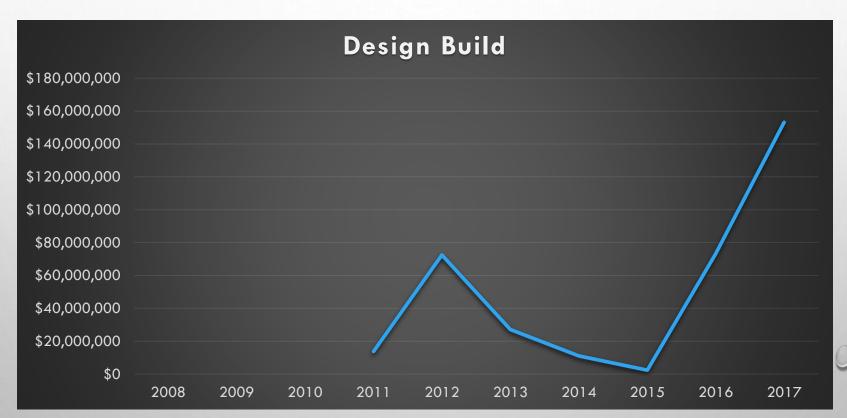
DB Engineering costs not accurately captured

ANNUAL PROGRAM BUDGETS - PM DIVISION



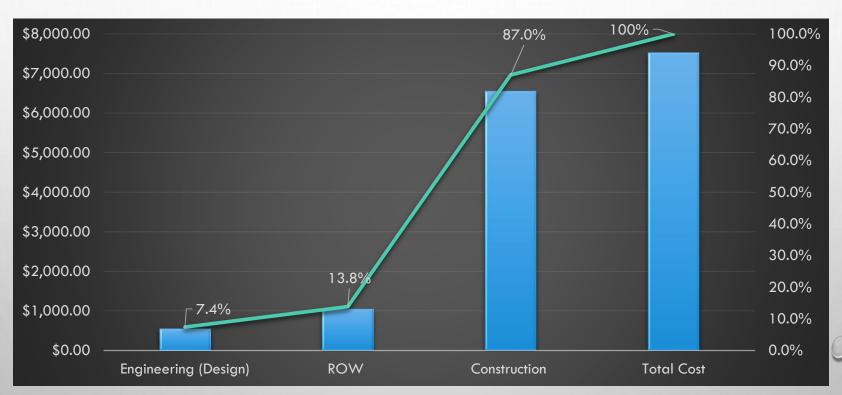
Construction Costs for SR 28 and I-80 Verdi not represented

ANNUAL PROGRAM BUDGETS - PM DIVISION



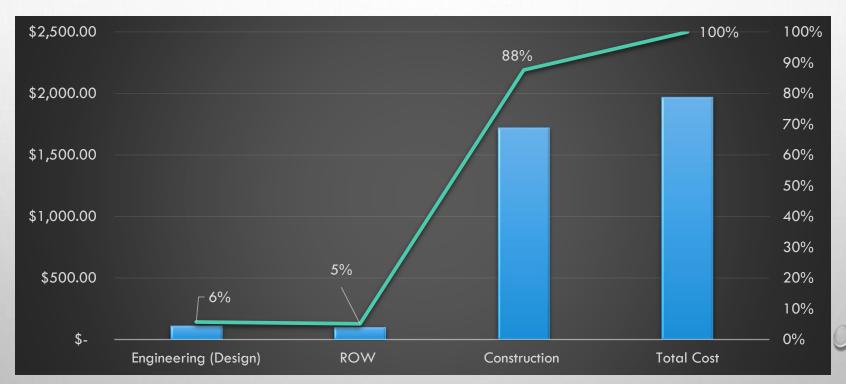
Construction Costs for I-15 North not represented

AVERAGE PROGRAM ESTIMATES



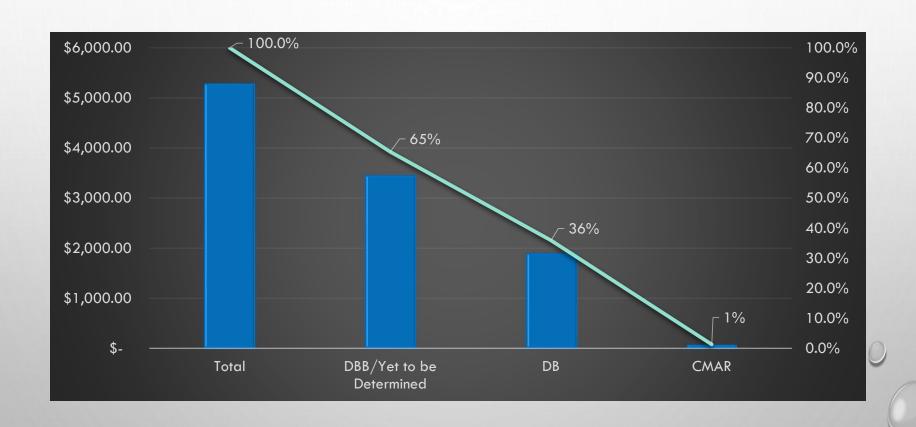
DB Engineering costs not accurately captured

COMPLETED PROJECTS

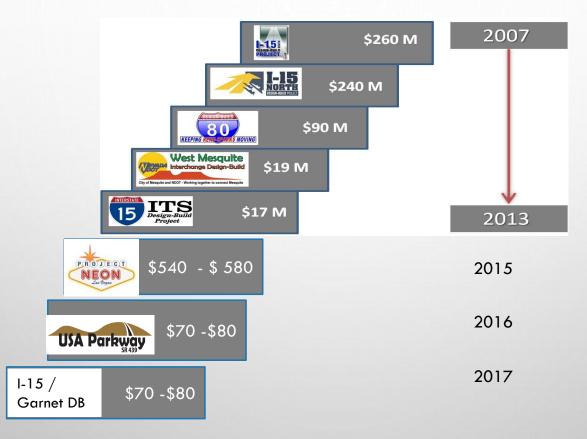


DB Engineering costs not accurately captured

DELIVERY TYPE - TOTAL COSTS



NDOT ADMINISTERED DB PROJECTS





CMAR PROJECTS

- COMPLETED:
 - MOANA DDI
 - TAHOE BIKE PATH
 - CARLIN TUNNELS
 - KINGSBURY GRADE
- DESIGN PHASE
 - CHARLESTON INTERCHANGE
- CONSTRUCTION PHASE
 - TROPICANA ESCALATORS
 - VERDI BRIDGES
 - SR28 FLAP BIKE PATH



FHWA'S MAJOR PROJECTS

FHWA MAJOR PROJECTS - CLARK

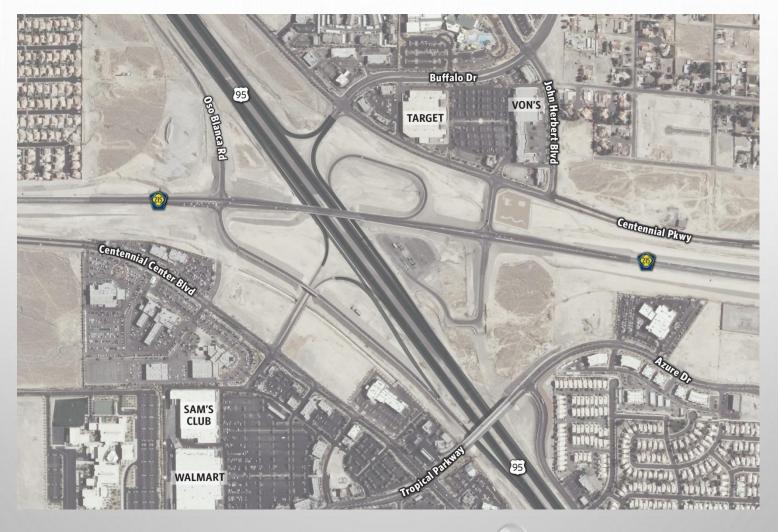


FHWA'S MAJOR PROJECTS STATUS

US 95 NW



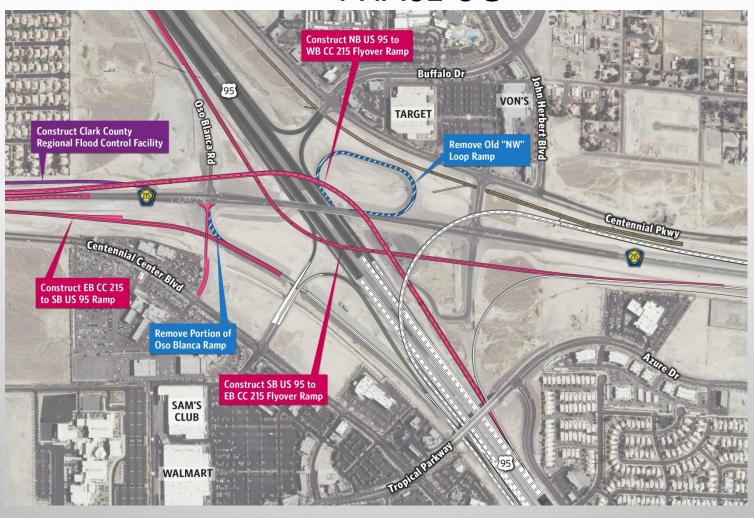
BEFORE PHASE 3 CONSTRUCTION



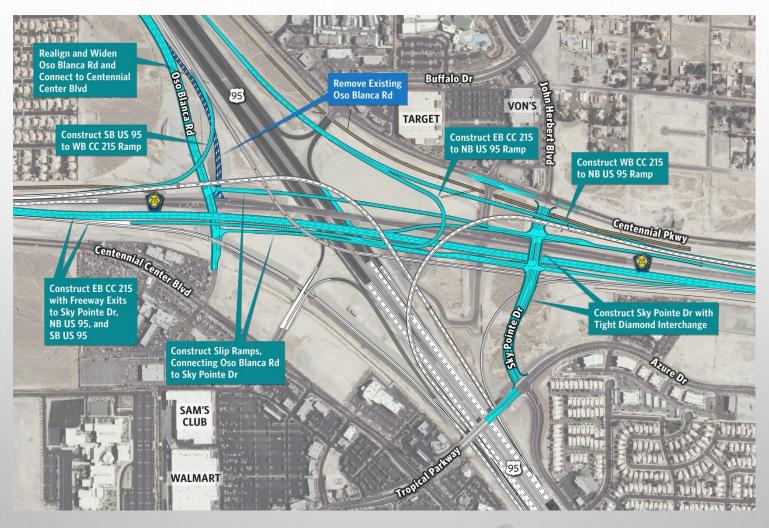
PHASE 3A



PHASE 3C



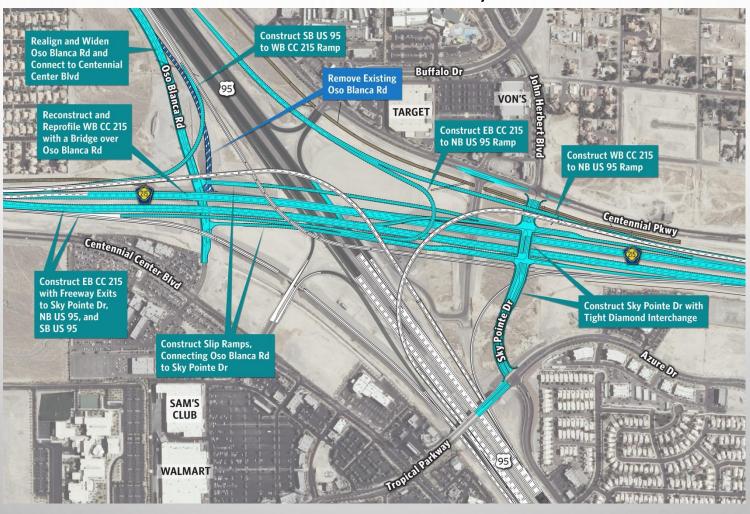
PHASE 3D



PHASE 3E



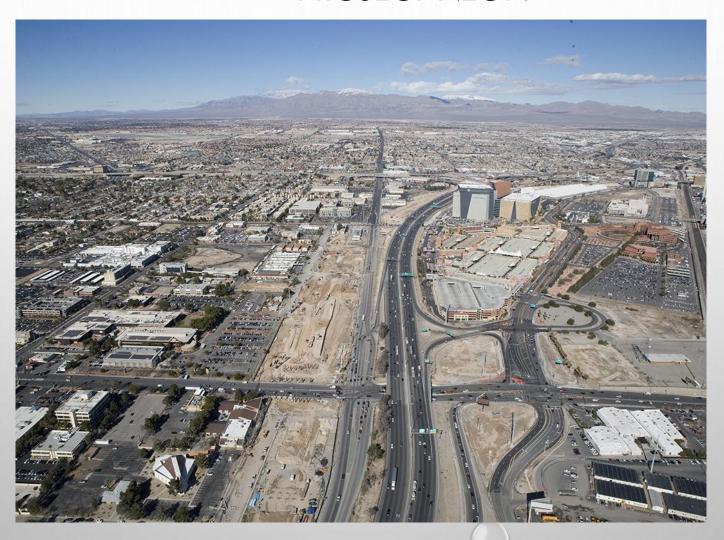
PHASE 3D/E



BOULDER CITY BYPASS



PROJECT NEON



I-15 South PROJECT LOCATIONS

Projects:

- 1) I-15 South Sloan Road Interchange
- 2) I-15 South Bermuda Road Interchange •
- I-15 South Starr Avenue Interchange
- 4) I-15 South Cactus Avenue Interchange •
- 5) I-15 South Pebble Road Overpass •
- 6) I-15 South Freeway Improvements (Phase 1A):

From Blue Diamond Road to Tropicana Avenue

- 7) I-15 South Phase 1B: ——
 From Blue Diamond Road to Tropicana Avenue
- 8) I-15 South Phase 2A widening: ——
 From Sloan Road to Blue Diamond Road
- 9) I-15 South Phase 2B: From Sloan Road to Tropicana Avenue
- 10) I-15 South Las Vegas Boulevard-Two packages:

Package 1: From Silverado Ranch Boulevard to Sunset Road

Package 2: From St. Rose Parkway to Silverado Ranch Boulevard.

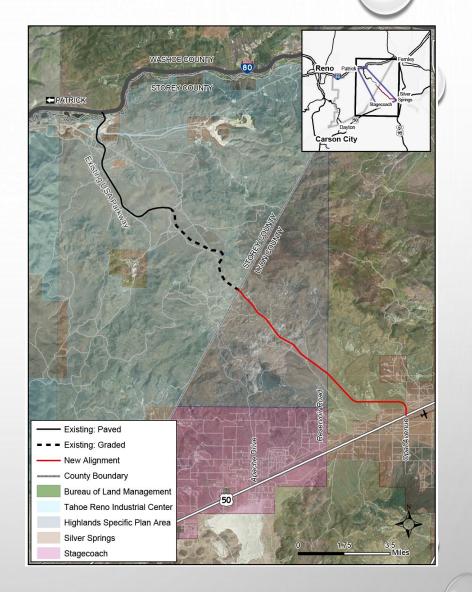


I-15/STARR AVENUE INTERCHANGE

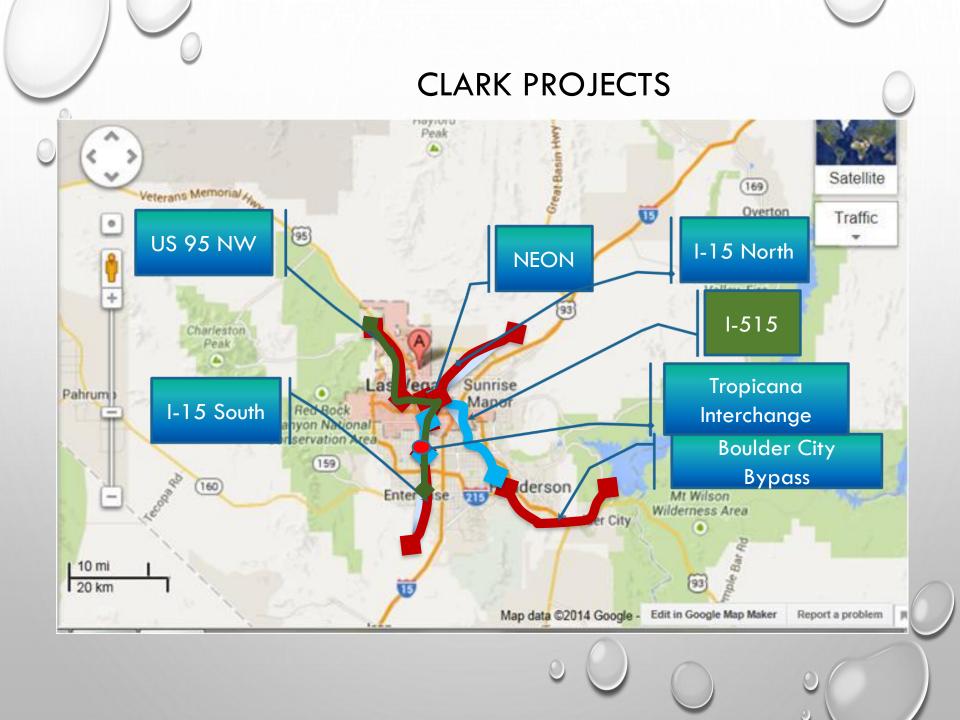
USA Parkway (SR 439)

- 6 Miles of Existing Paved Roadway
- 4.4 Miles Existing Graded Road to the Storey/Lyon County line.
- 8.5 miles of New Roadway terminating at Opal Avenue in Silver Springs.









Phase II (part 2) Vegas nterprise Henderson Boulder City. Map data ©2014 Google -

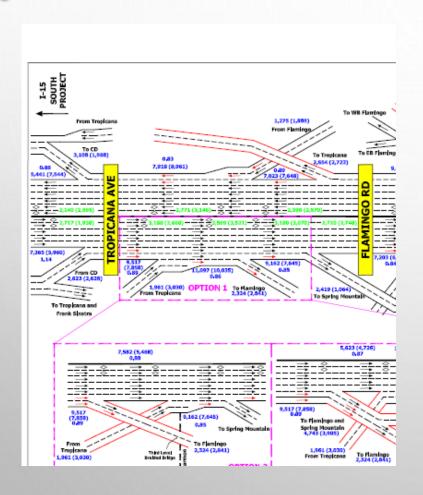
I-15 NORTH



I-15/I-215 Interchange

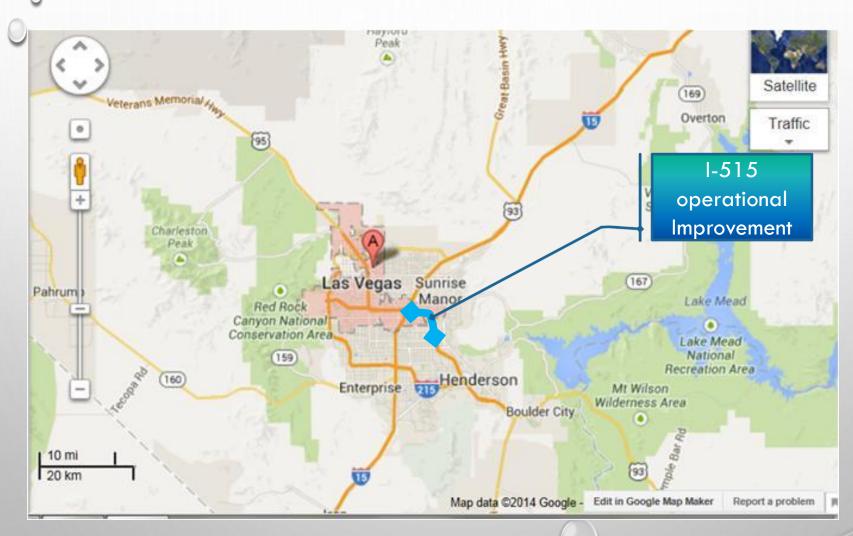


TROPICANA INTERCHANGE





NDOT MAJOR PROJECTS

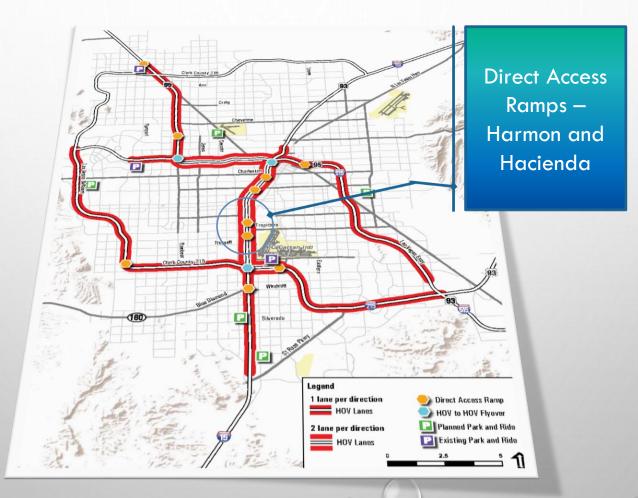


NEAR TERM HOV SYSTEM – MAJOR ELEMENT OF US 95, NEON, HARMON AND HACIENDA HOV RAMPS, I-15 SOUTH

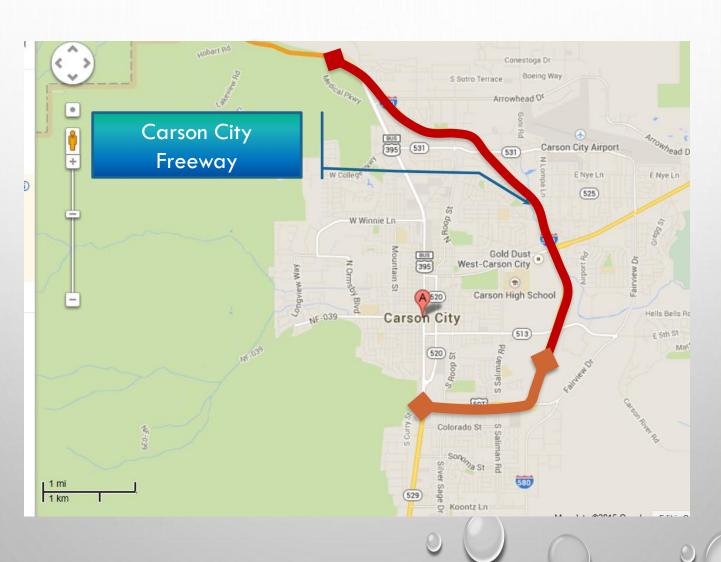




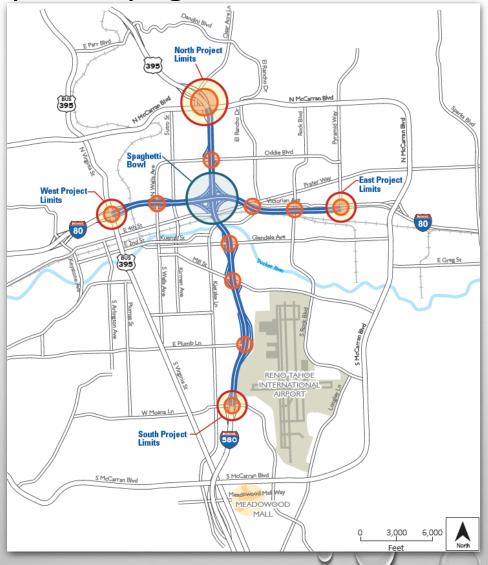
LONG TERM HOV SYSTEM



NDOT MAJOR PROJECTS



Reno/Sparks Spaghetti Bowl







OTHER PROJECTS

ACTIVE

- BOULDER CITY PHASE II DB
- TROPICANA ESCALATORS CMAR
- VERDI BRIDGES— BRIDGE SCOUR CMAR
- SR 28 FLAP BIKEPATH CMAR
- MCCARRAN/PYRAMID INTERSECTION
- REGIONAL TRAFFIC MODELING
- 515 STEPHANIE
- 515 HORIZON
- US-50 BYPASS
- 1-15/US93 GARNET INTERCHANGE -DB
- I-515/CHARLESTON INTERCHANGE CMAR

SOMEWHAT ACTIVE

- IVANPAH AIRPORT
- DESERT XPRESS
- WADSWORTH BYPASS
- GEIGER GRADE REALIGNMENT
- SHEEP MOUNTAIN PKWY



PIONEER PROGRAM



- PROVIDES A FRAMEWORK, GENERAL PROCESS, AND STRUCTURE FOR THE IMPLEMENTATION OF DB AND CMAR CONTRACTS
 - PROCUREMENT PROCESS
 - DESIGN PROCESS
 - CONTRACT ADMINISTRATION PROCESS



SR 28 SHARED USE PATH & SAFETY/WATER QUALITY ENHANCEMENT

Construction Manager @ Risk

Granite Construction

Construction Costs

\$40 million

Schedule

Through 2018/2019

Shared Use Path (Incline to Sand Harbor)

- Three plus miles of shared use path from the south end of Incline Village to Sand Harbor
- An undercrossing of SR 28 near Tunnel Creek
- Vista Points (Pullouts)
- Bridges and retaining wall structures







SR 28 SHARED USE PATH & SAFETY/WATER QUALITY ENHANCEMENT

Safety Improvements

- Incline Village to US 50
- 90 stall parking area @ Ponderosa Ranch
- 3 mile no parking zone from along SR 28 from Incline to Sand Harbor;
- Centerline rumble strip
- Emergency pullouts
- Pedestrian Crossing on SR 28 @ Lakeshore
 Boulevard

WQ Improvements

- Sand Harbor to WC line.
- Erosion control, slope stabilization, & Infiltration basins

ITS Conduit

6 miles of conduit from Incline to WC line.



Verdi CMAR Project Overview



I-80 AT TRUCKEE RIVER NEAR VERDIO

Scour critical structures of the River diverting



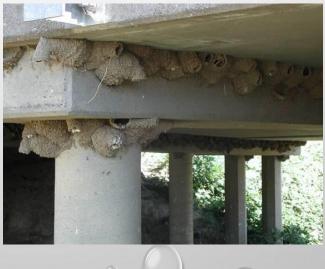
• <u>Recommendation</u>: Construct concrete deflector pads and stabilize banks with riprap

Environmental Factors

- River diversion and
- Fish salvage
- Restoration of vegetation
- Stakeholder coordination
- Migratory birds

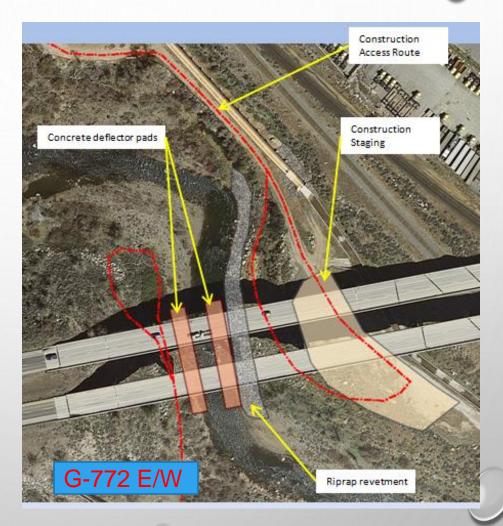








Access



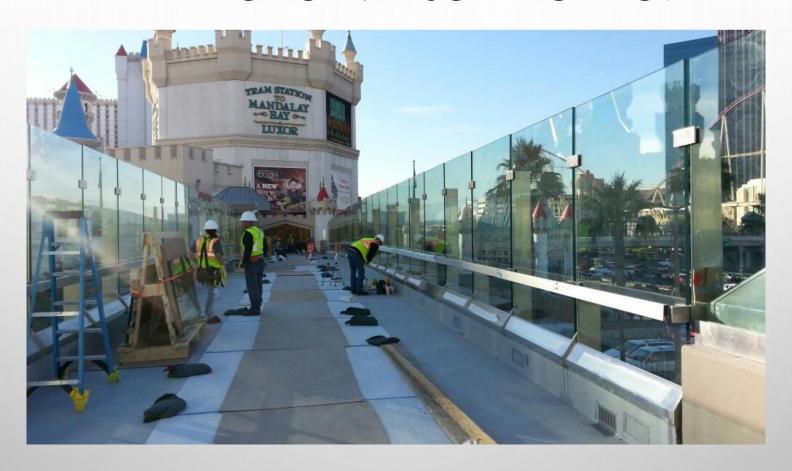
TROPICANA ESCALATOR - CMAR



TROPICANA ESCALATOR - CMAR



TROPICANA ESCALATOR - CMAR



Questions?



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