





I-80/I-580/US 395 Traffic Study Update

Presentation to Nevada State Transportation
Board

October 10, 2016

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Asst. Director - Engineering





Reno Sparks Freeway Traffic Study

– North Valleys

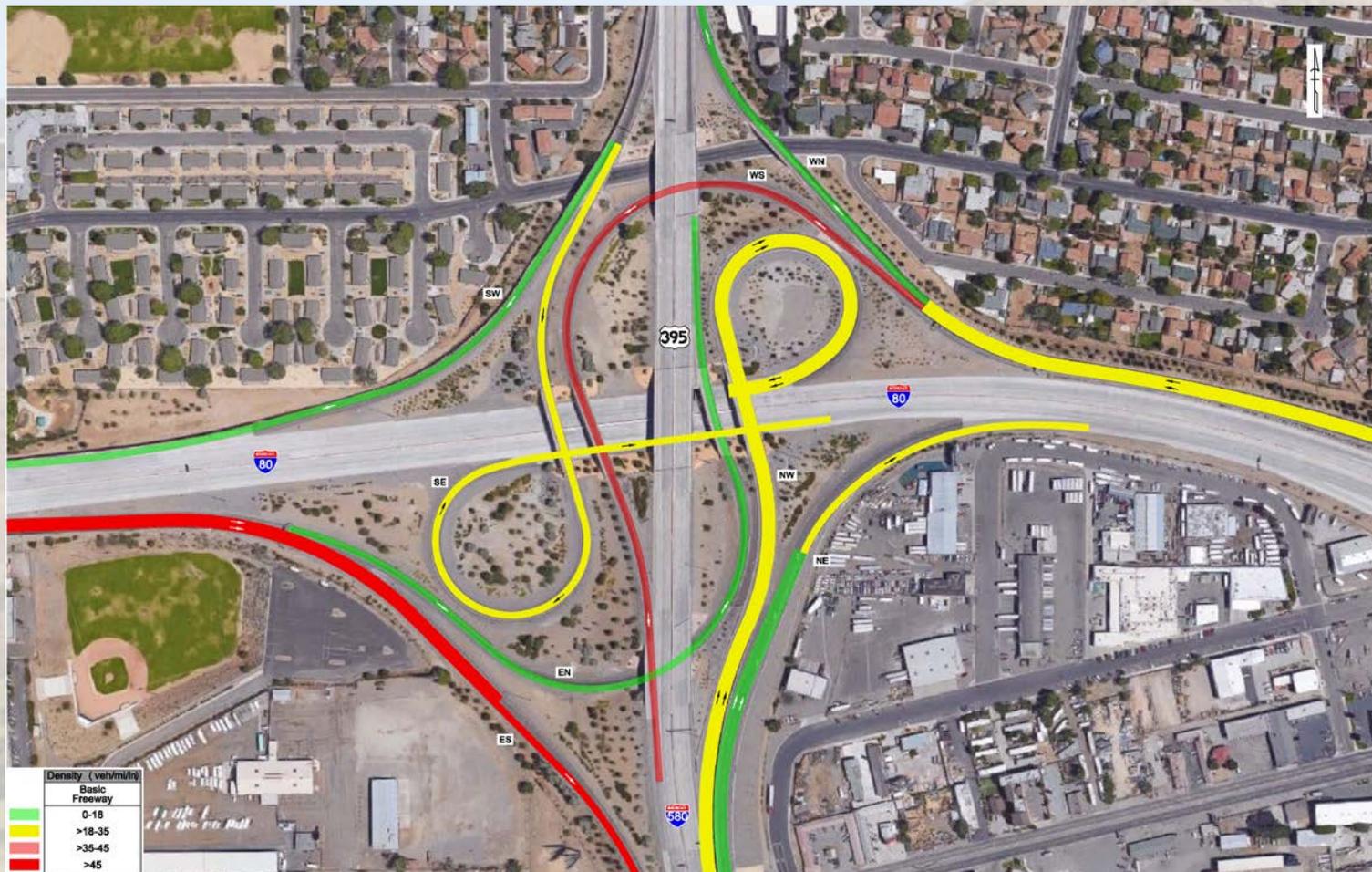
- Calculated analysis (HCM/Synchro)
- Parr Boulevard to Red Rock Drive
- Utilizes 2016 traffic counts

– Spaghetti Bowl

- Microsimulation
- Utilizes 2016 traffic counts, speed surveys, queue observations and driver behavior
- Calibrated model
- Parr Boulevard to Virginia Kietzke and West McCarran Boulevard to East McCarran Boulevard

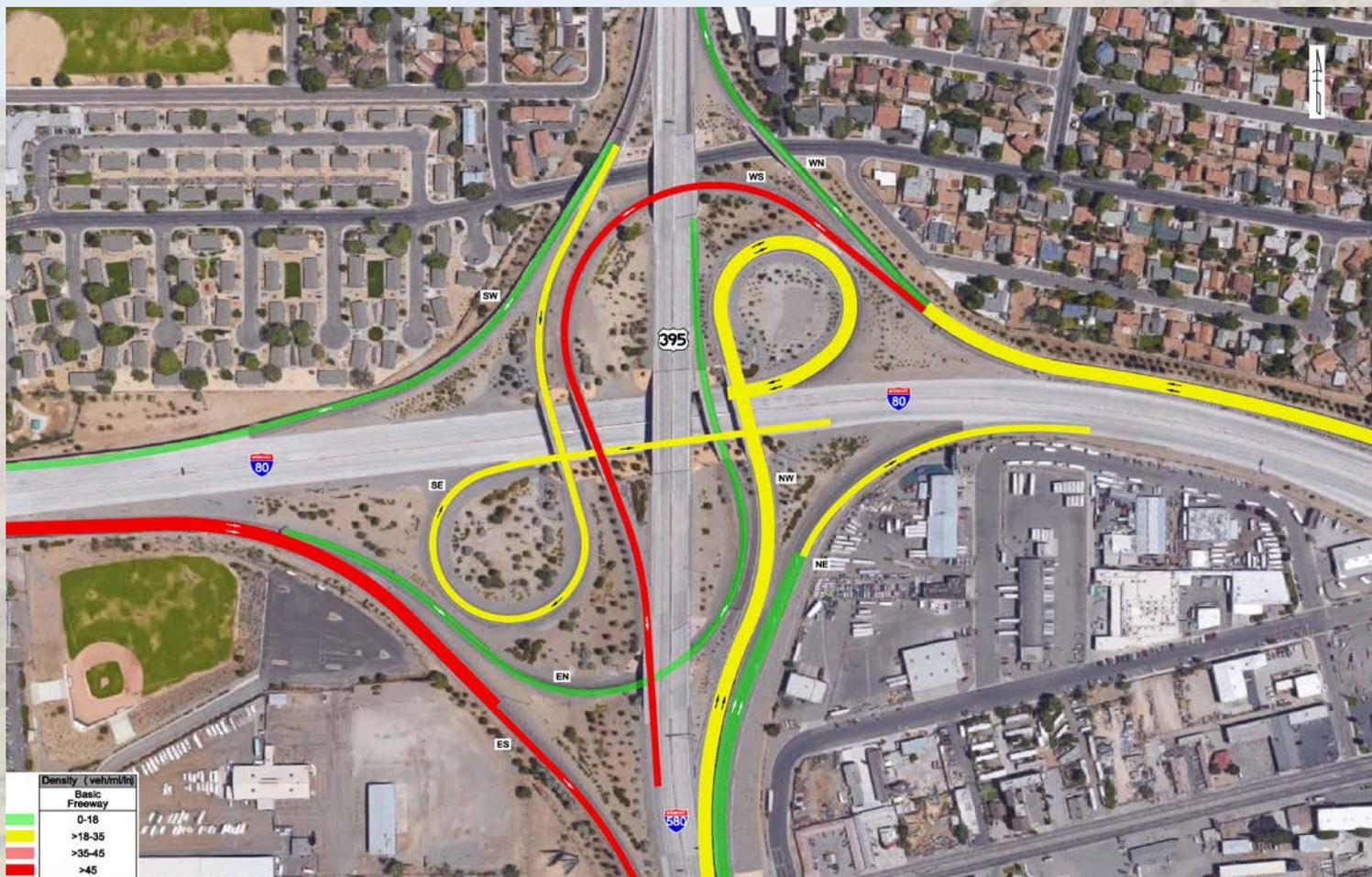


Reno Sparks Freeway Traffic Study Spaghetti Bowl – 2016 AM Actual



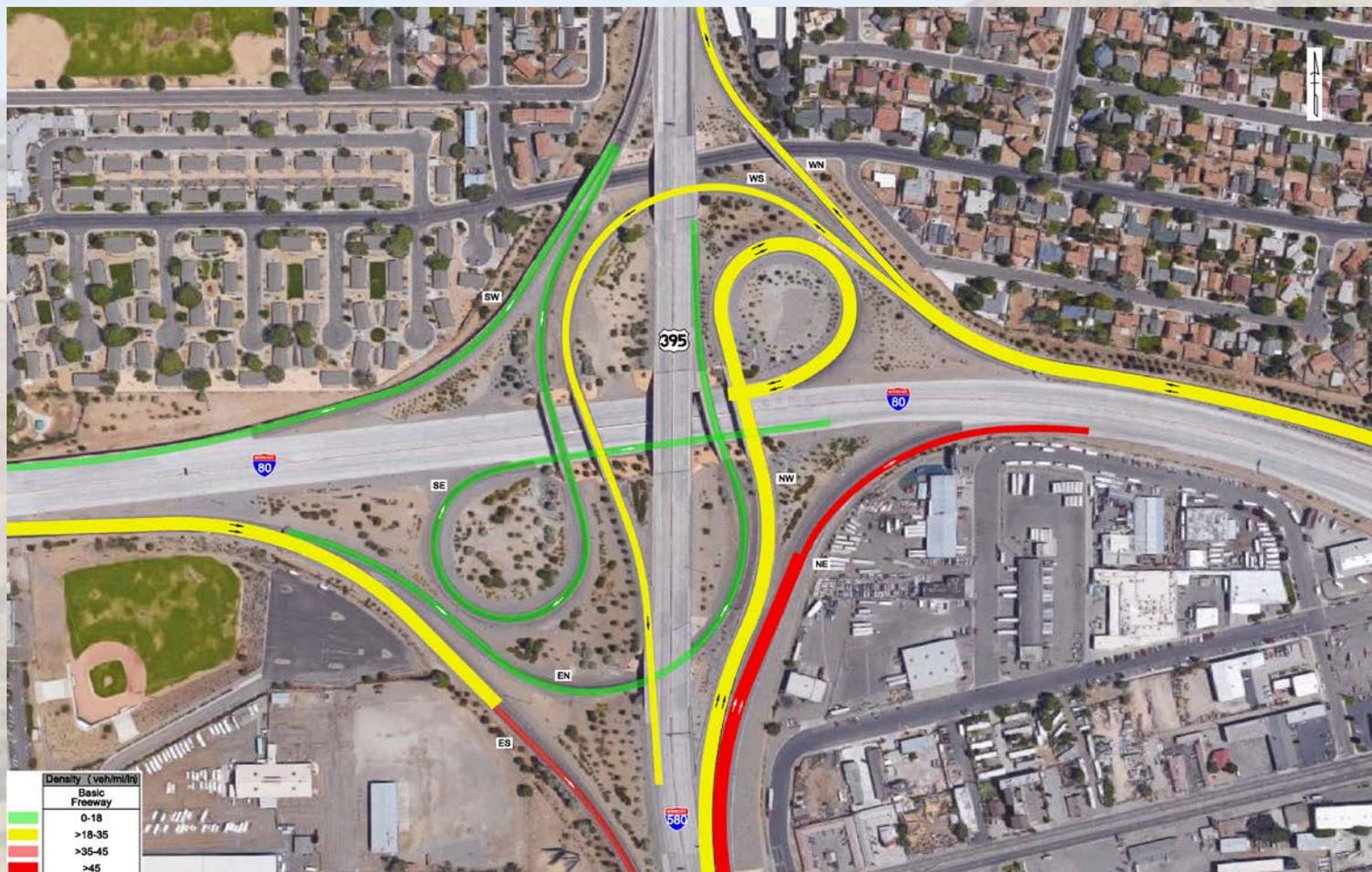


Reno Sparks Freeway Traffic Study Spaghetti Bowl – 2040 AM Forecasted



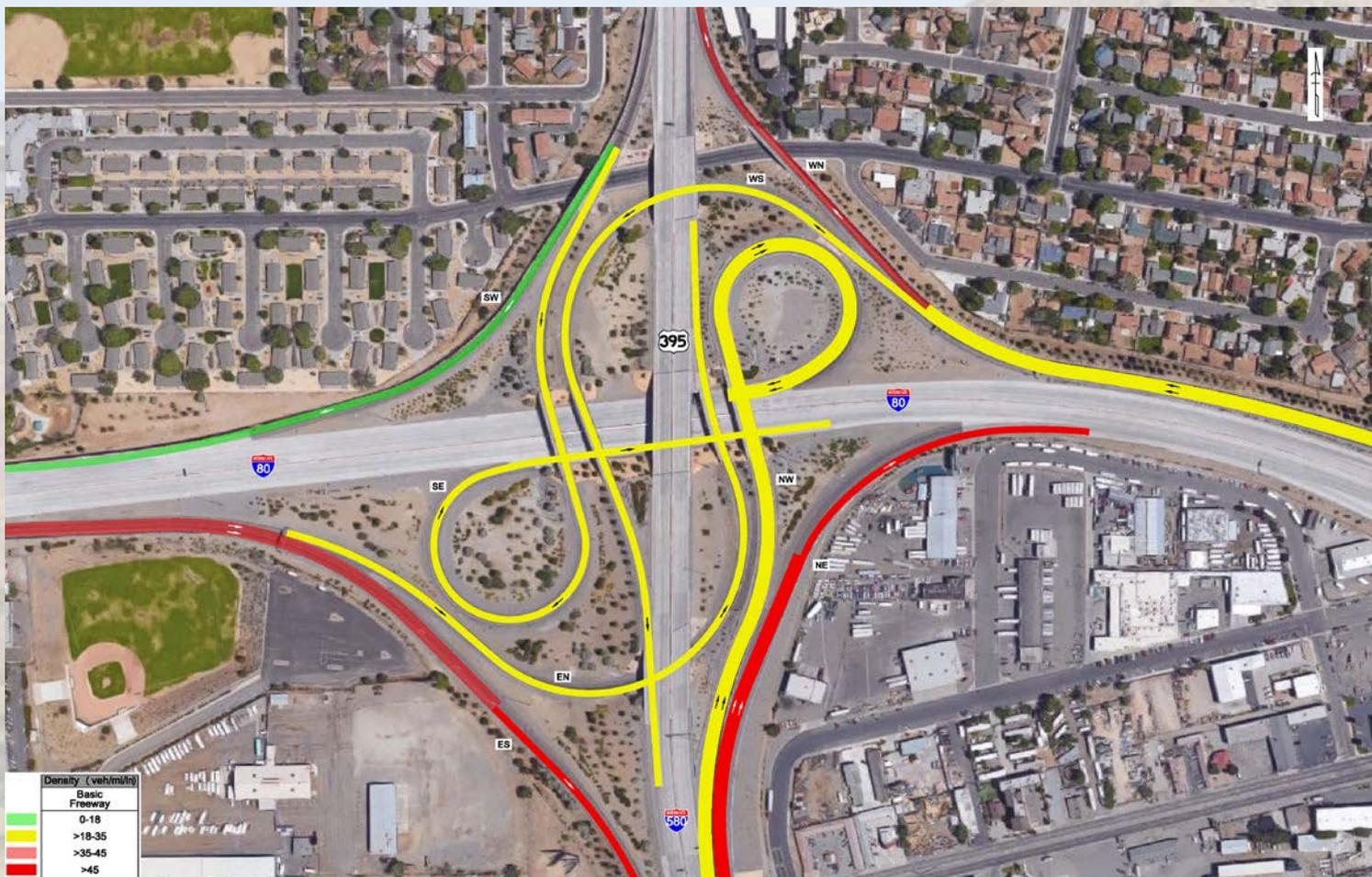


Reno Sparks Freeway Traffic Study Spaghetti Bowl – 2016 PM Actual





Reno Sparks Freeway Traffic Study Spaghetti Bowl – 2040 PM Forecasted





Reno Sparks Freeway Traffic Study Spaghetti Bowl Recommendations

– Ramps Modifications/Reconstruction

- I-80 East to I-580 South
- I-80 West to I-580 South
- I-80 West to US 395 North
- I-580 North to I-80 East

– Mainline Weaving Concerns

- Wells Avenue On-Ramp with Eastbound I-80
- Glendale Off-Ramp/I-80 East to I-580 South/I-80 West to I-580 South
- Glendale On-Ramp/Mill Street Off-Ramp/Southbound I-580
- I-80 West to US 395 North/I-80 East to US 395 North/Oddie Boulevard Off-Ramp from US 395 North
- I-580 North to I-80 East with I-80 East Off-Ramp to 4th Street



Reno Sparks Freeway Traffic Study

Spaghetti Bowl

– Priorities

- I-80 East to I-580 South
 - Eliminate Wells On-Ramp weave
 - Provide additional capacity
- I-580 North to I-80 East
- I-80 West to I-580 South
- Improve the downstream freeway capacity with added lanes and/or eliminating weaving



Reno Spaghetti Bowl

- Moving Forward
 - NEPA EIS RFP's due October 5th
 - Board approval December 2016
 - Ultimate concept workshop in January 2017
 - Begin public meetings February 2017
 - NEPA clearance July 2020



2016 Mainline – I-80

2016 Level-of-Service (LOS)								
I-80 EASTBOUND								
Segment	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	4:00-4:30	4:30-5:00	5:00-5:50	5:30-6:00
	AM				PM			
Freeway (Starting point)	B	B	B	B	A	B	A	B
McCarran Blvd on-ramp	B	C	B	B	B	B	B	B
Freeway	C	D	C	C	B	B	B	B
Freeway	C	D	C	C	C	C	C	C
Keystone Ave off-ramp	C	D	C	C	C	B	B	B
Freeway	C	D	C	C	B	B	B	B
Freeway	C	C	B	C	B	B	B	B
Keystone Ave on-ramp and Sierra Ave off-ramp	B	B	B	B	B	B	B	B
Freeway	B	B	B	B	A	B	B	B
Center St on-ramp and Wells Ave off-ramp	B	B	C	B	B	B	B	B
Freeway	B	B	B	B	B	C	C	C
Wells Ave on-ramp and I-580/US-395 off-ramp	B	C	D	B	B	B	C	C
Freeway	A	A	A	A	A	A	B	A
Freeway	A	A	A	A	B	B	B	B
US-395 SB to I-80 EB on-ramp (SE Ramp)	B	B	B	B	B	B	B	B
I-580 NB to I-80 EB on-ramp (NE) and Prater Wy off-ramp	C	C	B	B	C	C	C	C
Freeway	B	B	B	B	C	C	C	C
Prater Wy on-ramp and Rock Blvd off-ramp	B	B	B	B	B	B	C	B
Freeway	B	B	B	B	C	C	C	C
Freeway	B	B	B	B	C	D	D	D
Rock Blvd on-ramp and Pyramid Wy off-ramp	B	B	B	B	D	D	E	D
Freeway	B	C	C	C	D	D	E	D
Pyramid Wy on-ramp (End point)	B	B	B	B	C	C	C	C

2016
I-80 EB

I-80 WESTBOUND								
Segment	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	4:00-4:30	4:30-5:00	5:00-5:50	5:30-6:00
	AM				PM			
Freeway (Starting point)	C	D	C	C	C	D	C	D
McCarran Blvd on-ramp and Pyramid Wy off-ramp	C	D	C	C	C	D	C	D
Freeway	D	D	C	C	D	D	D	D
Pyramid Wy on-ramp and Rock Blvd off-ramp	C	C	C	C	C	C	C	C
Freeway	C	C	C	C	C	C	C	C
Rock Blvd on-ramp and Prater Wy off-ramp	C	C	B	B	C	C	C	C
US-395/I-580 off-ramp	B	C	B	B	B	C	C	C
Freeway	B	B	A	A	B	B	B	B
Freeway	B	B	B	B	B	B	B	B
Prater Wy on-ramp	B	B	B	B	B	B	B	B
Freeway	B	B	B	B	B	C	B	B
I-580 NB to I-80 WB on-ramp (NW Ramp)	B	B	B	B	B	B	B	B
US-395 SB to I-80 WB on-ramp (SW) and Wells Ave off-ramp	B	B	B	B	C	C	C	C
Freeway	B	C	B	B	C	D	D	C
Wells Ave on-ramp and Center St off-ramp	B	B	B	B	C	C	C	C
Freeway	A	B	B	A	C	C	C	C
Sierra Ave on-ramp and Keystone Ave off-ramp	A	B	B	A	C	C	C	C
Freeway	A	A	A	A	B	C	C	B
Keystone Ave on-ramp	A	A	A	A	B	C	C	B
Freeway (End point)	A	A	A	A	C	C	C	C

2016
I-80 WB





2040 Mainline – I-80

2040 Level-of-Service (LOS)				
I-80 EASTBOUND				
Segment	PM			
	TP1 (4:00 to 4:30)	TP2 (4:30 to 5:00)	TP3 (5:00 to 5:30)	TP4 (5:30 to 6:00)
Freeway (Starting point)	B	B	B	B
McCarran Blvd on-ramp	B	B	B	B
Freeway	B	B	B	B
Keystone Ave off-ramp	B	B	B	B
Freeway	B	B	B	B
Freeway	B	B	B	B
Keystone Ave on-ramp and Sierra Ave off-ramp	B	B	B	B
Freeway	B	B	B	B
Center St on-ramp and Wells Ave off-ramp	B	B	B	B
Freeway	C	C	C	C
Wells Ave on-ramp and I-580/US-395 off-ramp	C	B	C	C
Freeway	A	A	B	A
US-395 SB to I-80 EB on-ramp (SE Ramp)	B	B	B	B
I-580 NB to I-80 EB on-ramp (NE) and Prater Wy off-ramp	B	B	B	B
Freeway	C	C	C	C
Prater Wy on-ramp and Rock Blvd off-ramp	C	C	C	C
Freeway	C	C	C	C
Rock Blvd on-ramp and Pyramid Wy off-ramp	C	C	C	C
Freeway	C	D	D	D
Pyramid Wy on-ramp (End point)	C	D	D	C

2040
I-80 EB

I-80 WESTBOUND				
Segment	PM			
	TP1 (4:00 to 4:30)	TP2 (4:30 to 5:00)	TP3 (5:00 to 5:30)	TP4 (5:30 to 6:00)
Freeway (Starting point)	C	C	C	C
McCarran Blvd on-ramp and Pyramid Wy off-ramp	C	C	C	C
Freeway	C	C	C	C
Pyramid Wy on-ramp and Rock Blvd off-ramp	C	C	C	C
Freeway	C	D	D	D
Rock Blvd on-ramp	D	F	F	F
Freeway	D	F	F	E
Prater Wy off-ramp	D	F	F	F
US-395/I-580 off-ramp	C	D	D	D
Freeway	B	B	B	B
Freeway	B	B	B	C
Prater Wy on-ramp	C	C	C	D
Freeway	C	D	D	D
I-580 NB to I-80 WB on-ramp (NW Ramp)	C	C	C	D
US-395 SB to I-80 WB on-ramp (SW) and Wells Ave off-ramp	C	C	C	E
Freeway	C	C	C	E
Wells Ave on-ramp and Center St off-ramp	C	C	C	D
Freeway	C	C	C	B
Sierra Ave on-ramp and Keystone Ave off-ramp	B	B	B	B
Freeway	B	B	B	B
Keystone Ave on-ramp	B	B	B	B
Freeway (End point)	B	B	B	B

2040
I-80 WB





Reno Sparks Freeway Traffic Study I-80 Recommendations

– I-80 Mainline

- Provide additional lanes on I-80 Eastbound and Westbound from Rock to McCarran Boulevard
- Improve I-80 downstream of US 395/I-580 by eliminating weaves and adding capacity



2016 Mainline – US 395/I-580

2016 Level-of-Service (LOS)								
I-580 / US-395 NORTHBOUND								
Segment	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	4:00-4:30	4:30-5:00	5:00-5:50	5:30-6:00
	AM				PM			
Freeway (Starting point)	B	C	C	C	C	C	D	C
Virginia St/Kietzke Ln on-ramp	B	C	C	C	D	D	D	C
Freeway	B	D	C	C	D	D	F	D
Moana Ln off-ramp	B	D	C	C	E	D	E	D
Freeway	B	C	C	C	D	D	D	D
Moana Ln on-ramp and Plumb Ln off-ramp	B	C	B	B	C	D	D	C
Freeway	B	C	B	B	C	C	D	C
Airport on-ramp	B	B	B	B	C	C	C	C
Freeway	A	B	B	B	C	C	C	C
Villanova Dr on-ramp and Mill St off-ramp	A	B	B	B	C	C	C	B
Freeway	A	B	A	A	C	C	C	C
Mill St on-ramp and 2nd St/Glendale Ave off-ramp	A	B	B	A	C	C	C	B
Freeway	A	A	A	A	C	C	C	C
2nd St/Glendale Ave on-ramp and I-80 EB off-ramp (NE Ramp)	A	B	B	A	C	C	D	C
I-80 WB off-ramp (NW Ramp)	B	B	B	B	D	D	D	D
Freeway	A	A	A	A	C	C	C	C
I-80 EB to US-395 NB on-ramp (EN Ramp)	A	A	A	A	C	C	C	C
I-80 WB to US-395 NB (WN) on-ramp and Oddie Blvd off-ramp	A	B	A	A	C	D	D	D
Freeway	A	A	A	A	D	D	D	D
Oddie Blvd on-ramp	A	B	B	B	E	E	F	F
Freeway	A	B	B	B	E	F	F	F
McCarran Blvd off-ramp	A	B	B	A	E	E	F	F
Clear Acre Ln off-ramp	A	A	A	A	C	D	D	D
Freeway	A	A	A	A	B	C	C	C
McCarran Blvd on-ramp	A	A	A	A	B	B	B	B
Freeway	A	A	A	A	C	C	C	C
Clear Acre Ln on-ramp	A	A	A	A	B	C	C	C
Freeway (End point)	A	A	A	A	C	C	C	C

2016
I-580/US
395 NB

I-580 / US-395 SOUTHBOUND								
Segment	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	4:00-4:30	4:30-5:00	5:00-5:50	5:30-6:00
	AM				PM			
Freeway (Starting point)	D	C	B	B	B	B	B	B
Parr Blvd on-ramp	D	C	B	B	B	B	B	B
Freeway	D	D	C	C	C	C	C	B
Clear Acre Ln off-ramp	D	C	C	C	B	B	B	B
Freeway	C	C	B	B	B	B	B	B
Clear Acre Ln on-ramp	B	B	A	A	A	A	A	A
McCarran Blvd on-ramp and Oddie Blvd off-ramp	D	D	C	C	C	C	B	B
Freeway	D	F	C	C	C	C	B	B
Oddie Blvd on-ramp	C	F	C	B	B	B	B	B
Freeway	F	F	E	C	D	D	D	C
I-80 off-ramp	D	E	C	C	C	C	C	C
Freeway	D	D	C	C	B	B	B	B
Freeway	D	D	D	C	C	C	C	B
I-80 WB to I-580 SB on-ramp (WS Ramp)	D	D	C	C	B	C	B	B
I-80 EB to I-580 SB on-ramp (ES) and 2nd St/Glendale Ave off-ramp	D	D	C	C	C	C	C	C
Freeway	D	D	C	C	C	C	C	C
2nd St/Glendale Ave on-ramp and Mill St off-ramp	C	D	C	C	B	C	C	B
Freeway	E	F	E	D	C	D	D	C
Freeway	E	E	E	D	D	D	D	D
Mill St on-ramp and Villanova Dr off-ramp	D	D	D	C	C	C	C	C
Airport off-ramp	C	C	C	C	B	B	B	B
Freeway	C	C	C	C	B	C	C	B
Plumb Ln on-ramp and Moana Ln off-ramp	C	D	D	C	C	C	C	C
Freeway	C	D	D	C	C	C	C	C
Moana Ln on-ramp	C	D	C	C	C	C	D	C
Freeway (End point)	C	D	C	C	C	C	C	C

2016
I-580/US
395 SB





2040 Mainline – US 395/I-580

2040 Level of Service (LOS)				
I-580 / US-395 NORTHBOUND				
Segment	LOS	LOS	LOS	LOS
	PM			
	TP1 (4:00 to 4:30)	TP2 (4:30 to 5:00)	TP3 (5:00 to 5:30)	TP4 (5:30 to 6:00)
Freeway (Starting point)	D	D	D	D
Virginia St/Kietzke Ln on-ramp	D	E	F	D
Freeway	E	E	F	D
Moana Ln off-ramp	E	E	F	D
Freeway	D	D	D	D
Moana Ln on-ramp and Plumb Ln off-ramp	D	D	D	D
Freeway	D	D	D	C
Airport on-ramp	C	D	D	C
Freeway	C	C	D	C
Villanova Dr on-ramp and Mill St off-ramp	C	C	C	C
Freeway	C	C	C	C
Mill St on-ramp and 2nd St/Glendale Ave off-ramp	C	C	C	C
Freeway	C	C	D	C
2nd St/Glendale Ave on-ramp and I-80 EB off-ramp (NE Ramp)	C	C	D	D
I-80 WB off-ramp (NW Ramp)	D	D	E	D
Freeway	C	C	C	C
I-80 EB to US-395 NB on-ramp (EN Ramp)	C	C	C	C
I-80 WB to US-395 NB (WN) on-ramp and Oddie Blvd off-ramp	C	C	D	C
Freeway	C	C	D	D
Oddie Blvd on-ramp	C	D	E	D
Freeway	D	E	F	E
McCarran Blvd off-ramp	E	F	F	F
Clear Acre Ln off-ramp	D	E	E	D
Freeway	D	D	D	D
McCarran Blvd on-ramp	C	D	D	E
Freeway	D	F	F	F
Clear Acre Ln on-ramp	E	F	F	F
Freeway (End point)	E	E	E	E

2040
I-580/US
395 NB

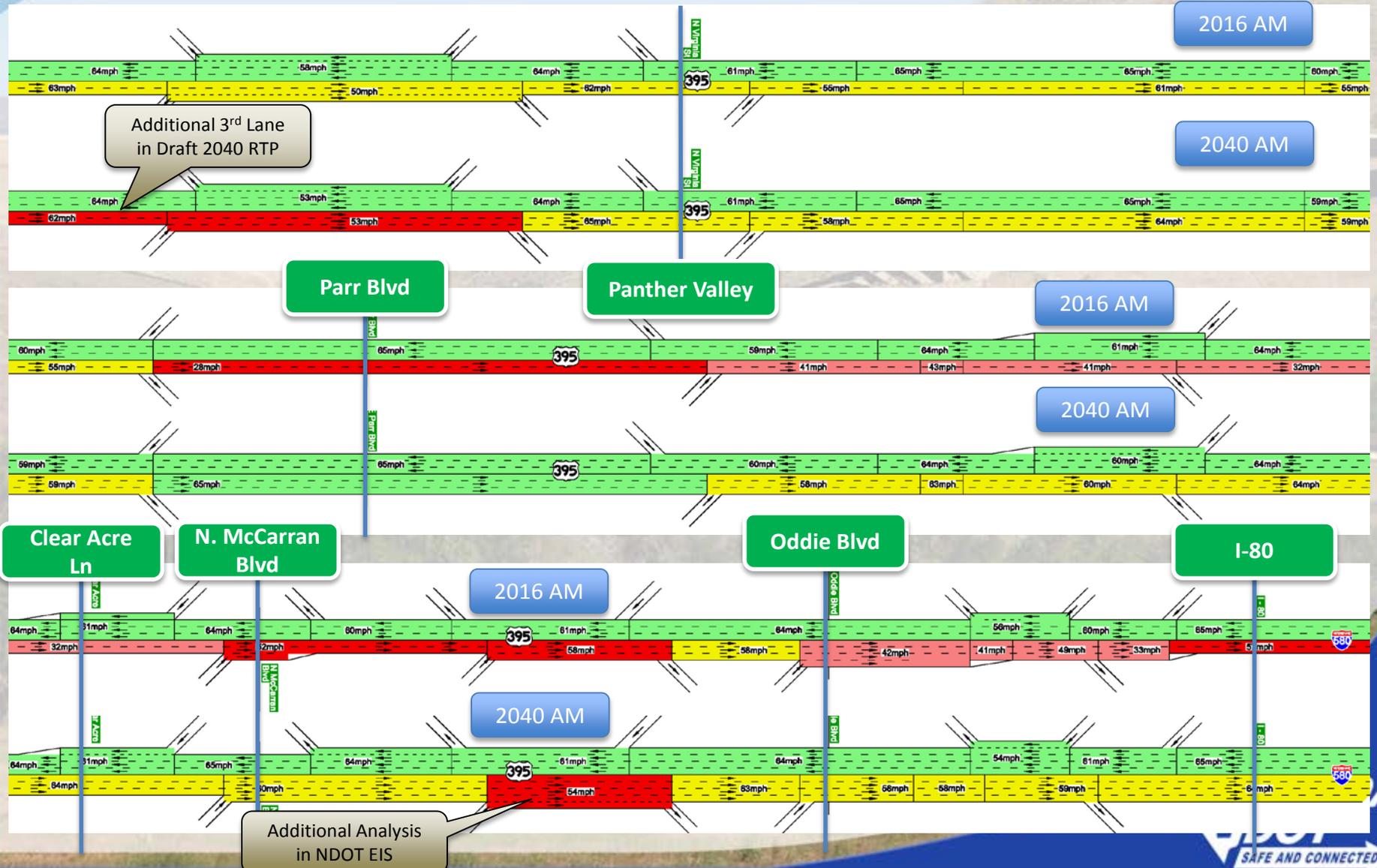
I-580 / US-395 SOUTHBOUND				
Segment	LOS	LOS	LOS	LOS
	PM			
	TP1 (4:00 to 4:30)	TP2 (4:30 to 5:00)	TP3 (5:00 to 5:30)	TP4 (5:30 to 6:00)
Freeway (Starting point)	C	C	C	B
Parr Blvd on-ramp	C	C	C	B
Freeway	D	D	D	C
Sutro St off-ramp	E	E	D	C
Clear Acre Ln off-ramp	C	C	C	B
Freeway	C	C	C	B
Clear Acre Ln on-ramp	A	A	A	A
McCarran Blvd on-ramp and Oddie Blvd off-ramp	C	C	C	B
Freeway	C	C	C	C
Oddie Blvd on-ramp	C	C	C	B
Freeway	D	D	D	C
I-80 off-ramp	C	C	C	C
Freeway	B	B	B	B
I-80 WB to I-580 SB on-ramp (WS Ramp)	C	C	C	C
I-80 EB to I-580 SB on-ramp (ES) and 2nd St/Glendale Ave off-ramp	D	D	D	D
Freeway	C	C	C	C
2nd St/Glendale Ave on-ramp and Mill St off-ramp	C	C	C	C
Freeway	D	D	E	D
Freeway	D	D	E	D
Mill St on-ramp and Villanova Dr off-ramp	C	D	D	D
Airport off-ramp	C	C	C	C
Freeway	C	C	C	C
Plumb Ln on-ramp and Moana Ln off-ramp	C	D	D	C
Freeway	C	D	D	C
Moana Ln on-ramp	C	D	D	D
Freeway (End point)	C	C	C	C

2040
I-580/US
395 SB





North Valleys – AM



2016 AM

2040 AM

2016 AM

2040 AM

2016 AM

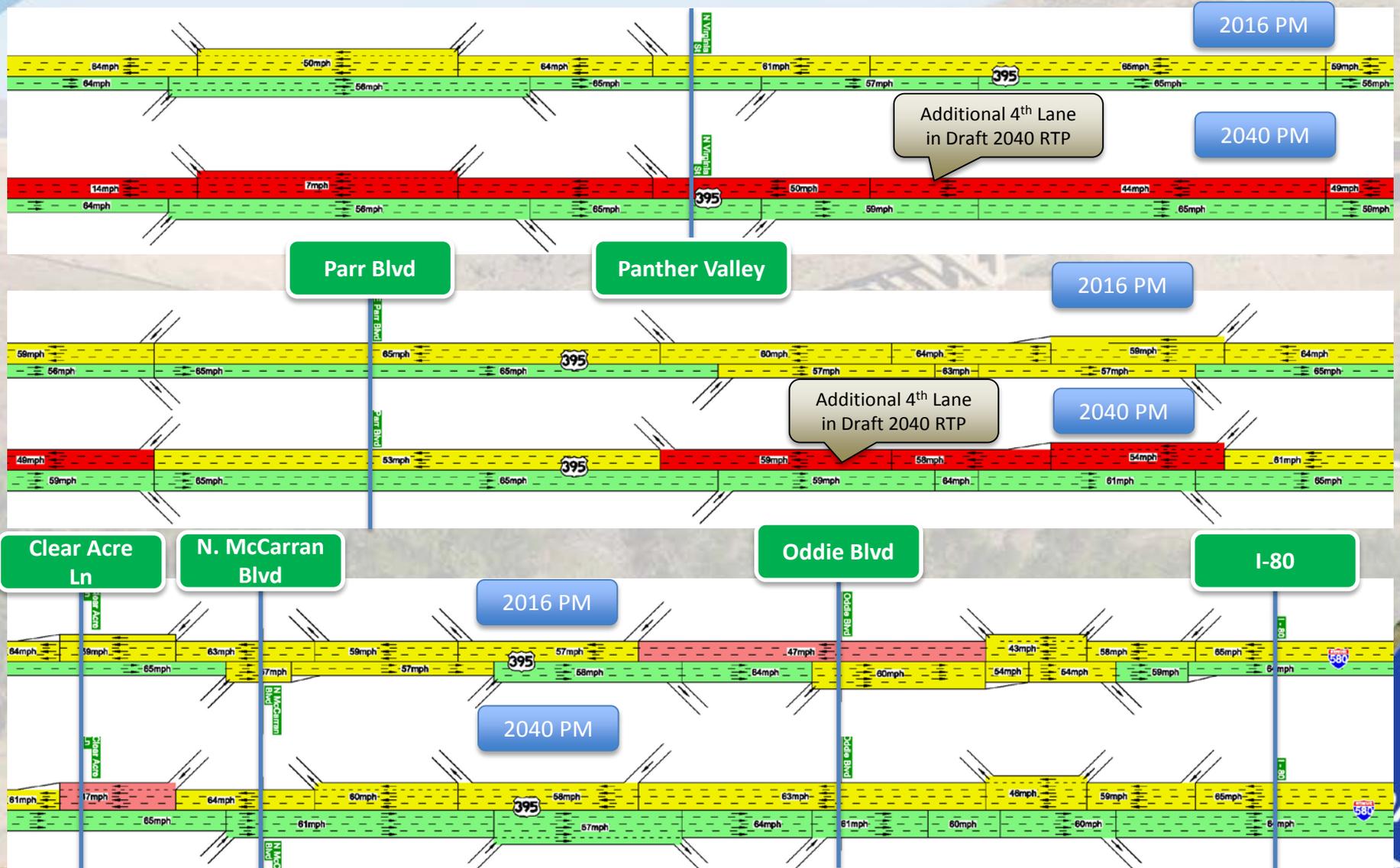
2040 AM

Additional 3rd Lane
in Draft 2040 RTP

Additional Analysis
in NDOT EIS



North Valleys – PM





Reno Sparks Freeway Traffic Study N. Valleys RTP Recommendations

– US 395 Southbound

- Add 3rd Lane to 2040 RTP Project List from Panther Valley to Lemmon Drive
- Add lanes thru I-80/I-580/US 395 interchange

– US 395 Northbound

- Add 3rd lane to 2040 RTP Project List from Golden Valley to Stead Blvd
- Add 4th lane to 2040 RTP Project List from Parr to Golden Valley

– Interchanges

- Modify Lemmon Drive interchange





Reno Sparks Freeway Traffic Study

North Valleys

- ITS project with ramp meters and VMS to advertise in November
- Implement localized capacity improvements such as SB US 395 Clear Acre/McCarran Ramp modifications to improve bottlenecks
- Coordinate RTP lane widenings with I-80 interchange limits and needed 3R projects
- Generally make phased improvements from South to North in compliance with adopted RTP and traffic study lanes



NEVADA DOT



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