Department of Transportation
Board of Directors
Notice of Public Meeting
1263 South Stewart Street
Third Floor Conference Room
Carson City, Nevada
February 11, 2019 – 9:30 a.m.

AGENDA

1. Welcome / Roll Call

2. Receive Director's Report – *Informational item only.*

3. Public Comment – limited to no more than three (3) minutes. The public may comment on Agenda items prior to action by submitting a request to speak to the Chairman before the Meeting begins. – *Informational item only*.

4. Appointment of Lieutenant Governor Kate Marshall to serve as State Transportation Board Vice Chair – *For possible action.*

5. Approval of the December 3, 2018 Nevada Department of Transportation Board of Directors Meeting Minutes – *For possible action.*

6. Approval of Agreements over $300,000 (See Attachment A) – *For possible action.*

7. Contracts, Agreements, and Settlements – Pursuant to NRS 408.131 the Board may delegate authority to the Director which the Director may exercise pursuant to NRS 408.205. These items and matters have been delegated to the Director by the Board by resolutions in April 1990 and July 2011. *Informational item only.*

8. Resolution of Abandonment – *For possible action*

   Disposal of a portion of NDOT right-of-way, a parcel of land along SR-756 (Centerville Ln.) in the Gardnerville Ranchos, County of Douglas, State of Nevada (SUR 18-03)

9. Equipment in Excess of $50,000 – High Speed Profiling Device – *For possible action.*

10. Hearing on Intent to Act Upon a Regulation for Proposed regulations pertaining to NAC 484D Over-Dimensional Vehicle Permitting and Restrictions. A regulation relating to vehicles; revising provisions governing the issuance of permits by the Department of Transportation authorizing travel by certain oversized or overweight vehicles; revising provisions governing the days and times of travel authorized by the Department on such permits; revising provisions governing pilot cars which must accompany certain oversized or overweight vehicles; and providing other matters properly relating thereto – *For possible action.*

11. 2019 AASHTO Washington Briefing – *Informational item only.*

12. Old Business

    a. Stormwater Program Quarterly Report – *Informational item only.*
    b. Freeway Service Patrol Annual Report – *Informational item only*.
    c. Report of Outside Counsel Costs on Open Matters – *Informational item only.*
    d. Monthly Litigation Report – *Informational item only.*
    e. Fatality Report Dated Jan. 4, 2019 – *Informational item only.*

13. Public Comment – limited to no more than three (3) minutes. *Informational item only.*

14. Adjournment – *For possible action.*

Notes:

- Items on the agenda may be taken out of order.
- The Board may combine two or more agenda items for consideration
- The Board may remove an item from the agenda or delay discussion relating to an item on the agenda at any time.
- Reasonable efforts will be made to assist and accommodate physically handicapped persons desiring to attend the meeting. Requests for auxiliary aids or services to assist individuals with disabilities or limited English proficiency should be made with as much advance notice as possible to the Department of Transportation at (775) 888-7440.
- This meeting is also expected to be available via video-conferencing, but is at least available via teleconferencing, at the Nevada Department of Transportation District One Office located at 123 East Washington, Las Vegas, Nevada in the Conference Room and at the District III Office located at 1951 Idaho Street, Elko, Nevada.
- Copies of non-confidential supporting materials provided to the Board are available upon request.
- Request for such supporting materials should be made to the Department of Transportation at (775) 888-7440. Such supporting material is available at 1263 South Stewart Street, Carson City, Nevada 89712 and if available on-line, at www.nevadadot.com.

This agenda was posted at www.nevadadot.com and at the following locations:

Nevada Dept. of Transportation
1263 South Stewart Street
Carson City, Nevada

Nevada Dept. of Transportation
123 East Washington
Las Vegas, Nevada

Nevada Dept. of Transportation
310 Galletti Way
Sparks, Nevada

Nevada Dept. of Transportation
1951 Idaho Street
Elko, Nevada

Governor's Office
Capitol Building
Carson City, Nevada

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 31, 2019

TO: **Department of Transportation Board of Directors**
FROM: **Kristina L. Swallow, Director**
SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**
ITEM #4: **Appointment of Lieutenant Governor Kate Marshall to serve as State Transportation Board Vice Chair – *For Possible Action***

Summary:

The purpose of this item is to recommend that the State Transportation Board of Directors appoint Lieutenant Governor Kate Marshall to serve as Vice Chair of the Transportation Board for the term of one year pursuant to Nevada Revised Statute 408.106(4).

Background:

Pursuant to NRS 408.106(4), "The governor shall serve as chairman of the board and the members of the board shall elect annually a vice chairman".

Historically, the Lieutenant Governor has served as the Vice Chair of the Transportation Board.

Analysis:

The Lieutenant Governor serving as the Vice Chairman of the Transportation Board has worked well in past meetings. Per the statute, this action is being taken formally to comply with NRS 408.106(4).

Recommendation for Board Action:

It is recommended that the Board appoint Lieutenant Governor Kate Marshall to serve as Vice Chairman of the Transportation Board.

List of Attachments:

None

Transcript of Nevada Department of Transportation
Board of Directors Meeting
December 3, 2018

Governor Brian Sandoval
Lt. Governor Mark Hutchison
Controller Ron Knecht
Virginia Valentine
Len Savage
BJ Almberg
Rudy Malfabon
Bill Hoffman
Dennis Gallagher

Sandoval: Well, good morning everyone. I will call the Nevada Board of Transportation, Board of Directors Transportation Meeting to order. All Members are present with the exception of Member Martin, who is excused. So, why don't we commence with Agenda Item 1, which is to receive the Director's Report. Mr. Director, please proceed.

Malfabon: Good morning Governor and Board Members. [audio cut] –prepared by NV Energy, after they were struck by a helicopter on the Nevada Day weekend. So, on the weekend of November 17th and 18th, NV Energy worked with NDOT, NHP and others to schedule their fix on those power lines. They repaired them and luckily, they were done by the second day, by 9:30 in the morning. So, a lot of people were impacted by that road closure, but fortunately we got the word out. We also took advantage of those road closures to get some maintenance work done. You can see a picture there of our stormwater maintenance folks cleaning out some drains and inlets on the I-580, during the same time that the roads were closed, so we took advantage.

Federal Update. We were on track for—we were hopeful, at least, that we were going to see approval of the Appropriations Bill for Transportation for this current federal fiscal year by the end of the week. The current continuing resolution expires on December 7th. Now, it's looking like there might be another short-term extension while they get their ducks in a row in Congress and probably delayed until early 2019, for the full appropriation for this current federal fiscal year. The good news is that, they're having hearings. Senate, Environmental and Public Works Committee. Heard from AASHTO, the Associated General Contractor's Association and the Sacramento Council of Government's testimony about the need for transportation funding and a fix to the federal gas tax situation. It's not

bringing in enough money for the spending levels authorized by Congress currently. There is support for an infrastructure bill, hopefully next Session of Congress.

One of the things that I mentioned last month is that Brightline is looking at building Xpress West, the project between Las Vegas and Victorville, a high-speed rail project. We've been working with them. One of the questions that I received was, where is the money coming from? Well, recently, it was announced that billionaire, Richard Branson, of Virgin Air kind of—I think he even has a space company similar to Elon Musk, so he's associated with this company now.

They're teaming up and hopefully that will be real funding for the project as they look at raising the funds for this high-speed rail project in Nevada to California. We're also finalizing the Memorandum of Understanding on how we'll work together with the company as they develop the project. There will be some expenses that they'll cover as we review plans or modify any of the existing project designs along I-15 South. We're looking at an internal coordination meeting on the 10th, with the Federal Highway Administration. So, that project is moving along. This company does operate a rail project or passenger rail in Florida currently.

The draft EIS has been posted. I just wanted to mention again that our team has done a great job of working with the local stakeholders on Spaghetti Bowl Xpress Project. They've really accelerated this EIS, the environmental clearance process and the public hearing is scheduled for December 12th at the Reno Sparks Convention Center. Presentations will be broadcast, two opportunities on Facebook Live, 3:30 and 5:30, so they'll repeat the presentation at 5:30. The comment period will be open until January 15th of next year.

Big news lately with some of the storms passing through this area. We work with—based on the input from our maintainers that watch these roads during the winter and plow and assist motorists that are in problems with not having the proper traction devices on their tires, we put new requirements in effect that chains or four-wheel drive and all-wheel drive with snow tires are required on these routes: SR-431, Mount Rose Highway, US-50 and SR-207.

So, basically the higher elevations of these roadways, we've—our maintainers have told us we've had problems with people spinning out and causing some—some traffic crashes, delays. I know that somebody just ran off the road recently this last weekend with the recent snow storms. So, we worked with Nevada

Highway Patrol on identifying which areas to put this new requirement on. It's similar to what you see on I-80, on the Cal Trans portion of the summit there, going into California.

The media coverage was very good on this. They got the word out and they're repeating this message on every snow storm that you have to have the proper traction devices. I put the mud and snow symbol there. You can either see the M+S on your tires or that snowflake symbol. That's how you can tell if you've got mud and snow tires that are proper for this new requirement during these winter storms. The important thing is, you have to have it on all four tires, either all four mud and snow tires or traction chains on all four tires, not just on the front of a front wheel drive vehicle, for instance, that's not—proven to be not enough on these highways.

We've been working on Mount Rose Highway and had a team that did a safety assessment review. We have been coordinating the results of that report which is quite lengthy. It has a lot of recommendations to pursue. We've been working with Washoe County and the RTC of Washoe County on what improvements are needed on that stretch. As I mentioned last month, I've directed our staff to proceed with some of the low hanging fruit, whether it's lighting or signage improvements that could be rapidly deployed, but there are some more improvements that are going to take more time to develop. We have a community meeting with the Mount Rose Highway Community on December 5th at South Valley's Library, 6:00 to 8:00 PM.

One of the things that's been in—I've received some emails about Edmonton Drive and Mount Rose Highway. There's a developer that was permitted to develop a project there by Washoe County, coordinated with NDOT, on our permit at the intersection of Edmonton and SR-431. They installed a porkchop island which prevents left turns to go to Lake Tahoe, for instance from the side street. The idea there was that there's already been some fatal crashes on this section of highway and the porkchop island is forcing people to go now to a signalized intersection at Wedge Parkway, to turn left to go up the highway. Dwayne Smith, who is Director of Engineering at Capital Projects for Washoe County will be in attendance at this meeting to describe that process and that requirement. As more and more traffic and development occurs on Mount Rose Highway, we know that it's going to change the nature of the roadway and there will be other improvements that are needed on that section.

We're going to be celebrating the completion of the Garnet Interchange project and the widening of US-93 there. Ames Construction has done an amazing job getting that project done within this calendar year. Wanted to thank Ryan Wheeler and Steven Conner, our project manager and our resident engineer on that project that oversaw construction and design. It was a design-build project. Tony Illia and Adrian Packer are coordinating this event on December 13th. This is basically what—we were amazed to see that they hit this hard, got the design done. Got it approved. We actually worked with the BLM as well, to get some property on what would be the northside of that drawing on the right, to get another connection to the frontage road on the north side. They—kudos to BLM for working with us on that property acquisition, for that easement. Great team success on this Garnet Interchange Project. We'll celebrate on the 13th.

On the 4th, we have a public information coming up for the I-15 North and Clark County Beltway Interchange Project. This is a system-to-system interchange, so similar to what we've done at Centennial Bowl and 95. The Beltway, you'd have to come up a ramp and then stop and then make turns at the top of the ramp. So, this will have continuous movement through these flyover ramps and what we've seen in a typical system-to-system interchange, like the Spaghetti Bowl. So, we're looking forward to that public comment period opening up and we'll receive public comments until December 21st. This public information meeting is going to be held at City of North Las Vegas, City Hall from 4:00 to 7:00, with their presentation at 5:30 PM.

I wanted to acknowledge the efforts of BJ Almberg and Len Savage as Transportation Board Members that have worked with staff on this issue of rumble strips. So, you see a lot of folks there from NDOT that have been helpful in working on this issue. Chris Gonzalez from Traffic Safety did the detail modifications that turned it into standard plan details going forward. A lot of folks there helped out but I wanted to especially thank BJ and Len for raising this issue.

This is, I believe why BJ was constantly bringing it to our attention. You see a lot of rural highways where once you put the rumble strips in, it breaks that top layer of pavement which is typically a chip seal. You get into that—the lower levels of pavement, get some moisture in there and it can deteriorate in the center line where we have the rumble strips. So, the idea was, how can we still provide safety for the traffic, remind drivers that they're getting over and encroaching into another lane without causing this deterioration on the pavement?

One of the new updates to the standard is to reduce the width of the rumble. So, it will still be effective to get the driver's attention when you run over the rumble strip, but it reduced it from 12-inches to 6-inches. The other thing was to have a 40-feet repeating cycle. So, you'd have 20-foot of rumble strip and then 20-feet with no rumble strip. It's enough of a—that the driver will still get the rumbles when they drive over this on a two-way, two-lane road.

There's no settlements, thankfully Dennis, for the Board of Examiners meeting for this month, but in your packet you do have the previous settlement that was approved last month and the details can be discussed at that time for Jackson. That's associated with Project NEON.

I wanted to be brief in the Director's Update because I wanted to take a moment to thank the departing members of the Transportation Board. I know that, Governor, it's unique in Nevada that the Governor chairs the Board of Transportation or a Transportation Commission and we've enjoyed your leadership and your direction for the last eight years. I've been Director for the last six.

You've really brought Nevada back into the forefront of being an economic powerhouse again. To attract innovative companies and I think that you've turned this economy around through that diversification effort and also the focus on education for the next group of workforce and leaders in our great state of Nevada. We wanted to just thank you for that.

We have a gift that we created for you. So, one of the things is that, it highlights a lot of the projects and programs that the Governor was instrumental in giving us the direction to pursue in Nevada. This is just a handful of the ones that we could fit on this poster. There's so many more that you were involved in Governor, the pedestrian safety, for instance. The work with National Governor's Association, with innovation. We've posted some things on here like, Project NEON obviously, I-11 down South, extension to the Arizona/Nevada line. Garnet Interchange, I mentioned. The US-95 widening. The Electric Highway. Finishing 580. I know that there's another interchange still to do at the junction with 395 and US-50, but getting that connection on I-580 for the Carson Freeway was important. There's some of these that still have to be constructed, Spaghetti Bowl Xpress. You drove us to get that draft EIS done quickly, get it on track so that in the future we can deliver that design-build project and get those improvements and improve safety at that important interchange in Reno. The SR-

28 bike path, I know you were up there last month celebrating the near completion of that. They still have some work to do but you can see what it's going to look like and how it's going to be a game changer there for that three miles of shared use path on SR-28. The Infinity Highway, USA Parkway was important, but also the legislation that you were in the lead on with autonomous vehicles and Nevada being one of the first states to have that type of legislation. The State Recreational Area at Walker River is another one.

So, we would just want to present this to you Governor and just a small token of our appreciation for your leadership on this Transportation Board and just recognizing the importance of transportation to economic development and diversification of our economy.

[applause]

Malfabon: We also have—not to be chopped liver for the other—[laughs] Lieutenant Governor and State Controller, but we also have some framed photographs that we did. Sondra Rosenberg actually got with DOB to make—

Rosenberg: Actually Sholeh did it

Malfabon: Barron Lauderbaugh and Sholeh did a great job with this, kind of a layout and it looks pretty cool with the 3D effect.

[photographs taken]

Malfabon: Thank you, Mr. Controller. Your time is just as important as well. We've got a picture of you in a groundbreaking.

[photographs taken]

Sandoval: That's beautiful.

[crosstalk] [photographs taken] [applause]

Malfabon: And, Mr. Lieutenant Governor, we'll get your framed photograph to your office. Thank you for your years of service on this Transportation Board and also to Mr. State Controller, thank you for your years of service and dedication.

With that, that concludes the Director's Update.

Sandoval: Rudy, thank you. Just a few words. First, you know, my most profound and heartfelt thanks for the recognition. And that is, for lack of a better term, a really

cool sign. I don't know who—that is really nice. I really appreciate it because I know it took a lot of time and effort to put that in. It really brings back some good memories. Maybe not such good memories for staff because of all the work that went into all that, but first and foremost, I want to thank you and the executive staff for all of your hard work and your patience and willingness to work with all of us and go that extra mile to answer all the questions, the extra time and effort that you put in to make things happen.

I think about how far we've come in eight years and you know, Rudy, you talked about the economic development, but we needed the infrastructure to match. Not only just the economic development, but you know, for our citizens. For the people of this great state. So that they can get back and forth to work, they can see their families, they can be safe, I mean, we can go on and on.

I want to thank the Board Members and again, you know, for each and every one of their support. Those that are here and those that served previously. Someday, they'll do an inventory of the infrastructure that we've done and the amount of investment that has been done, I don't know if it will ever be matched. You know, I talked about Project NEON and it is the single largest public works project in the history of Nevada. The Boulder City Bypass, you know, something that everyone said couldn't be done and had been tried to be done for years before we got that done. You know, you look at all the other things that are on that sign.

It really has been a renaissance, I believe, for infrastructure in this state. For those men and women who can't be here, for NDOT, you know, those men and women when there's a flood or there's a fire and they go out and in the most extreme conditions are out there repairing the roads, repairing the railings, plowing the roads, doing whatever it takes so that people can be safe. Those are the unsung heroes, I think of this department. That it doesn't matter what it's like outside or what the conditions are, they put it all out there on the line. I want to publicly thank them.

It indeed has been a privilege and honor. I think the word that comes to mind for me is, I'm just grateful for having had the chance to serve with everybody. I'm grateful for having had the opportunity to work together. No one person does this. Everybody has a piece of this. To come together and really change this state for the better forever.

As I said, I can talk for a really long time but you know, I will have really fond memories of having worked on this Board and that's part of the benefit is you get

to see what you've done. As you drive the roads. I was in Las Vegas this weekend and seeing Project NEON getting ever so close and as you mentioned, that bike path up at Tahoe which was another one of those projects that everybody dreamed about but didn't think it would become a reality. It literally will be the most beautiful bike path in America. And I don't think I'm exaggerating when I say that. Just as important as those projects are the projects that we talked about in rural Nevada with those rumble strips and making sure that the residents of rural Nevada have a quality transportation experience as well.

There is not a life that this Department doesn't touch in Nevada and I think you all realize that as you come to work everyday that you really do touch every man, woman and child and make their lives better. It's been a great eight years and then the few years before that as Attorney General, sitting on this Board, but just a profound thanks for all of you and all of your efforts. For those of you that don't work for the Department, I know there are several individuals out here that work for the construction companies and the consulting companies. You have a piece of this as well. We really count on you for your advice and your input. We're going to see an example of that today. None of these projects come together in a short amount of time. It really takes, you know, really building the case to get it done.

I will say that moving forward, the budget is healthy. The Highway Fund is healthy. So, the incoming administration will have an opportunity to continue to do great things. I tried to get it all done before they got here, but there's always something to do. In any event, I think that that the state is on a great trajectory now and I'm really proud of the work that we've all done.

Again, for the Board Members, it is going to be a lot different not seeing you all each and every month. I'm really proud of the fact that I never missed a meeting. It was a big priority for me, for this. As you said Rudy, we're not aware, there's not another Governor in the nation that chairs its Transportation Board. It really is, as I said, really important, for me, to have a firm understanding of what is going on in terms of our infrastructure. There's a lot of different moments that come to mind, both great and some tragic.

I want to thank Deputy Howell and the dedication of the freeway and getting that done right away, for those two young men who lost their lives at BLM and dedicating that highway, in a short amount of time. I've had family members

from both families approach me privately and tell me how thankful they were that there wasn't a bureaucratic red tape and we just got that done.

Putting up the signs for all the state parks so people could have an easier time finding all of them. Doing the new Welcome signs for the state. I mean, as I said, as you start to go on and on, there are just so many things that perhaps people think just happens with the snap of the fingers or a magic wand. It really takes a lot of time, as I said, for the men and women of NDOT to get it to that point.

Again, I'm not going anywhere. I'll still be in the state. Really watching with admiration and respect and appreciation for what you all do.

Mr. Lieutenant Governor, I also wanted to mention that I'm heartfully thankful for having had the opportunity to serve with you as well. You're an incredible leader and someone that I've really appreciated your dedication and attention to detail with regard this Board. As well as our friendship. It really has been a magnificent four years. Member Valentine, likewise. We've had the opportunity to serve together, although I've known you by reputation before this and I thought that you were a massive add to this Board. Mr. Controller, I also want to thank you for the opportunity to serve with you as well. So, Rudy, thank you for everything, to the staff and everyone. You know, my very, very best to all of you in your futures and I can't wait to see what you all do next. Thank you. Thank you.

[applause]

Sandoval: Mr. Controller.

Knecht: Thank you, Governor. As you sometimes do, you said everything I was going to say. I must tell you, by the way, I saw that Sandoval sign down in New Mexico, I knew it was your family. It's been a pleasure to serve with you and all of the other Board Members. You've all done a fine job. It's been a privilege and an honor, most of all, I want to salute Rudy, the executive team, everybody in this room and all the people who work for NDOT, for the fine job you've done and the way you've made it a pleasure to spend this four years with you and work with you all. I'm really touched by the personal notes on this and [inaudible], per usual, you got me the best way you could in the camera. Anyway, this is something I'll always remember fondly. It was a real pleasure and it was something I was deeply interested in. I look forward to seeing you all in the

future because I'm not going anywhere either. And to seeing the continued progress. A big thank you to all of you.

Malfabon: Thank you.

[applause]

Hutchison: Governor?

Sandoval: Mr. Lieutenant Governor.

Hutchison: Thank you so much, Governor. And again, I'll echo comments and just try to keep this short to just say how grateful I've been to serve and have an opportunity to be involved with this Board and be involved with state government. It's an honor and a privilege to be part of this constitutional system that our founding fathers created to ensure liberty and freedom and opportunities and blessings to Americans. We're part of that system, as part of state government.

It's been an honor to be able to serve on this Board. Rudy, thank you for your tremendous work. Your dedication to the good people of Nevada. To the entire team at NDOT. Dennis, I don't know that you're going to miss me. [laughter] I don't know if you have any—you'll have any more lawyers who will be asking about the legal bills or about what's going on, but I will tell you, as I have said over and over again, Dennis, you've done an extraordinary job with some very difficult legal problems and challenges. I know from just experience what that's like. So, my hat's off to you, as I said before. My hat's off to the entire team, for the just tremendous job.

Let me just pause and just say something about our Chair, because I've been in government, not that long but long enough to know that the Chair is what drives any Committee or any Board. Many people don't know that the Governor chairs I think 15 Boards or Committees. He's never missed a meeting, in eight years. I don't know that any Governor could be held to the same level of competence, of character and commitment as Brian Sandoval.

The infrastructure that we've put in place through this Committee supports economic development, as the Governor mentioned. And all that we do in state government is, I hope to bless the lives of the families and the people who live in Nevada. That's what we've done and that's what this administration has done.

I think the Sandoval administration will be remembered for just golden eras of economic development, of infrastructure, of education, of growth and the future. It's been my honor, Governor, to serve with you. I'm grateful for our friendship. I've said this before, I don't know if I've said it in this Board Meeting before, if I have, I apologize with this analogy, but I think most of us feel like we're part of this Sandoval Team. You know, the Brian Sandoval Administration, the Brian Sandoval Team. Many of us feel like Wilt Chamberlain's teammate. The night that Wilt Chamberlain scored 100 points in this great NBA game. Do you remember that? They asked his teammate—[laughter] They asked his teammate who scored two points in that game, they asked his teammate, now what would you remember from this night? He said, I'll just remember the night that Wilt Chamberlain and I combined the score of 102 points in an NBA game. [laughter]

We score a layup every once in a while, Governor. We score a layup every once in a while. We've looked to you to carry the team and to score over and over and over again and to be our Captain, to be our leader. So, it's an honor, it's been a privilege. And, Godspeed to you Governor, I know you're not going anywhere, but Rudy and the entire NDOT, we need to be looking for a freeway or an expressway or a beltway to name Brian Sandoval Expressway or Freeway, so that we remember, in a small way, the Governor, but I think we'll remember many, many golden eras to come in the future. So, God bless you Governor, thank you.

[applause]

Sandoval: Thank you, Mr. Lieutenant Governor. I'm really touched. Mr. Controller.

Knecht: Thank you, Governor. I just want to point out to the Lieutenant Governor and to yourself that some of us actually do remember the night Wilt Chamberlain scored 100 points. [laughter] I doubt that you do.

Sandoval: Any further comments? Member Savage?

Savage: Thank you Governor. It has been an incredible honor and privilege to have served under you as well as with you on the State of Nevada Transportation Board these past eight years. You have been an inspiration to me and the entire department. Today NDOT is much, much stronger and efficient than it was eight years ago. We have met monthly over the past eight years and you have not missed one meeting. That alone speaks volumes.

You have shown us all your faith and commitment to a strong, consistent process that makes a state department run better. Not one time over the past eight years did you ever call me and wanted something to go a specific direction. You believe in all of us, as independent individuals with the strong sense of doing what is in the best interest for transportation in the State of Nevada. That belief and confidence in us in turn is faith and trust in your people.

Your character has defined your leadership. Humility, patience, competitiveness, compassion and careful consideration. Your Governorship and leadership will be a very hard act to follow. In honor of you and how you have led by example, I will support the change in leadership and continue to serve the state as you have for the past eight years.

Again, I sincerely thank you for being a true Nevadan, with Nevada in your heart. The people of this state have been fortunate to have you in the Governor's Office for these past eight years. I wish you all the very best in health and happiness with your days ahead and we will remain One Nevada. Thank you, Governor.

[applause]

Sandoval: Thank you Len.

Savage: Thank you, Governor.

Sandoval: Member Almberg.

Almberg: Thank you, Governor. I don't know that I can say anything as elegant as Len said it, but I 100% believe everything that he just said and support what he said. It's been an honor to serve with you and my fellow Board Members. In my life, I always look to people that I try to strive or model to be similar to or to learn from and you, my fellow Board Members, are those people that have shown me so much and led a great team and accomplished great things through here. I appreciate the opportunity that you provided me and I thank you for everything.

[applause]

Sandoval: Thank you, BJ. All right, any further questions or comments?

Valentine: Governor?

Sandoval: Yes, Member Valentine.

Valentine: Well, going last, I feel like just about everything has been said. I do want to tell you that it's been an honor and a privilege to serve on this Board with you. It makes me feel proud as a Nevadan for 37 years now every time I hear people talk about you being the most popular Governor of all time. So, I will add that, of all the Boards I've served on and worked for, you are probably the most thorough and diligent Chairman I've had the opportunity and pleasure to observe. You make sure that every possible angle is vetted. You're very thorough. I just really appreciate the way you've conducted business on this Board. I will really miss the opportunity to continue working with you and the NDOT Board, so best wishes. It's just been a pleasure.

[applause]

Sandoval: Thank you. Thank you everyone. Let's make sure the minutes are correct next month so we have all that for the future. [laughter] No, I'm truly touched. I think Len said it best, it all comes down to this for all of us, we love our state. We love our state and everything it stands for and we love our people and we love our lands. And, we will do whatever it takes to make her the very best state in the country. So, thank you.

All right, why don't we move on then to Agenda Item No. 2 which is Public Comment. I'll begin in Southern Nevada. Are there any members of the public in Southern Nevada that would like to provide public comment.

Hutchison: There are none here, Governor.

Sandoval: Thank you, Mr. Lieutenant Governor. In Carson City, is there any member of the public that would like to provide public comment here in Carson City?

Price: Okay, well, how do I follow that. You don't. First of all, I'll just follow it by skipping to my speech I had and just tell the Governor that I truly do have it in here to thank you, sincerely. I was in the room as an employee when you told us as state workers that—in this room, this very room—and I applaud you because you held that, with the business you bring in and you have really done a fabulous job for Nevada. I too am proud of you, as a Governor. So, I just want you to know that.

Sandoval: And, if I may, just for the record, Ms. Price, this is Judy Price, who's speaking. Yes.

Price: Yes, thank you for that, I appreciate that, very kindly. Okay. Good morning Governor Sandoval and esteemed Board Members. You guys all know who I am but I have good news; this will be the last time I'll be presenting in front of this Board, hopefully. I do intend to poke in occasionally to make sure there's follow-up because I'm here because of public assets.

I don't know where to really start except to tell you that I am coming with a solution, I hope. So, I'm going to give this little yellow piece of paper to Mr. Hoffman or someone when I leave. What this is is a suggestion for Human Resources. This is a tool that hopefully will be used by some of the Chiefs, let's call them Division Heads that I see in the room here today that have employees that they have to deal with on a daily basis and the process that I happen to know very well is that they drag you into Human Resources and then they—Human Resources has a job to do. So, this hopefully will provide the Human Resource Management with a resource for those Division Heads to pursue, an avenue.

What it is, it's just a What, When, Where, Who. This is basic elementary, but I wouldn't be standing here unemployed if this was in place. The reason it's important to have it in place is on November 17th, following my last meeting here, I discovered a little form called NPD-50 Form, which was an Appeal of Dismissal, or even an Appeal of a Suspension, which is an opportunity for an employee to know you have an avenue. I didn't know this was available to me.

So, today sir, I can't believe I skipped my entire speech, but I'm going to do that, to honor you because I don't know how to follow what I just heard and I want to leave it on a positive as well. I'll submit my speech in writing for the record, is that fair enough for the Board?

Sandoval: Thank you, Ms. Price.

Price: You're welcome. And, I do honor you for that. I'm asking two requests before I close. I ask that this sincerely gets submitted to Right-of-Way, as a suggestion and it takes the pressure and the onus off of Ms. Alison Wall who happened to be the Human Resource Manager that had to write notes that we—we, Judy, discovered you doing this, we—we heard that you did this. It's come to our attention. That has to stop, sir. It damaged myself, my family, I'm not here to whine about that. I'm a strong Nevadan too. Third generation. Proud Battleborn. This will be a solution going forward. I pray that you use it, okay.

The other one is, I would like Mr. Malfabon just a request that he puts this available to all employees so they know that's an avenue for them. To file for this appeal if somebody suspends you for hearsay, sir. This needs to be out there for your employees, with all due respect, okay. That would be excellent if that gets out there.

Lastly, I tried to get a copy of my statements in the first meeting that I spoke and I was so afraid—so afraid and it's scanned on here, this is a difficult process. If a person of the public wants to hear what goes on in these meetings with your money, it's difficult to find out. We can do better, as a group. I'm really looking forward to—I believe everything that was said in here. I worked 10 years at the Department of Transportation, seven in Utilities, that's a difficult job, relocating utilities and a lot of negotiation skills are required. So, it's a big job for everybody.

So, I'm going to close just by saying, I'm here for the Utility Data Layer. I'm here for the first things I mentioned October 8th. So, hopefully the new people will go in and look at that, if they don't, I'll follow-up. I'll close sir, in just telling that you that I've learned to lower expectations from others. I've learned to try to come with solutions of some sort. And I'm committed to advancing in grace on this situation and in the employee situation, Rudy, you've got a team of people working here, okay. So, reach out to every employee, not just the Ms. Rosenberg's and the Mr. Nellis' and the Mr. Dyson's. Reach out to all of the wheels, okay, reach out to all of the employees and let them know that this form is important for them. This form for the record is NPD-50, 4—it's not the Whistleblower Form, it's 54. Now, I'm done. I'm sorry. You have an excellent whatever you choose to do in the future sir.

Sandoval: Thank you, Ms. Price.

Price: You're welcome.

Sandoval: Is there anyone else present in Carson City that would like to provide public comment? We have someone approaching.

Moreno: Thank you Governor. Michael Moreno, RTC of Washoe County. Just wanted to take the opportunity to also echo the comments that have been expressed for your leadership and vision during your administration. Especially in Washoe County, I'd be remiss if I didn't express how appreciative we are for the Spaghetti Bowl

project that is being fast tracked. It's a very critical project for us and we appreciate that this is such a high priority for you during your administration.

Last but not least, we are going to be celebrating the Grand Opening of the Fourth Street and Prater Way, Bus Rapid Transit Project on December 14th at 11:00 AM at the El Rancho Station in the City of Sparks. I extend an invitation to you, the Members of the Board and everybody in the audience and everybody who is watching to join us. We're really excited for this project, which is improving safety, adding bike lanes, adding more transit into the corridor and it's an opportunity to provide greater transportation amenities for the workforce in Washoe County. Thank you.

Sandoval: Thank you, Mr. Moreno. I hope this is appropriate, but I want to thank you first and Mr. Gibson and everyone at the RTC for the opportunity to work with all of you. On a personal note, speaking of safety, I don't know if Mr. Gibson passed this on to you but I dropped my daughter off at Reno High School every morning at the corner of Booth and Foster Drive and it's complete chaos. [laughter] Because you have teenager drivers, you have parental drivers that are in a rush, you have pedestrian kids that are trying to cross the streets. Len knows this. But in any event, I think and I'm not a traffic engineer, but a left-hand turn arrow would really help. [laughter] Because you've got people running lights and things and kids dodging cars. I did several weeks ago leave a message for Mr. Gibson, I hadn't heard back from him. So, I'd ask if somebody from RTC could at least take a look at it because it really is a chaotic—I don't want to call it dangerous, but chaotic situation that I think could be really improved.

So, sorry, you know, I live here too and [laughter] and just if you could take a look at that for me.

Moreno: We'll follow-up on that Governor. Thank you.

Sandoval: Okay, thank you. All right, any other public comment from Carson City? There's none. We'll move on to Agenda Item No. 3, which is Approval of the November 14, 2018 Nevada Department of Transportation Board of Directors Meeting Minutes. Have the Members had an opportunity to review the minutes and are there any changes? If there are none, the Chair will accept a motion for approval. Member Savage has moved for approval, is there a second.

Almberg: Second.

Sandoval: Second by Member Almberg. Any questions or discussion on the motion? I hear none. All those in favor, say aye. [ayes around] Those opposed say no. That motion passes unanimously. Let's move on to Agenda Item No. 4, Approval of Contracts over $5 million. Mr. Nellis, good morning.

Nellis: Good morning Governor, Members of the Board. For the record, Robert Nellis, Assistant Director for Administration. There is one contract under Agenda Item No. 4, for the Board's consideration that can be found on Page 3 of 15 in your packet. The project is located on US-50 from Roy's Road, to the junction with US-95A in Lyon County. This is to widen the roadway to a four-lane divided highway with lighting and drainage improvements and constructing a new roundabout. There were four bids and the Director recommend award to Granite Construction Company in the amount of $49,996,996. With that, that concludes this Agenda item, does the Board have any questions regarding this contract?

Sandoval: Thank you, Mr. Nellis. Just one question for me. It says that it includes a new roundabout, is this the same roundabout that we discussed with the County Commissioner, I think it was—this is a different location?

Malfabon: Governor, this is the roundabout at US-95A, the road to Fernley, so this completes the widening of US-50 all the way out to that junction with US-95A.

Sandoval: Thank you. Board Members, any other questions with regard to Agenda Item No. 4? If there are none, the Chair will accept a motion for approval.

Knecht: So moved.

Sandoval: The Controller has moved to approve the contract presented in Agenda Item No. 4 with Granite Construction Company, is there a second?

Almberg: Second.

Sandoval: Second by Member Almberg. Any questions or discussion on the motion? I hear none. All those in favor, please say aye. [ayes around] Those opposed say no. That motion passes unanimously. We'll move on to Agenda Item No. 5, Approval of Agreements over $300,000. Mr. Nellis.

Nellis: Thank you, Governor. There are five agreements under Agenda Item No. 5, for the Board's consideration. These can be found on Pages 3 of 65. Item No. 1 is with CDM Smith in the amount of $800,000. This is Amendment #1, to increase authority and extend the termination date. The service provider effort thus far has

been invested in evaluating the unsolicited proposal for I-80. This amendment is to complete the Pioneer Program Guidelines and the plan to implement the State Infrastructure Bank.

I moved Item No. 2 last so I could put it on its own slide. So, skipping to Item No. 3 with Jacobs in the amount of $330,000. This is for federal policy analysis to provide monitoring and information gathering with the Administration and Congress, review the State's Transportation Program, prepare testimony and briefing papers and assist in implementation of our strategy of the House and Senate Committees.

Item No. 4 is with Aztech Inspections and Testing and Aztech Materials Testing in the amount of $660,209.43. This is Amendment #1 to increase authority due to the size and scope of NEON phases and crew workload to address the continual need for professional and technical services to ensure Project NEON construction conforms with the plans, specifications and all other contract documents.

Item No. 5 with Atkins, HDR and CA Group is in the amount of $4.2 million. These three service providers will be selected on an as needed basis, to provide engineering design services for traffic operations and augment workload as well as provide needed expertise.

Back to Item No. 2 with Agile Assets in the amount of $2,050,000. This is Amendment #1 to increase authority and extend the termination. The first module for stormwater will actually be going live this month and we're adding time to the agreement as well as a resident consultant. Originally this was presented to the Board as a 4-5 year project and we're correcting an error on the agreement that set the termination date to 12/31/18, the end of this month.

Regarding the Resident Consultant Program, we've learned about this program back in April 2018. They provide in depth knowledge of the product, onsite presence to assist the staff using the program and quickly provide resolutions. And ensures delivery of anticipated value of the product and that it's utilized to its full potential. This eliminates the need to issue change orders or enter into a new agreement and comes highly recommended by other states using the program such as Texas, Oklahoma and Louisiana.

Our IT Chief, David Wooldridge is available to answer any questions you may have on this item if you have detailed questions. With that Governor, this

concludes this Agenda item. Does the Board have any questions on any of these five agreements?

Sandoval: Thank you, Mr. Nellis. Questions from Board Members? Member Savage.

Savage: Thank you, Governor. Actually, just one question, Robert. It has to do with Agenda Item 2, Agile Assets. How much has the Department been billed to date by Agile Assets?

Nellis: To date, we've expended $2,376,040.

Savage: Okay, very good. That's all I have Governor, thank you Robert.

Sandoval: Other questions or comments from Board Members with regard to Agenda Item No. 5? Member Almberg.

Almberg: Thank you, Governor. I've got a question on No. 1. This appears to be that we spent the budget reviewing the unsolicited proposal and assisting us in the review of that unsolicited proposal.

Mortensen: That's correct. The original agreement for this was put in place to allow us to respond to that unsolicited proposal, as well as start work on evaluating the Pioneer Program Guidelines, the State Infrastructure Bank Legislation and starting to get a better feel for the overall scope and so what this does, is this will mend that overall scope to include the additional work that we anticipated originally, we just didn't have the time to put together.

Almberg: So, that leads to the question of, what did we get? When that unsolicited proposal and maybe this isn't the Agenda item to talk about it, we can talk about it under that item, but it was just—it's costing us a substantial amount of money to review that proposal and are we going to get any benefit from it? Are we going to get any costs to cover those fees?

Mortensen: That's a great question. As part of the process, the unsolicited proposal process, the proposers are required to submit fees along with those proposals. The first fee is $5,000 and I believe that that gets you past the—the right term for it is the—or, the acronym is the UPPAC, but it's a high-level committee basically evaluating the proposal. The second fee is $30,000 to help offset the costs of the project evaluation. That doesn't cover the cost of the project evaluation, but really it's more of an earnest money situation where we want to make sure that they're serious when they submit an unsolicited proposal.

As far as the second part of your question, as we've gone through the project evaluation, we have done further analysis on the project that isn't going to waste that we'll be able to utilize in the future. We haven't had the time necessarily to put in the in depth evaluation that we would like to, but we're getting there.

Almberg: Well, thank you for that. I mean, it just—you answered that very well because knowing the amount of money we received, turning it in, is nowhere near the amount of the money it costs us to review that proposal. I just don't want this to come in and be a money loosing situation for us where we continue to get unsolicited proposals that do nothing but cost us money in the future.

Sandoval: No, and I would've like to have known that we were doing that before we did it. I mean, I didn't know that it was costing the Department $800,000 to review that proposal.

Mortensen: I apologize, I thought that was part of the discussion that we had with the Board in August when we approved the original agreement.

Sandoval: Do you remember that?

Almberg: I don't remember.

[crosstalk]

Sandoval: You do?

Malfabon: Well, it's not entirely that amount.

Mortensen: Yeah, it's not entirely the $800,000. The $800,000 isn't the total. I can get you the amount that we have expended in that review, I don't have it in my fingertips.

Sandoval: Okay. Well, I'm going to save some comments for the future Agenda item because I guess the benefit of that will depend on the outcome of that Agenda item.

Almberg: That's all for me, Governor.

Sandoval: Okay, thank you. All right, other Board Member questions or comments with regard to Agenda Item No. 5?

Hutchison: Governor?

Sandoval: Mr. Lieutenant Governor.

Hutchison: Thank you, Governor. I have—it sounds like a lot of us had the same concern about these unsolicited proposals and the cost to the Department. Is there any filter system or just by legislation do we got to, as a Board or as a Department accept every unsolicited bid and evaluate it or what's the filtering system, if any for NDOT employees, when they get an unsolicited proposal?

Mortensen: For the record, Cole Mortensen, Assistant Director of Engineering. The process for the evaluation of that unsolicited proposal is actually outlined in the Pioneer Program Guidelines and there are several steps to that process whereby if it's not a valued project or a valued asset to the state, that we would no longer continue the evaluation. We start off and I believe that we'll cover that evaluation as part of the presentation in the later Board item.

Hutchison: Okay, thank you. And then just, what changed between August of this year and this meeting where we need to justify this $800,000 amendment? I know there were expenditures you said with this unsolicited proposal, but what else changed? Why couldn't this amount of $800,000 been presented when the original contract was presented, which was actually less than the amount of the amendment?

Mortensen: What we needed to do with the original amendment was to allow the team to actually evaluate the legislation that's been passed over the last few Legislative Sessions and really to review and evaluate the Pioneer Program Guidelines as they sit right now, as well as, to evaluate the State Infrastructure Bank Legislation. So, once that was done and we had a better understanding what the effort would take, that's how we ended up to this amendment.

Hutchison: And, were those regulations completed in August of '18 or have they been subsequently completed and that's one of the items that has changed between August and today?

Mortensen: None of the regulations have changed between August and today, but they have changed over the last two Legislative Sessions or three Legislative Sessions and we're—this is our move to update the Pioneer Program Guidelines to reflect those changes and to make sure that we're up to the state-of-the-art, I guess so to speak on how we're actually handling our design-build and our Construction Manager At-Risk Projects, as well as, we'll be looking at the P3 Processes as part of that too.

Hutchison: Okay, thank you very much. Thank you, Governor.

Sandoval: Thank you, Mr. Lieutenant Governor. Any other questions or comments with regard to Agenda Item No. 5? Mr. Controller, please proceed.

Knecht: Thank you, Governor. I share the concerns about the cost of reviewing unsolicited proposals and that we not turn this into a lottery where people essentially spin the wheel and hope that something good happens for them. I think the earnest money that Mr. Mortensen mentioned is a rather sufficient barrier when you consider also the costs of putting together that proposal. My question to NDOT would be, do we track the costs of—front-end costs of development of RFP and RFQs and such that we send out and how does that compare to—how does that and the evaluation and implementation process on solicited contracts, how does that compare to the costs of unsolicited contracts or proposals?

Mortensen: That's something that I don't think we accurately track to answer your question. Generally speaking, when we go through the process of putting together an RFP for a project, it gets billed to that project number, but we don't necessarily have that project number broken down into the various tasks or work associated with it. So, we do not have that data available, I don't think.

Knecht: As you go forward with the reviews and the evaluations of the process, I would suggest you put an element in there for understanding the costs of development of our own RFPs and the front end costs that we never really see and how many of them actually come to fruition and how many are abandoned ultimately. Thank you.

Sandoval: Thank you, Mr. Controller. Any other questions or comments with regard to Agenda Item No. 5? Mr. Nellis, any further presentation?

Nellis: No sir, that concludes this Agenda item.

Sandoval: Thank you. If there are no further questions or comments, the Chair will accept a motion to approve the agreements over $300,000 as presented in Agenda Item No. 5.

Hutchison: Move to approve.

Sandoval: Lieutenant Governor has moved for approval. Is there a second?

Knecht: Second.

Sandoval: Second by the Controller. Any questions or comments on the motion? I hear none. All in favor say aye. [ayes around] Those opposed say no. That motion passes unanimously. We'll move to Agenda Item No. 6, Contracts, Agreements and Settlements. Mr. Nellis.

Nellis: Thank you, Governor. There are three attachments under Agenda Item No. 6 for the Board's information. Beginning with Attachment A, there are four contracts—I was going to say there are four contracts and one emergency contract but that's not correct, there's just four contracts.

The first project is located on State Route 756, Centerville Lane, a bridge structure 287 and from Waterloo Lane to US-95 in Douglas County. This is to widen the roadway and bridge, construct new curb, gutter and sidewalk and add striping and signage for bike lanes. There was one bid and the Director awarded the contract to Q&D Construction in the amount of $1,181,000.

The second project is located at the Washoe Tribe Communities of Carson, Stewart and Dresslerville in Carson City and Douglas Counties to install pedestrian and road safety improvements. There were three bids and the Director awarded the contract to Sierra Nevada Construction in the amount of $475,007.

The third project is located on Second Street from Keystone Avenue to I-580 and Arlington Avenue from Court Street to Sixth Street in Washoe County. This is for pedestrian and ADA improvements. There were three bids and the Director awarded the contract to Granite Construction Company in the amount of $2,084,084.

Lastly, the fourth project is located on Eastern Avenue and Civic Center Drive from US-95 to Cope Avenue in Clark County. This is for pedestrian and ADA road improvements. There were three bids and the Director awarded the contract to Unicon, LLC in the amount of $2,777,283.97.

With that, does the Board have any questions regarding these last four contracts before we turn to Attachment B?

Sandoval: Thank you, Mr. Nellis. Any questions? Mr. Controller.

Knecht: Thank you, Governor. Mr. Nellis, on Items 1 and 2, is there any future work that you anticipate in connection with those projects will those be complete and sufficient and safe and connected for the foreseeable future?

Nellis: Mr. Controller, I don't anticipate any future work but I don't know if the engineers want to weigh in on that, if they see anything that's coming down the pike in the future?

Mortensen: I don't recall seeing anything in addition to these.

Knecht: Thank you.

Sandoval: Any other questions? All right, please proceed Mr. Nellis, thank you.

Nellis: Thank you, Governor, Members of the Board. There are 31 agreements under Attachment B, that can be found on Pages 15-17 for the Board's Information. Item 1 is a Cooperative Agreement. Items 2-8 are Service Providers. And lastly, Items 9-31 are No Cost Agreements and Amendments.

Does the Board have any questions regarding any of these agreements before we turn to Attachment C?

Sandoval: Board Members, any questions on Attachment B? Mr. Almberg.

Almberg: Thank you, Governor. On Item No. 6, we paid $18,000 to pump a 2,500-gallon septic tank?

Malfabon: It's for a four-year period for that service, so.

Almberg: Okay, that's fine. I thought, wow, one time—

[crosstalk]

Malfabon: That's a lot.

Almberg: Yes. All right, that's all for me.

Sandoval: All right, any other questions on Attachment B? I hear none, Mr. Nellis, please proceed with C.

Nellis: Thank you, Governor. There is one settlement under Attachment C for the Board's information. This provides for an additional $475,000 for an eminent domain action for 12,137 sq. ft. property with 1,728 sq. ft. temporary construction easement. This resolves all related condemnation issues over the 2.5 years of litigation with this case.

That concludes Agenda Item No. 6, does the Board have any questions regarding this settlement?

Sandoval: Thank you, Mr. Nellis. Questions from Board Members on the settlement. Do you have anything Mr. Lieutenant Governor?

Hutchison: Thank you, Governor. Dennis, just in terms of just the temporary construction easement. I assume this has been evaluated and I know it's already been approved, but does that fall within the range of what is typically paid for a temporary construction easement?

Gallagher: For the record, Dennis Gallagher, Counsel for the Board. First, Lieutenant Governor, I will miss your questions. [laughter] The value for the temporary construction easement, like other real estate values, fluctuates over a period of time. Overall, the resolution of this matter, the State had over $2 million exposure. This settlement all-in resolves that and reduces the risk of ongoing litigation and completely resolves the case and as I mentioned to the Governor at the Board of Examiner's Meeting, I believe that this settlement is fair, just and equitable both to the property owners, as well as the people of the State of Nevada.

Hutchison: Thank you Dennis. And, from your comments, I take it then that the demand was $2 million, is that what the Plaintiff was at?

Gallagher: The Plaintiff was a little over $2 million and as this was also—or, was an eminent domain action, should the property owners prevail, they would be entitled to their costs and fees associated with the case, which could range another $100,000-$200,000.

Hutchison: Okay. All right, good. So, that's good to have on the record. Thank you very much for that analysis Dennis, thank you Governor.

Gallagher: Thank you, sir.

Sandoval: Thank you, Mr. Lieutenant Governor. Any further questions with regard to the settlement? Mr. Nellis, any further presentation?

Nellis: No sir, that concludes this item.

Sandoval: Before we move on, Board Members, any further questions with regard to Agenda Item No. 6? It's an informational item, so we will not be voting. All right, thank

you. We'll move to Agenda Item No. 7, Resolution of Relinquishment. Director Malfabon.

Malfabon: Thank you, Governor and Board Members. This is associated with Carson Freeway and as you saw last month, you approved the relinquishment of the main roads involved -- Carson Street, Snyder Avenue, for instance. This cleans the rest of the additional parcels associated that we acquired in fee to construct the Carson Freeway. A lot of them were smaller parcels associated with cul-de-sacs on residential streets and such. So, this completes the action that was agreed to with Carson City. They consented to a resolution back in October to take these parcels, in addition to the other roads that the Board previously approved last month. And, this cleans everything up and hopefully this closes the books on the transfer of the right-of-way associated with the Carson Freeway.

Sandoval: All right, thank you. Board Members, any questions with regard to Agenda Item No. 7? If there are none, the Chair will accept a motion to approve the resolution of relinquishment as presented in Agenda Item No. 7.

Savage: Move to approve.

Sandoval: Member Savage has moved for approval. Is there a second?

Almberg: Second.

Sandoval: Second by Member Almberg. Any questions or discussion on the motion? I hear none. All those in favor, say aye. [ayes around] Those opposed say no. That motion passes unanimously. We'll move to Agenda Item No. 8, Approval of the Department's Recommendation Concerning the I-80 Corridor Unsolicited Proposal.

Hoffman: Good morning Governor and Transportation Board Members. Bill Hoffman, Deputy Director, for the record. First and foremost, I want to thank Lincoln Highway Partners for submitting the unsolicited proposal. As we heard last month from EDAWN and the Reno Land Company, this is a very important project to the community, essentially came from the community. They wanted us to evaluate it and see if there was any value for the State of Nevada.

I also want to thank our project team led by Pedro Rodriguez. They put a lot of effort into this. We wanted to make absolute certain that we were moving in the right direction and they've done a great job providing that information. With that, I would like to introduce Pedro Rodriguez. He's the Project Manager for this

project. He will walk us through the details and background. He'll start out with some of those projects that we're working on right now. So, as we know, it's a heavily congested corridor right now. We're looking at any and all options, low hanging fruit, all the way to public/private partnerships to see if we can help with the safety and congestion issues between Sparks and USA Parkway. Pedro, if you wouldn't mind? Thank you.

Rodriguez: Thank you Bill. Good morning, Governor. Good morning, Members of the Transportation Board. For the record, Pedro Rodriguez, I'm the Project Manager. So, as Bill had mentioned, NDOT has been actively addressing issues on I-80. We've been aware of the congestion, the growth that has occurred over the last few years.

Some of the things that we've recently worked on and have completed or started include: the Reno Sparks Freeway Traffic Study, which was recently completed back in Spring of 2018, so this year. It identified key issues and alternatives including those that are located at USA Parkway South. We've started the I-80 Corridor study and we're about halfway through that, which also identifies key critical needs along the corridor and priorities to reduce congestion there.

Other studies that we've worked on include the Inter County Regional Transit Study and that's on the way right now, as well as the Autonomous Vehicle Feasibility Study. That is on top of the restriping that occurred shortly after the extension of USA Parkway, there at the interchange of I-80. So, that was completed back in 2017.

That also gave way to the need for improving the interchange there at USA Parkway, which was presented and awarded at last month's Transportation Board Meeting, which was the introduction of a signal there at the interchange. That project that was awarded, the signal interchange at USA Parkway introduced a signal at the westbound offramp on I-80. What you see there is the interchange itself and it also includes improvements for a second lane westbound onramp, as well as a second lane eastbound offramp. In essence, taking the traffic from Reno to USA Parkway.

This was needed, as we found out with our previous studies, that we needed to act on pretty immediately. Especially since the growth on that interchange has increased from 2,000 to 8,000 vehicles over the last four years. So, in essence, NDOT has been aware of these concerns. We've been working on these. The

single interchange project itself was fast tracked and completed over a period of six months.

So, we do appreciate LHP or Lincoln Highway Partners helping us to actively address these issues on I-80 by submitting an unsolicited proposal to the Department. We received that unsolicited proposal back in August 1st. NDOT—I guess maybe to take you back a little bit. NDOT has the authority right now to do design-bid-build projects. We also have the ability to do CMAR projects, as well as, design-build projects. We do not have the authority to do public/private partnerships as this is that type of delivery method, unless it comes in an unsolicited manner.

The unsolicited proposal that came in offering the P3 or the public/private partnership offered improvements along I-80, east I-80. The yellow that you see there is the inclusion of one lane to have three lanes in each direction from Vista to USA Parkway. The proposal also suggested maintenance over that yellow section, that same section that would introduce the one lane in each direction, as well as the pink section, which takes out—which takes it out past USA Parkway to Nevada Pacific Parkway.

When the unsolicited proposal came in, in essence offering the Department a public/private partnership. The way the public/private partnerships work is, they say hey, we're going to come in, we're going to do improvements and then we're going to also maintain it. When we're done building the improvements, then we would like you—we'll front the money up with private financing and then, we'll want you to pay us back yearly a certain payment.

In this case, what they were proposing is to do the improvements over three years and then NDOT would pay them back an availability payment over 32 years for $36 million every year. Because these P3s are pretty important because they could potentially offer quite a value to the Department. We take these seriously. We consider them complex projects that also require a complex review of their proposal at various levels.

This stretch of I-80 has, again, the value that was proposed by the proposer, offers such a value to us and again, we're aware that I-80 as it continues to grow with the economic development out at Tri-Center has the potential to increase congestion quite a bit. An introduction of a lane in each direction as proposed by the proposer, has the potential to reduce that congestion by 70%. Similarly with crashes, we expect the frequency of crashes with congestion to increase. A

project like this has the potential for reduction in that frequency of crashes by 26%. This is knowing now what we've seen on I-80, and it's also the reason why we're moving forward with the single interchange project that was awarded last month and understanding that TRIC, as of now is only 20% developed. So, I guess to reiterate, the value that this or the potential value that this proposal can offer the Department is pretty great.

That's why it requires several levels of review. In accordance with our Pioneer Program, when we receive these unsolicited proposals for public/private partnership projects, we have to go through multiple levels. They include a completeness review check. They include a UPPAC or Unsolicited Proposal Program Advisory Committee Review. And, with each level down, we drill down further into the proposal to do further evaluation. The next level would be a high-level project screening that would go concurrent with the intergovernmental local agencies that would be affected by the project. In this case, RTC, Washoe, Storey County, those agencies.

Those concerns are all jotted down, reviewed and then they're taken to the next level which is Project Evaluation Committee, which dives into it further on a financial feasibility cost, as well as a risks and benefits. The results are then compiled and a recommendation is taken to the Transportation Board. This is following our Pioneer Program Guidelines, which in essence tells us how we deal with these types of unsolicited proposals.

This slide here depicts a snippet of those guidelines and what we do with this process. On August 1st, we received the unsolicited proposal. On August 17th, the UPPAC Committee completed their review. On October 1st, the High Level Project Screening Committee, as well as the Intergovernmental Local Agencies provided us with their concerns and comments. On November 14th, our Project Evaluation Committee completed their financial review and risks and benefits on the project. We're here today to present those findings to you, as well as to give you a recommendation on which way to proceed.

Once we approach the Board with a recommendation, the Board has one of three options to choose from. The first one is to accept the public/private partnership and move forward with sole source negotiations with the proposer, in this case Lincoln Highway Partners. The second option is to compete the P3, in essence, try and get a better value for the idea, saying we like the idea of the project, we can see the value that it has, but we also want to put it out there competitively and

see if we get a better offer. The third option is to reject the P3. In this case, based on our evaluation, our recommendation is to reject the P3 and direct the staff to continue to develop the project to bring a recommendation to the Board.

The reason for the recommendation we'll walk through. What we reviewed, what we evaluate in these unsolicited proposals include the risks and the benefits and those risks and benefits were summarized and included in your Board Packet in the matrix.

The other things are, we look at the costs. We take a look at the cost that the proposer is telling us it would cost them to do the project. We also take a look at the cost it would take NDOT to run the P3. Then we also look at other scenarios. If the Department were to move forward with the project, and those were analyzed in this review. We also look at this from a financial feasibility perspective on whether or not NDOT can afford it and what impacts does it have to our capital program.

Understanding of course that when these proposals come in, as they did, as it did, are high-level. All the details cannot be included into one small proposal. So, broad assumptions have to be made for us to make a fair assessment, both from a financial perspective, as well as the costs and the risks and the benefits.

Generally speaking, with our public/private partnerships, our reviews of those types of delivery methods the Department does what's called a public sector comparator. The lighter blue column there represents the all-inclusive costs that were presented to us in the proposal that we evaluated that included everything from operations and maintenance, life cycle costs, financing costs, as well as the construction. All-inclusive costs brought to today's dollars, for us to make a comparison too. And, what the Department does is, the public sector comparator, which is the darker blue column, that's in essence all the same items, but just what are—what do we come out with as far as the cost goes? If we were to compete it or another scenario. The differences between the two there would represent the value of money that we would be getting for the project. All of this is measured over some affordability threshold to help us make a determination on which way we want to move forward.

This is the—the first scenario you see here is a representation of the all-inclusive costs by the proposer, that includes everything: operations, maintenance, construction, financing, etc., and they told us what this was. The second scenario is NDOT's public sector comparator or NDOT's P3. If we were to compete it.

The cost for the first one being a little over—well, being over $700 million and the second one, about $600 million.

NDOT went ahead, as I mentioned before and did other scenarios. All of these dollars are brought to net present value. So, we're looking at today's dollars to make an apples to apples comparison.

The third scenario we looked at is, what if NDOT bonded the project and moved forward with the design-build. That came in a little over $400 million, understanding of course that this also includes life cycle costs. So, what we would do over the 35 year period. The fourth year [sic] shows that a little closer with a no-build scenario, where NDOT does not move forward with the project, but we would still have to return over a period of 35 years, to resurface this stretch of I-80 three times. The last one is similar to scenario 3 which is NDOT bonding the project and moving forward with a design-build, but in essence, waiting a little while to bond. In this case, waiting six years to bond.

As I mentioned before, one of the things we look at is from a financial perspective on whether or not NDOT can afford to get into debt to bond for a project. What you see before you is that that service graph, NDOT right now has a requirement to have a three times debt coverage, which is represented by that red line. The blue columns you see there represent NDOT's existing debt service and debt service that we're going to enter into here in the near future for bonding and other projects. As you can see, we certainly have plenty of room to bond and get into debt if we wanted to move forward with the project.

The next four slides basically represent what the payment profiles would look like if we were to move forward. This first scenario here shows what the payments would look like, all brought to today's dollars, if we move forward with the proposers' availability payment schedule. The dark green there shows NDOT's initial costs that we would see upfront and then a $36 million availability payment that we would have and as time moves forward, the increase represents indexing.

The second scenario represents NDOT running the P3 and in this case, we would use more pay-as-you-go, money upfront and then similarly, make payments yearly, over the 32 year period.

The third scenario is the NDOT bonded scenario. In this case, what you see before you is more pay-as-you-go dollars that are applied earlier on. Inclusive of NDOT's costs which are the green. The yellow represents the bonding that

NDOT would enter into to pay for a design-build project. Then the light green peaks that you see there represents the costs that we would have for moving forward with resurfacing projects or lifecycle costs that we would go back out and do improvements to on I-80 over the 35 year period.

The last scenario there is similar to the previous scenario where we're bonding but we're waiting a little while to bond for the project.

So, NDOT went ahead and reviewed the proposals. We took a look at the costs and these all inclusive bars represent what came out of our evaluation. These are the first five that we're concentrating on, although NDOT looked at multiple scenarios, which are also included in your Board Packets.

Given the charts you've seen there and the differences between the Option 1, which is the private sector's all-inclusive costs, versus NDOT's scenario costs, the staff recommends to reject the P3 and then direct staff to continue to develop the project and bring a recommendation to the Board for delivery. This, all-in-all, is because we have lower financing costs. You know, the project costs are eligible for federal reimbursement and it gives the Department more time to do further due diligence to identify the actual costs on environmental impacts, right-of-way, construction and then also, further due diligence on better optimizing the scope on the project.

With that, I'll open it up for questions.

Sandoval: Thank you. I appreciate the work. I do have a series of questions. Will you put up that cost of scenarios with the three bars? So, you said $36 million for 32 years.

Rodriguez: That's correct.

Sandoval: On my napkin math, has that over $1 billion?

Rodriguez: Yes, it is.

Sandoval: So, why isn't that bar above—actually, it would probably go off the screen if we had—because you have it at a little less than $800 million when it's actually about $1.15 billion.

Mortensen: Governor, if I may?

Sandoval: Yes.

Mortensen: Cole Mortensen, Assistant Director of Engineering. These costs are brought up to net present value, so a discount rate was taken into consideration on those payments and if Pedro, if you'd go back to the slide that depicted the payments that we'd make on an annual basis, it's indexed to CPI. So, as inflation increases, so would our payment to the proposer. And all of those payments then are brought back to net present value using that discount rate.

Sandoval: So, in the history of NDOT, have we ever bound ourselves for 32 years?

Rodriguez: Not that I'm aware of.

Speaker: [inaudible]

Sandoval: Well, for any bond. I mean—

Nellis: Well, no. I can answer that, for the record, Robert Nellis. We only recently, in the last Legislative Session, received approval to bond up to 30 years. Prior to that, we only had a 20-year maximum. So, everything has always been less than 20 years up until—

Sandoval: So, for example, Project NEON is 20 years. That was part of the analysis with Project NEON because we went through this P3 analysis as well. I think, if my recollection is correct, it would've cost us double to build Project NEON had we used that P3 approach. So, what is—and I know we have all these fancy nice graphs and—[laughter] That's what we paid $800,000 for, right? [laughter] In any event, what's stopping us from just doing it the traditional way that we've done other projects?

Rodriguez: The reason we take unsolicited proposals seriously, P3s in particular is because someone is coming in and saying, hey, I got a great value here. I'm going to solve a problem for you that I know is out there and the public agrees with. I understand right now that you cannot bond for it, for whatever reason. Or, I can front the money now, which would free up capital for you to do other projects. Then, you just pay me over some time.

We do that analysis, but in this case, it didn't work out that way. We have plenty of room to bond for projects. I don't know if that answers your question.

Sandoval: Sort of, but—and I should've said this preliminary to my questions. I don't dispute there's a need for this. I mean, you just need to drive out there and experience it at 5:00 to see and then having the back-up in the morning as well.

So, there's no dispute that this is necessary. Obviously, we have to be prudent with our taxpayer dollars. A project that over time, the present value and taking Cole's analysis, $800 million—how much would it cost us, let's assume that we were able to do this, we have the cap room to do it, we have—just like we're doing with the Spaghetti Bowl, what is your estimate that it would cost if we just did it the traditional way that we have always done projects?

Rodriguez: As in, if we move forward with a design-build?

Sandoval: Yes.

Rodriguez: That, you can see from the chart right here, our NDOT design-build bonded option, the difference between that scenario and the no-build scenario would be our guess right now of what it would cost. Our no-build scenario represents the resurfacing NDOT would do anyway over the 35 years. So, you'd look at a $300 million cost.

Sandoval: But we're looking at the difference between almost $800 million and $300 million with the same window of time for construction?

Rodriguez: That's a fair assessment.

Sandoval: So, in order for us to vote for this, we have to justify spending an extra half billion dollars.

Rodriguez: That's correct.

Sandoval: And, with the P3, wouldn't it have to go through all the environmental impacts and all those studies before—in the same process, as we would as if we did it traditionally?

Rodriguez: That's correct. The proposer identified their plan on how they would move forward with being able to complete construction in three years, which included completing NEPA in a short timeframe. We would still have to go through that same process.

Sandoval: And then, just pardon the pun, shifting gears a little bit. What about the other guys? And again, I know we have this process where somebody could do an unsolicited proposal, but I would imagine there are other contractors and other teams, if we were going to go—I think it's Option 2—with this, I mean, have we—do we get that type of input, what about us? We'd like to have a shot at this?

Rodriguez: It comes down to the decision you're faced with today. If we were to move forward with this, because these bars were pretty close together, more than likely, the Department would recommend to compete a public/private partnership to get a better value for the dollar.

Sandoval: And then, finally and I brought this up at a former meeting, if we voted to go with the unsolicited proposal, as it is, how would we know at the end of the day that that was the best price if there wasn't any competition?

Rodriguez: Without competing it, it would be difficult to say. It would be a situation where the Department found the value of the proposal to be great and wanting to take them up on the offer.

Sandoval: I know there are representatives here from Lincoln Partners. I don't want any of my questions to be interpreted as being derogatory or anything like that, but for us as a Board we have to be good shepherds of the public's money and a record has to be made with regard to the distinction between these different proposals.

I have a final, final question for you Rudy, we did this with the highway that goes through TRIC. We expedited that and we moved that up the list when we did that and it got built in what, a year, I think it was and it was about $60 million or something like that, $70 million. What's to stop us from doing the same thing, given that there is a need here? As I said, I'm not disputing that there's not a need. There's a safety issue, there's a commerce issue. All of those things. What's to stop this Board in the future from expediting a project like this, like we did previously?

Rodriguez: Rudy, if I may. Just to clarify a few things. USA Parkway was roughly $76 million awarded. When that project was advanced a year, we advanced it, but had already completed our environmental which took approximately three years to get done.

Sandoval: Okay. And no, I appreciate the distinction for the record.

Malfabon: I think, Governor it's to the question, definitely is, it's a needed project. There wouldn't be anything stopping the Transportation Board from directing us to advance or accelerate the project. I think that there's some due diligence still to conduct as far as, do we agree that it can fit within the available right-of-way, or are there some environmental issues next to the river that would take longer to address in the long run with the final design of the project. And on top of that is,

once we find out when the environmental could be cleared and when the project could be ready, what else is on the books already planned to proceed with, whether it's the future phases of Spaghetti Bowl or the North Valleys widening, or projects in Las Vegas or statewide? I think that we still need to do some more due diligence on what's the timeframe that would be more practical, even on an accelerated basis to deliver the project, the widening of I-80, east of Sparks, to the USA Parkway, but also, what's in the mix and what's affordable within that timeframe.

So, I think there's still some work to be done, but I think that there's nothing that prevents the Transportation Board in the future from asking the Department to accelerate the project and proceed and provide some more feedback to the Transportation Board about affordability and some of the options available to deliver the project. Obviously with having some availability of—the issuance of bonds for the project, we have that option available as a design-build. Typically, that's going to save us a lot of time as well, as it's proven on Project NEON and on USA Parkway.

We have tools available, we just need to do some more due diligence on environmental and whether we agree that it can fit within the existing right-of-way. If it doesn't fit within the existing right-of-way, it's going to take a little bit longer for the environmental clearance.

Sandoval: So, given that response, how could we vote to support an unsolicited proposal when we don't even know that we can build it yet?

Malfabon: That's a good question, Governor and I think that that's why the staff recommended that we reject and proceed with further development of the project concept to see what is—what are some of the limitations with environmental, right-of-way and what's a reasonable delivery date and we can also look at what's the accelerated delivery dates that are available for the project.

So, I think that due diligence is still needed. Cole probably wants to add to that.

Mortensen: Yeah, Governor, if I may, the Lincoln Highway Partners put a lot of effort into this proposal as well. And, while I know that they're confident that they can remain within the right-of-way and reduce and eliminate any of the environmental impacts that may be out there, to be able to get through with the categorical exclusion, our staff hasn't yet really had the opportunity to really do that evaluation and have that understanding also.

And so, as part of the effort in moving forward, what we would be looking at would be proceeding with the development of the project so that we can verify whether or not, if we can keep it within the right-of-way and keep the environmental to a minimum or, what that environmental would actually end up being. Then we would be able to come back to the Board to let you know whether it's going to be, you know, a three year environmental window for us to get the EA done, along with the right-of-way acquisitions, or whether we can do it with the three-month categorical exclusion and no right-of-way acquisitions. So, we just need a little bit more time to really make sure that we've done the engineering effort.

Sandoval: And, what's a little bit more time? [laughter]

Mortensen: I would actually have to get back to you on that.

Sandoval: Yeah, sounds like a lot more time.

Mortensen: It's a big elephant.

Sandoval: All right. I'm trying to think if I have any other questions. I guess that will—that will be my questions for now, I'll turn it over to other Board Members for questions or comments. Member Savage?

Savage: Thank you Governor. I would like to thank Lincoln Partners. I know there was a lot of time and effort put into this project. I also want to thank the NDOT staff and our consultants. We don't take this lightly. We know the project needs to be done. It's very clear, by what the Governor and the Director have said. We know it needs to be done but again, we have the fiduciary responsibility for the state of Nevada. The wealth of information Pedro, Bill, Cole, CD Smith, Ernst & Young, this past five months is significant. It was reviewed in my office, reviewed in the packets you've given us and it really does assess the cost risks and the potential impacts to the Department, at the end of the day. I know that we as this Board have a difficult decision, but at the end of the day, it's about the dollars and what we get for what we pay for.

NEON has been a great example of a design-build process that's been very, very successful. Now, if that wasn't as successful as it has gone the past many years, there might be an opportunity for a P3 unsolicited proposal. We have a pretty good record. We have money in the bank and we like to control what we can control.

So, I can understand the staff's recommendation. I fully support it at this time. That's all I have, Governor.

Sandoval: Thank you, Member Savage. Other questions or comments? Mr. Controller.

Knecht: Thank you, Governor and Pedro and all, fine job. Mr. Rodriguez, the Scenario 1 and Scenario 2 graphs show in the yellow, orange and the green bars that go from 22 to 54, the escalation and I think you said that's at the CPI?

Rodriguez: That's correct.

Knecht: Okay. So that—that means that you're essentially assuming for both parts of that that the—there's no real annual rate of increase in the cost; it's just for general inflation on the dollar.

Denney: Felicia Denney, I'm the Chief of Financial Management. The proposal submitted had a 50% of the availability payment was to increase that CPI.

Knecht: Okay, 50% of it, only.

Denney: Yes.

Knecht: And, what rate did you use to project the CPI for those 32 years, 31 years, whatever?

Denney: I believe Ernst & Young used 2%.

Knecht: 3%?

Denney: 2%.

Knecht: 2%, okay. That's the stated policy target of the Federal Reserve these days, so fair enough. And, what discount rate did you use to get from those graphs to the blue bar graphs, what nominal discount rate did you use to discount those annual cash flows?

Denney: I believe Ernst & Young used 3.75%.

Knecht: 3.75%, so with 2% inflation, they're using essentially a 1.75% real rate of discount, is that accurate? 3.75-2.00 is 1.75?

Denney: I believe so, yes.

Knecht: And, if—given the nature of these with the backend costs for Scenarios 1 and 2, or the cost being spread out over time and growing, if we used a higher discount rate, wouldn't the first blue bar be much lower? Wouldn't the total present worth be a lot lower than in that $800 million?

Denney: It would be lower, all the bars would be lower if we used—

Knecht: All the bars would be lower, but would they all be lower in the same proportion or would the ones that have backend costs be lower still, relative to the others?

Denney: That's correct, the second assumption.

Knecht: Okay. I think I'll leave it at that. I'm going to support the staff recommendation, but I would suggest that you look into the court cases and the academic and professional literature on discount rates and you'll find that most of them support much higher discount rates than 1.75% in real terms. Thank you.

Sandoval: Other questions from Board Members? Member Almberg.

Almberg: Thank you, Governor. I want to thank NDOT for all the hard work, putting together the review of this. I want to thank the—thank you guys for actually meeting with me and discussing all of this and all the questions that came from that. There was a few things that came to the surface from my eyes, based on all the material that was provided and that we had read through is, the proposers have come in and said at this point in time, there is no stakeholder participation in this project. Said that they are willing to participate in it, but at this time, there is no commitment of it.

I feel that if we come in here and we committed to the P3, we are never going to get any commitment from any stakeholders. So, without any commitment from the stakeholders, if we approve this today, we're never going to get it. If those stakeholders had committed to it, that graph may be quite different today if we actually had their participation numbers involved in this and we may be talking about different numbers.

The other thing that rose to the surface in reading all the material is, in their proposal, some of the concerns that NDOT had was the ability to have federal funding and without having a procurement method that allowed that to use federal funding, the solution was, we would bid off, we would bid certain portions of this project or some percentage of this project we would bid. You know, at this point in time, we don't know if that is going to meet federal guidelines or not. So,

there's again, some monies that would not be able to assist us in completing this project.

I'm in support of this project as a need, but I can't support going with a P3 at this point in time. So, I'm going to support staff's recommendation.

Sandoval: Thank you, Member Almberg. Questions or comments from Southern Nevada?

Valentine: Thank you, Governor.

Sandoval: Member Valentine.

Valentine: I would also like to thank Mr. Hoffman, Mr. Rodriguez and Mr. Mortensen for a very thorough briefing and also Lincoln for their proposal. I think it's very important that we remain receptive to other project delivery methods and this is certainly one of them. Over the last maybe 20 years, there's been an evolution, I think, in the types of more creative delivery systems than just the traditional design-bid-build method. I would also like to say, thank you for putting this project on our radar because this looks like a very important project and certainly something that we should consider.

I do have some concerns about the impacts on other projects on the Capital Improvement Plan and I look forward to hearing about those. I will be supporting this today, not the unsolicited proposal, but the staff recommendation. Thank you.

Sandoval: Mr. Lieutenant Governor, any questions?

Hutchison: Just a quick follow-up. I had the same question in terms of just, what kind of impact—if we went with Option 1 or Option 2, acceptance of the P3 or put it out for RFP, what kind of impact would that have on already existing prioritized projects that this Board and NDOT has already identified as also important, both in the North and the South. What kind—I mean, would we be able to even handle all of these projects, simultaneously as they're currently prioritized, or would there have to be some readjustment on the prioritized projects, if in fact this P3 surfaced to the top and was accelerated.

Mortensen: Governor, if I may. One of the advantages of the P3 is that the Department wouldn't make any payments on it until it was available to the public and that's something I wanted to point out also, just kind of an advantage of going that route. Whereas, if we bond for the project, we have to start making payments

immediately. So, the evaluation of which projects would be impacted then would be delayed from the P3 standpoint, versus bonding immediately. But, at this point in time, there would certainly have to be some movement of projects in order to accommodate a payment of that magnitude.

Hutchison: Okay, thank you. I'm not going to repeat what everybody else has said, but I'm going to support staff's recommendation as well. It's hard to, although as important as this project is to vote for, spending $50, or I guess Governor, $500 million beyond what we would be spending if we were to actually bond this and put it in line with our other projects. Not knowing whether the project could be built with environmental concerns and then just leapfrogging other prioritized projects. Thank you.

Sandoval: Rudy, a couple other questions. I recall when we decided to do the USA Parkway Project that one of the factors was that it was rated, I think an 11, and it was the—we had a project with the highest need in the state because it was an 11. Have we done that type of analysis with this project?

Malfabon: USA Parkway, I think was over a 9:1 benefit cost. I don't think we've done a benefit cost analysis on this project, so we can't respond to what it is. I don't know if we have a feel for what the benefit to the cost would be on this project. Because we haven't done that level of analysis yet on it, but we do know roughly what it would cost. I think that we would still have to do some more work to get a good handle on the benefit cost.

Sandoval: Mr. Mortensen.

Mortensen: That's correct. I believe as part of the Reno Sparks Freeway Traffic Study that we had, we had done a very, very high-level benefit cost analysis, not our normal in-depth analysis like we had done for USA Parkway. So, that'd be something that we'd be looking to produce in the future for this.

Sandoval: Another one of those in the future, Cole, is there a little more certainty than that?

Mortensen: We are rolling with this project and this area as fast as we possibly can, Governor. As you know, the congestion out there has just skyrocketed over the last two to three years. Generally we have longer timeframes to really project where our project needs are. When we're talking, you know, Project NEON, we started that in 2002. USA 95-Northwest in Las Vegas, similar timeframes. So, generally we have more time to react to these projects than what we've been given on this one.

As Pedro had mentioned earlier, you know, we aren't sitting by idly. We are looking at those short-term solutions that we can put together. We know that this is the long-term solution for the corridor and we just haven't had the ability to really do the due diligence necessary to have those numbers together for you.

Sandoval: Because, my other question is, these aren't stagnant, as you say and we have this Capital Improvement Plan and we have projects ranked, as we speak. Given the growth out there, doesn't that—wouldn't it change? I mean, would this move up the list if the growth happens that we think is going to happen out there and would it be given a higher priority because right now there are approximately 7,000 people that work at Tesla alone. The projection is that within 10 years, there could be 15,000 to 20,000 people working just at Tesla.

Mortensen: Right.

Sandoval: And then you have the Block Chains project which is estimated within the next 10 years to have approximately 10,000 to 15,000, 20,000 people working there that aren't working there—well, maybe there's 50 that are working there now. And then you have the other growth that's happening. This is going to get worse before it gets better.

What I don't want to happen is first, that this Board's vote to be interpreted that we're not interested in this. We are. And, it is a massive priority because if you think it's bad now, wait in a few more years because each day it will get a little bit worse because there are more and more people that are getting employment out there.

That's why I was asking you, Cole, what's a little bit of time and some time in the future? I don't want this binder to be put on the shelf and looking at other things. I mean, Lincoln Partners, I don't think its time and resources wasted because even though it looks like this Board is not going to accept the unsolicited proposal, there has to be a project. This isn't an if or a maybe, there has to be one because of the degree of traffic that is happening now and will get only worse.

The other thing that I think has to be kept in mind is, yes, we've had a lot of economic diversification and growth with regard to jobs. Something like this will stop the growth out there if you can't get in or out. So, that's something else that has to be kept in mind because someone is not going to want to bring a large scale project if their employees can't get in and out, or their goods with regard to internet fulfillment or what have you, logistics, if they can't get in or out.

So, I don't know how to keep a sense of urgency with regard to this project, although we're not going to—as I said, it sounds like, we haven't taken a vote, but most of the members have indicated they're not going to support the unsolicited proposal, but how do we maintain a sense of urgency moving forward to ensure that this due diligence is done that Rudy described needs to get done, so that that moment will come where we can have a project.

Malfabon: Governor, it's well pointed out that this is a needed project. I think that we have that sense from the Board of urgency so that we can look at what's the development of the Request for Proposals for the environmental clearance. Also, one of the interim improvements, just as Pedro talked about, the improvements that have been accomplished are currently underway. There's probably some other things we can do in the short-term, as far as Patrick Interchange and coming from Fernley that are needed. Definitely, the widening of this corridor is sorely needed. We know that, we've seen the growth in freight and commuter traffic. I think we can get with our engineering folks and decide, what's the next step for development of the project because we know that sooner, rather than later, this project has got to be built and we have to look at what's the cost associated with the other projects that are on our plate in the near term, in the STIP and what can we do so that we don't forget about this project. We move it forward incrementally and get the environmental clearance, get the preliminary engineering done and have a better sense of what it's going to cost for this project and what timeframe could be accelerated.

Sandoval: The other thing that we have to explore and I see Mr. Moreno still in the audience from the Regional Transportation Commission is mass transit out there. Reliable, mass transit. I don't know if that means buses, vans, what have you, but this is kind of an all hands on deck approach. In the meantime, see if there's a way to move larger amounts of people without each one having to drive in his/her own car.

Rosenberg: Governor, for the record, Sondra Rosenberg, Assistant Director for Planning. Pedro quickly went through some of the other efforts we're doing there and that includes an NDOT funded study on transit and five county regions surrounding the TRI Center. RTC is certainly a partner in that. They've had some challenges in terms of providing services outside of their county, when they just like everyone else have a difficult time just servicing all the needs within their county. So, we're taking the lead in terms of getting all of the counties as well as the

private sector involved in terms of what types of transit solutions may be available for that large employment center.

Sandoval: And, I'm not suggesting that RTC hasn't been involved, I know it has. And you know, I've heard everything from rescheduling the rails so that you had some type of commuter ability to use the rail. I don't know if that's even feasible, Ms. Rosenberg?

Rosenberg: That would be very difficult. We are looking at that. The challenge when you share a rail with, you know, a private rail provider and freight is they take priority. So, if the freight line is running late, the passenger rail gets pushed. So, if people need to get to work on time, that's probably not a solution, at least not in the near term. The other thing we're looking at and that was approved last month at this Board is a research study on feasibility of autonomous shuttles. So, could we build maybe a smaller piece of infrastructure to fit an autonomous shuttle or something like that, so it would be somewhere in between kind of buses and trains, given the industries that are going out there and the technology advancements, we're looking at, is something else feasible for the long-term in terms of getting employers, employment out there.

Sandoval: Okay. Thank you. Mr. Controller.

Knecht: Thank you, Governor. Three brief things. First of all, Cole and Bill Hoffman, thank you for the briefing that I got in my office; it was very good. I look forward Cole, to getting the annual numbers for the various components and the totals so I can look at that.

Second thing, Lincoln Partners has done a good public service in bringing this thing forward, highlighting the need for it, which we all recognize and getting it going. I think it provided a real impetus.

The third thing is something that Cole and Bill and I discussed during our briefing, there was a letter in the Reno paper recently taking government and public officials and bureaucrats to task for this situation and others, all the way out there. With sudden congestion and problems like that and safety problems and saying, well you people should've seen all of this. My reaction, to highlight a point that the Governor made, was we couldn't have foreseen all of this. The development at TRIC was sudden, it was massive, it will continue to be massive and it will—it wasn't part of a five year, 10 year, 15 year growth plan. It was something that very fortunately came to us and now we've got to react to it.

That's where Lincoln Partners proposal has been helpful and that's where—so that we don't fall victim to the, you know, making that criticism correct where we need to move forward, not just with due diligence but with great urgency on this.

I want to emphasize and echo what Member Valentine said about, it's a good thing that we have these alternative pathways to construction and to getting there and that we not just rely on our tried and true bureaucratic, we'll get around to that when we do.

Ms. Rosenberg, we can hope that alternative means and especially autonomous vehicles will take some of the pressure off, but we do have to, as the Governor said and Rudy acknowledged, we do have to make this a priority and really get going on it one way or the other. It may well be that we'll go some way other than the traditional bid—you know, plan bid and contract. I just want to emphasize those points and I thank you.

Sandoval: Thank you, Mr. Controller. I suppose I'll ask, Cole, another question because the staff recommendation is to reject the P3 and direct staff to continue to develop the project to bring a recommendation to the Board for delivery. The only thing that I'm concerned about is the uncertainty for your coming back. And I think that as part of a motion, I'd like to see a reasonable deadline by which staff would have to come back with a recommendation for a future Board.

Mortensen: If I may, Governor, I think two to three months would give us enough time to evaluate our resources, take a deeper dive in the engineering and to be able to come back in front of the Board with an understanding what the effort may take. Hopefully at that point in time, we'll be able to give you a better feel for the impacts to the program as well and how we may be able to get creative with bonding and financing this project to make sure that we're not adversely impacting the other projects that we have planned statewide.

Sandoval: So, you can get all that done in—I thought you were going to say like, two to three years. [laughter]

Mortensen: I'm hoping over the next two to three months we'll be able to really take that look, what we need to do and part of my concern is just staff resources. You know, internally we have the ability to do quite a bit of this work, but if we have to pull in external resources, I'll let you guys know that does take a little bit of additional time.

Sandoval: As I said, I don't want to put unrealistic expectations on you or staff to get that done. Frankly, two to three months for the gravity of the issues that need to be resolved sounds really fast, because we're talking about right-of-way and whether it's available, environmental impacts, affordability, those are all things that I think need a lot more study so that this, a future Board can make a very informed decision on which way to move forward. What the impact is on some of the other statewide projects and what it is. If I recall, we were able to do USA Parkway and fit it in without negatively impacting any other projects.

Malfabon: I think we did defer some projects and I think but in the long run, we were able to deliver those projects maybe a year later at the worse case scenario.

Sandoval: So, those are all things that—everyone who lives in Southern Nevada is going to say, well wait a minute, we've got issues there. So, I think we just need to make sure that all that information is in front of the Board and so that, because again, this isn't an if, it's a when and when I say, "this", I mean, this project. To go out there and as I said, I want it to move as expeditiously as possible but not in a way that's unreasonable or will leave questions that will have to be answered moving forward.

Cole, I don't want to hold you to two or three months, what do you think is better, six months?

Mortensen: I'll commit to being back before this Board in three months to let you know where we're at. In three months, if I have better information for you, we'll present that information. If nothing else, I'll probably provide you an update as to where we're at, so that you guys can continue to monitor our progress and make sure that this doesn't get delayed as your concern.

Sandoval: Okay. That is fair, thank you. Mr. Rodriguez, any further presentation? Anything that's been talked about that prompted some thoughts that you wanted to present to the Board?

Rodriguez: No sir.

Sandoval: Are you sure? [laughter]

Rodriguez: Yes.

Sandoval: Okay. All right, before the Chair accepts a motion, any other further questions or comments from Board Members, particularly those of you that will continue to

serve on this Board because it will be coming back to all of you. Do you feel good about what we've discussed here? Member Valentine, Savage and Almberg?

Savage: Yes sir.

Sandoval: Okay. All right then, if there is no further questions or discussion, the Chair will accept a motion to approve the staff recommendation to reject the P3 and direct staff to continue to develop the project to bring a recommendation to the Board for delivery with an update at a meeting within three months.

Hutchison: Governor, move to—I'll just say, so moved.

Knecht: Second.

Sandoval: The Lieutenant Governor has made the motion. I suppose to what I just stated, Mr. Lieutenant Governor?

Hutchison: Yes, if you want me to restate, I will, Governor, if you—

Sandoval: No, I think we've got it, I just want to make sure it's clear on the record.

Hutchison: Yeah, it's exactly what you said, Governor, that's my motion.

Sandoval: All right. And the Controller has seconded the motion. Any questions or discussions on the motion? The only discussion and I know I'm being redundant is, this is an absolute priority and the Board's rejection of this P3 or this proposal, unsolicited proposal is in no way to be interpreted that we're not interested in this project and that this project needs to get done. So, all those in favor of the motion, please say aye. [ayes around] Those opposed say no. Okay, the motion passes unanimously. Thank you and again, staff, this is really good work so that we can make an informed decision. To the Lincoln Highway Partners, I appreciate all of their due diligence and investment and hard work on getting this done and I look forward to watching what happens in the future. All right.

Let's move to the next Agenda item which is Agenda Item No. 9, Approval of the I-11 Northern Nevada Alternatives Analysis. Ms. Rosenberg.

Rosenberg: Sondra Rosenberg, Assistant Director for Planning. In September, we brought to you a presentation on the I-11 Northern Nevada Alternatives Analysis. An update on the analysis procedure and the outreach that we did for that study. So, we're coming back to you, after public comment, after that presentation, the analysis,

the full report went out for public comment. We still stand by our recommendations, in terms of narrowing down the routes for I-11. So, we're back for approval. We do have a presentation we can show you if you'd like. It's primarily a repeat of what you saw back in September. In your packet, you have the Executive Summary and then a link to the website which has the more in-depth information.

In addition to the report, we've also developed a planning and environmental linkages, checklist and study which allows NDOT and Federal Highway Administration to sign off on the documentation of what was done. So, any of those decisions can move forward into a future NEPA process. With that, I'd be—oh, I do want to acknowledge Kevin Verre, the Project Manager on that who spent a lot of time and effort over the past six months to a year working on this, furthering the work that we did in the prior study and in addition to this analysis and this study that's complete now, where the work is ongoing. He has been conducting workshops in some of the rural towns who are concerned about either going through or bypassing to kind of work with them on the options for that. So, we've been to Beatty and Tonopah. In addition, we are setting up a call with our neighboring states, people at my level, to talk about potential linkages to the states to the north of us.

With that, I'd be happy to answer any questions, or we can show the presentation if you'd like.

Sandoval: Board Members, any questions with regard to Agenda Item No. 9? I think we're very familiar with—

Rosenberg: I thought so.

Sandoval: --the presentation, so any questions from Southern Nevada?

Hutchison: No, Governor.

Sandoval: Then the Chair will accept a motion for approval of the I-11 Northern Nevada Alternatives Analysis Report.

Knecht: So moved.

Sandoval: The Controller has moved for approval, is there a second?

Savage: Second.

Sandoval: Second by Member Savage. Any questions or discussion? I hear none. All in favor say aye. [ayes around] Those opposed say no. That motion passes unanimously. We'll move on to Agenda Item No. 10, Acceptance of 2018 Performance Management Report, Highway Preservation Report, and Facts and Figures Book. Ms. Rosenberg.

Rosenberg: That would be me again. Again, for the record, Sondra Rosenberg, Assistant Director for Planning. This is our annual presentation of our reports that we put together for the public, for the Legislature. So, I'm going to do a brief summary of that. I would like to thank Peter Aiyuk in the Performance Analysis Division. That's a very small division that has a lot of information that passes through them and puts together these excellent reports that summarize information from across the Department.

So, the first one is the Performance Management Report. That is Legislatively mandated. It's produced every year and sent to LCB by the end of the calendar year. It tracks and reports on 15 performance measures. They're a little difficult to see there, but you have the full report in front of you, the draft report, so you can see, it's a mix of which ones we're meeting and not meeting, however, generally the trends we're on align with the desired trends. So, some of those that we aren't quite meeting yet, we are aligning with those trends. They do cover most of the various divisions throughout the Department. Everything from employee safety and satisfaction, project delivery, assets. Safety that is one that we're not always quite in the right trend yet, but we're doing everything we can to improve those trends.

Our partners—so, that summarizes those 15 measures and it is—you know, it is a Legislative report that we produce every year but we really do take it seriously and we're constantly looking at the Department in terms of how we're performing and how we can improve on those measures. In addition to this report, we also now have federal reports that came out of MAP 21 and the FAST Act that we're working and we're going to be working to merge those into a more accessible form online to show kind of how we're performing as an agency. As well as, measures that we have in cooperation with the Federal Highway Administration. This is just one piece of how we look at our performance.

Next, we have the State Highway Preservation Report. That is also legislatively mandated. It's produced every other year and sent to LCB by February 1st. That

meets our requirement to develop a 10 year plan for preserving our state highways.

Then, finally, we have the Facts and Figures. That is not mandated, but it is something we produce every year. It gives an update on—you know, summarizing some of those performance measures, it talks about some of our major projects and goes in to a pretty good depth on revenues and expenditures, where our money is going, how we make our decisions and various things, just to highlight that are of importance to the public and decision makers.

So, with that, I'd be happy to take any questions.

Sandoval: I'll just say, this is amazing work. It's just really presented well, easy to understand. I love the graphics on there, so it's—I guess, in one way, I guess from somebody who is an informed reader, it makes it a really interesting and fun read to match the pictures along with what's going on. I don't know who could want any more information than you're conveying here. [laughter] It's as comprehensive of a presentation of what this Department does that I've ever seen.

Rosenberg: Thank you.

Sandoval: I really want to compliment everybody that was involved in putting this together. I know it must've been pretty much everybody at NDOT.

Rosenberg: It's—pretty much the whole Department participates in this and like I said, the Performance Analysis Division then has to herd those cats and pull it all together. Multimedia also helps us to make it look pretty.

Sandoval: Well then you know, there's some hard things in here and I think that's a good thing as well. It is always important to know where we need to improve.

Rosenberg: Right.

Sandoval: We can't—you know, not everything is as great as we would like it to be and we can learn from that and make decisions based on where those improvements need to go and allocate resources in that way. All right, questions or comments from other Board Members? Member Savage.

Savage: Just a comment to follow-up Governor. Again, my compliments, Sondra, to yourself, Kevin, everyone at NDOT. These booklets, I hope every Legislature can read and engage in these booklets because all the information anybody needs is right there in these three books. I know there's a wealth of time that people

have taken to put these numbers together and these facts and these areas of improvement. That answers to the test are right here, and they always have been, but it takes a lot of hard work, a lot of diligence. I thank you, Sondra, your staff and I thank you Governor.

Sandoval: Thank you Member Savage. Member Almberg.

Almberg: Thank you, Governor. Again, just to repeat what Len said, thank you. These are great reference materials to easily get access to information and data from some of the analysis that we do. I do just want to take the opportunity—now is probably a little better time than earlier but during Rudy's Director's Report when he was talking about the rumble strips, you know, I think the rumble strips and my push for them on our rural highways has a lot to do with the information that comes out of these reports right here. This report lays out the amount of money that needs to be spent out there to keep these roads in the same condition as they are today and even improve them. I believe what we accomplished through the Committee and working through those rumble strips is that we hope that those potholes we were shown today in those pictures, you know, will never be eliminated but hopefully they will be reduced and we will have better effect on saving us some long-term maintenance costs on our roadways. I want to thank NDOT and everybody that worked together to make those modifications and changes. None of that stuff is obviously ever—those changes are not meant that there was something wrong with what NDOT was doing, but that's what—we can always make improvements on everything that we're doing and I think this is just one more little step down the road is, this is a little improvement over the last version we had and there's no reason to believe that we won't have another version down the road in the future. So, that's all for me, thank you Governor.

Sandoval: Thank you, Member Almberg. Mr. Controller.

Knecht: I'll be really brief. From one numbers nerd to the others, you done good. [laughter]

Rosenberg: Thank you. I just, because he's here, I want to embarrass him, so Peter Aiyuk, will you stand up? That's the guy who has to herd the cats and filter all the information and puts together these great reports. So, thank you Peter.

Aiyuk: [inaudible, off microphone]

Rosenberg: Thank you. That's one of those divisions that's down on the first floor, very small division, just cranks things away and doesn't always get the appreciation that they deserve for the hard work they do for us.

Sandoval: Thank you, Ms. Rosenberg. Member Valentine, Mr. Lieutenant Governor, any questions or comments on this Agenda item?

Hutchison: Just a quick comment Governor, to echo what everybody else has said, in terms of just the quality of product here is remarkable. It's also remarkable when you look at the stats in terms of just the way in which the state has grown, the number of vehicles that are now on the road, compared to where we were 30 years ago. We've gone from, you know, just a little over a million licensed drivers to almost two million licensed drivers in that period of time. About a 1.1 passenger vehicles to 2.1, so just a huge increase that NDOT has kept up with and really blessed the lives of so many Nevadans.

The one thing that isn't captured on here, Governor, I would just note and it's been my experience over the time that I've served as Lieutenant Governor is just the level of care and attention that NDOT has provided to constituents who have concerns or challenges that fall within the NDOT wheelhouse. I want to thank Rudy, the entire staff. Whenever I've had anybody contact my office and I've referred them on to NDOT, they've always been cared for responsibly and professionally. That's a really big part of what we do as elected officials is to interface with state government and our constituents.

So, I want to thank you for your professionalism and just the level of competence and care that you've provided to many, many constituents that I've asked you to engage with over the years. So, thanks again.

Sandoval: Thank you, Mr. Lieutenant Governor. Any further questions or comments with regard to Agenda Item 10? If there are none, the Chair will accept a motion to accept the 2018 State Performance Management Report, the 2018 State Highway Preservation Report and the 2018 Facts & Figures book.

Almberg: So moved.

Knecht: Second.

Sandoval: Member Almberg has moved to accept. The Controller has seconded the motion. Any questions or discussion on the motion? I hear none. All those in favor, please say aye. [ayes around] Those opposed say no. That motion passes

unanimously. We'll move to Agenda Item No. 11 which is proposed revisions to NAC 484D, Over-Dimensional Vehicle Permitting Restrictions.

Hoffman: Good morning Governor and Members of the Board. Lynn Hoffman, I am the Chief of Administrative Services and the item before you today is No. 11, it's also the same numbered tab in your packet. Now, it does say for potential action, but today, this is information only. What we're discussing is a proposed change to 484D, that's the Over-Dimensional Vehicle Permit Regulations.

Here you'll see a picture that I actually borrowed from Paul Delong, he's a heavy hauler down in Southern Nevada, there in Las Vegas. So, here again, we're looking at Chapter 484D and with this, NRS does allow agencies to modify regulation. You'll see the reference to NRS in both the first and second bullet points. The State of Nevada Administrative Rulemaking Manual also guides the process in which we do this.

So, why do we do these in the first place? We take a look occasionally, internally at the Department level and then also with stakeholders. Part of the purpose is to provide updates or to renew or revise certain sections. In this case, we've taken a look at and had discussions with AASHTO, WASHTO, the Nevada Trucking Association, as well as their Board Members, Paul Delong and we have Todd Anderson with Lakeside Specialized Transportation. Together with internal members of our Department and I want to give a little shout out and kudos to Kandee Bahr Worley who is now working with Sondra Rosenberg on innovation initiatives.

They discussed several aspects and one of which you'll see in Sections 1 and 2. I've summarized six areas here for you that we've taken a look at. Sections 1 and 2 of the proposed changes includes updates to hours. So, what you'll see if you look at our regulations.

What's that? Is there a buzz--

Sandoval: No, their mic is on. Your mic is on.

Hutchison: Oh, I'm so sorry. We were just trying to find the presentation up here Governor, my apologies.

Sandoval: Okay, no worries, thank you.

Hoffman: Do they have it now?

Hutchison: You know what, it's on the screen for us and we can see what you were referencing now, thank you.

Hoffman: Okay, good. Thank you. So again, referencing, we're going down to the second portion which is the Summary of Proposed Key Amendments in Sections 1 and 2. So, if you're to take a look at this portion of the regulations, what you would see is that our hours are in regulation. That's our business hours to issue permits. We thought that that would unnecessarily bind us and if we ever needed to change office hours, we'd have to go back and ask for a change in regulations to do so. So, instead, we're going to make a more general statement in regulations about, we'll issue permits during business hours.

The online permitting system is currently not included as a reference in our regulations, so we wanted to let those know that it is available, as well as provide a link to the Department website within so people know where to go.

Another goal in Sections 1 and 2 is to more accurately reflect what we mean by what the current language would say, something in reference to deposits and credits, what does that look like? The industry pays their permits in two different ways. One way in which they pay them is by credit card, online or over the phone, or the other way is they arrange an agreement with our Department, where they will place a deposit with us, usually about $600, we'll bill them. If they do not pay their permits, then we have a way to access that fee. We wanted to update the language to reflect the current business practices.

Also, with super loads. Currently, we only issue those permits via phone. There's a reason for that. We need to know the specific weight, dimension, height and discuss all of that with the industry in terms of the route they plan to navigate, to make sure that it's safe.

In Section 3, this allows for permits to be displayed on mobile devices. Believe it or not and you probably do believe this, in regulation we say, it needs to be a paper permit. We have moved into an electronic era, we try to go green, we do not want the NHP to issue any kind of violation penalty, warning of any sort if the trucking industry has the ability to display that permit via mobile device. So, we're going to make sure that's in there.

Taking a look at Section 4 and I should say that as I go through this, the summary and your attachment that shows the regulation currently with strikethroughs and

all of the edits displays it in this way. So, you're looking at six—484D and then now that we're moving into Section 4, that would be 484D.645, in regulation.

What we wanted to do in this section and again, collectively discussions between the Department and the industry is we wanted to potentially require a survey for those vehicles that measure higher than 20 feet in width and 18 feet in height. The reason for that, we want to ensure that the routes are safe, that they're not subject to any bridge hits or things of that nature.

Section 5, now this is where we concentrated quite a bit of our discussions over time. This is in 484D.655. We do have language in there currently that will limit some navigation through, in and around the Las Vegas area. What we wanted to do is add what's called in the industry, a Gambler's Curfew. Really, this does increase some of the economy that flows in. We have people who travel in and out of that Las Vegas area. We have Highway 15 to the boundary of California. This is extending that line a little bit. We wanted to make it safe for travel for those coming in on Friday and leaving on Sunday. That way we have those visiting in and the trucks off the highway during that time, if they exceed certain dimensions.

Going into Section 6, now this one would be 484D.660. This one is subject to quite a bit of debate. There is an interest in the industry to harmonize with other states to allow for vehicles to move through 24/7 on interstate only, so that would be 80 and 15 and with this, the crux of the discussion is, when is it safe to do so? Initially, we entertained doing that, allowing for that on an annual permit basis or we could do it on a single permit basis. The difference there being annual, if you call me now, you'll have a permit good for a year and you can travel that course that I've said it's okay to travel on, if I'm the permit agent. If it's a single trip, then you have five consecutive days.

The discussion is, we didn't want to increase the liability or subject any of the public or any of us to any safety concerns. So, where we landed on that one is, it may now say for example, that it's annual, but we do want to make that one more single trip, that way each time anyone in the industry wants to travel a route, they will call one of our permit agents. They'll have five consecutive days to travel that route and they're good to travel during 24 hours, seven days a week, during that time.

Those are the high-level changes. Now, what's our process? With the LCB, there's a few different processes. There's one for emergency regulations, one for

temporary and one for permanent. This one is for permanent. So, if we were to walk down the path, we'll discuss there at the very top, the proposed changes and consider the impacts on small businesses. This was done quite a bit by internal staff, more towards the beginning/middle of the year. We also conducted workshops, in and around the area in Northern and Southern Nevada. Changes were drafted and we submitted those to the Legislative Council Bureau.

Now, you'll see the star on the left in yellow and then the circle of arrows on the far right. That's intentional. The star means, you are here, or we are here. We're working with LCB to finalize the draft and send those drafts or draft back to us. Those three arrows are also very intentional. We submitted an original, they submitted one back to us. We met again internally and then also with the industry and we hope to receive that back on short order.

Now, fingers crossed, we know that we're right in the middle of BDRs and all of that, the bill drafts that are happening, so as soon as we can get this portion through along with those, we should have the draft back. Should we have that back soon enough, in the next week or two, then we'll be able to set a public hearing and issue a 30-day notice. It is a legal requirement that we have those documents first, before we can set that public hearing date. That will be the intent to adopt.

At that point, we can set the date, bring that draft back to the Board that's been finalized and then you'll see the darker blue, the green and the lighter blue then follows. So, we'll bring it back to the Board, evaluate and consider for public comment. With that comes the informational statement.

Then the Board here will consider adoption. Once the Board votes to adopt and I should mention that during that portion, in between now and then and also at that meeting, we can still accept public comment. Once that's happened, it's been adopted, then the final draft goes back to LCB. They finalize and they amend the regulation with the Secretary of State.

After that happens, our permit agents take this booklet around to industry and it's a summary of the NRS and the NAC changes. So, we'll have these reprinted and sent back out to the public.

With that, I'm trying to get everyone out by lunch, I think I hit noon just now. I'm happy to accept any questions. That's all I have at this time.

Sandoval: Thank you, Ms. Hoffman and given that you have the support of the trucking industry, who else would be involved with this? I mean, it seems like, if you've got the trucking industry and the Department and I would imagine DPS would have a review of this as well, it should move pretty expeditiously, shouldn't it?

Hoffman: That's our goal and we also did vet some of this with our district engineers, just to make sure it's current and needed. It seems like, with the good work of staff before me and since it was handed to me, it's been well vetted.

Sandoval: And, is this similar to what other rules and regulations are in other states? So, in other words, you know, what I—in terms of commerce, is the—are the rules going to change when you come to Utah, or Oregon, or California, do you know if we're consistent with them?

Hoffman: It almost sounds like you've been planted in the audience, in a way with those types of questions. The Nevada Trucking Association, they're very concerned that we would harmonize with other states. That movement of allowing for 24/7, seven days a week, in some way, shape or form, would allow that. Now, the work that we have ongoing discussions, they're AASHTO and WASHTO is to continuously take a look at other opportunities to achieve that same goal.

Sandoval: Thank you very much, Ms. Hoffman.

Hoffman: Thank you.

Sandoval: And, good work. Any questions or comments from Board Members? Any questions from Southern Nevada?

Hutchison: Governor?

Sandoval: Mr. Lieutenant Governor.

Hutchison: Thank you very much. Ms. Hoffman, again, great work here. Just as somebody who travels all the time between Las Vegas and the California boundary, both North and South on the I-15, I think this is a welcome improvement to these regulations in terms of the way that these trucking—these large oversized trucks are regulated and that hauling is regulated. So, kudos for that.

My question for you is, throughout different places in the regs, it talks about appropriate fees that have to be paid. Do those fees have a relationship to ensure that it covers the cost associated with that particular load or that particular travel

over our highways when we think about the, you know, Highway Patrol and the impacts on our road?

Hoffman: That's an excellent question and currently, what the language states around fees is we collect the cost to cover what the program needs are and that program need is, issuing the permit, running the system. It's not, to my knowledge and someone in the room, please correct me if I'm wrong, but it's not connected at this point to maintaining the highway with the impact that those larger loads would have on the road.

Hutchison: What about Highway Patrol? Does Highway Patrol ever have to get involved, for example, escorting some of these loads?

Hoffman: They do and the industry does take that into account. So, there are piloting services that are required that the industry will know it's a cost to them to have. NHP coordinates with us currently. I'm not sure that we exchange fees between agencies at this point.

Hutchison: And, what I'm talking about is, I'll see—like, when I—when you do this, when you travel between here and San Diego for example. If there's a big sized load, California Highway Patrol will escort that load and then often times, regulate traffic. Do we do the same thing in Nevada in terms of Highway Patrol escorting the load?

Hoffman: In certain circumstances, yes. Especially if we see things such as a house being moved. We would need that type of support to ensure the highways are safe.

Hutchison: So, do we then try to collect a fee that would be commensurate with what it's costing the state to have that escort through Highway Patrol, or is that even calculated into the fees?

Hoffman: Not to my knowledge through NDOT, unless there's some historical knowledge beyond mine in the room that can answer that in a separate way. I think NHP may take that cost on.

Hutchison: So, in other words, NHP just absorbs that cost. So, what would it take? Would it take a change in regulation or a change in legislation to maybe adjust these fees to cover costs?

Hoffman: I see Thor Dyson, did you have something to add?

Dyson: Yes.

Hoffman: He might know a little bit more.

Dyson: This is Thor Dyson, Assistant Director for Operations, formerly with the District. There's been a lot of times where we coordinated with over-dimensional permits. A lot of the—let's say a house is going to be moved or a very large load, the districts have a lot of—NDOT has a lot of stake at the game because a really wide load can have not only impact to traffic, but also to the infrastructure that NDOT has. We don't want that wide load to hit structures, to wipe out guideposts, guard rails and we want it to be in an orderly fashion.

The permit will, a lot of times from the District, will dictate that the over-dimensional will have to use Highway Patrol. The Highway Patrol, I know, has agreements in place to charge the over-dimensional permittee to include that cost. It's just like when there is a running race around Lake Tahoe or a bicycle event and if the District is requiring Highway Patrol to help out with that, with that particular event, they will charge. There's a mechanism for Highway Patrol to charge the event organizer, or in this case, the over-dimensional permittee organizer.

Hutchison: Okay, thank you. Very helpful.

Hoffman: Thank you, Thor.

Hutchison: That was really the heart of the question, just in terms of the mechanism to charge those who are using our resources. Thank you. Thank you, Governor.

Sandoval: Thank you, Mr. Lieutenant Governor. Any other questions or comments? This is an informational item, Ms. Hoffman.

Hoffman: Yes.

Sandoval: Thank you very much.

Hoffman: Thank you.

Sandoval: Agenda Item 12, Report on the Status of SB53, Telecommunication Infrastructure Sharing Bill.

Inda: [inaudible, off microphone] Thank you. So, during the 2017 Legislative Session, the passage of SB53 provided NDOT with greater latitude to enter into public/private partnerships for telecommunication transportation facilities when it serves a public purpose. The definitions of information system, transportation

system and highway were modified to include fiber optics, wire and related infrastructure.

SB53 enables us to partner with the telecom industry to grant access for the use of conduit and other facilities for compensation. There are many advantages to a fiber traded program and these are just a couple of them that I've listed on the slide.

Financial advantages from the trade program can be pretty significant and this slide shows some data from Utah over the past 20 years. The red bars show the miles of UDOT infrastructure and the pink bars, that's the top of the bars, show the miles of traded infrastructure. If you kind of sum up all of this trade, by 2015, there were approximately 2,500 miles of infrastructure, fiber infrastructure that were installed, worth nearly $75 million in trade. So, if you're just looking at that last bar on the far right, there's more pink—more than half of the line is pink, than is red. So, they traded more miles, built up their infrastructure with over half trade compared to what they built and put in place through projects with NDOT [sic], so that's pretty exciting, what they have been able to accomplish in Utah.

So then we come to Nevada and we've been working really closely with the telecom industry to identify opportunities for infrastructure sharing and we've accrued nearly $700,000 in trade on one non-interstate agreement alone. We're in active discussions with multiple parties in a variety of locations throughout the state and we expect that in the next couple of months, that we should have additional agreements and trades in place, increasing that $700,000 amount.

One example is a project where we're wrapping up fiber hut installation project on US-50 and what that does is it ties into existing long-haul fiber and it gives the State, NDOT and state agencies access to that fiber along the US-50 corridor.

We're in discussions with a telecom company who is looking to expand their system in the vicinity of Ely. We have identified NDOT infrastructure tower rack space, those kinds of things. That will be of value to the telecom provider and the process to share and trade infrastructure under SB 53 has begun. In fact, the master agreement was on today's Agenda under Item No. 6 to share infrastructure.

This partnership is going to enable the telecom provider to minimize their expansion costs and for a fair compensation, it's a win-win because it provides

Ely with much needed expansion in broadband and other services and it gives the state, NDOT, compensation for what we're working on them with.

Another example is on USA Parkway. It is our desire to connect fiber between US-50 and I-80. So, this map shows the 19 miles on the lower section of the photo that were the new roadway that we constructed and then the upper section is the existing section that we acquired. So, we've been working with multiple companies on the use of the spare conduit that we included in the new section of roadway and value from that—from access to the conduit, it going to be banked as we work with each telecom partner and then used for NDOT needs and to benefit the state. So, we're in discussion with several firms and we've identified opportunities for joint builds within that older section so that we can expand our conduit and our infrastructure all the way to I-80. We're going to use the value from the banked trade on that lower section to build and construct infrastructure on the newer section.

So, this is an example where SB 53 resulted in unexpected opportunities to speed up this fiber infrastructure expansion and it's pretty—it's pretty exciting for us.

So, through SB 53, we're authorized to enter into trade and sharing agreements for telecommunications infrastructure within our right-of-way. Where we are, we've been working through the same regulation setting process that Lynn just described for the over-dimensional permits.

In under a year and a half, we've developed policies for non-interstate routes, we've developed draft regulations for interstate routes, we held our public workshop on October 26th. We had our 30 day public comment period. That concluded on November 27th. Then we had a hearing on last week, on November 28th. Participation included telecommunication industry as well as partner state agencies and the feedback and communication we got from all of them was positive.

Director Malfabon has adopted the draft regulations and we're just finalizing all of the responses to the comments and feedback. We're going to get our package together and to submit the regs, the NAC regs and all of the associated documents to the LCB to complete that administrative rulemaking process.

A copy of the regs were included in the Board Packet, if you're interested in reading all the nitty gritty of that. I also included a copy of SB 53 which addressed the NRS portion of the process. I'm really happy to be able to be here

today to let you guys know that we are well on our way to a promising partnership with the telecommunications industry. This is going to benefit NDOT, it's going to benefit the telecom industry, but more importantly, it's going to benefit the citizens of Nevada as we're able to grow and expand our system and provide folks all over the state with more access, reasonably priced access to broadband. So, that's pretty exciting.

The Board, the Governor, you, the Board have been supporters of this, but we've also had a lot of support from the Governor's Office of Science, Innovation and Technology. Through a subset of that, the Broadband Taskforce that took a couple of years to do some work and evaluate broadband in the State. That Taskforce has sunsetted, but they came up with some really good conclusions and results and that's what has led us here today with our SB 53 Program. If you have any questions or want any more detail, happy to give you that.

Sandoval: Thank you, Ms. Inda. This is really important to what I like to call the New Nevada. And, you've already said it, but it's obvious that a lot of the communities, the rural communities especially need and deserve the same access that the urban communities have. I had the privilege of attending an event maybe a couple of years ago in Beatty, or so and it's just a big difference maker. In terms of economic development, there are a lot of entities that won't go to these smaller towns because they don't have appropriate access or good access or any access for that matter. I suppose, there is a question in there. Always the biggest challenge from at least my observation is the last mile. So, we get it through the main thoroughfares and then that last mile is really expensive to get it to the schools or perhaps to some of those entities, is that included within all of this analysis?

Inda: Yes and no. One of—that's where intercommunication in between agencies is really valuable. Brian Mitchell and Jo-Jo Myers at OSIT, have been very—I'll give with the example of Ely. They've been very engaged and very active in those discussions making sure that the right folks with the telecom agencies are talking to the different folks within the government of Ely and the different parts and pieces of the agencies involved there, to get that last mile work in place. Some of it might be including, you know, expansion of conduit in an NDOT project and then other agencies—and then the telecom providers themselves kind of picking up parts and pieces. So, that last mile is critical, but one of the things that we're seeing is that through the increased communications and coordination that that's happening at a little faster rate. Because this is pretty exciting to have

happening in Ely. I know Jo-Jo is really thrilled with the progress that's been made.

Sandoval: Speaking of Ely, I'll give it to Mr. Almberg. He's our—

Almberg: Well, I'm not sure, but you guys must have different internet than we have, because I always get a dial tone when I go to the internet. [laughter] No, I've actually met with Jo-Jo a couple of times, over in Ely over some of this stuff. So, hopefully this is progressing because there definitely is a need. When Jo-Jo was there, some of our discussions that we had with Jo-Jo and some of the other people within the community is the development that, what you just said Governor, will not come to the area because it's not there. And I think that's some of the things that we may be running into is, we have a state prison there that they can't even keep staffed. You know, it's not even staffed to capacity because you know, I'm not a gamer, but they said, people are coming, that are gamers, that our internet does not allow them to do that type of stuff.

So, it's new to me, to open my eyes of how much that is restricting us over there. So, I appreciate the Governor's Office and Jo-Jo for coming and reaching out and being a part of this. So, hopefully this is great news for our community.

Sandoval: Thank you. Other questions or comments with regard to this Agenda item? Any questions or comments from Southern Nevada?

Hutchison: None here, Governor.

Sandoval: Ms. Inda, thank you very much. Agenda Item 13, Old Business, Director Malfabon.

Malfabon: Thank you, Governor. Under Item No. 13, we have the Project NEON Quarterly Report, Spaghetti Bowl Quarterly Report and the Stormwater Program Quarterly Report. These are just updates on these projects as we know we're in the home stretch of Project NEON. Governor, I wanted to thank you personally for showing up in mid-November and speaking to that large group of employees. Not only from our design-builder Kiewit, but also from the NDOT staff and our consultant team, all the subs, suppliers were in that room and enjoyed a good meal, but also enjoyed your comments, thanking them for their dedication and effort on Project NEON.

The Spaghetti Bowl, I mentioned the public meeting coming up and just wanted to congratulate the team for how well they've done in accelerating the

environmental study. We're in hopefully the accelerated mode for that. Wanted to also thank our Federal Highway Administration partners on this project, because we couldn't have accomplished that without their support.

On the Stormwater Program, as I reported previously, the Judge did agree that NDOT has done everything required under the consent decree with USEPA and we have our permit issued from Nevada Division of Environmental Protection. So, we're well on our way into having that as a sustainable program to protect Nevada's waters.

Moving on, we have also the Report of Outside Counsel Costs and Open Matters and the Monthly Litigation Report. Our Chief Counsel, Dennis Gallagher is able to answer any questions on that.

Hutchison: Governor? [laughter] Just wanted there to be a little suspense. [laughter]

Sandoval: You were successful. Please proceed.

Hutchison: Thank you, Governor. Just one last drive through the neighborhood here with what we've got going with outside counsel. Just taking a look at those three matters and again, I say it on a regular basis, you know, based on what we looked at when I first arrived on the Board, this looks terrific. My question for you is just on the remaining outside counsel contracts we've got, the remaining authority there. Should the Board expect any amendments to those contracts in the future?

Gallagher: For the record, Dennis Gallagher and if this is going to be the last question, I think I need to belabor the response. [laughter]

Hutchison: Dennis, I'm a lawyer, this is not the last question. [laughter] Even if I say it was the last question, as the Governor knows, it never is.

Gallagher: Well, I'd like to extend a personal invitation to you, for future board meetings to ask whatever questions you'd like during the public comment section. For these items, I don't anticipate bringing anything back to the Board on any of them. One is pending before the Supreme Court. The matter has been fairly very well briefed. All that may remain is an oral argument. Unless the Supreme Court remands it for further action at the trial court level.

The Nassiri matter, the last matter, we have plenty of funds remaining. We are in the process of opposing his most latest appeal, as well as proceeding on collection of the judgment that was award the Department for costs and fees.

Hutchison: Thank you, Dennis. I just see with the inverse condemnation and condemnation cases, we don't have anything else that's new. Anything on the horizon you expect or are we going to be pretty well completed in the near future for those condemnation actions?

Gallagher: For the record, Dennis Gallagher. Certainly for the condemnation actions, as the Department prioritizes its projects, that will dictate condemnation needs on a go-forward basis. The hard one to gauge is the inverse condemnation actions because there's a 15-year statute of limitations for those claims. And, the First Presbyterian Church matter is kind of one in that many years ago, they had filed an inverse condemnation claim and after some preliminary discussions and motion work, they dropped the case for a good number of years, but recently this year brought it back—brought a new action for it. So, there's always the possibility, especially as NEON wraps up that other property owners in the area may feel that they've been damaged by the project and file an inverse action.

Hutchison: What about the remaining work on the 215 and the Beltway, down South here, you don't expect any more condemnation actions out of that? Everything has occurred with that project, right?

Gallagher: For the record, Dennis Gallagher. That is my understanding.

Hutchison: Okay, great. And then, I just see there's one more case, that your office is handling in-house, apparently a new mobile phone personal injury case. And again, thank you for doing such a great job managing these Dennis. It's difficult to be an average lawyer and you're far beyond an average lawyer. You're a very high-level competent counsel that we're blessed as a state, in particular NDOT, to have supervising and managing some of these very difficult cases. So, again, my compliments to you. Member Valentine and I have already worked out an arrangement where I will be watching these on internet proceedings and will be texting to her all manner of very difficult legal questions in the future. [laughter]

Gallagher: Thank you for the kind words, Lieutenant Governor, but I owe any success to the great staff that I work with, both here in Carson City and in Las Vegas. Without them, the results that we've been able to deliver on behalf of the Board would not have been possible. And, in all seriousness, I welcomed all your questions. They kept me on my toes. Thank you.

Hutchison: All right, well thank you again, Dennis. Thank you very much, Governor.

Sandoval: Thank you, Mr. Lieutenant Governor. Director Malfabon.

Malfabon: Thank you. The final item is a Fatality Report. We've had some unfortunate incidents recently with pedestrians right around Thanksgiving, here in Carson City even. I was pleased to see the comments from Sheriff Furlong, locally that he's going to put an emphasis area on trying to keep pedestrians safe, but also impressing on the need for pedestrians and drivers to watch out for each other and be responsible. I also saw a public service announcement. Was showing Mayor Schieve, Mayor Martini from Reno and Sparks respectfully and Councilwoman Jardin about the importance of pedestrian safety with a large group of local folks that are definitely supportive of improving pedestrian safety in the Reno/Sparks area.

Our challenges are still before us and we put more emphasis on infrastructure but also on behavioral programs and education programs and I talked previously about the Traffic Safety Summit. Our staff are working on this effort, but it takes everybody, the drivers, the motorists, just the folks that are pedestrians, bicyclists, motorcyclists, people have to take responsibility and do their part. We're going to work on this and try to drive fatalities down and work with our local partners and law enforcement agencies and education representatives as well, and emergency medical responders.

Sandoval: Thank you, Rudy. I was just paging through our Agenda because some of our contracts were for pedestrian safety, of that very purpose. That work is never done but I think we've made a huge amount of progress from where we were approximately four years ago, so it's good. All right, Board Members, any questions or comments with regard to Agenda Item 13? We'll move on then to Agenda Item 14, Public Comment. Is there any member of the public present in Las Vegas that would like to provide public comment to the Board?

Hutchison: None here, Governor.

Sandoval: Thank you. Here in Carson City, is there anyone present that would like to provide public comment to the Board? I see you Mr. Rodriguez. Okay. I hear and see no one coming forward. Agenda Item 15, adjournment.

Hutchison: Move to adjourn.

Sandoval: Can I make that motion, as the Chair? [laughter]

Hutchison: Definitely.

Sandoval: No, and again, I don't want to repeat anything, but it really has been a privilege and honor to work with all of you. I really, really will treasure the memories and experience that I've received on this Board. Thank you.

[standing ovation, applause]

Sandoval: I move to adjourn. [laughter]

Hutchison: Second!

Sandoval: Lieutenant Governor has seconded the motion, all in favor say aye. [ayes around] That motion passes unanimously, again, thank you ladies and gentlemen, this meeting is adjourned.

_____ _____

Secretary to Board Preparer of Minutes

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

February 1, 2019

TO: **Department of Transportation Board of Directors**
FROM: **Kristina L. Swallow, Director**
SUBJECT: **February 11, 2019, Transportation Board of Directors Meeting**
Item #6: **Approval of Agreements Over $300,000 - *For Possible Action***

Summary:

The purpose of this item is to provide the Board a list of agreements over $300,000 for discussion and approval following the process approved at the July 11, 2011 Transportation Board meeting. This list consists of any design build contracts and all agreements (and amendments) for non-construction matters, such as consultants, service providers, etc. that obligate total funds of over $300,000, during the period from November 7, 2018, through January 15, 2019.

Background:

The Department contracts for services relating to the development, construction, operation and maintenance of the State's multi-modal transportation system. The attached consists of new agreements over $300,000 and amendments which increase the total agreement amount above $300,000 during the period from November 7, 2018, through January 15, 2019.

Analysis:

These agreements represent the necessary support services needed to deliver the State of Nevada's multi-modal transportation system and have been prepared following the Code of Federal Regulations, Nevada Revised Statutes, Nevada Administrative Code, State Administrative Manual, and/or Department policies and procedures.

List of Attachments:

A) State of Nevada Department of Transportation Agreements for Approval, November 7, 2018, through January 15, 2019.

Recommendation for Board Action:

Approval of all agreements listed on Attachment A

Prepared by: Administrative Services Division

Attachment A

State of Nevada Department of Transportation
Agreements for Approval
November 7, 2018 through January 15, 2019

Line No.	Agreement No.	Amend No.	Contractor	Purpose	Fed	Original Agreement Amount	Amendment Amount	Payable Amount	Receivable Amount	Start Date	End Date	Amend Date	Agree Type	Division	Dir. Office	Notes
1	34816	03	NINYO & MOORE	AS-NEEDED INDEPENDENT ASSURANCE TESTERS	N	297,489.15	25,000.00	322,489.15	-	17-Nov-2016	30-Jun-2019	11-Feb-2019	Service Provider	Construction	Thor	ADM 3 02-11-19: INCREASE AUTHORITY BY $25,000.00, FROM $297,489.15 TO $322,489.15 DUE TO THE INCREASE IN WORK LOAD AND UNANTICIPATED VACANCIES IN THE INDEPENDENT ASSURANCE LABORATORIES. AMD 2 12-11-18: EXTEND TERMINATION DATE FROM 12-31-18 TO 06-30-19 TO ALLOW FOR AGREEMENT CLOSE-OUT PROCESS. AMD 1 10-23-17: EXTEND TERMINATION DATE FROM 12-31-17 TO 12-31-18 FOR UTILIZATION OF REMAINING FUNDS. 11-17-16: PROVIDE INDEPENDENT ASSURANCE TESTERS IN EACH OF THE DEPARTMENT'S THREE DISTRICTS ON AN AS-NEEDED BASIS, STATEWIDE. NV B/L#: NVF19961094658-R
2	38418	00	CA GROUP	I-15 FEASIBILITY STUDY	N	1,397,780.00	-	1,397,780.00	-	11-Feb-2019	30-Jun-2020	-	Service Provider	Project Management	Cole	02-11-19: PROVIDE A FEASIBILITY STUDY FOR I-15 CORRIDOR FROM SAHARA AVENUE INTERCHANGE TO THE FLAMINGO ROAD INTERCHANGE WHERE VALLEY VIEW BOULEVARD IS THE WESTERN LIMIT AND LAS VEGAS BOULEVARD IS THE EASTERN LIMIT. THE STUDY INCLUDES THE DEVELOPMENT OF ALTERNATIVES, IDENTIFYING I-15 RIGHT-OF-WAY NEEDS ALONG THE I-15 CORRIDOR TO PRESERVE FOR FUTURE I-15 IMPROVEMENTS. IN ADDITION, THE INTERSECTIONS THROUGHOUT THE LIMITS OF THE STUDY AREA WILL BE ANALYZED FOR OPERATIONAL IMPROVEMENT RECOMMENDATIONS, AS WELL AS, POTENTIAL PHASING OPTIONS FOR ALTERNATIVES, CLARK COUNTY. NV B/L#: NVD20081407877-R PROPOSERS: CA GROUP AND JACOBS.
3	56614	05	JACOBS ENGINEERING GROUP	I-515 FEASIBILITY STUDY	Y	2,645,000.00	6,000,000.00	9,902,000.00	-	24-Jul-2015	31-Dec-2021	11-Feb-2019	Service Provider	Project Management	Cole	AMD 5 02-11-19: EXTEND TERMINATION DATE FROM 12-31-19 TO 12-31-21 AND INCREASE AUTHORITY BY $6,000,000.00 FROM $3,902,000.00 TO $9,902,000.00 FOR THE CONTINUATION OF NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND FINAL DESIGN SERVICES, AND TO BEGIN PRELIMINARY DESIGN AND NEPA STUDIES FOR THE I-515 BRIDGE REPLACEMENT AND THE DOWNTOWN ACCESS PROJECT. THE STUDY WILL INCLUDE THE CONSTRUCTION OF AN INTERCHANGE AT CITY PARKWAY AND RECONSTRUCTION OF THE I-515 FROM THE SPAGHETTI BOWL TO LAS VEGAS BOULEVARD TO ACCOMMODATE FUTURE TRAVEL DEMANDS. AMD 4 04-27-18: NO COST AMENDMENT TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 DUE TO ADDITIONAL TASK ORDERS TO DEVELOP A LIST OF POTENTIAL IMPROVEMENTS BY EVALUATING THE ENVIRONMENTAL JUSTICE IMPACTS, CONSTRUCTIBILITY IMPACTS, OPERATIONAL AND SAFETY SCREENING, ASSESSMENT OF RIGHT-OF-WAY IMPACTS, AND AN ASSESSMENT OF THE ABILITY TO IMPLEMENT THE IMPROVEMENTS. AMD 3 09-11-17: EXTEND TERMINATION DATE FROM 01-31-18 TO 12-31-18 AND INCREASE AUTHORITY BY $1,257,000.00 FROM $2,645,000.00 TO $3,902,000.00 FOR CONTINUATION OF SERVICES. AT THIS STAGE OF THE I-515 ALTERNATIVES DEVELOPMENT STUDY, IT HAS BECOME CLEAR THAT, IN ADDITION TO THE CITY PARKWAY SOUTHBOUND RAMP PROJECT, THE PROJECT THAT ELIMINATES THE EXISTING LANE DROP WITHIN THE SPAGHETTI BOWL HAS BENEFITS AND IS SUPPORTED BY STAKEHOLDERS SUCH THAT IT SHOULD BE ADVANCED THROUGH THE NEPA STAGE AMD 2 01-31-17: EXTEND TERMINATION DATE FROM 01-31-17 TO 01-31-18 DUE TO ADDITIONAL TASK ORDERS. AMD 1 08-29-16: REMOVE LIQUIDATED DAMAGES CLAUSE FROM AGREEMENT. 07-24-15: PROVIDE A FEASIBILITY STUDY FOR I-515 CORRIDOR (I-515, WYOMING AVENUE GRADE SEPARATION TO SPAGHETTI BOWL, AND US 95, SPAGHETTI BOWL TO RANCHO DRIVE) TO INCLUDE ANALYSIS AND EVALUTATION OF OPERATIONAL AND SAFETY IMPROVEMENTS, AND TO PROVIDE ENVIRONMENTAL DOCUMENTATION AND CONCEPTUAL DESIGN SERVICES, CLARK COUNTY. NV B/L#: NV2008103508-R
4	58918	00	HDR	ENGINEERING SERVICES	N	3,654,176.00	-	3,654,176.00	-	11-Feb-2019	21-Jun-2021	-	Service Provider	Project Management	Cole	02-11-19: PROVIDE ENGINEERING SERVICES FOR GEOTECHNICAL INVESTIGATION, STRUCTURAL DESIGN, SUB-SURFACE UTILITY EXPLORATION, LANDSCAPING AND AESTHETICS, AND PUBLIC OUTREACH FOR THE DEPARTMENT'S "US 395 NORTH VALLEYS" PROJECT DUE TO LIMITED DEPARTMENT STAFF RESOURCES. THE PROJECT WILL ALLEVIATE CONGESTION ON US 395 BY INCREASING CAPACITY WITH THE ADDITION OF A SOUTHBOUND TRAVEL LANE AND ENHANCING SAFETY BY THE ADDITION OF AUXILIARY LANES BETWEEN MCCARRAN BOULEVARD AND LEMMON DRIVE INTERCHANGE, WASHOE COUNTY. NV B/L#: NVF19851010291-R PROPOSERS: ATKINS, HDR, HORROCKS, AND LOUIS BERGER GROUP.
5	74418	00	UNIVERISTY OF NEVADA, RENO	PROOF-OF-CONCEPT STUDY	Y	309,581.00	-	309,581.00	-	11-Feb-2019	31-Jan-2022	-	Interlocal	Research	Sondra	02-11-19: PROVIDE A PROOF-OF-CONCEPT STUDY TO: 1) VALIDATE THE FEASIBILITY OF USING ROADSIDE LIDAR SENSORS TO PROVIDE HIGH-ACCURACY, MULTIMODAL TRAFFIC TRAJECTORIES BY TESTING WITH DIFFERENT SENSORS, DEPLOYMENT METHODS, AND TRAFFIC SCENARIOS; AND 2) APPLY ROADSIDE LIDAR DATA TO SUPPORT CAVS, ENHANCE TRAFFIC MOBILITY/SAFETY ANALYSIS, AND INTEGRATE WITH EXISTING TRAFFIC INFRASTRUCTURE FOR AUTOMATIC PEDESTRIAN/WILDLIFE WARNING. THE ROADSIDE LIDAR SENSING SYSTEM PROPOSED HERE WOULD COLLECT TRAJECTORY DATA FROM ALL ROAD USERS AND WOULD SIGNIFICANTLY IMPROVE TRAFFIC SAFETY. THIS PILOT DEPLOYMENT WILL HELP NDOT PREPARE FOR FUTURE TRAFFIC DATA CHALLENGES, STATEWIDE. NV B/L#: N/A

Line Item 1

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

348-16-040AMD~~1~~ 3
For Agreement Services Only

Request to Solicit Services and Budget Approval (2A)

Amendments for time extensions (time only) do not require a form 2a

Initial Budget Request x Request for Amendment #: ~~1~~ 3 Agreement #: P348-16-040

If Amendment, name of Company: Ninyo & Moore

Project ID #(s): n/a

Type of Services: Engineering Services - Construction Independent Assurance Testers

Originated by: Tonia Andree Division: Construction Date Originated: 1/2/2019

DS SF Division Head/District Engineer: Sharon Foerschler

Budget Category #: 06 Object #: 814K Organization #: C040

Estimated Cost: $25,000 Type of Funding: State % of Fund: 100

Funding Notes: State Fiscal Year(s): FY19

$25,000 in FY2019

Financial Management:

DocuSigned by: Donna Spelts 8A78D93AD71F444... Signature 1/7/2019 Date

Approval of this form by the Financial Management Division, Budget Section, provides funding authority for the services described. Actual availability of funds and the monitoring of actual expenditures must be determined by the Division Head.

Project Accounting:

DocuSigned by: Norfa Lanuza 3BAB63AE02084DA... Signature 1/7/2019 Date

Director:

Requires Transportation Board Presentation

x Does not require Transportation Board presentation

DocuSigned by: C4C7CE5CD584445... Signature 1/7/2019 Date

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

For Agreement Services Only
348-16-040AMD1

Attachments:

Budget by Organization Report (Report No. NBDM30) attached here:

If Amendment, attach original Agreement here:

Any additional information to attach: No

Purpose of, and Justification for, Budget Request:

Due to the increased work load and unanticipated vacancies in the Independent Assurance Laboratories statewide the Construction division is requesting additional funds to allow for staffing in the IA labs.

Scope of Services:

The scope of services includes providing one Independent Assurance (IA) Tester in District 1 on an as-needed basis for approximately 80-120 hours per month and one IA Tester in each of Districts 2 and 3 on an as-needed basis for approximately 40 hours per month each.

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 8, 2019

TO: Thor Dyson, Assistant Director

FROM: Tonia Andree, Project Manager

SUBJECT: Negotiation Summary for Amendment 3 to Agreement P348-16-040

On November 17, 2016, the Department entered into agreement P348-16-040 with Ninyo & Moore to provide services as required for Independent Assurance Testing in each of the Department's three Districts.

The Scope of Services includes performing professional and technical engineering services to ensure project compliance with Department standards.

This amendment is necessary due to the unanticipated vacancies in the district independent assurance laboratories and increased workload.

This amendment increases the total amount of the agreement by Twenty-Five Thousand and No/100 Dollars ($25,000.00) to Three Hundred Twenty-Two Thousand Four Hundred Eighty-Nine and 15/100 Dollars ($322,489.15).

Reviewed and Approved:

DocuSigned by:
Thor Dyson 01/08/2019
DEE1C1849CEE4BD...
Assistant Director

SCOPE OF SERVICES

1. The Service Provider shall provide one (1) IA tester in District 1 for approximately eighty to one hundred twenty (80-120) hours per month or on an as-needed basis through June 30, 2019.

2. The Service Provider shall provide one (1) IA tester in each of Districts 2 and 3 for approximately forty (40) hours per month on an as-needed basis, through June 30, 2019, each excluding the winter shutdown period, which typically runs from December through February and is based on weather and project conditions.

3. Work in all three (3) Districts will be assigned with a minimum of one (1) weeks' notice.

4. IA Testers will be assigned to work out of the District Independent Assurance Labs.

5. The Service Provider shall provide a principal engineer (aka Project Manager) as required, who shall be certified by the Nevada State Board of Registered Professional Engineers and Land Surveyors, in accordance with Nevada Revised Statutes Chapter 625, as a licensed Civil Engineer. Principals shall be limited to billing no more than eight (8) hours per month, unless SERVICE PROVIDER has obtained prior approval from the DEPARTMENT.

6. The Service Provider shall provide all personnel assigned to this project the proper safety equipment, including but not limited to, soft caps, hard hats, and vests meeting the current DEPARTMENT standards for Work Zone Apparel.

7. The Service Provider shall use its own, or lease, vehicles which shall be equipped with high intensity flashing yellow strobe lights.

8. The Service Provider shall provide personnel who possess the experience, knowledge and character to adequately perform the requirements of this scope of work. IA Testers provided under this procurement shall have knowledge and experience using the DEPARTMENT specifications, documentation procedures, Testing Manual, Construction Manual, and Documentation Manual. IA Testers must be certified under the American Concrete Institute (ACI) as Concrete Field-Testing Technician - Grade I and must be Nevada Alliance for Quality Transportation Construction (NAQTC) or Western Alliance for Quality Transportation Construction (WAQTC) certified. The Service Provider shall also provide all personnel assigned to this project any specialized training, certifications or equipment necessary to perform visual nuclear density gauge testing audits; however, IA testers under this agreement will not be operating nuclear gauges.

9. The SERVICE PROVIDER agrees to furnish all labor, materials, services, equipment, tools, and other expenses necessary to perform the professional services required under the terms of this Agreement, with the provisions of Attachment A - Scope of Services, except as specifically provided otherwise herein.

10. The SERVICE PROVIDER agrees to comply with all requirements contained in the underlying Request for Proposal which is incorporated into this Agreement by reference.

Line Item 2

384-18-015

Request to Solicit Services and Budget Approval (2A)
Amendments for time extensions (time only) do not require a form 2a

x Initial Budget Request Request for Amendment #: Agreement #:

If Amendment, name of Company:

Project ID #(s): TBD

Type of Services: Interstate 15 Feasibility Study from Sahara Avenue to Flamingo Road

Originated by: Jeff Lerud Division: Project Mgmt Date Originated: 8/1/2018

DS NJ

Division Head/District Engineer: Nick Johnson

Budget Category #: 466006 Object #: 814D Organization #: C015

Estimated Cost: 1,700,000 Type of Funding: State % of Fund: 100

Funding Notes: State Fiscal Year(s): FY19-FY20

FY2019 - $1,200,000; FY2020 - $500,000

Financial Management:

DocuSigned by:
Donna Spelts
8A78D93AD71E4A4...
Signature 8/7/2018 Date

Approval of this form by the Financial Management Division, Budget Section, provides funding authority for the services described. Actual availability of funds and the monitoring of actual expenditures must be determined by the Division Head.

Project Accounting:

DocuSigned by:
Norfa Lanuza
3BAB63AE020...
Signature 8/7/2018 Date

Director:

Requires Transportation Board Presentation

x Does not require Transportation Board presentation

DocuSigned by:
C4C7CE5CD58...
Signature 8/7/2018 Date

384-18-015

Attachments:

Budget by Organization Report (Report No. NBDM30) attached here:

If Amendment, attach original Agreement here:

Any additional information to attach: Yes

Purpose of, and Justification for, Budget Request:

See attached.

Scope of Services:

See attached.

384-18-015

Financial Management Comments:

Approved based on funds being available in the identified budget.

Project Accounting Comments:

.

Director Comments:

N/A

Purpose of, and Justification for, Budget Request

I-15 is the main north-south freeway through Las Vegas. It connects California to the south, and Arizona and Utah to the north. Over the last 15 to 20 years, there have been several projects to widen and improve access along I-15. With the completion of I-15 North Design Build, the I-15 South Design Build, the anticipated completion of Project NEON in the fall of 2019, and the current Tropicana Interchange NEPA study that will environmentally clear the Tropicana Interchange for reconstruction, there will be approximately four miles of I-15 that will remain to be evaluated.

The purpose of this procurement is to produce a feasibility study for the I-15 from the Sahara Avenue Interchange to the Flamingo Road Interchange where Valley View Boulevard is the western limit and Las Vegas Boulevard is the eastern limit. The study includes the development of alternatives, identifying I-15 right-of-way needs along the I-15 corridor to preserve for future I-15 improvements. In addition, intersections throughout the limits of the study area will be analyzed for operational improvement recommendations, as well as potential phasing options for alternatives.

The Planning and Environmental Linkage process will be followed to provide input into subsequent NEPA processes.

GENERAL SCOPE OF SERVICES

The scope of services for this RFP includes, but may not be limited to, the following:

- Project management based on DEPARTMENT's and Federal Highway Administration's (FHWA) Major Project Management guidelines
- Detailed scoping analysis
- Traffic studies and Aimsun modeling
- The Planning and Environmental Linkage (PEL) process
- Subsurface utility explorations and utility coordination
- Surveying and aerial mapping
- Public relations, outreach, and meetings
- Right-of-way impacts
- Geotechnical investigation
- Developing alternative concepts, preliminary design and geometrics
- Document management
- Project scheduling
- Risk analysis to advance alternatives

The estimated cost for the Service Provider described herein is $1,700,000 and is funded 100% with State Funds and will be completed in twelve to fourteen months.

This project twill be accounted for the in the Project Management Division's project budget request for FY 2019 through 2020 expenditures where FY2019 expenditures is $1,200,000; and FY2020 expenditures is $500,000.

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 18, 2019

TO: Cole Mortensen, Assistant Director

FROM: Jeff Lerud, Project Manager JL DS

SUBJECT: Negotiation Summary for Agreement P348-18-015; I-15 from Sahara to Flamingo

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Negotiations were conducted during the time period of November 14, 2018 to January 17, 2019, with Jim Caviola and Jack Sjostrom, of the CA Group (SERVICE PROVIDER) and Hoang Hong, Casey Sylvester, Sam Ahiamadi, Nick Johnson, and Jeff Lerud of the Nevada Department of Transportation (DEPARTMENT).

The DBE goal for this agreement has been established at zero percent (0%).

The duration of this agreement will be from 2/15/2019 to 6/30/2020.

The scope of services that are to be provided by the SERVICE PROVIDER was reaffirmed by both parties at the outset.

Key personnel dedicated to this project are as follows:

Name	Title
James Caviola	Project Manager
Jack Sjostrom	Engineering Lead
Emily Kubovchik	Traffic Lead
Bardia Nezhati	Planning and Environmental Linkages
Jeff Bingham	Environmental Lead
Paul Saucedo	ROW Lead

Sub-consultant information regarding Project Descriptions on active Agreements:

Sub-Consultant	Project Description	Agreement No.
Parametrix	n/a	n/a
Atkins	I-515 Alternatives; Tropicana ADA/3R; I-15 N & CC-215 I-15 N Phase IV	P566-14-110; P634-15-015; P109-17-015
CivilFX	RSB NEPA; Tropicana NEPA	P443-16-015; P192-17-015
GCW	n/a	n/a
JA Barrett	n/a	n/a
Stantec	I515 NEPA; Tropicana NEPA	P566-14-110; P192-17-015
VTN	NEON, I15 N Phase 4, I515 Charleston NEPA, Garnet DB; Tropicana NEPA	P091-13-015, P341-14-110, P779-15-015, P062-16-015; P192-17-015

The approved 2a for this project was $1,700,000.00.

An overhead rate of 104.38% and facility cost of money rate of 0.235% of direct labor has been provided by NDOT Audit; however, no fixed fee is payable on the facility cost. A fixed fee of 10% has been agreed to with the SERVICE PROVIDER.

The DEPARTMENT's original estimate was $1,170,240.00, including direct labor (4086 man-hours of work by the SERVICE PROVIDER), and direct expenses of $494,240.00 (including sub-consultant expenses).

The SERVICE PROVIDER's original estimate was $2,059,507.00, including direct labor (7591 man-hours of work by the SERVICE PROVIDER), and direct expenses of $777,340.00 (including sub-consultant expenses).

The negotiations yielded the following:

1. There will be 4911 total man-hours allotted to this agreement at a direct labor cost of $844,615.00.
2. The direct expenses agreed to total $553,165.00 sub-consultants, reproduction, communication, travel and per diem.
3. The total negotiated cost for this agreement is $1,397,780.00.

Reviewed and Approved:

DocuSigned by:
Cole Mortensen
5A0A0E31C5404F4...

01/18/2019

Assistant Director

SCOPE OF SERVICES

The selected Service Provider will provide the following required services based on the concept that the Service Provider should deliver a feasibility study as a program level planning tool that a Project Manager can use to implement alternatives (multiple alternatives if applicable) within the corridor with appropriate risk management approach and process:

GENERAL REQUIREMENTS

The Service Provider shall coordinate closely with NDOT to evaluate the travel corridor within the area of study between Sahara Avenue and Flamingo Road along the I-15 Corridor, Dean Martin Drive and Frank Sinatra Drive. The goal of this evaluation is to generate a menu of alternatives that may be implemented within the area of study. These alternatives shall be focused on improving traffic movement and to identify problems within the Corridor and vicinity streets, identify a range of solutions and their associated costs, and then recommend the best course of action to NDOT. This work will be pre-National Environmental Policy Act (NEPA) but will be tied to the NEPA process by using Planning and Environmental Linkages (PEL) approach.

The Service Provider will provide a project manager and task leads to manage the project. These staff will prepare for and attend monthly project meetings, stakeholder and public outreach meetings, and perform monthly management activities to ensure project success.

The Service Provider will provide a project administrator to prepare project documentation, record and prepare project meeting minutes, attend stakeholder coordination meetings and assist the project manager and task leads in completion of the project management activities.

DATA COLLECTION

The Service Provider will collect relevant project data. It is assumed that a majority of the data collected will be provided by the Department immediately upon Notice to Proceed. This data consists of:

Receivable:

- *Aerial Topography and digital terrain mapping for the project corridor including I-15 from Russell to Sahara*
- *Project as-builts from corridor projects previously completed (Service Provider already has a large number of as-builts from previous project work, and will provide a list to NDOT so that only the additional needed contracts are prepared)*
- *Right of Way Verification documentation and CAD files if available*
- *Drainage Studies and reports from previous contracts in the study corridor*

TRAFFIC

Traffic Data Collection

The Service Provider will collect all the necessary traffic data from various sources. Data collection includes Traffic volumes, Traffic Signal Timing plans, Spot Speed and Queues. The Service Provider will use sources that includes NDOT TRINA, RTC-FAST, Southern Nevada Traffic Study (SNTS) and field counts. The Service Provider will collect existing turning movement counts at the following eleven intersections.

1. Sahara Ave & Palace Station
2. Sahara Ave & Rancho Dr
3. I-15 NB & Sahara Ave Ramp Terminal
4. Sahara Ave & Las Vegas Blvd
5. Spring Mountain Rd & Polaris Ave
6. I-15 SB & Spring Mountain Rd Ramp Terminal
7. Spring Mountain Rd & Mel Torme Wy
8. Flamingo Rd & Hotel Rio Dr
9. I-15 SB & Flamingo Rd Ramp Terminal
10. I-15 NB & Flamingo Rd Ramp Terminal
11. Flamingo Rd & Caesars Palace/Via Del Nord

The Service Provider will coordinate with NDOT if any additional data need to be collected to complete the Project. NDOT will provide the Aimsun Next Subarea Meso Model for this Project. The NDOT provided Aimsun Next Model will include the 2017 and 2040 OD matrices for the regional traffic assignment, therefore a separate Traffic Forecasting Methodology Memorandum is not anticipated. Traffic Forecasts for the no-action and alternatives will be summarized in a brief memorandum. The Service Provider will perform a QC of all the data before using it for traffic analysis.

Develop Base Aimsun Next Model

The Service Provider will prepare and submit the Traffic Modeling and Operation Analysis Methodology memorandum to NDOT prior to developing the Aimsun Next Modeling. The Service Provider will develop the Base Aimsun Next Microsimulation Model from NDOT's Meso model using the existing geometric configuration. The Aimsun Next Model will be developed for both AM (6:30 to 9:30) and PM (3:30 to 6:30) peak periods. The traffic modeling and analysis limits will include all the previously listed intersections, as well as the following;

1. I-15: North of Sahara Avenue to South of Flamingo Road
2. Interchanges: Sahara Ave, Spring Mountain, Flamingo Road
3. Additional Ramp Segments: Charleston Blvd to I-15 SB on-ramp, I-15 NB to Charleston Blvd off-ramp, I-15 SB to Tropicana Ave off-ramp, Tropicana Ave to I-15 NB on-ramp

Deliverables:

- *Traffic Modeling and Operation Analysis Methodology Memorandum*

Calibrate Existing Conditions Aimsun Next Model

The Service provider will prepare and submit an Aimsun Next Model Calibration Methodology Memorandum to NDOT for approval before the calibration process. The Service provider will run the 2017 regional traffic assignment OD matrices in Aimsun Next Model and create a traversal for the Project subarea. The Service Provider will calibrate the Aimsun Next Model to meet the NDOT targets for the selected MOEs to replicate the field conditions. The calibration MOEs include Traffic Volumes, Spot Speed and Queues. The Model will be calibrated for both AM and PM periods. The Service Provider will submit a Aimsun Next Confidence and Calibration Report and the Aimsun Next Calibrated Models to NDOT for approval.

Deliverables:

- *Aimsun Next Model Calibration Methodology Memorandum*

- *Aimsun Next Confidence and Calibration Report*
- *Aimsun Next Calibrated Models (AM & PM)*

Existing Conditions Traffic Operations

The Service Provider will run the existing conditions calibrated Aimsun Next model and extract the results for both AM and PM peak periods. Model results will include Network Wide MOEs, Freeway and Ramp segment, and Intersection Delay. In addition, the Service Provider will prepare exhibits for Line Diagrams and Heat Map to show the traffic operations for each freeway and ramp segments.

Deliverables:

- *Summary of Existing Conditions Traffic Operations Results (to include in Feasibility Study)*

Develop and Analyze 2040 No-Action Aimsun Next Model

The Service Provider will develop and analyze the 2040 No-Action Aimsun Next Model. The 2040 OD matrices will be created for the Project subarea within the Aimsun Next Model. Traffic Signal Timings will be adjusted within the Aimsun Next Model during visualization. The 2040 No-Action Aimsun Next Model will include the planned RTP projects outside the Project study limits. The Service Provider will run and extract the 2040 No-Action Aimsun Next Model results for Network Wide MOEs, Freeway and Ramp segments, and Intersection Delay. The Service Provider will prepare exhibits for Line Diagrams and Heat Maps to show the traffic operations for each segments.

Deliverables:

- *Summary of 2040 No-Action Traffic Operations Results (for workshop and to include in Feasibility Study)*

Screening Analysis of Concepts/Improvements

Upon completion of the Alternatives Development workshop, the Service Provider will develop and analyze a list of developed and pre-screened concepts/improvements using Aimsun Next. The Service Provider will code each concept/improvement in Aimsun Next Model and the results will be extracted for Network Wide MOEs, Freeway and Ramp segments, and Intersection Delay. The 2040 No-Action results will be used as the baseline to compare the results for concepts/improvements. The Service Provider will prepare exhibits for Line Diagrams and Heat Maps to show the traffic operations for each concept/improvement. These will be summarized for use in the Feasibility Study

Deliverables

- *Screening Analysis Results (Summary of Traffic Operations Results for each Concept/Improvement)*

Develop and Analyze 2040 Aimsun Next Build Alternatives (up to 3)

The Service Provider will develop up to 3 Alternatives resulting from the screening analysis. The Service Provider will develop and analyze the Aimsun Next Model for each Alternative. The 2040 OD matrices for the Project subarea from No-Action will be used for the analysis of each

Alternative. Traffic Signal Timings will be adjusted for the Alternatives within the Aimsun Next Model during visualization. Results for 3 Alternatives will be compared with the 2040 No-Action results. These traffic results, along with other discipline and project decision factors, will be used to select a recommended Build Alternative. The Service Provider will prepare exhibits for Line Diagrams and Heat Map to show the traffic operations for each segments. Forecasts for alternatives will be developed and documented.

Deliverables:

- *Summary of 2040 Build Alternatives Traffic Operations Results (to include in Feasibility Study)*
- *Traffic Forecasting Memorandum*
- *2040 Aimsun Next Build Models for 3 Alternatives*

Aimsun Next Animation Videos for use in Public Outreach

The Service Provider will prepare Aimsun Next animation videos for existing traffic conditions, 2040 No-Action and Alternatives, for use in public outreach. The videos will focus on the congestion hotspots within the study area.

Deliverable

- *Aimsun Next Animation Videos*

SAFETY ANALYSIS

The Service Provider will conduct safety analysis by estimating anticipated crash reductions resulting from up to 3 - 2040 alternatives. Crash reductions for each of the crash severity (Fatal and Injury (FI) and Property Damage Only (PDO) will be estimated using Highway Safety Manual (HSM) methodology to apply appropriate crash reduction/modification factors (CRF/CMF) and Average Annual Daily Traffic (AADT) values for each segment. AADT will be calculated from the results of Aimsun Next model. The approach will be to apply the CRF/CMF for each proposed improvements included in the 2040 Build Alternative to estimate crashes. The number of crashes of 2040 Build Alternatives will be compared to that of 2040 No-Action to estimate crash reductions resulting from the proposed build alternatives.

Deliverable

- *Safety Analysis technical memorandum*

BENEFIT - COST ANALYSIS

The Service Provider will complete a benefit-cost analysis using the Cal-B/C Corridor for 2040 No-Action and 3 Alternatives. The benefit-cost analysis will include the following benefit components: travel time savings, vehicle operating cost savings, safety savings, and emissions reduction. Costs will be used from capital costs estimation. The Service Provider will follow the methodology used in SNTS and will use the Aimsun Next Model output from 2040 No-Action and 3 Alternatives for the benefit-cost analysis. The crash reduction results from the safety analysis will be used to estimate safety benefits. The results of the benefit-cost analysis for each alternative will be documented in a separate technical memorandum and summarized in the Feasibility Study.

Deliverable

- *Benefit-Cost Analysis technical memorandum*

ENVIRONMENTAL
The Service Provider will recommend which class of (NEPA) document (Class 1: Categorical Exclusion [CE], Class 2: Environmental Impact Statement [EIS], or Class 3: Environmental Assessment [EA]) for each alternative from the Preliminary Menu of Alternatives, and will ensure all documentation provided to NDOT, including traffic documentation, alternative selection methodology, public participation efforts, can be used for, and is linked to, the future NEPA process.

The Service Provider will prepare a Planning & Environmental Linkage (PEL) technical memorandum, which includes the PEL Questionnaire and Checklist, in addition to summarizing the PEL process results, outreach conducted, alternatives and evaluation process, recommended alternatives, and Purpose and Need. As part of the PEL effort the Service Provider will review and incorporate relevant information from past studies, environmental documents and PEL documents for the project area. The Service Provider will conduct agency consultation per NDOT PEL Questionnaire guidelines.

Deliverable:

- *Menu of Alternatives with recommended NEPA Classification for Feasibility Study*
- *Planning and Environmental Linkages (PEL) technical memorandum*

MATERIALS AND TESTING
The Service Provider will provide geotechnical review of existing borings and available materials. This research from past projects in the area will be used to prepare a writeup for the Feasibility Study document discussing geotechnical construction and design issues. This information will be included in the study for the development of alternatives and highlighted if specific geotechnical considerations are identified. This work will not include physical borings, line sampling or standard soil testing, but will include documenting the existing boring logs and geotechnical reports from past projects.

Deliverable:

- *Summary of information reviewed*

DRAINAGE, HYDROLOGY/HYDRAULICS
The Service Provider will review existing drainage reports/information provided by the Department for the I-15 corridor project limits and will identify major drainage issues that may impact the conceptual alternatives. The Service Provider will attend the Design Workshop and provide input based on the review of drainage information provided by the Department.

Deliverable:

- *Summary of information reviewed*

RIGHT-OF-WAY
The Service Provider will coordinate with the NDOT Right of Way Division to verify the existing right-of-way and identify potential right-of-way impacts for planning purposes only based upon each alternative. Right-of-Way cost estimates are the accepted means used by the Department when analyzing different alternatives early on in project development. Right-of-Way cost estimates will be prepared by experienced Right-of-Way Agents familiar with Department Right-

of-Way policies. As a guide for all Right-of-Way cost estimates we will rely on the guidance provided by the Departments Right-of-Way Manual, edition dated 2016. Right-of-Way cost estimates are not appraisals and are intended for the specific purpose of assisting the Department in determining the most cost effect project alternatives and for budgeting purposes.

Right-of-Way costs estimates may include and may be limited by the following:

- Identify the type of rights needed for the alternative (Fee, easement or temporary easements).
- Estimate of real property acquisition costs, including potential damages to the property such as access changes, larger parcel issues, uneconomic remainders, slopes, drainage. Etc.
- Relocation of Displaced persons or businesses, these types of costs can be very difficult to estimate. For large properties with inventories, or specialty properties, additional time over and above this estimate may be needed.
- Condemnation costs or expenses cannot be accurately estimated due to the unknown factors associated with this area of Right-of-Way. Therefore, we will work with the Department to ascertain a percentage estimate or some other cost the Department believes represents this type of risk.
- We will not be identifying any potential hazardous waste sites.
- All sales data will be obtained from a third party and is assumed to be accurate. Marshal & swift cost estimating service will be used to value any improvements which are impacted by the alternatives.

Deliverable:

- *Right-of-Way Cost Estimates for each alternative*
- *Updated R/W Cost Estimates – When alternatives change or sufficient time has passed to adjustments to the cost estimates may become necessary*

UTILITIES

The Service Provider will conduct research and data acquisition necessary for the development of a base utilities map drawing to be utilized in the assessment of various design alternatives. Each alternative would be evaluated against the base map to determine if there are potential utility conflicts which much be addressed.

The base map will be compiled using utilities location information from existing as-built plans and other agency resources. Should the need arise for more accurate location information, a separate and additional task with additional fee may be considered.

The effort reflected in the attached fee estimate includes agency coordination and research, internal and external design team meeting participation, CADD design of the base map, and alternative design assessment on utilities impact.

Deliverable:

- *Utility conflict matrix*

SURVEY
The Service Provider will be responsible for all supplemental surveys required to complete the preferred alternative(s) to a NEPA documentation level. All survey work must be performed to the Department's standards and in conformance with NDOT's 'Special Instructions for Survey or Mapping Service Providers' and the Department's policies and procedures. Any new Survey Control set needs to be coordinated with the NDOT Location Division.

Deliverable:

- *Proposed alignments and Survey Control tied to the NDOT's HARN Network*

NDOT will provide the Service Provider with aerial topography maps and digital terrain models for the Study Area; however, the Service Provider will perform additional aerial mapping and topographic survey for this feasibility study at the Department's direction, if deemed necessary. This work is not included in this scope of services and will require amendment or authorization of contingency funds.

RISK ASSESSMENT
The Service Provider will perform a risk assessment based on the alternatives prepared. The process shall incorporate input from the necessary internal and external stakeholders through a one-day risk analysis workshop. The risk assessment shall take into account environmental, geotechnical, hydraulics, right-of-way and utility considerations and incorporate the risks associated with each of these considerations, along with any other Service Provider recommended criteria, into a singular Alternatives Risk Report.

Deliverables:

- *Risk Assessment (one-day workshop)*
- *Alternatives Risk Report*

ROADWAY DESIGN
The Service Provider will prepare conceptual roadway plans as required for alternative development and analysis in conformance with the FHWA, NDOT, American Association of State and Highway Transportation Officials (AASHTO), UPRR and local entity policies, procedures and standards as applicable. Plan development will be limited to a level that supports analysis and preliminary identification of all project needs for budgetary/planning purposes for each alternative.

Alternatives recommended from this feasibility study will generally require the following minimum development effort:

a. Conceptual horizontal and vertical alignments for the alternatives.
b.
c. 100-scale Concept Plans (15% level) that depict proposed roadways with edge of pavement, maintenance roads, bridges, major drainage facilities and major retaining walls.
d. Conceptual project cost estimates with corresponding basis of estimates for each alternative utilizing NDOT's WIZARD cost estimation tool.

As part of the Alternative development process the Service Provider shall conduct a two-day Alternatives Development Workshop. Workshop participants shall include Department staff, Service Provider project staff and national experts with knowledge of urban freeway reconstruction projects.

It is anticipated that the SERVICE PROVIDER will develop 3 alternatives to the above level of detail.

Deliverable:

- *Summary of considered alternatives*
- *Conceptual roadway plans (3 alternatives)*

STRUCTURAL DESIGN

The existing and proposed structures for this project, including bridges, retaining walls, and sound walls, will be identified and evaluated as to any modifications for each alternative as a planning level study. The Service Provider will review NDOT's bridge condition reports and will recommend courses of action for each bridge structure as part of the alternatives evaluation process. Condition of structures and other assessments are expected to be performed within this feasibility study. Enough work shall be performed to determine depth of structures and preliminary bridge type selection in order to facilitate profile development, constructability and phasing review.

Deliverables:

- *Bridge Type, Size and Location Investigation Memorandum Investigation (3 alternatives – 8 bridges total)*

TRAFFIC PHASING DESIGN

The service provider will prepare conceptual Traffic Phasing Memorandum for alternative development and evaluation. Conceptual plan development will be limited to defining the work zone and number of travel lanes to support the evaluation of 3 alternatives designs.

Deliverable:

- *Conceptual Traffic Phasing Memorandum for 3 freeway design alternatives*

FEASIBILITY STUDY

The Service Provider will put together a draft report, inclusive of all preliminary and final documents prepared, which explains the process of arriving at and justification for the recommended final menu of alternatives. The Service Provider will then prepare a final report that addresses any comments regarding the draft report.

Deliverable:

- *Draft Feasibility Study (PDF format)*
- *Final Feasibility Study (PDF format)*

PUBLIC AND STAKEHOLDER OUTREACH

One public outreach team member should attend monthly project progress meetings to stay up-to-date on project happenings and provide updates to the project team on meeting activities.

Public Meetings: One (1) public meeting will be noticed, convened, and facilitated for the project. The Service Provider will handle all logistics for the meeting, including venue, audio/visual needs, ADA compliance, stakeholder invitations, and media/public calendar notification. The Service Provider will schedule and attend three (3) public meeting planning meetings. The first planning meeting should be conducted one month prior to the public meeting and include key team members who will be attending the public meeting. The second planning

meeting will be conducted a minimum of two (2) weeks prior to the public meeting and will serve as a “dry run” meeting with NDOT to review the content of exhibits, handouts, and other public meeting information, and make any changes necessary to those items as required by NDOT. Two Service Provider team members will attend the pre-meeting in person and others will join via a conference call. The third planning meeting will be conducted one to two days prior to the public meeting and will provide NDOT with a day-of-event run through.

The Service Provider is responsible for all noticing (500 properties maximum), mailing list maintenance, advertising, court reporter, and exhibits and presentations. NDOT R/W and Environmental Services Divisions will provide existing mailing lists and agency contact information. The Service Provider will update and maintain them accordingly. The noticing area consists of 0.25 mile on either side of the project study area, as well as to select property owners along the corridor.

Within 30 days after the public meeting, the Service Provider is responsible for developing a public meeting summary memo and distributing it to the project team.

Stakeholder and Agency Meetings: Additional meetings with county commissioners, resource agencies, or property owners may be necessary as the project progresses. The Service Provider will prepare for, attend, and document 20 meetings throughout the project. NDOT will attend all meetings with resource agencies and stakeholders.

Develop Public Outreach Materials: The Service Provider, in conjunction with NDOT, will develop collateral materials for public meetings and for distribution as the project progresses. These materials include handouts describing the project, purpose and need, alternatives, and resources of concern; comment forms; and project flyer / newsletter. This will be a brief one-page summary of project information, meeting announcements, and status and will be updated 2 times during the project and distributed via email and on the agencies’ websites. The Service Provider, working closely with the NDOT Project Manager, will also prepare PowerPoint presentations for public meetings, stakeholder presentations, and NDOT updates. The Service Provider will provide NDOT with all updated PDF files of the material presented at the public information meeting and public hearing for placement on NDOT’s website.

Develop renderings of proposed project improvements: The Service Provider will develop photo simulations of the proposed improvements (up to a total of 10 photo simulations) using Google Earth and 2D CAD linework as a base to provide a representative visual depiction of the proposed project alternatives. The simulations will be prepared after the development of the recommended alternative or alternatives. The 2D base photos will be enhanced to more accurately represent vertical elements and 3-dimensional perspectives. The simulations will be prepared to highlight various project alternative elements for communicating with the public. Elements of focus will include potential visual impacts and alternative comparisons. The level of detail will be conceptual, with minimal texture and shadow/lighting work.

Summary Report
The Service Provider will prepare a summary report of all stakeholder and public outreach efforts at the conclusion of the project.

Deliverable:

- *Summary of Public Outreach Effort*
- *Up to 10 renderings of proposed project improvements*

Interstate 15 Feasibility Study - Sahara Avenue to Flamingo Road Interchange Potential Milestone Schedule

Task No.	Task Name	Milestone
1	Notice to Proceed	2/12/19
2	Kick off Meeting (all Stakeholders)	3/5/19
3	NDOT Aerial /Supplemental Survey	4/2/19
4	Traffic Study	6/4/19
5	Draft of Feasibility Study	2/4/20
6	Final Feasibility Study Submittal	3/31/20

Line Item 3

566-14-110AMD5

Request to Solicit Services and Budget Approval (2A)
Amendments for time extensions (time only) do not require a form 2a

Initial Budget Request x Request for Amendment #: 5 Agreement #: P566-14-110

If Amendment, name of Company: Jacobs Engineering Group, Inc

Project ID #(s): 73922

Type of Services: Environmental and preliminary design services for I-515 Downtown Spaghetti Bowl to LVB

Originated by: Ryan Wheeler Division: Project Mgmt Date Originated: 12/12/2018

DS NJ

Division Head/District Engineer: Nicholas Johnson

Budget Category #: 4666006 Object #: 814D Organization #: C110

Estimated Cost: $6,000,000 Type of Funding: Federal % of Fund: 95

Funding Notes: State Fiscal Year(s): FY19-21

Funding 95% and 5% State
FY2019 is $2,500,000, FY 2020 is $3,250,000 and FY 21 is $250,000

Financial Management:

DocuSigned by:
Donna Spelts
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Signature

12/17/2018
Date

Approval of this form by the Financial Management Division, Budget Section, provides funding authority for the services described. Actual availability of funds and the monitoring of actual expenditures must be determined by the Division Head.

Project Accounting:

DocuSigned by:
Hua Riley
22564E6A6F8[illegible]
Signature

12/19/2018
Date

Director:

x Requires Transportation Board Presentation

Does not require Transportation Board presentation

DocuSigned by:
[signature]
C4C7CE5CD58[illegible]
Signature

12/20/2018
Date

566-14-110AMD5

Attachments:

Budget by Organization Report (Report No. NBDM30) attached here:

If Amendment, attach original Agreement here:

Any additional information to attach: Yes

Purpose of, and Justification for, Budget Request:

See attached

Scope of Services:

See attached

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

MEMORANDUM

January 17, 2019

TO: Cole Mortensen, P.E., Assistant Director – Engineering / Chief Engineer

FROM: Ryan Wheeler, P.E., Senior Project Manager

SUBJECT: Negotiation Summary for amendment to P566-14-110 Engineering Services for I-515 Bridge Replacement and Downtown Access Project

The original agreement is a task order agreement in the amount of $3,902,000.00 to perform a safety and operational improvement study along the I-515 Viaduct in Las Vegas. An amendment is being processed to increase this amount by $6,000,000.00 to $9,902,000.00. It is anticipated that several task orders will be issued in pursuit of the I-515 bridge replacement and Downtown Access Project.

The scope of services in the Request for Proposal for the agreement allowed for the Department to amend the agreement for one project to move forward for NEPA and Final Design services. This amendment is to begin the preliminary design and NEPA for the I-515 Bridge Replacement and Downtown Access project. This amendment will remain a task order agreement, so the Department can direct Jacobs to perform additional tasks, on an as-needed basis.

The Department's original assumptions were that this project would require an Environmental Assessment (EA) for the project NEPA and estimated the costs of these services to be approximately $6,000,000. Recent information from project development has suggested this project could be considered for Categorical Exclusions (CE) reducing the NEPA efforts significantly. In an effort to be efficient with resources, the Department is amending the agreement for the estimated amount of $6,000,000 but is only issuing a task order agreement to perform preliminary design services so that the Department and FHWA can make a final determination on the appropriate level of NEPA. Should this project require an EA, then the Department will issue a second order for those NEPA services and amend the agreement later for Final Design and/or Procurement services. Should this project require a CE, then the Department will issue a second task order for preliminary and final design, and/or procurement services for alternative delivery. The following negotiations are for the first task order for the project.

A negotiation meeting was held at 123 East Washington Ave in Las Vegas on December 14, 2018, with Ken Gilbreth and John Taylor of Jacobs Engineering and Ryan Wheeler and Nick Johnson of the Nevada Department of Transportation (DEPARTMENT) in attendance. Negotiations continued through January 9, 2019 via two conference call with Ken Gilbreth, Ryan Wheeler, and Nick Johnson

The DBE goal for this agreement has been established at two percent (2%) based on the previous negotiated DBE goal.

The scope of services that are to be provided by the SERVICE PROVIDER was reaffirmed by both parties and agreed to by both parties.

The Department completed successful negotiations for the next task order to be issued via the agreement and toward the Downtown Access Project, see scope attached.

Key personnel dedicated to this project are as follows:

Ken Gilbreth, P.E.	Project Manager
Leo Houston, P.E.	Roadway Design
Mike Cooper P.E.	Structures Design
Jim Roldan P.E.	Traffic Engineer
John Taylor P.E.	Alternative Development
Ravee Raveendta, P.E.	Geotech Design
Debi Bohnet	Public Information
Chad Halverson P.E.	Drainage Design

The following schedule was agreed to by both parties:

- Feb – May 2019: Develop Preliminary Design of two alternatives
- May – June 2019: Further develop design of the preferred alternative
- May – June 2019: Determination of CE or EA

Key sub-consultants and a list of each's sub-consultants current NDOT project commitments are shown below:

Atkins	Engineering Services
Overland Pacific Cultler	Right-Of-Way Services

Sub-Consultant	Project	Prime/Sub
Atkins	I-15 North Phase 3	Prime
	RE Academy 2019	Prime
	Rural ITS SDP Update	Prime
	US 50 Widening CM	Prime
	I-515 SB Aux Lane Final Design	Sub
	I-515 Aux Lane TO#4	Sub
	Utility Coordination Task Order	Prime
	I-15 North Phase 4	Prime
	Ely Streetscape Services	Sub
	Commercial Vehicle Investigation	Prime
	US 395 Moana to Neil ITS	Prime
	Project NEON	Prime/Lead Design
	US 95/CC 215 Landscape Architecture	Prime
	Nevada TSMO Plan (Traffic On-Call)	Prime
	Carlin Sidewalks (Civil-On-Call)	Prime
	NDOT EAMS	Sub
Overland Pacific & Cutler	Project NEON	Prime
	Reno Spaghetti Bowl	Sub
	Right-Of-Way Support Services	Prime

The SERVICE PROVIDER's original estimate was $1,422,921.10 including direct labor (7,704 man-hours of work by the SERVICE PROVIDER), overhead rate of 1.14%, a 10% fee, and direct expenses at $170,333.00 (including sub-consultant expenses).

The overhead rate of 114% is the same as the original Agreement.

The negotiations yielded the following:

1. There will be 6,411 total man-hours allotted to the project throughout the course of this task order at a direct labor cost of $955,282.20.
2. Based upon the direct labor costs and an overhead rate of 114%, the overhead amount will be $968,656.15.

3. A fee of 10% was agreed to by both parties, and will be $95,528.22 for this task order based upon direct labor costs and an overhead rate of 114%.
4. The direct expenses agreed to total $92,416.00 for sub-consultants, reproduction, communication, travel and per diem. There will be no direct compensation for computer time.
5. The total negotiated cost for this task order, including direct labor, overhead, fee and direct expenses will be $1,143,226.42 a reduction of $276,694.68 from the service provider's original estimate.

The agreement is being increased from $3,902,000.00 in the amount of $6,000,000 to a new total of $9,902,000.00. NDOT will issue the first task order as described above in the amount of $1,143,226.42. Additional task orders will be issued on an as-needed basis per the agreement.

Reviewed and Approved:

DocuSigned by:
Cole Mortensen
Assistant Director

Purpose of, and Justification for, Budget Request
I-515 Downtown Spaghetti Bowl to Las Vegas Boulevard

The purpose of the project is to improve the I-515 for approximately 2 miles from the Downtown Spaghetti Bowl to Las Vegas Boulevard in Las Vegas, Nevada. The project intends to address the congested conditions and deteriorating infrastructure that affect this segment of the I515 freeway system.

The purpose of this project amendment is to complete the necessary NEPA and design studies to determine appropriate measures to reconstruct the G-947 structure over the UPRR and the east leg of the interchange to accommodate future travel demands. The scope of work includes performing the necessary studies, documentation, and outreach required to meet the National Environmental Policy Act (NEPA), and to develop up to a thirty percent (30%) level design for the preferred alternative. The project is to improve the operations, capacity, and safety of the interchange, and address all modes of travel demands.

Under this scope of services, the preliminary design for the Project work to a level of completion sufficient to set right of way. Several of the design elements such as Roadway, Drainage, Walls, L&A features, Sign Structures and Traffic signals, Utilities relocations, and ITS facilities will be advanced to approximately 60 percent. The remaining design elements (not effecting Right of Way Setting will be advanced to approximately 30 percent level.

GENERAL SCOPE OF SERVICES

The scope of work includes performing the necessary studies, documentation, and outreach required to meet the National Environmental Policy Act (NEPA), and to develop up to a thirty percent (30%) level design for the preferred alternative with some design elements designed to 60% to have a right-of-way setting. The project is to improve the operations, capacity, and safety of the interchange, and address all modes of travel demands.

The scope of work includes, but may not be limited to, the following:

- Project management
- Value Analysis
- Cost Risk Assessment
- Independent Cost Assessment
- Location/Survey
- Design/Alternative Analysis
    - Roadway
    - Structures
    - Materials/Geotechnical
    - Drainage and Storm Water Quality
    - Traffic and Safety
    - Intelligent Transportation System (ITS) & FAST
    - Landscape & Aesthetics
    - Right-of-way
    - Utility Coordination/Subsurface Engineering
    - Environmental Assessment/NEPA

The estimated cost for the Service Provider described herein is $6,000,000 and is funded 95% Federal and 5% State Funds and will be completed in approximately twenty (20) months.

This project will be accounted for in the Project Management Division's project budget request for FY 2019 through 2021 expenditures where FY2019 expenditures is $2,500,000, FY2020 expenditures is $3,250,000, and FY2021 expenditures is $250,000.

Line Item 4

589-18-015 REVISED

Request to Solicit Services and Budget Approval (2A)
Amendments for time extensions (time only) do not require a form 2a

x Initial Budget Request Request for Amendment #: Agreement #:

If Amendment, name of Company:

Project ID #(s): 74107

Type of Services: Service Provider- Roadway

Originated by: Jae Pullen Division: Project Mgmt Date Originated: 1/9/2019

DS NJ

Division Head/District Engineer: Nick Johnson

Budget Category #: 466006 Object #: 814D Organization #: 015

Estimated Cost: $3,700,000 Type of Funding: State % of Fund: 100

Funding Notes: State Fiscal Year(s): 2019, 2020

FY 2019 ($1,000,000) and FY 2020 ($2,700,000).

Financial Management:

DocuSigned by:
Donna Spelts
8A78D93AD71E4A4...
Signature 1/10/2019
Date

Approval of this form by the Financial Management Division, Budget Section, provides funding authority for the services described. Actual availability of funds and the monitoring of actual expenditures must be determined by the Division Head.

Project Accounting:

DocuSigned by:
Norfa Lanuza
3BAB63AE020C4DA...
Signature 1/10/2019
Date

Director:

Requires Transportation Board Presentation

x Does not require Transportation Board presentation

DocuSigned by:
Rudy Mayfield
C4C7CE5CD58C415...
Signature 1/14/2019
Date

589-18-015 REVISED

Attachments:

Budget by Organization Report (Report No. NBDM30) attached here:

If Amendment, attach original Agreement here:

Any additional information to attach: Yes

Purpose of, and Justification for, Budget Request:

The “US 395 North Valley” (PROJECT) is located in Washoe County, Nevada on US Highway 395 (US-395) from North McCarran Blvd to Lemmon Drive. The PROJECT consists of the addition of a southbound travel lane, an addition of northbound and southbound auxiliary lane, and construction of a diverging diamond interchange (DDI) at Lemmon Drive, new Parr Structure, new braided ramp at Panther Valley Interchange. These capacity enhancements will improve congestion and operations. The Project Management Division is requesting authorization to solicit Service Provider support services and obtain budget approval for a Request for Proposal (RFP).

Scope of Services:

The work included in the Scope of Services consists of engineering support for geotechnical investigation and structural design, sub-surface utility exploration (SUE), landscaping and aesthetics and public outreach for the “US 395 North Valleys” project.

589-18-015 REVISED

Financial Management Comments:

N/A

Project Accounting Comments:

Requires Scope budget change form to revise project amount and funding.

Additional State funds in the amount of $2,470,000.00 should be programmed to project number 74107 for this agreement.

Director Comments:

N/A

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 14, 2019

TO: Cole Mortensen, Assistant Director

FROM: Pedro Rodriguez, Project Manager DS

SUBJECT: Negotiation Summary for RFP 589-18-015 US 395 North Valleys Project

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Negotiation meetings were held at the Nevada Department of Transportation (DEPARTMENT) headquarters in Carson City and HDR offices in Reno between December 6, 2018 and January 2, 2019 with Reid Kaiser, Ruedy Edgington, Pam Pierce, and Craig Smart, of HDR and Pedro Rodriguez, Jae Pullen, Nat Mangoba, John L'Etoile, Dave Lauffer, Tyler Clay, Evelyn Grime, and Jeff Palmer, of the DEPARTMENT in attendance.

The DBE goal for this agreement has been established at two percent (2.0%).

This duration of this agreement will be 2.5 years, ending on June 21, 2021.

The scope of services that are to be provided by HDR Engineering, Inc. was reaffirmed by both parties at the outset. The agreed scope of services is attached.

The following schedule was agreed to by both parties:

Date	Task to be Completed
February 2019	Notice To Proceed
May 2019	60% Review
May 2020	90% Review
October 2020	Final Design

Key personnel dedicated to this project are as follows:

Name	Title
Reid Kaiser	Project Principal
Ruedy Edgington	Project Manager
Pam Pierce	QC Tech
Adam Perillo	L&A
Jesse Ruzicka	Geotechnical
Gary Anderson	Structural
Daniel Padilla	R/W Utilities
Tammy Champo	Public Outreach
Blane Long	Cost Risk / Value Engineering

Sub-consultant information regarding Project Descriptions on active Agreements:

Sub-Consultant	Project Description	Agreement Number
Taylor Made Solutions	RE Training Academy (sub to Atkins)	N/A
	I-80 to State Line (Sub to CA)	N/A
	SHSP (Kimley-Horn Prime)	N/A
	Nellis 3R (Sub to CA)	N/A
Kimley-Horn and Associates	Multistate Corridor Operations & Management	P551-13-800
	Safety Management Plans (SMPS)	P036-14-816
	Update Department's Central System Software	P298-14-015
	Traffic Safety Engineering Design Svcs (TSEDS)	P545-15-816
	Signals, Lighting, and ITS	P093-15-016
	Strategic Highway Safety Plan (SHSP)	P668-16-816
	Traffic Operations FY 17 -18	P454-16-016
	On-Call Architecture - Civil Services	P295-17-056
	On-Call Maintenance Betterment	P254-17-050
	NDOT Inter-County and Regional Transit Plan	P238-17-804
	Traffic Safety Engineering Design Svcs (TSEDS)	P206-18-816
	Operations-Maintenance ITS	P229-18-016
	Road Safety Assessment (RSA)	P116-18-816
	Multistate Corridor Operations & Management	P551-13-800
Cardno	None	N/A
New Fields	None	N/A

The DEPARTMENT's original estimate was $3,252,810.00 including direct labor (13,628 man-hours of work by the SERVICE PROVIDER), overhead rate of 150.00%, a 10% fee, and direct expenses (including sub-consultant expenses).

The SERVICE PROVIDER's original estimate was $5,786,500.00, including direct labor (16,573 man-hours of work by the SERVICE PROVIDER), overhead rate of 148.91%, a 12% fee, and direct expenses (including sub-consultant expenses).

The overhead rate of 148.91% was provided by the Internal Audit Division.

The negotiations yielded the following:

1. There will be 12,188 total man-hours allotted to TASK throughout the course of this agreement at a direct labor cost of $734,531.00.
2. Based upon the direct labor costs and an overhead rate of 148.91%, the overhead amount will be $1,093,791.00.

3. A fee of 10% was agreed to by both parties, and will be $182,832.00 for this agreement based upon direct labor costs and an overhead rate of 148.91%.
4. The direct expenses agreed to total $1,643,022.00 for sub-consultants, reproduction, communication, travel and per diem. There will be no direct compensation for computer time.
5. The total negotiated cost for this agreement is $3,654,176.00.

Reviewed and Approved:

DocuSigned by:
Cole Mortensen 01/15/2019
A559A0E81C0640A...
Assistant Director

Attachment A
Scope of Services

1.0 GENERAL

1.1 PROJECT LOCATION AND PURPOSE

The "US 395 North Valley" (PROJECT) is located in Washoe County, Nevada on US Highway 395 (US-395) from North McCarran Blvd to Lemmon Drive, milepost WA 27.064 to WA 32.580. The PROJECT consists of the addition of a southbound travel lane, an addition of northbound and southbound auxiliary lane, and construction of a diverging diamond interchange (DDI) at Lemmon Drive. These capacity enhancements will improve congestion and operations.

1.2 GENERAL DESCRIPTION OF SERVICES

The work included in the Scope of Services consists of providing final design, engineering, and plan preparation for structural and landscaping elements of the proposed PROJECT; and performing other tasks, documentation, and outreach necessary for the PROJECT execution. The work by the SERVICE PROVIDER includes coordination with concurrent efforts for the PROJECT design, provided by the DEPARTMENT staff.

The Scope of Services for this work shall include the following major tasks:

- PROJECT MANAGEMENT
- RIGHT-OF-WAY UTILITIES
- STRUCTURAL DESIGN
- LANDSCAPING AND AESTHETICS
- GEOTECHNICAL INVESTIGATION
- PUBLIC AND STAKEHOLDER INVOLVEMENT AND OUTREACH

1.3 DESIGN CRITERIA

The SERVICE PROVIDER shall follow all DEPARTMENT standards and federal, state, and locally adopted and accepted criteria for the PROJECT. Applicable standards for this PROJECT are contained in the most recent version at the time of services including:

- NDOT Standard Plans for Road and Bridge Construction
- NDOT Standard Specifications for Road and Bridge Construction
- NDOT Drainage Manual
- NDOT Storm Water Quality Manuals
- NDOT Planning and Design Guide
- AASHTO A Policy on Geometric Design of Highways and Streets
- AASHTO Roadside Design Guide
- NDOT Project Management Guidelines
- Applicable FHWA design references
- NDOT Structures Manual
- NDOT Right of Way Manual

- NDOT Landscape and Aesthetic Corridor Plans
- AASHTO LRFD Bridge Design Specifications

2.0 PROJECT MANAGEMENT

The SERVICE PROVIDE shall coordinate with DEPARTMENT Project Manager and manage SERVICE PROVIDER team to complete PROJECT within schedule. Services will include, but not limited to, meeting participation and coordination.

The SERVICE PROVIDER will provide a licensed professional engineer in the State of Nevada as a Project Manager to deliver the services described. The SERVICE PROVIDER's Project Manager will manage the Project Team. The SERVICE PROVIDER shall manage / coordinate PROJECT development activities with the DEPARTMENT, other agencies, property owners, local and federal agencies, and the major commercial interests. This will be done in coordination with the DEPARTMENT's Project Manager. The SERVICE PROVIDER will be responsible for coordinating, attending, and preparing exhibits and preparing meeting minutes for those meetings as required by the DEPARTMENT. Project Management tasks, activities, and deliverables may include:

- Coordination and Documentation
- Monthly progress reporting
- Attend Monthly and Misc. Meetings and provide meeting minutes for Misc. Meetings as funded
- QA/QC
- Risk assessment and value engineering workshop

3.0 RIGHT-OF-WAY UTILITIES

3.1 SUBSURFACE UTILITY EXPLORATION (SUE)

The SERVICE PROVIDER shall perform Subsurface Utility Exploration (SUE) designating services to indicate the approximate horizontal location of existing below-ground and above ground utilities using ASCE Standard 38-02 Quality Level D, C and B to support the engineering design requirements and construction plans. Quality Level D designation will include compilation of utility information plotted on drawings based on record information, individual recollections or the existence of utility service(s). Quality Level C designation will include field verified survey of visible, above ground utility features such as poles, hydrants, etc., all quality levels defined per ASCE Standard 38-02 guidelines. Quality Level B designation will include requiring the SERVICE PROVIDER to employ appropriate geophysical equipment to search for subsurface utilities within the project limits, both visible and non-visible per ASCE Standard 38-02 guidelines.

Quality level-C designation shall include vertical locations and elevations of all pipes within accessible structures including but not limited to: sanitary sewer and storm drain manholes as well as storm drain drop inlets within the project limits. Data shall include quantity of inlets and outlets with direction.

Prior to the Quality Level BCD review, the SERVICE PROVIDER will participate in a Preliminary Engineering meeting, where the SERVICE PROVIDER and DEPARTMENT teams discuss preliminary design elements. In addition, the SERVICE PROVIDER will participate in a Design Engineering meeting with

DEPARTMENT teams to determine test hole locations based on SERVICE PROVIDER's Quality Level BCD documentation.

The SERVICE PROVIDER will perform a full-length designation (edge of Right-of-Way to edge of Right-of-Way).

- Perform SUE locating services by excavating approximately 100 test holes at locations provided by the DEPARTMENT. (The final number of test holes may be higher or lower than the approximate number given.) Actual Test Hole locations will be determined in the field based upon location of designated utility in proximity to cattleguard locations. Test holes shall be accomplished using specialized vacuum excavation equipment.
- The techniques and methodologies used are dependent upon the surface material encountered (dirt, asphalt, concrete) and the composition of the surrounding soils.
- Should additional holes be required over the 100 listed above, they will be prorated and paid for on an as each basis.
- The DEPARTMENT prefers the use of an air-lance Method.

Provide data including the northing, easting, elevation and station/offset of the exact horizontal and vertical locations (+/- .10') of the utility facility along with the material construction of the facility, the outside diameter of the facility and when possible, the ownership of the facility. X, Y, & Z, data points will be included in electronic files as well as PDF attachments.

Provide survey information for location of existing poles and height of overhead utility lines within designation limits listed above. Provide type and ownership of surveyed overhead lines.

Provide all relevant data to DEPARTMENT in a legible and professional format that is MicroStation V8i (DGN) and InRoads compatible, and as a separate PDF attachment.

Review the proposed project plans, and utility red-lines and data with client (NDOT and/or Appointed Representative) and assist in the development of a proposed test-hole plan as needed by the DEPARTMENT. This plan shall be developed through analysis of ASCE Quality Level D, C, and B SUE information and compared with the proposed project improvements to help determine the precise location of each test hole.

Obtain all necessary permits, including, but not limited to, submission and approval of traffic control plans from NDOT District 2 Permit Office (775-834-8330) and local jurisdictions as required.

Coordinate with Railroad as required for pot holes and permits.

Notify USA North a minimum of 48 hours prior to beginning test-hole activities. Contact District Permits Office 2 for ITS infrastructure not located by USA North.

Coordinate with utility owners when standby personnel are required during test-hole activities.

Provide traffic control as required using personnel who are ATSSA Traffic Control Certified, including a certified ATSSA Traffic Control Supervisor.

Comply with all local policies and standards.

Use a coring process that allows for a clean and flush pavement restoration and provide all labor and equipment to core the pavement/concrete and ensure backfill and pavement repair are in completed in compliance with NDOT and/or local jurisdiction standards.

In the event of damage to an excavated utility, contractor shall cease work and immediately notify the utility owner and NDOT.

After data has been collected, the scope of services shall include preparation and presentation of detailed reports. Proposer shall also be readily available to meet with client (NDOT and/or Appointed Representative) to discuss and/or answer additional questions that arise as a result of SUE findings.

Nightwork will be required for any work requiring a lane closure.

The Right-of-Way utilities tasks, activities, and deliverables may include, but are not limited to, the following:

- Field review, data collection, and obtaining existing utility information
- Perform Quality Level A, B, C, and D SUE
- Conduct utility evaluation and prepare Utility Impact Memo and Matrix
- Coordinate with Railroad as required for pot holes and permits.

4.0 STRUCTURAL DESIGN

Bridge Structures Identified within the Project limits:

- Parr-Dandini (I-1306N&S) – bridge replacement
- UPRR Panther Valley (G-1092N&S) - widening and seismic retrofit
- Panther Valley (Virginia) Interchange (I-1093N&S) - widening and seismic retrofit
- Panther/Virginia Braid Ramp- new structure *(*I-3262*)*
- Panther Branch-UPRR- grade separation (G-1748N&S) - widening/seismic retrofit (To done by Service Provider)
- Golden Valley (I-1749N&S) - widening and seismic retrofit
- Lemmon Valley (I-1770N&S) - widening and seismic retrofit

4.1 INDEPENDENT DESIGN CHECK

The SERVICE PROVIDER shall prepare independent design checks for the following bridges designed by the DEPARTMENT Structures Design Division;

- Parr-Dandini (I1306 N&S) – bridge replacement
- UPRR Panther Valley (G-1092N&S) – widening and seismic retrofit
- Panther/Virginia Braid Ramp – new structure (I-3262)
- Panther Valley (Virginia) Interchange (I-1093N&S) – widening and seismic retrofit

The independent design checks will consist of preparation of independent calculations, stamped and signed by a Nevada licensed Professional Engineer, and plan review for all primary bridge elements based on DEPARTMENT furnished bridge design plans.

The independent design checks for DEPARTMENT designed structures will be performed after Intermediate Design is completed and details for the bridges are finalized. The SERVICE PROVIDER shall also perform a single QA/QC review of the plans, at the QA/QC submittal stages, for bridges listed below, each of which is to be provided by the DEPARTMENT. BlueBeam will be supplied by SERVICE PROVIDER supplying 3 licenses.

4.2 BRIDGE, RETAINING WALL, AND OTHER MISCELLANEOUS STRUCTURAL DESIGN

The SERVICE PROVIDER shall develop final contract plans, design calculations, calculations check, load rating calculations and reports stamped and signed by a Nevada licensed Professional Engineer for bridge, retaining walls, and soundwalls, in conformance with the DEPARTMENT project development process and project schedule. The following structures shall be designed by the SERVICE PROVIDER;

- Panther Branch-UPRR- grade separations (G-1748 N/S) – widening, seismic retrofit, and rehab
- All retaining walls, approximately 10,600 linear feet with heights varying from 4 ft to 12 ft.
- All sound walls, approximately 16,000 linear feet with heights varying from 11 ft to 18 ft.
- Design one simple, free standing L&A structure which can be used at 3 locations. This will require the SERVICE PROVIDER to provide one set of structural details for this application.

The DEPARTMENT will provide horizontal and vertical geometry for all retaining walls and sound walls. This will include horizontal wall layout lines at face of wall and vertical profiles showing existing ground, proposed ground and top of wall elevations.

Progress submittals are anticipated for DEPARTMENT and stakeholder review at the 30%, 60%, 90%, QA/QC and PS&E submittal stages.

The 30% submittals shall consist of a type selection report comparing up to three alternatives for the UPRR Panther Valley (G-1748N&S) widening, the retaining wall structures, and the soundwall structures. Two (2) structural types of retaining walls are anticipated. One (1) structural type of soundwall is anticipated with designs for two (2) typical soundwall sections, such that rebar detailing can be performed with typical details. The 60% submittal shall consist of sufficient sheets to provide general information of preliminary superstructure design and preliminary foundation locations and sizes for the bridge plans and preliminary wall layouts and preliminary foundation locations and sizes for the retaining walls and the sound walls.

The Service Provider shall prepare a Bridge Rehabilitation Report, and Seismic Retrofit Rehabilitation Reports for the G-1748N&S structures, which includes a seismic vulnerability assessment.

A Selection report will be required for all sound walls and retaining walls.

The SERVICE PROVIDER shall develop notes to specifications for the DEPARTMENT's use in developing the Project Special Provisions. The SERVICE PROVIDER will review the DEPARTMENT's Special Provisions

for consistency with the details included in the plans for structural items for which the SERVICE PROVIDER is responsible.

5.0 LANDSCAPE AND AESTHETICS

The SERVICE PROVIDER shall include, but is not limited to, the preparation of Landscape and Aesthetic plans, specification development support, and cost estimate, and help coordinate a stakeholder meeting. Plans will consider the US395 corridor, with focus on the five (5) Interchanges. Plans may consider horizontal and vertical graphics, plantings, sculptures, walls, soils (testing, ground plane treat, and permanent stabilization), and other components. SERVICE PROVIDER will also prepare a maintenance plan for all Landscape and Aesthetic elements. Dollar amount to be designed to is $2,400,000.

5.1 PUBLIC AND STAKEHOLDER MEETING

The SERVICE PROVIDER shall be responsible for and support DEPARTMENT in facilitating and providing materials for one (1) landscape and aesthetic stakeholder meeting. The DEPARTMENT will furnish a list of local representatives for the meeting. Using preliminary schematics plans, photos, and illustrations, the SERVICE PROVIDER will present and discuss the preferred plan alternative selected by the DEPARTMENT. The SERVICE PROVIDER will collaborate with the DEPARTMENT to modify the selected alternative based on input from the DEPARTMENT in preparation for the Public Meeting.

The SERVICE PROVIDER will participate at the Public Information Meeting and Stake holder meeting.

Service provider will develop illustrations for the Public Meeting, as budgeted.

The DEPARTMENT will present the conceptual Landscape and Aesthetics plan at the Public Information Meeting and the SERVICE PROVIDER shall attend.

The SERVICE PROVIDER shall be responsible for preparing Landscape and Aesthetic graphics for social media, public and stakeholder meeting, and preparing materials for the Project website. These materials will be the illustrations from the public meeting under this subtask. The Department will manage the website.

5.2 DESIGN

The SERVICE PROVIDER will work collaboratively with the DEPARTMENT's Landscape Architecture Staff to further develop Landscape and Aesthetic design plans. The conceptual design must comply with "the Pattern and Palette of Place" Landscape and Aesthetics (L & A) Master Plan and documents for the production of conceptual design plans for the construction project. Landscape and Aesthetics conceptual design tasks, activities, and deliverables may include, but are not limited to, the following:

- Field review and data collection (digital library of photographs organized in a document format, written description of included). Attend up to five (5) site visits to obtain additional field information as needed (invite NDOT, but they may not attend). Site reconnaissance to collect visual data directly, verify previously collected data, provide design team with in-depth

knowledge of site characteristics and provide on-site visual assessment of existing slopes will be performed.

- SERVICE PROVIDER shall collect 4 agronomy samples at each interchange. Location will be determined by DEPARTMENT. Twenty (20) samples (holes) total.
- Coordination and meetings with DEPARTMENT staff, public information and stakeholders.
- Develop one plan based on the concept provided by the DEPARTMENT.
- Prepare construction/installation cost estimate to conform to the available restrictions, budget, and long-term maintenance requirements for the conceptual designs.
- Prepare long-term maintenance cost estimate for the preferred alternative.
- Prepare necessary exhibits for project stakeholder meeting (1 meeting assumed).
- Prepare the DEPARTMENT's preferred plan for Stakeholder meeting to include minor options.
- Make minor revisions to the preferred plan per public comments and the DEPARTMENT's direction.
- L&A SERVICE PROVIDER shall advise SERVICE PROVIDER PM weekly of progress (via phone) on the design and shall invite DEPARTMENTS L&A Staff to update (via phone) through 75% of L/A plan development. After 75% updates shall be monthly.

SERVICE PROVIDER will also prepare a one-year cycle maintenance plan and estimate for all landscape and aesthetic elements. The maintenance plan will include, but is not limited to the following:

- Soils conditioning and testing
- Maintenance of plant materials, including revegetation, natives and salvaged plants
- Pruning, trimming, and fertilization
- Replacement of diseased, failing, and plant material not in a healthy thriving condition, including an extension of warranty
- Decorative land graphics and mulches
- Ornamental fencing
- Monumentation and structures
- Painting and finishing
- Irrigation and utilities (if needed)
- Inspection and reporting
- Other landscape and aesthetic treatments and features
- Person-power and equipment required for routine maintenance

The DEPARTMENT Landscape Architecture will provide the theme to be used. Conceptual renderings of preliminary aesthetic features with thematic layout to project will be provided as a beginning of the conceptual plans. The SERVICE PROVIDER will continue the development of designs for all aesthetic features including ground-plane, slopes, architectural elements and any other aesthetic features supporting the theme. The SERVICE PROVIDER will provide additional expressions of the theme through form and material selections within the design of aesthetic features.

The SERVICE PROVIDER shall attend a L/A kick off meeting and up to three (3) face to face collaboration meetings prior to 60% plan submittal. PROVIDER will provide additional expressions of the theme through form and material selections within the design of aesthetic features. The SERVICE PROVIDER will develop aesthetic treatments in the design of the Project. Aesthetic treatments will be based on *NDOT's Pattern and Palette of Place: Landscape and Aesthetic Master Plan for the Nevada State Highway System* and recommendation from the I-80 Landscape and Aesthetics Corridor Plan.

Progress submittals are anticipated for DEPARTMENT and stakeholder review at the 60%, 90%, QA/QC and PS&E submittal stages.
The SERVICE PROVIDER shall develop notes to specifications for the DEPARTMENT's use in developing the Project Special Provisions. The SERVICE PROVIDER will review the DEPARTMENT's Special Provisions for consistency with the details included in the plans.

6.0 GEOTECHNICAL INVESTIGATION AND DESIGN

6.1 INVESTIGATION

Field investigation consists of, but not limited to, drill hole borings, obtaining soil samples and conducting field testing. Laboratory testing will be based primary on project needs, actual soil conditions encountered during drilling activities, and samples recovered from borings. One Hundred Ninety (190) holes are expected.

The SERVICE PROVIDER shall meet with the DEPARTMENT's Geotechnical Section before the geotechnical investigation begins. This will allow the DEPARTMENT to provide information for the field investigation and any special criteria. Boring locations, field samples, laboratory testing, and design methodology will be discussed.

The SERVICE PROVIDER shall conduct a design geotechnical study to evaluate subsurface soil conditions at bridge structures, retaining walls, sound walls, and Roadway alignments associated with the Project. All work shall be performed in accordance with AASHTO and the DEPARTMENT's guidelines.

The SERVICE PROVIDER will execute the geotechnical exploration for bridge structures and retaining walls, as provided herein. Explorations will consist of advancing hollow-stem auger and/or rotary-wash borings with standard penetration testing (SPT) alternating with California Modified Sampler (CMS) testing. Disturbed and relatively undisturbed samples will be obtained during the exploration process. Groundwater levels will be measured during or shortly after the exploration. Laboratory testing shall consist of determining index properties, direct shear strength and consolidation.

The SERVICE PROVIDER shall coordinate and mobilize for subsurface exploration, including obtaining the locations of existing utilities through Underground Service Alert. The SERVICE PROVIDER shall prepare traffic control plans and obtain DEPARTMENT (District Permit Office, 775-834-8330) and any necessary permits. The SERVICE PROVIDER has budgeted 40-hours of coordination with UPRR and application fees for obtaining a Right-of-Entry permit for the exploration. Additional effort or requirements beyond the budgeted effort will be addressed with a contract amendment. The SERVICE PROVIDER has assumed 44 days of drilling with 2 crews and 22 days of shoulder closure and 22 days of lane closure.

The SERVICE PROVIDER shall perform a geological reconnaissance near the drillholes to evaluate and map potentially adverse conditions. The geological reconnaissance will extend approximately 100 feet in all directions from the drillholes.

The SERVICE PROVIDER shall conduct a subsurface investigation to define the general subsurface profile and to obtain soil samples for laboratory testing. Borings shall be drilled as close as possible to each anticipated foundation footprint. The depths of all borings shall follow the AASHTO minimum depth

guidelines for exploration. Borings will be drilled with an air/mud rotary drill rig and/or a hollowstem auger drill rig, both with an automatic hammer. Standard Penetration Tests or California Modified Sampler Penetration Tests will be performed at selected intervals in all borings. Each boring will be backfilled (and patched, if needed) in accordance with the encroachment permit and State laws. Depths to groundwater, if encountered, ground surface elevations and borehole locations will be recorded on the boring logs.

The following boring details are minimums and shall meet AASHTO minimums:

- Abutments and piers
    - One (1) drillhole (minimum)
    - For greater than (>) 100 feet wide, two (2) or more drillholes
    - Drillhole depths to conform to AASHTO requirements
- Retaining walls
    - Drillholes spaced every 200 feet
    - One (1) drillhole at each wall end
    - Drillhole depths to conform to AASHTO requirements
- Sound walls
    - Drillholes spaced every 200 feet
    - One (1) drillhole at each wall end
    - Drillholes depths to conform to AASHTO requirements
    -

The SERVICE PROVIDER shall perform laboratory testing to evaluate the physical and engineering properties of the subsurface soils, including soil classifications, strength properties, in-place moisture content and density, gradation, Atterberg limits, consolidation, swell potential, direct shear strength, solubility potential and chemical analysis (including pH, oxidation-reduction resistivity, sulfate, sulfide, total salts and chloride). Selection of tests will be based primarily on project needs, actual soil conditions encountered during drilling activities, and quality and quantity of samples recovered from the borings.

The SERVICE PROVIDER shall provide interim and final design parameters to the Geotechnical Section for review and comment to facilitate design of bridges and retaining walls to meet project deadlines.

6.2 REPORT

The SERVICE PROVIDER shall provide two (2) Geotechnical Reports consisting of an initial Data Report and then a Final Report. The Final Report shall include, but not limited to, description of site conditions, geology and seismic conditions, description of field work, discussion of findings, conclusions, construction recommendations, design results and recommendations for foundations, retaining walls, sound walls and miscellaneous structures that are associated with the drilling exploration. Boring logs with location map and laboratory testing results to be included in the Reports

Foundation and retaining wall design recommendations should include excavatability of the subsurface materials, global stability, temporary construction slopes, backfills, lateral earth pressures, concrete corrosion, and earthwork.

6.3 DESIGN

SERVICE PROVIDER shall provide foundation design parameters for all DEPARTMENT and SERVICE PROVIDER designed structures for the Project. This includes, but not limited to, bridges, sound wall, retaining walls and L/A Structures.

7.0 PUBLIC AND STAKEHOLDER INVOLVEMENT AND OUTREACH

7.1 PUBLIC OUTREACH

The SERVICE PROVIDER services include public and stakeholder outreach, public and stakeholder meetings, public relations and outreach strategies.

The SERVICE PROVIDER shall arrange for and conduct one (1) public meeting. The SERVICE PROVIDER shall be responsible for coordinating activities with the DEPARTMENT, the DEPARTMENT's Project Manager, Public Hearings Officer, and the Public Information Officer. Public involvement and outreach tasks, activities, and deliverables may include, but are not limited to, the following:

- Establishing the meeting dates and times and securing meeting locations
- Designing and preparing mailers (for a minimum distance of ¼ mile from the project area) flyers, and newspaper ads
- Providing neighborhood notification (mail and/or door hangers), e-blasts (email) and newspaper advertisements in the RGJ and one minority publication
- Developing verbiage for press releases, media advisories, and advertisements and coordinate with the DEPARTMENT's Public Hearings Officer and DEPARTMENT's Public Information Officer for release of this information to the public
- Preparing any necessary exhibits for the project for public display as budgeted
- Preparing handouts for the public information meeting
- Hiring of a court reporter from State of Nevada approved listing (contact the DEPARTMENT's Public Hearings Officer for approved firms)
- Providing a Spanish Translator to attend each public information meeting for translating services to the public, if needed.
- Documenting and responding to public comments as part of the record of the meeting
- Participating in the meeting to explain the project and answer questions
- Assisting in preparing PowerPoint presentations
- Assisting in the setting up and breaking down of each public information meeting
- Provide additional audio and visual equipment if needed
- Preparing a public meeting summary report

The SERVICE PROVIDER shall provide qualified professional staff members who are knowledgeable of the PROJECT, of the overall public engagement and information practices and procedures for Federal and State requirements, and the DEPARTMENT's specific procedures, in order to provide comprehensive public engagement program for the project. All media will be provided in both English and Spanish versions.

The SERVICE PROVIDER shall supply Power Point presentations as requested for Stake holder Meetings as well as Plotter Prints of the Project showing Project limits and elements in the Project. The Department shall supply Service Provider with PDF for plotting.

8.0 MISCELLANEOUS

The SERVICE PROVIDER shall supply the Department with three (3) copies of Blue Beam software for use on this Project.

Line Item 5

744-18-803

Request to Solicit Services and Budget Approval (2A)
Amendments for time extensions (time only) do not require a form 2a

x Initial Budget Request Request for Amendment #: Agreement #:

If Amendment, name of Company:

Project ID #(s): N/A

Type of Services: Research Project on Proof-of-Concept Research of Roadside LiDAR Sensing Multimodal Traffic

Originated by: Manju Kumar Division: Research Date Originated: 12/12/2018

Division Head/District Engineer: Ken Chambers, Chief of Research

Budget Category #: 06 Object #: 8580 Organization #: C803

Estimated Cost: $309,581 Type of Funding: Fed/State % of Fund: 80/20

Funding Notes: State Fiscal Year(s): 2019,2020,2021,2022

State FY 2019 - $64,331; State FY 2020 - $112,459; State FY 2021 - $90,459; State FY 2022 - $42,332

IT Review:

DocuSigned by:
1478B50112E5442...
Signature 12/15/2018
Date

Financial Management:

DocuSigned by:
Donna Spelts
8A78D93AD71E4A2...
Signature 12/18/2018
Date

Approval of this form by the Financial Management Division, Budget Section, provides funding authority for the services described. Actual availability of funds and the monitoring of actual expenditures must be determined by the Division Head.

Project Accounting:

DocuSigned by:
Hua Riley
22564E6A6F8B4E6...
Signature 12/19/2018
Date

Director:

Requires Transportation Board Presentation

x Does not require Transportation Board presentation

DocuSigned by:
C4C7CE5CD58C415...
Signature 12/20/2018
Date

744-18-803

Attachments:

Budget by Organization Report (Report No. NBDM30) attached here:

If Amendment, attach original Agreement here:

Any additional information to attach: No

Purpose of, and Justification for, Budget Request:

This project will be a proof-of-concept study to 1) validate the feasibility of using roadside LiDAR sensors to provide high-accuracy, multimodal traffic trajectories by testing with different sensors, deployment methods, and traffic scenarios; and 2) apply roadside LiDAR data to support CAVs, enhance traffic mobility/safety analysis, and integrate with existing traffic infrastructure for automatic pedestrian/wildlife warning.

The economic and societal harm from motor vehicle crashes amounted to $871 billion in a single year in U.S. according to a study released by NHTSA. Similar challenges face Nevada, especially pedestrian safety. In 2017, 305 people died because of fatal traffic accidents across the state. In 2016, 329 people died in traffic-related accidents in Nevada. The roadside LiDAR sensing system proposed here would collect trajectory data from all road users and would significantly improve traffic safety.

Scope of Services:

This pilot deployment will help NDOT prepare for future traffic data challenges and become one of the leading states in advancing traffic data collection and implementing CAV technologies supported by advanced roadside sensing systems.

Task 1: Project management and progress report
Task 2: Implement roadside LiDAR sensing systems
Task 3: Proof-of-concept of obtaining high-accuracy multimodal traffic trajectories with roadside LiDAR
Task 4: Proof-of-concept of applying LiDAR all-traffic trajectory data
Task 5: Develop roadside LiDAR deployment guidance and NDOT implementation plan
Task 6: Final report
Deliverables: 1. Demonstration of portable platforms and infrastructure-based LiDAR systems
2. Evaluation of accuracy of roadside LiDAR trajectories
3. Roadside LiDAR deployment guidance and implementation plan

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

December 20, 2018

TO: Sondra Rosenberg, Assistant Director

FROM: Manju Kumar, Project Manager

SUBJECT: Negotiation Summary for P744-18-803 Proof-of-Concept Research of Roadside LiDAR Sensing Multimodal Traffic

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A negotiation occurred through emails between Dr. Hao Xu of University of Nevada, Reno and Manju Kumar of Nevada DOT Research Section with additional information provided by Mr. Tom Landis of the Office of Sponsored Programs at University of Nevada, Reno.

There is not a DBE goal for this agreement.

This duration of this agreement will be two (2) years, ending on April 30, 2022.

The scope of services that are to be provided by the UNIVERSITY was reaffirmed by both parties at the outset.

See Attachment A, attached hereto and incorporated herein.

The following schedule was agreed to by both parties:

Date (approximate)	Task to be Completed
Jan 2022	Project Management
Jun 2019	LiDAR Sensing Platforms
Jul 2019-Jun 2020	Trajectories
Jun 2020-May 2021	Applications
Apr 2021-Sep 2021	Guidance and Plan
Oct 2021-Dec 2021	Project Report

Key personnel dedicated to this project are as follows:

Name	Title
Dr. Hao Xu	Assistant Professor, Dept of Civil and Environmental Engineering
Dr. Zong Tian	Professor and Director, Center of Transportation Education and Research
Dr. Carlos Cardillo	Director, Nevada Center for Applied Research

There are two sub-consultants being utilized on this Project. Neither have current agreements with the DEPARTMENT:

Name	Title
Dr. Fraser Shilling	Co-Director, Road Ecology Center, UC Davis
Dr. Hongchao Liu	Professor, Texas Tech University

The DEPARTMENT's original estimate was $300,000.00 for a maximum three- (3-) year project period.

The UNIVERSITY's original estimate was $313,397.00.

The negotiations yielded the following:

1. The duration of the Project will be twenty-four (24) months with a direct cost of $276,747.00, including personnel, travel, allowable operating costs, and final report preparation and submission.
2. The indirect cost is set at ten percent (10%).
3. The total negotiated cost for this agreement is $309,581.00.

Reviewed and Approved:

DocuSigned by:
Sondra Rosenberg
895F72355AF94F2...

Assistant Director

Proof-of-Concept Research of Roadside LiDAR Sensing Multimodal Traffic

In Response to
2018 NDOT Problem Statement 18Q2-E4-01

Hao Xu (PI), Ph.D., P.E., Assistant Professor
(775) 784-6909
haox@unr.edu
Zong Tian, Ph.D., P.E., Professor, Director
(775) 784-1232
zongt@unr.edu
Center for Advanced Transportation Education and Research (CATER)
Department of Civil and Environmental Engineering
Carlos Cardillo, Ph.D., Director
(775) 784-4837
ccardillo@unr.edu
Nevada Center of Applied Research
University of Nevada, Reno

Fraser Shilling, PhD., Co-Director
Road Ecology Center
Department of Environmental Science and Policy
University of California, Davis
530-752-7859
fmshilling@ucdavis.edu

Hongchao Liu, Ph.D. P.E., Professor
Department of Civil, Environmental, and Construction Engineering
Texas Tech University
(806) 834 7853
Hongchao.liu@ttu.edu

1. Problem Description

Existing traffic data, such as flow rates, occupancy, average speed, and spot speed, have been widely used to improve traffic mobility and safety. Yet new traffic systems and applications require traffic flow information with more detail and higher accuracy—specifically, *multimodal, all-traffic trajectories*. All-traffic trajectory data from either traveler-equipped or roadside sensors is critical to various traffic research/engineering areas, including but not limited to:

- **Connected and autonomous vehicles (CAVs):** At present, independent onboard sensing systems do not provide enough information for safety operation in multimodal traffic. An autonomous vehicle with advanced sensors could still be hit by another car on a cross street that fails to stop. To advance safety, vehicles need to obtain the trajectories of all traffic in extended distances so they can "detect" traffic changes and risks around corners.
- **Near-crash analysis:** Near-crash events provide essential data for proactive safety analysis and countermeasure recommendation, but this data is difficult to obtain. If all-traffic trajectory data could be collected, we could study vehicle interactions at multiple scales, and define and extract near-crash events to identify traffic safety issues and recommend countermeasures.
- **Traffic performance evaluation/adaptive traffic signal control:** All-traffic trajectories provide comprehensive information to evaluate traffic performance. Trajectory data reports *each road user's* stop location, stop time, speed change, and interaction with other road users in addition to conventional vehicle-traffic performance indices such as number of stops, delay, travel time, and queue length. Optimizing signals along a road is challenging using conventional traffic sensors because system details cannot be accurately observed. Real-time, all-traffic trajectory data can make the traffic system completely observable, thus revolutionizing adaptive traffic control and outperforming conventional systems.
- **Automatic pedestrian/wildlife-crossing warning signals:** An important application of real-time, all-traffic trajectories is monitoring and predicting vehicle-pedestrian conflicts on urban roads or vehicle-wildlife collision risks on rural highways. Most conventional automatic pedestrian/wildlife warning systems rely on predefined detection areas. These systems trigger warning signals whenever an object is detected in the sensing area, but this has both caused false alarms and failed to identify risks outside the defined areas. Trajectory data tracks the continuous movement of each road user, so crossing detection and prediction can be based on historical trajectory and real-time direction/speed/location for superior accuracy and reliability.

To obtain all-traffic trajectories, several conventional and new traffic-sensing technologies have been considered. Trajectories can be collected by probe vehicles or connected vehicles, but due to low penetration rates, this provides only sample vehicle trajectories. Thus, roadside sensing systems are a feasible solution. Existing Intelligent Transportation System (ITS) sensors such as loop detectors, video detectors, and Bluetooth sensors provide macro traffic data such as traffic flow rates, average speeds, and occupancy. Yet conventional video sensors measure only average speeds of vehicles that cross their detection zones. New video processing methods combine two

or more cameras to measure distance, but the accuracy of this method can be significantly influenced by challenging light conditions when cameras are deployed at intersections or along roadsides. Conventional radar sensors are used for traffic counting and speed measurement at predefined spots but cannot track vehicle trajectories. Recent research demonstrated the possibility of tracking vehicles with radar, but this has not yet been implemented. Note also that current radar sensors have difficulty detecting and tracking pedestrian movement.

Given that existing traffic sensors do not provide trajectory data, 360-degree light detection and ranging (LiDAR) sensors are an attractive option because they detect surrounding objects with high accuracy and frequency and are not influenced by light conditions. The project team has developed algorithms specifically for roadside LiDAR sensing systems and is the worldwide leading research group in this area. *What is still needed is proof-of-concept research to evaluate the accuracy, reliability and efficiency of the developed algorithms and roadside LiDAR sensing systems for various traffic scenarios and applications.*

2. Background Summary

There are various LiDAR sensors for mapping, survey, and autonomous vehicles. With consideration the cost and performance, we will use 360-degree LiDAR (different types) and test flash LiDAR in this proposed project. 360-degree LiDAR detects surrounding objects and generates a cloud of object points at centimeter-level accuracy. The cost-efficient LiDAR sensors are now being manufactured and are available on the market. Research and field testing of roadside LiDAR at UNR has demonstrated that this is the best available solution for collecting all-traffic data (Figure 1).

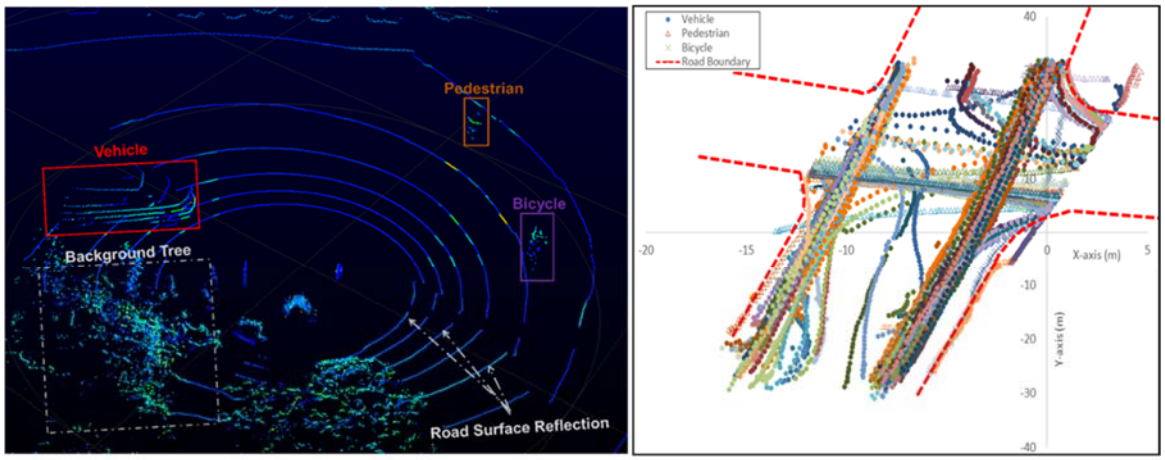


Figure 1. (a) Unprocessed LiDAR frame from a roadside Velodyne VLP-16 sensor, showing how resulting point-cloud data fix and can track objects precisely in three dimensions; (b) high-accuracy, multimodal traffic trajectories obtained using sequences of point cloud data from a roadside LiDAR sensor by the project team.

LiDAR data processing and high-resolution trajectory extraction are the base functions of roadside LiDAR sensing systems. Data background filtering, object clustering, object

classification, and real-time object movement tracking are required to process LiDAR data, regardless of where the sensors are installed. Due to sensor installation and data characteristics, methods for processing roadside LiDAR data differ from methods for autonomous vehicles. A roadside sensing system deploys networks of LiDAR sensors spaced a few hundred feet apart, so sensor integration is necessary. For the same sensor type, the density of cloud points from roadside LiDAR is often lower than what is required by onboard LiDAR processing algorithms because of the extended detection distance. The Literature review found few existing papers or reports related to roadside 360-degree LiDAR deployment and data processing (Davis 2016) besides recent innovative works of the project team (USA Today 2017 June). The project team has developed a procedure for roadside LiDAR data processing (Sun et al. 2018), including the major steps of integrating data from multiple sensors, background filtering (Wu et al. 2018), object clustering, identifying road user types (Zhao et al. 2018), tracking road users in different data frames, and outputting traffic trajectory data.

Integrating LiDAR data from multiple sensors: Occlusion is a major issue when using single LiDAR sensors because a vehicle can block the LiDAR's laser from reaching other road users behind it. Using a roadside system with multiple LiDAR sensors solves this problem and delivers reliable and accurate trajectories. However, common reference features often do not exist in datasets from two roadside LiDAR sensors because these sensors are hundreds of feet away from each other and scan the same object on different surfaces. This is the major barrier of using existing algorithms to integrate roadside LiDAR sensors. The project team has developed a new method, submitted for review to the 2019 Transportation Research Board Meeting, to integrate datasets from multiple roadside LiDAR sensors by innovatively matching road surfaces and 2D reference features.

Background filtering: Obtaining traffic trajectories in an extensive range requires background filtering. This is a major difference between on-board and roadside data processing. Background can include buildings and ground surfaces as well as moving objects such as waving trees and bushes. Since the background changes as vehicles move, onboard sensing systems usually extract an object's information from raw data without identifying and removing background points. When LiDAR sensors are deployed on roadsides, all background objects can be recognized and excluded from LiDAR data frames by aggregating LiDAR data frames from a period and identifying background by point density (Wu et al. 2018).

Object clustering and classification: There are many possible moving "objects" relevant for tracking in traffic management and safety analysis. In the current proposal, we are referring to motorized and non-motorized vehicles, pedestrians, litter/unknown objects, and wild or domestic animals. Once the background points are filtered out, the remaining LiDAR points in each data frame need to be clustered to identify traffic participants. The performance of existing feature-based methods/algorithms depends heavily on the density of laser points that provide detailed descriptions or specific characteristics of the objects. On-board detection systems usually use both LiDAR and video sensors with higher resolution (thus higher cost) for accuracy. Yet infrastructure-based LiDAR sensors need to work independently with limited support of other sensors. The project team has changed the conventional DBSCAN method to adaptively modify

algorithm parameters (the point density threshold and search radius) at different distances from a LiDAR sensor, taking into consideration the LiDAR point densities and distributions in different areas (Sun et al. 2018; Wu & Xu 2018).

Object tracking: Once traffic objects have been detected and classified, object tracking is needed to obtain each road user's trajectory and speed by identifying the same object in different data frames. The project team implemented a tracking method for roadside LiDAR sensing systems (Sun et al. 2018) that uses three factors as inputs: distances of an object in a previous frame to all objects in the current frame, speed estimated from historical trajectories, and the time difference between the two considered frames. The team has further improved the tracking method by using lane information to limit the search area.

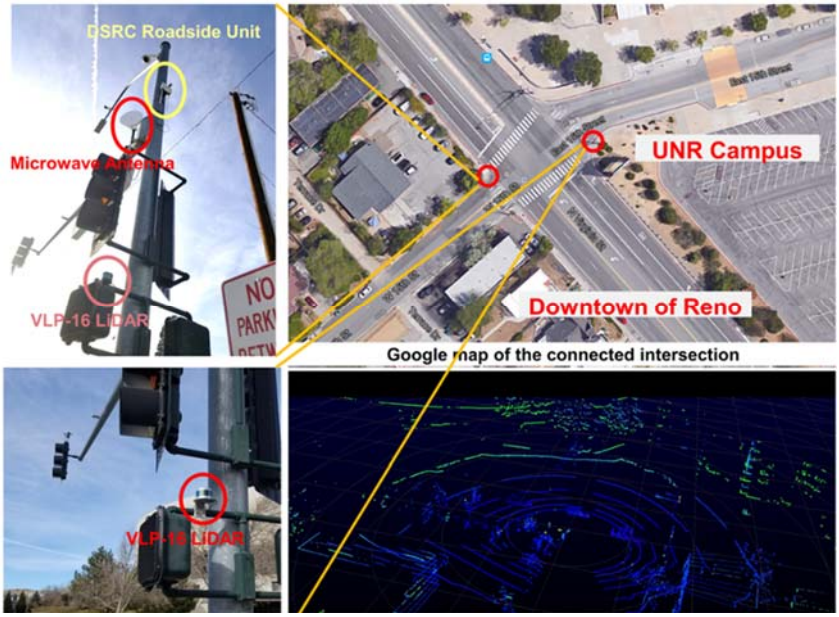


Figure 2. First pilot implementation of LiDAR-enhanced connected intersection in Reno, Nevada.

The project team has completed fundamental research on extracting highly accurate trajectories of pedestrians and vehicles with cost-efficient, 360-degree LiDAR sensors deployed at roadside. The research team conducted case studies for the developed data processing algorithms at several sites in Reno. With the developed procedure for roadside LiDAR data processing and the implemented communication system, the first pilot system was permanently deployed at the intersection of 15th ST and N. Virginia ST in Reno, as shown in Figure 2. The intersection can now broadcast LiDAR traffic trajectories to CAVs through dedicated short-range communication (DSRC) devices (Zheng et al. 2018). Now that the project team has validated the roadside LiDAR data processing procedure with a single LiDAR sensor at a few sites, extensive proof-of-concept study is needed to test the performance of roadside LiDAR networks in various real-world scenarios.

3. Proposed Research

This project will be a proof-of-concept study to 1) validate the feasibility of using roadside LiDAR sensors to provide high-accuracy, multimodal traffic trajectories by testing with different sensors, deployment methods, and traffic scenarios; and 2) apply roadside LiDAR data to support CAVs, enhance traffic mobility/safety analysis, and integrate with existing traffic infrastructure for automatic pedestrian/wildlife warning. The research team will use both portable roadside LiDAR sensing platforms and permanent infrastructure LiDAR sensing

systems that integrate LiDAR and connected vehicle communication (such as DSRC). The detailed project tasks are designed as follows:

Task 1: Project management and progress report
The research team will work closely with the NDOT project champions and related NDOT divisions to ensure that the scope of work and deliverables meet NDOT's needs. Progress will be updated and any issues will be discussed in quarterly project meetings.
Deliverables:

1) Quarterly project meeting agenda and meeting minutes
2) Quarterly reports to the NDOT Research Program

Task 2: Implement roadside LiDAR sensing systems
The sensing systems in this project include portable roadside LiDAR platforms and permanent, infrastructure-based systems. A portable platform will consist of a 6-8-foot pole with a LiDAR sensor, DSRC roadside unit, high-speed microwave communication antenna, and solar power panel/battery supply. An electrical enclosure will be located at the bottom of each platform for batteries, the data processing computer, and other devices. Raw LiDAR data will be processed on the field computer; then, the extracted traffic trajectories will be saved locally, broadcast to CAVs with DSRC onboard devices, or wirelessly transferred to other platforms for real-time data integration or to trigger traffic signals. The critical component of each portable platform is a sensor that provides 360-degree LiDAR detection over a 100-meter-radius horizontal field (at minimum). The chain of multiple portable platforms will form a seamless detection area along a road segment or around an intersection. The data processing program will be implemented into Windows 7 and 10 software, and the project team's existing roadside LiDAR processing algorithms will be further advanced for accuracy, reliability, and efficiency. The infrastructure-based system includes the same components as the portable platform, but the sensors and devices will be permanently installed at selected intersections and crossings similar to the system at the first pilot intersection in Reno. This project will use infrastructure LiDAR sensing systems to be deployed in Reno and Henderson and sponsored by RTC Washoe and RTC Southern Nevada. We will test LiDAR network performance in terms of "CARS": Completeness (systems correctly censuses all objects), Accuracy (systems correctly detect and classify objects, few false positives), Reliability (systems powered and communicate effectively 99%-100% of time). And Sensitivity (systems identify all relevant, moving objects in detection zone, few false negatives)
Deliverables:

1) Demonstration of portable platforms and infrastructure-based systems

Task 3: Proof-of-concept of obtaining high-accuracy multimodal traffic trajectories with roadside LiDAR
The project team will collect LiDAR data at different traffic sites with the portable or infrastructure-based LiDAR sensing systems. Various LiDAR sensors will be tested, including at least 16-channel (16 rotating laser beams), 32-channel, and 64-channel 360-degree LiDAR sensors and time-of-flight (i.e., flash) LiDAR sensors. The proof-of-concept study will obtain and validate traffic trajectories from vehicles of different classes, pedestrians, bicycles, and wildlife/livestock (approaching, using and crossing highways). The project team will use a UNR autonomous vehicle equipped with a high-accuracy location system, UNR connected vehicles equipped with DSRC onboard units and location systems, and GPS-equipped

pedestrians/bicycles to generate high-accuracy GPS trajectories to validate trajectory estimates from the roadside LiDAR sensors. This study will collect data for at least 24 hours and will extract all-traffic trajectories at each site. Trajectory data will include second-by-second location (longitude and latitude), speed, direction, object type, date, and time stamp information (Zheng et al. 2018). Animal type and movement will be validated using camera traps.

Task 3.1 Proof-of-concept study in urban areas of northern and southern Nevada

The UNR team is working with RTC Washoe, the City of Reno, RTC Southern Nevada, and the City of Henderson on pilot roadside LiDAR deployment at several intersections in Reno and Henderson, so data will be collected and validated at these intersections:

- Two signalized intersections: 15th ST and N. Virginia ST in Reno (existing); Boulder Highway and Texas Avenue in Henderson (to be installed)
- Two pedestrian crossings with RRFB signals: 10th ST and N. Virginia ST in Reno; Green Valley Parkway and Amargosa Trail in Henderson (both to be installed)
- One unsignalized & unmarked intersection with high pedestrian crossing volume: Boulder Highway & Coogan DR in Henderson (to be installed)

Local traffic agencies will fund the installation of these infrastructure-based LiDAR sensing systems, thus the project team can conduct extensive proof-of-concept studies at other sites/scenarios with the portable LiDAR sensing platforms in the project budget by:

- a UNR campus intersection with a high volume and mix of pedestrians, bicycles, and skateboards
- an all-way stop-sign controlled intersection (TBD)
- a two-way stop-sign controlled intersection (TBD)
- a high-speed intersection (with a 45-MPH speed limit on approach, TBD)
- a metered freeway on-ramp (TBD)
- an unmetered freeway on-ramp (TBD)
- a one-lane low-speed (lower than 45 MPH) roundabout (TBD)
- a work zone in an urban area
- an urban road segment known for jaywalking issues

The research team will work with NDOT project champions and local agencies to select the TBD sites for data collection.

Task 3.2 Proof-of-concept study in rural areas

The research team will also conduct proof-of-concept studies in rural areas. The UNR team is working with the NDOT Environmental Division to collect data of wildlife crossing I80 and USA Parkway through different crossing structures with automatic cameras. The research team presented their research on detecting deer trajectories with roadside LiDAR at the 2018 TRB Annual Meeting (Wu et al. 2018), including an invitation to present at the TRB Animal-Vehicle Conflict SubCommittee (ANB20(2)). Animal trajectory and species identity will be confirmed using conventional camera traps and will be leveraged by a FHWA-funded project (F Shilling PI) to develop automated species identity and rapid data transmission to support safety and conservation planning. Data will be collected from:

- a wildlife overpass structure on I80
- a wild horse underpass structure on USA Parkway
- the end of wildlife fencing on I80 for possible wildlife crossing the highway surface
- a rural work zone
- a rural high-speed roundabout (45 MPH or higher)

The rural-area proof-of-concept study will evaluate the ability of roadside LiDAR sensing systems to detect, identify, and track different animals and vehicle types on rural highways.

Deliverables:

1) Raw LiDAR data collected by multiple LiDAR sensors at each proposed study site
2) Multimode trajectories extracted from roadside LiDAR data collected at each site
3) GPS trajectory data collected with UNR CAVs and portable high-accuracy GPS devices
4) Evaluation of accuracy of roadside LiDAR trajectories

Task 4: Proof-of-concept of applying LiDAR all-traffic trajectory data

Using the extensive trajectory data collected in Task 3, the research team will extend the existing research for a comprehensive proof-of-concept study to test the application of LiDAR all-traffic trajectory data in different scenarios, including:

- Identification and analysis of near-crash events, including at least pedestrian-vehicle analysis at an intersection and vehicle-vehicle analysis at a freeway on-ramp
- Traffic performance evaluation at a signalized intersection and a roundabout
- Automatic pedestrian RRFB signal triggered by roadside LiDAR sensors when pedestrian crossing is detected/predicted (lab bench test first, then proof-of-concept on UNR campus)
- Automatic wildlife warning signal triggered by roadside LiDAR sensors when wildlife/livestock animals crossing highways are detected (lab bench test first, then proof-of-concept at a site to be suggested by NDOT champions – I80 or USA Parkway)
- Connected-vehicle applications to warn drivers of pedestrian/animal crossing by broadcasting roadside LiDAR trajectories to vehicles equipped with DSRC onboard units

UNR has been licensed by FAA for DSRC installation and test.

Deliverables:

1) Case study reports of the five roadside LiDAR applications listed for this task.

Task 5: Develop roadside LiDAR deployment guidance and NDOT implementation plan

Based on the proof-of-concept studies, the project team will summarize the deployment experience and findings to develop roadside LiDAR deployment and installation guidance for NDOT. The guidance will include suggested LiDAR sensor features, the height and angle of the sensors, the distance between the sensors in a network, the expected performance of a system given specific LiDAR features and deployment methods, and recommendations for NDOT implementation. The guidance will include estimation of costs and timelines.

Deliverables:

1) Roadside LiDAR deployment guidance and implementation plan

Task 6: Final report

A final report will be prepared to document all the major findings and efforts related to the above tasks. The project team will provide a final project presentation to introduce findings and experience from this project.

Deliverables:

1. Final project report
2. Final project presentation

4. URGENCY AND ANTICIPATED BENEFITS

The economic and societal harm from motor vehicle crashes amounted to *$871 billion in a single year in U.S.* according to a study released by NHTSA. Similar challenges face Nevada, especially pedestrian safety. In 2017, 305 people died because of fatal traffic accidents across the state. In 2016, 329 people died in traffic-related accidents in Nevada. Pedestrian deaths in Nevada due to traffic accidents have continued to increase over the years. Pedestrian deaths jumped from 80 in 2016 to 100 in 2017. The roadside LiDAR sensing system proposed here would collect trajectory data from all road users and would significantly improve traffic safety and could also reduce congestion from the applications. Given the aforementioned impacts of dangerous, congested traffic on human health and the economy, it is imperative that this research happens in the coming fiscal year, rather than in years to come.

This pilot deployment will help NDOT prepare for future traffic data challenges and become one of the leading states in advancing traffic data collection and implementing CAV technologies supported by advanced roadside sensing systems (USA Today 2017 June). In the near-term, roadside LiDAR sensors can work as an independent system that provides multimodal traffic trajectories for traffic analysis and automatic signal systems; in the long term, this will lay the foundation for a seamless connection with the full deployment of connected-vehicle systems in the future. The results of Task 5 will provide an estimate of required costs and maintenance for different traffic scenarios. As a preliminary estimate, the cost of LiDAR at an intersection could be $10,000 – $30,000 including the required LiDAR sensors, edge computers, additional cabinets, network devices, etc.

5. IMPLEMENTATION PLAN

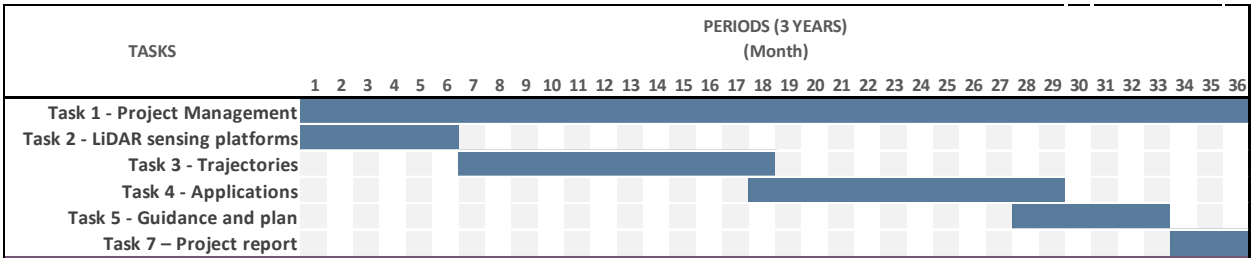
This proof-of-concept proposal is based on existing roadside LiDAR algorithms and applications previously innovated by the project team. Thus, this project is at the First Application (Contract) Field Pilot Stage and will provide proof-of-concept results for NDOT to understand the accuracy, reliability, and possible applications of roadside LiDAR sensing systems in various real-world scenarios. If the performance of the proposed technology is approved and accepted, NDOT can start to consider its application in wider and more diverse regions of Nevada. The systems, experience, and guidance developed in this project will directly guide the implementation of roadside LiDAR sensing systems. The next stage will be actual field implementation at prioritized intersections/corridors. The total implementation cost will depend on the number of intersections/road miles for roadside LiDAR installation. *A detailed implementation plan will be included in the roadside LiDAR deployment guidance to be developed in Task 5.* The following tasks are needed for full implementation:

1) Initiate collaboration between federal, state, and local stakeholders to define short- and long-term objectives for roadside LiDAR sensing systems.
2) Prioritize intersections and corridors for installing roadside LiDAR sensing systems.
3) Install infrastructure-based LiDAR sensing systems at selected sites. Portable LiDAR sensing platforms will be used to identify deployment intersections and locations.
4) Implement and operate roadside LiDAR sensing systems following the system engineering procedure.

6. PROJECT SCHEDULE

The proposed project is planned for 36 months. The timelines are listed in Table 1.

Table 1. Estimated Project Schedule



7. FACILITIES AND EXPERTISE

Dr. Hao Xu, Assistant Professor in the Department of Civil and Environmental Engineering at UNR, will serve as the primary investigator. His research areas include processing and analysis of roadside LiDAR data, driving behavior analysis with naturalistic driving study data, intelligent transportation systems including connected vehicles, and data-driven traffic safety analysis. Dr. Xu has led unique and innovative research on the technology of roadside LiDAR deployment in the past few years, and is a leading researcher in this area.

Dr. Zong Tian is a Professor and Director of the Center of Transportation Education and Research (CATER). He led numerous research projects and published refereed journal and conference papers in the areas of traffic signal control and highway capacity analysis. He serves on both the TRB's Traffic Signal Systems Committee and the Highway Capacity and Quality of Service Committee. Dr. Tian will lead the traffic performance and control with multimode traffic trajectories of this project.

Dr. Carlos Cardillo is the Director of the Nevada Center for Applied Research (NCAR) at UNR. Dr. Cardillo has developed, implemented, and successfully executed large research programs sponsored by the U.S. DOT and the U.S. Department of Defense, including projects with Special Operation Command, the Warfighter Enhancement Program, and the Office and Human Performance Training and Education program sponsored by the Office of Naval Research. Dr. Cardillo will lead the collaboration with cities and local agencies to contribute proof-of-concept data collection with the pilot deployment in Reno and Henderson.

Dr. Fraser Shilling has co-directed the Road Ecology Center (REC) for a decade. He has partnered with DOT staff in CA, ME, VT, VA, SD, ID, CO, AZ, NV, and GA to develop better ways to manage interactions between transportation and ecology, especially as it relates to wildlife-vehicle conflict. Dr. Shilling will lead the proof-of-concept research related to collection of animal trajectories and wildlife crossing warning test. The REC has deployed Wi-Fi and cell-communicating camera trap arrays to monitor wild and domestic animal movement near and across state rights-of-way.

Dr. Hongchao Liu

Dr. Hongchao Liu is a Professor and program leader in transportation system engineering at Texas Tech University. His research focuses on areas of traffic operation and control, data analytics, and using computer-aided methods to transportation system engineering and intelligent transportation systems. Recently, his research has been primarily focused on big data in transportation and application of infrastructure-based LiDAR to traffic and pedestrian detection. Dr. Liu will lead the improvement of existing data processing algorithms and assist implementation of the roadside LiDAR sensing systems.

Existing facilities

The major existing facilities that will be used in this project include:

- A software-controllable 2017 hybrid Lincoln MKZ (*UNR autonomous vehicle*)
- A high-accuracy GPS unit to convert LiDAR points to geographic coordinates;
- Six 360-degree LiDAR sensors (worth about $100,000) with various features;
- Five portable LiDAR sensing platforms;
- Five DSRC roadside units and five DSRC onboard units;
- A roadside flashing signal including the pole, solar power panel, batteries, buttons, flashing signals, which will be used for proof-of-concept of automatic warning signal;
- A 360-degree video camera and six traditional video cameras;
- Two Bluetooth traffic data collection devices;
- Two tube-traffic-counting devices;
- Existing LiDAR-enhanced intersection at N. Virginia ST and 15th ST in Reno.
- Storage servers for holding the large quantities of data that the project will generate and computing servers for processing that data.
- Computing servers that hold NVIDIA graphics processing units that accelerate the processing of geometric data such as point clouds generated by LiDAR sensors.

8. BUDGET

This proposal requests a total of $313,397 for the 3-year project. The salaries budget are for professors, postdocs, graduate student researchers, and undergraduate students to work on the tasks. Travel budget will be mainly used for proof-of-concept data collection and applications at different sites in various state districts. $30,000 equipment budget is for additional LiDAR sensors and portable platforms. Operating budget is for supplies and devices required during data collection, validation, application, report and presentation. As the 10% in-state indirect cost rate is applied to this project, UNR requires to include tuition, equipment and all of subcontracts into the indirect cost calculation. The details of the project budget are in Table 2.

9. NDOT CHAMPION, COORDINATION AND INVOLVEMENT

Rodney D. Schilling, P.E. Assistant Chief Traffic Operations Traffic Operations Division, 1263 S. Stewart Street Carson City, NV 89712, Phone: (775) 888-7863

James Weston, NDOT Safety Engineering, Phone: (775) 888-7205

Reference

Sun, Y., Xu, H., Wu, J., Zheng, J., & Dietrich, K. M. (2018). 3-D Data Processing to Extract Vehicle Trajectories from Roadside LiDAR Data. Transportation Research Record, 0361198118775839.

USA Today. (2017 June). Are states ready for self-driving cars?, https://www.usatoday.com/story/money/cars/2017/06/25/prepared-not-states-get-ready-self-driving-revolution/100963152/

Wu, J., Xu, H., Sun, Y., Zheng, J., & Yue, R. (2018). Automatic Background Filtering Method for Roadside LiDAR Data. Transportation Research Record, 0361198118775841.

Wu, J., Xu, H., Zhao, J., & Simpson, N. (2018). Autonomous Wildlife Crossing Detection Method with Roadside Lidar Sensors (No. 18-00500).

Zhao, J., Xu, H., Wu, D., & Liu, H. (2018). An Artificial Neural Network to Identify Pedestrians and Vehicles from Roadside 360-Degree LiDAR Data (No. 18-03129).

Zheng, Y., Xu, H., Tian, Z., & Wu, J. (2018). Design and Implementation of the DSRC-Bluetooth Communication and Mobile Application with LiDAR Sensor (No. 18-00691).

Proof-of-Concept Research of Roadside LiDAR Sensing Multimodal Traffic

In Response to
2018 NDOT Problem Statement 18Q2-E4-01

Hao Xu (PI), Ph.D., P.E., Assistant Professor
(775) 784-6909
haox@unr.edu
Zong Tian, Ph.D., P.E., Professor, Director
(775) 784-1232
zongt@unr.edu
Center for Advanced Transportation Education and Research (CATER)
Department of Civil and Environmental Engineering
Carlos Cardillo, Ph.D., Director
(775) 784-4837
ccardillo@unr.edu
Nevada Center of Applied Research
University of Nevada, Reno

Fraser Shilling, PhD., Co-Director
Road Ecology Center
Department of Environmental Science and Policy
University of California, Davis
530-752-7859
fmshilling@ucdavis.edu

Hongchao Liu, Ph.D. P.E., Professor
Department of Civil, Environmental, and Construction Engineering
Texas Tech University
(806) 834 7853
Hongchao.liu@ttu.edu

1. PROBLEM DESCRIPTION

Existing traffic data, such as flow rates, occupancy, average speed, and spot speed, have been widely used to improve traffic mobility and safety. Yet new traffic systems and applications require traffic flow information with more detail and higher accuracy—specifically, *multimodal, all-traffic trajectories*. All-traffic trajectory data from either traveler-equipped or roadside sensors is critical to various traffic research/engineering areas, including but not limited to:

- **Connected and autonomous vehicles (CAVs):** At present, independent onboard sensing systems do not provide enough information for safety operation in multimodal traffic. An autonomous vehicle with advanced sensors could still be hit by another car on a cross street that fails to stop. To advance safety, vehicles need to obtain the trajectories of all traffic in extended distances so they can "detect" traffic changes and risks around corners.
- **Near-crash analysis:** Near-crash events provide essential data for proactive safety analysis and countermeasure recommendation, but this data is difficult to obtain. If all-traffic trajectory data could be collected, we could study vehicle interactions at multiple scales, and define and extract near-crash events to identify traffic safety issues and recommend countermeasures.
- **Traffic performance evaluation/adaptive traffic signal control:** All-traffic trajectories provide comprehensive information to evaluate traffic performance. Trajectory data reports *each road user's* stop location, stop time, speed change, and interaction with other road users in addition to conventional vehicle-traffic performance indices such as number of stops, delay, travel time, and queue length. Optimizing signals along a road is challenging using conventional traffic sensors because system details cannot be accurately observed. Real-time, all-traffic trajectory data can make the traffic system completely observable, thus revolutionizing adaptive traffic control and outperforming conventional systems.
- **Automatic pedestrian/wildlife-crossing warning signals:** An important application of real-time, all-traffic trajectories is monitoring and predicting vehicle-pedestrian conflicts on urban roads or vehicle-wildlife collision risks on rural highways. Most conventional automatic pedestrian/wildlife warning systems rely on predefined detection areas. These systems trigger warning signals whenever an object is detected in the sensing area, but this has both caused false alarms and failed to identify risks outside the defined areas. Trajectory data tracks the continuous movement of each road user, so crossing detection and prediction can be based on historical trajectory and real-time direction/speed/location for superior accuracy and reliability.

To obtain all-traffic trajectories, several conventional and new traffic-sensing technologies have been considered. Trajectories can be collected by probe vehicles or connected vehicles, but due to low penetration rates, this provides only sample vehicle trajectories. Thus, roadside sensing systems are a feasible solution. Existing Intelligent Transportation System (ITS) sensors such as loop detectors, video detectors, and Bluetooth sensors provide macro traffic data such as traffic flow rates, average speeds, and occupancy. Yet conventional video sensors measure only average speeds of vehicles that cross their detection zones. New video processing methods combine two

or more cameras to measure distance, but the accuracy of this method can be significantly influenced by challenging light conditions when cameras are deployed at intersections or along roadsides. Conventional radar sensors are used for traffic counting and speed measurement at predefined spots but cannot track vehicle trajectories. Recent research demonstrated the possibility of tracking vehicles with radar, but this has not yet been implemented. Note also that current radar sensors have difficulty detecting and tracking pedestrian movement.

Given that existing traffic sensors do not provide trajectory data, 360-degree light detection and ranging (LiDAR) sensors are an attractive option because they detect surrounding objects with high accuracy and frequency and are not influenced by light conditions. The project team has developed algorithms specifically for roadside LiDAR sensing systems and is the worldwide leading research group in this area. *What is still needed is proof-of-concept research to evaluate the accuracy, reliability and efficiency of the developed algorithms and roadside LiDAR sensing systems for various traffic scenarios and applications.*

2. Background Summary

There are various LiDAR sensors for mapping, survey, and autonomous vehicles. With consideration the cost and performance, we will use 360-degree LiDAR (different types) and test flash LiDAR in this proposed project. 360-degree LiDAR detects surrounding objects and generates a cloud of object points at centimeter-level accuracy. The cost-efficient LiDAR sensors are now being manufactured and are available on the market. Research and field testing of roadside LiDAR at UNR has demonstrated that this is the best available solution for collecting all-traffic data (Figure 1).

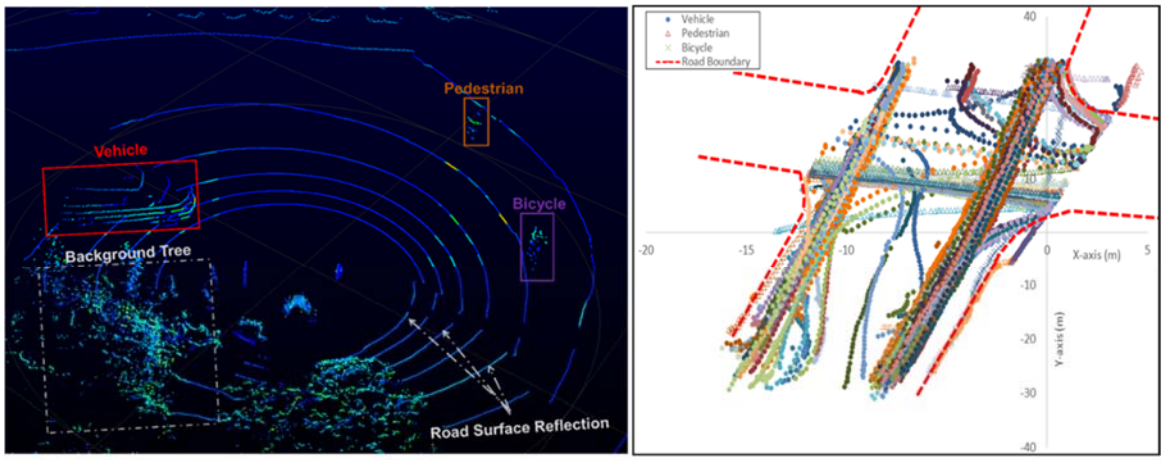


Figure 1. (a) Unprocessed LiDAR frame from a roadside Velodyne VLP-16 sensor, showing how resulting point-cloud data fix and can track objects precisely in three dimensions; (b) high-accuracy, multimodal traffic trajectories obtained using sequences of point cloud data from a roadside LiDAR sensor by the project team.

LiDAR data processing and high-resolution trajectory extraction are the base functions of roadside LiDAR sensing systems. Data background filtering, object clustering, object

classification, and real-time object movement tracking are required to process LiDAR data, regardless of where the sensors are installed. Due to sensor installation and data characteristics, methods for processing roadside LiDAR data differ from methods for autonomous vehicles. A roadside sensing system deploys networks of LiDAR sensors spaced a few hundred feet apart, so sensor integration is necessary. For the same sensor type, the density of cloud points from roadside LiDAR is often lower than what is required by onboard LiDAR processing algorithms because of the extended detection distance. The Literature review found few existing papers or reports related to roadside 360-degree LiDAR deployment and data processing (Davis 2016) besides recent innovative works of the project team (USA Today 2017 June). The project team has developed a procedure for roadside LiDAR data processing (Sun et al. 2018), including the major steps of integrating data from multiple sensors, background filtering (Wu et al. 2018), object clustering, identifying road user types (Zhao et al. 2018), tracking road users in different data frames, and outputting traffic trajectory data.

Integrating LiDAR data from multiple sensors: Occlusion is a major issue when using single LiDAR sensors because a vehicle can block the LiDAR's laser from reaching other road users behind it. Using a roadside system with multiple LiDAR sensors solves this problem and delivers reliable and accurate trajectories. However, common reference features often do not exist in datasets from two roadside LiDAR sensors because these sensors are hundreds of feet away from each other and scan the same object on different surfaces. This is the major barrier of using existing algorithms to integrate roadside LiDAR sensors. The project team has developed a new method, submitted for review to the 2019 Transportation Research Board Meeting, to integrate datasets from multiple roadside LiDAR sensors by innovatively matching road surfaces and 2D reference features.

Background filtering: Obtaining traffic trajectories in an extensive range requires background filtering. This is a major difference between on-board and roadside data processing. Background can include buildings and ground surfaces as well as moving objects such as waving trees and bushes. Since the background changes as vehicles move, onboard sensing systems usually extract an object's information from raw data without identifying and removing background points. When LiDAR sensors are deployed on roadsides, all background objects can be recognized and excluded from LiDAR data frames by aggregating LiDAR data frames from a period and identifying background by point density (Wu et al. 2018).

Object clustering and classification: There are many possible moving "objects" relevant for tracking in traffic management and safety analysis. In the current proposal, we are referring to motorized and non-motorized vehicles, pedestrians, litter/unknown objects, and wild or domestic animals. Once the background points are filtered out, the remaining LiDAR points in each data frame need to be clustered to identify traffic participants. The performance of existing feature-based methods/algorithms depends heavily on the density of laser points that provide detailed descriptions or specific characteristics of the objects. On-board detection systems usually use both LiDAR and video sensors with higher resolution (thus higher cost) for accuracy. Yet infrastructure-based LiDAR sensors need to work independently with limited support of other sensors. The project team has changed the conventional DBSCAN method to adaptively modify

algorithm parameters (the point density threshold and search radius) at different distances from a LiDAR sensor, taking into consideration the LiDAR point densities and distributions in different areas (Sun et al. 2018; Wu & Xu 2018).

Object tracking: Once traffic objects have been detected and classified, object tracking is needed to obtain each road user's trajectory and speed by identifying the same object in different data frames. The project team implemented a tracking method for roadside LiDAR sensing systems (Sun et al. 2018) that uses three factors as inputs: distances of an object in a previous frame to all objects in the current frame, speed estimated from historical trajectories, and the time difference between the two considered frames. The team has further improved the tracking method by using lane information to limit the search area.

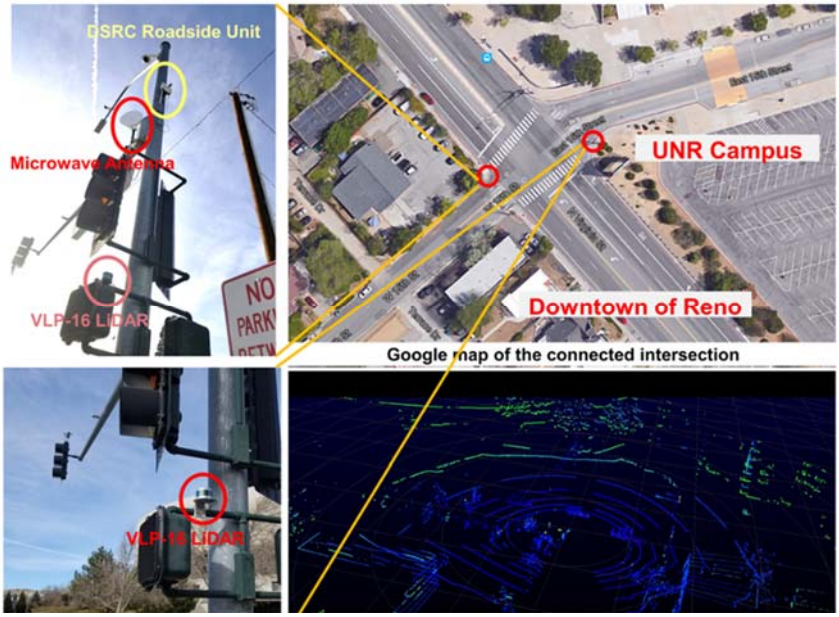


Figure 2. First pilot implementation of LiDAR-enhanced connected intersection in Reno, Nevada.

The project team has completed fundamental research on extracting highly accurate trajectories of pedestrians and vehicles with cost-efficient, 360-degree LiDAR sensors deployed at roadside. The research team conducted case studies for the developed data processing algorithms at several sites in Reno. With the developed procedure for roadside LiDAR data processing and the implemented communication system, the first pilot system was permanently deployed at the intersection of 15th ST and N. Virginia ST in Reno, as shown in Figure 2. The intersection can now broadcast LiDAR traffic trajectories to CAVs through dedicated short-range communication (DSRC) devices (Zheng et al. 2018). Now that the project team has validated the roadside LiDAR data processing procedure with a single LiDAR sensor at a few sites, extensive proof-of-concept study is needed to test the performance of roadside LiDAR networks in various real-world scenarios.

3. Proposed Research

This project will be a proof-of-concept study to 1) validate the feasibility of using roadside LiDAR sensors to provide high-accuracy, multimodal traffic trajectories by testing with different sensors, deployment methods, and traffic scenarios; and 2) apply roadside LiDAR data to support CAVs, enhance traffic mobility/safety analysis, and integrate with existing traffic infrastructure for automatic pedestrian/wildlife warning. The research team will use both portable roadside LiDAR sensing platforms and permanent infrastructure LiDAR sensing

systems that integrate LiDAR and connected vehicle communication (such as DSRC). The detailed project tasks are designed as follows:

Task 1: Project management and progress report
The research team will work closely with the NDOT project champions and related NDOT divisions to ensure that the scope of work and deliverables meet NDOT's needs. Progress will be updated and any issues will be discussed in quarterly project meetings.
Deliverables:

1) Quarterly project meeting agenda and meeting minutes
2) Quarterly reports to the NDOT Research Program

Task 2: Implement roadside LiDAR sensing systems
The sensing systems in this project include portable roadside LiDAR platforms and permanent, infrastructure-based systems. A portable platform will consist of a 6-8-foot pole with a LiDAR sensor, DSRC roadside unit, high-speed microwave communication antenna, and solar power panel/battery supply. An electrical enclosure will be located at the bottom of each platform for batteries, the data processing computer, and other devices. Raw LiDAR data will be processed on the field computer; then, the extracted traffic trajectories will be saved locally, broadcast to CAVs with DSRC onboard devices, or wirelessly transferred to other platforms for real-time data integration or to trigger traffic signals. The critical component of each portable platform is a sensor that provides 360-degree LiDAR detection over a 100-meter-radius horizontal field (at minimum). The chain of multiple portable platforms will form a seamless detection area along a road segment or around an intersection. The data processing program will be implemented into Windows 7 and 10 software, and the project team's existing roadside LiDAR processing algorithms will be further advanced for accuracy, reliability, and efficiency. The infrastructure-based system includes the same components as the portable platform, but the sensors and devices will be permanently installed at selected intersections and crossings similar to the system at the first pilot intersection in Reno. This project will use infrastructure LiDAR sensing systems to be deployed in Reno and Henderson and sponsored by RTC Washoe and RTC Southern Nevada. We will test LiDAR network performance in terms of "CARS": Completeness (systems correctly censuses all objects), Accuracy (systems correctly detect and classify objects, few false positives), Reliability (systems powered and communicate effectively 99%-100% of time). And Sensitivity (systems identify all relevant, moving objects in detection zone, few false negatives)
Deliverables:

1) Demonstration of portable platforms and infrastructure-based systems

Task 3: Proof-of-concept of obtaining high-accuracy multimodal traffic trajectories with roadside LiDAR
The project team will collect LiDAR data at different traffic sites with the portable or infrastructure-based LiDAR sensing systems. Various LiDAR sensors will be tested, including at least 16-channel (16 rotating laser beams), 32-channel, and 64-channel 360-degree LiDAR sensors and time-of-flight (i.e., flash) LiDAR sensors. The proof-of-concept study will obtain and validate traffic trajectories from vehicles of different classes, pedestrians, bicycles, and wildlife/livestock (approaching, using and crossing highways). The project team will use a UNR autonomous vehicle equipped with a high-accuracy location system, UNR connected vehicles equipped with DSRC onboard units and location systems, and GPS-equipped

pedestrians/bicycles to generate high-accuracy GPS trajectories to validate trajectory estimates from the roadside LiDAR sensors. This study will collect data for at least 24 hours and will extract all-traffic trajectories at each site. Trajectory data will include second-by-second location (longitude and latitude), speed, direction, object type, date, and time stamp information (Zheng et al. 2018). Animal type and movement will be validated using camera traps.

Task 3.1 Proof-of-concept study in urban areas of northern and southern Nevada

The UNR team is working with RTC Washoe, the City of Reno, RTC Southern Nevada, and the City of Henderson on pilot roadside LiDAR deployment at several intersections in Reno and Henderson, so data will be collected and validated at these intersections:

- Two signalized intersections: 15th ST and N. Virginia ST in Reno (existing); Boulder Highway and Texas Avenue in Henderson (to be installed)
- Two pedestrian crossings with RRFB signals: 10th ST and N. Virginia ST in Reno; Green Valley Parkway and Amargosa Trail in Henderson (both to be installed)
- One unsignalized & unmarked intersection with high pedestrian crossing volume: Boulder Highway & Coogan DR in Henderson (to be installed)

Local traffic agencies will fund the installation of these infrastructure-based LiDAR sensing systems, thus the project team can conduct extensive proof-of-concept studies at other sites/scenarios with the portable LiDAR sensing platforms in the project budget by:

- a UNR campus intersection with a high volume and mix of pedestrians, bicycles, and skateboards
- an all-way stop-sign controlled intersection (TBD)
- a two-way stop-sign controlled intersection (TBD)
- a high-speed intersection (with a 45-MPH speed limit on approach, TBD)
- a metered freeway on-ramp (TBD)
- an unmetered freeway on-ramp (TBD)
- a one-lane low-speed (lower than 45 MPH) roundabout (TBD)
- a work zone in an urban area
- an urban road segment known for jaywalking issues

The research team will work with NDOT project champions and local agencies to select the TBD sites for data collection.

Task 3.2 Proof-of-concept study in rural areas

The research team will also conduct proof-of-concept studies in rural areas. The UNR team is working with the NDOT Environmental Division to collect data of wildlife crossing I80 and USA Parkway through different crossing structures with automatic cameras. The research team presented their research on detecting deer trajectories with roadside LiDAR at the 2018 TRB Annual Meeting (Wu et al. 2018), including an invitation to present at the TRB Animal-Vehicle Conflict SubCommittee (ANB20(2)). Animal trajectory and species identity will be confirmed using conventional camera traps and will be leveraged by a FHWA-funded project (F Shilling PI) to develop automated species identity and rapid data transmission to support safety and conservation planning. Data will be collected from:

- a wildlife overpass structure on I80
- a wild horse underpass structure on USA Parkway
- the end of wildlife fencing on I80 for possible wildlife crossing the highway surface
- a rural work zone
- a rural high-speed roundabout (45 MPH or higher)

The rural-area proof-of-concept study will evaluate the ability of roadside LiDAR sensing systems to detect, identify, and track different animals and vehicle types on rural highways.

Deliverables:

1) Raw LiDAR data collected by multiple LiDAR sensors at each proposed study site
2) Multimode trajectories extracted from roadside LiDAR data collected at each site
3) GPS trajectory data collected with UNR CAVs and portable high-accuracy GPS devices
4) Evaluation of accuracy of roadside LiDAR trajectories

Task 4: Proof-of-concept of applying LiDAR all-traffic trajectory data

Using the extensive trajectory data collected in Task 3, the research team will extend the existing research for a comprehensive proof-of-concept study to test the application of LiDAR all-traffic trajectory data in different scenarios, including:

- Identification and analysis of near-crash events, including at least pedestrian-vehicle analysis at an intersection and vehicle-vehicle analysis at a freeway on-ramp
- Traffic performance evaluation at a signalized intersection and a roundabout
- Automatic pedestrian RRFB signal triggered by roadside LiDAR sensors when pedestrian crossing is detected/predicted (lab bench test first, then proof-of-concept on UNR campus)
- Automatic wildlife warning signal triggered by roadside LiDAR sensors when wildlife/livestock animals crossing highways are detected (lab bench test first, then proof-of-concept at a site to be suggested by NDOT champions – I80 or USA Parkway)
- Connected-vehicle applications to warn drivers of pedestrian/animal crossing by broadcasting roadside LiDAR trajectories to vehicles equipped with DSRC onboard units

UNR has been licensed by FAA for DSRC installation and test.

Deliverables:

1) Case study reports of the five roadside LiDAR applications listed for this task.

Task 5: Develop roadside LiDAR deployment guidance and NDOT implementation plan

Based on the proof-of-concept studies, the project team will summarize the deployment experience and findings to develop roadside LiDAR deployment and installation guidance for NDOT. The guidance will include suggested LiDAR sensor features, the height and angle of the sensors, the distance between the sensors in a network, the expected performance of a system given specific LiDAR features and deployment methods, and recommendations for NDOT implementation. The guidance will include estimation of costs and timelines.

Deliverables:

1) Roadside LiDAR deployment guidance and implementation plan

Task 6: Final report

A final report will be prepared to document all the major findings and efforts related to the above tasks. The project team will provide a final project presentation to introduce findings and experience from this project.

Deliverables:

1. Final project report
2. Final project presentation

4. URGENCY AND ANTICIPATED BENEFITS

The economic and societal harm from motor vehicle crashes amounted to *$871 billion in a single year in U.S.* according to a study released by NHTSA. Similar challenges face Nevada, especially pedestrian safety. In 2017, 305 people died because of fatal traffic accidents across the state. In 2016, 329 people died in traffic-related accidents in Nevada. Pedestrian deaths in Nevada due to traffic accidents have continued to increase over the years. Pedestrian deaths jumped from 80 in 2016 to 100 in 2017. The roadside LiDAR sensing system proposed here would collect trajectory data from all road users and would significantly improve traffic safety and could also reduce congestion from the applications. Given the aforementioned impacts of dangerous, congested traffic on human health and the economy, it is imperative that this research happens in the coming fiscal year, rather than in years to come.

This pilot deployment will help NDOT prepare for future traffic data challenges and become one of the leading states in advancing traffic data collection and implementing CAV technologies supported by advanced roadside sensing systems (USA Today 2017 June). In the near-term, roadside LiDAR sensors can work as an independent system that provides multimodal traffic trajectories for traffic analysis and automatic signal systems; in the long term, this will lay the foundation for a seamless connection with the full deployment of connected-vehicle systems in the future. The results of Task 5 will provide an estimate of required costs and maintenance for different traffic scenarios. As a preliminary estimate, the cost of LiDAR at an intersection could be $10,000 – $30,000 including the required LiDAR sensors, edge computers, additional cabinets, network devices, etc.

5. IMPLEMENTATION PLAN

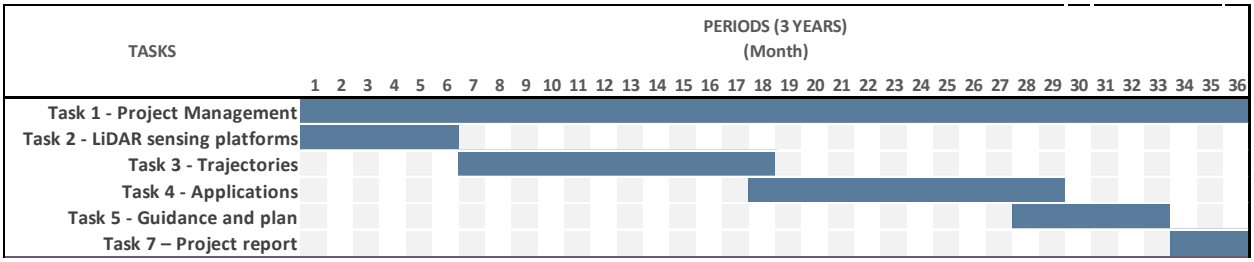
This proof-of-concept proposal is based on existing roadside LiDAR algorithms and applications previously innovated by the project team. Thus, this project is at the First Application (Contract) Field Pilot Stage and will provide proof-of-concept results for NDOT to understand the accuracy, reliability, and possible applications of roadside LiDAR sensing systems in various real-world scenarios. If the performance of the proposed technology is approved and accepted, NDOT can start to consider its application in wider and more diverse regions of Nevada. The systems, experience, and guidance developed in this project will directly guide the implementation of roadside LiDAR sensing systems. The next stage will be actual field implementation at prioritized intersections/corridors. The total implementation cost will depend on the number of intersections/road miles for roadside LiDAR installation. *A detailed implementation plan will be included in the roadside LiDAR deployment guidance to be developed in Task 5.* The following tasks are needed for full implementation:

1) Initiate collaboration between federal, state, and local stakeholders to define short- and long-term objectives for roadside LiDAR sensing systems.
2) Prioritize intersections and corridors for installing roadside LiDAR sensing systems.
3) Install infrastructure-based LiDAR sensing systems at selected sites. Portable LiDAR sensing platforms will be used to identify deployment intersections and locations.
4) Implement and operate roadside LiDAR sensing systems following the system engineering procedure.

6. PROJECT SCHEDULE

The proposed project is planned for 36 months. The timelines are listed in Table 1.

Table 1. Estimated Project Schedule



7. FACILITIES AND EXPERTISE

Dr. Hao Xu, Assistant Professor in the Department of Civil and Environmental Engineering at UNR, will serve as the primary investigator. His research areas include processing and analysis of roadside LiDAR data, driving behavior analysis with naturalistic driving study data, intelligent transportation systems including connected vehicles, and data-driven traffic safety analysis. Dr. Xu has led unique and innovative research on the technology of roadside LiDAR deployment in the past few years, and is a leading researcher in this area.

Dr. Zong Tian is a Professor and Director of the Center of Transportation Education and Research (CATER). He led numerous research projects and published refereed journal and conference papers in the areas of traffic signal control and highway capacity analysis. He serves on both the TRB's Traffic Signal Systems Committee and the Highway Capacity and Quality of Service Committee. Dr. Tian will lead the traffic performance and control with multimode traffic trajectories of this project.

Dr. Carlos Cardillo is the Director of the Nevada Center for Applied Research (NCAR) at UNR. Dr. Cardillo has developed, implemented, and successfully executed large research programs sponsored by the U.S. DOT and the U.S. Department of Defense, including projects with Special Operation Command, the Warfighter Enhancement Program, and the Office and Human Performance Training and Education program sponsored by the Office of Naval Research. Dr. Cardillo will lead the collaboration with cities and local agencies to contribute proof-of-concept data collection with the pilot deployment in Reno and Henderson.

Dr. Fraser Shilling has co-directed the Road Ecology Center (REC) for a decade. He has partnered with DOT staff in CA, ME, VT, VA, SD, ID, CO, AZ, NV, and GA to develop better ways to manage interactions between transportation and ecology, especially as it relates to wildlife-vehicle conflict. Dr. Shilling will lead the proof-of-concept research related to collection of animal trajectories and wildlife crossing warning test. The REC has deployed Wi-Fi and cell-communicating camera trap arrays to monitor wild and domestic animal movement near and across state rights-of-way.

Dr. Hongchao Liu

Dr. Hongchao Liu is a Professor and program leader in transportation system engineering at Texas Tech University. His research focuses on areas of traffic operation and control, data analytics, and using computer-aided methods to transportation system engineering and intelligent transportation systems. Recently, his research has been primarily focused on big data in transportation and application of infrastructure-based LiDAR to traffic and pedestrian detection. Dr. Liu will lead the improvement of existing data processing algorithms and assist implementation of the roadside LiDAR sensing systems.

Existing facilities

The major existing facilities that will be used in this project include:

- A software-controllable 2017 hybrid Lincoln MKZ (*UNR autonomous vehicle*)
- A high-accuracy GPS unit to convert LiDAR points to geographic coordinates;
- Six 360-degree LiDAR sensors (worth about $100,000) with various features;
- Five portable LiDAR sensing platforms;
- Five DSRC roadside units and five DSRC onboard units;
- A roadside flashing signal including the pole, solar power panel, batteries, buttons, flashing signals, which will be used for proof-of-concept of automatic warning signal;
- A 360-degree video camera and six traditional video cameras;
- Two Bluetooth traffic data collection devices;
- Two tube-traffic-counting devices;
- Existing LiDAR-enhanced intersection at N. Virginia ST and 15th ST in Reno.
- Storage servers for holding the large quantities of data that the project will generate and computing servers for processing that data.
- Computing servers that hold NVIDIA graphics processing units that accelerate the processing of geometric data such as point clouds generated by LiDAR sensors.

8. BUDGET

This proposal requests a total of $313,397 for the 3-year project. The salaries budget are for professors, postdocs, graduate student researchers, and undergraduate students to work on the tasks. Travel budget will be mainly used for proof-of-concept data collection and applications at different sites in various state districts. $30,000 equipment budget is for additional LiDAR sensors and portable platforms. Operating budget is for supplies and devices required during data collection, validation, application, report and presentation. As the 10% in-state indirect cost rate is applied to this project, UNR requires to include tuition, equipment and all of subcontracts into the indirect cost calculation. The details of the project budget are in Table 2.

9. NDOT CHAMPION, COORDINATION AND INVOLVEMENT

Rodney D. Schilling, P.E. Assistant Chief Traffic Operations Traffic Operations Division, 1263 S. Stewart Street Carson City, NV 89712, Phone: (775) 888-7863

James Weston, NDOT Safety Engineering, Phone: (775) 888-7205

Reference

Sun, Y., Xu, H., Wu, J., Zheng, J., & Dietrich, K. M. (2018). 3-D Data Processing to Extract Vehicle Trajectories from Roadside LiDAR Data. Transportation Research Record, 0361198118775839.

USA Today. (2017 June). Are states ready for self-driving cars?, https://www.usatoday.com/story/money/cars/2017/06/25/prepared-not-states-get-ready-self-driving-revolution/100963152/

Wu, J., Xu, H., Sun, Y., Zheng, J., & Yue, R. (2018). Automatic Background Filtering Method for Roadside LiDAR Data. Transportation Research Record, 0361198118775841.

Wu, J., Xu, H., Zhao, J., & Simpson, N. (2018). Autonomous Wildlife Crossing Detection Method with Roadside Lidar Sensors (No. 18-00500).

Zhao, J., Xu, H., Wu, D., & Liu, H. (2018). An Artificial Neural Network to Identify Pedestrians and Vehicles from Roadside 360-Degree LiDAR Data (No. 18-03129).

Zheng, Y., Xu, H., Tian, Z., & Wu, J. (2018). Design and Implementation of the DSRC-Bluetooth Communication and Mobile Application with LiDAR Sensor (No. 18-00691).

HAO XU, PH.D., P.E.

Associate Director and Assistant Professor, Center for Advanced Transportation Education and Research, University of Nevada, Reno

Hao Xu is an Assistant Professor at University of Nevada, Reno (UNR) with expertise in intelligent transportation systems and traffic safety. His research areas include roadside LiDAR data processing and applications, driving behavior analysis with naturalistic driving study data, intelligent transportation systems including connected vehicles, and data-driven traffic safety analysis. In the past two years, he has been leading the unique and innovative research on the technologies of roadside LiDAR deployment. His research team has developed a series of methodologies to extract high-accuracy LiDAR trajectory data that may bring revolutionary changes to future traffic systems. He conducted research of monitoring and tracking wildlife animals crossing highways with roadside LiDAR and video sensors. The collaboration between Dr. Xu's research team, RTC Washoe County, and the City of Reno has implemented the first pilot LiDAR-enhanced smart intersection in Reno Nevada. He has managed approximately $2,300,000 in research projects as PI or Co-PI and has published extensively with findings from the projects.

Education

- Ph.D., 2011, Civil Engineering, Texas Tech University, Lubbock, Texas
- MS, 2009, Civil Engineering, Texas Tech University, Lubbock, Texas
- ME, 2007, Automation, University of Science and Technology of China, China
- BE, 2004, Automation, University of Science and Technology of China, China

Professional Experience

- Assistant Professor, Department of Civil and Environmental Engineering, University of Nevada, Reno, 2013 - present
- Research Associate, Department of Civil and Environmental Engineering, Texas Tech University, 2011 - 2013

Professional Memberships & Committees

- Institute of Transportation Engineers (ITE)
- Transportation Research Board (TRB)
- American Society of Civil Engineers (ASCE)

Select Publications

Sun, Y., **Xu, H.**, Wu, J., Zheng, J., & Dietrich, K. M. (2018). 3-D Data Processing to Extract Vehicle Trajectories from Roadside LiDAR Data. Transportation Research Record, 0361198118775839. http://journals.sagepub.com/doi/full/10.1177/0361198118775841

Wu, J., **Xu, H.**, Sun, Y., Zheng, J., & Yue, R. (2018). Automatic Background Filtering Method for Roadside LiDAR Data. Transportation Research Record, 0361198118775841. http://journals.sagepub.com/doi/abs/10.1177/0361198118775839

Wu, J., & **Xu, H.** (2018). The influence of road familiarity on distracted driving activities and driving operation using naturalistic driving study data. Transportation research part F: traffic psychology and behaviour, 52, 75-85.

Wu, J., **Xu, H.**, Zhao, J., & Simpson, N. (2018). Autonomous Wildlife Crossing Detection Method with Roadside Lidar Sensors (No. 18-00500).

Zheng, Y., **Xu, H.**, Tian, Z., & Wu, J. (2018). Design and Implementation of the DSRC-Bluetooth Communication and Mobile Application with LiDAR Sensor (No. 18-00691).

Select Project Experience

Data Collection of Wildlife Animals Crossing I80 in Eastern Nevada and USA Parkway - SOLARIS UTC and Nevada Department of Transportation

This project will use NDOT motion-activated cameras (PC900 HyperFire Professional High Output Infrared Camera) to document wildlife activities at the eight crossing structures, including two 10' x 10' wildlife underpasses, two vehicle underpasses and two large overpasses in Pequop Mountains and two 12'x 30' underpass structures along US Parkway. *2018-2019*

Development of a Nevada wildlife-fencing GIS dataset - SOLARIS UTC and Nevada Department of Transportation

This project creates the statewide wildlife-fencing database with Google Map Street View, Google Earth Street View (Google Map and Google Earth may provide data/information from different years) and NDOT Roadview Workstation. The project reviews the 360-degree street view pictures and identify the existence of fences, fence type, location and start/end points. *2018-2019*

High-Resolution Micro Traffic Data from Roadside LiDAR Sensors for Connected-Vehicles and New Traffic Applications - SOLARIS UTC and Nevada Department of Transportation

This proposed research project is to develop methodologies of extracting high-resolution micro traffic data from the roadside LIDAR sensor data. *2017-2018*

Interstate 80 and Wildlife Movements within the Pequop and Toano Ranges - Nevada Department of Transportation

This project collected and reviewed pictures of wildlife/human activities near crossing structures along I80 in the Pequop Mountains and the Toano Range. Pictures were recorded by the automatic cameras at the seven crossing structures, including two 10' x 10' wildlife underpasses and two vehicle underpasses in the Pequop Mountains, a wildlife overpass and two railroad underpasses in the Toano Range. 173,610 effective pictures related to 7,564 wildlife and human records were captured. Pictures were processed for renaming and grouping. Wildlife approaching/crossing records were extracted by picture review, and stored in the Excel/Access database. The patterns of wildlife animals crossing I80 were analyzed. *2014-2017*

US-50 Wildlife Underpass Evaluation - Nevada Department of Transportation

This project researched how wildlife animals and humans use the underpass. This study used eight motion-activated-wildlife cameras to automatically capture pictures of human and wildlife activities. The data collection lasted 12 months from February 2014 through February 2015, and a total of around 20,000 pictures were collected. 1145 recorded activities included 300 successful wild horse crossings and 1737 human crossing. *2014-2015*

Zong Tian, Ph.D., P.E.

Department of Civil and Environmental Engineering
University of Nevada, Reno
1664 N Virginia St, MS 258
Reno, NV 89557

Telephone: (775) 784-1232
Fax: (775) 784-1390
Email: haox@unr.edu

Professional Preparation

Texas A&M University	College Station, TX	Civil Engineering	Ph.D. 2004
University of Idaho	Moscow, ID	Civil Engineering	MS 1996
Northern Jiaotong University	Beijing, China	Railroad Engineering	BS 1983

Appointments

Professor, Department of Civil and Environmental Engineering, University of Nevada, Reno, 7/2015-present

Associate Professor, Department of Civil and Environmental Engineering, University of Nevada, Reno, 7/2009-6/2015

Assistant Professor, Department of Civil and Environmental Engineering, University of Nevada, Reno, 7/2004-6/2009

Associate Research Scientist, Texas Transportation Institute, the Texas A&M University System, College Station, Texas, 1999-2004

Products

Five Most Closely Related Publications

Gholami, A. and **Tian, Z**. (2017). Increasing the Accuracy of Loop Detector Counts using Adaptive Neural Fuzzy Inference System and Genetic Programming. Transportation Planning and Technology, 40(4), pp. 1-18.

Farivar, S., **Tian, Z**. (2016). Modeling Delay at Signalized Intersections with Channelized Right-turn Lanes Considering the Impact of Blockage, Journal of Advanced Transportation.

Wang, D., **Tian, Z**., Yang, G., and Gholami, A. (2017). Comparison of Performance between Virtual Controller Interface Device and Controller Interface Device. IET Intelligent Transport Systems.

Hu, P., **Tian, Z.**, Wu, X., and Xu, H. (2014). A Proposed Signal Operation and the Effect of Its Cycle Length on Diverging Diamond Interchanges, *ITE Journal*, *Vol. 84, No. 11*, 28-35.

Ozmen, O., **Tian, Z,** Gibby, R. (2014). Safety of the Las Vegas left-turn Display. *Accident Analysis & Prevention, Vol. 62*, 95-101.

Other Significant Publications

Gholami, A., **Tian, Z**., and Andalibian (2017). Innovative Detector Layout for Automated Traffic Turning Volume Counting: Proposing a New Detector Placement Configuration, Journal of Advanced Transportation, 50(8).

Yang, G., **Tian, Z**., Xu, H., and Wang, D. (2017). Impacts of Traffic Flow Arrival Pattern on the Necessary Queue Storage Space at Metered On-Ramps. Transportmetrica A: Transport Science, Volume 13, Issue 10, pp. 1-19.

Wu, J., Liu, P., **Tian, Z**. (2016). Operational analysis of the contraflow left-turn lane design at signalized intersections in China. *Transportation Research Part C*, 69, 228-241.

Zhou, C., **Tian, Z**. (2016). Right-Turn Traffic Volume Adjustment in Traffic Signal Warrant Analysis. *Transportation Research Record*, 2562, 28-35.

Synergistic Activities

1. Guest editor, Workshop Organization & Conference/Workshop Technical Program Committee (TPC) Membership:
   - Associate editor: Case Studies on Transport Policy
   - Guest editor: Transportation Research Part C - Special Issue on Innovative Signal Design and Control.
2. Reviewer for journals including:
   - Transportation Research Board
   - Journal of Intelligent Transportation Systems
   - ASCE Journal of Transportation Engineering
   - International Journal of Vehicle Information and Communication Systems
   - Transportation Research, Part B, C
   - IEEE ITS Transactions
   - ITS Transactions on Intelligent Transportation Systems
   - Computational Intelligence and Neuroscience
3. Mentoring: (i) Graduated 11 Ph.D. students and 12 master students at UNR; (ii) Advising three PhDs and three master students at UNR; (iii) Serving as a Committee Member at the Undergraduate Committee and the Graduate Committee of CEE at UNR; (iv) Have advised five undergraduate researchers.
4. Teaching: (i) Transportation Engineering (Spring 2005-2014, University of Nevada Reno); (ii) Traffic Safety (Fall 2006-2015, University of Nevada Reno); (iii) Traffic Operations (Fall 2005-2017, University of Nevada Reno); (iv) Transportation Systems (Fall 2012, 2014, 2016, University of Nevada, Reno).

Carlos Cardillo
Applied Research Facility 324
University of Nevada, Reno/0525
Reno, NV 89557
ccardillo@unr.edu

a. Professional Preparation

National University of the Northeast, Argentina	Systems Engineering	B.S., 1990
New York Medical College, Valhalla, NY	Biostatistics	M.S., 2001
Trident University International, Cypress, CA	Health Science Research	Ph.D., 2012

b. Appointments

1993-2000 Senior Biometrics Systems Analyst, NeuroCorp, Ltd., New York, NY
2000-2005 Director of research & Development, New York Institute for Medical Research, New York, NY
2005-2008 Principal Investigator, US Army Aeromedical Research Lab, Fort Rucker, AL
2008-2013 Research Director, Eye-Com Corporation, Reno, NV
2013-2015 Systems Analytics Director / Data Scientist, Cirrus Systems, LLC, Reno, NV
2015-Present Director, Nevada Center for Applied Research, University of Nevada, Reno

c. Publications

None

d. Synergistic Activities

Director of the Nevada Center for Applied Research (NCAR). NCAR is an applied research and development technology center at the University of Nevada, Reno (UNR). NCAR serve to enhance the global competitiveness of Nevada industry by leveraging the physical and intellectual assets of the University of Nevada, Reno. NCAR provides a central and public access point to the University's facilities and equipment and function as a one-stop-shop for applied research.

Project Manager, Administrator and Business Developer for the Intelligent Mobility initiative, a User-Centered, Open-Innovation Living Lab Ecosystem for Automated and Connected Vehicles in in Northern Nevada. A coalition of stakeholders from industry, government and academia.

Project Manager, Administrator and Business Developer for the Nevada Advanced Autonomous Systems Innovation Center (NAASIC). NAASIC works with faculty, staff, and students at the University of Nevada, Reno to develop technology related to robotics, artificial intelligence and autonomous systems. The center also works with the business community in Nevada to design, deploy and evaluate new technology for the benefit of the state economy and community.

As a PI/Co-PI, developed, implemented and successfully executed large research programs sponsored by the US Department of Transportation (DOT) and the US Department of Defense (DOD), including projects with Special Operation Command (SOCOM) the Warfighter Enhancement Program Office and Human Performance Training and Education program sponsored by the Office of Naval Research (ONR).

FRASER SHILLING, PH.D.

Road Ecology Center, Co-Director

Fraser Shilling is an ecologist by training and for the last 10 years has been the co-director of the Road Ecology Center, University of California Davis. He has expertise in aquatic and terrestrial ecology, the interaction between built infrastructure and natural systems, and the use of environmental information in transportation planning. He coordinated California's first road ecology conference (1999), developed the first connectivity analysis in California (2002) and actively collects data about wildlife movement and wildlife-vehicle collisions. He began and leads one of the largest wildlife-vehicle conflict (WVC) data collection systems in the world and coordinates a global collaboration of national WVC-data collection systems. He is involved in and helps lead committees within the Transportation Research Board and is lead organizer of the International Conference on Ecology and Transportation (ICOET). He trains undergraduates and graduate students in the theory and practice of road ecology in lab and field settings.

Education

- Ph.D., Aquatic Ecology, Division of Biological Sciences, University of Southern California 1991
- B.Sc., Biological Sciences, University of Southern California 1986

Professional Experience

- Co-Director, Road Ecology Center, University of California, Davis 2008-present
- Research Scientist, University of California, Davis 1998-2008

Professional Memberships & Committees

- The Wildlife Society
- Member Organization, Infra-Eco Network Europe
- Member, ADC30 Ecology and Transportation Committee, TRB
- Co-chair, ANB20(2) Animal-Vehicle Conflict Sub-Committee, TRB

Select Publications

Seo, K., D. Salon, F. Shilling, M. Kuby (2018) Pavement condition and residential property values: a spatial hedonic price model for Solano County, CA. Public Works Management & Policy 23(3): 243-261. https://doi.org/10.1177/1087724X18757535

Ha, H. and F. Shilling (2018) Modelling potential wildlife-vehicle collisions (WVC) locations using environmental factors and human population density: A case-study from 3 state highways in Central California. Ecological Informatics 43: 212–221. https://doi.org/10.1016/j.ecoinf.2017.10.005

Waetjen, D.P. and F.M. Shilling (2017) Large extent roadkill and wildlife observation systems as sources of reliable data. Frontiers in Ecology and Evolution. http://journal.frontiersin.org/article/10.3389/fevo.2017.00089/full

Shilling, F. and D.P. Waetjen (2017) Advancing environmental monitoring of highways with autonomous camera systems and web-informatics. Compendium of Papers for the Transportation Research Board Annual Conference, Washington DC, January 8-12 2017.

Shilling, F.M., J. Vandever, K. May, I. Gerhard, and R. Bregoff. (2016) Adaptive planning for sea level rise-threatened transportation corridors. Transportation Research Record: Journal of the Transportation Research Board, No. 2599, Transportation Research Board, Washington, D.C., 2016, pp. 9–16. DOI: 10.3141/2599-02

Shilling, F.M. and Waetjen, D.P. (2015) Wildlife-vehicle collision observation collection and hotspot identification at large scales. Nature Conservation, 11: 41-60. doi:10.3897/natureconservation.11.4438

Shilling, F.M. Perkins, S., Collinson, W. (2015). Wildlife/roadkill observation and reporting systems. In: Handbook of Road Ecology. van der Ree, R., Smith, D.J. and Grilo, C (eds.). John Wiley & Sons, Oxford. 552 pp. ISBN: 978-1-118-56818-7.

Select Project Experience

Automated Analysis of Animal-Vehicle Conflict Hotspots — National Center for Sustainable Transportation, University of California, Davis

Principal Investigator supervising graduate student, technician and undergraduate assistants. Designed the system and analytical approaches. Interacts with partner Departments of Transportation in phased development of the system. The tool uses dataset uploads from DOTs to automatically calculate two primary types of hotspot – density of incidents and statistically-significant clusters of incidents. Analytical product is automatically returned to the user as.csv and .shp files. *2017-Present*

Automated Image Processing and Analytical Tools for Departments of Transportation to Monitor Wildlife Movement — Federal Highway Administration

Principal Investigator supervising graduate student, contractors, technician and undergraduate assistants. Designed the system and analytical approaches. Interacts with partner Departments of Transportation in phased development of the system, which employs image analysis approaches to identify species in camera trap images. The system will also identify images with no animals present and provide tools for wildlife behavior analysis. *2017-Present*

Effects of Traffic Noise and Light on Wildlife-Crossing Mitigation Effectiveness — National Center for Sustainable Transportation, University of California, Davis

Principal Investigator supervising graduate student and undergraduate assistants. Designed the field investigation and analytical approaches. Interacts with Caltrans and other partners for field investigations. In first phase (2016-2017) identified potential reduction in structure use by sensitive species with increased traffic disturbance. In second phase, refining impact of vehicle lights and behavioral responses of wildlife approaching and within structures. *2016-present*

Develop Wireless Camera and Web Systems for Departments of Transportation to Monitor Wildlife Movement — Federal Highway Administration

Principal Investigator supervising technicians, contractors and undergraduate assistants. Investigated and designed instrument systems. Interacted with partner DOTs in deployment and testing. Images from the wireless (wifi and cell-communicating) cameras are automatically processed by the web-system, which also supports bulk upload and automated processing of images and user-identification of species and behavior. *2014-2017*

Feasible Alternatives to Highway and Marsh Protection Because of Sea Level Rise — Caltrans

Principal Investigator supervising technicians, contractors, and graduate student. Developed approach for adapting shoreline infrastructure to increased risk of flooding from a combination of sea level rise and storm surges. Approach combined transportation planning with environmental and economic analysis. Resulted in design alternatives for a raised highway that met different local and regional needs. *2014-2016*

California Pilot Test of the Integrated Ecological Framework – TRB, SHRP2 Program

Principal Investigator supervising technicians, graduate students, and contractors. California pilot test of the Integrated Ecological Framework, investigating ecological approaches to environmental protection developed in capacity research projects CO6A and CO6B. Transportation Research Board, Strategic Highway Research Program 2. *2010-2012*

HONGCHAO LIU, PH.D., P.E.

Director and Professor, Transtech Laboratory in Transportation, Texas Tech University, Lubbock, Texas

Hongchao Liu is a Professor and program leader in transportation system engineering at Texas Tech University. He received his PhD in transportation system engineering in 2000 from the University of Tokyo, Japan. Prior to joining the faculty of Texas Tech in 2004, he was a postdoctoral researcher and assistant research engineer at the California PATH program at the University of California at Berkeley. His research interest lies in the areas of traffic operation and control, data analytics, and using computer-aided methods to transportation system engineering and intelligent transportation systems. Throughout his career, he has been involved in over $9M research projects in the role of principal investigator, co-PI or team member, and has published over 100 technical papers and research reports. Recently, his research has been primarily focused on big data in transportation and application of infrastructure-based LiDAR to traffic and pedestrian detection. He is the recipient of several prestigious research and teaching awards from TTU including the George T. and Gladys Abell-Hanger Faculty Award, Whitcare Research Award and the Hemphill-Wells New Professor Excellence Award. He serves academic and professional societies through his membership in ASCE, TRB, ITE, and IEEE.

Education

- Ph.D., 2000, Transportation System Engineering, the University of Tokyo, Tokyo, Japan
- MS, 1996, Transportation Engineering, Tsinghua University, Beijing, China
- BE, 1993, Civil Engineering, Hebei University of Technology, Tianjin, China

Professional Experience

- Professor, Department of Civil, Environmental and Construction Engineering, Texas Tech University, 2014 – present
- Associate Professor, Department of Civil, Environmental and Construction Engineering, Texas Tech University, 2009-2014
- Assistant Professor, Department of Civil, Environmental and Construction Engineering, Texas Tech University, 2004-2009
- Assistant Research Engineer, Institute of Transportation Studies, the University of California at Berkeley, 2003-2004
- Postdoctoral Researcher, Institute of Transportation Studies, the University of California at Berkeley, 2001-2003

Professional Memberships & Committees

- American Society of Civil Engineers (ASCE)
- Institute of Electric and Electronic Engineers (IEEE)
- Institute of Transportation Engineers (ITE)
- Transportation Research Board (TRB)

Select Publications

Zhao, J., Xu, H., Wu, D., & **Liu, H.** (2018). An Artificial Neural Network to Identify Pedestrians and Vehicles from Roadside 360-Degree LiDAR Data. Proceedings of the 97th Transportation Research Board Annual Meeting, January, Washington, D.C., 2018. (No. 18-03129).

Zhao, J., Xu, H., Wu, J., & **Liu, H.** (2018). Detection Range Analysis of Roadside LiDAR Sensor. Submitted to 98th Transportation Research Board Annual Meeting.

Zhao, J., Xu, H., Wu, J., & **Liu, H.** (2018). Real-time Estimation of Pedestrians' Crossing Probabilities using Roadside LiDAR sensors. Submitted to 98th Transportation Research Board Annual Meeting.

Zhao, J., Xu, H., **Liu, H.**, Wu, J., Zheng, Y., & Wu, D. (2018). Detection and Tracking of Pedestrians and Vehicles using Roadside LiDAR Sensors. In Review, Transportation Research Part C.

Lin, W., **H. Liu**, and H.K. Lo (2016). "Editorial: Big Data for Driver, Vehicle, and System Control in ITS." *IEEE Transactions on Intelligent Transportation Systems*, **17**(6), 1663-1665.

Select Project Experience

Technical Assistance to Texas Department of Transportation Western Region in Transportation System Engineering

This multi-year, multidisciplinary research contract with the Western Region of the Texas Department of Transportation has laid a foundation for researchers at Texas Tech University to collaborate with TxDOT and serve the research needs of TxDOT Western Region and beyond. Since its inception, a total of 45 projects have been issued to Tech, with topics encompassing traffic operation and control, transportation planning, highway safety, traffic detection, data visualization, computer tool development, and big data analysis. Recently, a pilot study has been issued to integrate data from infrastructure-based LiDAR sensors with data collected from existing sensors such as inductive loop and video cameras. *Texas Department of Transportation, 2010-Present.*

Towards an Open-source Web-GIS Based Bridge Management System Using Advanced Geo-Spatial Data Visualization and Integration Technology.

The objective of this project was to develop and implement a web GIS-based bridge management system to allow advanced geo-spatial visualization and potential data integration on a centralized cloud platform. The tasks involve developing of mathematic models to assess the component-based deterioration, analyzing data from the NBI database, and developing a web GIS based bridge management system to allow advanced geospatial visualization and data integration. *US Department of Transportation Region VI University Transportation Center, 2017-2018*

Web-Based Routing Assistance Tool to Reduce Pavement Damage by Overweight and Oversize Vehicles

The Southern Plains region of the United States is a major hub of energy development. Many of the equipment and energy products (such as wind turbines) are oversized and overweight and are transported by trucks, which creates significant problems for bridge maintenance and rehabilitation. The project uses the data collected from recent energy development activities in the southern plains region and quantitatively assess how they have impacted the condition of highway infrastructure in these regions. Details of the study include: 1) the origin and destination (OD) analyses of the trucks carrying energy products; 2) estimation of the vehicle miles traveled (VMT) by these trucks; 3) the routing issues associated with the oversized and overweight trucks; and 4) developing predictive methods to estimate the impact of these trucks on pavement conditions. *US Department of Transportation Region VI University Transportation Center, 2016-2017.*

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

February 1, 2019

TO: **Department of Transportation Board of Directors**
FROM: **Kristina L. Swallow, Director**
SUBJECT: **February 11, 2019, Transportation Board of Directors Meeting**
ITEM #7: **Contracts, Agreements, and Settlements – *Informational Item Only***

Summary:

The purpose of this item is to inform the Board of the following:

- Construction contracts under $5,000,000 awarded November 7, 2018, through January 15, 2019.
- Agreements under $300,000 executed November 7, 2018, through January 15, 2019.

Any emergency agreements authorized by statute will be presented here as an informational item.

Background:

Pursuant to NRS 408.131(5), the Transportation Board has authority to "[e]xecute or approve all instruments and documents in the name of the State or Department necessary to carry out the provisions of the chapter". Additionally, the Director may execute all contracts necessary to carry out the provisions of Chapter 408 of NRS with the approval of the board, except those construction contracts that must be executed by the chairman of the board. Other contracts or agreements not related to the construction, reconstruction, improvement and maintenance of highways must be presented to and approved by the Board of Examiners. This item is intended to inform the Board of various matters relating to the Department of Transportation but which do not require any formal action by the Board.

The Department contracts for services relating to the construction, operation and maintenance of the State's multi-modal transportation system. Contracts listed in this item are all low-bid per statute and executed by the Governor in his capacity as Board Chairman. The projects are part of the STIP document approved by the Board. In addition, the Department negotiates settlements with contractors, property owners, and other parties to resolve disputes. These proposed settlements are presented to the Board of Examiners, with the support and advisement of the Attorney General's Office, for approval. Other matters included in this item would be any emergency agreements entered into by the Department during the reporting period.

The attached construction contracts constitute all that were awarded for construction from November 7, 2018, through January 15, 2019 and agreements executed by the Department from November 7, 2018, through January 15, 2019. There were no settlements during the reporting period.

Analysis:

These contracts have been executed following the Code of Federal Regulations, Nevada Revised Statutes, Nevada Administrative Code, State Administrative Manual, and/or Department policies and procedures.

List of Attachments:

A) State of Nevada Department of Transportation Contracts Awarded – Under $5,000,000, November 7, 2018, through January 15, 2019.

B) State of Nevada Department of Transportation Executed Agreements – Informational, November 7, 2018, through January 15, 2019.

Recommendation for Board Action: Informational item only

Prepared by: Administrative Services Division

Attachment A

STATE OF NEVADA DEPARTMENT OF TRANSPORTATION
CONTRACTS AWARDED - INFORMATIONAL
November 7, 2018, through January 15, 2019

1. October 25, 2018 at 1:30 PM the following bids were opened for Contract **3755**, Project No. NHP-0582(013), on SR 582, Boulder Highway, in Clark County, to replace Structure I-1899.

Fisher Sand & Gravel Co.	$2,446,446.00
Security Paving Company, Inc.	$2,472,745.18
Las Vegas Paving Corporation	$3,081,000.00
Meadow Valley Contractors, Inc.	$3,494,419.37
Engineer's Estimate	$2,769,198.02

The Director awarded the contract on November 19, 2018, to Fisher Sand & Gravel Co. in the amount of $2,446,446.00.

2. October 25, 2018 at 2:30 PM the following bids were opened for Contract **3756**, Project No. SPR-095-4(025)A, on US 95, Mina, from Sixth Street to Eleventh Street, in Mineral County, to construct sidewalks and ADA curb ramps.

V & C Construction, Inc.	$345,913.80
A & K Earth Movers, Inc.	$430,000.00
Road and Highway Builders LLC	$565,565.00
MKD Construction, Inc.	$644,543.00
Engineer's Estimate	$313,444.80

The Director awarded the contract on November 26, 2018, to V & C Construction, Inc. in the amount of $345,913.80.

3. November 8, 2018 at 1:30 PM the following bids were opened for Contract **3702-READV**, Project No. SI-0667(011), on SR 667 Kietzke Lane, from Mill Street to Galletti Way, in Washoe County, to install complete street design with pedestrian, bike, and ADA improvements.

Granite Construction Company	$3,021,021.00
Spanish Springs Construction, Inc.	$3,033,444.00
Sierra Nevada Construction, Inc.	$3,129,007.00
Q & D Construction LLC	$3,146,000.00
Engineer's Estimate	$2,851,828.57

The Director awarded the contract on November 26, 2018, to Granite Construction Company in the amount of $3,021,021.00.

4. November 8, 2018 at 2:00 PM the following bids were opened for Contract **807-18**, Project No. SP-MS-1212(005), at the Tonopah Maintenance Station Administration Building, in Nye County, for selective demolition, asbestos removal, rough carpentry, joint sealants, new doors and windows, finishes, specialties, mechanical and electrical.

MGM Construction, Inc.	$1,423,669.00
Richardson Construction	$2,206,200.00
Engineer's Estimate	$1,245,000.00

The Director awarded the contract on November 16, 2018, to MGM Construction, Inc. in the amount of $1,423,669.00.

5. November 29, 2018 at 1:30 PM the following bids were opened for Contract **3740**, Project No. SPI-015-2(017), on I-15, north of the Garnet Interchange to the Arizona Stateline, in Clark County, to install ITS Infrastructure.

Andersen Hoeram & Excavation	$2,281,946.00
MC4 Construction LLC	$2,898,059.00
Las Vegas Electric, Inc.	$2,997,625.30
Acme Electric	$3,141,239.00
Engineer's Estimate	$2,335,908.18

The Director awarded the contract on December 20, 2018, to Andersen Hoeram & Excavation in the amount of $2,281,946.00.

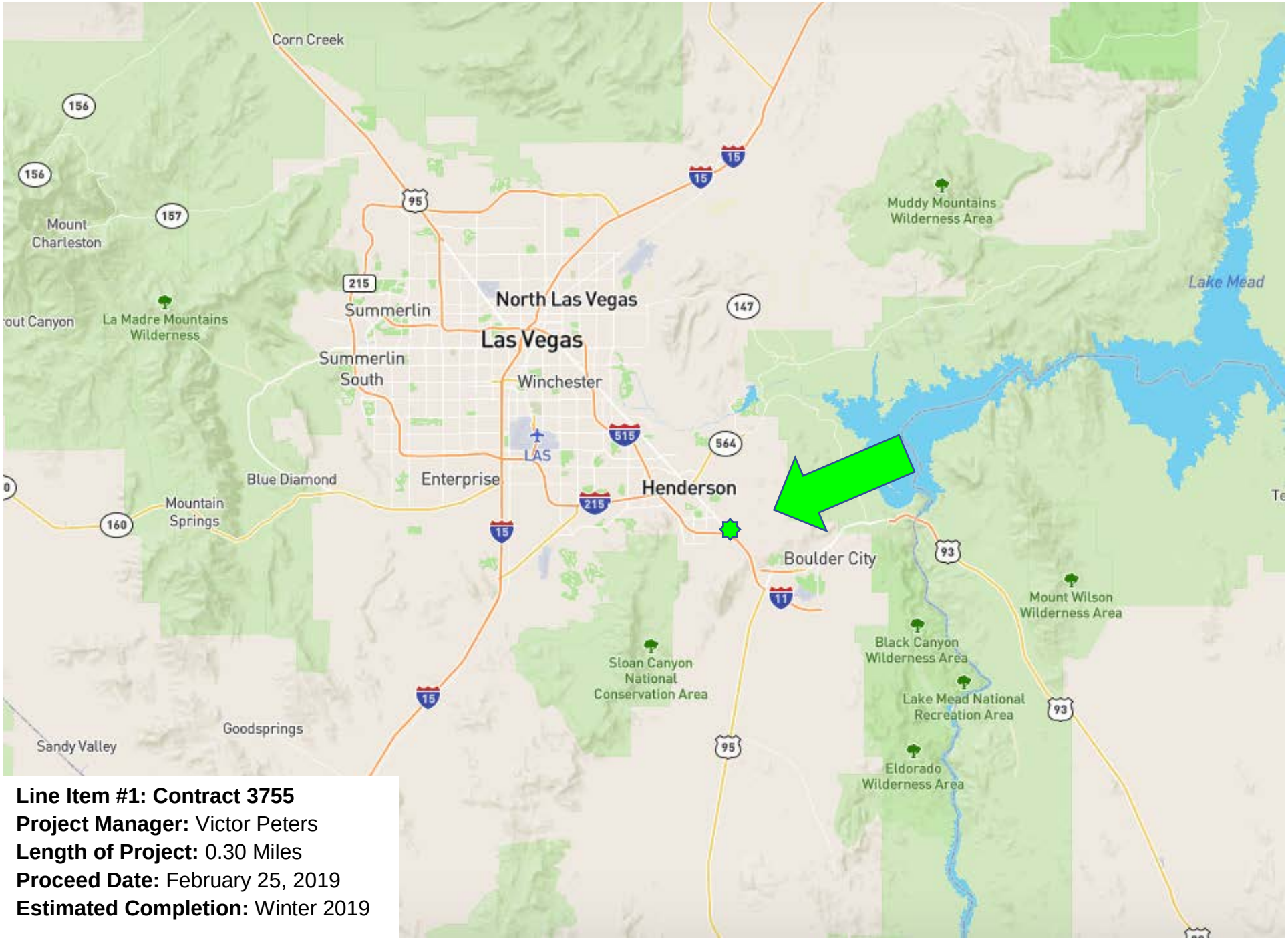
November 2018 Emergency Contract

Emergency repair due to extensive damage to the overhead door at the Sprung Structure covering the salt sand pile located at the NDOT Reno Maintenance Yard. This is the primary pile for our Reno based crews and is critical for winter operations.

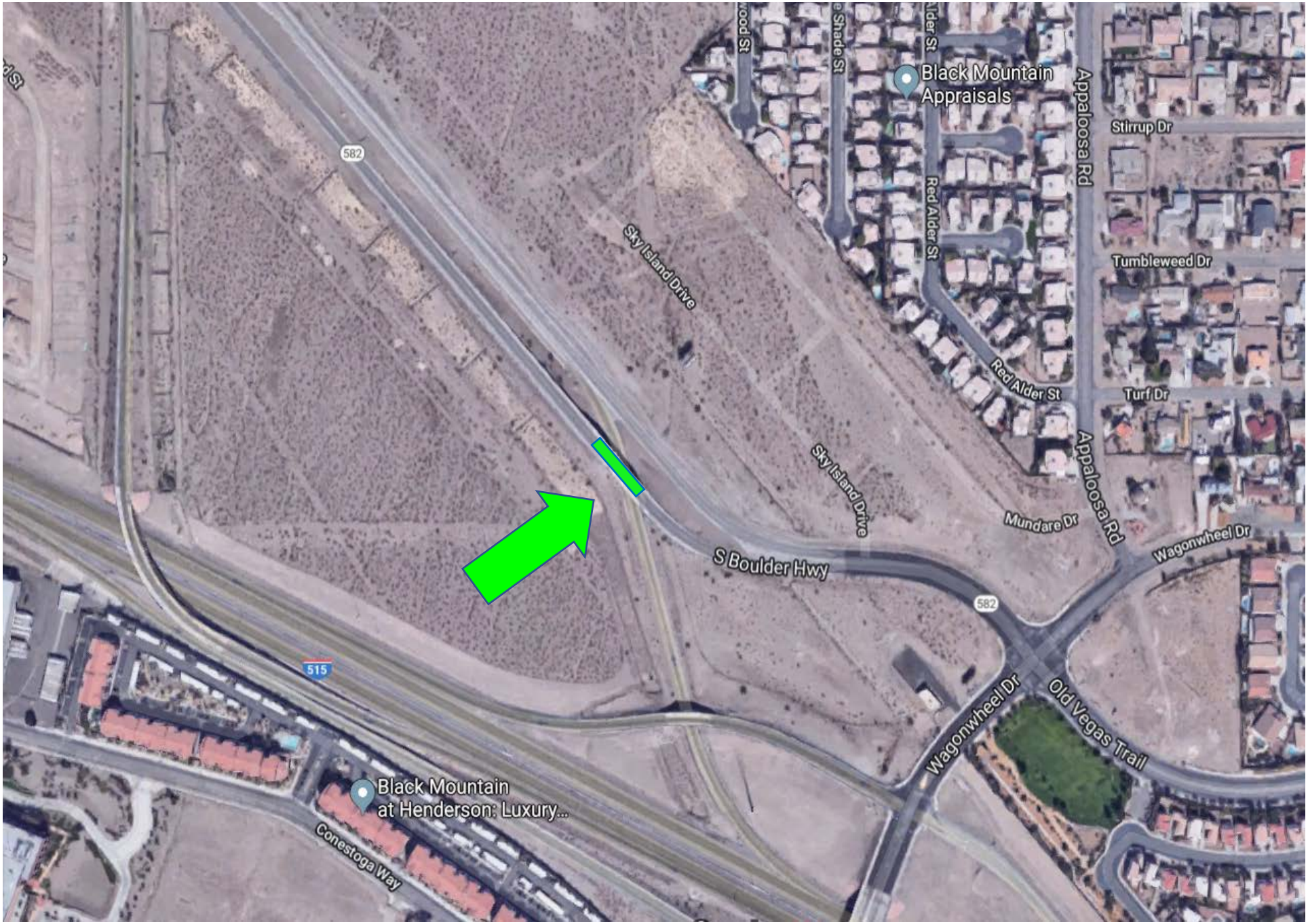
Work included moving sand and material to expose the entire affected area. Remove damaged bollard. Saw cut asphalt and excavate to receive a concrete footing approximately 4'L x 2'W x 3'D. This footing will become the base for the existing column supporting the roll-up door and to anchor the new bollard in position. Anchor a new stainless-steel drift pin in new footing base. Install new overhead door jamb and install to ensure overhead door works properly. Remove and replace 52 galvanized column base anchors and replace them with 431-grade Stainless Steel pins. Remove the flat-bar from the entire perimeter of building and replace with new. Replace the existing power vent hood (if needed) with a new 9000 CFM unit and ensure proper operation. Repair any tears, holes, or rips in the buildings membrane. Stretch membrane around damaged door area. Due to the propriety nature of the specialty tool needed to stretch the membrane, a technician from Sprung Structures will need to be employed. Legally dispose of all material and debris.

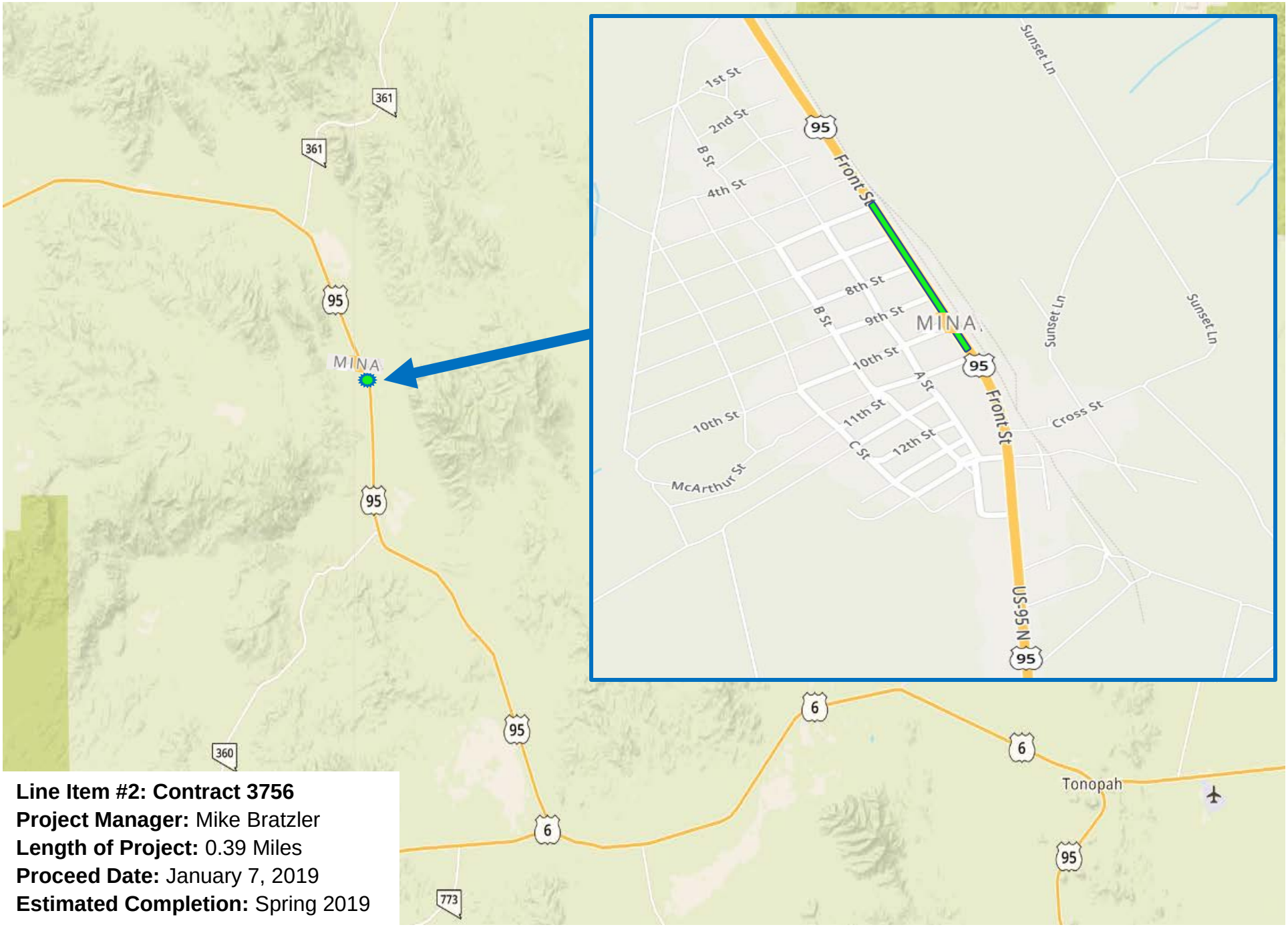
6. November 29, 2018, Contract **812-18**, at the NDOT Sprung Structure located at NDOT Reno Maintenance Yard, in Washoe County, for emergency repair due to extensive damage to the overhead door at the Southeast corner of the Sprung Structure.

   The Director awarded the contract on November 30, 2018, to FMI Facilities Management, Inc. in the amount of $69,870.00.

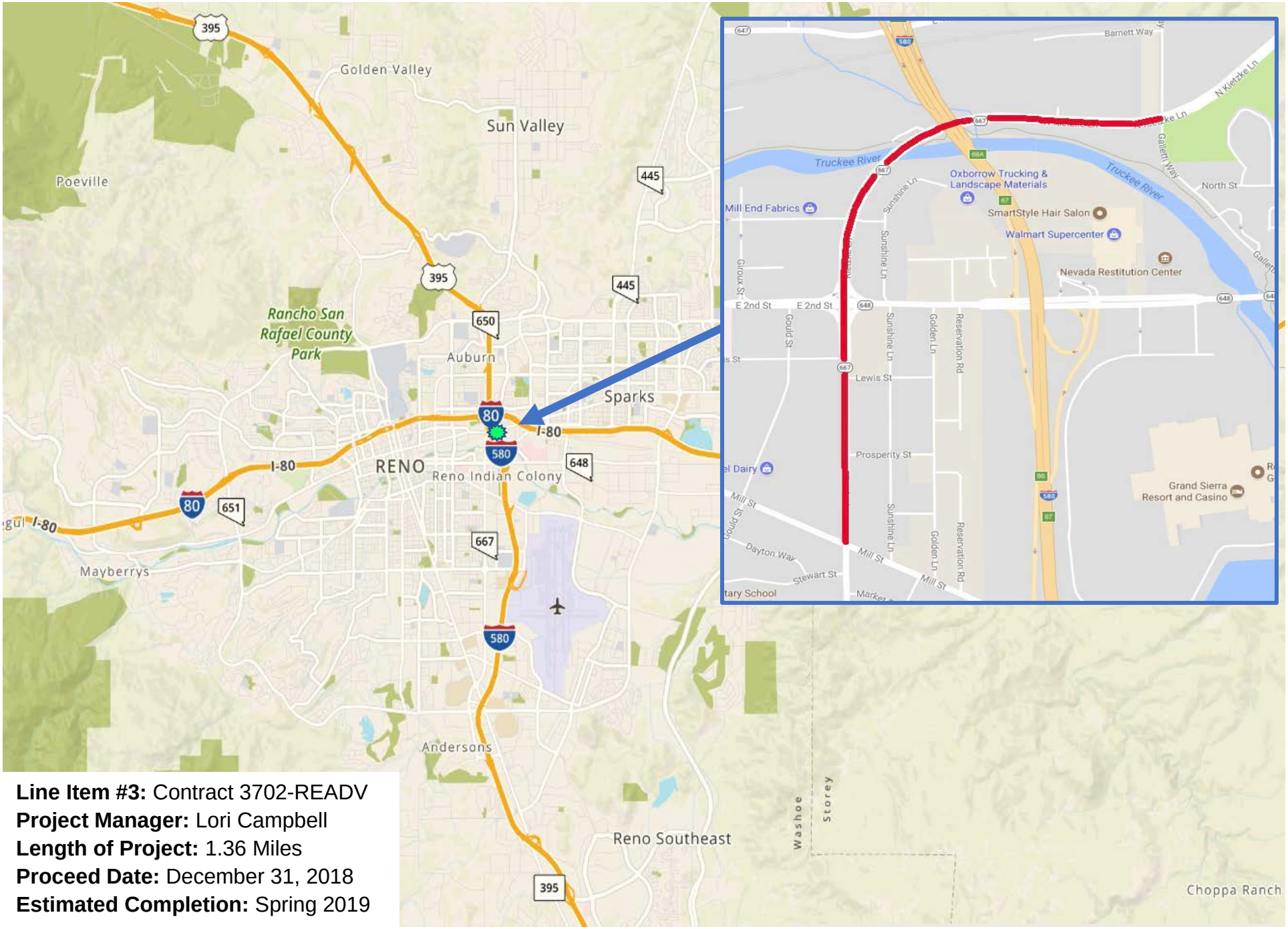


Line Item #1: Contract 3755
Project Manager: Victor Peters
Length of Project: 0.30 Miles
Proceed Date: February 25, 2019
Estimated Completion: Winter 2019

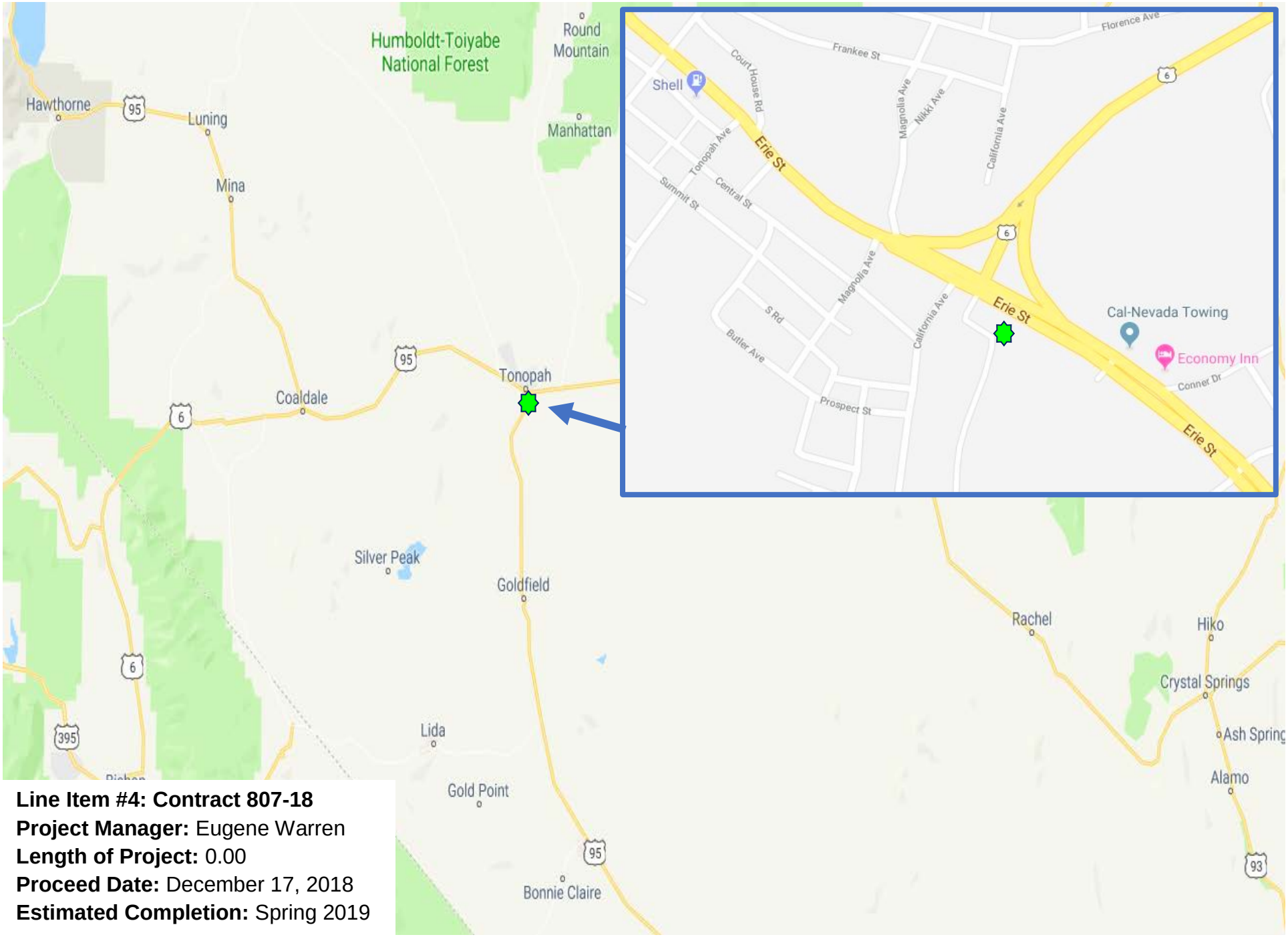

Black Mountain Appraisals
Appaloosa Rd
Stirrup Dr
Tumbleweed Dr
Turf Dr
Red Alder St
Sky Island Drive
Mundare Dr
S Boulder Hwy
Wagonwheel Dr
Old Vegas Trail
582
515
Black Mountain at Henderson: Luxury...
Conestoga Way



Line Item #2: Contract 3756
Project Manager: Mike Bratzler
Length of Project: 0.39 Miles
Proceed Date: January 7, 2019
Estimated Completion: Spring 2019



Line Item #3: Contract 3702-READV
Project Manager: Lori Campbell
Length of Project: 1.36 Miles
Proceed Date: December 31, 2018
Estimated Completion: Spring 2019



Line Item #4: Contract 807-18
Project Manager: Eugene Warren
Length of Project: 0.00
Proceed Date: December 17, 2018
Estimated Completion: Spring 2019

Line Item #5: Contract 3740
Project Manager: Eric MacGill
Length of Project: 59.470 miles
Proceed Date: April 22, 2019
Estimated Completion: Winter 2019

Line Item #6: Contract 812-18
Project Manager: Ryan Bennett
Length of Project: 0.00
Proceed Date: November 30, 2018
Estimated Completion: Spring 2019

Attachment B

State of Nevada Department of Transportation
Executed Agreements - Informational
November 7, 2018 through January 15, 2019

Line No.	Agreement No.	Amend No.	Contractor	Purpose	Fed	Original Agreement Amount	Amendment Amount	Payable Amount	Receivable Amount	Start Date	End Date	Amend Date	Agree Type	Division	Dir. Office	Notes
1	64718	00	STEPHANIE W. ALLEN	PARCEL ACQUISITION	N	55,000.00	-	55,000.00	-	11/1/2018	10/31/2023		Acquisition	Right-of-Way	Cole	11-01-18: ACQUISITION OF PARCEL S-321-LN-002.774 CONTAINING .03 ACRES, LOCATED AT THE NORTH JUNCTION OF PIOCHE ROAD AND URSINE ROAD, LINCOLN COUNTY. NV B/L#: NV20101732945
2	69718	00	WILLIAM L. MCGIMSEY	TEMPORARY EASEMENT	N	1,000.00	-	1,000.00	-	12/7/2018	3/30/2019		Acquisition	Right-of-Way	Cole	12-07-18: TEMPORARY EASEMENT OF PARCEL S-321-LN-002.778TE1 CONTAINING 20 SQUARE FEET LOCATED AT PIOCHE ROAD AND URSINE ROAD FOR CONSTRUCTION PURPOSES, LINCOLN COUNTY. NV B/L#: NVF20131377776
3	67518	00	ANDERSON VALUATION GROUP	PARCEL APPRAISALS	N	8,000.00	-	8,000.00	-	11/7/2018	10/31/2019		Appraisal	Right-of-Way	Cole	11-07-18: APPRAISAL OF SEVEN (7) PARCELS TO RENEW LEASE FOR I-015-CL-039.549 LE1 AND I-015-CL-039.595 AIRSPACE, CLARK COUNTY. NV B/L#: NVD20041285225
4	64918	00	JOHN S. WRIGHT AND ASSOCIATES	APPRAISAL REPORTS	Y	20,000.00	-	20,000.00	-	11/2/2018	10/31/2019		Appraisal	Right-of-Way	Cole	11-02-18: APPRAISAL REPORTS FOR FOUR (4) PROPERTIES ON THE MARTIN SLOUGH SHARED USE PATH FROM GILMAN AVENUE TO LUCERNE STREET (OFF SYSTEM) TO COMPLETE CONNECTIVITY OF PATHWAY AND FIBER OPTIC FACILITIES WITHIN THE LPA PROJECT, DOUGLAS COUNTY. NV B/L#: NVD20181096154
5	72518	00	MATHEWS COMMERCE, LLC	PARCEL APPRAISALS	Y	5,000.00	-	5,000.00	-	12/26/2018	12/31/2019		Appraisal	Right-of-Way	Cole	12-26-18: APPRAISAL OF PARCELS 178-11-499-002, 178-11-449-003, AND 178-11-499-011, FOR TOURO UNIVERSITY PARKING EXPANSION, CLARK COUNTY. NV B/L#: NVD20091178060.
6	49212	03	TOWN OF GARDNERVILLE	SIDEWALK IMPROVEMENTS	N	70,000.00	220,000.00	303,800.00	13,800.00	11/27/2012	6/30/2020	12/11/2018	Cooperative	Design	Cole	AMD 3 12-11-18: EXTEND TERMINATION DATE FROM 12-31-18 TO 06-30-20 DUE TO DELAYS IN OBTAINING PERMITS, AND INCREASE AUTHORITY BY $220,000.00 FROM $83,800.00 TO $303,800.00 DUE TO ADDITIONAL ITEMS REQUIRED BY THE DEPARTMENT, AND TO UPDATE CONTACT INFORMATION. AMD 2 12-08-16: EXTEND TERMINATION DATE FROM 12-31-16 TO 12-31-18 DUE TO CORPS (404) PERMIT ISSUES AND CONTINUED DELAYS. AMD 1 12-31-15: EXTEND TERMINATION DATE FROM 12-31-14 TO 12-31-16 DUE TO DELAYS IN PERMITTING. 11-27-12: AUTHORIZE STATE FUNDING AND ASSIST TOWN OF GARDNERVILLE WITH IMPROVEMENTS ALONG US 395 FROM KINGS LANE TO SOUTH OF INTERSECTION, DOUGLAS COUNTY. NV B/L#: EXEMPT
7	59617	01	USGS	COOPERATIVE MONITORING PROGRAM	Y	262,984.00	23,200.00	286,184.00	121,884.00	10/1/2017	9/30/2019	12/12/2018	Cooperative	Hydraulics	Cole	AMD 1 12-12-18: INCREASE AUTHORITY BY $23,200 FROM $262,984.00 TO $286,184.00 FOR THE INSTALLATION AND OPERATION OF MONITORING EQUIPMENT OF TWO (2) ADJACENT WELLS. 10-01-17: COOPERATIVE MONITORING PROGRAM FOR COLLECTING AND PUBLISHING PEAK FLOW DATA AND DISCHARGE MEASUREMENTS AT TWO (2) WELLS AND CONDUCT MONITORING OF GROUND WATER LEVELS IN THE AREA OF PROPOSED CONSTRUCTION IN ELY, WHITE PINE COUNTY. NV B/L#: EXEMPT
8	74117	01	AT&T	TRAFFIC SIGNAL INSTALLATION	N	147,700.69	136,684.80	284,385.49	-	11/30/2017	11/30/2023	12/20/2018	Facility	Right-of-Way	Cole	AMD 1 12-20-18: INCREASE AUTHORITY BY $136,684.80 FROM $147,700.69 TO $284,385.49 DUE TO A CHANGE IN THE SCOPE OF WORK TO INCREASE TRENCH DEPTH WHICH REQUIRES A TWO PERSON CREW, A FLAGGER, THREE PERSON TRAFFIC CONTROL, CONTRACTOR, ENGINEERING, TECHNICIANS, AND AN INCREASE IN SUPPLIES. 11-30-17: INSTALLATION OF NEW TRAFFIC SIGNAL AT USA PARKWAY AT ELECTRIC AVE, MILEPOST 9.67, STOREY COUNTY. NV B/L#: NVD19131000017
9	67818	00	KERN RIVER GAS TRANSMISSION COMPANY	PRELIMINARY ENGINEERING	N	240,000.00	-	240,000.00	-	11/7/2018	11/30/2024		Facility	Right-of-Way	Cole	11-07-18: PRELIMINARY ENGINEERING COSTS FOR PHASE 3D & 3E TO UPGRADE US 95 INTERCHANGE AND WIDEN CC 215 TO SIX (6) LANES, ON US 95 SOUTHWEST CORRIDOR, AT MP 88 AND CC 215 FROM HUALAPAI TO TENAYA WAY, CLARK COUNTY. NV B/L#: NVF20171762037
10	67918	00	NV ENERGY	PRELIMINARY ENGINEERING	N	10,175.00	-	10,175.00	-	11/7/2018	11/30/2024		Facility	Right-of-Way	Cole	11-07-18: PRELIMINARY ENGINEERING COSTS TO WIDEN EASTBOUND I-80 TO SOUTHBOUND I-580 TO TWO LANES, RESTORE THE THIRD SOUTHBOUND LANE AT I-80, AND TO CONSTRUCT A RAMP BRAID BETWEEN 2ND STREET/GLENDALE AND MILL STREET, WASHOE COUNTY. NV B/L#: NVD19831015840.
11	64218	00	NV ENERGY	LINE EXTENSION AGREEMENT	N	8,680.00	-	8,680.00	-	10/30/2018	10/31/2023		Facility	Right-of-Way	Cole	10-30-18: LINE EXTENSION AGREEMENT TO INSTALL A NEW 100A POWER SERVICE FOR LIGHTING IMPROVEMENT AT 12105 US 50 AT TURF FARM IN STAGECOACH, LYON COUNTY. NV B/L#: NVD19831015840
12	63718	00	NV ENERGY	LINE EXTENSION AGREEMENT	N	1,011.00	-	1,011.00	-	10/29/2018	10/31/2023		Facility	Right-of-Way	Cole	10-29-18: LINE EXTENSION AGREEMENT TO LAY 2 INCH COLDMILL WITH 2 INCH BITUMINOUS SURFACE WITH AN OPEN GRADED SURFACE ON I-580, CARSON CITY FREEWAY, FROM WILLIAMS STREET TO 0.66 MILES SOUTH OF THE CARSON CITY/ WASHOE COUNTY LINE, CARSON CITY COUNTY. NV B/L#: NVD19831015840
13	63818	00	NV ENERGY	LINE EXTENSION AGREEMENT	N	1,137.00	-	1,137.00	-	10/29/2018	10/31/2023		Facility	Right-of-Way	Cole	10-29-18: LINE EXTENSION AGREEMENT TO LAY 2 INCH COLDMILL WITH 2 INCH BITUMINOUS SURFACE WITH AN OPEN GRADED SURFACE ON I-580, CARSON CITY FREEWAY, FROM WILLIAMS STREET TO 0.66 MILES SOUTH OF THE CARSON CITY/ WASHOE COUNTY LINE, CARSON CITY COUNTY. NV B/L#: NVD19831015840
14	64118	00	SIERRA PACIFIC POWER COMPANY	LINE EXTENSION AGREEMENT	N	8,649.00	-	8,649.00	-	10/30/2018	10/31/2023		Facility	Right-of-Way	Cole	10-30-18: LINE EXTENSION AGREEMENT TO UPGRADE AN EXISTING 100A POWER TO 200A FOR THE INSTALLATION OF INTELLIGENT TRANSPORTATION SYSTEM (ITS) INFRASTRUCTURE AT THE INTERSECTION OF 272 DEL MONTE AND NEIL ROAD, WASHOE COUNTY. NV B/L#: NVD19831015840
15	70618	00	CITY OF YERINGTON	AVIATION GRANT	N	18,867.00	-	18,867.00	-	12/3/2018	12/31/2018		Grantee	Transportation & Multimodal Planning	Sondra	12-03-18: FEDERAL AVIATION ADMINISTRATION (FAA) AIRPORT IMPROVEMENT PROJECT 3-32-0022-017-2017, FOR THE RECONSTRUCTION OF THE MAIN RUNWAY AND TAXIWAYS AT THE YERINGTON MUNICIPAL AIRPORT, LYON COUNTY. NV B/L#: EXEMPT

Line No.	Agreement No.	Amend No.	Contractor	Purpose	Fed	Original Agreement Amount	Amendment Amount	Payable Amount	Receivable Amount	Start Date	End Date	Amend Date	Agree Type	Division	Dir. Office	Notes
16	36718	00	TAHOE RESOURCE CONSERVATION DISTRICT	STORMWATER TREATMENT EFFECTIVENESS STUDY	N	100,050.00	-	100,050.00	-	12/18/2018	6/30/2020		Interlocal	Stormwater	Clifford	12-18-18: THE TAHOE RESOURCE CONSERVATION DISTRICT (TAHOE RCD) WILL COLLECT CONTINUOUS FLOW, TURBIDITY, PRECIPITATION, AND TEMPERATURE DATA AT THE FOUR BMP MONITORING SITES USING EXISTING REMOTE ACCESS MONITORING EQUIPMENT. IN ADDITION, TAHOE RCD WILL CONDUCT DISCRETE WATER QUALITY SAMPLING FOR A MAXIMUM TEN EVENTS BETWEEN JANUARY 1, 2019 AND JUNE 30, 2020. WATER QUALITY SAMPLING WILL BE DISTRIBUTED ACROSS ALL SEASONS. DISCRETE WATER QUALITY SAMPLES WILL BE COMPOSITED USING A FLOW WEIGHTED METHOD AND ANALYZED FOR THE LAKE TAHOE POLLUTANTS OF CONCERN: FINE SEDIMENT PARTICLES, TOTAL PHOSPHORUS (TP), SOLUBLE REACTIVE PHOSPHATE (SRP), AND TOTAL NITROGEN (TN) AND DISSOLVED INORGANIC NITROGEN. BEING ABLE TO LINK ROAD CONDITION AND POLLUTANT LOAD HAS BECOME INCREASINGLY IMPORTANT AS THE TMDL MANAGEMENT SYSTEM EVOLVES. PERFORMING A ROAD RAM ASSESSMENT PRIOR TO A MONITORED RUNOFF EVENT WILL ALLOW STAFF TO DETERMINE THE STRENGTH OF THE CORRELATION BETWEEN ROAD CONDITION AND POLLUTANT LOAD TREATED IN THE VAULTS. MEASURING SEDIMENT DEPTH IN THE VAULTS POST EVENT WILL INDICATE IF AND WHEN MAINTENANCE NEEDS TO BE PERFORMED. MAINTENANCE CONSISTS PRIMARILY OF REMOVING ACCUMULATED SEDIMENTS THAT REDUCE VAULT PERFORMANCE AND IMPAIR MONITORING EQUIPMENT FUNCTION, CARSON CITY, WASHOE, AND DOUGLAS COUNTIES. NV B/L#: EXEMPT
17	65018	00	TAHOE RESOURCE CONSERVATION DISTRICT	STORMWATER COMPLIANCE MONITORING	N	140,000.00	-	140,000.00	-	12/12/2018	12/31/2022		Interlocal	Hydraulics	Cole	12-12-18: FULFILL THE REGULATORY REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS ISSUED BY THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD FOR THE TAHOE AREA. ALL DATA WILL BE COLLECTED IN A MANNER CONSISTENT WITH REGIONAL STORMWATER MONITORING PROGRAM (RSWMP) PROTOCOLS AS OUTLINED THE IN RSWMP FRAMEWORK AND IMPLEMENTATION GUIDANCE DOCUMENT (FIG). TAHOE RCD WILL COLLECT CONTINUOUS DISCHARGE, TURBIDITY, PRECIPITATION, AND TEMPERATURE DATA AT ALL SITES. IN ADDITION, TAHOE RCD WILL CONDUCT DISCRETE WATER QUALITY SAMPLING FOR A MINIMUM 6 EVENTS, BUT IF WEATHER ALLOWS, WILL SAMPLE THE IDEAL RANGE OF 10-12 EVENTS PER YEAR DISTRIBUTED ACROSS ALL SEASONS. THE 10-12 EVENTS SAMPLING FREQUENCY IS RECOMMENDED TO GENERATE ENOUGH SAMPLES PER YEAR FROM EACH SITE TO PROVIDE STATISTICALLY DEFENSIBLE AVERAGE ANNUAL LOAD ESTIMATES. TAHOE RCD WILL COMPILE RESULTS AND DISCUSS FINDINGS IN AN ANNUAL STORMWATER MONITORING REPORT COMPLIANT WITH PERMIT AND NEVADA INTERLOCAL AGREEMENTS (ILA) REQUIREMENTS., CARSON CITY, WASHOE, AND DOUGLAS COUNTIES. NV B/L#: EXEMPT
18	59318	00	UNIVERSITY OF NEVADA, RENO	RESEARCH STUDY	Y	217,512.00	-	217,512.00	-	11/13/2018	12/31/2020		Interlocal	Research	Sondra	11-13-18: THE PROPOSED PROJECT IS TO DEVELOP A NEW DESIGN AND DETAILING PROCEDURE FOR CAST-IN-PLACE (CIP) AND PRECAST COLUMN POCKET CONNECTIONS FOR APPLICATION IN CONVENTIONAL AND ACCELERATED BRIDGE CONSTRUCTION (ABC) IN NEVADA. THE DETAILING PROCEDURE FOR CIP CONNECTIONS WILL TAKE ADVANTAGE OF THE LESSONS LEARNED FROM A SIGNIFICANT NUMBER OF RECENT STUDIES BY THE PI AND OTHERS TO SIMPLIFY CONVENTIONAL CONSTRUCTION BY REDUCING STEEL CONGESTION IN CONNECTIONS. THE DETAILING PROCEDURE FOR PRECAST COLUMNS WILL INTEGRATE RESULTS FROM RECENT TESTS, ANALYSES, AND DESIGN METHOD DEVELOPMENTS TO PROPOSE PRACTICAL DESIGN METHODS THAT NDOT MAY ADOPT TO FINALIZE ITS ABC PROGRAM. ACCOMPLISHING THE OVERALL OBJECTIVE WILL CONTRIBUTE TO NDOT'S ONGOING EFFORTS TO UPDATE AND DEVELOP NEW DESIGN AND DETAILING STANDARDS FOR THE FOOTING AND PIER CAP CONNECTION AREAS FOR BOTH CIP AND PRECAST CONSTRUCTION. THE PROPOSED STUDY WILL ALSO INCLUDE INNOVATIVE MATERIALS TO FURTHER ENHANCE THE SEISMIC PERFORMANCE OF BRIDGE COLUMN-FOOTING HINGE CONNECTIONS THROUGH LOW-YIELD COPPER, ALUMINUM, AND MANGANESE (CAM) BARS. RECENT STUDIES HAVE SHOWN SUCCESSFUL PERFORMANCE OF SHAPE MEMORY ALLOY (SMA) BARS, AND THESE BARS HAVE BEEN DEPLOYED IN THE COLUMNS OF A THREE-SPAN BRIDGE IN DOWNTOWN SEATTLE, WASHINGTON. TO ENABLE THE STUDY IN A COST EFFECTIVE AND TIMELY MANNER, EXTENSIVE USE AND INTEGRATION OF RECENT EXPERIMENTAL AND ANALYTICAL STUDIES OF THE SEISMIC RESPONSE OF POCKET CONNECTIONS WILL BE MADE, STATEWIDE. NV B/L#: EXEMPT
19	42815	02	AECOM TECHNICAL SERVICES, INC.	ENGINEERING SERVICES	N	3,979,349.78	255,360.26	4,234,710.04	-	4/5/2016	6/30/2019	12/17/2018	Service Provider	Construction	Thor	AMD 2 12-17-18: UPDATE SERVICE PROVIDER NAME DUE TO NAME CHANGE AND INCREASE AUTHORITY BY $255,360.26 FROM $3,979,349.78 TO $4,234,710.04 DUE TO THE NEED FOR CLAIM SUPPORT SERVICES FOR THE DURATION OF THIS PROJECT. AMD 1 04-25-18: EXTENSION OF TERMINATION DATE FROM 06-30-18 TO 06-30-19 TO RETAIN KEY PERSONNEL. 03-14-16: PROVIDE FULL CONSTRUCTION ENGINEERING ADMINISTRATION, INCLUDING PROFESSIONAL AND TECHNICAL ENGINEERING SERVICES, TO ENSURE THAT THE CONSTRUCTION OF PROJECT SPSR-0604(029) LOCATED ON SR 604, LAS VEGAS BOULEVARD, FROM EAST CAREY AVENUE TO 0.24 MILES NORTH OFCRAIG ROAD IS ACCOMPLISHED IN CONFORMANACE WITH THE PLANS, SPECIFICATIONS, AND ALL OTHER CONTRACT DOCUMENTS, CLARK COUNTY. NV B/L#: NVD19701000792-R
20	66718	00	ANNIE'S JANITORIAL	JANITORIAL SERVICES	N	89,500.00	-	89,500.00	-	12/18/2018	3/31/2022		Service Provider	District II	Tracy/Mike	12-18-18: PROVIDE JANITORIAL SERVICES AT THE WADSWORTH REST AREA ON I-80 WESTBOUND, 24 MILES EAST OF RENO, WASHOE COUNTY. NV B/L#: NVS20131145514-Q PROPOSERS: ANNIE'S JANITORIAL, F.A.A.D. JANITORIAL INC., ABLE JANITORIAL SERVICE, MCNEIL'S CLEANING SERVICES INC., AND MARSHALL'S SEPTIC CARE
21	47518	00	AZTECH MATERIALS TESTING, INC.	INDEPENDENT ASSURANCE TESTING	N	299,586.00	-	299,586.00	-	12/17/2018	12/31/2019		Service Provider	Construction	Thor	12-17-18: PROVIDE INDEPENDENT ASSURANCE TESTERS, ON AS **AS-NEEDED BASIS**, TO SUPPORT THE DEPARTMENT'S WORKLOAD DUE TO THE SIZE AND SCOPE OF PROJECTS ANTICIPATED TO BE UNDER CONSTRUCTION FOR ALL THREE DISTRICTS, BY MAINTAINING AND ENSURING PROJECT COMPLIANCE, STATEWIDE. NV B/L#: NVD19991253304-R PROPOSERS: AZTECH INSPECTIONS AND TESTING SERVICES, CONSTRUCTION TESTING SERVICES, NINYO & MOORE, NOVA GEOTECHNICAL & INSPECTIONS.

Line No.	Agreement No.	Amend No.	Contractor	Purpose	Fed	Original Agreement Amount	Amendment Amount	Payable Amount	Receivable Amount	Start Date	End Date	Amend Date	Agree Type	Division	Dir. Office	Notes
22	65918	00	BEARCAT MANUFACTURING	REFURBISH OIL DISTRIBUTOR	N	92,610.00	-	92,610.00	-	11/14/2018	5/30/2019		Service Provider	Equipment	Thor	11-14-18: REFURBISHMENT OF UNIT 2463 BEARCAT OIL DISTRIBUTOR, WHITE PINE COUNTY. NV B/L#: EXEMPT-S
23	59118	00	BRIGHT CLEANING SERVICE, LLC	JANITORIAL SERVICES	N	119,810.00	-	119,810.00	-	11/29/2018	6/30/2021		Service Provider	District I	Tracy/Mary	11-29-18: PROVIDE JANITORIAL SERVICES AT THE SOUTHERN MAINTENANCE STATION AND THE WAGON WHEEL OFFICE, CLARK COUNTY. NV B/L#: NVD20161746014-Q PROPOSERS: BRIGHT CLEANING SERVICE, FAITH VISION, INC, AND JANI KING OF LAS VEGAS
24	65818	00	CASHMAN EQUIPMENT	MOTOR GRADER MAINTENANCE	N	52,248.40	-	52,248.40	-	12/6/2018	2/15/2019		Service Provider	Equipment	Thor	12-06-18: REPLACE THE FAILED TRANSMISSION GROUP AND RELATED PARTS FOR UNIT 0998, CATERPILLAR MOTOR GRADER, THAT IS CRITICAL IN MAINTAINING NEVADA'S HIGHWAYS FOR NEW CONSTRUCTION, HIGHWAY SHOULDER GRADING, AND CLEARING NEVADA'S ROADS OF SNOW AND ICE IN THE WINTER MONTHS. , WASHOE COUNTY. NV B/L#: NVD19601000406
25	58418	01	CH2M HILL	GRANT PREPARATION SERVICES	N	105,441.86	55,924.54	161,366.40	-	10/3/2018	6/30/2019	12/4/2018	Service Provider	Structures	Thor	AMD 1 12-04-18: INCREASE AUTHORITY BY $55,924.54 FROM $105,441.86 TO $161,366.40 DUE TO ADDITIONAL SCOPE OF SERVICES TO COMPLETE A COST-BENEFIT ANALYSIS ASSOCIATED WITH EACH GRANT APPLICATION. 10-03-18: PROVIDING TECHNICAL ASSISTANCE REQUIRED TO PREPARE A GRANT APPLICATION FOR FEDERAL FUNDS OFFERED THROUGH THE FHWA'S COMPETITIVE HIGHWAY BRDIGE PROGRAM, STATEWIDE. NV B/L#: NVF19931065492
26	57918	00	D&B PROFESSIONAL CLEANING SVCS	JANITORIAL SERVICES	N	65,760.00	-	65,760.00	-	11/16/2018	10/15/2021		Service Provider	District III	Tracy/Boyd	11-16-18: PROVIDE JANITORIAL SERVICES AT THE PEQUOP SUMMIT REST STOP ON THE EASTBOUND AND WESTBOUND SIDES LOCATED ON I-80 BETWEEN WELLS AND WENDOVER, AND THE TRUCK PARKING AREA (EASTBOUND) LOCATED ON I-80 1.0 MILE EAST OF WELLS, ELKO COUNTY. NV B/L#: NVP20101094756-Q PROPOSERS: D&B PROFESSIONAL CLEANING SERVICES AND 2 KLEAN 4 U.
27	56418	00	F.A.A.D. JANITORIAL, INC.	JANITORIAL SERVICES	N	64,240.00	-	64,240.00	-	11/11/2018	3/31/2022		Service Provider	District II	Tracy/Mike	11-11-18: PROVIDE JANITORIAL SERVICES AT THE WILSON CANYON REST AREA, 10 MILES EAST OF WELLINGTON, AND THE WILSON CANYON MONUMENT, LYON COUNTY. NV B/L#: NVD20041538232-Q PROPOSERS: F.A.A.D. JANITORIAL INC. AND MASON VALLEY JANITORIAL
28	59018	00	FAITH VISION INC.	JANITORIAL SERVICES	N	178,600.00	-	178,600.00	-	11/26/2018	6/30/2021		Service Provider	District I	Tracy/Mary	11-26-18: PROVIDE JANITORIAL SERVICES AT THE SOUTHERN NEVADA VISITOR CENTER AND BRAKE CHECK AREA, CLARK COUNTY. NV B/L#: NVD20091465624-Q PROPOSERS: FAITH VISION, INC. AND ARMAO JANITORIAL SERVICES
29	57718	00	LAS VEGAS PAVING CORPORATION	REPLACE BRIDGE DECK OVERLAY	N	247,138.00	-	247,138.00	-	11/15/2018	6/30/2019		Service Provider	District I	Tracy/Mary	11-15-18: REMOVE AND REPLACE TWO AND ONE HALF INCH COLDMILL AND OVERLAY ON THE I-711N BRIDGE DECK ON I-15 NORTHBOUND AT JEAN, CLARK COUNTY. NV B/L#: NVD19581000650-Q PROPOSERS: LAS VEGAS PAVING CORPORATION AND AGGREGATE INDUSTRIES- SWR, INC.
30	35518	00	MND AMERICA CORP.	AVALANCHE SHELTER SERVICES	N	100,000.00	-	100,000.00	-	12/13/2018	12/31/2020		Service Provider	District II	Tracy/Mike	12-13-18: PROVIDE MAINTENANCE, EMERGENCY SERVICES, AND REPLACEMENT PARTS ON THE REMOTE AVALANCE CONTROL SYSTEM (RACS) LOCATED ON MT. ROSE HIGHWAY. MAINTENANCE WILL INCLUDE, BUT IS NOT LIMITED TO, TESTING SOFTWARE, INSPECT THREE CANNONS FOR ANY CRACKS OR FATIGUE, GAS LINE INSPECTION AND VERIFICATION, VALIDATION OF COMMUNICATIONS, VERIFICATION OF ELECTRICAL COMPONENTS, CHECK AND REPLACE BATTERIES IN CONTROL BOXES, SPRING SHUT DOWN, SUMMER MAINTENANCE, AND FALL START-UP, WASHOE COUNTY. NV B/L#: NVF20181656842-S
31	64117	02	MOVE TRAFFIC, LLC	TRAINING ON TEMPORARY TRAFFIC CONTROL AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)	N	42,900.00	14,290.00	100,090.00	-	2/8/2018	6/30/2019	12/20/2018	Service Provider	Training	Bill	AMD 2 12-20-18: EXTEND TERMINATION DATE FROM 12-31-18 TO 06-30-19 AND INCREASE AUTHORITY BY $14,290.00 FROM $85,800.00 TO $100,090.00 FOR AN ADDITIONAL SPECIALIST AND MANAGER PROGRAM TRAINING NEEDED FOR DISTRICT II. AMD 1 07-05-18: INCREASE AUTHORITY BY $42,900.00 FROM $42,900.00 TO $85,800.00 DUE TO ADDITIONAL TRAINING NEEDED IN EACH DISTRICT, CLARK, NYE, WASHOE, CHURCHILL, AND ELKO COUNTIES. 02-08-18: PROVIDE TRAINING ON TEMPORARY TRAFFIC CONTROL AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS IN EACH DISTRICT, CLARK, WASHOE, AND ELKO COUNTIES. NV B/L#: NVF2018157983
32	74118	00	NEESER CONSTRUCTION	INSTALL WALLS & OVERHEAD DOOR	N	33,737.00	-	33,737.00	-	1/4/2019	6/30/2019		Service Provider	District III	Tracy/Boyd	01-04-19: INSTALL WALLS AND OVERHEAD DOOR TO ENCLOSE A LEAN TO METAL BUILDING LOCATED IN THE WINNEMUCCA SUB DISTRICT MAIN YARD, HUMBOLDT COUNTY. NV B/L#: NVD19851012821-Q PROPOSERS: NEESER CONSTRUCTION
33	10218	00	OTIS ELEVATOR COMPANY	ELEVATOR MAINTENANCE	N	19,400.00	-	19,400.00	-	12/10/2018	2/28/2023		Service Provider	District I	Tracy/Mary	12-10-18: PROVIDE ELEVATOR MAINTENANCE, INSPECTION, AND REPAIRS OF THE TRAFFIC MANAGEMENT CENTER'S ELEVATOR EQUIPMENT ON A MONTHLY BASIS, CLARK COUNTY. NV B/L#: NVF19441000038-Q PROPOSERS: OTIS ELEVATOR AND SCHINDLER ELEVATOR CORP.
34	66818	00	PAR ELECTRICAL CONTRACTORS	INSTALL LIGHTING	N	18,698.00	-	18,698.00	-	12/11/2018	12/31/2019		Service Provider	Safety	Sondra	12-11-18: INSTALLATION OF NEW LED LIGHTS AT THE INTERSECTION OF NORTH MCCARRAN AT SOCRATES DRIVE AND EVANS AVENUE FOR PEDESTRIAN SAFETY, WASHOE COUNTY. NV B/L#: NVF19931031312-Q PROPOSERS: PAR ELECTRICAL CONTRACTORS, INC. AND TITAN ELECTRICAL CONTRACTING, INC.
35	70018	00	PATRICIA CRAMER	WILDLIFE MITIGATION RESEARCH	Y	146,000.00	-	146,000.00	-	12/13/2018	12/31/2021		Service Provider	Research	Sondra	12-13-18: RESEARCH AND REPORT ON STRATEGIC INTEGRATION OF WILDLIFE MITIGATION INTO TRANSPORTATION PROCEDURES AS PART OF TRANSPORTATION POOLED FUND PROJECT TPF 5(358) ON WILDLIFE VEHICLE COLLISION (WVC) REDUCTION AND HABITAT CONNECTIVITY, STATEWIDE. NV B/L#: NVS20161672864 PROCURED THROUGH FEDERAL RESEARCH PROCUREMENT PROCESS
36	20118	00	PRECISION CRANE & HOIST SERVICES	CRANE AND HOIST MAINTENANCE	N	23,300.00	-	23,300.00	-	12/6/2018	6/30/2022		Service Provider	District I	Tracy/Mary	12-06-18: CRANE AND HOIST MAINTENANCE AND SERVICE AT MULTIPLE LOCATIONS IN DISTRICT I, CLARK, NYE, LINCOLN, MINERAL, AND ESMERALDA COUNTIES. NV B/L#: NVD20051280421-Q PROPOSERS: PRECISION CRANE & HOIST SERVICES
37	57818	00	REYMAN BROTHERS CONSTRUCTION	REMODEL	N	174,503.00	-	174,503.00	-	12/11/2018	7/31/2019		Service Provider	Architecture	Thor	12-11-18: REMODEL ROOMS 315, 318, 319, AND 320 ON LEVEL 3 OF THE DEPARTMENT'S HEADQUARTERS BUILDING TO RECONFIGURE WORK STATIONS AND ALLOW RELOCATION OF PERSONNEL INTO THE SAME WORK AREAS FOR MULTIMODAL, STORMWATER, AND LEGAL SECTIONS TO PROMOTE CONTINUITY OF WORK FLOW AND WORK TEAM OPERATIONS, CARSON CITY COUNTY. NV B/L#: NVD19931038130-Q PROPOSERS: REYMAN BROTHERS CONSTRUCTION, INC.

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38	36318	01	SENTINEL BUILDERS, LLC	DISASSEMBLY OF SPRUNG	N	65,822.00	8,470.00	74,292.00	-	9/28/2018	7/31/2019	12/6/2018	Service Provider	Architecture	Thor	AMD 1 12-06-18: INCREASE AUTHORITY BY $8,470.00 FROM $65,822.00 TO $74,292.00 DUE TO A CHANGE IN THE SCOPE OF SERVICES FROM PARTIALLY DISASSEMBLING THE SPRUNG STRUCTURE BY REMOVING ONLY THE EXTERIOR SURFACE TO COMPLETELY DISMANTLING THE ENTIRE METAL FRAME BECAUSE THE STRUCTURE WOULD HAVE REQUIRED ADDITIONAL ANCHORS WHICH WOULD HAVE PRESENTED A SIGNIFICANT HAZARD TO PERSONNEL. 09-28-18: DISASSEMBLY OF THE SPRUNG MEMBRANE AT THE TRENTO LOCATION OF THE FALLON MAINTENANCE STATION, DUE TO NONCOMPLIANCE WITH THE 2012 INTERNATIONAL FIRE CODE. REMOVING THE SPRUNG MEMBRANE FOR STORAGE UNTIL THE ENTIRE SPRUNG CAN BE MOVED, WILL MAKE THE ASPHALT PAVING EQUIPMENT CLEANING SYSTEM (APECS) INSIDE THE SPRUNG OPERATIONAL FOR TRUCK WASH CLEANING, CHURCHILL COUNTY. NV B/L#: NVD20111419664 - Q PROPOSERS: SENTINEL BUILDERS, LLC
39	35318	00	TICOR TITLE	TITLE REPORTS	N	20,000.00	-	20,000.00	-	1/7/2019	12/31/2021		Service Provider	Agency Risk Management	Eduardo	01-07-19: PROVIDE TITLE REPORTS, RESEARCH AND ANALYSIS SERVICES, AND PREPARATION FOR TRIAL FOR VARIOUS CONSTRUCTION PROJECTS, STATEWIDE. NV B/L#: NVD20021232227-Q PROPOSER: TICOR TITLE
40	63918	00	TITLE SERVICE & ESCROW COMPANY	TITLE REPORTS	Y	1,235.00	-	1,235.00	-	10/29/2018	10/31/2019		Service Provider	Right-of-Way	Cole	10-29-18: PROVIDE TITLE REPORTS TO CONSTRUCT A 10 FOOT WIDE MULTI-USE PATH, PHASE 2, ON SR 828 FARM DISTRICT ROAD, FROM CRIMSON ROAD TO JASMINE LANE, MP LY 0.90 TO LY 2.75, LYON COUNTY. NV B/L#: NVD19771008888
41	01118	00	TRC ENVIRONMENTAL CORPORATION	SECURITY AUDIT/ANALYSIS	N	150,000.00	-	150,000.00	-	12/17/2018	12/31/2019		Service Provider	Maintenance & Asset Management	Thor	12-17-18: PERFORM A SECURITY AUDIT/ANALYSIS FOR THE MAIN AND SUB DISTRICT MAINTENANCE YARDS IN DISTRICT I, II, AND III , STATEWIDE. NV B/L#: NVF20021381804 R PROPOSERS: TRC, KIMLEY-HORN, TRIAD, FORCE
42	56018	00	TRUSTWAVE HOLDING, INC.	INFORMATION TECHNOLOGY SECURITY TESTING	N	50,400.00	-	50,400.00	-	12/14/2018	10/1/2021		Service Provider	Information Technology	Robert	12-14-17: PROVIDE SECURITY TESTING FOR VULNERABILITY SCANNING AND PENETRATION TESTING OF THE DEPARTMENT'S COMPUTER SYSTEM. IDENTIFYING VULNERABILITIES THAT CAN LEAD TO DATA COMPROMISE IN NETWORKS, APPLICATIONS, AND DATABASES, WILL HELP THE DEPARTMENT MEASURE AND MANAGE RISK. THE MANAGED SECURITY TESTING (MST) SERVICE CONSISTS OF, BUT IS NOT LIMITED TO: 1) RECONNAISSANCE, WHICH IS THE INFORMATION GATHERING AND DISCOVERY PROCESS TO UNDERSTAND THE DEPARTMENT'S SYSTEM(S) AND THE SCOPE OF THE REQUIRED SCANNING AND/OR TESTING OF THOSE SYSTEMS; 2) SCANNING AND TESTING, THIS HELPS IDENTIFY POTENTIAL VULNERABILITIES OR WEAK CONFIGURATIONS OF THE DEPARTMENT'S SYSTEM(S), THE CONFIRMATION AND EVALUATION OF THOSE VULNERABILITIES AND THE ATTEMPTED EXPLOITATION OF, AND EXTRACTION OF DATA FROM, THE DEPARTMENT'S SYSTEM(S); AND 3) REPORTING, IS THE PROVISION OF RESULTS OF THE CLIENT TARGET SYSTEM(S) SCANS AND WHERE RELEVANT TESTS, AS A COMPLETED REPORT AVAILABLE THROUGH THE TRUSTKEEPER CLIENT PORTAL. CARSON CITY, CLARK COUNTY. NV B/L#: NVD2018142985

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43	15118	01	JOHNSON VALUATION GROUP, LTD.	PARCEL APPRAISALS	Y	9,500.00	-	9,500.00	-	3/13/2018	12/31/2019	11/19/2018	Appraisal	Right-of-Way	Cole	AMD 1 11-19-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 FOR CONTINUATION OF SERVICES. 03-13-18: APPRAISE PARCELS S-828-LY-001.071PE1, S-828-LY-001.071TE1, S-828-LY-001.176PE1, LYON COUNTY. NV B/L#: NVD20151078078
44	10018	01	JOHNSON, PERKINS, GRIFFIN, LLC	PARCEL APPRAISALS	Y	36,500.00	(5,500.00)	31,000.00	-	3/13/2018	12/31/2019	12/24/2018	Appraisal	Right-of-Way	Cole	AMD 1 12-24-18: **NO COST AMENDEMENT** TO DECREASE AUTHORITY BY $5,500.00 FROM $36,500.00 TO $31,000.00 DUE TO THE DELETION OF FIVE (5) PARCELS, AND TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 AND FOR THE CONTINUATION OF SERVICES ON THE REMAINING PARCELS. 03-13-18: APPRAISAL OF PARCELS S-828-LY-001.564PE1, S-828-LY-001.601PE1, S-828-LY-001.630PE1, S-828-LY-001.641PE1, S-828-LY-001.654PE1, S-828-LY-001.666.PE1, S-828-LY-001.709PE1, S-828-LY-001.720PE1, S-828-LY-001.732PE1, S-828-LY-001.744PE1, S-828-LY-001.871PE1,S-828-LY-001.825PE1, S-828-LY-001.907PE1, AND S-828-LY-001.931PE1, LYON COUNTY. NV B/L#: NVD20151108081
45	9918	01	JOHNSON, PERKINS, GRIFFIN, LLC	PARCEL APPRAISALS	Y	50,000.00	-	50,000.00	-	3/13/2018	12/31/2019	12/24/2018	Appraisal	Right-of-Way	Cole	AMD 1 12-24-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 FOR CONTINUATION OF SERVICES. 03-13-18: APPRAISALS OF PARCELS S-828-LY-001.545PE1, S-828-LY-002.300PE1, S-828-LY-002.680PE1, S-828-LY-002.758PE1, S-828-LY-001.565PE1, S-828-LY-002.065PE1, S-828-LY-002.316PE1, S-828-LY-002.442PE1, AND S-828-LY-002.569PE1, LYON COUNTY. NV B/L#: NVD20151108081
46	73818	00	CHURCHILL COUNTY	ROLES AND RESPONSIBILITES	N	-	-	-	-	12/20/2018	12/31/2023		Cooperative	Design	Cole	12-20-18: **NO COST AGREEMENT** TO ESTABLISH ROLES AND RESPONSIBILITES FOR THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF US 50 PROJECT EAST OF ALLEN ROAD TO RIO VISTA ROAD IN THE CITY OF FALLON, CHURCHILL COUNTY. NV B/L#: EXEMPT
47	74018	00	CHURCHILL COUNTY	ROLES AND RESPONSIBILTIES	N	-	-	-	-	12/20/2018	12/31/2022		Cooperative	Design	Cole	12-20-18: **NO COST AGREEMENT** TO ESTABLISH ROLES AND RESPONSIBILITIES FOR THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF US 95 PROJECT FROM KEDDIE STREET TO THE INTERSECTION OF US 50, AND FROM US 50 AND NORTH TAYLOR STREET TO 500 FEET NORTH OF SHECKER ROAD IN THE CITY OF FALLON, CHURCHILL COUNTY. NV B/L#: EXEMPT
48	73718	00	CITY OF FALLON	ROLES AND RESPONSIBILITIES	N	-	-	-	-	12/24/2018	12/31/2023		Cooperative	Design	Cole	12-24-18: **NO COST AGREEMENT** TO ESTABLISH ROLES AND RESPONSIBLITIES FOR THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF PROJECT ON US 50, EAST OF ALLEN ROAD TO RIO VISTA ROAD IN THE CITY OF FALLON, CHURCHILL COUNTY. NV B/L#: EXEMPT
49	73918	00	CITY OF FALLON	ROLES AND RESPONSIBILITIES	N	-	-	-	-	12/24/2018	12/31/2022		Cooperative	Design	Cole	12-24-18: **NO COST AGREEMENT** TO ESTABLISH ROLES AND RESPONSIBILITIES FOR THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF PROJECT ON US 95 FROM KEDDIE STREET TO US 50 AND FROM US 50 AND NORTH TAYLOR STREET TO 500 FEET NORTH OF SHECKER ROAD IN THE CITY OF FALLON, CHURCHILL COUNTY. NV B/L#; EXEMPT.
50	7517	01	CITY OF NORTH LAS VEGAS	ROLES AND RESPONSIBILITIES	N	-	-	-	-	4/27/2017	12/31/2019	12/3/2018	Cooperative	District I	Tracy/Mary	AMD 1 12-03-18: **NO COST AGREEMENT** TO DEFINE THE ROLES AND RESPONSIBILITIES BETWEEN THE CITY OF NORTH LAS VEGAS AND DEPARTMENT RELATED TO THE OWNERSHIP AND MAINTENANCE RESPONSIBILITIES OF THE ADDED SCOPE. 04-27-17: NO COST AGREEMENT TO DEFINE THE FUTURE MAINTENANCE RESPONSIBILITIES AND PROJECT REVIEW PROCESS WITH THE CITY OF NORTH LAS VEGAS ON THE GARNET DESIGN BUILD PROJECT. NV B/L#: EXEMPT
51	34418	00	CITY OF RENO	PEDESTRIAN AND ADA IMPROVEMENTS	N	-	-	-	-	10/25/2018	10/25/2020		Cooperative	Safety	Sondra	10-25-18: **NO COST AGREEMENT** FOR PEDESTRIAN AND ADA IMPROVEMENTS ALONG 2ND STREET FROM KEYSTONE AVENUE TO KIETZKE LANE, AND ARLINGTON AVENUE AT ISLAND AVENUE IN RENO, WASHOE COUNTY. NV B/L#: EXEMPT
52	49917	00	CLARK COUNTY	ROAD TRANSFERS	N	-	-	-	-	11/1/2018	OPEN ENDED		Cooperative	Roadway Systems	Sondra	11-01-18: **NO COST AGREEMENT** TO ACCOMMODATE CERTAIN ROAD TRANSFERS, INCLUDING OWNERSHIP (WHETHER BY FEE, PERMIT OR PRESCRIPTIVE IN NATURE), AND RELATED MAINTENANCE RESPONSIBILITIES, CLARK COUNTY. NV B/L#: EXEMPT
53	1386	01	CLARK COUNTY	ROAD RESPONSIBILITIES	N	-	-	-	-	9/20/1983	OPEN ENDED	11/1/2018	Cooperative	Roadway Systems	Sondra	AMD 1 11-01-18: **NO COST AMENDMENT** TO TRANSFER MAINTENANCE RESPONSIBILITIES FOR JONES BOULEVARD AND SAHARA AVENUE TO THE COUNTY, SUBJECT TO THE DEPARTMENT ACCEPTING MAINTENANCE RESPONSIBILITIES FOR CERTAIN PORTIONS OF I-215. 09-20-83: THE PURPOSE OF THIS AGREEMENT IS FOR THE STATE TO ASSUME RESPONSIBILITY TO CONSTRUCT, RECONSTRUCT, IMPROVE AND MAINTAIN ROADWAYS WITHIN THE RESPECTIVE JURISDICTION, CLARK COUNTY. NV B/L#:
54	64916	02	RTC SOUTHERN NEVADA	BOULDER HIGHWAY CORRIDOR STUDY	Y	300,000.00	-	300,000.00	-	2/9/2017	6/30/2019	11/15/2018	Cooperative	Federal Program Manager	Sondra	AMD 2 11-15-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 06-30-19 DUE TO CONTINUATION OF SERVICES. AMD 1 03-01-18: EXTEND TERMINATION DATE FROM 03-31-18 TO 12-31-18 DUE TO CONTINUATION OF SERVICES. 02-09-17: SR 582 BOULDER HIGHWAY CORRIDOR STUDY, CLARK COUNTY. NV B/L#: EXEMPT
55	74518	00	WASHOE COUNTY	ROLES AND RESPONSIBILITES	N	-	-	-	-	12/28/2018	12/31/2021		Cooperative	Design	Cole	12-28-18: **NO COST AGREEMENT** TO ESTABLISH ROLES AND RESPONSIBILITIES FOR THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF THE SR 445, PYRAMID HIGHWAY PROJECT, AT THE INTERSECTIONS OF SHA NEVA AND CALLE DE LA PLATA, WASHOE COUNTY. NV B/L#: EXEMPT
56	64518	00	CENTURYLINK	ADJUSTMENT OF MANHOLES/VALVES	N	1,600.00	-	-	1,600.00	10/31/2018	10/31/2023		Facility	Right-of-Way	Cole	10-31-18: **NO COST AGREEMENT** TO ADJUST TWO MANHOLES AND VALVES ON SR-564, LAKE MEADE PARKWAY FROM I-515 TO BOULDER HIGHWAY, CLARK COUNTY. NV B/L#: NVF19901012165
57	72418	00	CENTURYLINK	MANHOLE AGREEMENT	N	1,500.00	-	-	1,500.00	12/19/2018	12/30/2023		Facility	Right-of-Way	Cole	12-19-18: **NO COST AGREEMENT** TO ADJUST MANHOLES ON I-15 AT THE SPRING MOUNTAIN ROAD INTERCHANGE, MILEPOST CL 39.16 MILL AND OVERLAY THE SPRING MOUNTAIN SOUTHBOUND ON-RAMP, THE SPRING MOUNTAIN OFF-RAMP AND WEST AND EAST BOUND TO THE NORTHBOUND ON-RAMP, CLARK COUNTY. NV B/L#: NVF19971285398

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58	68818	00	CITY OF ELY	MANHOLE AND VALVE COVERS	N	1,100.00	-	-	1,100.00	11/19/2018	11/30/2023		Facility	Right-of-Way	Cole	11-19-18: **NO COST AGREEMENT** TO ADJUST MANHOLE AND VALVE COVERS ON US 50, FROM THE INTERSECTION OF RUTH/ KIMBERLY ROAD EAST TO THE WEST END OF ELY, WHITE PINE COUNTY. NV B/L#: EXEMPT
59	68618	00	CITY OF HENDERSON	MANHOLE AND VALVE COVERS	N	1,100.00	-	-	1,100.00	11/19/2018	11/30/2023		Facility	Right-of-Way	Cole	11-19-18: **NO COST AGREEMENT** TO ADJUST MANHOLE AND VALVE COVERS ON I-11 AT THE WAGONWHEEL INTERCHANGE, AND BOULDER HIGHWAY AT EQUESTRIAN DRIVE, CLARK COUNTY. NV B/L#: EXEMPT
60	72318	00	CITY OF HENDERSON	MANHOLE AND VALVE COVERS	N	42,200.00	-	-	42,200.00	12/14/2018	12/31/2023		Facility	Right-of-Way	Cole	12-14-18: **NO COST AGREEMENT** TO ADJUST MANHOLE AND VALVE COVERS AT LAKE MEAD PARKWAY, BEGINNING AT I-515 TO BOULDER HIGHWAY, CLARK COUNTY. NV B/L#: EXEMPT
61	72218	00	CLARK COUNTY WATER RECLAMATION	MANHOLE AND VALVE COVERS	N	-	-	-	-	12/13/2018	12/31/2023		Facility	Right-of-Way	Cole	12-13-18: **NO COST AGREEMENT** TO ADJUST MANHOLE AND VALVE COVERS ON I-15 AT THE SPRING MOUNTAIN ROAD INTERCHANGE, AND OVERLAY THE SPRING MOUNTAIN SOUTHBOUND OFF-RAMP, CLARK COUNTY. NV B/L#: EXEMPT
62	68518	00	LOVELOCK MEADOWS WATER DIST.	COLD MILL AND OVERLAY	N	-	-	-	-	11/19/2018	11/30/2022		Facility	Right-of-Way	Cole	11-19-18: **NO COST AGREEMENT** TO PROVIDE COLD MILL AND OVERLAY ON ROUTE 397 FROM MP 10.77 TO MP 11.37, PERSHING COUNTY. NV B/L#; EXEMPT
63	64318	00	NV ENERGY	DESIGN APPROVAL AGREEMENT	N	-	-	-	-	10/30/2018	10/31/2019		Facility	Right-of-Way	Cole	10-30-18: **NO COST AGREEMENT** FOR DESIGN APPROVAL OF LIGHTING AND SIGNAL LIGHTS AT US 95 AND KYLE CANYON INTERCHANGE, CL86.75-CL92.81, CLARK COUNTY. NV B/L#: NVD19831015840.
64	68718	00	NV ENERGY 3002975493	DESIGN INITIATION AGREEMENT	N	-	-	-	-	11/9/2018	11/30/2023		Facility	Right-of-Way	Cole	11-09-18: **NO COST AGREEMENT** FOR DESIGN INITIATION ON US 50, 0.37 MILES WEST OF WARRIOR WAY TO 0.22 MILES EAST OF TAHOE DRIVE, MP DO 4.22 TO MP DO 5.50, FOR SAFETY AND HYDRAULIC IMPROVEMENTS, DOUGLAS COUNTY. NV B/L#: NVD19831015840
65	69118	00	NV ENERGY 3002978880	DESIGN INITIATION AGREEMENT	N	-	-	-	-	11/27/2018	11/30/2023		Facility	Right-of-Way	Cole	11-27-18: **NO COST AGREEMENT** FOR DESIGN INITIATION EASTBOUND I-80 TO SOUTHBOUND I-580 WITH RAMP BRAID CONSTRUCTION AND ON-RAMP RESTRIPING, WASHOE COUNTY. NV B/L#: NVD19831015840
66	69818	00	NV ENERGY 3003061462	DESIGN INITIATION AGREEMENT	N	-	-	-	-	12/7/2018	12/31/2023		Facility	Right-of-Way	Cole	12-07-18: **NO COST AGREEMENT** FOR DESIGN INITIATION FOR THE INSTALLATION OF A NEW POWER SERVICE PEDESTAL FOR HIGH MAST LIGHTING IN NDOT RIGHT-OF-WAY, AT 515/US 95 NORTH, NORTH OF GALLERIA INTERCHANGE TO SOUTH OF RUSSELL INTERCHANGE, CLARK COUNTY. NV B/L#: NVD19831015840
67	67018	00	GCR INC.	INSPECTION OF PUBLIC AIRPORTS	N	9,750.00	-	-	9,750.00	11/1/2018	9/30/2019		Grantee	Transportation & Multimodal Planning	Sondra	11-01-18: **NO COST AGREEMENT** TO PROVIDE GCR'S USE OF FAA REIMBURSEMENT FUNDS FOR THE REIMBURSEMENT OF THE DEPARTMENT'S COSTS INCURRED IN UNDERTAKING AND PERFORMING AIRPORT INSPECTION SERVICES AND THE COLLECTION OF AIRPORT SAFETY DATA ("AIRPORT SAFETY DATA INSPECTIONS"), STATEWIDE. NV B/L#: NVD20031131491
68	68218	00	BOYS & GIRLS CLUB OF ELKO	MULTI-USE LEASE	N	600.00	-	-	600.00	11/19/2018	10/31/2023		Lease	Right-of-Way	Cole	11-19-18: **NO COST AGREEMENT** FOR THE MULTI-USE LEASE OF PARCEL I-080-EL-025.291 FOR OPEN AREA WITH PLAYGROUND EQUIPMENT, ELKO COUNTY. NV B/L#: NVD19961192425.
69	23017	01	BRANDON KELLY	EMPLOYEE HOUSE LEASE	N	2,900.00	100.00	-	3,000.00	6/7/2017	4/30/2021	1/10/2019	Lease	District III	Tracy/Boyd	AMD 1 01-10-19: **NO COST AMENDMENT** TO INCREASE RECEIVABLE AMOUNT BY $100.00 FROM $2,900.00 TO $3,000.00 FOR THE ADDITION OF A PET. 06-07-17: EMPLOYEE HOUSE LEASE FOR C331 RUBY VALLEY HOUSE #311, MOVE IN DATE 06-05-17, ELKO COUNTY. NV B/L#: EXEMPT
70	44284	03	CALIFORNIA HOTEL AND CASINO	PROPERTY LEASE	N	290,500.00	2,301,600.00	-	4,461,350.00	10/25/1984	1/14/2039	1/15/2019	Lease	Right-of-Way	Cole	AMD 3 01-15-19: **NO COST AMENDMENT** TO EXERCISE THE LAST OPTION RENEWAL FOR A TERM OF 20 YEARS AND TO INCREASE RECEIVABLE AMOUNT BY $2,301,600 FROM $2,159,750 TO $4,461,350. AMD 2 11-10-04: INCREASE RECEIVEABLE AMOUNT BY $1,159,750 FROM $1,000,000 TO $2,159,750. AMD 1 01-06-89: INCREASE RECEIVEABLE AMOUNT BY $585,000 FROM $290,500 TO $1,000,000. 10-25-87 LEASE THE GROUND SURFACE AND CERTAIN AIR RIGHTS OF PREMISES SITUATED IN THE CITY OF LAS VEGAS, SOMETIMES DESIGNATED AS AIRSPACE LEASE PARCELS F-006-CL-001.992 AND F-006-CL-002.023, CLARK COUNTY. NV B/L#: NVD19731003225
71	71718	00	COLBY POWELL	EMPLOYEE HOUSE LEASE	N	2,900.00	-	-	2,900.00	12/15/2018	12/15/2022		Lease	District I	Tracy/Mary	12-15-18: **NO COST AGREEMENT** FOR AN EMPLOYEE LEASE OF HOUSE #2 AT BIG SMOKY MAINTENANCE STATION, NYE COUNTY. NV B/L#: EXEMPT
72	67318	00	JOSEPH CUMMINS	EMPLOYEE HOUSE LEASE	N	7,700.00	-	-	7,700.00	12/1/2018	11/30/2022		Lease	District III	Tracy/Boyd	12-01-18: **NO COST AGREEMENT** FOR AN EMPLOYEE LEASE OF HOUSE #272 AT THE NORTH FORK MAINTENANCE STATION, ELKO COUNTY. NV B/L#: EXEMPT
73	67418	00	KAP UGLADE	EMPLOYEE HOUSE LEASE	N	2,900.00	-	-	2,900.00	12/6/2018	11/30/2022		Lease	District III	Tracy/Boyd	12-06-18: **NO COST AGREEMENT** FOR AN EMPLOYEE HOUSE RENEWAL LEASE OF HOUSE #3 AT THE QUINN RIVER MAINTENANCE STATION, HUMBOLDT COUNTY. NV B/L#: EXEMPT
74	72018	00	LGC 231, LLC; C/O SUN	MULTI-USE LEASE	Y	1,195.65	-	-	1,195.65	12/7/2018	2/9/2019		Lease	Right-of-Way	Cole	12-07-18: **NO COST AGREEMENT** FOR A MULTI-USE LEASE WITH SUB-LEASE ON PARCEL I-015-CL-041.560 FOR PARKING, CLARK COUNTY. NV B/L#: NVD20031158524
75	68318	00	POINTE FLAMINGO HOLDINGS, LLC	MULTI -USE LEASE	N	13,950.00	-	-	13,950.00	11/19/2018	10/31/2023		Lease	Right-of-Way	Cole	11-19-18: **NO COST AGREEMENT** FOR A MULTI -USE LEASE FOR PARCEL S-592-CL-006.970LE1, SR-592, FLAMINGO ROAD, CLARK COUNTY. NV B/L#: NVD20121737639
76	69018	00	FREMONT BOULDER CROSSING, LLC	MULTI-USE LICENSE	N	1,000.00	-	-	1,000.00	11/27/2018	11/30/2028		License	Right-of-Way	Cole	11-27-18: **NO COST AGREEMENT** FOR A MULTI-USE LICENSE FOR PARKING AND A SIX-FOOT LANDSCAPE BUFFER ON PARCEL S-582-CL-028.539, CLARK COUNTY. NV B/L#: NVD20121075294
77	68018	00	NP MAGIC STAR LLC	MULTI-USE LICENSE	N	1,000.00	-	-	1,000.00	11/9/2018	10/31/2028		License	Right-of-Way	Cole	11-09-18: **NO COST AGREEMENT** FOR A MULTI-USE LICENSE FOR PARKING EASEMENT ON THE HIGHWAY RIGHT-OF-WAY ON SR-528 BOULDER HIGHWAY, CLARK COUNTY. NV B/L#: NVD20101683024
78	65218	00	NV ENERGY	SHARING OF FIBER OPTICS	N	-	-	-	-	11/2/2018			License	Traffic Operations	Thor	11-02-18: **NO COST AGREEMENT** TO ALLOW THE DEPARTMENT AND NV ENERGY TO SHARE EACH OTHER'S TELECOMMUNICATIONS FACILITIES AND CONDUIT INFRASTRUCTURE WHERE REASONABLY POSSIBLE AND AGREEABLE, STATEWIDE. NV B/L#: NVD19831015840
79	61918	00	WASHOE COUNTY	MULTI-USE LICENSE	N	1,000.00	-	-	1,000.00	9/1/2018	8/30/2028		License	Right-of-Way	Cole	09-01-18: **NO COST AGREEMENT** FOR A MULTI USE LICENSE FOR PARKING AND LANDSCAPING, PARCEL S-425-WA-000.507, WASHOE COUNTY. NV B/L#: EXEMPT

NO COST AGREEMENTS AND/OR AMENDMENTS																
Line No.	Agreement No	Amend No	Contractor	Purpose	Fed	Original Agreement Amount	Amendment Amount	Payable Amount	Receivable Amount	Start Date	End Date	Amend Date	Agree Type	Division	Dir. Office	Notes
80	69418	00	AUTOZONE, INC.	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	11/29/2018	10/31/2023		Right-of-Way Access	Right-of-Way	Cole	11-29-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY FOR MILL AND OVERLAY AND ADA IMPROVEMENTS ON TROPICANA AVENUE, FROM DEAN MARTIN DRIVE TO BOULDER HIGHWAY, PARCEL 161-28-101-007, CLARK COUNTY. NV B/L#: NVD19911052310
81	67718	00	BROOKFIELD ENTERPRISES, INC.	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	11/7/2018	11/30/2023		Right-of-Way Access	Right-of-Way	Cole	11-07-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY ON PARCEL 040-880-08 TO CONSTRUCT AND RECONSTRUCT CURB AND GUTTERS WITH ADA COMPLIANT SIDEWALKS AND DRIVEWAYS ON A SEGMENT OF THE PRESENT SR 659, SOUTH MCCARRAN BOULEVARD, FROM SOUTH VIRGINIA STREET TO SR 647 W. FOURTH STREET IN THE CITY OF RENO, WASHOE COUNTY. NV B/L#: NVD19791009067
82	69518	00	DSA DEVELOPMENT CORP.	ADA IMPROVEMENTS	N	-	-	-	-	11/29/2018	10/31/2023		Right-of-Way Access	Right-of-Way	Cole	11-29-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY FOR A SEGMENT OF TROPICANA AVENUE FROM DEAN MARTIN DRIVE TO BOULDER HIGHWAY AS PROJECT SPSR-0593(003), CLARK COUNTY. NV B/L#: NVD19891026775
83	69218	00	GOERINGER REAL ESTATE, LLC	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	11/27/2018	11/30/2023		Right-of-Way Access	Right-of-Way	Cole	11-27-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY FOR REPAVING ON US 50 AND US 93, WHITE PINE COUNTY. NV B/L#: NVD20141446832
84	72118	00	HOLLY TOMPKINS-BUSBOOM	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	12/10/2018	12/31/2023		Right-of-Way Access	Right-of-Way	Cole	12-10-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY ON PARCEL 001-542-13 TO CONSTRUCT AND RECONSTRUCT CURB AND GUTTERS WITH ADA COMPLIANT SIDEWALKS AND DRIVEWAYS ON A SEGMENT OF THE PRESENT US 50, DOWNTOWN FALLON FROM ALLEN ROAD TO RIO VISTA ROAD, CHURCHILL COUNTY. NV B/L#: EXEMPT
85	67618	00	MOJO PROPERTIES, LLC	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	11/7/2018	11/30/2023		Right-of-Way Access	Right-of-Way	Cole	11-07-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY ON PARCEL 040-880-15 TO CONSTRUCT AND RECONSTRUCT CURB AND GUTTERS WITH ADA COMPLIANT SIDEWALKS AND DRIVEWAYS ON A SEGMENT OF THE PRESENT SR 659 SOUTH MCCARRAN BOULEVARD, FROM SOUTH VIRGINIA STREET TO SR 647 W. FOURTH STREET IN THE CITY OF RENO, WASHOE COUNTY. NV B/L#:
86	64418	00	ORP AVENUE, LLC	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	10/31/2018	10/31/2023		Right-of-Way Access	Right-of-Way	Cole	10-31-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT OF WAY FOR MILL AND OVERLAY AND ADA IMPROVEMENTS, CLARK COUNTY. NV B/L#: NVF20171744729.
87	69618	00	REED, INC.	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	12/7/2018	11/30/2023		Right-of-Way Access	Right-of-Way	Cole	12-07-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY ON PARCELS 002-054-09, 002-194-01, 002-075-08, 002-064-07, AND 002-055-06 TO CONSTRUCT AND RECONSTRUCT CURB, GUTTERS, SIDEWALKS, AND DRIVEWAYS ON SEGMENT OF THE PRESENT HIGHWAY 50 FROM RUTH/ KIMBERLY ROAD TO US 6, WHITE PINE COUNTY. NV B/L#: NVD19781005126
88	64618	00	T & N ELY, INC.	CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY	N	-	-	-	-	10/31/2018	10/31/2023		Right-of-Way Access	Right-of-Way	Cole	10-31-18: **NO COST AGREEMENT** TO CONSTRUCT AND RECONSTRUCT CURBS, GUTTERS, SIDEWALKS AND DRIVEWAYS ON A SEGMENT OF THE PRESENT HIGHWAY 50 FROM RUTH/KIMBERLY ROAD TO US 6, WHITE PINE COUNTY. NV B/L#: EXEMPT
89	69318	00	WBCMT 2006-C29 BOULDER WAY LLC	ADA IMPROVEMENTS	N	-	-	-	-	11/29/2018	10/31/2023		Right-of-Way Access	Right-of-Way	Cole	11-29-18: **NO COST AGREEMENT** FOR CONSTRUCTION OUTSIDE OF RIGHT-OF-WAY FOR A SEGMENT OF THE PRESENT SR 593 TROPICANA AVENUE FROM DEAN MARTIN DRIVE TO BOULDER HIGHWAY AS PROJECT SPSR-0593(003), CLARK COUNTY. NV B/L#: NVD20171570285
90	68118	00	WHITE PINE PUBLIC MUSEUM, INC.	PERMANENT EASEMENT	N	-	-	-	-	11/9/2018	3/31/2021		Right-of-Way Access	Right-of-Way	Cole	11-09-18: **NO COST AGREEMENT** FOR PERMANENT EASEMENT AND RIGHT-OF-WAY FOR REPAVING ON US 50 IN ELY, WHITE PINE COUNTY. NV B/L#: NVD19601001049.
91	51616	02	BENCHMARK, INC.	ROOF REPLACEMENT	N	31,000.00	-	31,000.00	-	1/26/2017	12/31/2019	12/17/2018	Service Provider	Architecture	Thor	AMD 2 12-17-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 DUE TO PROJECT DELAYS FROM INCLEMENT WEATHER, CARSON CITY. AMD 1 12-04-17: EXTEND TERMINATION DATE FOR THE ROOF REPAIR AT HQ ADMIN BLDG, CARSON CITY. 01-26-17: DESIGN SERVICES FOR ROOF REPAIR AT HEADQUARTERS ADMINISTRATION BUILDING, CARSON CITY. NV B/L#: NVF20061414149-S
92	13015	02	BLAKELY JOHNSON AND GHUSN	REMODEL TONOPAH MAINT STATION	N	170,000.00	-	184,500.00	-	10/20/2016	7/31/2020	11/19/2018	Service Provider	Architecture	Thor	AMD 2 11-19-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 07-31-20 DUE TO DELAYS COMPLETING ARCHITECTURAL/ENGINEERING DESIGN SERVICES FOR REMODEL OF ADMINISTRATION BUILDING AT TONOPAH MAINTENANCE STATION. AMD 1 05-25-17: INCREASE AUTHORITY BY $14,500 FROM $170,000.00 TO $184,500.00 DUE TO THE NEED TO ADD AND CHANGE CERTAIN DESIGN ITEMS. 10-20-16: ARCHITECTURAL AND ENGINEERING SERVICES FOR THE REMODEL OF THE ADMINISTRATION BUILDING AT THE TONOPAH MAINTENANCE STATION, NYE COUNTY. NV B/L#: NVD19921042277-R
93	63616	01	CA GROUP, INC.	OVERSIGHT OF LPA PROJECTS D2	N	298,600.00	-	298,600.00	-	11/29/2016	11/29/2020	1/2/2019	Service Provider	Construction	Thor	AMD 1 01-02-19: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 05-31-19 TO 11-29-20 FOR THE CONTINUATION OF SERVICES. 11-29-16: PROVIDE RESIDENT ENGINEERS, ON AS-NEEDED BASIS, FOR OVERSIGHT OF LPA PROJECTS IN DISTRICT 2, WASHOE, CARSON CITY, DOUGLAS, STOREY, LYON, CHURCHILL, PERSHING, AND MINERAL COUNTIES. NV B/L#: NVD20081407877-R
94	14015	01	COLLINS ENGINEERS, INC.	UNDERWATER BRIDGE INSPECTION	Y	881,384.16	-	881,384.16	-	7/1/2015	9/30/2019	11/13/2018	Service Provider	Structures	Thor	AMD 1 11-13-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 06-30-19 TO 09-30-19 TO ALIGN THE PROJECT TERMINATION DATE WITH THE FEDERAL FISCAL YEAR FOR EFFECTIVE PROJECT FINANCIAL PROGRAMMING. 07-01-15: SPECIAL AND ROUTINE UNDERWATER BRIDGE INSPECTION SERVICES, STATEWIDE. NV B/L#: NV20071634949-R
95	34518	01	FAITH VISION, INC.	JANITORIAL SERVICES	N	180,840.00	-	180,840.00	-	8/23/2018	2/28/2021	1/9/2019	Service Provider	District I	Tracy/Mary	AMD 1 01-09-19: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 02-28-2019 TO 02-28-2021 DUE TO AN ERROR ON THE ORIGINAL AGREEMENT. 08-23-18: JANITORIAL SERVICES AT THE DISTRICT I YARD, CLARK COUNTY. NV B/L#: NVD20091465624-Q
96	68418	00	FIRST CENTENNIAL TITLE	TITLE REPORT	N	-	-	-	-	11/19/2018	12/31/2020		Service Provider	Right-of-Way	Cole	11-19-18: **NO COST AGREEMENT** FOR A TITLE REPORT REQUEST FOR LITIGATION ON PROPERTY OWNERSHIP OF PROPERTY IN NEED OF REPAIR, STOREY COUNTY. NV B/L: EXEMPT

NO COST AGREEMENTS AND/OR AMENDMENTS																
Line No.	Agreement No	Amend No	Contractor	Purpose	Fed	Original Agreement Amount	Amendment Amount	Payable Amount	Receivable Amount	Start Date	End Date	Amend Date	Agree Type	Division	Dir. Office	Notes
97	74715	02	HDR ENGINEERING INC	SOUTHERN NV TRAFFIC STUDY	Y	5,307,000.00	-	5,307,000.00	-	7/15/2016	6/30/2019	11/8/2018	Service Provider	Project Management	Cole	AMD 2 11-08-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 06-30-19 DUE TO A NEED TO ACCOMMODATE EXTENDED AGENCY REVIEWS. AMD 1 01-30-17: TIME EXTENSION FROM 06-30-18 TO 12-31-18 WITH ZERO DOLLAR NET INCREASE FOR USE OF AIMSUN TRAFFIC MODELING PRODUCTS. 08-12-16: CONDUCT A TRAFFIC STUDY TO COMPLETE A SYSTEM-WIDE EVALUATION, WITH A FOCUS ON EXISTING AND POTENTIAL FUTURE CONGESTION AND OTHER OPERATIONAL DEFICIENCIES, WHILE EMPLOYING PLANNING AND ENVIRONMENTAL LINKAGE (PEL) PRINCIPLES. B/L#: NVF19851010291-R
98	63416	02	ICE TEAMS, LLC	INDEPENDENT COST ESTIMATOR	Y	167,000.00	-	200,000.00	-	10/11/2016	12/31/2019	11/30/2018	Service Provider	Project Management	Cole	AMD 2 11-30-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-30-18 TO 12-31-19 TO CONTINUE CONSTRUCTION SUPPORT SERVICE THROUGH THE END OF THE CONSTRUCTION OF THE PROJECT. AMD 1 02-02-17: INCREASE AUTHORITY BY $33,000.00 FROM $167,000.00 TO $200,000.00 DUE TO UNANTICIPATED DESIGN CHANGES REQUIRING ADDITIONAL COST ESTIMATING AND SCHEDULING SERVICES. 10-11-16: PERFORM INDEPENDENT COST ESTIMATOR (ICE) SERVICES FOR SR 28 FEDERAL LAND ACQUISITION PROJECT (FLAP) AS PART OF THE CONSTRUCTION MANAGER AT RISK (CMAR) PROGRAM, WASHOE, CARSON, AND DOUGLAS COUNTIES. NV B/L#: NVF20161541307-S
99	9315	04	KIMLEY-HORN AND ASSOCIATES	CONSULTANT DESIGN SERVICES	N	500,000.00	-	1,000,000.00	-	3/10/2015	12/31/2019	12/17/2018	Service Provider	Traffic Operations	Thor	AMD 4 12-17-18: **NO COST AMENDEMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 DUE TO THE NEED FOR THE CONTINUATION OF SERVICES AND COMPLETION OF TASKS RELATED TO THE DYNAMIC MESSAGE SIGN QPL AND A DISTRICT III INFRASTRUCTURE TECHNOLOGY SERVICES (ITS) PROJECT. AMD 3 06-09-17: EXTEND TERMINATION DATE FROM 06-30-17 TO 12-31-18 DUE TO THE NEED FOR CONTINUATION OF SERVICES. AMD 2 01-28-16: INCREASE AUTHORITY BY $500,000.00 FROM $500,000.00 TO $1,000,000.00 AND EXTEND TERMINATION DATE FROM 06-30-16 TO 06-30-17 FOR CONTINUATION OF SERVICES. AMD 1 09-04-15: NO COST AMENDMENT TO EXTEND TERMINATION DATE FROM 03-31-16 TO 06-30-16 FOR ADDITIONAL SUPPORT THROUGH FY 2016 AND REMOVE TASK ORDER LANGUAGE. 03-10-15: CONSULTANT DESIGN SERVICES FOR SIGNALS LIGHTING AND ITS PROJECTS, STATEWIDE. NV B/L#: NVF19911015458-R
100	34816	02	NINYO & MOORE	AS-NEEDED IA TESTING	N	297,489.15	-	297,489.15	-	11/17/2016	6/30/2019	12/11/2018	Service Provider	Construction	Thor	AMD 2 12-11-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 06-30-19 TO ALLOW FOR AGREEMENT CLOSE-OUT PROCESS. AMD 1 10-23-17: EXTEND TERMINATION DATE FROM 12-31-17 TO 12-31-18 FOR UTILIZATION OF REMAINING FUNDS. 11-17-16: PROVIDE INDEPENDENT ASSURANCE TESTERS IN EACH OF THE DEPARTMENT'S THREE DISTRICTS ON AN AS-NEEDED BASIS, STATEWIDE. NV B/L#: NVF19961094658-R PROPOSERS: ANGLE ENGINEERING, AZTECH INSPECTIONS AND TESTING, CONSTRUCTION TESTING SERVICES, LUMOS & ASSOCIATES, AND WOOD RODGERS.
101	36613	04	OVERLAND, PACIFIC & CUTLER	RIGHT OF WAY SERVICES FOR NEON	Y	5,972,283.80	-	5,972,283.80	-	1/15/2014	12/31/2019	11/25/2018	Service Provider	Project Management	Cole	AMD 4 11-25-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 FOR CONTINUATION OF SERVICES. AMD 3 12-18-17: EXTEND TERMINATION DATE FROM 12-31-17 TO 12-31-18 FOR CONTINUATION OF SERVICES. AMD 2 06-19-17: TO EXTEND TERMINATION DATE FROM 06-31-17 TO 12-31-17; UPDATED NV B/L EXPIRATION DATE. AMD1 12-13-16: TO EXTEND TERMINATION DATE FROM 12-31-16 TO 06-30-17 FOR THE RECONSTRUCTION OF THE CHARLESTON BOULEVARD INTERCHANGE. 01-15-14: PROJECT NEON RIGHT OF WAY SERVICES INCLUDING APPRAISAL, APPRAISAL REVIEW, ACQUISITION, RELOCATION, PROPERTY MANAGEMENT, AND RIGHT OF WAY ENGINEERING FOR PHASE P3, CLARK COUNTY. NV B/L#: NVF20041372512-R
102	35112	06	WASHOE RTC	INTERSECTION IMPROVEMENTS	Y	28,503,750.00	-	72,879,616.00	3,318,411.00	9/12/2012	12/31/2019	12/16/2018	Stewardship	Design	Cole	AMD 6 12-16-18: **NO COST AMENDMENT** TO EXTEND TERMINATION DATE FROM 12-31-18 TO 12-31-19 DUE TO THE NEED FOR ADDITIONAL TIME TO ALLOW FOR CONTRACTOR PLANT ESTABLISHMENT ON THE PROJECT. AMD 5 06-13-16: TO ADD AN ADDITIONAL $604,290 OF STATE FUNDING TO MAKE TOTAL $72,879,616, COMPRISING OF $65,559,201 FEDERAL FUNDING(MULTIPLE SOURCES),$4,002,004 STATE FUNDING, AND $3,318,411 RTC FUNDING MATCH. AMD 4 07-08-15: INCREASE AUTHORITY BY $43,613,576.00 FROM $28,611,750.00 TO $72,275,326.00 TO ALLOW CONSTRUCTION OF PROJECT. EXTEND TERMINATION DATE FROM 11-30-16 TO 12-31-18 TO ALLOW COMPLETION OF PROJECT. AMD 3 03-03-14: MODIFY AGREEMENT LANGUAGE TO ALLOW CONDEMNATION OF PROPERTY. AMD 2 09-12-13: DECREASE AUTHORITY BY $212,440.00 FROM $28,874.190.00 TO $28,611,750.00 DUE TO MODIFICATION OF AGREEMENT. AMD 1 03-12-13: INCREASE AUTHORITY BY $370,440.00 FROM $28,503,750.00 TO $28,874,190.00 FOR CHANGES IN MATCH REQUIREMENT. 09-24-12: INTERSECTION IMPROVEMENTS AT PYRAMID AND MCCARRAN, WASHOE COUNTY. NV B/L#: EXEMPT

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 29, 2019

TO: **Department of Transportation Board of Directors**

FROM: **Kristina Swallow, Director**

SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**

Item #8: **Action Item: Disposal of a portion of NDOT right-of-way, a parcel of land along SR-756 (Centerville Ln.) in the Gardnerville Ranchos, County of Douglas, State of Nevada**

SUR 18-03 – For possible action

Summary:

Approval is requested from the Department of Transportation Board of Directors to dispose of the above-referenced right-of-way by Resolution of Abandonment. The easement interest to be abandoned includes a parcel of land along SR-756 (Centerville Ln.) in the Gardnerville Ranchos, County of Douglas, State of Nevada.

The surplus action includes Parcel S-756-DO-001.769 XS1, said parcel is vacant land consisting of approximately 2,912 sq. ft. as depicted on the attached sketch map labeled Exhibit "A".

Background:

On January 13, 1998, the Department acquired an easement interest for Project SPSR-759(1).

Analysis:

On August 14, 2018, the Surplus Committee determined the easement was no longer required for highway purposes. The abandonment of NDOT's easement interest in this parcel is being made in accordance with NRS 408.523.

List of Attachments:

1. Location Map
2. Original Resolution of Abandonment with attached sketch map depicted as Exhibit "A"
3. Environmental Approval
4. NRS 408.523

Department of Transportation Board of Directors
January 29, 2019

Recommendation for Board Action:

Approval of disposal of NDOT's easement interest for a parcel of land along SR-756 (Centerville Ln.) in the Gardnerville Ranchos, County of Douglas, State of Nevada.

Prepared by: Jessica Biggin, Deputy Chief R/W Agent JB

jb/dtc/aa

LOCATION MAP

SUR 18-03

DESCRIPTION: A parcel of land along SR-756 (Centerville Ln.) in the Gardnerville Ranchos, County of Douglas, State of Nevada

Attachment 1

300

Adj. to APN: 1220-09-401-001
Control Section: DO-08
Route: SR-756 (Centerville Lane)
All of Parcel: S-756-DO-001.769
Surplus No.: SUR 18-03
Surplus Parcel: S-756-DO-001.769 XS1

AFTER RECORDING RETURN TO:
NEVADA DEPT. OF TRANSPORTATION
RIGHT-OF-WAY DIVISION
ATTN: STAFF SPECIALIST, PM
1263 S. STEWART ST.
CARSON CITY, NV 89712

LEGAL DESCRIPTION PREPARED BY:
JEFFREY J. HENKELMAN, P.L.S.
NEVADA DEPT. OF TRANSPORTATION
RIGHT-OF-WAY DIVISION
1263 S. STEWART ST.
CARSON CITY, NV 89712

RESOLUTION OF ABANDONMENT
OF A PORTION OF STATE HIGHWAY RIGHT-OF-WAY

WHEREAS, the State of Nevada, Department of Transportation, hereinafter called the Department, presently holds an easement interest for all of that certain right-of-way for SR-756 (Centerville Lane) extending from Highway Engineer's Station "X" 103+29.66 P.O.T. to Highway Engineer's Station "X" 107+68.71 P.O.T.; and

WHEREAS, said right-of-way is delineated and identified as Parcel S-756-DO-001.769 XS1 on EXHIBIT "A" attached hereto and made a part hereof; and

WHEREAS, pursuant to the provisions contained in NRS 408.523, the Nevada Department of Transportation Board of Directors may vacate or abandon by resolution, any portion of a state highway which has been superseded by relocation or has been determined to be in excess of the needs of the Department; and

ATTACHMENT 2

WHEREAS, said right-of-way is of no further contemplated use by the Department, due to that certain portion of SR-756 (Centerville Lane) being in excess of the needs of the Department.

THEREFORE, it is hereby determined by the Board of Directors of the Nevada Department of Transportation of the State of Nevada, that the following described right-of-way and incidents thereto, being all that land delineated and identified as Parcel S-756-DO-001.769 XS1 on EXHIBIT "A" is hereby abandoned. Said right-of-way is more particularly described as follows:

Situate, lying and being in the County of Douglas, State of Nevada, and more particularly described as being a portion of the SW 1/4 of the SW 1/4 of Section 9, T. 12 N., R. 20 E., M.D.M., and further described as being all that parcel of land described in that certain GRANT DEED FOR PUBLIC ROADWAY, filed for record on January 13, 1998, in Book 0198, Page 1727, as Document No. 0430284, in the Official Records of Douglas County, Nevada and more fully described by metes and bounds as follows:

Beginning at a point on the right or southerly right-of-way line of SR-756 (Centerville Lane), 27.28 feet right of and at right angles to Highway Engineer's Station "X" 103+29.66 P.O.T.; said point of beginning further described as bearing S. 75°13'05" W. a distance of 5,055.15 feet from a 3 inch aluminum cap stamped "1992 - T12N R20E - 1/4 - S9/S10 – PLS 3519" accepted as being the east quarter corner of said Section 9, shown and delineated as a "FOUND 2" ALUM. PIPE + CAP PLS 3519" on that certain RECORD OF SURVEY FOR GORDON AND MARY JOANNE FRICKE, filed for record on March 24, 1995, in Book 395, Page 3661, as Document No. 358621, in the Official Records of Douglas County, Nevada; thence S. 88°22'28" E., along said right or southerly right-of-way line, a distance of 439.05 feet; thence S. 1°37'47" W., continuing along said southerly right-of-way line, a distance of 21.52 feet to the former right or southerly right-of-way line of said SR-756 (Centerville Lane); thence along said former right or southerly right-of-way line the following four (4) courses and distances:

1) N. 88°31'53" W. – 99.05 feet;

2) N. 1°28'07" E. – 20.00 feet;

3) N. 88°31'53" W. – 339.25 feet;

4) N. 12°42'37" W. – 2.81 feet to the point of beginning; said parcel contains an area of 2,912 square feet (0.07 acres).

SUBJECT TO any and all existing utilities, whether of record or not.

The Basis of Bearing for this description is the NEVADA STATE PLANE COORDINATE SYSTEM, NAD 83/94 DATUM, West Zone as determined by the State of Nevada, Department of Transportation.

It is the intent of the Department of Transportation to abandon that portion of SR-756 (Centerville Lane), delineated and identified as Parcel S-756-DO-001.769 XS1 on EXHIBIT "A" attached hereto and made a part hereof for reference.

DATED this _____ day of _____, 20___.

APPROVED AS TO LEGALITY AND FORM:

_____
Dennis Gallagher, Deputy Attorney General

ON BEHALF OF STATE OF NEVADA,
DEPARTMENT OF TRANSPORTATION
BOARD OF DIRECTORS

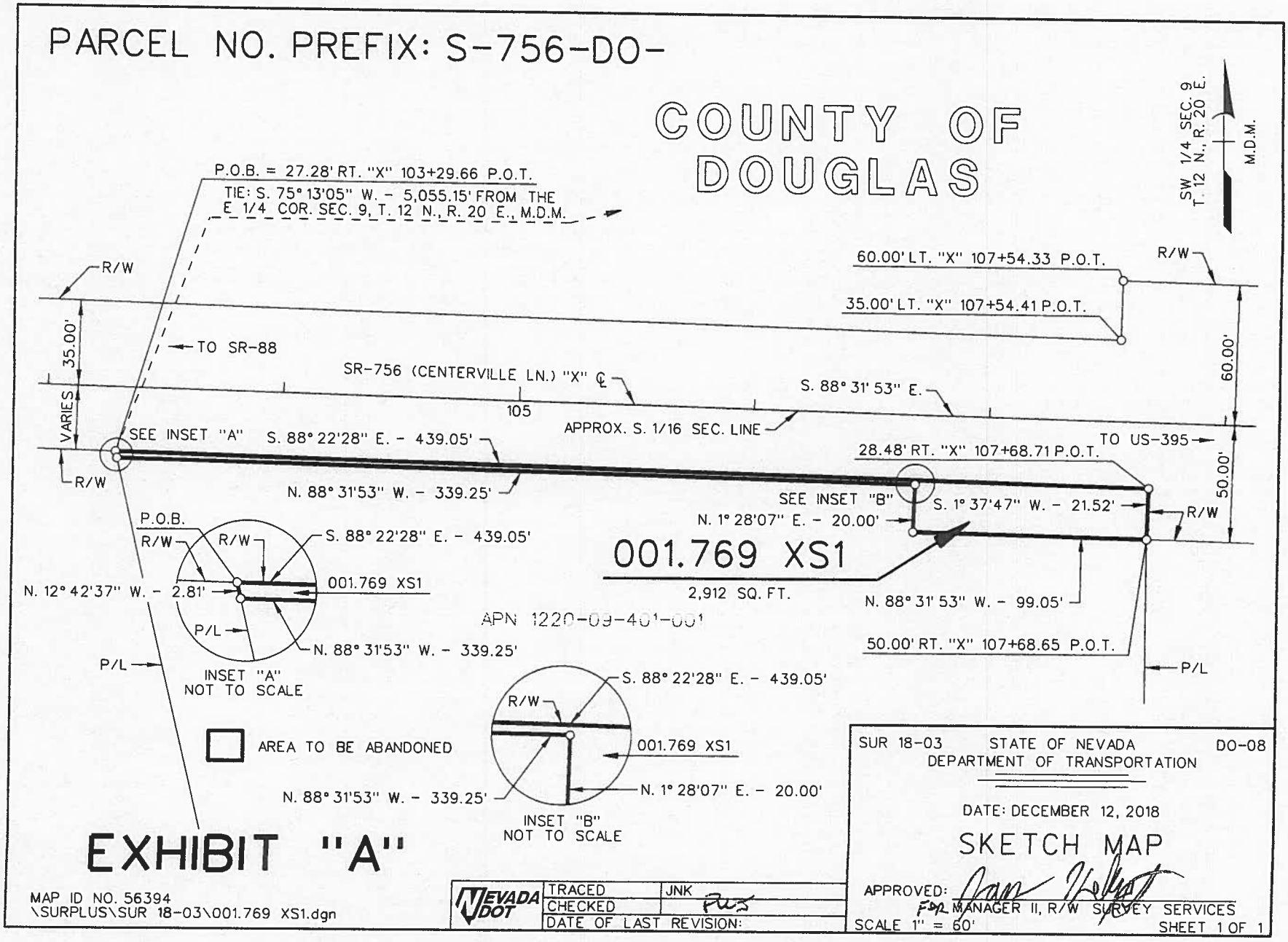
_____
Steve Sisolak, Chairman

ATTEST:

_____
William H. Hoffman, Secretary to the Board

R18-23

PARCEL NO. PREFIX: S-756-DO-



MAP ID NO. 56394
\SURPLUS\SUR 18-03\001.769 XS1.dgn

NEVADA DOT	TRACED	JNK
	CHECKED	
	DATE OF LAST REVISION:	

SUR 18-03 STATE OF NEVADA DO-08
DEPARTMENT OF TRANSPORTATION

DATE: DECEMBER 12, 2018

SKETCH MAP

APPROVED: _____
FOR MANAGER II, R/W SURVEY SERVICES

SCALE 1" = 60' SHEET 1 OF 1

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7013
Fax: (775) 888-7104

MEMORANDUM

Environmental Services Division

September 21, 2018

To: Diana Callahan, Staff Specialist, Acquisitions, Right-of-Way

From: Steve M. Cooke, PE, Chief, Environmental Services

Subject: Environmental Clearance for Transportation Board
Surplus No.: SUR 18-03
Parcel No.: S-756-DO-001.769 XS1
Parcel as Described in Clearance Request Memo
Disposal of Surplus Right-of-Way

The Environmental Services Division reviewed the requested action as presented in your memo dated September 11, 2018 and found it clear of any documented environmental concern for disposal.

EC: Project E-File

ATTACHMENT 3

NRS 408.523 Summary vacation and abandonment of portion of state highway superseded by relocation or in excess of need resolution of Board; recordation.

1. The Board may retain or may summarily vacate and abandon any portion of a state highway if that portion has been superseded l relocation or has been determined to be in excess of the needs of the Department.

2. The Board shall act to abandon any easement, or to vacate any highway, by resolution. A certified copy of the resolution may l recorded without acknowledgment, certificate of acknowledgment, or further proof, in the office of the county recorder of each county where any portion of the easement to be abandoned, or the highway to be vacated, lies. No fee may be charged for such recordation. Upc recordation, the abandonment or vacation is complete.

3. When a highway for which the State holds only an easement is abandoned, or when any other easement is abandoned, the proper previously subject thereto is free from the public easement for highway purposes. Where the State owns in fee the property on which tl vacated highway was located, the Department shall dispose of that property as provided in NRS 408.533.

4. In any proceeding for the abandonment or vacation of any state highway or part thereof, the Board may reserve and except therefro any easements, rights or interests in the highway deemed desirable and in the best interests of the State.

(Added to NRS by 1960, 68; A 1981, 707; 1987, 1811; 1989, 1307)

ATTACHMENT 4

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7520
Fax: (775) 888-7501

MEMORANDUM

January 18, 2019

TO: **Department of Transportation Board of Directors**

FROM: **Kristina L. Swallow, Director**

SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**

ITEM #9: **Equipment in Excess of $50,000 – High Speed Profiling Device –** ***For possible action.***

Summary:

This item is to request Transportation Board approval to purchase a high-speed profiling device. This equipment is to be purchased by the Materials Division and will be assigned to the Pavement Analysis Section located in Carson City. This new equipment will be used to supplement current equipment used to collect pavement smoothness data statewide. The Materials Division currently operates one high-speed profiling van. This new equipment can be mounted to a vehicle temporarily, then removed when not in use and stored in a safe and secure location.

Background:

This item was Legislatively approved for purchase in FY 2019.

The Department would like to purchase this equipment in order to:

1) Supplement the current capabilities of the Pavement Analysis Section to collect pavement smoothness data.

Every other year, employees of the Materials Division, Pavement Analysis section drive each mile of NDOT maintained roads and also local agency roads which are part of the National Highway System (NHS) to collect smoothness, rutting and faulting data. This information, along with many other pieces of information, are required to be submitted to the Federal Highway Administration.

Based on Federal requirements, in the alternate years only the NHS system, about half of the state maintained roadways, is driven and the data is collected again.

The process of scheduling and driving each mile of the state-maintained roads takes approximately 5 months. This new equipment will allow for shortening the time it takes by about a month. The time is not reduced by half because the new

equipment is only for collecting smoothness, not the other distresses such as rutting and faulting.

2) Add capacity to the Department's current capacity to verify contractor equipment.

The Department currently uses three high-speed profiling devices similar to the equipment being requested. One of these devices is stationed in each of the 3 districts for use by NDOT Internal Audit staff. In accordance with specifications, Contractors are required to own and operate their own profiling devices for determination of pavement smoothness during construction. NDOT equipment is used to certify Contractor equipment and to do independent checks on projects. The new device purchased by the Materials Division could be used to help out the three districts if there was a large workload or equipment failure.

3) Be more responsive to requests and inquiries regarding the public concerns about pavement smoothness.

On occasion, a request or concern from the public, other agencies, elected official, etc. is received regarding a section of road. This new equipment will allow for more rapid response to those requests that have to do with pavement smoothness. Use of the new equipment will also prevent delays to the schedule for collecting pavement smoothness which may be occurring at the same time elsewhere in the state

NRS 408.389 states the Department shall not purchase any equipment which exceeds $50,000 unless the purchase is first approved by the Board. The estimated cost of this equipment is $80,000.

This equipment will allow the Materials Division to be more efficient and responsive to the many requirements and requests regarding pavement smoothness.

Analysis:

The high-speed profiling device attaches to an existing vehicle by mounting to the front or back of the vehicle. A wired connection is routed into the cab of the vehicle to a laptop. The profiling device is activated and the vehicle is driven along the desired route collecting data including smoothness and distance. This data is brought back to the office for upload and analysis. After use, the equipment can be removed from the vehicle and safely and securely stored, while the vehicle is used for other purposes. The Materials Division intends to use the new equipment on an existing truck which is in the current inventory. See pictures of one brand of portable high-speed profiling equipment below:

Pavement smoothness data is used by the Pavement Analysis Section for reporting many federal and state mandated performance measures and reports including the State Preservation Report, the NDOT Facts and Figures Report, the State of Nevada Comprehensive Annual Financial Report and the MAP-21 and Fast Act pavement condition performance measures to name a few.

Cost Analysis:

The estimated cost of this equipment is approximately $80,000. The other piece of equipment operated by the Materials Division is valued at approximately $450,000. Shown below, the “Ride Van” is a full vehicle dedicated to the sole purpose of collecting pavement smoothness, rutting and faulting data from state maintained roads.

If two pieces of equipment are used, the time and expense of travelling can be reduced. Response time to special requests will be faster and, if applicable, the procedure of collecting statewide pavement data will not be interrupted or delayed.

Recommendation for Board Action:

The Department recommends approval of the requested equipment purchase.

Prepared by:

Darin Tedford, Chief Materials Engineer

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 31, 2019

TO: **Department of Transportation Board of Directors**

FROM: **Kristina L. Swallow, Director**

SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**

ITEM # 10: **Hearing on Intent to Act Upon a Regulation for Proposed regulations pertaining to NAC 484D Over-Dimensional Vehicle Permitting and Restrictions – *For Possible Action***

Summary:

The purpose of this item is to present revisions to regulations pertaining to Chapter 484D of the Nevada Administrative Code (NAC) – Over Dimensional Vehicle Permitting. In anticipation that the final draft revisions would soon be available from the the Legislative Counsel Bureau (LCB), the Transportation Board received information and a presentation on this item at its December 3, 2018 meeting. The final draft revisions were received following that meeting and are now ready for the Board's consideration to adopt.

Background:

The Nevada Department of Transpostation (NDOT) is actively involved in transportation associations, such as the Nevada Trucking Association, the American Association of State and Highway Transportation Officials (AASHTO), and the Western Association of State Highway and Transportation Officials (WASHTO). In these venues, improvements to Over-Dimensional Vehicle Permitting and Restriction regulations have been discussed. The trucking industry held multiple meetings with staff in several of the aforementioned association meetings and concurred that updates to the Nevada Administrative Code (NAC) 484D are needed.

The Nevada Trucking Association staff and board members advocated that the regulations be revised to harmonize with other western states to allow the movement of 14 feet wide single-trip permits to be allowed on a 24/7 basis on interstate highways in Nevada. Other examples of proposed amendments to the existing regulations include updates to office hours and adding a reference to the available online permitting system. Attachments to this item detail each change to the proposed regulations in the Legislative Counsel Bureau document numbered R157-18-P2.

As conveyed in the State of Nevada Administrative Rulemaking Manual, "The Legislature may delegate rulemaking authority in general terms, such as where it provides that the agency "may…[a]dopt such regulations are reasonable and necessary for the administration of this chapter." NRS 645C.210 (2)(a). NDOT is defined as such an agency, in accordance with NRS 233B.031, and the Transportation Board may consider adoption of regulations or amendments to existing regulations.

Furthermore, administrative regulations must be:

- Within the statutory rulemaking authority of the agency, consistent with the legislative policy in delegating that authority, and not arbitrary or capricious;
- Consistent with rights guaranteed by the Nevada United States Constitutions; and
- Adopted in compliance with statutory rulemaking procedures.

Prior to this hearing, staff also conducted public outreach on the proposed regulations to discuss and receive public comment through two public workshops (listed below), multiple meetings with AASHTO, WASHTO, and several one-on-one meetings with the Nevada Trucking Association.

Public Workshops

- May 15, 2018: Nevada Department of Transporation (NDOT) Headquarters, third floor conference room 301 at 1263 S. Stewart Street, Carson City, NV 89712, commencing at 9:30 a.m. This meeting was also video conferenced to District III Office, main conference room.
- May 17, 2018: NDOT, District I Office, Building A conference room, 123 E. Washington Ave., Las Vegas, NV 89123, commencing at 9:30 a.m.

Meetings

- September 20, 2018: Nevada Trucking Association and the Nevada Department of Transportation Administrative Services staff.
- October 5, 2018: NDOT Director's Office, Administrative Services Division Staff and Nevada Trucking Association board member and leadership
- October 8, 2018: Transportation Board Meeting—Director's Report
- October 16, 2018: Meeting between Administrative Services and a Nevada Trucking Association Board Member
- December 3, 2018 Transportation Board Meeting—Informational Presentation
- Discussion Rountables in 2017 and 2018 at various WASHTO and AASHTO meetings

Legislative Counsel Bureau—Release Dates for Draft NAC 484D Documents and Notice

- June 21, 2018: R157-18I (Initial Proposed Amendments)
- August 1, 2018: R157-18P (Proposed Amendments)
- August 16, 2018: R157-18RP1 (First Revision to Proposed Amendments)
- December 7, 2018: R157-18RP2 (Second Revision to Proposed Amendments)
- January 16, 2019: R157-18NH (Notice of Public Hearing)

The attached documents comprise the proposed revised regulation amendments to NAC 484D and the Notice of Intent to Act Upon Regulation.

Analysis: The proposed revisions to NAC 484D are in conformance with Nevada Revised Statutes and the Nevada Administrative Code; are approved by the Legislative Counsel Bureau; comply with the rulemaking procedures established by the Legislature; and/or adhere to Department policies and procedures. Leaders in the trucking industry also support these revisions.

List of Attachments:

A) Notice of Intent to Act Upon Regulation and Revised text to NAC 484D proposed regulation amendments

B) Workshops and Sign-In Sheets

Recommendation for Board Action: It is recommended that the Board consider for adoption the proposed revisions to amend the NAC 484D – Over-Dimensional Vehicle Permitting and Restrictions.

Prepared by: Administrative Services Division

NOTICE OF INTENT TO ACT UPON A REGULATION

Notice of Hearing for the Adoption of a New Regulation of the
Nevada Department of Transportation

The Nevada Department of Transportation (NDOT) is proposing new regulations pertaining to Chapter 484D of the Nevada Administrative Code. A hearing will be held at the NDOT Headquarters third floor conference room #302, 1263 South Stewart Street, Carson City, NV 89712, commencing at 9:30 a.m. on Monday, February 11, 2019. This hearing will also be streamed live on the internet on the NDOT website at: https://www.nevadadot.com.

This hearing will be **video-conferenced** to **NDOT, District I Office, Building A conference room, 123 E. Washington Ave., Las Vegas, NV and to NDOT, District III Office, main conference room, 1951 Idaho St., Elko, NV**

The following information is provided pursuant to the requirements of NRS 233B.061(2):

The purpose of this hearing is to solicit comments from all interested persons in the topics addressed in the proposed regulations to be adopted. The hearing will discuss the following topic:

(1) NAC 484D Over-Dimensional Vehicle Permitting and Restrictions.

A copy of this notice and the proposed regulations to be adopted will be on file at the State Library, 100 S. Stewart St., Carson City, Nevada, for inspection by members of the public during business hours. A reasonable fee for copying may be charged.

A copy of the notice and proposed regulations to be adopted has also been placed on NDOT's website at www.nevadadot.com/pubinvolvement/meetings/. A copy of all materials relating to the proposal may be obtained at the hearing or by contacting Lynn Hoffman with NDOT Administrative Services at (775) 888-7358 or email lhoffman@dot.nv.gov.

Additional copies of this notice and the proposed regulations to be adopted has been posted at the following locations:

Nevada Department of Transportation
1263 South Stewart Street
Carson City, NV 89712

Nevada Department of Transportation
District III Office
1951 Idaho Street
Elko, NV 89801

Nevada Department of Transportation
District I Office
123 East Washington Avenue
Las Vegas, NV 89125

Nevada Department of Transportation
Winnemucca Maintenance Station
725 West 4th Street
Winnemucca, NV 89446

Nevada Department of Transportation
Tonopah Maintenance Station
805 Erie Main
Tonopah, NV 89049

Nevada Department of Transportation
Ely Maintenance Station
1401 Avenue "F"
Ely, NV 89301

Nevada Department of Transportation
District II Office
310 Galletti Way
Sparks, NV 89431

Clark County Courthouse
200 South Third Street
Las Vegas, NV 89155

Washoe County Courthouse
75 Court Street
Reno, NV 89520

Grant Sawyer State Office Building
555 East Washington Avenue
Las Vegas, Nevada 89101

Persons wishing to comment upon the proposed action of the Nevada Department of Transportation may appear at the scheduled public hearing or may address their comments, data, views or arguments in writing to Lynn Hoffman, NDOT, Administrative Services at 1263 South Stewart Street, Carson City, NV 89712 or email lhoffman@dot.nv.gov.

Written submissions must be received by NDOT on or before 5 p.m., Friday, February 8, 2019.

Reasonable efforts will be made to assist and accommodate physically handicapped persons desiring to attend the meeting. Requests for auxiliary aids or services to assist individuals with disabilities or limited English proficiency should be made with as much advance notice as possible to NDOT Public Hearings Officer, Julie Maxey at (775) 888-7171 or email jmaxey@dot.nv.gov.

This notice has been posted on or before 9 a.m. the third working day before the meeting at the locations listed above.

Public comment may be limited to five minutes per person at the discretion of the NDOT's spokesperson.

The presentation will consist of:

1. Report by NDOT providing a history and overview of the proposed regulations.
2. Report by NDOT providing an overview of the rulemaking process.
3. Public comments and discussion.
4. Report by NDOT on regulation timelines and next steps.

SECOND REVISED PROPOSED REGULATION

OF THE DEPARTMENT OF TRANSPORTATION

LCB File No. R157-18

December 7, 2018

EXPLANATION – Matter in ***italics*** is new; matter in brackets **[**~~omitted material~~**]** is material to be omitted.

AUTHORITY: §§1, 2 and 4-6, NRS 484D.625, 484D.715 and 484D.720; §3, NRS 484D.600, 484D.615, 484D.625, 484D.715, 484D.720 and 484D.725.

A REGULATION relating to vehicles; revising provisions governing the issuance of permits by the Department of Transportation authorizing travel by certain oversized or overweight vehicles; revising provisions governing the days and times of travel authorized by the Department on such permits; revising provisions governing pilot cars which must accompany certain oversized or overweight vehicles; and providing other matters properly relating thereto.

Legislative Counsel's Digest:

Existing law authorizes the Department of Transportation to issue permits which allow travel on the roads of this State by vehicles which exceed certain limits for the length, weight or width of such vehicles. (NRS 484D.615, 484D.660, 484D.685) Existing regulations set forth the requirements for applying for such a permit from the Department. (NAC 484D.610, 484D.615) **Sections 1 and 2** of this regulation revise provisions regarding applications for such a permit to allow such applications to be accessed and submitted through the Internet website of the Department under certain circumstances, except that an application for a special permit must be submitted via telephone.

Existing regulations authorize certain applicants for permits to establish credit with the Department. Such an applicant is exempted from the requirement to include with his or her application the appropriate fee, if any, for the permit. (NAC 484D.615) **Section 2** of this regulation replaces the term "credit" with the term "deposit agreement."

Existing regulations require a permit authorizing travel by an oversized or overweight vehicle to be signed by the permittee and carried in the vehicle to which it refers. (NAC 484D.625) **Section 3** of this regulation makes an exception to the signature requirement for a permit provided in an electronic format and intended to be displayed on a mobile electronic device.

Section 4 of this regulation makes revisions to restrictions on oversized loads from 20 to 26 feet in width or 18 feet or more in height, authorizing the Department to require that a trucking company requesting a permit for such an oversized load survey the route before the

permit is issued to determine: (1) the safety of travel on the route; (2) where obstructions may exist; and (3) a plan for the removal or adjustment of such obstructions, if any. **Section 5** of this regulation revises the width limit of an oversized vehicle with a single-trip permit from 12 feet to 14 feet, with certain exceptions for travel on certain portions of Interstate Highway No. 15 into and out of Las Vegas during specified weekend hours, and authorizes the Department to impose additional safety requirements on a load that exceeds 12 feet in width for travel during holiday hours, hours of darkness and on weekends.

Existing regulations impose certain requirements on a pilot car which must accompany certain oversized vehicles under certain circumstances. (NAC 484D.640, 484D.670) **Section 6** of this regulation revises those requirements based on certain types of highways, certain days and certain hours of the day.

Section 1. NAC 484D.610 is hereby amended to read as follows:

484D.610 1. Annual multiple-trip permits, special permits and single-trip permits are available from the Department of Transportation, 1263 South Stewart Street, Carson City, Nevada 89712, Monday through Friday, excluding holidays, ~~[between the]~~ ***during regular business*** hours **.** ~~[of 7:30 a.m. and 4:00 p.m.]~~

2. ***Annual multiple-trip permits are also available from the Department through the online permitting system on the Internet website of the Department at www.nevadadot.com.***

3. Single-trip permits are also available from the Department ~~[by]~~ ***:***

(a) Through the online permitting system on the Internet website of the Department at www.nevadadot.com; and

(b) By telephone at (775) 888-7410 or (800) 552-2127, Monday through Friday, excluding holidays, ~~[between the]~~ ***during regular business*** hours **.** ~~[of 7:30 a.m. and 4:00 p.m.]~~

Sec. 2. NAC 484D.615 is hereby amended to read as follows:

484D.615 1. An application for an annual multiple-trip permit ~~[or a special permit]~~ must be:

(a) Submitted to the Department, on a form prescribed by the Department ***;*** ~~[, that is signed by the applicant or his or her authorized agent;]~~

(b) Submitted in writing, although a facsimile application ***or an application transmitted through the online permitting system on the Internet website of the Department pursuant to NAC 484D.610*** will constitute a writing;

(c) Except as otherwise provided in NRS 484D.600, submitted not later than ~~[30]~~ ***10 business*** days before the first day of travel for which the permit is required; and

(d) Accompanied by the appropriate fee, if any, unless ~~[credit]~~ ***a deposit agreement*** has been ~~[established.]~~ ***executed by the applicant.***

2. An application for a single-trip permit:

(a) May be made to the Department ***through the online permitting system on the Internet website of the Department pursuant to NAC 484D.610,*** in person or ~~[orally]~~ by telephone; ~~[and]~~

(b) Must be submitted not later than 4 p.m. on the last business day before the first day of travel for which the permit is required ~~[.~~

~~➥ Payment for the single-trip permit must be made at the time the applicant applies for the permit.]~~ ***; and***

(c) Must be accompanied by the appropriate fee, if any, unless a deposit agreement has been executed by the applicant.

3. An application for a special permit must be:

(a) Submitted to the Department via telephone at (775) 888-7410 or (800) 552-2127, during regular business hours;

(b) Except as otherwise provided in NRS 484D.600, submitted not later than 10 business days before the first day of travel for which the permit is required; and

(c) Accompanied by the appropriate fee, if any, at the time of application, unless a deposit agreement has been executed by the applicant.

4. As used in this section, "deposit agreement" means an agreement between an applicant and the Department which authorizes the applicant to be a customer of the Department and make monthly payments for a permit purchased pursuant to NAC 484D.500 to 484D.695, inclusive.

Sec. 3. NAC 484D.625 is hereby amended to read as follows:

484D.625 1. A single-trip permit for the movement of an oversized or overweight vehicle:

(a) Is valid for a period of 5 ***consecutive*** days as set forth on the permit; and

(b) May authorize the vehicle to make a round trip over a designated route and to travel laden on one leg and unladen on the other leg of the round trip.

2. An annual multiple-trip permit is valid for 12 consecutive months after the date of issue as set forth on the permit. The permit may be issued for:

(a) An oversized or overweight vehicle, including, without limitation, special mobile equipment, if the maximum:

(1) Width is not more than 14 feet;

(2) Length does not exceed 110 feet or, if the vehicle is equipped with one or more mechanically steered rear axles, 120 feet;

(3) Height does not exceed 15 feet;

(4) Total overhang does not exceed 25 feet; and

(5) Gross weight and axle loading will not exceed that established by evaluation of the application based upon axle configuration and overall length.

(b) The movement of manufactured homes, mobile homes or any other similar types of structures if the maximum:

(1) Width, including any appendages and roof eaves, is not more than 14 feet;

(2) Combined length of the vehicle used to transport the manufactured home, mobile home or other similar structure and the manufactured home, mobile home or other similar structure does not exceed 110 feet;

(3) Length of the manufactured home, mobile home or other similar structure does not exceed 80 feet; and

(4) Height does not exceed 15 feet.

3. A special permit for the movement of an oversized or overweight vehicle issued by the Department pursuant to NRS 484D.600, 484D.615, 484D.715 or 484D.720:

(a) Is valid for the period set forth on the permit; and

(b) May authorize the vehicle to make a round trip over a designated route and to travel laden on one leg and unladen on the other leg of the round trip.

4. The original of the annual multiple-trip permit, special permit or single-trip permit must be:

(a) ~~[Signed]~~ ***Except as otherwise provided in subsection 8, signed*** by the permittee; and

(b) Except as otherwise provided in subsection 5, carried in the vehicle to which it refers.

5. The holder of an annual multiple-trip permit may transfer the original permit to a leased or rented vehicle with the vehicle combinations which are identified on the permit. The leased or rented vehicle must:

(a) Carry the original permit ~~[;]~~ ***in paper form;***

(b) Carry the original notarized lease agreement or the original customer copy of the rental agreement; and

(c) Be marked in accordance with 49 C.F.R. § 390.21.

6. A copy of an annual multiple-trip permit, a special permit or single-trip permit may not be made for use in another vehicle.

7. For the purposes of this section, an annual multiple-trip permit, a special permit or single-trip permit that is issued to a permittee by facsimile or other electronic transmission shall be deemed the original permit.

8. A permit issued in paper form by the Department or a permit that has been printed out from a facsimile or an electronic transmission must be signed to be valid. A permit provided in an electronic format intended to be displayed on a mobile electronic device does not need to be signed.

9. For the purposes of NRS 484D.745, a permit issued pursuant to this section is void if the vehicle to which it refers exceeds any of the limits on the permit.

Sec. 4. NAC 484D.645 is hereby amended to read as follows:

484D.645 The Department may issue permits for the movement of oversized loads over the state highway system. The following conditions apply:

1. The movement of oversized loads up to 26 feet in width will be allowed only if the character of the road and traffic conditions will allow such movement. Reduction in size of load may be necessary to accomplish the move.

2. ~~[The movement of loads over 26 feet in width is allowed only for short distances normally not to exceed 10 miles.~~

~~3. The~~ ***For a load of 20 feet or more in width or 18 feet or more in height, the Department may require that the*** route ~~must~~ be surveyed by the trucking company before ~~moving~~ ***a permit is issued*** to determine ~~where~~ ***:***

(a) The safety of travel on the route;

(b) Where obstructions may exist ***;*** and ~~provide~~

(c) A plan for ~~their~~ ***the*** removal or adjustment ~~.~~ ***of any identified obstructions, if necessary.***

Sec. 5. NAC 484D.655 is hereby amended to read as follows:

484D.655 ***1.*** An oversized vehicle with a single-trip permit must not exceed the following maximum dimensions unless specifically approved by the Department:

~~1. For travel during hours of darkness or holiday hours:~~

(a) ***Except as otherwise provided in this section:***

(1) Width of ~~12~~ ***14*** feet;

~~(b)~~ ***(2)*** Height of 15 feet;

~~(c)~~ ***(3)*** Length of 110 feet or, if the vehicle is equipped with one or more mechanically steered rear axles, 120 feet; and

~~(d)~~ ***(4)*** Overhang of 15 feet.

~~2. Except as otherwise provided in subsection 3, for~~

(b) For Friday travel ~~during~~ ***between the*** hours of ~~daylight on a weekend:~~

~~(a)~~ ***2 p.m. and 10 p.m. on the portion of northbound Interstate Highway No. 15 between the boundary of California and Las Vegas (Exit 33):***

(1) Width of ~~14~~ ***12*** feet;

~~(b)~~ ***(2)*** Height of 15 feet;

~~[(c)]~~ ***(3)*** Length of 110 feet or, if the vehicle is equipped with one or more mechanically steered rear axles, 120 feet; and

~~[(d)]~~ ***(4)*** Overhang of 15 feet.

~~[3.]~~ ***(c)*** For ***Sunday*** travel ~~[during holiday]~~ ***between the*** hours ~~[or on a weekend]~~ ***of 2 p.m. and 10 p.m.*** over the portion of ***southbound*** Interstate Highway No. ~~[80 between Sparks (Exit 21) and the boundary of California or over the portion of Interstate Highway No.]~~ 15 between Las Vegas (Exit 33) and the boundary of California:

~~[(a)]~~ ***(1)*** Width of 12 feet;

~~[(b)]~~ ***(2)*** Height of 15 feet;

~~[(c)]~~ ***(3)*** Length of 110 feet ~~[.]~~ ***or, if the vehicle is equipped with one or more mechanically steered rear axles, 120 feet;*** and

~~[(d)]~~ ***(4)*** Overhang of 15 feet.

2. For a load that exceeds 12 feet in width, the Department may impose additional safety requirements on a permit for travel during holiday hours, hours of darkness and on weekends.

Sec. 6. NAC 484D.670 is hereby amended to read as follows:

484D.670 1. Pilot cars must be furnished by the permittee as set forth in the permit and in accordance with this section. A pilot car must be either a passenger car or a truck with not more than two axles, a manufacturer's gross weight rating of not more than 16,000 pounds and a width of at least 60 inches and must not exceed the legal limits of size and weight.

2. The operator of a pilot car shall maintain sufficient distance from the escorted vehicle depending on the speed, traffic, road and weather conditions to allow for timely and safe notification of the driver of the escorted vehicle and other drivers to stop, slow or pass as

necessary. If an escorted vehicle is required, pursuant to NAC 484D.640, to stop off the roadway to allow other traffic to pass, the operator of the pilot car shall:

(a) Assist the driver of the escorted vehicle to stop the vehicle as far off the roadway as practicable; and

(b) Direct traffic in order to maintain safe and efficient traffic movement.

3. In addition to the requirements of subsections 1 and 2:

(a) A pilot car must precede an escorted vehicle if:

(1) The overhang of the load exceeds 25 feet in front of the vehicle;

(2) The height of the load exceeds 15 feet 6 inches;

(3) The width of the load exceeds 12 feet and travel is ~~[on a highway with two or three lanes;]~~ ***:***

(I) On a highway with two or three lanes;

(II) During holiday hours or hours of darkness; or

(III) On a weekend; or

(4) The width of the load exceeds 16 feet.

➥ If the height of the load exceeds 15 feet 6 inches, the pilot car must also be equipped with a clearance pole.

(b) A pilot car must follow an escorted vehicle if:

(1) The overhang of the load exceeds 25 feet behind the vehicle;

(2) The length of the load exceeds 110 feet or, if the vehicle is equipped with one or more mechanically steered rear axles, 120 feet; ~~[or]~~

(3) The width of the load exceeds 14 feet ~~[.]~~ ***; or***

(4) The width of the load exceeds 12 feet and travel is:

(I) During holiday hours or hours of darkness; or

(II) On a weekend.

4. The permittee shall ensure that pilot cars are properly equipped and that the operators of the pilot cars required pursuant to the provisions of the permit are briefed and trained as to their responsibilities. Failure of the operators to warn and direct traffic properly is a violation of the permit.

5. A pilot car must not be loaded or equipped in any manner that impairs its traffic safety function or public recognition of its traffic safety function. Each pilot car must be equipped with:

(a) For a lead pilot car for a load over 15 feet 6 inches in height, a clearance pole.

(b) Signs, visible in the front and rear, with black letters that are at least 10 inches high of 1 5/8-inch minimum stroke on a yellow background. The signs must read "OVERSIZE LOAD" or "OVERSIZE" and must be mounted above the roofline. The signs must be neat, clean and mounted securely. The signs must be displayed while escorting a vehicle and be removed promptly upon the arrival of the escorted vehicle at its final destination.

(c) Two flashing or rotating amber lights mounted above the roofline to either side of the "OVERSIZE LOAD" or "OVERSIZE" sign or one flashing or rotating amber light mounted above the roofline which is visible from a minimum of 500 feet in all directions. The permittee must obtain the appropriate permit for the amber lights from the Nevada Highway Patrol pursuant to NRS 484D.185.

(d) An identification placard fixed to each side of the pilot car which is visible from 50 feet during the day and which states the name and telephone number of the individual or company providing the pilot car service.

(e) A standard 18-inch, two-sided "STOP" and "SLOW" sign attached to a pole 5 feet in length.

(f) A minimum of three bidirectional emergency reflective triangles and three orange road cones which must be at least 18 inches in height.

(g) At least one 5-pound BC fire extinguisher.

(h) A hardhat and high-visibility safety apparel to be worn by persons whenever operating outside of the vehicle. The hardhat and high-visibility safety apparel must meet the requirements set forth in ANSI/ISEA 107-2004 *American National Standard for High-Visibility Safety Apparel and Headwear*, which are hereby adopted by reference. A copy of ANSI/ISEA 107-2004 *American National Standard for High-Visibility Safety Apparel and Headwear* may be obtained from the International Safety Equipment Association, 1901 North Moore Street, Arlington, Virginia 22209, for the price of $60.

(i) A two-way radio that is compatible with the radios of the other assigned pilot cars and the escorted vehicle.

6. The operator of a pilot car must:

(a) Be at least 18 years of age;

(b) Possess a valid driver's license; and

(c) Have been certified by completing a current instructional course specific to flagger requirements and procedures.

NEVADA DEPARTMENT OF TRANSPORTATION
NOTICE AND AGENDA OF A PUBLIC WORKSHOP TO SOLICIT COMMENTS ON PROPOSED REGULATIONS

The Nevada Department of Transportation is proposing the amendment of regulations pertaining to Chapter 484D of the Nevada Administrative Code. A workshop will be held at the **Nevada Department of Transportation Headquarters, third floor conference room 301 at 1263 S. Stewart Street, Carson City, NV 89712, commencing at 9:30 a.m. on Tuesday, May 15, 2018.** This workshop will be **video-conferenced** to **NDOT, District III Office, main conference room, 1951 Idaho St., Elko, NV 89801.**

An additional workshop will be held on **Thursday, May 17, 2018, commencing at 9:30 a.m.** at **NDOT, District I Office, Building A conference room, 123 E. Washington Ave., Las Vegas, NV 89123.**

Listed below is an agenda of all items scheduled to be considered. Unless otherwise stated, items may be taken out of the order presented on the agenda at the discretion of the Department's spokesperson.

The purpose of this workshop is to solicit comments from all interested persons in the topics addressed in the proposed regulations to be adopted. The workshop will discuss the following topic:

(1) NAC 484D Over-Dimensional Vehicle Permitting and Restrictions

A copy of this notice and the proposed regulations to be adopted will be on file at the State Library, 100 S. Stewart St., Carson City, NV, for inspection by members of the public during business hours. A reasonable fee for copying may be charged.

A copy of the notice and proposed regulations has also been placed on the Nevada Department of Transportation's website at www.nevadadot.com/pubinvolvement/meetings/. A copy of all materials relating to the proposal may be obtained at the workshop or by contacting Kandee Bahr Worley, Administrative Services, 1263 S. Stewart St., Carson City, NV 89712 (775) 888-7458, email KWorley@dot.nv.gov **Comments will be accepted through Friday, June 15, 2018.** Additional copies of this notice and the proposed regulations to be amended will be available at:

Nevada Department of Transportation
1263 S. Stewart St.
Carson City, NV 89712

Nevada Department of Transportation
District III Office
1951 Idaho St.
Elko, NV 89801

Nevada Department of Transportation
District I Office
123 E. Washington Ave.
Las Vegas, NV 89125

Nevada Department of Transportation
Winnemucca Maintenance Station
725 West 4th St.
Winnemucca, NV 89446

Nevada Department of Transportation
Tonopah Maintenance Station
805 Erie Main
Tonopah, NV 89049

Nevada Department of Transportation
Ely Maintenance Station
1401 Ave. "F"
Ely, NV 89301

Nevada Department of Transportation
District II Office
310 Galletti Way
Sparks, NV 89431

Clark County Courthouse
200 S. Third St.
Las Vegas, NV 89155

Washoe County Courthouse
75 Court St.
Reno, NV 89520

Grant Sawyer State Office Building
555 E. Washington Ave.
Las Vegas, Nevada 89101

Public comment may be limited to five minutes per person at the discretion of the Department's spokesperson.

Reasonable efforts will be made to assist and accommodate physically handicapped persons desiring to attend the meeting. Requests for auxiliary aids or services to assist individuals with disabilities or limited English proficiency should be made with as much advance notice as possible to Julie Maxey, Nevada Department of Transportation, Public Hearings Officer, at (775) 888-7171 or Email jmaxey@dot.nv.gov

AGENDA

1. Call to Order and Roll Call. (Action)

2. Report by Department on proposed regulations to be adopted pursuant to NAC 484D.610 The purpose of the proposed regulation change is to: increase the permitting office hours from 4:00 p.m. to 4:30 p.m. (Discussion)

3. Report by Department on proposed regulations to be adopted pursuant to NAC 484D.615 The purpose of the proposed regulation change is to: add the option of the permit application to take place online. (Discussion)

4. Report by Department on proposed regulations to be adopted pursuant to NAC 484D.640 The purpose of the proposed regulation change is to: add the proper website location. (Discussion)

5. Report by Department on proposed regulations to be adopted pursuant to NAC 484D.655 The purpose of the proposed regulation change is to: to change single trip permit 24/7/365 travel perimeters to 14 feet wide; change subsection 2 – gamblers curfew – this will increase the travel times available and place the curfew directionally. (Discussion)

6. Report by Department on proposed regulations to be adopted pursuant to NAC 484D.660 The purpose of the proposed regulation change is to: the annual permits to allow up to 14' wide movement on interstates only. (Discussion)

7. Public comments and discussion. Public comments may be limited to five (5) minutes per person at the discretion of the Department's spokesperson. No action may be taken on a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action will be taken. (Discussion)

8. Comment period will remain open until 5 p.m. Friday. June 8, 2018.

9. Adjournment. (Action)

This notice and agenda has been posted on or before 9 a.m. on the third working day before the meeting at the locations listed above.

Nevada Department of Transportation
Public Workshop for
NAC 484D Over-Dimensional Vehicle Permitting / Restrictions
5/15/2018
NDOT Headquarters, 1263 S. Stewart St. Carson City, NV

Please Sign In / Por Favor Registrarse

	Name / Nombre Representing / Organización	Address / Dirección City State Zip / Ciudad, Estado, Codigo Postal	Phone / Teléfono E-mail / Electrónico	How did you hear about this meeting? ¿Cómo se enteró de esta reunión?
1.	JULIE MAXEY, Nevada Department of Transportation	1263 S. Stewart St., Carson City, NV 89712	775-888-7171, jmaxey@dot.nv.gov	News advertisement
2.	Kandee Bahr Worley - NDOT	1263 S Stewart St. CC NV 8971[illegible]	775-888-7458 kworley@dot.nv	Boy Newspaper
3.	Brandon Henning - NDOT Structures	1263 S. Stewart St. Carson City, NV 8971[illegible]	775-888-7551, bhenning@dot.nv.gov	
4.	Amber Sosa - City of Sparks	431 Prater Way Sparks, NV 89431	775-353-7863 asosa@cityofsparks	LV Email
5.	Angie Wallis - NDOT	1263 Stewart St. CC NV 89712	775-888-7740 awallis@dot.nv.gov	manager
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NOTICE: THE INFORMATION YOU PROVIDE BECOMES A PUBLIC RECORD SUBJECT TO DISCLOSURE (NRS 239.0107)
AVISO: LA INFORMACIÓN QUE PROPORCIONE SE CONVIERTE EN UN REGISTRO PÚBLICO SUJETO A LA DIVULGACIÓN (NRS 239.0107)

NEVADA DEPARTMENT OF TRANSPORTATION
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Nevada Department of Transportation
Public Workshop for
NAC 484D Over-Dimensional Vehicle Permitting / Restrictions
5/17/2018
NDOT District I, 123 E. Washington Ave., Las Vegas, NV

Please Sign In / Por Favor Registrarse

	Name / Nombre Representing / Organización	Address / Dirección City State Zip / Ciudad, Estado, Codigo Postal	Phone / Teléfono E-mail / Electrónico	How did you hear about this meeting? ¿Cómo se enteró de esta reunión?
1.	JULIE MAXEY, Nevada Department of Transportation	1263 S. Stewart St., Carson City, NV 89712	775-888-7171, jmaxey@dot.nv.gov	News advertisement
2.	Massoud Javid	Clark County	702-455-6000 massoud.javid@clarkcountynv.gov	
3.	Ashanti Lewis	887 Autumn Hill St, 89052	702-370-7947	Fervor SA
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AVISO: LA INFORMACIÓN QUE PROPORCIONE SE CONVIERTE EN UN REGISTRO PÚBLICO SUJETO A LA DIVULGACIÓN (NRS 239.0107)

Hoffman, M. Lynn

From: Kim Yaeger <kim@nevadatrucking.com>
Sent: Tuesday, January 08, 2019 11:28 AM
To: Hoffman, M. Lynn <lhoffman@dot.nv.gov>
Cc: Paul DeLong <delongheavyhaul@gmail.com>; Todd Anderson <lstheavyhaul@sbcglobal.net>; Paul Enos <pje@nevadatrucking.com>
Subject: Re: NAC 484D P2 - ODVP Regulations

Good morning Lynn,

On behalf of myself, Paul Delong, Paul Enos, and Todd Anderson, we are happy with the revised regulations to NAC 484D.

Thank you for your support.

We look forward to working with you in the future.

Best,

Kim

Kimberly Yaeger
Director of Marketing & Member Relations
O. 775.673.6111
C. 775.636.5040

Nevada Trucking Association
8745 Technology Way, Ste. E
Reno, NV 89521

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

February 1, 2019

TO: **Department of Transportation Board of Kristina**

FROM: **Kristina L. Swallow, P.E., Director**

SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**

ITEM #11: **2019 AASHTO Washington Briefing – *Informational item only***

Summary:

Each year, the American Association of State Highway and Transportation Officials (AASHTO) hosts a meeting in Washington, D.C. to discuss federal policy issues (Washington Briefing). The Washington Briefing provides an opportunity for State Departments of Transportation to collaborate with other states and key stakeholder groups on pressing policy matters. Highlighting legislative developments in all modes of transportation, the 2019 meeting will focus on a possible federal infrastructure package, reauthorization of the Fixing America's Surface Transportation (FAST) Act, reinforce the need for sustainable federal transportation funding, and other proposed legislative and regulatory activities of interest to states. The conference will feature key stakeholder groups including Congressional members and staff, federal executive branch leaders, trade associations and media.

In addition, while in D.C., NDOT leadership meets with Nevada's Congressional delegation to discuss major projects and initiatives in the state as well as policy issues and requests. NDOT plans on discussing the following items at these meetings:

- Overview of major projects such as Project NEON, Reno Spaghetti Bowl, Interstate 11, as well as high profile projects in members' specific Congressional Districts.
- One Nevada Plan – NDOT's new Statewide Transportation Plan and Prioritization Framework
- General Funding Overview at the Federal, State, and Local levels
- Future Funding & Proposed Infrastructure Bill(s) opportunities and constraints

Background:

NDOT leadership regularly attends this meeting and uses this opportunity to meet with Nevada's Congressional delegation and their transportation staff to share information and discuss needed policies and support. It provides an excellent opportunity to hear directly from Congressional Committee majority and minority leadership and staffers and to discuss specific transportation issues with the delegation. In addition, it's a great opportunity to discuss policy issues with other state DOTs. Previous meetings have resulted in a better working relationship with the delegation as well as a better understanding of ongoing issues and the federal level.

Prepared by:

Sondra Rosenberg, Assistant Director, Planning

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 29, 2019

TO: **Department of Transportation Board of Directors**
FROM: **Kristina L. Swallow, Director**
SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**
Item #12: **Old Business**

Summary:

This item is to provide follow-up and ongoing information brought up at previous Board Meetings.

Analysis:

a. Stormwater Program Quarterly Report– *Informational item only.*

Please see Attachment A.

b. Freeway Service Patrol Annual Report -*Informational item only.*

Please see Attachment B.

c. Report of Outside Counsel Cost on Open Matters- *Informational item only.*

Please see Attachment C.

d. Monthly Litigation Report – *Informational item only.*

Please see Attachment D.

e. Fatality Report Dated January 4, 2019 – *Informational item only.*

Please see Attachment E.

List of Attachments:

a. Stormwater Program Quarterly Report - *Informational item only.*
b. Freeway Service Patrol Annual Report - *Informational item only.*
c. Report of Outside Counsel Costs on Open Matters – *Informational item only.*
d. Monthly Litigation Report – *Informational item only.*
e. Fatality Report Dated Jan. 4, 2019 – *Informational item only.*

Recommendation for Board Action:
Informational item only.

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

MEMORANDUM

January 18, 2019

TO: **Department of Transportation Board of Directors**

FROM: **Kristina L. Swallow, Director**

SUBJECT: **February 11, 2019 Transportation Board of Directors Meeting**

Item #12A: **Stormwater Program Quarterly Report – *Informational item only***

Summary:

The Stormwater Division Chief, Cliff Lawson, will provide an update on the NDOT Stormwater Division and Program.

Background:

In May 2012, the US EPA presented an audit report which identified potential deficiencies in NDOT's compliance with the Clean Water Act. Since then, NDOT has worked with the US EPA, the Nevada Governor's Office, the Nevada Division of Environmental Protection (NDEP) and others to improve stormwater management programs and practices to minimize erosion and sedimentation and protect water resources throughout the state.

Analysis:

During the 2015 Legislative session, NDOT requested a budget amendment to its 2016-2017 biennial budget for additional staff and equipment for a new Stormwater Division and additional maintenance crews. NDOT's public outreach program has provided information through websites, social media, brochures and community events as well as increased internal communications. NDOT's Stormwater Division continues to evaluate program staffing to ensure compliance with the Clean Water Act and the requirements of the MS4 permit issued to NDOT to avoid future compliance or enforcement action.

A presentation will be provided to the Transportation Board on the following elements of NDOT's Stormwater Program:

- Stormwater program update
- The implementation and efficacy of the storm water program (NRS 408.439)

Recommendation for Board Action:

Informational item only.

Prepared by: Cliff Lawson, Chief - Stormwater Division

NEVADA DEPARTMENT OF TRANSPORTATION

RENO & LAS VEGAS
FREEWAY SERVICE PATROL PROGRAM

ANNUAL PERFORMANCE REPORT
FEDERAL FISCAL YEAR 2018
OCT. 1, 2017 – SEPT. 30, 2018

NEVADA DOT
SAFE AND CONNECTED

PREPARED BY:
TRAFFIC OPERATIONS DIVISION

INTRODUCTION

The Nevada Department of Transportation (NDOT) implemented the Freeway Service Patrol (FSP) Program in Reno and Las Vegas to improve highway safety and mitigate traffic congestion in the heavily-traveled sections of Nevada's metropolitan freeway systems by reducing the time required to remove incidents that disrupt traffic flows and cause secondary incidents. The program is partially sponsored by State Farm and is under contract with URT United Road Towing effective October 1, 2013 through October 31, 2022. This report summarizes the performance of the program for federal fiscal year 2018, effective October 1, 2017 through September 30, 2018.

The FSP Program consists of specially designed service vehicles, as well as specially trained drivers which patrol designated sections of Nevada's metropolitan freeway systems to mitigate various types of incidents such as: removing non-injury related crashed vehicles from travel lanes; assisting motorists with disabled vehicles requiring basic repair; removing roadway debris from travel lanes; tagging abandoned vehicles; assisting lost or stranded motorists off the freeway; assisting motorists with unsecured loads; assisting NDOT and Nevada Highway Patrol (NHP) with incident scene safety, emergency traffic control, and protecting the traffic queue; assisting with minor vehicle fires; and assisting with cleanup of non-hazardous spills. The FSP drivers are certified in various fields such as cardiopulmonary resuscitation, community first aid, basic automotive repair, basic fire extinguishing, containment of non-hazardous spills, emergency flagger/traffic control, and Traffic Incident Management (TIM). Above all, the goal of the program is to leverage TIM best practices in conjunction with NDOT maintenance personnel, NHP personnel, towing professionals, emergency medical technicians, and various first responders to expedite quick incident clearance and reduce the risk of secondary crashes.

In FFY18, FSP drivers patrolled three heavily traveled sections of the Reno-Sparks metropolitan area along I-580/US395 from Lemmon Drive to Damonte Ranch Parkway and along I-80 from Robb Drive to Lockwood Drive, Monday through Friday, 5:00 AM - 7:30 PM. Similarly, in Las Vegas FSP drivers patrolled eleven (eight during weekdays and three during weekends) heavily traveled sections of the metropolitan area along US95/I-515 from CC-215 to Wagon Wheel Road and along I-15 from Craig Road to SR160 (and CA Stateline during weekends) Monday through Sunday, 5am-8:30pm. In additions, NDOT in coordination with staff from the District Road Operation Centers (ROC), Highway Patrol, and the Freeway & Arterial System of Transportation (FAST) Center also adjusted routes during holidays, special events, construction projects, and major traffic emergencies.

The Reno FSP Program performed 10,351 mitigations and cleared 86% in less than fifteen minutes, and the Las Vegas FSP Program performed 34,210 mitigations and cleared 77% in less than fifteen minutes. The benefits achieved as a result of the reduced incident clearance times have proven to enhance motorist and first responder safety, reduce congestion delay, and increase capacity on Nevada's metropolitan freeway systems.

PERFORMANCE

The performance of the Reno and Las Vegas FSP Program is evaluated through four performance metrics: Mitigations Per Vehicle-Hours (MPVH), Mitigation Clearance Times, Mitigation Durations, and Mitigation Surveys. These performance metrics are evaluated monthly to ensure all FSP protocols are being followed and to ensure FSP objectives are being met.

Mitigations Per Vehicle-Hours allows for the evaluation of each route and service hours of operation to ensure efficient application of FSP resources. Mitigations are divided into six categories: Disabled Vehicles, Abandoned Vehicles, Incident Scene Safety, Crashes, Debris Removal, and Other mitigations such as motorists requiring medical assistance, unsecured load assistance, minor vehicle fire and/or hazmat spills assistance, and traffic incident management assistance. A baseline of 1.0 (+/- 0.2) MPVH has been established for FFY18 based on previous year performance where: a) an MPVH below 0.8 indicates the need for potential revisions to routes and/or hours of operation because FSP vehicle(s) are roving outside of peak traffic congestion hours; b) an MPVH between 0.8-1.2 is standard performance; and c) an MPVH greater than 1.2 is above standard performance. The following tables indicate that Reno FSP is operating at above standard performance and Las Vegas FSP is operating at standard performance. This means that FSP resources were properly allocated in both regions during FFY18.

Reno FSP	FFY18
Disabled Vehicles	4,411
Abandoned Vehicles	1,228
Scene Safety	1,661
Crashes	1,170
Debris	724
Other	1,157
Total Mitigations	10,351
Total Vehicle-Hours	7,646
Mitigations Per Vehicle-Hours	**1.35**

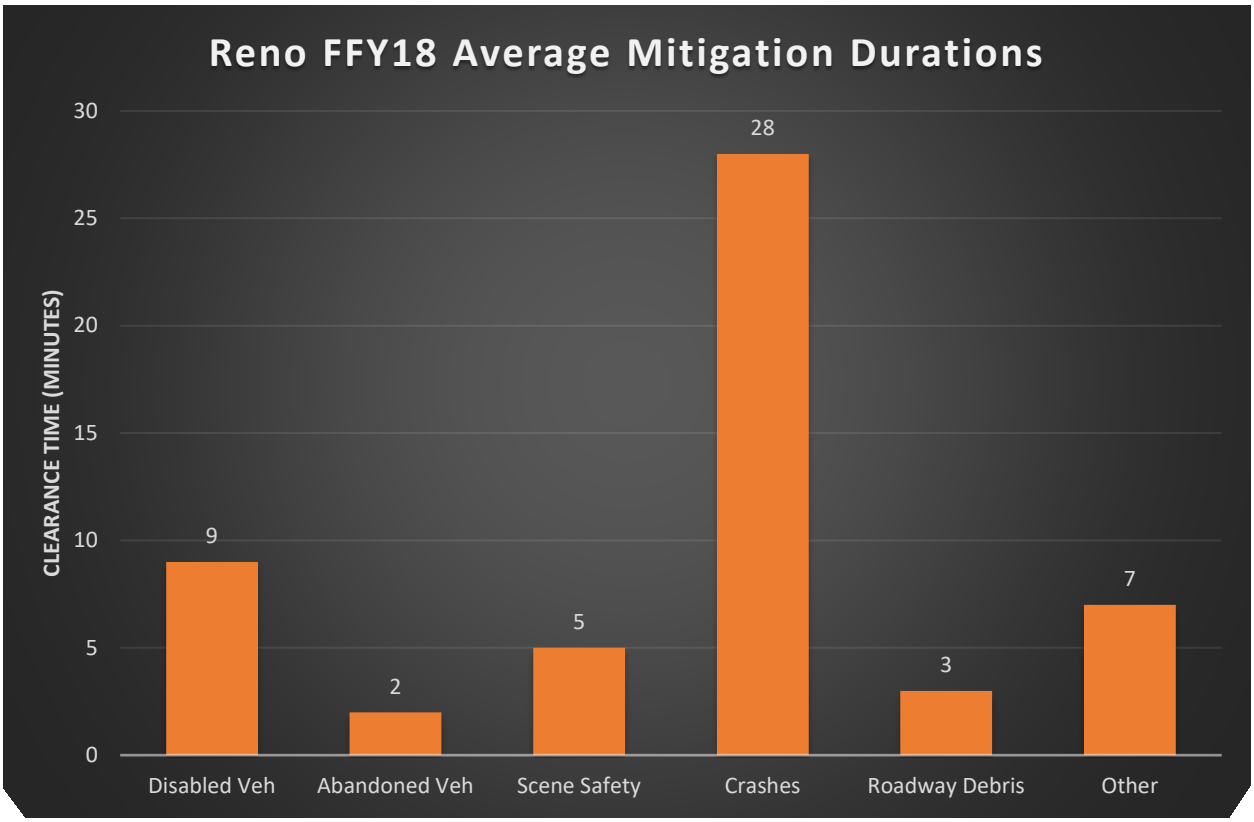
Las Vegas FSP	FFY18
Disabled Vehicles	16,474
Abandoned Vehicles	3,649
Scene Safety	7,071
Crashes	3,278
Debris	1,493
Other	2,245
Total Mitigations	34,210
Total Vehicle-Hours	32,148
Mitigations Per Vehicle-Hours	**1.06**

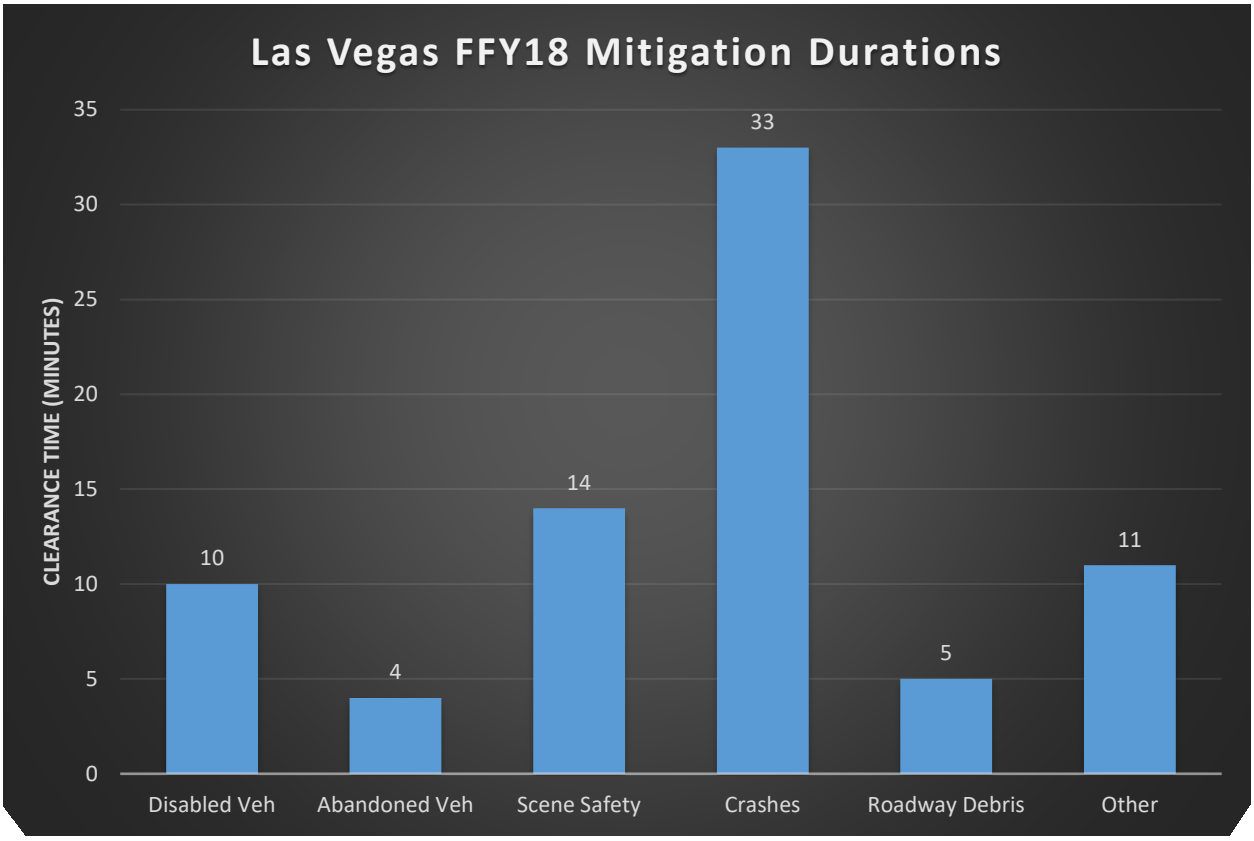
Mitigation Clearance Times allow for the evaluation of program efficiency and indicate if improvements need to be made to the operational guidelines. The following tables indicate that 86% of the mitigations in Reno were cleared in under 15 minutes and 77% of the mitigations in Las Vegas where cleared in under 15 minutes. In general, the FSP program aims to mitigate situations such as disabled vehicles, abandoned vehicle, and roadway debris in under fifteen minutes; however, crashes, scene safety, and those that fall under "other" mitigations are exempt from the 15-minute mitigation rule because FSP drivers are required to remain on-scene until released by the NDOT Road Operation Center and/or Highway Patrol. Furthermore, the tables below indicate that both Reno and Las Vegas FSP are performing well.

Clearance Time	Reno Mitigations	FFY18 Percent
<15 MIN	**8,853**	**86%**
15-30 MIN	910	9%
30-45 MIN	312	3%
45-60 MIN	148	1%
>60 MIN	128	1%
Sum	10,351	100%

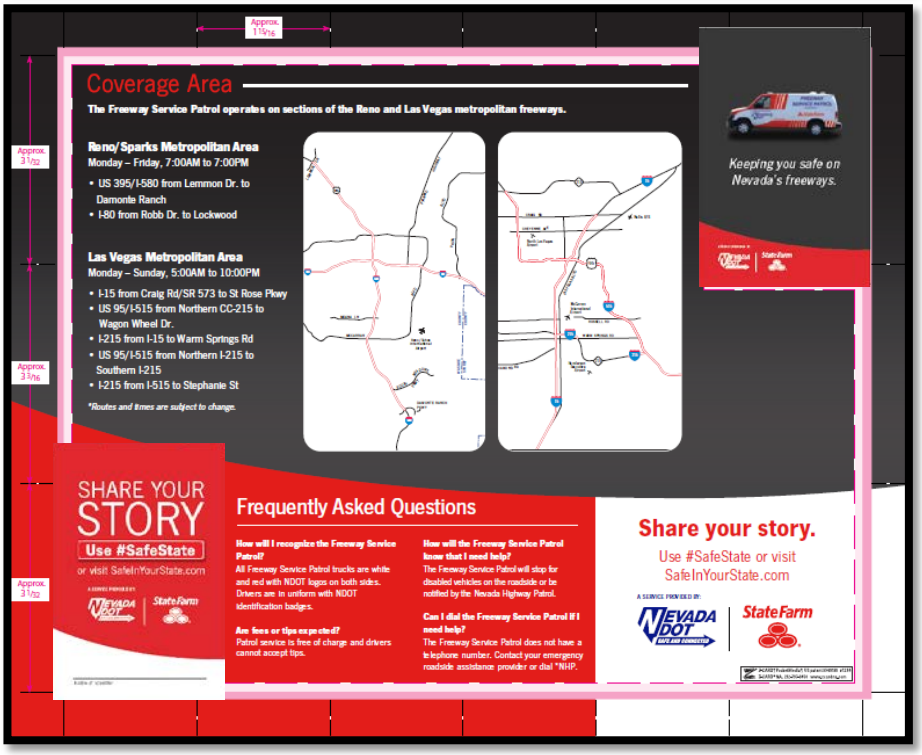
Clearance Time	Las Vegas Mitigations	FFY18 Percent
<15 MIN	**26180**	**77%**
15-30 MIN	5216	15%
30-45 MIN	1572	4%
45-60 MIN	609	2%
>60 MIN	633	2%
Sum	34210	100%

Mitigation Durations are evaluated to determine which incidents are not being cleared in the 15-minute target window. As stated in the previous paragraph, mitigations such as crashes, scene safety, and other are exempt from the 15-minute rule because FSP drivers are required to remain on-scene until released by the NDOT Road Operation Center and/or Highway Patrol. The data in the graphs below indicates that both Reno and Las Vegas FSP drivers are clearing disabled vehicles, abandoned vehicles, and roadway debris in under 15 minutes which reflects very good performance. Furthermore, the data also indicates that crashes in Reno are being cleared in an average of 28 minutes and crashes in Las Vegas are being cleared in an average of 33 minutes. It's important to monitor and maintain crash durations at a minimum amount, because according to national Federal Highway Administration data, every minute that a travel lane is blocked, it takes four minutes for the congestion dissipate and the probability of secondary incidents increases by 2.8%.


Reno FFY18 Average Mitigation Durations
CLEARANCE TIME (MINUTES)
30
25
20
15
10
5
0
9
2
5
28
3
7
Disabled Veh
Abandoned Veh
Scene Safety
Crashes
Roadway Debris
Other


Las Vegas FFY18 Mitigation Durations
CLEARANCE TIME (MINUTES)
35
30
25
20
15
10
5
0
10
4
14
33
5
11
Disabled Veh
Abandoned Veh
Scene Safety
Crashes
Roadway Debris
Other

Mitigation Surveys are evaluated to measure the motorist's satisfaction with the FSP Program. During mitigations, FSP drivers provide a program pamphlet to motorists receiving assistance. The pamphlet is updated periodically to reflect valuable information that informs motorists of the program's objectives, routes, hours of operation, frequently asked questions, Nevada's "Move Over" law, and crash incident guidelines. The following is an example of the pamphlet.



The FSP pamphlet also contains a link to a brief motorist survey. The feedback obtained from the survey allows the Department to understand program needs and areas of improvement. All program complaints are flagged and followed up on until the problem has been resolved to the satisfaction of the motorist. The following is a summary of the FFY18 survey results.

1. How long did to take for the Freeway Service Patrol to detect/approach you?
   71% of motorists stated that FSP responded in under 15 minutes

2. Was the patrol driver professional and courteous?
   100% of motorists strongly agree patrol drivers are professional and courteous

3. Do you agree or disagree that the FSP Program offers a valuable service?
   99.3% of motorists strongly agree that the FSP Program offers a valuable service

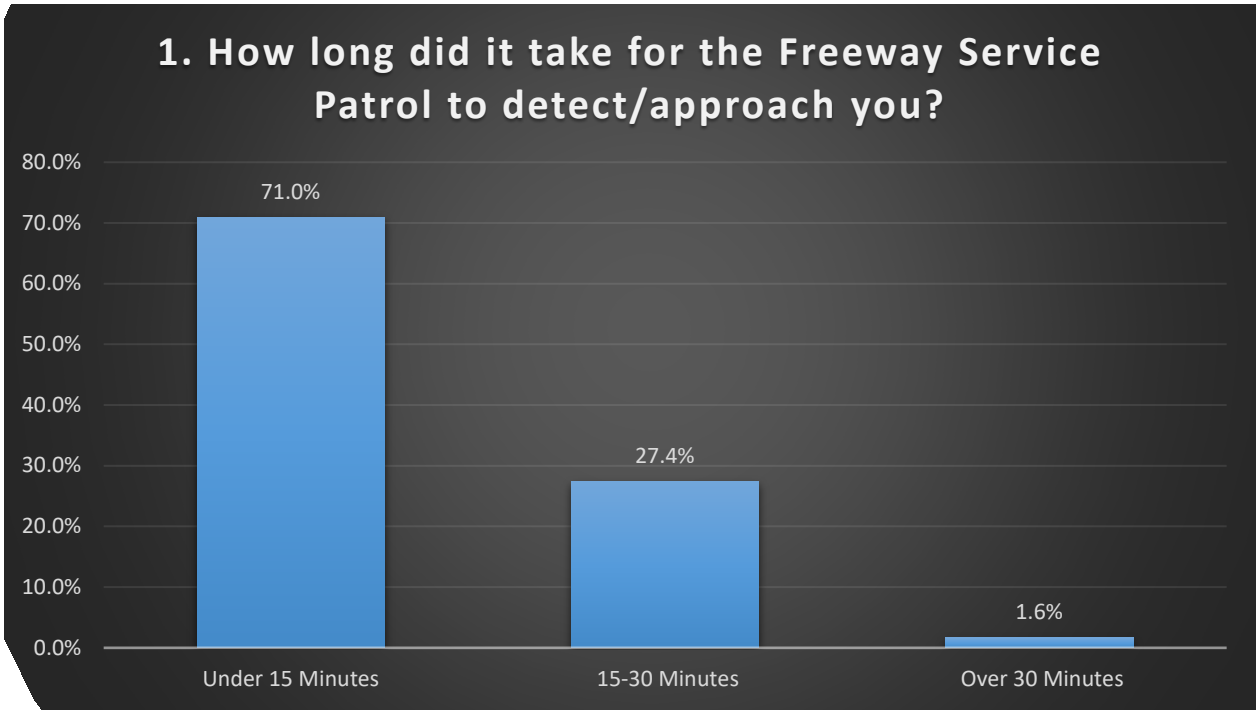
4. How important is the continuance of the program?
   100% of motorists stated that the continuance of the program is very important

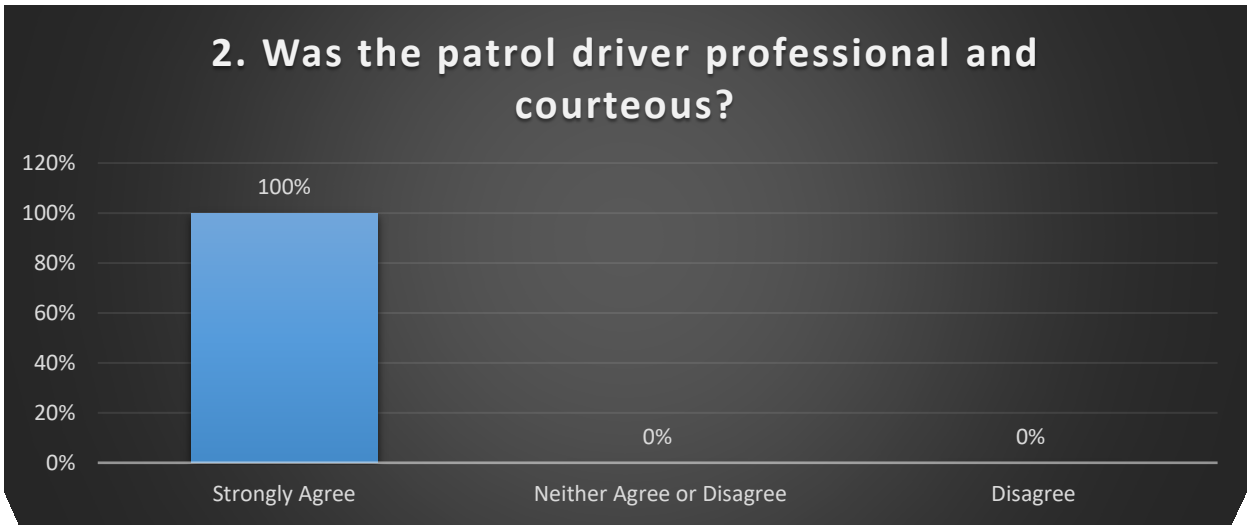
5. How, if at all, does the FSP Program impact your opinion of the DOT?
   94.5% of motorists have a more favorable opinion of the DOT after receiving service

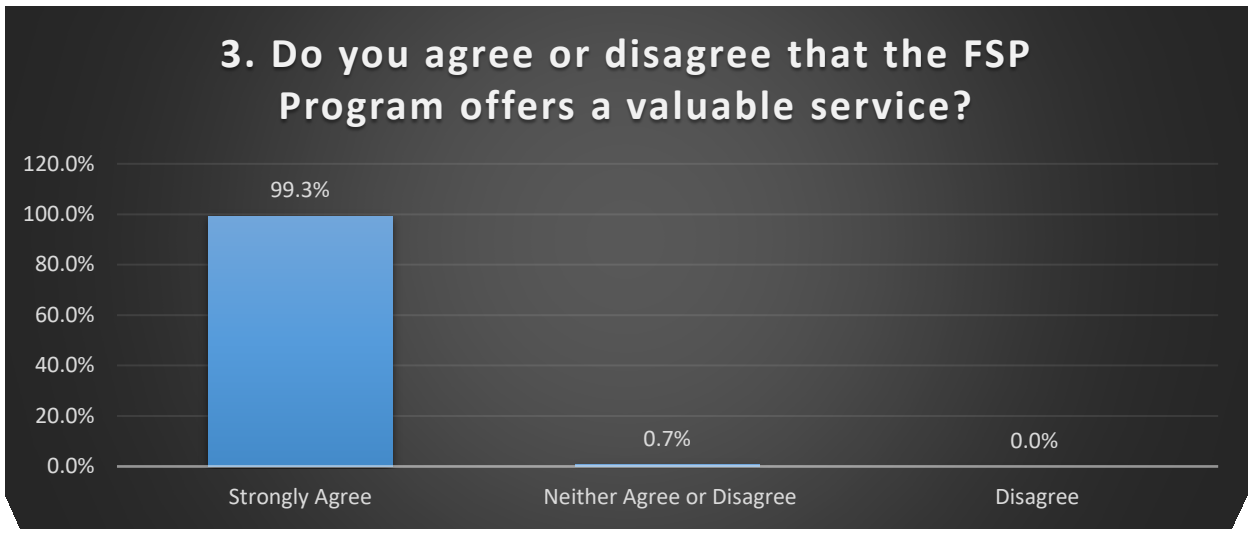
6. How would you rate the FSP program?
   99.5% of motorists rated the FSP program as excellent

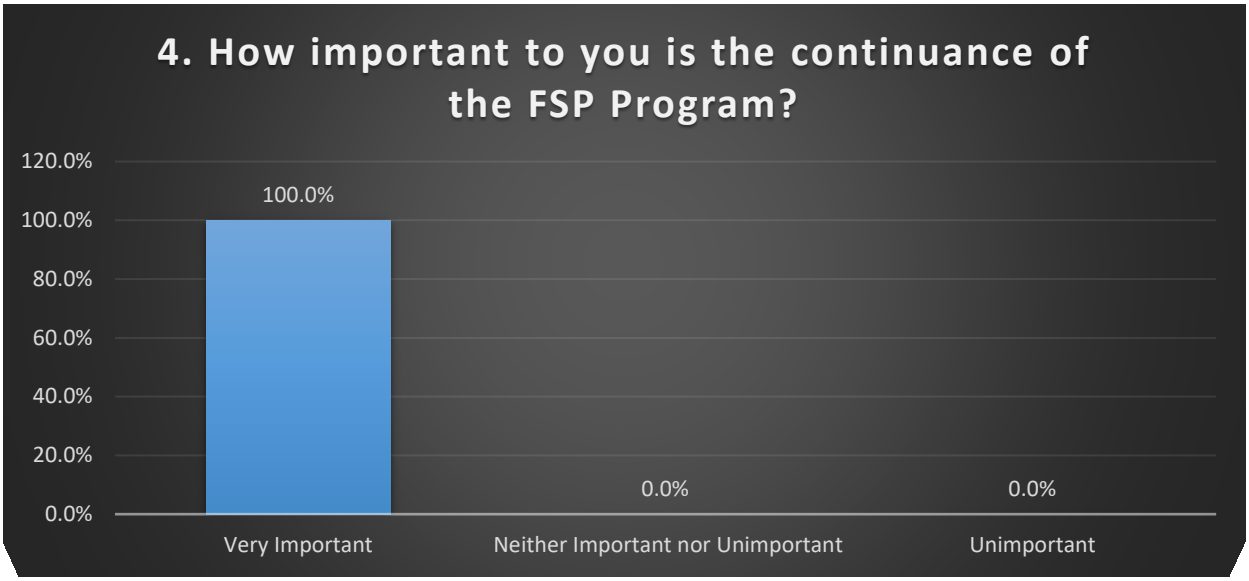
7. FSP Motorist Complaints
   In FFY18, there were 34,347 motorist interactions; and of those interactions, there were a total of 4 resolved FSP complaints and 0 unresolved FSP complaints.

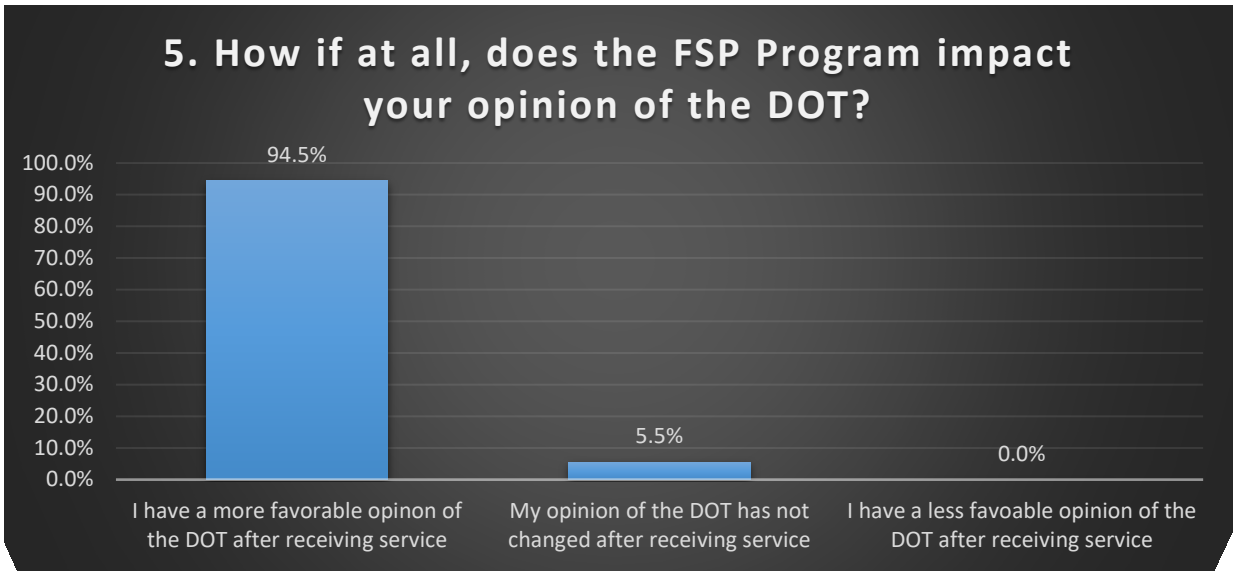
The following illustrations reflect the above information in graphical format.

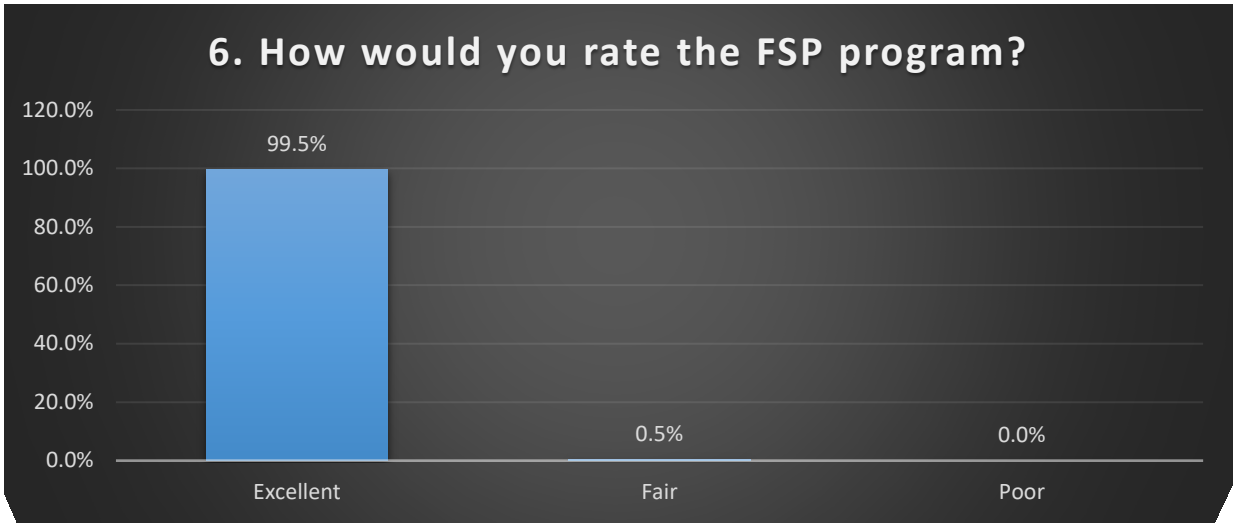


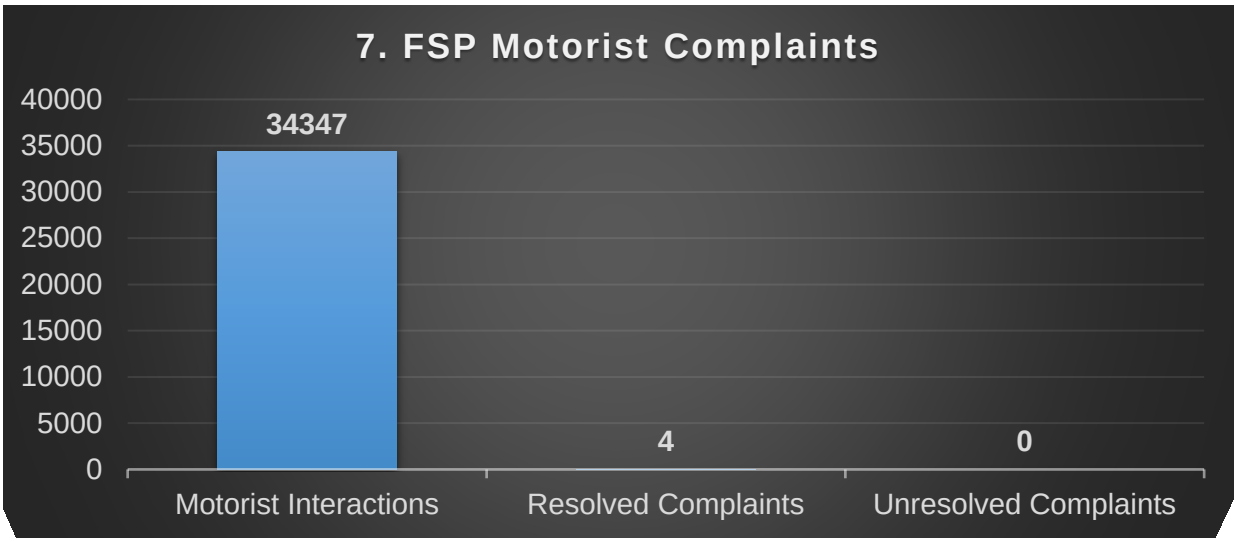

2. Was the patrol driver professional and courteous?
120%
100%
80%
60%
40%
20%
0%
100%
0%
0%
Strongly Agree
Neither Agree or Disagree
Disagree


3. Do you agree or disagree that the FSP Program offers a valuable service?
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
99.3%
0.7%
0.0%
Strongly Agree
Neither Agree or Disagree
Disagree


4. How important to you is the continuance of the FSP Program?
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
100.0%
0.0%
0.0%
Very Important
Neither Important nor Unimportant
Unimportant


5. How if at all, does the FSP Program impact your opinion of the DOT?
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
94.5%
5.5%
0.0%
I have a more favorable opinon of the DOT after receiving service
My opinion of the DOT has not changed after receiving service
I have a less favoable opinion of the DOT after receiving service


6. How would you rate the FSP program?
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
99.5%
0.5%
0.0%
Excellent
Fair
Poor


7. FSP Motorist Complaints
40000
35000
30000
25000
20000
15000
10000
5000
0
34347
4
0
Motorist Interactions
Resolved Complaints
Unresolved Complaints

SPONSORSHIP

The FSP Program is partially sponsored by State Farm, which allows NDOT to reallocate funds devoted to the program toward other vital transportation programs. As part of the sponsorship, the State Farm logo has been added to service vehicles and driver uniforms in recognition of State Farm's financial support. The $400,000.00 annual sponsorship contribution is based on the number of sponsorship signs, fleet size, number of routes, annual hours of operations, and the number of program centerline miles.

NEW ENHANCEMENTS

The current FSP contract with URT United Road Towing expired on October 31, 2018. Due to the benefits and value of the FSP program, a new contract has been awarded for four years to URT United Road Towing via a competitive bid process effective November 1st, 2018 - October 31, 2022.

The new Reno and Las Vegas FSP Program will continue to be partially sponsored by State Farm and will new patrol routes, hours of operation, and enhancements that have been specifically selected to enhance safety and improve operational efficiency. The Reno FSP drivers will patrol three designated routes including I-580/US395 from Lemmon Drive to Damonte Ranch Parkway and I-80 from Robb Drive to USA Parkway, Monday through Friday, 5:00 AM – 8:00 PM. And the Las Vegas FSP drivers will patrol twelve designated routes (nine during weekdays and three during weekends) along sections of US95/I-515 from CC-215 to Wagon Wheel Road, I-215 from I-15 to I-515, and I-15 from Craig Road to SR160 (and CA Stateline during weekends) Monday through Sunday, 5:00 AM - 8:00 PM. Maps are available at the end of the report for visual display the FSP coverage areas. The patrol routes and hours of operations will continue to be revised during the life of the contract for holidays, special events, construction projects, major traffic emergencies, and at NDOT discretion.

Figures 1 and 2 depict the new FSP service vehicles. All vehicles can perform the primary functions of the FSP Program; however, each service vehicle has its advantages. For example: the Safety Patrol Vehicle (SPV) is the most versatile vehicle for narrow shoulders and tight paces; the Incident Response Vehicle (IRV) has increased temporary traffic control equipment for incidents requiring road closures; the Flatbed Multi-Use Response Vehicle (FB-MRV) is capable of removing two crashed vehicles from travel lanes simultaneously; and the Wheel-Lift Multi-Use Response Vehicle (WL-WRV) has four-wheel drive and can better assist with recovering crashed vehicles at various angles and mitigating incidents during snow storms.

Figure: 1 from left to right SPV, FB-MRV (Pilot), IRV (Pilot)

Figure 2: WL-MRV (Pilot)

The following table depicts the enhancements that have been applied to the new service vehicles.

New Reno and Las Vegas FSP Vehicle Enchantments
Full size arrow boards on all service vehicles for enhanced visibility and safety
Flat-bed & Wheel-lift service vehicles with towing capabilities for quick clearance of travel lanes
Defibrillators in all service vehicles for interim support of sick or injured motorists
Advanced incident visualization & notification through the Waycare platform system
Four-wheel drive vehicles in Reno for improved winter operations

The new FSP Program will also be utilizing cutting edge Artificial Intelligence (AI) technology via the WayCare Program. WayCare reduces incident response times by leveraging real-time data from smart connected vehicles, Bluetooth devices, telematic data, and crowdsourced information, such as Waze, 511, and Geotab. Using all the available datasets, the Waycare platform system has proven to identify incidents and alert NDOT, FSP, NHP, and FAST personnel an average of twelve minutes prior to the emergency response call. This has enabled the participating agencies to take a proactive approach to incident response which has reduced incident clearance times and minimized secondary crashes in the metropolitan areas.

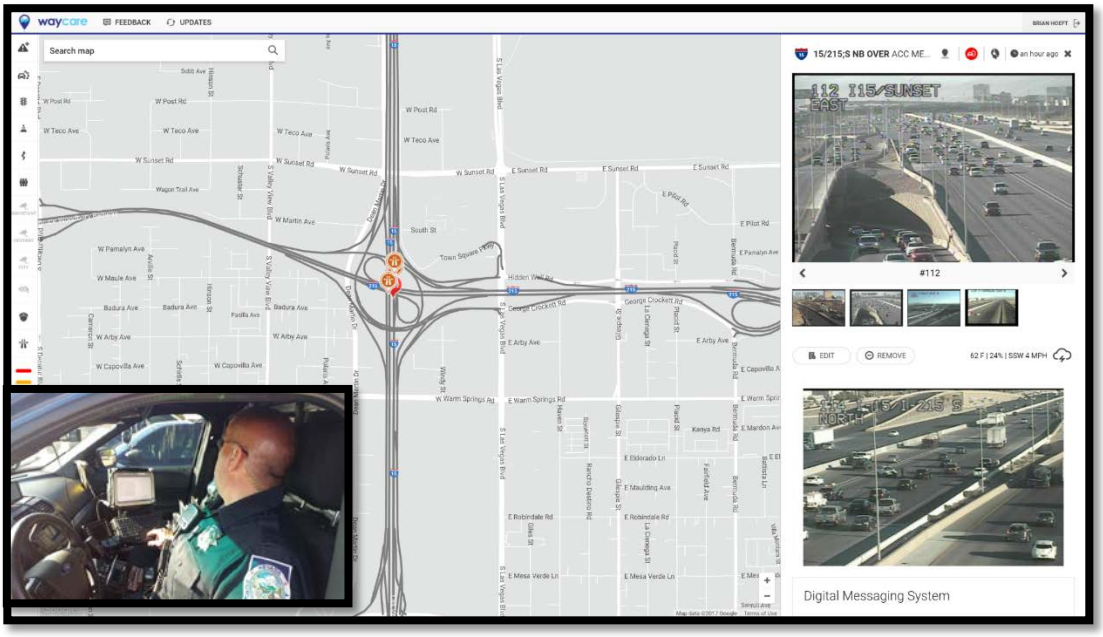
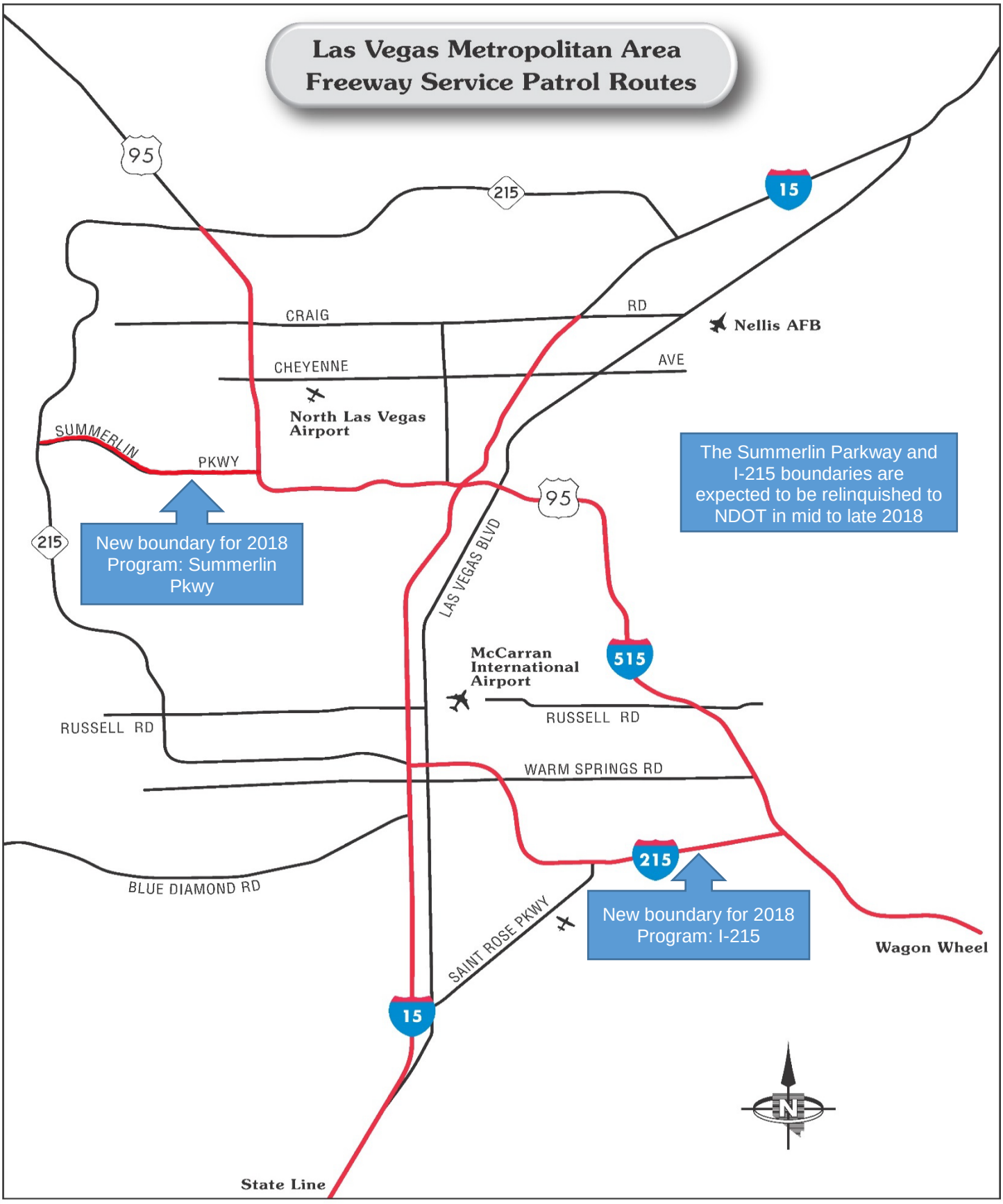
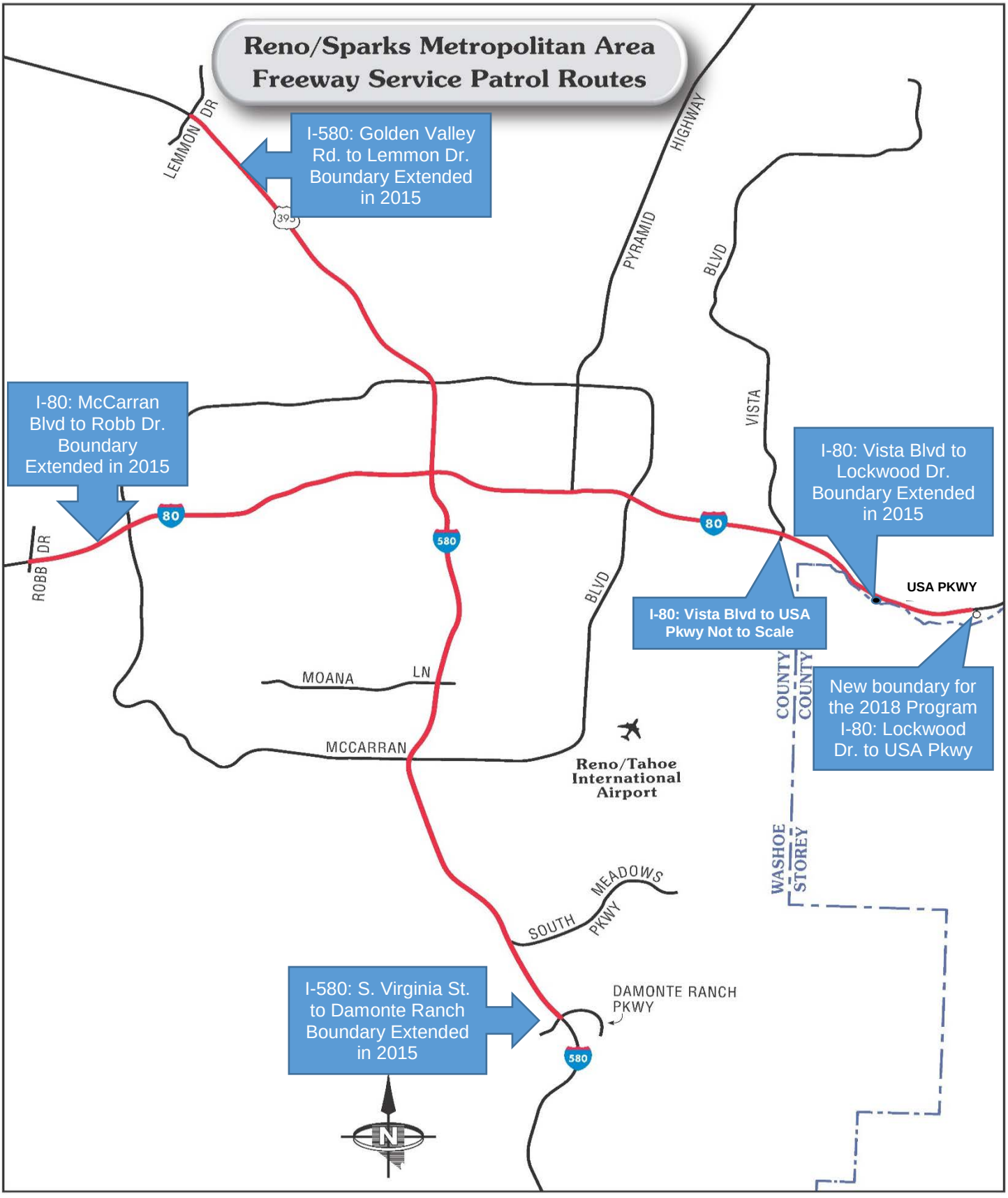


Figure 4: Waycare Software Platform System


Las Vegas Metropolitan Area
Freeway Service Patrol Routes
95
215
15
CRAIG
RD
Nellis AFB
CHEYENNE
AVE
North Las Vegas
Airport
SUMMERLIN
PKWY
The Summerlin Parkway and I-215 boundaries are expected to be relinquished to NDOT in mid to late 2018
New boundary for 2018 Program: Summerlin Pkwy
LAS VEGAS BLVD
McCarran
International
Airport
515
RUSSELL RD
WARM SPRINGS RD
BLUE DIAMOND RD
SAINT ROSE PKWY
New boundary for 2018 Program: I-215
Wagon Wheel
State Line
N

NEVADA DEPARTMENT OF TRANSPORTATION



OPEN NDOT - OUTSIDE COUNSEL CONTRACTS AS OF JANUARY 21, 2019

	Case/Project Name	Contract Period	Contract and Amendment Date	Contract and Amendment Amount	Total Contract Authority	Contract Authority Remaining
Nossaman, LLP	Project Neon	3/11/13 - 12/31/20	3/11/13	$ 1,400,000.00		
	Legal and Financial Planning	Amendment #1	1/14/14	$ 2,000,000.00		
		Amendment #2	12/15/15	$ 300,000.00		
	NDOT Agmt No. P014-13-015				$ 3,700,000.00	$ 145,013.74
Sylvester & Polednak, Ltd.	NDOT vs. Wykoff	2/27/13 - 1/31/19	2/27/13	$275,000.00		
	8th JD - A-12-656578-C					
	Warms Springs Project - Las Vegas					
	NDOT Agmt No. P071-13-004	Amendment #1	1/23/15	Extension of Time		
		Amendment #2	5/13/15	$ 150,000.00		
		Amendment #3	6/24/16	$ 65,000.00		
		Amendment #4	1/19/17	Extension of Time		
		Amendment #5	10/6/17	$ 50,000.00	$ 540,000.00	$ 68.37
Kemp, Jones, Coulthard	Nassiri vs. NDOT	7/17/13 - 2/28/19	7/17/13	$ 280,000.00		
	8th JD A672841					
	NDOT Agmt No. P290-13-004	Amendment #1	2/12/15	$ 475,000.00		
		Amendment #2	8/12/15	$ 375,000.00		
		Amendment #3	1/17/17	$ 100,000.00		
		Amendment #4	10/3/18	$ 150,000.00	$ 1,380,000.00	$ 75,706.87

Contracts Closed Or Expired Since Last Report:

Vendor	Case/Project Name	Contract Period	Contract and Amendment Date	Contract and Amendment Amount	Total Contract Authority	Contract Authority Remaining
None						

Monthly Litigation Report to the Nevada Department of Transportation - January 21, 2019				
Case Name	**Nature of Case**	**Outside Counsel to Date**		
		Fees	**Costs**	**Total**
Condemnations				
NDOT vs. 1916 Highland Properties, Ltd.	Eminent domain - Project Neon			
NDOT vs. Ad America, Inc. (Neon-Silver Ave.)	Eminent domain - Project Neon			
NDOT vs. Canyon Park Apts, Inc.	Eminent domain - Tropicana & Dean Martin			
NDOT vs. Danisi, Vincent, J. III	Eminent domain - Project Neon Administrative Action for Relocation Benefits			
NDOT vs. Jackson, Darrell, et al.	Eminent domain - Project Neon			
NDOT vs. Traxler, John R., et al.	Eminent domain - US 50			
NDOT vs. Wykoff Newberg Corporation	Eminent domain - I-15 and Warm Springs	$ 475,775.64	$ 64,155.99	$ 539,931.63
		$ 475,775.64	$ 64,155.99	$ 539,931.63
Inverse Condemnations				
First Presbyterian Church of Las Vegas vs. NDOT	Inverse condemnation			
Nassiri, Fred vs. NDOT	Inverse condemnation	$ 1,127,764.96	$ 173,700.22	$ 1,301,465.18
Village Springs, LLC	Inverse condemnation			
Winecup Gamble, Inc.	Inverse condemnation			
		$ 1,127,764.96	$ 173,700.22	$ 1,301,465.18
Cases Closed and Removed from Last Report:				
* NDOT vs. Sharples, John; Sharples, Bonnie	Eminent domain - Project Neon - Appealed	$ 76,734.00	$ 17,905.04	$ 94,639.04
New cases appear in red. No new cases this reporting period.				
* These totals show the combined funds expended in closed Agreement P434-14-004 and closed Agreement P718-16-004.				

Monthly Litigation Report to the Nevada Department of Transportation - January 21, 2019				
Case Name	**Nature of Case**	**Outside Counsel to Date**		
		Fees	**Costs**	**Total**
Torts		$ -	$ -	$ -
Carter, Melina & Retych, James v. Vanhorn; NDOT	Plaintiff alleges negligence and personal injury			
Cannon, Candy vs. NDOT	Plaintiff alleges negligence and personal injury			
Corbin, Kaleb vs. NDOT	Plaintiff alleges negligence and personal injury			
Ducoing, Holly Ann vs. NDOT; et al	Plaintiff alleges negligence and personal injury			
Haro, Michelle vs. NDOT	Plaintiff alleges negligence and personal injury			
Hitzemann, Darrell, et al. vs. Las Vegas Paving; NDOT	Plaintiff alleges negligence and personal injury			
Liu, Hui vs. Clark County and NDOT	Plaintiff alleges negligence and wrongful death			
NDOT vs. Tamietti	NDOT seeks injunct. relief to prevent closing access			
Maxey, Kylene Elise	Plaintiff alleges negligence and personal injury			
Simpson, David W., et al vs. NDOT	Plaintiff alleges wrongful death			
Sloane, Miguel vs. NDOT	Plaintiff alleges negligence and personal injury			
Vezina, Macy vs. Fedex Freight et al.; NDOT, et al.	Defendant third-party complaint alleging negligence			
Viola, Estate of Anthony Michael vs. Clark County, NDOT	Plaintiff alleges wrongful death and negligence			
Contract Disputes				
None				
Personnel Matters				
Akinola, Ayodele vs. State, NDOT	Personnel Matter			
Bonnet, Bobby vs. State, NDOT	Personnel Matter			
Crawford, Kendrick, vs. State, NDOT	Personnel Matter			
Smith, Monika vs. State, NDOT	Personnel Matter			
Cases Closed and Removed from Last Report:				
Road and Highway Builders vs. NDOT	Plaintiff alleges Contract #3699 awarded in error			
Cosio, Christine vs. NDOT	Personnel Matter			
New cases appears in red. No new cases this reporting period.				

Outside Counsel
Fees and Costs of Open Cases
as of January 21, 2019

Category	Fees	Costs	Total
Condemnation Litigation	$ 475,775.64	$ 64,155.99	$ 539,931.63
Inverse Condemnation Litigation	$ 1,127,764.96	$ 173,700.22	$ 1,301,465.18
Construction Litigation	0	0	0
Personnel Litigation	0	0	0
Tort Claim Litigation	0	0	0
	$ 1,603,540.60	$ 237,856.21	$ 1,841,396.81

DATE OF REPORT: 1/04/2019
DATA AS OF: 12/31/2018

TO: PUBLIC SAFETY, DIRECTOR NDOT, HIGHWAY SAFETY COORDINATOR, NDOT TRAFFIC ENGINEERING, FHWA, LAW ENFORCEMENT AGENCIES
FROM: THE OFFICE OF TRAFFIC SAFETY, STATE FATAL DATA
PREPARED BY: MARIA MADERA FARS ANALYST
SUBJECT: FATALITIES BY COUNTY, PERSON TYPE, DAY, MONTH, YEAR AND PERCENT CHANGE.

Month	2017 Crashes	2018 Crashes	% Change	Month	2017 Fatals	2018 Fatals	% Change
JAN	31	20	-35.48%	JAN	32	22	-31.25%
FEB	21	27	28.57%	FEB	24	30	25.00%
MAR	22	26	18.18%	MAR	24	27	12.50%
APR	25	17	-32.00%	APR	25	18	-28.00%
MAY	23	25	8.70%	MAY	23	31	34.78%
JUN	24	26	8.33%	JUN	26	31	19.23%
JUL	26	26	0.00%	JUL	27	28	3.70%
AUG	15	32	113.33%	AUG	16	36	125.00%
SEP	33	34	3.03%	SEP	37	37	0.00%
OCT	25	27	8.00%	OCT	28	28	0.00%
NOV	26	20	-23.08%	NOV	26	22	-15.38%
DEC	21	21	0.00%	DEC	23	21	-8.70%
TOTAL	292	301	**3.08%**	**TOTAL**	311	331	**6.43%**

KNOWN FATAL COMPARISON BETWEEN 2017 AND 2018.

COUNTY	2017 Crashes	2018 Crashes	% Change	2017 Fatalities	2018 Fatalities	% Change	2017 Occupants	2018 Occupants	% Change	2017 Unrestrained	2018 Unrestrained	% Change
CARSON	3	2	-33.33%	3	2	-33.33%	1	1	0.00%	1	0	-100.00%
CHURCHILL	6	4	-33.33%	6	4	-33.33%	3	4	33.33%	1	3	200.00%
CLARK	195	208	6.67%	208	226	8.65%	83	118	42.17%	38	54	42.11%
DOUGLAS	9	2	-77.78%	11	2	-81.82%	8	0	-100.00%	4	0	-100.00%
ELKO	9	10	11.11%	9	11	22.22%	7	9	28.57%	3	3	0.00%
ESMERALDA	3	4	33.33%	4	4	0.00%	3	1	-66.67%	0	1	100.00%
EUREKA	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
HUMBOLDT	3	4	33.33%	3	4	33.33%	3	2	-33.33%	2	2	0.00%
LANDER	3	2	-33.33%	3	2	-33.33%	3	1	-66.67%	2	1	-50.00%
LINCOLN	0	4	400.00%	0	4	400.00%	0	2	200.00%	0	1	100.00%
LYON	10	8	-20.00%	10	12	20.00%	8	10	25.00%	4	4	0.00%
MINERAL	1	2	100.00%	1	2	100.00%	1	2	100.00%	0	0	0.00%
NYE	8	8	0.00%	9	9	0.00%	6	6	0.00%	5	3	-40.00%
PERSHING	2	3	50.00%	2	3	50.00%	1	2	100.00%	1	2	100.00%
STOREY	0	1	100.00%	0	1	100.00%	0	1	100.00%	0	0	0.00%
WASHOE	38	38	0.00%	40	44	10.00%	21	23	9.52%	6	9	50.00%
WHITE PINE	2	1	-50.00%	2	1	-50.00%	0	1	100.00%	0	0	0.00%
TOTAL	**292**	**301**	**3.08%**	**311**	**331**	**6.43%**	**148**	**183**	**23.65%**	**67**	**83**	**23.88%**

KNOWN COMPARISON OF FATALITIES BY PERSON TYPE BETWEEN 2017 AND 2018.

COUNTY	2017 Pedestrian	2018 Pedestrian	% Change	2017 Motorcyclist	2018 Motorcyclist	% Change	2017 Bicyclist	2018 Bicyclist	% Change	2017 Other Scooter, Moped, ATV	2018 Other Scooter, Moped, ATV	% Change
CARSON	1	1	0.00%	1	0	-100.00%	0	0	0.00%	0	0	0.00%
CHURCHILL	2	0	-100.00%	1	0	-100.00%	0	0	0.00%	0	0	0.00%
CLARK	76	62	-18.42%	42	37	-11.90%	7	7	0.00%	0	2	200.00%
DOUGLAS	2	1	-50.00%	1	1	0.00%	0	0	0.00%	0	0	0.00%
ELKO	0	0	0.00%	1	2	100.00%	0	0	0.00%	1	0	-100.00%
ESMERALDA	1	0	-100.00%	0	3	300.00%	0	0	0.00%	0	0	0.00%
EUREKA	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
HUMBOLDT	0	1	100.00%	0	1	100.00%	0	0	0.00%	0	0	0.00%
LANDER	0	1	100.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
LINCOLN	0	0	0.00%	0	2	200.00%	0	0	0.00%	0	0	0.00%
LYON	0	1	100.00%	1	1	0.00%	0	0	0.00%	1	0	-100.00%
MINERAL	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
NYE	2	0	-100.00%	1	3	200.00%	0	0	0.00%	0	0	0.00%
PERSHING	1	0	-100.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
STOREY	0	0	0.00%	0	1	100.00%	0	0	0.00%	0	0	0.00%
WASHOE	12	13	8.33%	5	6	20.00%	2	1	-50.00%	0	1	100.00%
WHITE PINE	1	0	-100.00%	1	0	-100.00%	0	0	0.00%	0	0	0.00%
TOTAL	**98**	**80**	-18.37%	**54**	**57**	5.56%	**9**	**8**	-11.11%	**2**	**3**	50.00%

THIS DATA DOES NOT INCLUDE DATA FIELDS MARKED BY THE OFFICER AS UNKNOWN.
2018 DATA IS PRELIMINARY AND DOES NOT NECESSARILY INCLUDE FINAL REPORTS (FORM 5, CORONER, AND/OR TOXICOLOGY).
2017 DATA IS NOT FINAL UNTIL THE END OF DECEMBER 2018.
NOTE: The monthly report will be distributed by the 7th of each month.

Key: Fatalities= Total number of reported fatals (vehicle occupants, pedestrian, motorcyclist, bicyclist, and other).
Vehicle Occupants = Driver and occupant fatalities in a motor vehicle.
Vehicle Unrestrained = Driver and occupant fatalities in a motor vehicle unrestrained.
Pedestrian = Any person on foot, on a personal conveyance, or in a building.
Motorcyclist= A person riding any motor vehicle that has a seat or saddle for the use of its operator and is designed to travel on not more than three wheels in contact with the ground.
Bicyclist= A person on a non-motorized other road vehicle propelled by pedaling (bicycle, tricycle, unicycle, pedalcar).
Other = A person on a scooter, moped, ATV, or other motorized vehicle not captured above on a roadway.