



# FREIGHT ADVISORY COMMITTEE MEETING

February 2, 2021



# ANNOUNCEMENT

**Due to issues with background noise on previous conference calls, participation through phone calls will have limited functionality (no speaking option, only online Q&A and chat).**

**Note: If you join using your computer audio, you will have speaking opportunities during the meeting.**

**If you HAVE to call in from a phone line and wish ask a question or have a comment during the meeting, please email Michael Baker ([mbaker@parametrix.com](mailto:mbaker@parametrix.com)).**



# AGENDA

TIME	TOPIC	FACILITATOR(S)
9:00-9:05	Welcome and Introductions	Bill Thompson, NDOT
9:05-9:10	Freight Formula Funds Project Update Truck Parking Availability System Implementation	Bill Thompson, NDOT
9:10-9:15	Freight Performance Measure Update	Bill Thompson, NDOT
9:15-9:30	Nevada Infrastructure Roadmap (Update)	Kristopher Sanchez, GOED
9:30-9:45	COVID-19 Impacts on Freight and Steps Towards Freight Resiliency in Nevada	Dike Ahanotu, CPCS
9:45-10:10	Nevada Freight Program StoryMap	Jackie Kuechenmeister, Parametrix
10:10-10:15	I-80 Multi-State Corridor Operations & Management Program	Juan Hernandez, NDOT
10:15-10:30	Drivewyze and the Connected Vehicle	Brian Mofford, Drivewyze

# AGENDA – Continued

TIME	TOPIC	FACILITATOR(S)
10:30-10:45	High-level status update on the following projects that impact movement of freight: <ul style="list-style-type: none"><li>• Reno Spaghetti Bowl Xpress</li><li>• I-15 South from Sloan Road to Blue Diamond Road</li><li>• I-15 North Phase III from Speedway to Garnett</li></ul>	Sajid Sulahria, NDOT Bill Thompson, NDOT
10:45-11:00	Next Steps/Questions/Open Discussion	Bill Thompson, NDOT

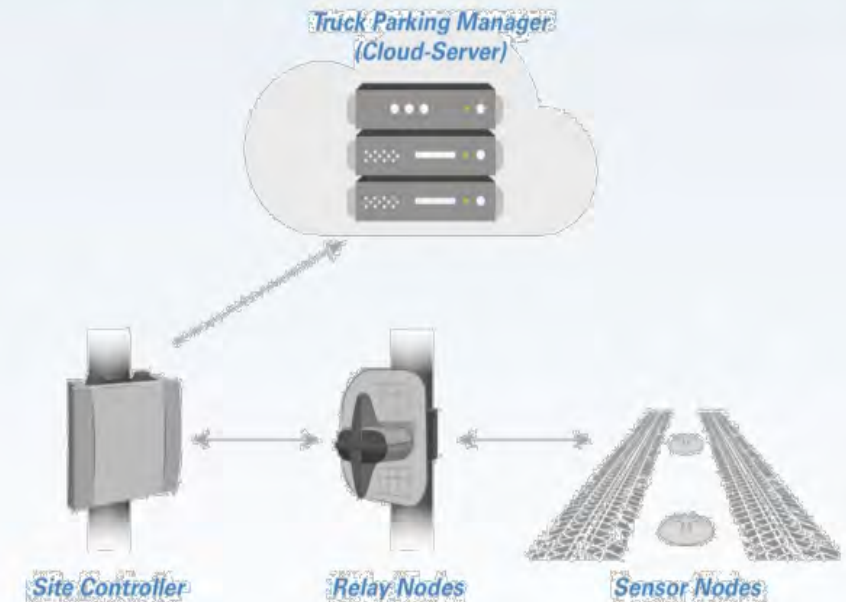
# Truck Parking Availability System (TPAS)

## Update

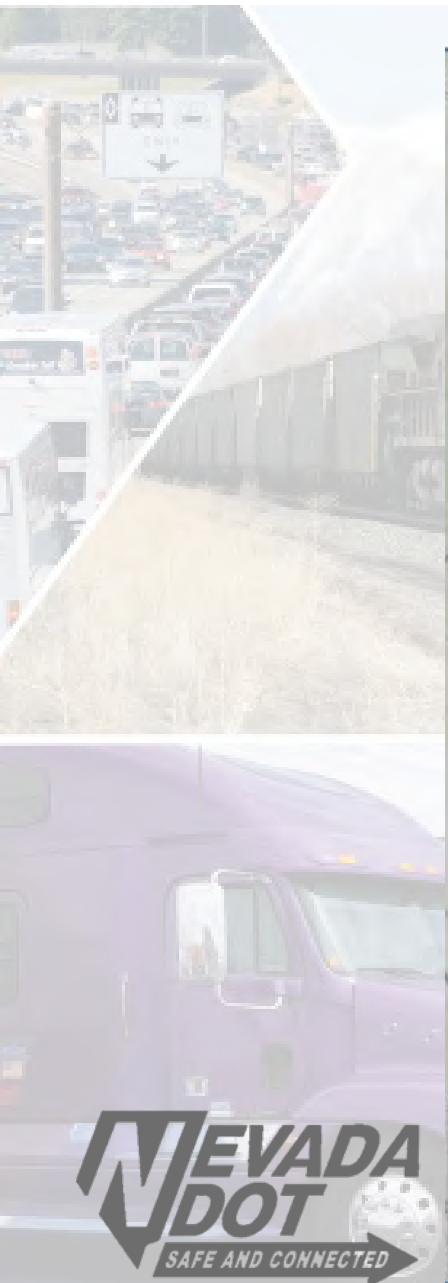
TPAS

## Truck Parking System Technology

- **In-Ground Sensor Nodes:** Wireless, lithium battery (with a life of 7 to 10 years) powered in-ground sensors to determine space occupancy. Two deployed per truck parking space to improve accuracy in detecting smaller trucks;
- **Relay Nodes:** Wireless, lithium battery powered. Attached to poles at site to collect data from sensors. The number required depends on site layout;
- **Data Collector:** Powered, one per site. Aggregates all data from relay nodes and transmits to a central location for processing; and
- **Truck Parking Management System:** Off-site. Data processing, performance and system management, and connection to information dissemination system



# TPAS Projects – Phase I



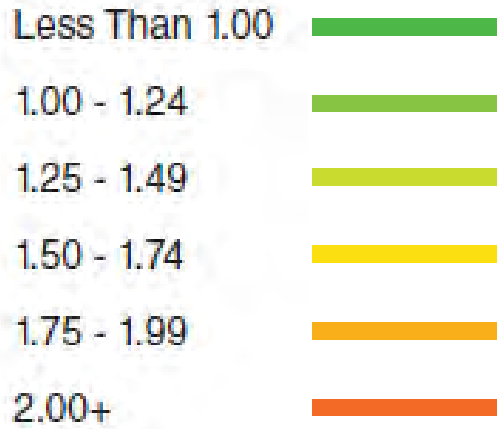
## TPAS Implementation Projects

- 1 Mogul Truck Parking (EB and WB)
- 2 Trinity/Fallon Rest Area
- 3 Beowawe Rest Area (EB and WB)
- 4 I-15 MP 110 Truck Parking (Expansion)
- 5 I-15 MP 96 Truck Parking (Expansion)
- 6 I-15 MP 88 Truck Parking

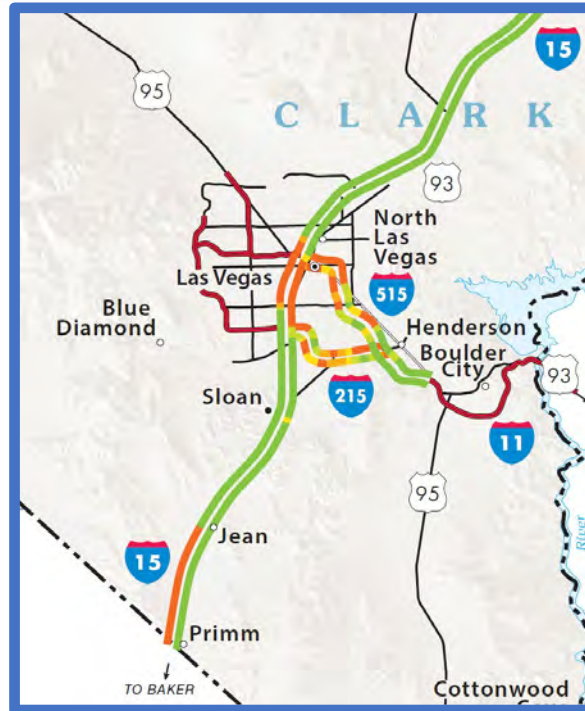


# FHWA's Freight Performance Measure

Truck Travel Time Reliability Index (TTTR index)  
Legend:



## Southern Nevada

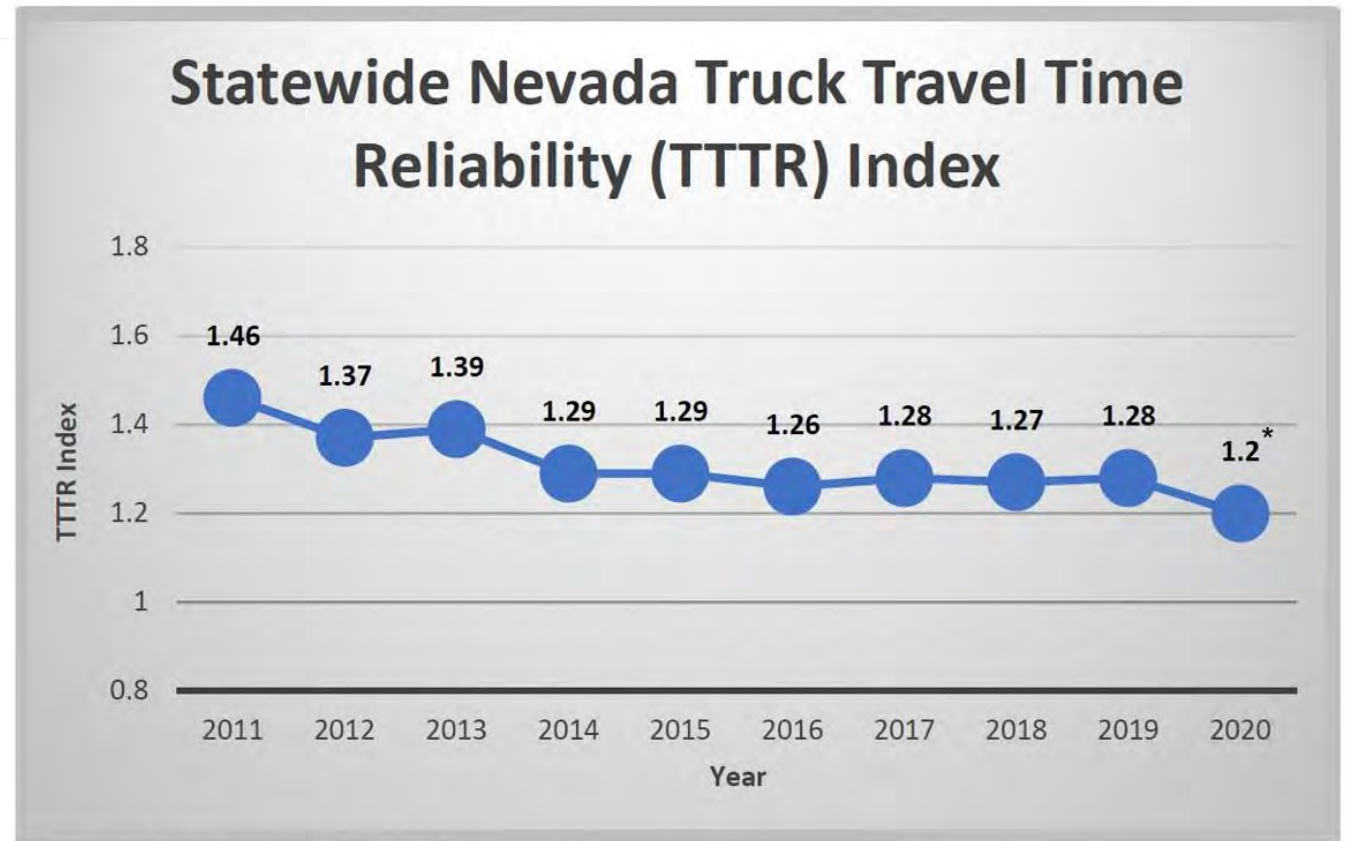


## Northern Nevada



# Freight Performance Measure—Update

- Nevada's TTTR Index  
Target: 1.50 or Lower
- Nevada State Freight Plan  
Performance Measures to  
be updated in 2021 with the  
Freight Plan Update



\* Partial Data Through September 2020





# NEVADA'S INFRASTRUCTURE ROADMAP Update

Presented by: Kristopher Sanchez, GOED



# COVID-19 AND UNPLANNED EMERGENCIES' IMPACTS ON FREIGHT and Steps Towards Freight Resiliency in Nevada

Presented by: Dike Ahanotu, CPCS





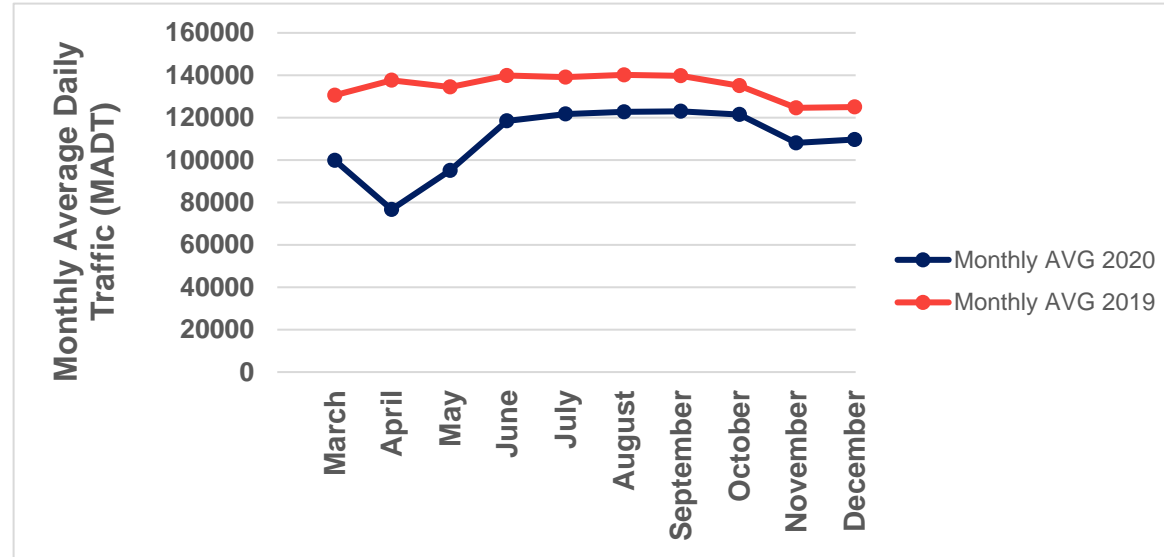
# Purpose

- Explore the effects of COVID-19 and its impacts on freight flows and the freight network in Nevada through
  - National research
  - Input from the Nevada Freight Advisory Committee
- Identify actions/steps to advance resiliency due to future unplanned disruptions/emergency situations
  - Including effects on NDOT's freight-related operations

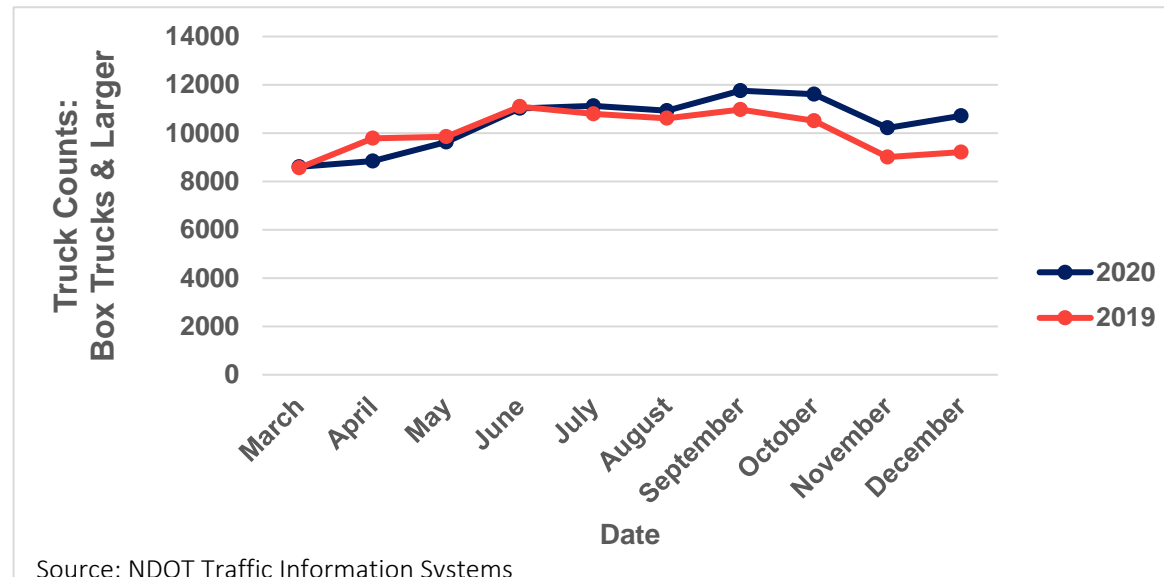


# COVID Impacts on Trucking Activity Muted Relative to Overall Traffic on I-80

**Overall Traffic Volumes on I-80 in Reno Area**

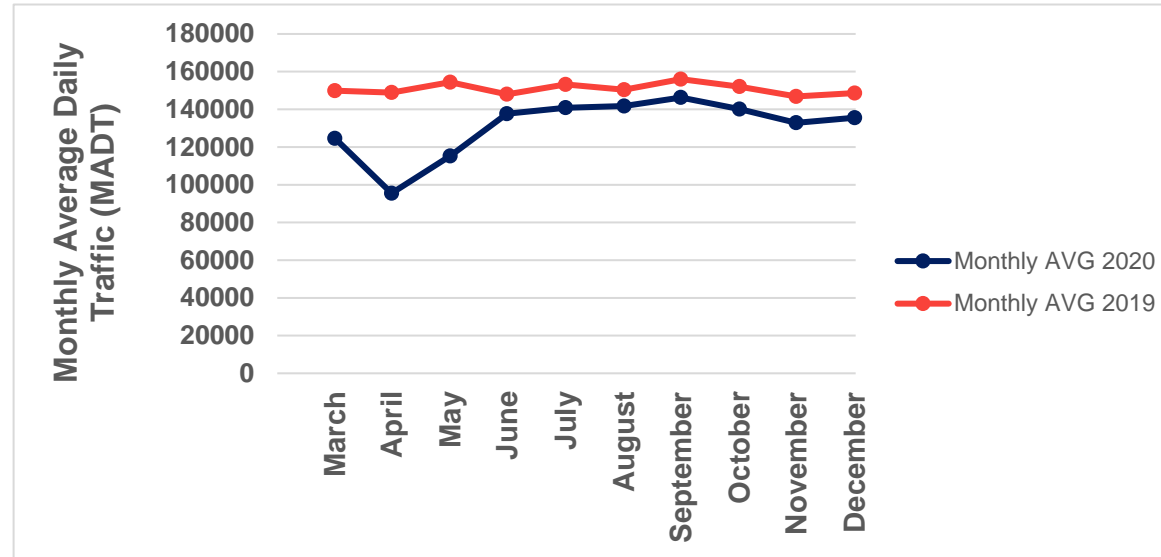


**Truck Volumes on I-80 in Reno Area**

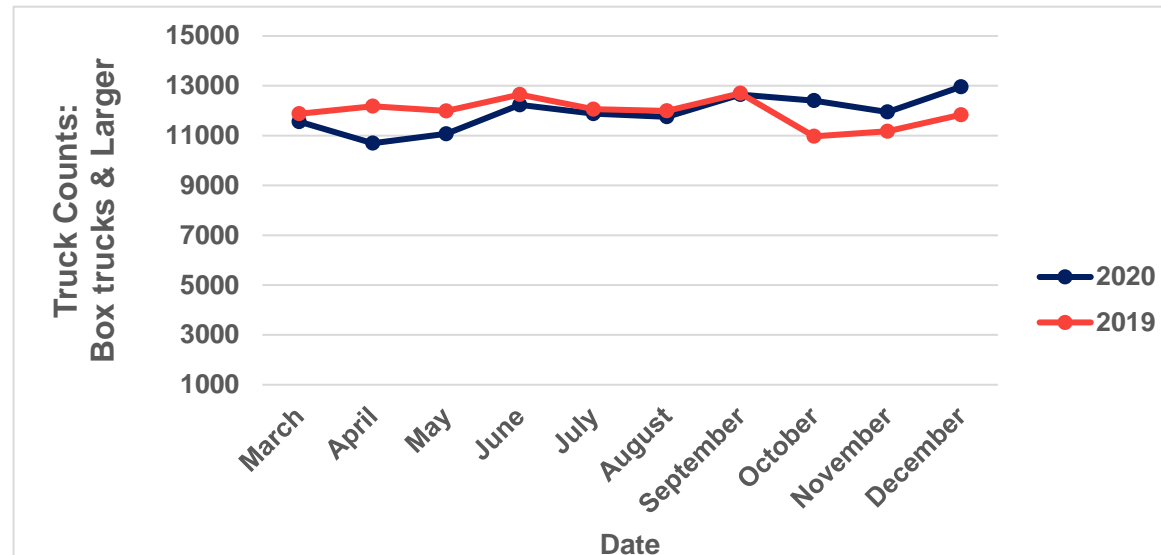


# I-15 Traffic Comparisons are Similar to I-80

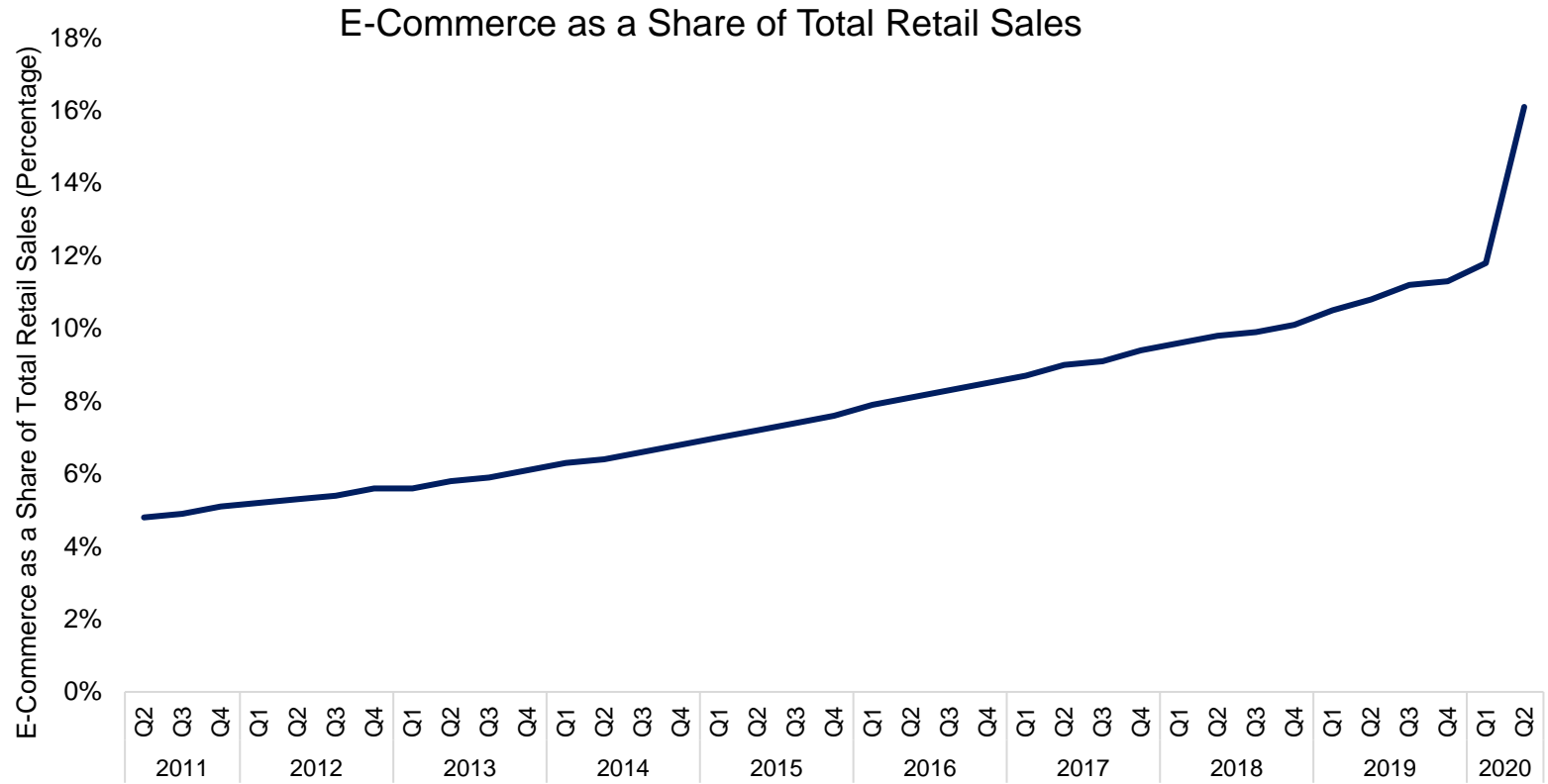
## Overall Traffic Volumes on I-15 in Las Vegas Area



## Truck Volumes on I-15 in Las Vegas Area

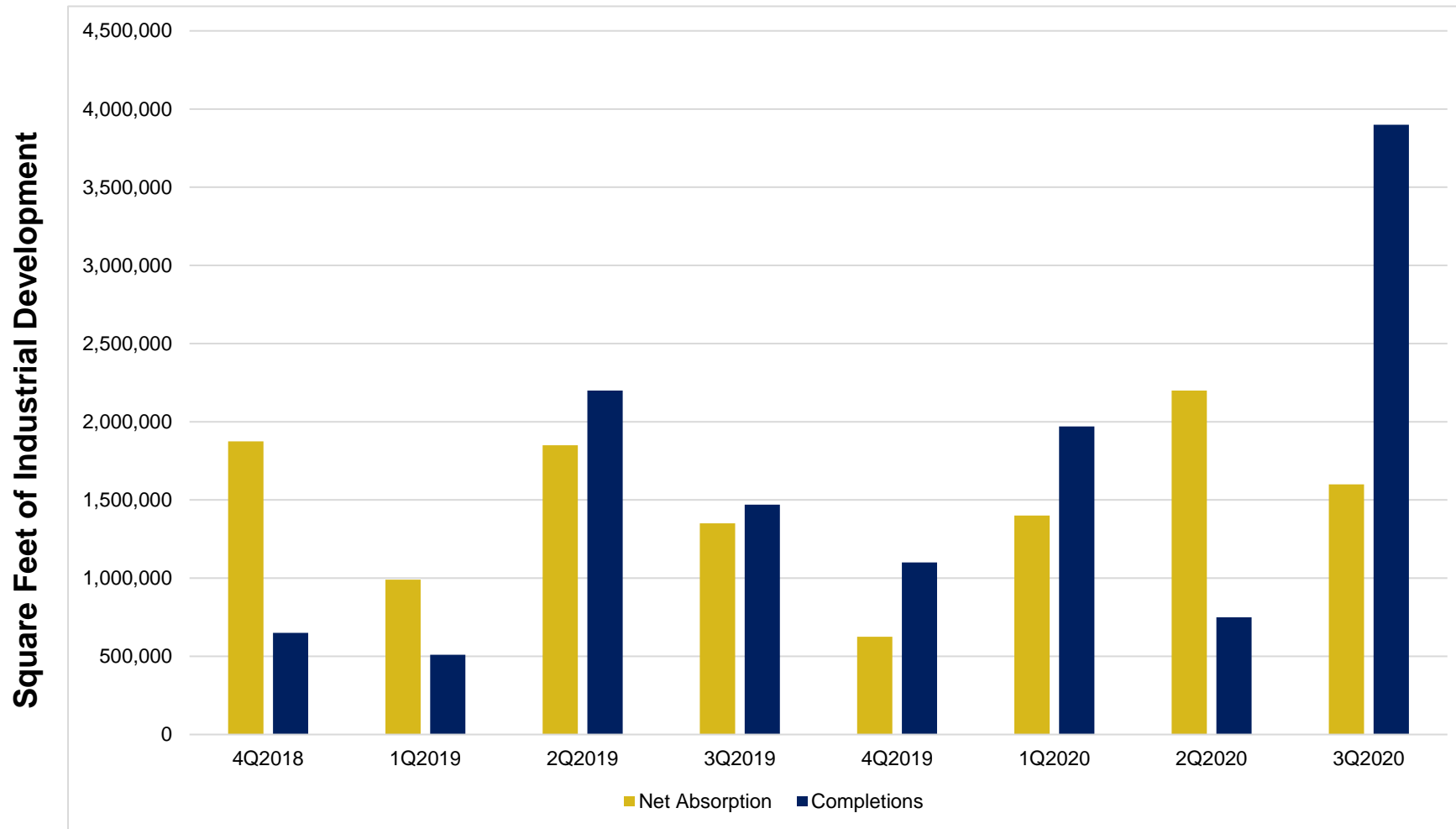


# E-Commerce Retail Sales Grew More in 2020 than the Previous 5 Years Combined



Source: Federal Reserve Bank of St. Louis

# Industrial Real Estate Developers Built in Response To E-Commerce



Source: Colliers International 2020 Q3 Industrial Las Vegas Report



# Most of the New Industrial Development is Speculative

Project	Type	Submarket	Size (sq. ft.)	Pre-Leasing
<b>Q4-2020</b>			<b>2,497,240</b>	<b>20%</b>
Brass Diablo	Light Distribution	Southwest	20,080	65%
Civic Center Commerce Park	Warehouse/Distribution	North Las Vegas	118,021	0%
Durango 215 Point	Flex	Southwest	75,000	0%
Lone Mountain Logistics	Warehouse/Distribution	North Las Vegas	93,943	0%
Marion Logistics Center	Warehouse/Distribution	North Las Vegas	282,220	0%
Marion Logistics Center @ West Cheyenne	Warehouse/Distribution	North Las Vegas	248,106	0%
Marion Logistics Center @ West Cheyenne	Light Distribution	North Las Vegas	479,120	0%
Niagara Bottling BTS	Warehouse/Distribution	North Las Vegas	300,000	100%
North Las Vegas Business park	Warehouse/Distribution	North Las Vegas	297,273	0%
Silver State Commerce Center	Warehouse/Distribution	North Las Vegas	174,615	100%
Stephanie Commerce Center	Warehouse/Distribution	Henderson	338,048	0%
Stephanie Industrial Center	Light Industrial	East Las Vegas	70,814	0%
<b>Q1-2021</b>			<b>1,413,121</b>	<b>37%</b>
4750 West Sunset Road	Warehouse/Distribution	Southwest	42,272	0%
Becknell Blue Diamon ½	Warehouse/Distribution	Southwest	220,160	0%
Beltway Business Park 11/12	Warehouse/Distribution	Southwest	329,775	0%
Diamond Freight Facility	Warehouse/Distribution	Southwest	36,810	0%
Mountain West Industrial Park	Warehouse/Distribution	Southwest	214,100	53%
Paccar Parts Warehouse Addition	Warehouse/Distribution	North Las Vegas	98,612	100%
Post Discovery Spectrum	Light Distribution	Southwest	171,392	7%
Switch	Warehouse/Distribution	Southwest	300,000	100%
<b>Q2-2021</b>			<b>1,001,280</b>	<b>0%</b>
Logisticcenter at Sunset	Warehouse/Distribution	Airport	151,200	0%
South15 Airport Center F/G/H	Warehouse/Distribution	West Henderson	850,080	0%
<b>Q3-2021</b>			<b>1,032,518</b>	<b>0%</b>
Tropical Logistics Park	Warehouse/Distribution	North Las Vegas	1,032,518	0%









# Potential Recommendations

- Continue to track changes in truck and overall traffic volumes from COVID-19
- Empower NDOT and other state agencies to implement temporary emergency response decisions more quickly to match with real-time field conditions
- Develop a full set of lessons learned from NDOT's COVID-19 response team that includes insights on interagency coordination and communication protocols
- Develop real-time (or near real-time) traffic monitoring capabilities with capabilities to inform decision makers about the impacts of disruptions on specific/critical freight-dependent corridors and segments (e.g. I-15, I-80, I-11, US-95, US-93 and US-50) and the system as a whole
- Determine impacts of changes in truck travel patterns due to COVID-19 on local communities in the Las Vegas and Reno/Sparks regions
- Improve modal options for the movement of goods to reduce reliance on highways during times of disruption
- Develop a statewide resiliency plan that includes strategies for emergency preparedness across a broad set of disruption categories



# NEVADA FREIGHT PROGRAM

## StoryMap

Presented by: Jackie Kuechenmeister, Parametrix



**Parametrix**

# I-80 Multi-State Corridor Operations and Management Program

Update to the Western States Freight Coalition  
February 2, 2021

Presented by: Juan Hernandez, NDOT

I-80 CORRIDOR OPERATIONS AND MANAGEMENT PROGRAM

Parametrix  
Kimley»Horn



NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION



# I-80 Multi-State Corridor Operations and Management Program

- Builds on I-80 Winter Operations Coalition, established 2010
- Partners include CA, NV, UT, WY, NE
- Federal grant award to develop:
  - Improved situational awareness of weather, incidents and long-term closures along the corridor
  - Develop a tool to share info among states
  - Proactive communications with freight
  - Provide more consistent traveler info alerts
  - A longer-term corridor coalition
- Builds on I-15 system





# Engaging the Freight Community

- Freight is a key stakeholder
- Outreach and engagement includes:
  - State Trucking Associations
  - Freight Operations
  - Freight Advisory Committees\*
  - Western States Freight Coalition\*
- Identify information priorities for freight operations
- Align with future initiatives and emerging technologies
  - Truck parking information systems
  - Information sharing initiatives

*\*Periodic project updates planned*



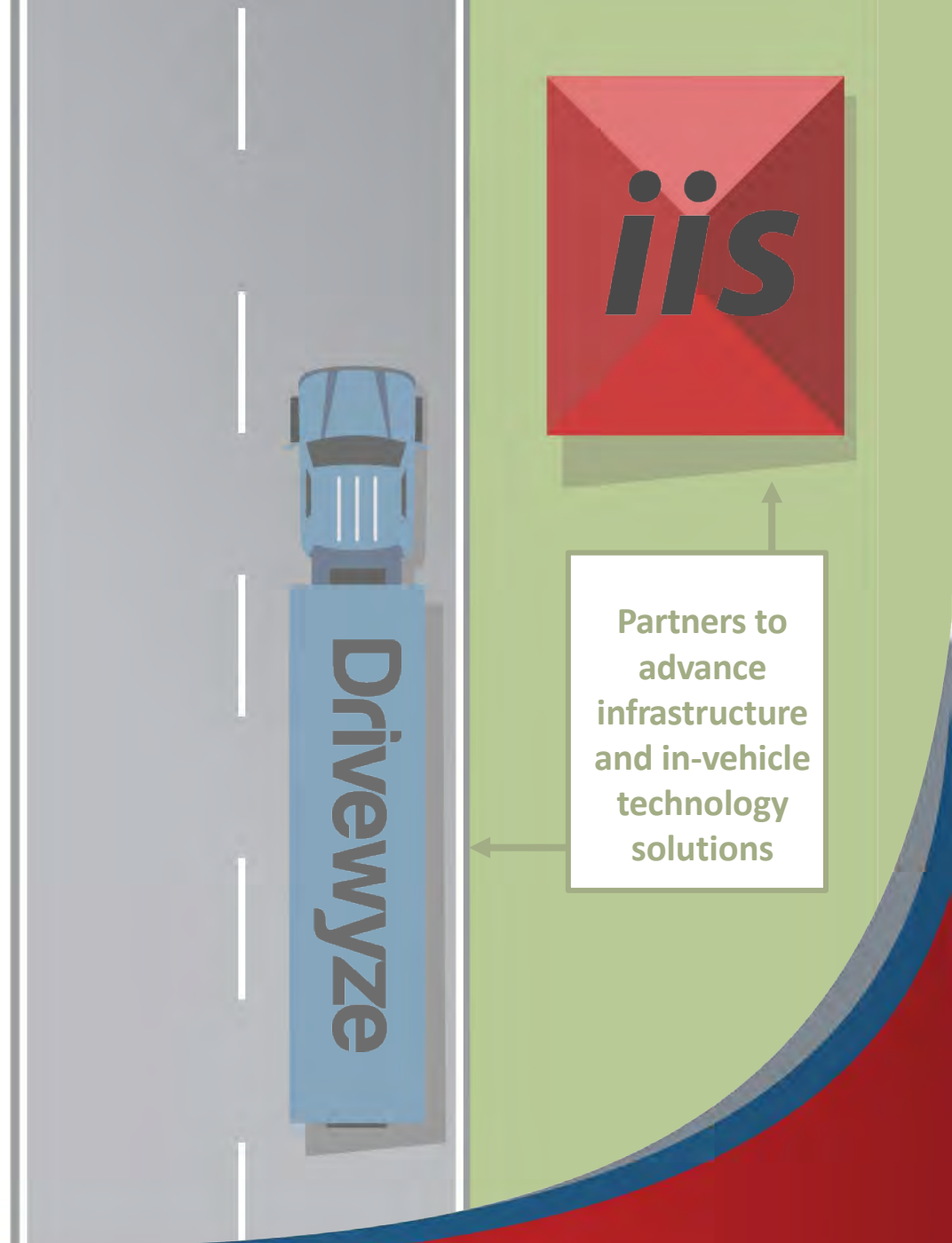
# DRIVEWYZE AND The Connected Vehicle

Presented by: Brian Mofford, Drivewyze



# Who We Are

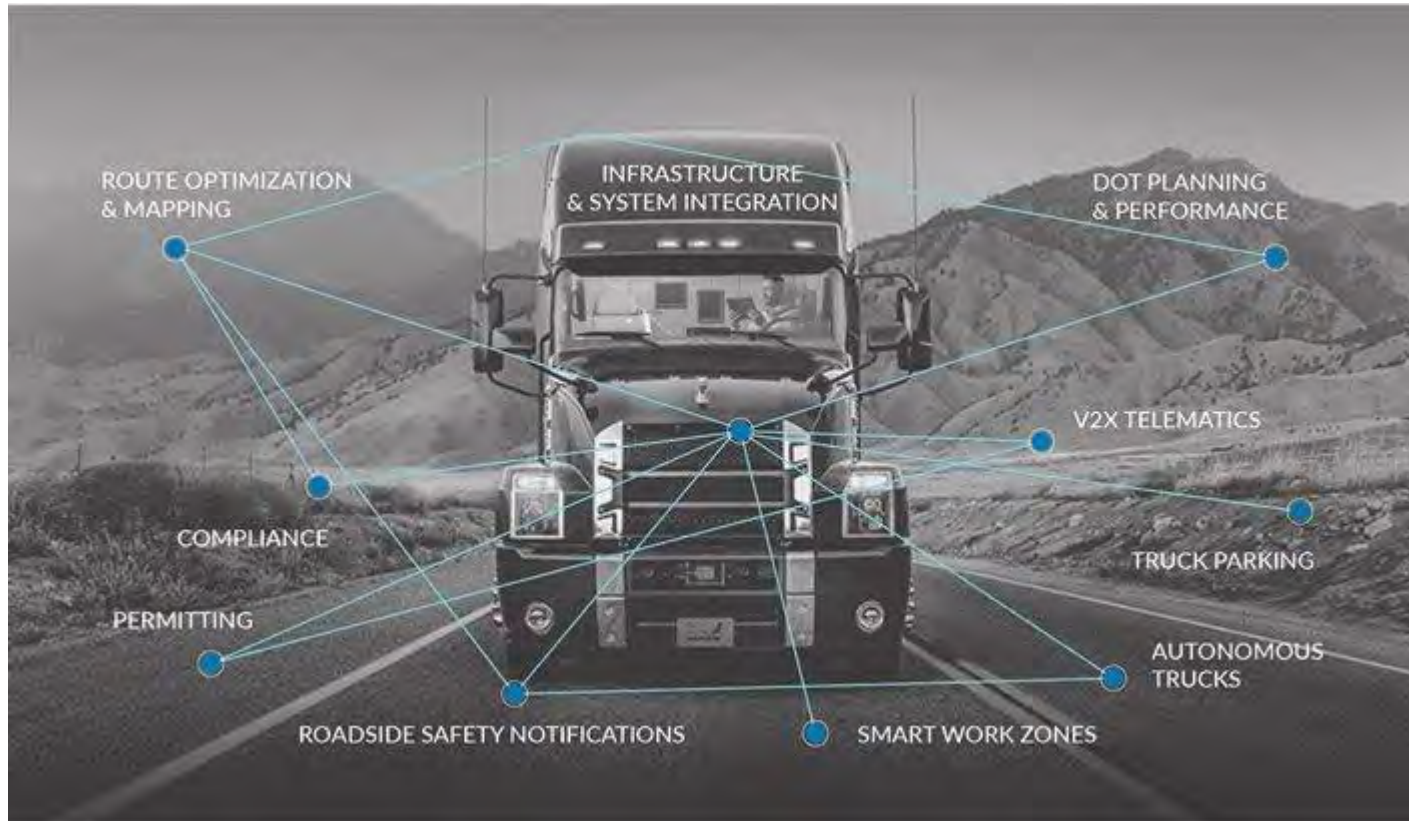
- **Intelligent Imaging Systems (IIS)** is an innovative developer of integrated hardware and software solutions to improve transportation safety and efficiency
- Market leader in truck parking availability systems and electronic screening systems for Commercial Vehicle Enforcement
- **Drivewyze** is a 100% owned subsidiary of IIS
- GPS-based connected vehicle platform delivers weigh station bypass services to Commercial Motor Vehicles (CMVs) across North America
- Connected truck platform deployed in over 2,400,000 trucks







# The Connected Truck



Vehicles connected to infrastructure

Onboard, offboard and roadway data fusion

Deliver services to drivers where and when they need it

Deliver data back to asset owners

# The Challenge: Mitigating Driver Safety Risks

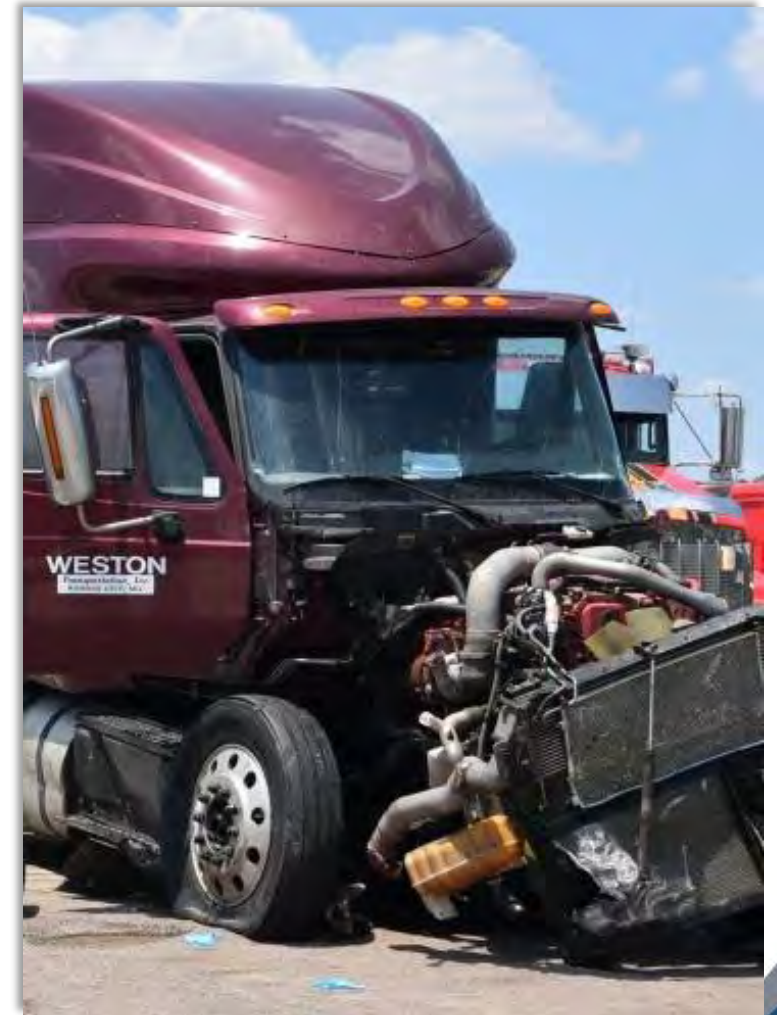
Rollover events account for **~4%\*** of both injury and fatal collisions in the USA

**87%\*\*** of all collisions are due to driver factors:

- Excessive speed
- Unfamiliarity with road

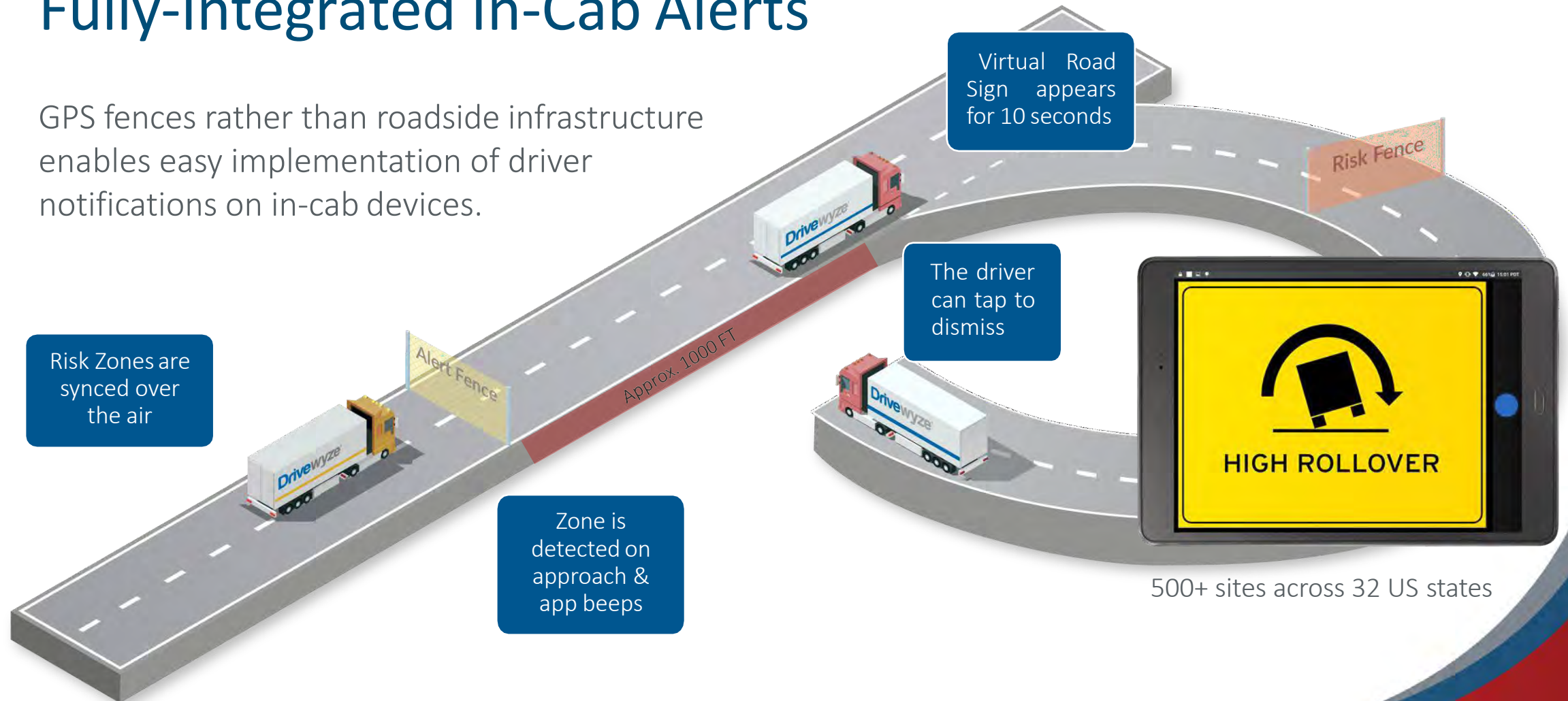
\*FMCSA “Large Truck and Bus Crash Facts 2017” (<https://www.fmcsa.dot.gov/safety/data-and-statistics/large-truck-and-bus-crash-facts-2017>)

\*\*FMCSA-RRA-07-017 “The Large Truck Crash Causation Study” (<https://www.fmcsa.dot.gov/safety/research-and-analysis/large-truck-crash-causation-study-analysis-brief>)



# The Solution: Fully-Integrated In-Cab Alerts

GPS fences rather than roadside infrastructure enables easy implementation of driver notifications on in-cab devices.



# The Results: Reduction in Excessive Speed

On average, saw a 17% reduction of speeding incidents in rollover zones

Site	State	Before	After	% Change	Signage
I-75 -> I-24E	TN	75.0%	49.5%	- 25.5%	Caution
I-75 -> I-24W	TN	48.6%	27.5%	- 21.1%	Speed
I-75 -> I-24S	TN	23.4%	9.7%	- 13.7%	Speed
I-40EB Curve	TN	69.7%	57.4%	- 12.3%	Speed
I-84 -> I-684EB	NY	82.7%	69.0%	- 13.7%	Caution

# The Results: Reduction in Preventable Accidents

*Top*  
**1%** of over-speeders were **4X** more likely to have an accident than non-speeders

*Top*  
**5%** of over-speeders were **2.5X** more likely to have an accident than non-speeders

# Drivewyze Safety Notifications

## High rollover areas and low bridges

Built on over 20 industry and agency partnerships:

- Validates efficacy of in-cab dynamic safety messages
- Safety messaging sent directly to drivers about infrastructure restrictions, work zones, high rollover, weather, safe truck parking, road closures, steep roadways, permit updates, congestion and high crash corridors, weather, and rerouting



# Government Funded Programs:

Reducing Collisions Through  
Driver Awareness



## Proactive Alerts

Safety Notifications that appear on in-cab devices make truck drivers aware of upcoming congestion

*Alerts are triggered by real-time Traffic Data*



## Reduced Speed = Reduced Crashes

By warning drivers of congestion in real time, miles ahead, drivers have more time to slow down safely



## Driver Connection

Provides direct messaging and safety broadcasts for improved communication with drivers



# Work Zone Notifications

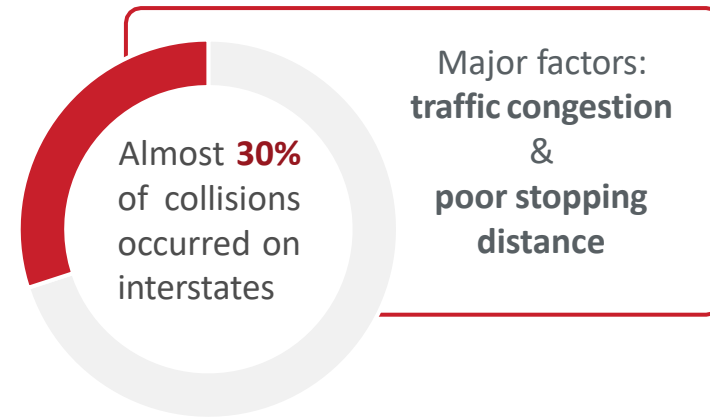
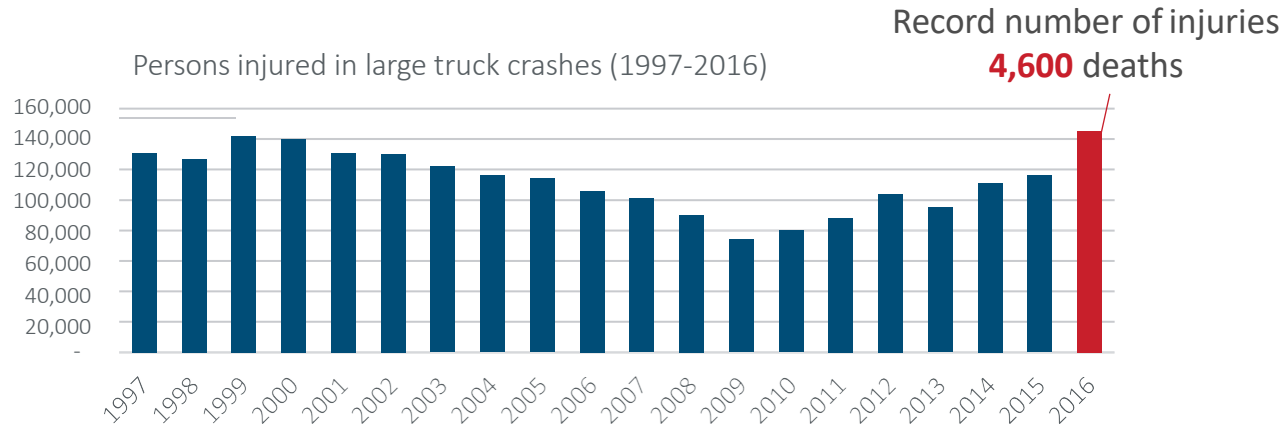
## Pilot projects operational in two states

- CMVs have double the crash rate of passenger vehicles in work zones
- Notify drivers of upcoming active work zones
- Improve driver behavior by providing advanced information
- Lays foundation for other dynamic-based safety messages – weather, emergency, 511 incidents



# Road Congestion is a Critical Safety Issue

Reducing congestion reduces dangerous and unanticipated slowdowns – and reduces collisions



# The Value of a Timely Alert

## WITH PROACTIVE/REAL-TIME ALERT

Driver is in a safer scenario and has more time to react

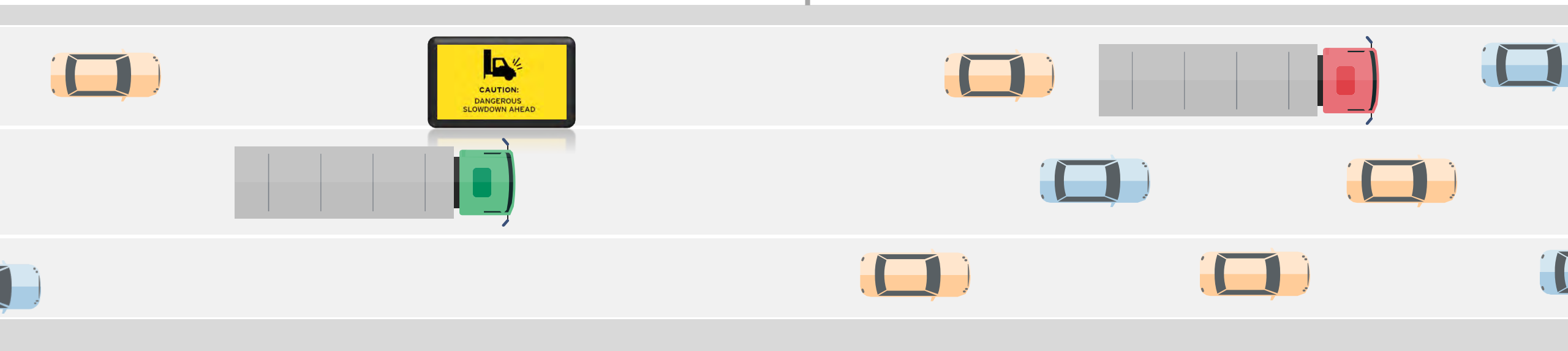
With a proactive alert, the driver has time to adjust while it is still safe to do so

VS

## WITHOUT ALERT

Driver, now in a more dangerous scenario, has less time to react

In a more congested scenario the driver has fewer safe options available to them



By slowing down, a truck is also slowing down traffic around it

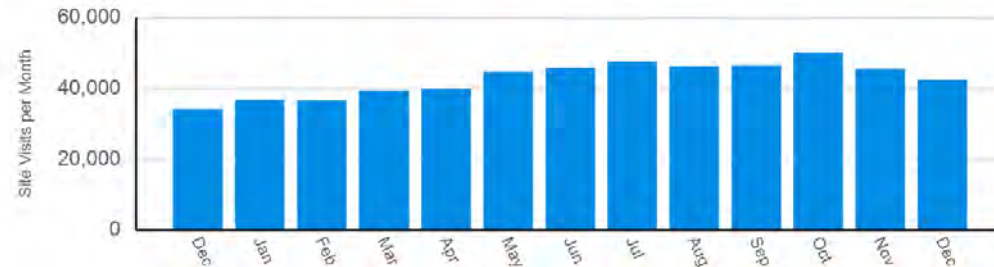
# Drivewyze in Nevada

PreClearance Program in place since 2012 at 10 vehicle inspection facilities



December 2020

## Nevada Monthly Agency Report December Site Activity Summary



Hours saved<sup>2</sup>  
446

Gallons saved<sup>3</sup>  
2,138

Tons of CO<sub>2</sub> saved<sup>4</sup>  
24

Dollars saved<sup>5</sup>  
\$46,403

Alert Name	Zone Count	Unique Vehicles	Total Alerts	Alerts Per Vehicle
Brake Check	3	1,995	5,298	2.7
Collision	2	1,769	3,094	1.7
High Rollover	6	4,442	12,746	2.9
Low Bridge	2	0	0	0.0
Steep Grade	3	1,980	5,280	2.7

# Questions?

**Brian Mofford**, VP, Government Experience  
[bmofford@drivewyze.com](mailto:bmofford@drivewyze.com), 587.773.5379



# STATUS UPDATE ON VARIOUS PROJECTS THAT **Impact the Movement of Freight**

Presented by: Sajid Sulahria and Bill Thompson, NDOT

# Reno Spaghetti Bowl

Presented by: Juan Hernandez, NDOT



# RENO SPAGHETTI BOWL

## PROJECT GOALS

- Improve safety
- Reduce congestion
- Reduce travel delays
- Improve air quality
- Improve freeway operations
- Reduce weaving

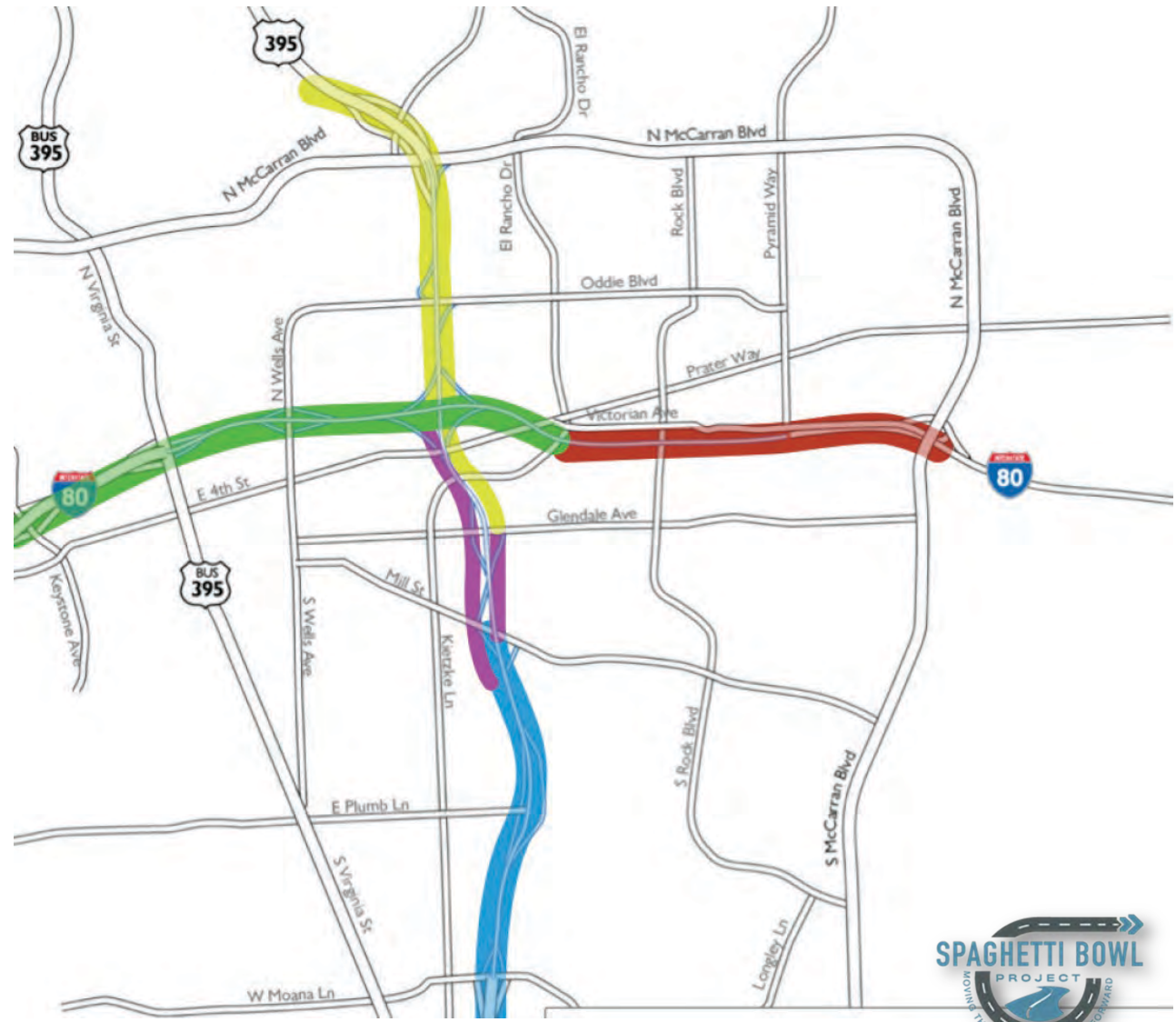


- *Busiest interchange in northern Nevada (260,000 vehicles/day)*
- *Crash rates throughout the project limits nearly 150% of the statewide average*



# PLANNED PROJECT PHASING

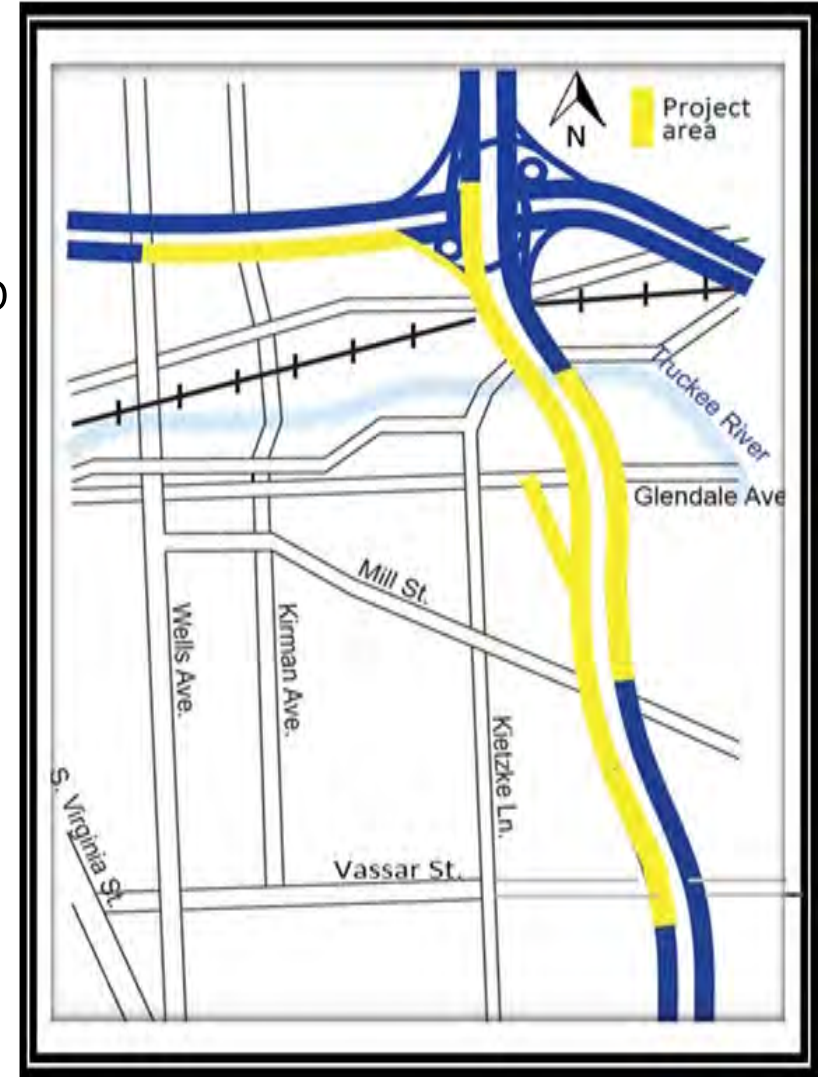
- Phase 1 Spaghetti Bowl Xpress (2020-late 2022)
- Phase 2 (2024-2028)
- Phase 3 (2028-2034)
- Phase 4 (2035-2037)
- Phase 5 (2037-2039)



# PHASE 1 “SPAGHETTI BOWL XPRESS”

## Project’s Major Construction Features

- Reconfigure I-80 eastbound entrance and exit ramps between Wells Avenue and the Spaghetti Bowl.
- Widen the I-80 eastbound to I-580 southbound ramp to two lanes.
- Reconfigure and widen I-580 southbound through the Spaghetti Bowl to accommodate 3 lanes.
- Construct a minimum of 4 lanes plus auxiliary lanes between the Spaghetti Bowl and Vassar Street.
- Construct new, replace or widen 7 bridges.
- Reconstruct 2<sup>nd</sup>/Glendale and Mill Street southbound entrance and exit ramps.
- Replace portions of I-580 northbound pavement.




## Notable Project Challenges

- Minimize impact to motorist during major freeway reconstruction.  
Limited number of alternate routes.
- Major bridge demolition and construction over the Truckee River.  
408 Permit requirements and seasonal restrictions.
- Avoid delays attributed to railroad agreement approvals.  
Railroad agreements and design-build contracting.
- Bridge demolition and construction over local roadways.  
Limiting impacts to users and businesses.
- Minimize impacts to stakeholders and businesses.



## First Quarter 2021 (JANUARY, FEBRUARY, MARCH)

- Utility work near RSIC
- RSIC neighborhood walls
- Southbound I-580 traffic control for bridge work at 2nd St. and Mill St.
- Eastbound I-80 to northbound U.S. 395 bridge reconstruction
- Eastbound I-80 to southbound I-580 ramp work
- Roadway ramps near RSIC



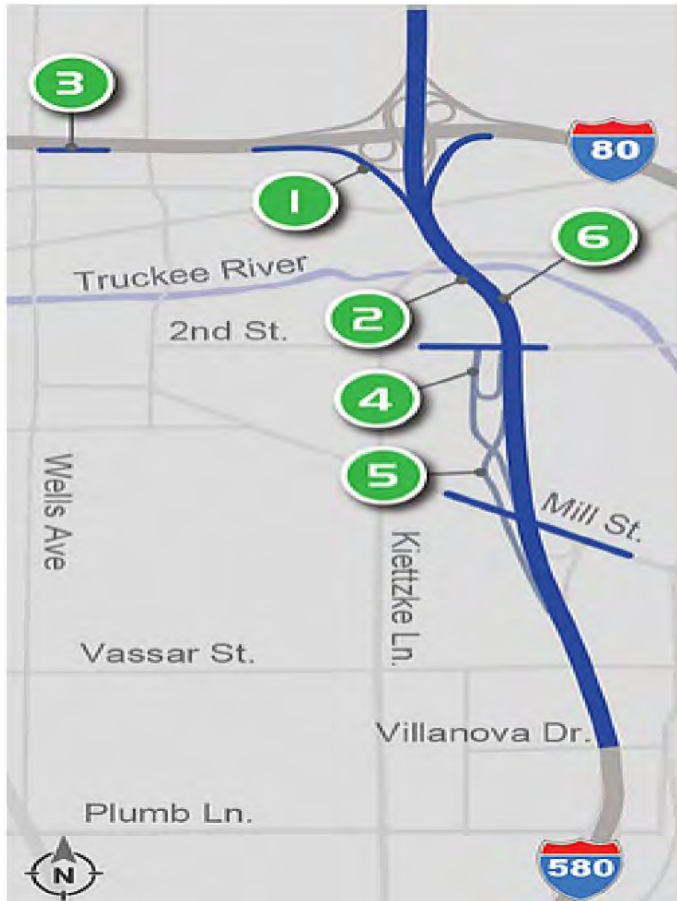
## Second Quarter 2021 (APRIL, MAY, JUNE)

- Eastbound I-80 to northbound U.S. 395 bridge work
- RSIC neighborhood walls (estimated completion spring 2021)
- Roadway ramps near RSIC estimated completion
- Southbound I-580 traffic control to access Truckee River and UPRR bridges



# UPCOMING CONSTRUCTION

## EXPECTED COMPLETION DATES



① (4<sup>th</sup> Qtr. 2021)  
 Add a lane to eastbound exit from I-80 to I-580/U.S. 395 southbound.

② (4<sup>th</sup> Qtr. 2021)  
 Add lanes and shoulders on I-580 southbound from I-80 to Vassar Street.

③ (2<sup>nd</sup> Qtr. 2022)  
 Restripe eastbound I-80 from Wells Ave. to southbound I-580.

④ (3<sup>rd</sup> Qtr. 2021)  
 Separate ramps for access to and from I-580 at 2nd St./Glendale Ave. and Mill St..

⑤ (1<sup>st</sup> – 3<sup>rd</sup> Qtr. 2021)  
 Build noise, visual, and neighborhood walls.

⑥ (4<sup>th</sup> Qtr. 2020)  
 Repair pavement on I-580 northbound.

NOTE: Operations are anticipated and subject to change. Work is weather-dependent

## Questions/Comments

### Web

[ndotspaghettibowl.com](http://ndotspaghettibowl.com)

### Email

[info@ndotspaghettibowl.com](mailto:info@ndotspaghettibowl.com)

### Project Hotline

775.636.4202

### Text

797979 with “SBX”

# I-15 South - Sloan Rd. to Blue Diamond Rd.

# Projects Impacting Freight Movement

## I-15 South -Sloan Rd to Blue Diamond

- Widening from 6-Lanes to 10-Lanes
- Total Length of 8.2 miles
- HOV Lanes

### Project Benefits:

- Increase Capacity
- Improve Safety
- Improve Access
- Improve Travel Time





# I-15 North Phase Iii - Speedway to Garnett

# Projects Impacting Freight Movement

## I-15 North – Speedway to Garnett Phase 3

- Widening from 4-Lanes to 6-Lanes Total Length of 10.6 miles
- Construct Truck Parking NB & SB
- Weigh-In-Motion Station
- New Interchanges

### Project Benefits:

- Improve safety
- Improve travel time reliability
- Improve access to areas planned for development in North Las Vegas
- Improve operations



# NEXT STEPS

## Questions & Open Discussion



## 2019 Freight Program Implementation Project

# THANK YOU

Next FAC Meeting: May 4, 2021



**Bill Thompson**  
**NDOT Freight Program Manager**



775-888-7354



[bthompson@dot.nv.gov](mailto:bthompson@dot.nv.gov)



<https://www.nevadadot.com/mobility/freight-planning>

