**John Slaughter, Chair**
County Manager
Washoe County

**Kevin Dick, Vice Chair**
District Health Officer
Washoe County Health District

**Steve Driscoll**
City Manager
City of Sparks

# Emergency Medical Services Advisory Board

WASHOE COUNTY HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

**Sabra Newby**
City Manager
City of Reno

**Dr. Andrew Michelson**
Emergency Room Physician
St. Mary's Regional Medical Center

**Terri Ward**
Administrative Director
Northern Nevada Medical Center

## *MEETING NOTICE AND AGENDA*

Date and Time of Meeting: Thursday, October 4, 2018, 9:00 a.m.
Place of Meeting: Washoe County Health District
1001 E. Ninth Street, Building B, South Auditorium
Reno, Nevada 89512

1. ***Roll Call and Determination of Quorum**
2. ***Public Comment**
   Limited to three (3) minutes per person. No action may be taken.
3. **Election of Regional EMS Advisory Committee Chair and Vice Chair.** (For Possible Action)

**Elected Chair will assume gavel and lead remaining meeting items, unless noted otherwise**.

4. **Consent Items** (For Possible Action)
   Matters which the Emergency Medical Services Advisory Board may consider in one motion. Any exceptions to the Consent Agenda must be stated prior to approval.
   A. **Approval of Draft Minutes**
   April 5, 2018
5. ***Prehospital Medical Advisory Committee (PMAC) Update**
   Dr. Andrew Michelson
6. ***Program and Performance Data Updates**
   Christina Conti
7. ***Presentation to the EMS Advisory Board**
   A. Washoe County planning permit trends and potential impacts on the EMS system.
   Jackie Lawson & Brittany Dayton
8. **Presentation and possible acceptance of an update on the five-year Strategic Plan, a requirement of the Interlocal Agreement for Emergency Medical Services Oversight.**
   (For Possible Action)
   Christina Conti & Brittany Dayton
9. **Approval of Revised Bylaws of the Emergency Medical Services Advisory Board to allow each representative of a City, County or Health District authority to designate an alternate to replace the representative in the representative's absence from meetings of**

**the Advisory Board with alternates being a City or County Assistant Manager or Health District Division Director.** (For Possible Action)
Leslie Admirand

10. **Presentation, discussion and possible approval of annual REMSA Franchise Map review recommendation.** (For Possible Action)
Christina Conti

11. **Presentation, discussion and possible approval for distribution the 2017 Washoe County Trauma Data Report.** (For Possible Action)
Heather Kerwin

12. **Board Requests:**

    A. ***City of Reno AVL Implementation Project**
    Rishma Khimji

13. ***Board Comment**

    Limited to announcements or issues for future agendas. No action may be taken.

14. *__Public Comment__
Limited to three (3) minutes per person. No action may be taken.

15. **Adjournment (For Possible Action)**

Items on the agenda may be taken out of order, combined with other items, withdrawn from the agenda, moved to the agenda of a later meeting; or they may be voted on in a block. Items with a specific time designation will not be heard prior to the stated time, but may be heard later. An item listed with asterisk (*) next to it is an item for which no action will be taken.

The Emergency Medical Services Advisory Board meetings are accessible to the disabled. Disabled members of the public who require special accommodations or assistance at the meeting are requested to notify Administrative Health Services at the Washoe County Health District, PO Box 11130, Reno, NV 89520-0027, or by calling 775.326-6049, at least 24 hours prior to the meeting.

**Time Limits:** Public comments are welcome during the Public Comment periods for all matters whether listed on the agenda or not. All comments are limited to three (3) minutes per person. Additionally, public comment of three (3) minutes per person may be heard during individual action items on the agenda. Persons are invited to submit comments in writing on the agenda items and/or attend and make comment on that item at the Board meeting. Persons may not allocate unused time to other speakers.

**Response to Public Comments:** The Emergency Medical Services Advisory Board can deliberate or take action only if a matter has been listed on an agenda properly posted prior to the meeting. During the public comment period, speakers may address matters listed or not listed on the published agenda. The Open Meeting Law does not expressly prohibit responses to public comments by the Emergency Medical Services Advisory Board. However, responses from the Board members to unlisted public comment topics could become deliberation on a matter without notice to the public. On the advice of legal counsel and to ensure the public has notice of all matters the Emergency Medical Services Advisory Board will consider, Board members may choose not to respond to public comments, except to correct factual inaccuracies, ask for Health District Staff action or to ask that a matter be listed on a future agenda. The Emergency Medical Services Advisory Board may do this either during the public comment item or during the following item: "Board Comments – Limited to Announcements or Issues for future Agendas."

Pursuant to NRS 241.020, Notice of this meeting was posted at the following locations:

Washoe County Health District, 1001 E. 9th St., Reno, NV
Reno City Hall, 1 E. 1st St., Reno, NV
Sparks City Hall, 431 Prater Way, Sparks, NV
Downtown Reno Library, 301 S. Center St., Reno, NV
Washoe County Administration Building, 1001 E. 9th St, Reno, NV
Washoe County Health District Website www.washoecounty.us/health
State of Nevada Website: https://notice.nv.gov

Supporting materials are available to the public at the Washoe County Health District located at 1001 E. 9th Street, in Reno, Nevada. Ms. Dawn Spinola, Administrative Secretary to the Emergency Medical Services Advisory Board, is the person designated by the Emergency Medical Services Advisory Board to respond to requests for supporting materials. Ms. Spinola is located at the Washoe County Health District and may be reached by telephone at (775) 326-6049 or by email at dspinola@washoecounty.us. Supporting materials are also available at the Washoe County Health District Website www.washoecounty.us/health pursuant to the requirements of NRS 241.020.

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# *MEETING MINUTES*

## Emergency Medical Services Advisory Board

Date and Time of Meeting: Thursday, April 5, 2018, 9:00 a.m.
Place of Meeting: Washoe County Health District
1001 E. Ninth Street, Building B, South Auditorium
Reno, Nevada 89512

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### 1. *Roll Call and Determination of Quorum

Chair Slaughter called the meeting to order at 9:00 a.m.

The following members and staff were present:

Members present: John Slaughter, Manager, Washoe County, Chair
Kevin Dick, District Health Officer, Vice Chair
Sabra Newby, Manager, City of Reno
Terri Ward, Hospital CQI Representative, Northern Nevada Medical Center
Steve Driscoll, Manager, City of Sparks
Dr. Andrew Michelson, Emergency Room Physician, St. Mary's

Members absent: None

**Ms. Spinola verified a quorum was present.**

Staff present: Leslie Admirand, Deputy District Attorney
Randall Todd, Division Director, EPHP
Christina Conti, Preparedness and Emergency Medical Program Manager
Brittany Dayton, Emergency Medical Services Coordinator
Heather Kerwin, EMS Statistician
Dawn Spinola, Administrative Secretary, Recording Secretary

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### 2. *Public Comment

Limited to three (3) minutes per person. No action may be taken.

**Chair Slaughter opened the public comment period**. As there was no one wishing to speak,

**Chair Slaughter closed the public comment period**.

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3. **Consent Items** (For Possible Action)
Matters which the Emergency Medical Services Advisory Board may consider in one motion. Any exceptions to the Consent Agenda must be stated prior to approval.

A. **Approval of Draft Minutes**
January 4, 2018

**Vice Chair Dick moved to approve the Consent agenda. Ms. Ward seconded the motion which was approved with five in favor and Mr. Driscoll abstaining.**

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4. ***Prehospital Medical Advisory Committee (PMAC) Update**
Dr. Andrew Michelson

Dr. Michelson stated he had not attended the previous meeting but one of the other members had led it. He was informed that there had been many agenda items. He noted that PMAC has a new secretary. Although there has not been much interest in changing leadership, which is scheduled to occur every 24 months and is coming up again.

Dr. Michelson noted to the Board that there is a scholarship fund for paramedic students and PMAC is working to increase the funding for that, to include attempting to find other sources.

Dr. Michelson explained there was some interest by some of the members to use PMAC as an option for QI with pre-hospital cases. This has been done a little bit before, but not in any kind of formal or recurrent manner.

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5. ***Program and Performance Data Updates**
Christina Conti

Ms. Conti opened by stating she just wanted to bring a couple things to the Board's attention. Over 37 individuals, including regional fire partners, EMS and law enforcement agencies, participated in MCI tabletops over the course of three days. The MCI is being updated to include their feedback.

Ms. Conti explained the CAD-to-CAD update testing was set to begin the first week of May, with a rollout in early June if all the tests go as anticipated. She noted that City of Reno staff were available to explain further or answer questions.

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6. ***Presentation regarding the EMS Today conference attended by the EMS Program Manager and EMS Coordinator.**
Christina Conti and Brittany Dayton

Ms. Conti noted this was the third year that she and Ms. Dayton had attended the EMS Today conference, and they find it to be a very valuable conference. There are 4,500 attendees and six different conference tracks available. This year's conference featured longer presentations and more time in between for networking and expo attendance, so Ms. Conti and Ms. Dayton attended three or four sessions per day. In keeping with what has been done in previous years, they brought back information from sessions that may have the opportunity to be implemented here in this region.



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Ms. Conti began the discussion of the presentations with one called In Harm's Way, which uses simulation to protect EMS personnel. She stated she appreciated this conference session, because healthcare workers are ranked as having the highest risk for workplace violence. One of the things the community did was partnered with their law enforcement counterparts. The law enforcement officers created four different simulation scenarios. Each scenario had the same components, such as there would always be an aggressor. Additionally, they also held the simulations in unfamiliar locations, so that when the crews arrived, it was not something that they were familiar with.

Ms. Conti explained the next session was regarding an activity somewhat similar to something currently being done in the region, but taking it to a different level. In Oklahoma, they have social workers that are being used. It is called the CARES program, and is a bit like Washoe County's MOST program. They seek to prevent and reduce super usage of emergency services. But they are looking at physical health, mental health and social support systems. As a result of discussions among all the different agencies, they realized they were having the same issues and dealing with the same customers, and EMS was being used far too often as a primary care resource. They decided to utilize social workers in integrated teams. They used their EMS agencies as practicum sites for social work students to give them exposure on the front end, to know when they are going to work in the social work field that is something that will have already had exposure to. They also embedded licensed social workers or master's students into their teams.

Ms. Dayton stated the first session she would be introducing was regarding lessons learned from Hurricane Harvey, given by the medical director for the health department. The biggest takeaway was that the disaster does not follow the plan. She noted she enjoyed the quote used from Eisenhower that said "Planning is everything, the plan is nothing." Hurricane Harvey really highlighted that for them, as the disaster did not read their plan and they did not respond how they intended. However, they were very flexible in their ability to respond and get the appropriate care for the thousands of people that needed it.

Ms. Dayton went on to highlight two things. The first was that the presenter was very expressive when he said do not use a convention center as your shelter, as many plans across the country do. They found that the number of people became overwhelming, and they were unable to provide proper care for the thousands of people that ended up showing up at the shelter. The second highlight was that they did not use a credentialing process. The only person that they credentialed was a certified Pharmacist, so that person could go through all the medications that were being donated during the disaster.

Mr. Driscoll asked if they had other suggestions for shelters, since they were discouraging use of a convention center. Ms. Dayton explained they had opened a strip mall that was vacated at the time. Because it was compartmentalized, the rooms were smaller and easier to control. The presenter had been very concerned about the possibility of viruses spreading in the convention center , where if an outbreak were to happen it would have been uncontrollable.

Ms. Dayton noted that the second session she wished to highlight was titled "Best Approaches to Special Needs Patients." The EMS Oversight program received a grant from the Nevada Governor's Council on Developmental Disabilities to develop some trainings for first responders related to responding to individuals that have intellectual and or developmental disabilities. Ms. Dayton is currently working on that project, and attended the session to make sure the training materials being developed were on target. She stated that all



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of the information was similar. Additionally, she did have a few good takeaways, and one of them was what was called the TIPS application. It was developed at the University of New Mexico Center for Developmental Disabilities, and is in paper form. The individual who gave this presentation was a firefighter from Chattanooga, Tennessee, and he put one of these in hard copy on every fire apparatus in Chattanooga, but it is also available as a phone application. She further explained that the application provides tips, not only for individuals with developmental disabilities, but also for seniors and other populations who may have varying needs as far as EMS is concerned.

Ms. Dayton stated the final session that she wanted to highlight was called "EMS Around the World," and it combined three presentations about the EMS systems in Austria, Israel and Denmark. The first presenter was from Copenhagen, Denmark and he talked about how they reorganized the EMS system in 2014. Ms. Dayton displayed an image of what the system looked like in Denmark prior to 2014. People had a variety of options as far as where they were going to get their medical care, and they restructured EMS so that when an individual needs to go to a hospital they are required to call and tell a dispatcher or nurse what is going on. As the patient is describing their situation, the dispatcher or nurse will find a hospital, triage the patient, and then send that information to the hospital so when they arrive it is already there. They have found that this change has reduced the overcrowding in the hospitals and has decreased healthcare costs significantly.

Ms. Dayton went on to explain the next presentation was given by the president of the national volunteer-based organization in Israel. Their system is very unique. They recruit community members to be lay responders, and provide them with a motorcycle, a medical kit and an application. If a responder is near an EMS call location, the application alerts them to the situation and directs them to the scene, they respond, and they become the first first responders. There are over 5,000 volunteers and they go on approximately 1,700 calls a day. Ms. Dayton questioned why employers accepted this process, and the presenter explained Israel's culture strongly supports helping people. Therefore, there is no concern about people leaving and coming back or getting time off to be one of these volunteers.

Ms. Dayton finished by noting the presentation about EMS in Austria was cut short because the two first presenters ended up going a little bit over their allotted time. She did learn that Austria's system is similar to Denmark's, in that they utilize a number to reach dispatch systems and the presenter focused on their interface between EMS and social services, and how that has improved their EMS system.

Ms. Conti opined that there would be value, since this was the third time that they had come before the board, to circle back on some of the presentations that have been provided before, and explain what has been implemented in the region as a result. From the 2016 conference, the Stop the Bleed campaign is in this region. It is starting to get some traction, certainly here at the Washoe County complex. Additionally we have signatures from Vice Chairman Dick to obtain the license to use the nomenclature of Stop the Bleed, so that the region can use that same language and be tied into the same program nationwide. The "Terror in Paris" presentation predicated the Alpha plan that is in currently being developed and is anticipated to go to the District Board of Health in June. That has been a strong partnership, not only with the EMS partners but with law enforcement as well, because it starts incorporating them into the planning process.

Ms. Conti explained that the simulation scenarios for the joint trainings between REMSA and fire partners, using the same format for each one, was also something that was brought back from the 2016 conference. During the 2017 conference, she and Ms. Dayton learned

more about burns, and that type of information has been incorporated into the Mass Casualty Incident plan. The MCI plan is currently undergoing a revision, making it more robust. The regional protocols, also a topic presented at the 2017 conference, went live with all agencies on April 1. Ms. Conti went on to note that the MCI lessons learned was a session that highlighted a myriad of incidents. The main issue brought back from that session was the need for alternative EMS transports during responses and what does that look like for the region's health care system. Law enforcement can be an asset, as can Uber, and also self-transport.

Mr. Dick asked if there was any data available on improvement in survival rates for cardiac events, etc. from the Israel project. Ms. Dayton she stated she did not know, but that they had access to all the presentations, so she would find that for him. Mr. Dick then asked if the reason for the reduced overcrowding and decreased healthcare costs in Copenhagen was because this is a screening tool to divert people from going to the hospital if they don't need to. Ms. Dayton stated that was correct, further explaining the caller will either get a dispatcher if they need 911 services, and then if not, they will be sent over to a nurse to be triaged, and the nurse will get them the appropriate services. The system has helped decrease not only the number of unnecessary EMS responses, but also the overcrowding in the hospitals.

Mr. Dick asked if he could just get the TIPS app from the app store. Ms. Dayton said he could, although she did not know if there was a cost for it. She has looked into potentially ordering the hard copy version for the fire apparatus in the region, and there is a cost associated with that.

**Mr. Driscoll moved to accept the report.**

Deputy District Attorney Admirand noted no action was necessary with the item. Chair Slaughter expressed that his copy of the agenda indicated it did, but accepted input from the dais that it did not and stated they would move on to the next item.

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**7. Presentation, discussion, and possible acceptance of the mid-year EMS data report.** (For possible action)
Heather Kerwin

Ms. Kerwin noted she only had a few things to point out and then would be happy to answer any questions. The report did include REMSA Priority 0 calls, which happens when a unit is cancelled enroute prior to the entire EMD process being completed or the unit arrives on scene and the responders have eyes on the patient before that EMD process is completed. For the lay reader, the report clarifies the designation and the differences between Priority 0, 1, 2, 3 and 9. She pointed out the Nurse Health Line Omega call report per the methodology for review that was previously approved is included in the packet. She noted n the future that information will be included with the mid-year data reports so the Board can see those calls as they flow through the system.

Mr. Driscoll noted the package included nice performance reports for two of three agencies. He opined it would be nice if all three agencies provided performance data. That is the intent of what this group is for, so he implored the one that did not provide the data to please provide it in the future.

**Mr. Driscoll moved to accept the report. Vice Chair Dick seconded the motion which was approved unanimously.**

**8. Presentation and possible acceptance of an update on the five-year Strategic Plan, a requirement of the Interlocal Agreement for Emergency Medical Services Oversight.**
(For possible action)
Christina Conti

Ms. Conti addressed Manager Driscoll, pointing out the new formatting initially presented at the previous meeting, which Mr. Driscoll had been unable to attend. It was staff's attempt to achieve his request to continue to see what was happening with the strategic planning items. If there were any changes that he would like, the formatting was a work in progress and staff would happily make those changes.

Ms. Conti reiterated that the regional protocols had been developed and were effective as of April 1. There is a task force meeting scheduled for the 19th that has been set for the last six months. The intention of that meeting will be to talk about how the training went, if there are already some identified concerns with the protocols that need to be reviewed, or if there are any items that the partners would like watched and get some statistics on for the next update.

Ms. Conti explained the implementation of appropriate protocols to determine service levels through the EMD process to low-acuity Priority 3 calls continues to be addressed by a robust subcommittee that is working together to achieve the objectives of the strategic planning item. She did have an update since the report was completed. All three fire agencies have now come to consensus (on Card 33 facilities) that they will only respond to Priority 1 calls and that REMSA would respond alone to Priority 2 and 3 calls. However, prior to that being implemented, the EMS Oversight program will develop the processes for notification as well as for a review, in case any of those Priority 2 calls do in fact turn out to be a Priority 1 call where both tiers should have gone. That is also something that Dr. Michelson was discussing, where PMAC can come into play.

Ms. Conti stated that all other updates had their own stand-alone items, so she was available to answer questions, if there were any.

**Mr. Driscoll moved to approve the update of the five-year strategic plan. Dr. Michelson seconded the motion which was approved unanimously.**

**9. *Update on the public service announcement (PSA) project relating to the appropriate use of 911.**
Brittany Dayton

Ms. Dayton reminded the Board that during the meeting held last August, Board members received an update on the PSA project and saw the videos that the regional partners submitted. The DBOH had held a strategic planning retreat in early November, during which the management team updated the DBOH on progress of strategic planning items. During that meeting, DBOH members expressed there was a need for more public education on appropriate uses of the 911 system. On November 13 the DHO requested that an initiative be added to the Health District strategic plan. Initiative 2.2.5.1 includes the development of a marketing plan to educate the public on appropriate uses of 911.

Ms. Dayton explained that the EMS program contracted with a company called The Factory, a local graphic design firm. The Factory developed a set of marketing materials for staff to utilize to educate the community on appropriate uses of 911. The materials were created to be displayed through a range of mediums, and staff has chosen to post them on RTC buses and social media, and in the future, they may also be displayed at movie theatres. The materials have also been



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translated into Spanish.

Ms. Dayton displayed the “Bad Hair Day” advertisement. She explained that each of the different ads have the same tagline, which is “Certainly a Problem...but Not an Emergency.” A dedicated URL has been created, called thinkbeforeyoudial.com, which directs people to a Washoe County page that lists all of the non-emergency numbers for the region. Ms. Dayton explained there were many more ads and launch is scheduled for April or May. They will be displayed throughout the summer. The EMS Oversight program wanted the Board to be aware of the campaign, should they see them around town.

Mr. Dick noted this was added to the Health District strategic plan at his request because of a request that came from Chief Mike Brown during the strategic planning retreat, that WCHD help educate the public about not calling 911,. Mr. Dick opined this was a good start, but stated he felt that the region needed to have a longer-term and larger, ongoing campaign to be effective in changing this behavior in the community.

Mr. Dick opined he felt that this was an opportunity for the region to work together, because it was going to require an investment, which could be spread across the jurisdictions. He suggested engaging REMSA and the hospitals also, because a reduction of the number of people calling 911 would bring a financial benefit to all of those entities. He pointed out that although the Health District was expending funds on the campaign, it would not result in any savings to the District if people did not call 911 as often. He reiterated that it was necessary to come together as a region around an outreach campaign plan, to determine the cost of an effective campaign and decide how to fund that across the different entities that might benefit from it.

Ms. Dayton explained the marketing plan and a project summary were sent out to regional partners, in part to request in-kind or financial support. REMSA has provided an in-kind donation to help with the media buy.

Ms. Ward stated she was sure the hospitals would be interested. They get some financial hits when it comes to readmission so it would be of benefit to have these resources, they could use those when discharging. She noted that happened quite often and opined there was a partnership there to be had.

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**10. Presentation, possible acceptance and direction to staff regarding updates to the online heat map of regional response times.** (For possible action)
Heather Kerwin

Ms. Kerwin introduced the heat map, noting that she had been adding data to on a quarterly basis to keep it up to date. The EMS Oversight program now has 2 ½ years’ worth of data and a couple hundred thousand calls. Ms. Kerwin explained Mr. Jay Johnson from the Washoe County Geographic Information Systems (GIS) department was the mastermind behind the map development. She gives him the data and then he creates or modifies the visual representation.

Ms. Kerwin stated the only change is that the fire jurisdictional boundaries had been added to the map. The next tab also included trends and seasonality. While this was not in a map format, it illustrated the increase in call volume per month, by year, from July of 2015 through December of 2017. Staff wanted to research whether there were seasonality trends, and so each of the years were aggregate. The second graph showed the median response time in minutes by month. It does not show a major difference, but there is a little bit of an uptick in January and February, and then it drops back down. That does mirror some of those increases in call volume that the region gets during the winter months.



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Ms. Kerwin displayed the standard population density map. It was included so that people can get familiar with the concept that living in a more rural or frontier area, they might not have the rapid response that they think they might get.

Ms. Kerwin displayed the map of the REMSA zones, showing the zones and the priority responses and the times associated with those, noting there were no changes on the map. Mr. Johnson was able to make the day versus night comparison clear. While this might be helpful in showing some of the differences in day versus night, those differences were getting washed out due to the fact there were a large number of calls.

Ms. Kerwin pointed out one of the changes in the overall was the I-80 East corridor, which included the USA Parkway seen in the Year 1 versus Year 2 map, which is being recommended to be used to replace the day versus night information. She demonstrated the contrast between Year 1 and Year 2, and pointed out the uptick in accidents in that area. That was really the noticeable difference from a high-level perspective. She opined that since the program now had two and a half years' worth of data, staff believed it might be of value to start looking at those time comparisons from one year to the next to try and see if there were changes.

Chair Slaughter asked if there was a link to the maps on the EMS Oversight page. Ms. Kerwin explained there was not a link posted for this version yet. When Board recommendations are completed, it will be uploaded to the site.

Mr. Driscoll noted this was good historical information and good for doing comparability. He asked if it was intended that this become some type of management tool that provides the first responders ways of changing how they stage or train or equipment that is available for certain types of calls. Ms. Kerwin replied that it was definitely intended to be a resource, mostly for lay populations to learn about their community. However, for EMS agencies, because the data was limited to just Priority 1 and Priority 2 calls, and each jurisdiction may change or alter the way that they respond to call priorities , this map might not meet the intentions of each jurisdiction. So it is a regional approach, looking at the response time from the patient's perspective. She opined it could be used, but the intention is broader than that.

Ms. Kerwin requested clarification from the Board on any recommendations, which maps should remain, or did they want any changes or replacements.

**Vice Chair Dick moved to approve the demonstration and to update the online heat map and regional response times on the website. Mr. Driscoll seconded the motion which was approved unanimously.**

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## 11. Board Requests:

A. ***Presentation on Advanced Life Support (ALS) services utilized by regional EMS response agencies.**
Regional partners through Christina Conti

Ms. Conti introduced the item, noting there are two partner agencies were not able to put something together for the packet, but did want to speak and another agency had a PowerPoint presentation.

Dennis Nolan, EMS Division Chief, Reno Fire, began by addressing Mr. Driscoll's earlier comment. If it was regarding the data that Reno normally provides the EMS Oversight program data on response time, our statistician, who normally runs all the department reports for Reno Fire, has been on an extended leave of absence because of a death in the family, and unfortunately the department just was not able to get the data to the Health District. He would

make sure future reports would have the response time data.

Chief Nolan went on to say that, with regards to Mr. Driscoll's other request, regarding ALS responses, Reno set out to accomplish what they were asked to do, which was to provide the Board with information about, basically how many calls, what percentage of calls are Reno Fire using ALS-level care on. It sounds like an easy question, and on face value they thought it was going to be an easy task, but it proved to be much more challenging than originally anticipated. Just understand that in our community, and nationwide, really, there are three levels of emergency medical service providers. First is the EMT, which accomplishes about 150 hours of training in what is equivalent to a semester. It is really advanced, first-aid level training. The next level is the AEMT, which can complete about the same amount of training, which augments their basic EM training with advanced airway techniques, the ability to start IVs and administer about six different non-narcotic, non-cardiac medications in particular emergencies. The Paramedic level training is anywhere from one year full-time training to a two-year Associate degree training program, which includes internships riding along with transport agencies, in clinical experiences in the hospitals, doing rotations on a much shorter base, similar to what a doctor would do, rotating through emergency room surgery, OBGYN, etc..

Chief Nolan explained that reviewed advanced-level care of patients in terms of the nature of the complaint and the response level. Then, realizing that there are a large percentage of those calls that might come in as shortness of breath and upon arrival find that it is a hyperventilation, which was an advanced-level care. Shortness of breath could be an advanced-level care. They thought maybe they would narrow this down by the interventions that were provided. Did the patient receive an IV? Did the patient receive medications? In fact, some of those calls, a large majority of the ALS calls, the patients did receive an IV or did receive medications. But they were provided by AEMTs, not necessarily paramedics.

Chief Nolan went on to say that, additionally, because they work in tandem with REMSA on the scene of calls, who provides what intervention is not always clear by the data that is gathered. So they have electronic patient care reports, but a lot of the information is gathered through a click, or a data point. But the real information that they have to drill down on is looking at the hand-written narrative of that call. For instance, one call would be an 80-year-old woman who is just not feeling right , because of the nature of the call and her history, it comes out as a Priority 2, paramedics are dispatched, they get there, and the paramedics begin to assess the patient. Blood pressure is fine, pulse is fine, all vital signs are within normal limits, she is conscious, alert and oriented, and just says she just does not feel right. If that was an EMT or an AEMT on that call, they would probably say well, she looks good, she is doing fine standing up, talking, walking, everything looks fine, she is just not feeling right, and may have advised the patient to go to her own doctor, go to the hospital, but the paramedics will assist that patient and do a 12-lead EKG, or, in some cases, some paramedics who have received advanced training to do a 15-lead EKG they can see some rare type of heart attacks. In the case of this 80-year-old woman, she would have received a 15-lead EKG and was determined that she was having a right-sided myocardial infarction.

Chief Nolan explained the real difference in advance-level care, is the training of the paramedic, and their ability to assess patients at a much higher level. The only way really to kind of drill down and say what are advance-level calls, based upon the response, the interventions that were provided, and the training of the paramedic, is to go in and look at each of the narratives of the calls. Reno Fire on average runs about 3,500 calls a month , of those, 70-75% of those calls are EMS calls. Of those calls, looking at just the parameters, of

the nature of the call, and not being able to really sit down and read 2,400 -2,500 narratives, Reno Fire estimates that 20-21% of the calls excluding the calls that they said a paramedic was utilized to assess a patient on , that 20-21% might be ALS or paramedic-level calls.

Chief Nolan finished up by explaining that, as they were combing through this, they contacted their fire partners, asked what their methodology was. It was pretty similar to what they were attempting to do. The partners were having the same challenges and, on a percentage basis, it sounded like their numbers were coming up to be pretty similar. With that he offered to answer any questions or let the other agencies offer their same observations of this particular project.

Joe Kammann, Division Chief for TMFPD noted a lot of what he was going to say was probably going to echo what the Board had just heard from Chief Nolan. When TMFPD tried to attack this project, what they kind of looked at, that may be a little bit different than what Reno Fire did, to understand a little bit of the differences between the departments. TMFPD has all 11 stations operating at the ALS level and they have been for several years. Taking all of that data, they split that off into EMS calls, fire calls, ones that had patients, ones that REMSA was there before, REMSA was there afterwards.

Chief Kammann explained that once they looked at all that data, he had to also split it out. They have two different charting systems that they used over the last year. The first six months of the year they used Fire RMS, the last half they used ePCR. There were some labor-intensive issues that they found on that. They also used some of the same models for, let's see what paramedic-level protocols and skills may be used, versus incident type and complaint, and everything seemed to be very consistent. Across the board, when they looked at the total for both systems, they were also coming in right at about 22.1%. ALS-level techniques were being used on scene. They took that number, and pulled a sampling. As Chief Nolan mentioned, to go through and read a narrative to see exactly what happened on a call will tell you a lot more than specifically whether or not a cardiac monitor was used. Chief Kammann pulled a random sampling of these calls and went through each one of them to look at where they may have some limitations in the studies that the Board asked for. He found some that he thought were definitely of note that they should probably pull.

Chief Kammann stated that one of the first ones is, it does not really identify that a paramedic-level assessment is done on all of these patients, 100% of them. Some of the benefits in that is the ability to accurately determine which one of these calls are advance level, which ones are actually non-life-threatening emergencies. It is not able to be quantified by simply looking at those skills, but the assessment level, he opined, was really important that when an ALS-level responder is on scene, patients do get that assessment.

Chief Kammann noted that the other limitation that they found on this was they also respond with REMSA, so depending on who was there first and just the scene efficiencies, on an ALS level patient, some things may not be done by their crew members. If a TMFPD crew member is assessing the patient, a cardiac patient, going through a whole assessment to get everything, all the initial steps fixed, and then REMSA shows up same time or shortly after, it was very possible they would say hey, let's just use your cardiac monitor on this patient, there is no sense in switching over. So those things were not captured from their documentation side. A true level of saying that 22.1% of patients would be ALS, he did not think that was an accurate number for the Board, just due to that response model.

Chief Kammann stated that one of the other things that he noticed was when they simply base it on what skills were used, they pulled several anecdotes from the sample that would

show not just ALS-level care is necessary for certain patients regarding traumas. Trauma was a big thing that they pulled. He gave an anecdote of a multiple-stabbing patient that had chest injuries, arm injuries, arterial bleeding, that was not breathing effectively, that had a bag valve mask being used, an occlusive dressing placed, and tourniquets to stop the bleeding, those would not qualify, technically, as an advanced-level chart, because those skills that are not something that are solely exclusive to ALS-level providers. But the ability of a paramedic to manage that scene efficiently and handle some of those, even basic techniques, at a much more efficient level, is not quantified either. Chief Kammann went on to say that what they did find, in summary, is, that they can really look at the ALS fire apparatus model as more of a standard of care and best practice, and not something that would be simply just a luxury, if necessary, to citizens. They do see that as kind of a standard of care around the nation now. Ed McDonald, Sparks Fire Department, Training Captain and EMS Coordinator, stated he would echo what the two chiefs said, in the challenges and pulling the data. Sparks had two databases as well over the course of the time period and, just pulling the literal skill set, which is what they did, does not paint the picture. He had the luxury of a smaller sample size; they have been ALS for 11 months. On two engine companies he was able to read through every paramedic narrative to dig down into that. And it becomes apparent, even when an ALS paramedic scope of practice intervention is not used, it can be seen these assessments of the patient and the efficiency that they move through their protocols becomes apparent, and that is a value that cannot necessarily be seen in the numbers.

Captain McDonald stated that they, he though the data request was for a fiscal year (FY), they did not have a FY. They started their ALS, or paramedic program, on April 3 of 2017, so he provided about an 11-month period from April 3 to the end of February of 2018. In that 11-month period, overall the Sparks Fire Department ran 12,219 incidents, all types. Of those, they sent 10,871 to Washoe County EMS, that might have had an EMS component, so those were the calls that they used to look at. Of note, 3,710 of those calls were EMS calls and they were cancelled either in route or on the scene, which coincides with the efforts that are being made for the strategic plan to identify appropriate resources and the appropriate tier-level response to some of these facilities and to some of these calls. That is a number they should all be aiming at. He thought that number would be fairly consistent throughout the region, not just with Sparks Fire Department.

Captain McDonald explained that overall, the Sparks Fire Department did arrive on 7,161 calls that had a patient care opportunity. They focus on the paramedic engines, because that is what the data requested. Those engines had 2,499 responses, consistently with a percentage, 908 of those calls were cancelled in route or cancelled on scene. They looked at 1,591 calls where those paramedic engine companies arrived on scene with patient care opportunity. Of those calls, of those incidents, 340 incidents, a paramedic provided at least one paramedic skill level call. That is not the number of total interventions, that is the number of incidents that they used at least one intervention on. The percentage matches with the two fire partners, roughly in the 20-21% area when that was used.

Captain McDonald went on to say that again, some of the takeaways, it is a challenging set of data to pull. He though it provided a very high-level view, it does not paint the whole picture of the value of having a paramedic on scene, whether it be in the fire partners arena, or in the REMSA partners arena. He believed there was more value than what the numbers actually state. The takeaways have been very good, for 11 months, their relationship with their partners and the feedback in both directions has been very positive. Looking through all the narratives, they were very satisfied that the opportunities were there that they thought were there, in the patient's assessments and airways, and the use of tools, like Entitled CO2 and

CPAP, cardiac monitoring medications. They see the benefit throughout the system in Sparks. Those paramedics are not just assigned to those engines, they do work on downtown, Station 1, Station 2, and Station 3, so they are still working with their partners at REMSA, which, we now share protocols, so they still have those opportunities in assisting REMSA. He reiterated, moving through the ILS protocols that they have and their equipment, more efficiently, becomes apparent when you look at the narratives.

Captain McDonald finished up by saying that, lastly, they are aiming and hope to have Station 2 with paramedics on Engine 21 next month, so that will be their third engine company providing paramedic-level service. Mr. Driscoll thanked all three of the partners for what they did. He stated their comment about 20 percent maybe not telling the story; he thought it told the story exactly. That was what he was looking for. When management did the presentation to the Council to bring paramedic into Sparks, it was all about having some outcome changes. And with the high level of medical, understanding that when the opportunity for that protocol was needed, that we would have someone to be able to assess and to do that. The fact that the region has got about 20 percent of our calls are actually seeing a level or one or more of the protocols being used, the agencies are at least getting into possibly using protocol. He felt that tells a great story, and opined that this substantially backs up what Sparks was looking to do when they brought paramedic on board, because it was a question that was asked of why do we need it. This shows why we need it. He thanked all three agencies for the work. He stated he did not intend for it to be as difficult. When they were doing the presentation to the Council, it was really kind of, well, here are 20 new things that we will be doing that we could not do before, so he was just thinking it would be kind of like checking the boxes that said we did that protocol and that protocol, and can go forward. He apologized for the extra amount of work and thanked them very much for their thoroughness.

B. **Presentation, discussion and possible direction to staff regarding the Regional EMS Strategic Plan items related to automatic vehicle location (AVL).** (For possible action)
Christina Conti

Ms. Conti noted that at the last EMSAB meeting, there was significant discussion related to AVL during the program update agenda item, as well as after, in the strategic planning item. The EMS Oversight Program had begun work on the AVL strategic planning items using surveys in the region to assess where the region was at, and it was through discussion that this information paper was tasked to the EMS Oversight program. The project pitch originally began with partnering with GIS so that there could be some data and some information available to the governing boards and to this governing body for the discussion of AVL.

Ms. Conti explained that was expanded to include a review of the information explaining the work that would need to go into being able to design the system. Again, it had nothing to do with the policies of the jurisdictions, or the recommendations of which way to go, it was simply an informational item. The EMS Oversight Program went about achieving this objective in two parts. The first was that partnership with GIS, and then meeting with the three dispatch centers in this region to discuss it with them and determine the barriers and challenges related to the technological aspects.

Ms. Conti stated after this informational paper was complete, there is an update available, and she would turn it over to Ms. Kimji if the Board has questions on it, but it is staff's understanding that through the E-911 board, funding has been obtained for the City of Reno for the AVL enhancement to their CAD system. She said she was not privy to the timeline or further details

and that simply some money has been obtained for that technology.

Ms. Conti reiterated that the scope of the project was solely focused on the technological aspects of the existing infrastructure and challenges that might exist to the implementation of AVL in our region. There are a lot of other elements that might be associated with AVL dispatching , however staff did not get into any of that--they were simply looking at the technological aspects of it.

Ms. Conti noted the Board would find a summary of the project, the CAD system, what AVL means and then different models throughout the country that use AVL in the informational paper. The drive time analysis is using the GIS software that staff continue to use on projects, so it is a standardized practice and looks at the predictive modeling that takes into account distances, speed limits, turn restrictions and other road characteristics. It certainly does not take into account the lights and sirens aspect available to the first responders. This is also simply a drive time analysis, not a response time. So that delineation is important to be clear on. Ms. Conti reiterated that Mr. Johnson was there from GIS to discuss these maps, because he is the expert on them.

Ms. Conti transitioned to the second part of the maps. One of the things that staff did look at is the average call volume by station. They felt like it would be a benefit to see how the stations are responding right now, what the impacts to them might be with the AVL dispatching based on how busy they are right now. Ms. Conti pointed out that in the packet, staff included a bar chart for showing call volume per stations in descending order. Ms. Conti then demonstrated how often agencies currently respond out of jurisdiction, GIS mapped the number of times, based on the data that we had from July, 2015 through December, 2017, how many times the EMS calls went out of their respective jurisdictions. She noted that there is a limitation with this data that the Board really needed to be aware of, during this period of time, the types of data and the call types reported to the EMS Oversight program did change and the data used to inform this map may not represent the total number of EMS calls where a fire agency responded outside their jurisdictional boundaries.

Ms. Conti guided Board members to refer to the meeting packet a graph and table with accompanying narrative was available in the informational paper. The data indicate among Priority 1 and Priority 2 calls, Reno responded out of their jurisdiction 1.1% of the time Sparks responded 1.1% as well and TMFPD responded 3.4% of all their calls were out of their respective jurisdictions during this period of time.

Ms. Conti then moved into the technological considerations. Based on the three meetings with the dispatch centers, the major takeaways were bulleted for the Board. All three dispatch centers currently use Tiburon and have the AVL product functionality. It is the software enhancement, the technological enhancement that would allow the utilization of AVL that is the missing component. She reiterated the City of Reno's recent funding opportunity, so for City of Reno at least, that part will change.

Ms. Conti noted another item to be aware of is the City of Sparks fire stations and their paging system they currently employ. Along the same lines with the paging system, what staff found out is that there would need to be an upgrade to the paging systems in general, to allow for multiple dispatching to occur that is separate within the jurisdictions. She noted there were dispatch partners in the audience that could clarify, but there is a queue system in place, so that is something that would need to be looked at to change and update so that calls are not waiting in the queue for their turn to be toned out.

Ms. Conti pointed out that one of the things the Board would see listed is a policy and procedure. The EMS Oversight Program had said that they were not going to look at that, but that



DRAFT

was something that had come through from the partners that was important to note: the dispatch centers have different operating policies and procedures and the three fire departments have different policies and procedures for dispatching. So if this is something that the governing boards wanted to do, then that would be something that is recommended to be streamlined so that there are not three dispatch center personnel trying to figure out when to dispatch an agency based on the different policies.

Ms. Conti said the last item that was important to note is the implementation. Depending on if this went forward through the governing boards and in what manner it was approved to move forward, the implementation could take several months or it could be quick. Being aware of what that timeline looks like, it was recommended to do a tiered approach, because some things would not take as long as other things. Then being aware of the ripple effect that might come through when changes are made on one side of the house there may be impacts to the other. Also, so make sure there is a long enough testing period in there so that there are no inadvertent impacts to the other partners that use the system.

Ms. Conti summarized what staff found through this three-month process through meetings with partners and staff research is simply that the technology is currently in place, with some modifications to the software, paging system, and policies and procedures that would need to be conducted. Ms. Conti turned it over to any partner who wanted to add more information or to the Board for questions.

Mr. Dick asked what would be required to change the paging system from how it is done now with the queue, to what we would need for the AVL, and if it was something that can happen within the existing software that the jurisdictions have, or is that an additional software or hardware investment. Ms. Conti stated it was her understanding from those meetings that it would be a purchase of an entirely new system, so there would be a large cost associated with that.

Chair Slaughter clarified that all of the data, for example the last map, out of jurisdiction calls, those are EMS calls only. Ms. Conti stated that was correct, that EMS calls were the only data the EMS Oversight program had received. Chair Slaughter suggested that that be noted on all the maps Priority 1 and 2 is noted, but not everybody knows what Priority 1 and 2 relates only to EMS calls. Ms. Conti confirmed that staff would make those changes to all the maps that have EMS calls overlaid on the drive time maps and sought clarification that the change would not be needed for those maps that are demonstrating drive times alone. Chair Slaughter confirmed that the drive time maps did not need to be labeled as "EMS only calls".

Chris Maples, Fire Chief for the City of Sparks requested clarification. He understood the 911 committee authorized some AVL component for Reno. He had heard different stories as to whether or not when Reno purchases it and it will work for TM and Sparks, or if that's something else that City of Sparks would have to buy, he would like clarification on that. One of the things that Ms. Conti addressed was the paging systems. Sparks uses First In, the trade name for the system Sparks uses, Reno and TM use Z-Tron. The First In boxes cost about $7,000 a piece, and those would be needed in five stations to give an idea of some of the cost that would be incurred if we did this.

Chief Maples opined that everyone was in agreement that it is the most efficient way to dispatch fire units on this. TM and Sparks have an enhanced automatic aid agreement, which kind of does the same thing, but it is certainly much more convoluted than if we went to AVL.

Chief Maples went on to say that the last point he wanted to make was, any discussion on AVL, he felt Ms. Conti alluded to that as well, among the different dispatch centers, that complicates this. If the region had a single dispatch center, that would certainly make the



DRAFT

utilization of AVL much easier.

Rishma Kimji, City of Reno, wanted to respond to the question of AVL and the City of Reno's purchase of components for it. Currently we do use AVL, and she wanted to kind of make the technology a little clearer to the Board. AVL is just the GPS information that is relayed back to the Tiburon system and onto the CAD. It shows whether it is static or dynamic the movements of the vehicles or apparatus that have the GIS, sorry, the GPS locaters on them. To make this work in the manner that everyone has been speaking about, AVL needs to be partnered with a module called calculated routing. Calculated routing is what is used to then relate back to the system of how to respond with first unit, available unit, and closest station, so it is a combined effort. AVL is Part 1 of it, Part 2 is the calculated routing. Without the two components together, the city cannot make what everyone has been generalizing, and calling AVL, to work in the system.

Ms. Kimji stated the Tiburon system that is in place for the dispatch centers currently has the AVL functionality availability and it also has the calculated routing. The calculated routing is just not used. So the City of Reno has partnered with Tiburon, aka Tri-Tech, to come in and give City of Reno training on how to set up the calculated routing tables. This will be based on the City of Reno's needs of dispatching based on available units, first available, next to the station, but will have no correlation to how we work with other agencies at this time.

Ms. Kimji explained the reason they were doing this is that so they can get familiar with the calculated routing methodology that is inside Tiburon, so that they can then relay that information to other agencies. That will be available to other agencies. City of Reno will become part of the Train the Trainer kind of program and will be able to train the other departments on how to set up the calculated routing. At that time, as all agencies want to become a part of the system, then they can talk, she would let the respective agencies talk about how they want those policies and procedures to come into place.

Ms. Kimji noted that what they were doing with Tiburon is getting training on the functionality, then City of Reno will do some testing to make sure that they have the calculated routing correct. It can be cumbersome, it can be, it is based on priority call types, run cards, availability, all the good stuff that makes AVL, as everyone keeps calling AVL, work the way that the city wants it to. So they will do the training, do some testing, implement it to see how it works at Reno, and then open that up to other regions.

Ms. Kimji pointed out that they wanted to take this in a step-by-step fashion, so that they were not all getting into the same system, causing a disturbance that can be chaotic. What they wanted to do this systematically so that they can at least then ensure that it works in the way that they are hoping that it will work in the end. She hoped that answers the questions that the Board had. Any other questions for the Board she was available.

Mr. Dick asked, noting it was not on the enhancement calculated routing, but Chief Maples had mentioned his estimated cost for changing out the paging system that Sparks is using and he mentioned that Reno and TMFPD use Z-Tron. Ms. Kimji stated that was correct. Mr. Dick asked if the Z-Tron also need to be changed out to accommodate the AVL. Ms. Kimji replied that it would not need to be changed out, they do not necessarily have to change systems, they will have to enhance the availability of the Z-Tron hardware that allows them to do the multi-alerting system. There are some software changes, but there are definitely some hardware inclusions that they have to budget for and get available to the fire stations. But is something that they are already looking at, they just do not have costing on that. They want to know how the calculated routing will work first, and then start looking at how they are going to get the paging system up to play.

Mr. Dick asked if they have any ballpark idea about what the cost might be. Ms. Kimji asked



DRAFT

if he was referring to the Z-Tron system and Mr. Dick said yes. Ms. Kimji replied no, she really did not, because it is all, a lot of it is hardware-related, so the alerting system is available, but it is how the distinguished tones go out at the different stations, and the speakers need to be purchased, as well as kind of like a base station that sits there that relays the alerts out, so it would be, you know they would have to get a couple of those base stations. And then where those speakers need to be placed within the station, so. There is some more planning that needs to be done, in terms of policy, procedure, as well as the software and hardware costs that relate to that.

Chair Slaughter asked Ms. Conti if she had gotten the direction she needed on this item. Ms. Conti replied she thought it was simply either acceptance, or if the Board needed more information, but there was no direction that she was anticipating.

Mr. Dick stated that since Reno had already begun to explore the Z-Tron paging system, he would move to approve and accept this report, but also to request City of Reno continue in that activity to be able to report back at the next board meeting on what they think their estimate would be on the paging system. He believed the report indicated that, from a technical aspect, it was doable to move forward with this, and he felt that was one of the remaining pieces on what the cost looks like.

Ms. Newby requested discussion. Mr. Dick noted that was a motion, and Mr. Driscoll seconded for discussion. Ms. Newby stated, jumping in here on this, she thought that the difficulty in discussing it in this forum here, while she appreciated EMSAB and their work here, and all the work that staff has done, is that each of them, as jurisdictions, have a responsibility over their dispatch, over their operations, just as they have heard that it would cost Sparks a certain amount to upgrade their systems in their fire houses, it will likely cost Reno. So while they are having this discussion, and talking about moving forward, she just wanted to point out that this board does not necessarily compel any jurisdiction to undertake any costs in particular to this project. They are all cooperating and receiving the information together, and her understanding was that Reno's fire chief has met at least with the TMFPD fire chief and with others about going forward with AVL.

Ms. Newby went on to state that said, all of these costs, the request to get AVL, or the enhancement for the 911 board and the desire of Reno to be the proverbial canary in the coal mine to test it out and work out the bugs, is sort of an individual decision that they undertook in order to try and further this. So she wanted to point that out in terms of direction to individual staffs to come back and provide information to this board, it was her city council that needs to authorize that expenditure and/or her and she wanted to make that point.

Mr. Driscoll replied, stating he thought, following up on Madame Manager's comments, obviously getting into some of the specific details, jurisdictionally based and they need to be very careful what they do with them. But part of what was being done here is looking at and deciding what will be a testing base, and in that testing, there are things that will come up, and there are points of discussions. So he thought what Mr. Dick was discussing was, as they were figuring out how it works, there was going to be some cost components that Reno will have to endure if they are going to go forward with their system. He felt that what Mr. Dick was looking at is just advising the Board that says as Reno is going through, in their determining level of expense, to have the system be viable. the Board would like to know, and Mr. Driscoll would like to know for his own jurisdiction, what Reno's experience is, so that as the other agencies are making plans to move forward similarly, then he has as much knowledge as Reno has because you are sharing, kind of regional sharing, on your specific projects.

Mr. Driscoll went on to say Ms. Newby's point on not telling her what to do with what is there, everyone agrees with that. But sharing the information, the desire is for the region to have a

DRAFT

dispatch system that is as efficient and effective as possible. And to do that, having the GPS component and the software to drive the data the GPS component gives everyone, so that the closest available goes, and having protocols that make it to where dispatchers are not worried about who they are keying the mike to talk to, because that is ridiculous, he felt that that was the ultimate goal. So he was looking forward to hearing the progress on Reno's project, and it was great that E-911 is using all of the region's money to help Reno buy something like that. And so he was looking forward to helping and reporting to us what Reno is doing with everyone's money.

Chair Slaughter noted there was a motion on the floor that had been seconded. Ms. Conti sought clarification that the motion that the direction is not to EMS Oversight staff, that the request was to City of Reno staff. Because EMS Oversight is not a part of those discussions, they have not been, and so it would be easier if that recommendation for the information to come back was to those that are doing that instead of inserting into their process.

Mr. Dick stated he needed to amend his motion in a couple ways. The direction then would be then to Reno to bring back the cost for them for the Z-Tron paging, but also for TM Fire, since, his understanding was they also needed to change their Z-Tron system to provide what their estimate on that cost would be.

Mr. Driscoll requested clarification for the possibility of a second. Per the discussion, the Board was not directing them to do anything, what they were just asking them to do with your motion is to share the information that they are gathering as their project is going forward. And so his understanding of the motion, or at least what he would be willing to second, would be, as the project is going forward, sharing information with the other agencies and if, in this case, Mr. Dick is suggesting that TMFPD is also going down this path, is going to have to figure out what is there. So if his motion is for sharing of information related to this project, he would be more than happy to second that. Mr. Dick stated he would clarify his motion as sharing that information. Mr. Driscoll said then he would second the motion.

The motion passed unanimously.

C. **Amendment #1 to the Interlocal Agreement For Emergency Medical Services Oversight between the Washoe County Health District, Washoe County, the Truckee Meadows Fire Protection District, the City of Reno and the City of Sparks to allow representatives of the Advisory Board authority to designate an alternate to replace the representative in the representative's absence from meetings of the Advisory Board with alternates being a City or County Assistant Manager or Health District Division Director, and direct staff to present the Amendment to the signing jurisdictions for possible approval**. (For possible action)
Leslie Admirand

Chair Slaughter noted this was a request the Board has been discussing for a while, and asked if there were any questions on this item. He then asked if there were any clarifications from Counsel. Ms. Admirand explained she wanted to point out if this Board does approve the amendment it will be brought forward to be signed by the jurisdictions. If they all approve it, it will be brought back to the Board for an amendment to the Bylaws. And then the process should be in place.

Mr. Driscoll said he objected to this amendment, from the standpoint that he was concerned that, in his jurisdiction, the person that the amendment states is his only designee, may not be properly up to speed and understanding the details and intricacies of this particular board. Mr. Driscoll would have someone else that he would designate that would be more appropriate, than what is being mandated by. Therefore, he was not in support of the



DRAFT

amendment as it is in there. He did believe that they needed to define that they have a proper delegation, of someone acting who is going to be both responsible and has authority to take action as a member of this body in the absence of the primary person. He would be in favor of language that says that it is as designated by the member, and not telling him who he has to designate. If this was part of voting at this point he would not be supporting this amendment.

Chair Slaughter went on to state he would ask Counsel if that presents any kind of a legal issue, of leaving it to the member to define their alternate. Ms. Admirand explained that when drafting the language, the thought was to keep the appointment on par with the position or a person that would be appointed in either the manager's or the District Health Officer's absence within the different jurisdictions. With some of the issues that are being discussed with this board, depending on who the designee would be, there may be issues of conflict of interest. She could not speculate at this point as to what they would be. There's nothing legally that prohibits the member from designating who they want, but in drafting the language it was thought that we keep it on par with who would be an acting within the different jurisdictions.

Mr. Driscoll accepted that discussion and that there are different boards that the managers sit on or others sit on that, that has been as defined that it is the person that would be acting and taking action is as close to on par as the person that they are replacing. He understood what they were trying to do, but just because of the technicalness here, it would be his objection. However the vote goes, he would certainly support, so it is not that he will go off in a tirade if the Board goes forward, he just wanted it on the record of his objections to possibly being mandated to have someone who would not be at a proper level on a regular basis if he was not here.

Mr. Dick explained he just wanted to reflect back on the arduous process that was involved in establishing the Interlocal Agreement and the discussion about the representation on the advisory board. It was specifically identified as the City and County managers, an emergency room physician and a hospital QI representative. Part of that discussion also was whether other members were appropriate, other people besides those individuals from the jurisdictions. The determination at that time was no. He felt that expanding to the people within the jurisdictions that would be acting typically in the absence of the designated members in the ILA now, is appropriate for the Board to do at this time. But he could not support, if they were to expand it further to any person that was designated by one of the managers or by him.

Chair Slaughter asked legal counsel about the intent. Process-wise, the intention is that, using him as an example, that he would designate an alternate and that alternate would be his alternate from here forward, or would it be on a case-by-case basis. Ms. Admirand explained it would be on a case-by-case basis and just for the meeting. Chair Slaughter reiterated that it was just for the meeting.

**Ms. Newby moved to approve Amendment 1 to the ILA for EMS oversight. Mr. Dick seconded the motion. It was approved five in favor with Mr. Driscoll opposed.**

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## 12.*Board Comment

Mr. Dick noted it was likely that everybody has seen in the news that there was a measles case in the community. Staff were very busy at the Health District, just getting the announcement out, getting the process in place to be able to get information to people that may have been exposed. If



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staff anticipates any impacts on the EMS system from this situation in the future, the Health District will work through our EMS program in coordinating with responders to further engage them as the situation calls and it is appropriate.

Chair Slaughter announced that April 8-14 was National Public Safety Telecommunications week. He expressed his thanks to all of the professionals who work at the communications centers. He explained his background was on the E-911 Board in past, and this Board, he often express to the people he talks to about this that in all of the public sector jobs, that is probably one of the most difficult. He reiterated his thanks to our telecommunications staff

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**13.** *__Public Comment__

Limited to three (3) minutes per person. No action may be taken.

**Chair Slaughter opened the public comment period**. As there was no one wishing to speak, **Chair Slaughter closed the public comment period**.

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**Adjournment**

**Chair Slaughter adjourned the meeting at 10:37 a.m.**

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Items on the agenda may be taken out of order, combined with other items, withdrawn from the agenda, moved to the agenda of a later meeting; or they may be voted on in a block. Items with a specific time designation will not be heard prior to the stated time, but may be heard later. An item listed with asterisk (*) next to it is an item for which no action will be taken.

The Emergency Medical Services Advisory Board meetings are accessible to the disabled. Disabled members of the public who require special accommodations or assistance at the meeting are requested to notify Administrative Health Services at the Washoe County Health District, PO Box 11130, Reno, NV 89520-0027, or by calling 775.326-6049, at least 24 hours prior to the meeting.

**Time Limits:** Public comments are welcome during the Public Comment periods for all matters whether listed on the agenda or not. All comments are limited to three (3) minutes per person. Additionally, public comment of three (3) minutes per person may be heard during individual action items on the agenda. Persons are invited to submit comments in writing on the agenda items and/or attend and make comment on that item at the Board meeting. Persons may not allocate unused time to other speakers.

**Response to Public Comments:** The Emergency Medical Services Advisory Board can deliberate or take action only if a matter has been listed on an agenda properly posted prior to the meeting. During the public comment period, speakers may address matters listed or not listed on the published agenda. The Open Meeting Law does not expressly prohibit responses to public comments by the Emergency Medical Services Advisory Board. However, responses from the Board members to unlisted public comment topics could become deliberation on a matter without notice to the public. On the advice of legal counsel and to ensure the public has notice of all matters the Emergency Medical Services Advisory Board will consider, Board members may choose not to respond to public comments, except to correct factual inaccuracies, ask for Health District Staff action or to ask that a matter be listed on a future agenda. The Emergency Medical Services Advisory Board may do this either during the public comment item or during the following item: "Board Comments – Limited to Announcements or Issues for future Agendas."

Pursuant to NRS 241.020, Notice of this meeting was posted at the following locations:

Washoe County Health District, 1001 E. 9th St., Reno, NV
Reno City Hall, 1 E. 1st St., Reno, NV
Sparks City Hall, 431 Prater Way, Sparks, NV
Downtown Reno Library, 301 S. Center St., Reno, NV
Washoe County Administration Building, 1001 E. 9th St, Reno, NV
Washoe County Health District Website www.washoecounty.us/health
State of Nevada Website: https://notice.nv.gov

Supporting materials are available to the public at the Washoe County Health District located at 1001 E. 9th Street, in Reno, Nevada. Ms. Dawn Spinola, Administrative Secretary to the Emergency Medical Services Advisory Board, is the person designated by the Emergency Medical Services Advisory Board to respond to requests for supporting materials. Ms. Spinola is located at the Washoe County Health District and may be reached by telephone at (775) 326-6049 or by email at dspinola@washoecounty.us. Supporting materials are also available at the Washoe County Health District Website www.washoecounty.us/health pursuant to the requirements of NRS 241.020.

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WASHOE COUNTY
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**STAFF REPORT**
**EMERGENCY MEDICAL SERVICES ADVISORY BOARD**
**MEETING DATE: October 4, 2018**

**TO:** EMS Advisory Board Members

**FROM:** Christina Conti, Preparedness & EMS Program Manager
775-326-6042, cconti@washoecounty.us

**SUBJECT:** Program and Performance Data Updates

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**Meetings with Partner Agencies:**
The EMS Coordinator held the final Multi-Causality Incident Plan (MCIP) and Alpha Plan review on April 17th with more than 10 regional agencies represented. The partners suggested some minor revisions. The plans were then distributed via email for final input by the end of May. Both plans were presented to the District Board of Health (DBOH) for possible approval on June 28th. DBOH approved the plans with an effective date of October 1 to allow for training of personnel from all the partner agencies.

The regional protocols task force has met a couple times since the April EMS Advisory Board meeting. The first meeting, held April 19th was the first time the task force convened since the implementation of the Regional EMS Protocols. The group identified several small revisions to the protocols. The group then met on May 31st to review all the changes made during the April meeting. The group also discussed implementation and items they would like to watch for possible future revisions. All changes to the protocols were effective July 1, 2018. A quarterly meeting was held on August 23rd. The task force discussed the changes implemented in July and possible future revisions. Additionally, the group agreed to implement all revisions once a year, unless there is a protocol that is negatively impacting patient care that needs to be implemented immediately. It was brought to the EMS Program attention that the State EMS Program wanted to adopt the Washoe County EMS Protocols for statewide usage. During the July 26th State EMS Committee meeting, the EMS Program Manager spoke in opposition to this, detailing how no task force member from Washoe County, or the Medical Directors, had been approached about this project. The State EMS Program will proceed with convening their own task force, referring to the Washoe County protocols as a tool, to develop protocols that rural EMS agencies could utilize.

EMS Program staff worked with vendors and regional partners to launch the campaign about appropriate uses for 9-1-1 (Washoe County Health District Strategic Plan Initiative 2.2.5.1). The URLs thinkbeforeyoudial.com and pienseloantesdemarcar.com were launched on May 2. Social media sponsored advertisements and RTC bus panels began May 14 and television advertisements were played on KRNV for two weeks in June.



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The EMS Coordinator has continued to work with regional partners to train, educate and sign partners onto the Mutual Aid Evacuation Annex (MAEA) of the MCIP. On May 7, MAEA and WebEOC training was held for Northern Nevada Adult Mental Health Services (NNAMHS) personnel. Additionally, on August 22, the EMS Coordinator and REMSA Emergency Manager co-facilitated a training designed for leadership and nursing personnel that would take the lead in a healthcare evacuation. The 30 attendees received an overview of the plan, explanation of the evacuation process, and participated in a hands-on exercise. Finally, the EMS Coordinator facilitated a tabletop exercise at Advance Health Care of Reno on June 26. The tabletop exercise was for 8 of the facility's administrative personnel to discuss their roles should their facility need to evacuate during a disaster. After the tabletop the facility became a member of the MAEA. Advanced Health Care of Reno is the tenth non-acute care facility to sign onto the plan.

The EMS Program Manager continued to work with regional partners, including the Washoe County MOST (Mobile Outreach Safety Team), on a super utilizer pilot program. Representatives met a couple times to review the HIPAA considerations to ensure information can be appropriately shared across agencies. The workgroup has determined the method for sharing data lies with business use agreements for the specific project. The process for identifying the super utilizers needs to be finalized; however, with staff changeover at the MOST program, this project has been suspended momentarily.

EMS Program staff and regional representatives continued to work on the Low Acuity/Priority 3 strategic planning objective. The workgroup met monthly, including dispatch supervisors for implementation timeline discussions. Card 33 facilities have medical professionals' on-staff during all hours of operation and have access to an AED or crash cart. An alternate response to these calls for service was implemented on July 1, 2018. Additionally, the workgroup concluded recommendations for Alpha calls, defined as low acuity priority 3 calls for service that can receive a non-lights/siren BLS response. The workgroup recommended 18 determinants receive an alternative response, with an implementation date of October 1, 2018.

The Prehospital Medical Advisory Committee (PMAC) held its regularly scheduled meeting on June 13 and September 19. During the June meeting, PMAC members discussed Regional Protocols and Continuous Quality Improvement (CQI) program. The PMAC members reviewed the protocol updates/revisions made by the protocol task force and suggested two small revisions that were incorporated into the Regional EMS Protocols update for July 1. PMAC members provided quality input on the CQI guidelines. Revised CQI guidelines were presented, discussed and approved during the September PMAC meeting.

EMS Program staff facilitated the ED Consortium meeting on August 2. The EMS Program's efforts to have representation from Fire, EMS, law enforcement and healthcare facilities were successful, as more than 27 personnel attend the meeting. The quarterly meetings provide an opportunity to discuss current topics/issues that affect all agencies, like intake refusals, burning man operations, and single point contacts for exposures.

On August 9, EMS Program staff began facilitating the review and update of the EMS Strategic Plan with a regional subcommittee. This meeting was held to review the status of the current strategies and objectives and to work with partner agencies to begin drafting future goals, strategies and objectives. The EMS strategic plan revision committee held their second meeting

on September 6. The committee discussed current goals #1 and #2 as well as new objectives to enhance EMS in Washoe County. The group will meet monthly until the revisions are complete.

The EMS Coordinator organized a workshop with healthcare community partners on August 30. The workshop was designed to discuss ideas and suggestions for revisions to the MAEA that would enhance preparedness, response and recovery from a healthcare evacuation in Washoe County. The workshop attendees developed a list of revision to include: updating the evacuation forms, developing a communications section as well as adding a section describing the roles of skilled nursing, long term care, memory care and mental health facilities in an evacuation.

EMS Program staff met with the Washoe County Sheriff's Office (WCSO) to obtain insight on a national database called ODMaps. The intention is for ODMaps to be used by EMS and law enforcement agencies to 1) determine possible sources of drugs and drug dealers in a given region and 2) a potentially early warning system for lethal or contaminated substances resulting in community-wide overdoses. Through this meeting it was learned the only entity in Washoe County entering suspected overdose information is the WCSO and this information is not being entered in real-time by law enforcement, but by an office staff member at a later date. In order for this database to be useful to our region, it is recommended that organizations that might respond to a scene where a person has suspected to have overdosed should be entering case information on scene as soon as the scene is cleared. There are several limitations to the database. Of note, the limitations of his database include the types of substances listed in the drop down selection, no ability to enter poly substances, no ability to perform deduplication or ensure duplicates are not being entered, and no ability to confirm substances involved in the overdose or enter multiple substances for a single case. Since the EMS Program does not receive person information or any information for the types of substances involved, the EMS Program cannot provide useful data for this project at this time.

The EMS Program Manager collaborated with PSAP and Communication representatives to launch the Text to 911 campaigns. The EMS Program provided funding for the first educational materials that detail "Call if you can, text if you can't." The campaign also reminds citizens about thinkbeforeyoudial.com and the non-emergency resources available with the community.

**CAD-to-CAD (C2C) Update:**

Users were provided with a demo of the C2C functionality on 9/20. The demo did not successfully demonstrate the appropriate functionality required for the C2C to work for RFD, Dispatch, and REMSA. Functionality that is required was not provided and instead functionality not requested was included. This very frustrating as both agencies - Reno and REMSA have been in constant communication with Tiburon/Tritech and their 3rd party vendor, EDC about the processes we envisioned in this project. We have been working on this for over a year - with continuous delays - and Ms. Khimji feels as though they are back at square one, which is completely unacceptable.

Given this, Ms. Khimji has asked for a meeting with Tiburon on 9/24 at noon to discuss this and the steps moving forward. We will not be going live in Oct as anticipated earlier. Ms. Khimji will provide the EMS Advisory Board further updates from the 9/24 call at the EMSAB meeting.

**Data Performance Reports:**

| Requestor | Summary of request | Date of request | Request completed |
|---|---|---|---|
| EMSAB | Burning Man comparison event* | 1/4/2018 | Unable to conduct; 9/1/2018 |
| EMSAB | Heat map data update | Ongoing | No; Pending RFD Data |
| Alpha Call Workgroup | Summary of alpha call data #2 | 3/26/2018 | Yes; 3/29/2018 |
| Alpha Call Workgroup | Summary of alpha call data #3 | 5/1/2018 | Yes; 5/9/2018 |
| Alpha Call Workgroup | Summary of alpha call data #4 | 6/5/2018 | Yes; 6/14/2018 |
| TMFPD | Data QA | 6/4/2018 | Yes; 6/12/2018 |
| REMSA | Data QA | 6/7/2018 | Yes; 7/12/2018 |

***Burning Man Comparison Event**
During the January 4, 2018 EMS Advisory Board member inquired if the EMS impacts resulting from Burning Man would be expected given a similar event. However, an analysis of a comparable event was unable to be conducted due to lack of available data. Staff identified two potential events that would be most likely to be compared to Burning Man to assess for impacts to the EMS system and reached out to personnel to obtain further information. Upon connecting with those other jurisdictions, Program staff learned the data elements were not readily available to conduct a similar analysis for comparison purposes.

**Mass Gathering Applications or Events:**

- Red, White, and Tahoe Blue: June 30-July 4
- De La Luz Horse Races: Every other Saturday until September 28
- Classical Tahoe: July 27-July 31 and August 3
- Barracuda Championship: July 30-August 5
- League to Save Lake Tahoe: August 4
- Incline Fine Arts Festival: August 10-12
- Xterra Lake Tahoe Triathlon: August 17-19
- Great Reno Balloon Races: September 7-9
- Reno Championship Air Races: September 12-16
- Lantern Fest: October 13-14

**Other Items of Note:**
There were a few regional exercises over the last several months. These exercises were attended by the EMS Coordinator and were used as an opportunity to test the MCIP and other relevant regional plans. Tabletop exercises were held on April 26th and July 26th, hosted by the Reno-Tahoe International Airport and the Great Reno Balloon Race administration respectively.

On May 4 there was a car accident on I-80 at the exit ramp to I-580 and northbound US-395 that prompted first responders to activate the MCIP. It took several hours to clean up the scene and 9

people were transported to area hospitals. The EMS Program Manager held the after action review meetings on May 21 and May 30. A draft of the After Action Report/Improvement Plan (AAR/IP) is being written and will be distributed to responding agencies for review by the end of June.

During the April EMSAB meeting, the EMS Program was made aware of the unexpected absence of personnel responsible for submitting data for the City of Reno. On May 9 the EMS Statistician was made aware there is a challenge in the translational software program that houses RFD's CAD data. Due to these technical issues and contractor involvement, RFD has not provided EMS data since January 2018. Due to the majority of EMS calls occurring in RFD's jurisdiction, the EMS Program is currently unable to produce an annual report, update the heat map, and is unable to evaluate the PSA for appropriate uses of 911 campaign. It had been anticipated the EMS Program would receive data by mid-August, but still has not received data.

Through grant funds from the Nevada Governors Council on Developmental Disabilities (NGCDD) the EMS Coordinator worked with the JUSTin HOPE Foundation to bring three days of training to law enforcement, EMS/fire and healthcare personnel about responding to and interacting with individuals with autism. The trainings were held June 4-6 and more than 70 people attended the various sessions. Additionally, two training videos on responding to individuals with intellectual and/or developmental disabilities (I/DD) were finalized on July 30. Continuing Education Credits are available for EMS responders, through a partnership with REMSA. Both the short shift change and the 30-minute training videos were distributed to first responders throughout the state.

The EMS Statistician conducted a ride along with REMSA ambulance personnel on July 25 to continue to learn about the processes involved with patient care in the field.

The EMS Coordinator did a sit-along with REMSA dispatch on August 31 during the Rib Cook-off event to continue learning about medical dispatch, but also listen to special events calls routed through the 911 system.

The EMS Program Manager provided the annual presentation to the City of Sparks and City of Reno City Councils in July. This is a requirement of the 5-year Strategic Plan and provides the opportunity for the Program to highlight achievements of the region.

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# STAFF REPORT
# EMERGENCY MEDICAL SERVICES ADVISORY BOARD
# MEETING DATE: October 4, 2018

**TO:** EMS Advisory Board Members

**FROM:** Jackie Lawson, Office Support Specialist
Brittany Dayton, EMS Coordinator

**SUBJECT:** Presentation regarding Washoe County planning permit trends

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## SUMMARY

This presentation includes information regarding trends recognized in permit planning requests submitted by the Washoe County Community Services Department (CSD) to the EMS Program.

## PREVIOUS ACTION

There has been no previous action regarding this process.

## BACKGROUND

For the past two fiscal years, the EMS Program has received an increased number of Agency Review Memos from CSD requesting input on possible impacts to EMS responses and/or the healthcare system. Many of these requests are for projects within the same general area and vary widely from fewer than 100 residences to more than 1,000 units.

Due to these additional requests, EMS Program staff created a process for tracking applications and information submitted back to the CSD planners.

While an individual project may not impact EMS and/or healthcare, as building permits are approved and residences are completed, larger impacts to the community may be seen.

This presentation is solely for awareness of potential future impacts to EMS responses and/or the healthcare system as housing developments continue to increase within the county boundaries.

Attachment:

EMS Permit Planning Requests PowerPoint



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Item 7

# EMS Permit Planning Requests

October 4, 2018

EMS Advisory Board Meeting

# Agency Review Memos

- The Planning and Building Division sends project applications to applicable agencies for review and analysis
- Each agency is responsible for providing comments and/or conditions for the applications
- Relevant agency comments will be included in the staff report and agency conditions will be incorporated as Conditions of Approval

# EMS Program Input

- Fire agency
- REMSA response requirement to area
- Nearest hospital
- General information regarding other acute care hospitals and healthcare resources available
- Address marking recommendation for public safety agencies

# Building/Development Projects

- The EMS Inter-local Agreement tasks the EMS Oversight Program with providing recommendations for long-range success of the EMS system
- Possible impacts regarding EMS responses and the use of healthcare systems for:
  - Washoe County CSD
    - Unincorporated areas of Washoe County
  - City of Reno HUD
  - Cities of Reno and Sparks projects not included

# Areas of requests

**(FY 16-17 to present)**

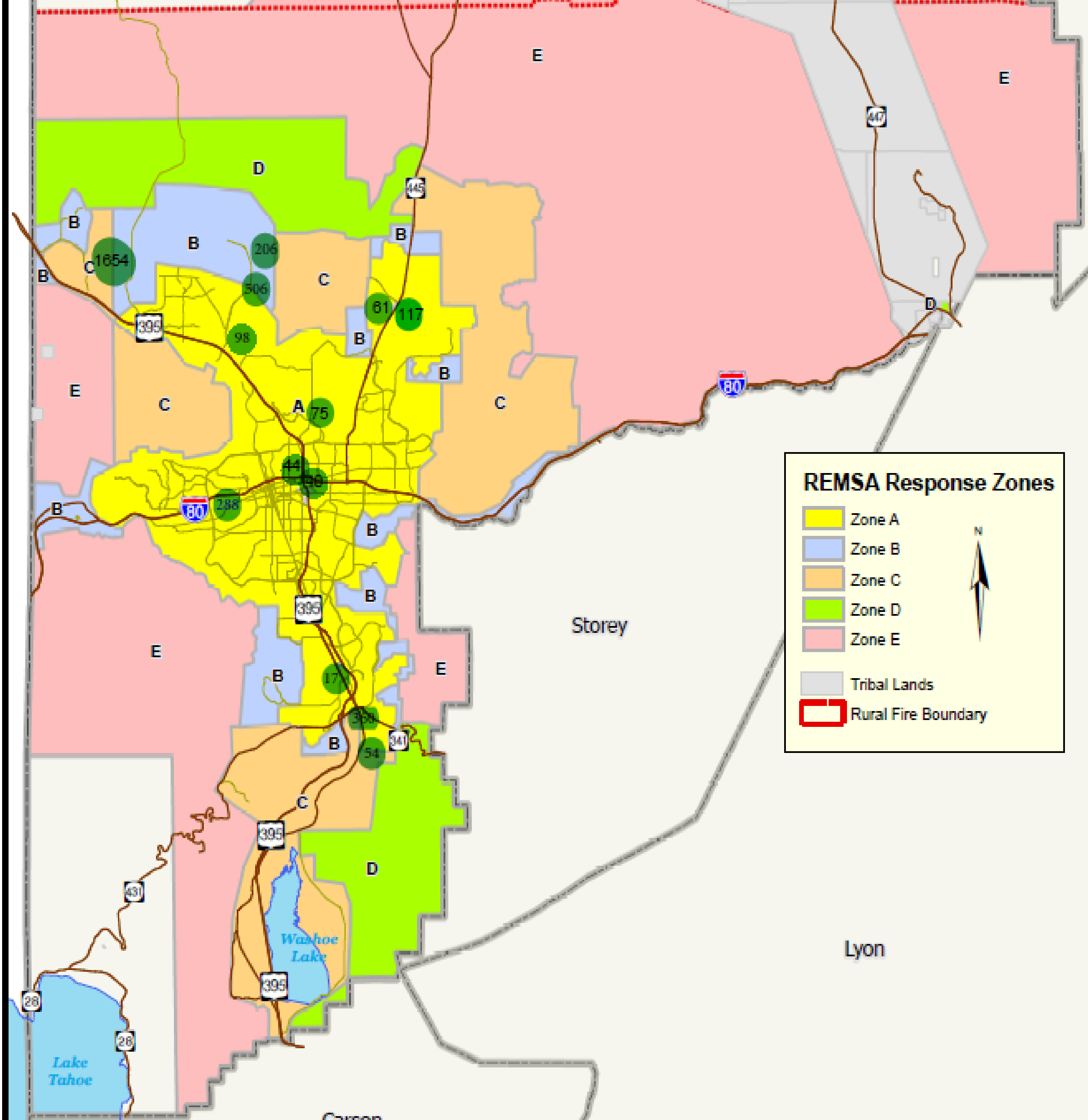
North Valleys: 2464 units

Spanish Springs: 178 units

West Reno: 288 (HUD) units

South Reno: 431 units (360 HUD units)

Sun Valley: 75 units



# Concluding Thoughts

- With the foreseeable growth, there could be future impacts to EMS and healthcare
- Is there an overarching agency graphically portraying permitted County housing developments?
- Is there a mechanism for proactive notification or discussion as it relates to EMS system impacts?

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**STAFF REPORT**
**BOARD MEETING DATE:** October 4, 2018

**TO:** EMS Advisory Board Members

**FROM:** Christina Conti, EMS Oversight Program Manager

775-326-6042, cconti@washoecounty.us

Brittany Dayton, EMS Coordinator

775-326-6043, bdayton@washoecounty.us

**SUBJECT:** Presentation and possible acceptance of an update on the Five-Year Strategic Plan, a requirement of the Interlocal Agreement for Emergency Medical Services Oversight.

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**SUMMARY**

The purpose of this agenda item is to discuss the progress on the implementation of the five-year emergency medical services Strategic Plan, as required in the Inter Local Agreement for Emergency Medical Services Oversight.

There is also an update on the revision to the strategic plan, which was approved to begin in October 2018.

**PREVIOUS ACTION**

During the EMS Advisory Board on October 6, 2016, the Board approved the presentation and recommended staff present the five-year strategic plan to the District Board of Health.

During the District Board of Health meeting on October 27, 2016, the Board moved to accept the presentation and the five-year Strategic Plan to the District Board of Health.

**BACKGROUND**

The EMS Oversight Program was created through an Inter Local Agreement (ILA) signed by the City of Reno (RENO), City of Sparks (SPARKS), Washoe County (WASHOE), Truckee Meadows Fire Protection District (FIRE), and the Washoe County Health District. Within the ILA there are eight duties specifically outlined for the EMS Oversight Program. One of the items explicitly tasked the EMS Oversight Program to "Maintain a Five-Year Strategic Plan to ensure the continuous improvement of Emergency Medical Services in the area of standardized equipment, procedures, technology training, and capital investments to ensure that proper future operations continue to perform including Dispatching Systems, Automated Vehicle Locations Systems, Records Management Systems, Statistical Analysis, Regional Medical Supply and Equipment, and other matters related to strategic and ongoing Emergency Medical Services and approved by RENO, SPARKS, WASHOE and FIRE."

Beginning in August 2015, the EMS Program Manager worked with regional partners to develop a five-year regional strategic plan. The stakeholders participating in the developing of plan included representatives from each jurisdiction and REMSA from dispatch and operations, as well as a regional communications representative. Over the course of 11 months the workgroup identified the components that would be included in the strategic plan.
The first meetings were used to review the SWOT analysis and to identify goals for the region. Subsequent meetings reviewed the individual goals and the objectives within. To ensure the process was efficient, each meeting had an identified objective to accomplish. All items drafted by the EMS Oversight Program remained in red and turned to black once the group has discussed and reached consensus on the draft.

The final document of the strategic plan shows the efforts of the region in creating a path forward to improve the EMS system within Washoe County. The EMS Oversight Program, as part of the strategic plan Objective 6.1, will provide quarterly reports to the EMS Advisory Board on the progress of the various projects outlined within the plan.

Year 1 (2017) had twelve objectives or strategies completed.
Year 2 (2018) includes several more objectives or strategies to be completed in conjunction with the ongoing items from Year 1.

Attached to this staff report is a quick review of the approved strategic plan, with associated completed objectives identified.

Completed "One Time" Objectives:

- **Establish ambulance franchisee response map review methodology**. (Objective 2.2, Strategy 2.2.2)
- **Coordinate and report on strategic planning objectives quarterly.** (Objective 6.1)
- **Create a Gantt chart for the regional partners with the details of the goals.** (Objective 6.1, Strategy 6.1.2)
- **Coordinate with PMAC to develop regional protocols based on national standards and recent clinical studies.** (Objective 5.1, Strategy 5.1.2)
- **Jurisdictional fire response measurement identified and review defined jurisdictional measurement with EMS Oversight Program.** (Objective 2.4, Strategies 2.4.1 & 2.4.2)

Completed Objectives with Associated Project Updates:

- **Determine data elements required for process verification of Omega Protocols**. (Objective 1.1, Strategy 1.1.4)
  - Mid-year Omega review was included in the mid-year data report during April 5, 2018 meeting.

- **Promote the EMS Oversight Program through regional education of the strategic plan's goals and initiative.** (Objective 6.2– annual item)
  - Presented 2017 Annual Report to City of Sparks City Council on July 9, 2018.
  - Presented 2017 Annual Report to City of Reno City Council on July 25, 2018.

  - All ILA signatories have been presented to. Next presentations will be scheduled upon the approval of the 2018 Annual Report.

- **Increase depth of resources able to respond to EMS calls for service in Washoe County.** (Objective 2.3 – annual item)
  - Annual review provided to EMSAB January 2018. Next review will be presented to EMSAB in January 2019.

- **Analyze and report franchise map reviews annually including any recommended modifications to the EMS Advisory Board.** (Objective 2.2, Strategy 2.2.4 – annual item)
  - The next review will be presented to the EMSAB in October 2018.

- **Develop a regional set of protocols for the delivery of prehospital patient care.** (Objective 5.1).
  - The task force met on April 19th to review the training processes and discuss any known concerns with protocols or items to track for possible future revisions. Updated regional protocols were effective July 1, 2018.
  - The task force held its quarterly meeting on August 23rd to discuss changes made and future revisions. It was agreed that all changes will implement on an annual basis, unless a protocol is negatively impacting patient care.

In Progress Objectives:

- **Implement appropriate protocols to determine service level through EMD process to low acuity Priority 3 calls.** (Objective 1.2)
  - Monthly meetings have continued on this initiative. To date, the committee has one item left to discuss, law enforcement call for medical clearance.
  - Card 33 facilities (those who meet criteria to include a medical professional on-staff at all times and access to crash cart/AED) received an approved alternative response. Fire and REMSA will jointly respond to Priority 1 calls for service. Priority 2 and 3 calls will receive a REMSA only response. This change was effective July 1, 2018.
  - Alpha calls for service are low acuity Priority 3 determinants that could safely receive a different level of service. An alternative response of the caller being transferred to the REMSA Nurse Health Line will be effective October 1, 2018.
  - A summary document for the three call types approved and implemented to receive an alternate response model and the estimated unit hour savings to the region is attached.

- **Obtain clarification from District Board of Health regarding Amended and Restated Franchise section 5.1.** (Objective 3.1, Strategy 3.1.2)
  - EMS Oversight Program has been tasked with this item from District Health Officer.

- **Establish a CAD-to-CAD interface between the primary PSAP and REMSA dispatch center.** (Objective 3.2)

  - The City of Reno and REMSA participate in meetings with the contractors. A previously anticipated "go live" date of October 2018 is being reviewed.

- **Establish a two-way interface to provide visualization of AVL for all EMS vehicles for the primary PSAP and REMSA dispatch center.** (Objective 3.3)
  - This item was associated with the CAD-to-CAD project between the City of Reno and REMSA dispatch centers.

- **Evaluate how to transfer information between ePCR from the fire response unit to the REMSA unit.** (Objective 4.1, Strategy 4.1.2)
  - EMS Program staff are not associated with this project and do not have an update to provide to the EMSAB.

- **Pilot the annual report with hospital outcome data with one regional hospital.** (Objective 4.2, Strategy 4.2.2)
  - The ED Consortium has begun working on this objective. In addition to determining the feasibility, they are revising the dates for completion.

- **Establish a regional process that continuously examines performance of the EMS system.** (Objective 5.2)
  - The PMAC approved the CQI program outline. (attached)
  - EMS Program staff will request regional partner participation in the planning of the program when the Low Acuity Priority 3 calls and Strategic plan review projects are completed.

- **Strategic Plan Evaluation and Update**
  - The strategic plan states that every two years, beginning in October 2018, the regional partners will convene to review the status of current strategies and objectives. During the review, goals, strategies and objectives for years 2022 and 2023 will be drafted.
  - A committee has been comprised one representative from each jurisdiction and REMSA for dispatch and operations, as well as a regional communications representative has been formed. The stakeholders participating in the process include Representatives also have a back-up should the primary person be unable to attend.
  - The first meeting was held in early August 2018 to discuss how the current plan was developed, review the SWOT analysis, and gather additional opportunities that could be included in the revised plan.
  - The committee decided to meet on a monthly basis until the plan is revised for possible Board approval.
    - In September the group met and focused on Goal #1 and #2 revisions/additions.

    - In October, the group will conduct a final review of goal #1 and continue to develop new objectives for goal #2 concerning reoccurring callers.
  - Future updates will be in a separate agenda item so the Board can review and provide input for each goal as they are drafted.

**FISCAL IMPACT**

There is no fiscal impact to the Board on this agenda item.

**RECOMMENDATION**

Staff recommends the Board to approve the update on the five-year Strategic Plan, a requirement of the Interlocal Agreement for Emergency Medical Services Oversight.

**POSSIBLE MOTION**

Should the Board agree with staff's recommendation a possible motion would be:

"Move to approve the update on the five-year Strategic Plan, a requirement of the Interlocal Agreement for Emergency Medical Services Oversight."

Item 8A

# WASHOE COUNTY EMERGENCY MEDICAL SERVICES

2017-2021: Five-Year Strategic Plan

2017

## The Washoe County EMS System

The Washoe County Emergency Medical Services (EMS) Five- Year strategic plan was created with EMS Advisory Board support and reviewed by:

**Contracted Ambulance Provider:**
REMSA

**Fire Service Agencies:**
Reno Fire Department
Sparks Fire Department
Truckee Meadows Fire Protection District
Gerlach Volunteer Fire Department

**Stakeholder Organizations and County Departments:**
North Lake Tahoe Fire Protection District
Pyramid Lake Fire Rescue
Reno Dispatch
Airport Authority Fire Department
Sparks Dispatch
WC Shared Communication System
Washoe County EMS Oversight Program
Washoe County Communications

**Approved by:**
District Board of Health
EMS Advisory Board

**Document Distributed to:**
Contracted Ambulance Provider
Fire Service Agencies
Incline Village Community Hospital
Northern Nevada Medical Center
Renown Regional Medical Center
Saint Mary's Regional Medical Center
Stakeholder Organizations and County Departments
Veterans Affairs Sierra Nevada Health Care System

| Goal #1 – Enhance utilization of EMS resources by matching the appropriate services, as defined by the call for service, through alternative protocols, service options and transportation options by October 7, 2021. | |
|---|---|
| **Objective 1.1.** Develop appropriate protocols to determine service level for Omega calls by January 5, 2017. | **Strategy 1.1.1.** Resolve legal issues impacting fire partners by March 30, 2016.<br><br>**Strategy 1.1.2.** Develop r[illegible]rd Operating Procedures to addres[illegible] calls by June 21, 2016.<br><br>**Stra**[illegible] the EMS Advisory Board of [illegible] service levels for Omega calls by [illegible]<br><br>[illegible]**gy 1.1.4.** Determine data elements required for process verification by September 30, 2016.<br><br>**Strategy 1.1.5.** Analyze, interpret and report data elements to EMS Advisory Board and partner agencies quarterly beginning January 5, 2017.<br><br>Completed |
| **Objective 1.2.** Implement appropriate protocols to determine service level through EMD process to low acuity Priority 3 calls by December 31, 2018. | **Strategy 1.2.1.** Resolve regional concerns (operational, legal, and patient care) relating to protocols to determine service level through EMD process to low acuity Priority 3 calls [illegible]une 30, 2016.<br><br>**Strategy 1.2.2.** Develop S[illegible] Procedures to determine service le[illegible] to low acuity Priority 3 calls [illegible]<br><br>**Stra**[illegible]ata elements required for [illegible] March 31, 2018.<br><br>[illegible]**.2.4.** Pilot the developed SOP and identified [illegible]ements during the CAD-to-CAD pilot process [illegible] June 13, 2018.<br><br>**Strategy 1.2.5.** Review by the EMS Advisory Board of the protocols that determine service levels through EMD process to low acuity Priority 3 calls by December 31, 2018.<br><br>95% Completed |

| - Goal #1 Continued -<br>Enhance utilization of EMS resources by matching the appropriate services, as defined by the call for service, through alternative protocols, service options and transportation options by October 7, 2021. | |
|---|---|
| **Objective 1.3.** Develop standardized procedures for eligible patients to receive funded alternative transportation to obtain medical care at an alternative destination by October 7, 2021. | **Strategy 1.3.1.** Conduct research on alternative transportation options utilized across the United States by October 31, 2020.<br><br>**Strategy 1.3.2.** If applicable, develop processes for dispatch centers to select eligible patients to receive funded alternative transport to facilities that accept patients who meet alternative destination criteria (e.g. urgent care, physician's office criteria) by August 31, 2021.<br><br>**Strategy 1.3.3.** If applicable, obtain approval by the EMS Advisory Board of standardized procedures for patients to receive funded alternative transportation to obtain medical care by October 7, 2021. |

| - Goal #2 - Improve pre-hospital EMS performance by reducing system response times through the use of technology and the development of regional response policies by December 21, 2022. | |
|---|---|
| **Objective 2.1.** Implement regional usage of Automatic Vehicle Locator (AVL) technology to dispatch closest available unit by December 31, 2022. | **Strategy 2.1.1.** Complete a regional assessment to identify and understand existing AVL capabilities to dispatch the closest EMS responder by June 30, 2021.<br><br>**Strategy 2.1.2.** Approval to utilize AVL to dispatch the closest available unit to EMS calls by individual Councils/Boards and EMS Advisory Board by December 31, 2021.<br><br>**Strategy 2.1.3.** Develop regional dispatching process that will utilize the AVL technology to dispatch the closest unit to EMS calls for service by June 30, 2022.<br><br>**Strategy 2.1.4.** Purchase and install additional AVL equipment to increase capabilities in region by December 31, 2022. |
| **Objective 2.2.** Establish ambulance franchise response map review methodology by September 30, 2016. | Completed<br><br>**Strategy 2.2.1.** Develop standardized methodology for the annual review of the am[illegible]ce franchise response map by June 30[illegible]<br><br>**Strategy 2.2.2** [illegible] methodology for the five and t[illegible] ambulance franchise res[illegible] 30, 2016.<br><br>[illegible] Approval by the EMS Advisory Board of the [illegible] methodology for the annual, five and ten year [illegible]s by October 6, 2016.<br><br>**Strategy 2.2.4** Analyze and report franchise map reviews annually including any recommended modifications to the EMS Advisory Board, beginning October 6, 2017. |
| **Objective 2.3.** Increase depth of resources able to respond to EMS calls for service in Washoe County by December 31st annually. | **Strategy 2.3.1.** Identification of operational opportunities by WC EMS agencies through a review of mutual aid agreements (MAA) and/or memorandum of understanding (MOU) that include EMS services for Washoe County by June 30th annually. |

| - Goal #2 Continued - Improve pre-hospital EMS performance by reducing system response times through the use of technology and the development of regional response policies by December 31, 2022. | |
|---|---|
| **Objective 2.3.** Increase depth of resources able to respond to EMS calls for service in Washoe County by December 31st annually. | **Strategy 2.3.2.** Enter into or modify MAAs/MOUs with partner agen[illegible] necessarily by December 31st annuall[illegible]<br><br>[illegible] 2.3.3. Provide an update to EMS Advisory [illegible]ard on all MA/MOU process changes or additional agreements being utilized in region by January 31st annually, beginning in January 2017.<br><br>Annual Item |
| **Objective 2.4.** Define a measurement for EMS Tier 1 response agencies, to support recommendations for system improvements, by March 31, 2017. | **Strategy 2.4.1.** Jurisdictional fire res[illegible]nse measurement identified by March 31, 2017.<br><br>**Strategy 2.4.2.** Revie[illegible]al measurement with EMS Overs[illegible]1, 2017.<br><br>**Strat**[illegible]port to the EMS Advisory [illegible] the regional EMS system utilizing [illegible] measurement and ambulance franchise [illegible] by the 15th of the month, following the fiscal [illegible]ter.<br><br>**Strategy 2.4.4.** Provide recommendations for improvements based on defined performance measures to EMS Advisory Board as needed.<br><br>Completed |

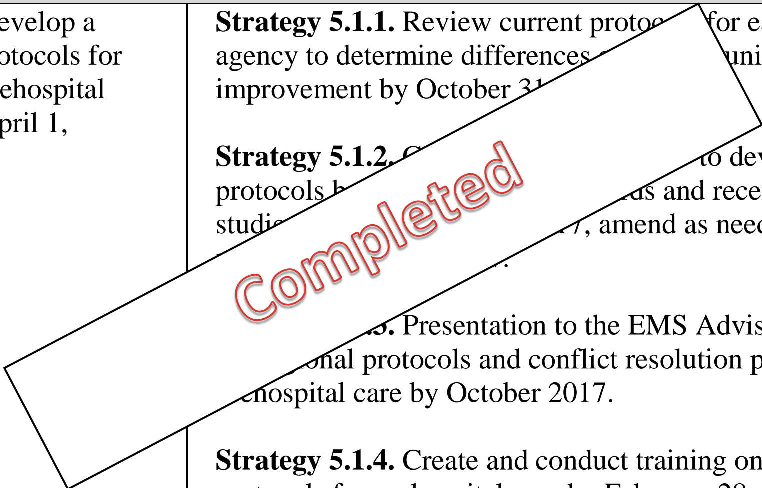
| - Goal #3 - Improve communications between EMS partners through enhanced usage of technology and the development of regional guidelines by June 30, 2021. | |
|---|---|
| **Objective 3.1.** Enhance radio communication systems within Washoe County by June 30, 2021. | **Strategy 3.1.1.** REMSA will ensure interoperability between UHF and 800 MHz through a gateway connection between REMSA and Washoe County Regional Communication System by December 31, 2016. COMPLETED<br><br>**Strategy 3.1.2.** Obtain clarification from District Board of Health regarding Amended and Restated Franchise section 5.1 by June 30, 2017.<br><br>**Strategy 3.1.3.** Develop a comprehensive migration interoperability plan for WCRCS that outlines the enhancement of the radio communication system to include completion of upgrades, maintenance of REMSA gateway connection and identified equipment needs by December 31, 2018.<br><br>**Strategy 3.1.4.** REMSA and regional public safety partners will develop a plan to upgrade system based on jurisdictional analysis, in alignment with WCRCS target date of June 30, 2021. |
| **Objective 3.2.** Establish a CAD-to-CAD (computer aided dispatch) interface between the primary PSAP and REMSA dispatch center by December 31, 2017. | **Strategy 3.2.1.** Create a regional workgroup to design the elements of the CAD-to-CAD interface increasing interoperability between dispatch centers by January 31, 2016.<br><br>**Strategy 3.2.2.** Complete configuration process that includes development of the data exchange overview document and implementation by December 31, 2017.<br><br>**Strategy 3.2.3.** Provide process updates to EMS Advisory Board quarterly, beginning April 7, 2016. |
| **Objective 3.3.** Establish a two-way interface to provide visualization of AVL for all EMS vehicles for the primary PSAPs and REMSA dispatch center by December 31, 2017. | **Strategy 3.3.1.** Complete a regional assessment to identify and understand AVL existing capabilities by December 31, 2016.<br><br>**Strategy 3.3.2.** Develop regional process that will utilize the AVL technology to visualize EMS vehicles in both the primary PSAPs and REMSA dispatch center by December 31, 2017.<br><br>**Strategy 3.3.3.** If applicable, purchase and install additional AVL equipment to increase capabilities in region by December 31, 2017. |

| - Goal #4 -<br>Improve continuity of care through regional processes that ensure patient information transfers from the scene to the hospital by December 31, 2018. | |
|---|---|
| **Objective 4.1.** Develop a process to improve the flow of patient information throughout the prehospital setting by December 31, 2018. | **Strategy 4.1.1.** Identify the electronic patient care reporting (ePCR) software being utilized or purchased for use in the region by June 30, 2016.<br><br>**Strategy 4.1.2.** Evaluate how to transfer information between the ePCR from the fire response unit to the REMSA response unit by December 31, 2016.<br><br>**Strategy 4.1.3.** Evaluate existing processes for transferring all prehospital care information to hospital personnel and implement process improvement by June 30, 2018.<br><br>**Strategy 4.1.4.** Create and conduct training on regional policy, to include pertinent information required for seamless transfer of patient care from agency to agency by December 31, 2018. |
| **Objective 4.2.** Produce an annual report on EMS system performance that includes hospital outcome data by December 31, 2018. | **Strategy 4.2.1.** Collaborate with hospital partners on data available for submission to the EMS Oversight Program for cardiac, stroke and stemi patients by October 31, 2016.<br><br>**Strategy 4.2.2.** Pilot the annual report with hospital outcome data with one regional hospital by March 31, 2017.<br><br>**Strategy 4.2.3.** Draft for distribution an annual report with relevant regional hospital partner data included by June 30, 2017.<br><br>**Strategy 4.2.4.** Review annual report with ePCR implementation and determine enhancements available for hospital outcome data by October 31, 2018.<br><br>**Strategy 4.2.5.** Draft for distribution of an annual report with enhanced data included by December 31, 2018. |

## - Goal #5 -

Design an enhanced EMS response system through effective regional protocols and quality assurance by December 31, 2018.

| | |
|---|---|
| **Objective 5.1.** Develop a regional set of protocols for the delivery of prehospital patient care by April 1, 2018. | **Strategy 5.1.1.** Review current proto[illegible] for each regional agency to determine differences [illegible]unities for improvement by October 31[illegible]<br><br>**Strategy 5.1.2.** [illegible] to develop regional protocols b[illegible]s and recent clinical studi[illegible], amend as needed with a [illegible]<br><br>[illegible]. Presentation to the EMS Advisory Board of [illegible]onal protocols and conflict resolution procedure for [illegible]ehospital care by October 2017.<br><br>**Strategy 5.1.4.** Create and conduct training on regional protocols for prehospital care by February 28, 2018. |
| **Objective 5.2.** Establish a regional process that continuously examines performance of the EMS system by December 31, 2018. | **Strategy 5.2.1.** Create a regional team, including PMAC representation, which would work to improve the system through examination of system performance by December 31, 2018.<br><br>**Strategy 5.2.2.** Determine team goals and identify initial performance measures to be utilized to continuously improve processes by December 31, 2018.<br><br>**Strategy 5.2.3.** Acceptance by the EMS Advisory Board of the performance initiatives to be used during the review process by January 2019.<br><br>**Strategy 5.2.4.** Present information from the quarterly meeting to the appropriate entity, beginning April 2019. |




[1] PMAC is the Prehospital Medical Advisory Committee for Washoe County

<table>
<tr><th colspan="2">- Goal #6 -<br>Continue collaborative models with regional EMS agencies, health organizations and public safety stakeholders.</th></tr>
<tr><td>Objective 6.1. Coordinate and report on strategic planning objectives quarterly through June 2021.<br><br>Annual Item</td><td>Strategy 6.1.1. Create a Gantt chart for the regional partners with the details of the goals by October 31, 2016.<br><br>Strategy 6.1.2. Develop structured feedback loops for the current initiatives of the strategic plan goals.<br><br>Strategy 6.1.3. Provide progress reports to the EMS Advisory Board quarterly, beginning January 2017.</td></tr>
<tr><td>Objective 6.2. Promote the EMS Oversight Program through regional education of the strategic plan's goals and initiatives by January 31, 2017.<br><br>Annual Item</td><td>Strategy 6.2.1. Create a reporting structure for the signatories of the Inter-Local Agreement and ambulance franchisee Board to receive updates on the status of the regional EMS system, biannually, beginning January 2017.</td></tr>
</table>

## Strategic Plan Evaluation and Update

In an effort to ensure the successful implementation of the strategies and objectives of the EMS Advisory Board strategic plan, the EMS Oversight Program will develop a Gantt chart. The chart will be distributed to the regional partners upon approval of the strategic plan by the District Board of Health. The chart will be reviewed semi-annually to ensure all projected timelines remain achievable. Progress on the strategic planning strategies and objectives will be included in the EMS Oversight Program "Program and Performance Data Update" staff report at the EMS Advisory Board meeting.

Every two years, beginning in October 2018, the regional partners will convene to review the status of the current strategies and objectives. During the October 2018 review, the EMS Oversight Program will begin to develop the draft goals, strategies and objectives for years 2022-2023. Upon completion the EMS Oversight Program will bring an updated 5-year strategic plan to the EMS Advisory Board for review, input and approval.

**Low Acuity Priority 3 Final Report**

The Washoe County EMS 5-year Strategic Plan was originally approved by the EMS Advisory Board on October 6, 2016. The development of the strategic plan is a requirement of the Inter Local Agreement (ILA) for EMS Oversight, executed September 2014. The service area defined within the ILA is the City of Reno, City of Sparks and unincorporated Washoe County, excluding North Lake Tahoe Fire Protection District and Gerlach Volunteer Fire Department.

Within the strategic plan, goal 1 is to "enhance utilization of EMS resources by matching the appropriate service levels, as defined by the call for service, through alternative protocols, service and transportation options". Within this goal, objective 1.2 states EMS partners will "implement appropriate protocols to determine service level through EMD process to low acuity Priority 3 calls…."

To achieve this objective, a subcommittee was established, comprised of a representative the Sparks Fire Department, Truckee Meadows Fire Protection District, Reno Fire Department, REMSA, and the Washoe County Health District. The Emergency Medical Dispatch (EMD) process is recognized as an essential component of effective EMS systems. Through EMD interrogation, call priorities are quickly and properly determined to ensure the appropriate resources are dispatched. The subcommittee looked at calls for service within the region that currently receive a two-tier response, but could safely receive an alternative response.

The committee began meeting in February 2017 to identify and outline calls for service to be evaluated for the potential to receive an alternative response. By meeting monthly, the subcommittee systematically reviewed call types and discussed alternative response options. The intention of the committee recommendations is to safeguard the citizens' needs while ensuring multiple response units are not unnecessarily committed to a call. There were three main subsets of calls reviewed by the committee. The three call types, as identified through the EMD process, were:

- Omega calls – Classified as low acuity calls that can be referred to REMSA's Nurse Health Line for assessment and evaluation. Additional Omega determinants were activated February 1, 2018.
- Card 33 calls – Facilities identified as having a medical professional on-staff during all hours of operation and having access to an AED or crash cart. Recommendation of a two-tier response for Priority 1 calls with a REMSA only response for Priority 2 & 3 calls implemented July 1, 2018.
- Alpha calls – Call for service that currently receive a non-lights/siren response an EMD as low acuity complaints. Alternative response model of utilizing the REMSA Nurse Health Line, aligning with the Omega process, implemented October 1, 2018.

A summary for each of the three call types is contained within this document. With the implementation of alternative responses for each of the three call types, it is estimated, based on current call volumes, Washoe County EMS agencies (Sparks Fire Department, Reno Fire Department, Truckee Meadows Fire Protection District and REMSA) combined can expect a total savings of 3,176 unit hours or approximately 3,500 calls for service.

| Low Acuity Call Type | 6-Month Savings (July- December 2017) | | | Estimated Annual Savings | | |
|---|---|---|---|---|---|---|
| | # Approved Calls | Total Unit Hours | Approved Low Acuity / Total Reported Calls | # Approved Calls | Total Unit Hours | Approved Low Acuity / Total Reported Calls |
| **ALPHA Calls** | 878 | 899.9 | 2.42% | 1,756 | 1799.8 | 4.8% |
| **OMEGA Calls** | 721 | 653.7 | 1.91% | 1,442 | 1307.4 | 3.8% |
| **Card 33** | 165 | 37.6 | 0.44% | 330 | 75.2 | 0.9% |
| **TOTAL*** | **1,763** | **1,588.2** | **4.77%** | **3,526** | **3,176.3** | **9.5%** |

*one call to a Card 33 facility was also an ALPHA call, and was NOT counted twice

The region is committed to a patient-centered system of care that consistently and safely delivers the right resources to patients. Providing alternative responses to low acuity calls is just one method in doing so. The subcommittee continues to discuss additional call types that may not require a two-tiered EMS response. Those calls are not able to be quantified in the same fashion as the above, due to data limitations. The calls include law enforcement requests for medical evaluations, lift assists and "no patient" standby calls.

# OMEGA CALL SUMMARY & ANALYSIS

## OMEGA Background

The International Academy Medical Priority Dispatch System designated and approved 200 EMD protocols as an "OMEGA" the lowest acuity EMS call type. The region first implemented an alternative response to 52 OMEGA call types in July of 2016. An additional set of OMEGAS were considered and 25 OMEGA EMD types were approved for an alternative response in February of 2018. The following analyses illustrates estimates for the total unit hours saved, as well as the jurisdictional snapshot of the estimated number of calls that would receive an alternative response for the additional 25 OMEGA EMDs that were approved as part of the low-acuity call review.

## Total Unit Hours Saved

This section provides the estimated saving of unit hours with the implementation of an alternative response for the identified OMEGA EMD types. The data utilized for this section was the most current matched data for the region. Therefore, total unit hours saved was calculated using 6 months of matched calls from July 2017 to December 2017.

By utilizing current data, the data analysis provides a more recent estimation of the impact to the system, accounting for the continuing increase of call volume across all jurisdictions. For REMSA, unit hours were measured from time en route to call complete. For Fire, unit hours were measured from time dispatched to call complete. The first table identifies the median and average time spent by each partner on an identified Alpha call for service. This provides the framework for the estimated savings per regional partner.

| Agency | Matched Call Data July-December 2017 | | |
|---|---|---|---|
| | # Approved OMEGAS | Median Time per Call | Average Time per Call |
| RFD | 247 | 12:05 | 13:24 |
| SFD | 101 | 15:20 | 16:36 |
| TMFPD | 80 | 19:48 | 20:44 |
| REMSA | 721 | 49:37 | 46:21 |

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| Agency | 6 Month Savings (July-December 2017) | | | | Estimated Annual Savings | | |
|---|---|---|---|---|---|---|---|
| | **Total Calls** | **# Approved Card 33 Calls** | **Total Unit Hours** | **Approved OMEGAS / Total Reported Calls** | **Total Calls** | **Approved OMEGAS / Total Reported Calls** | **Total Unit Hours** |
| RFD | 19,153 | 247 | 54.3 | 1.29% | 38,306 | 494 | 108.6 |
| SFD | 5,681 | 101 | 27.9 | 1.78% | 11,362 | 202 | 55.9 |
| TMFPD | 3,947 | 80 | 24.5 | 2.03% | 7,894 | 160 | 49.1 |
| REMSA | 36,308 | 721 | 546.9 | 1.99% | 72,616 | 1,442 | 1,093.8 |
| **Region** | **37,715*** | **721** | **653.7** | **1.91%** | **75,430** | **1,442** | **1,307.3** |

*Number reflects both matched and unmatched EMS calls for service

- Regionally there were 37,715 calls for service and 721 (1.91%) were categorized as an EMD OMEGA call type from July to December 2017.
- From July to December 2017 a total of 653.7 unit hours were spent responding to OMEGA calls. If doubled, 1,422 calls would receive an alternative response resulting in a potential annual savings of 1,307.3 total unit hours regionally.

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# Card 33 Call Summary & Analysis

## Card 33 Background

Card 33 is the International Academy Medical Priority Dispatch System EMD protocol for facilities identified as having a medical professional on-staff during all hours of operation and having access to an AED or crash cart. The process relies on the medical knowledge of the caller and bypasses some of the preliminary EMD questions the general public would receive. The facilities included in this card are hospitals, skilled nursing or assisted living facilities with 24 hour medical coverage, and Urgent Care centers. For Washoe County, at this time there are 28 facilities approved for the Card 33 EMD protocol.

The facilities are categorized as three facility types: Urgent Care, Psychiatric Facility or Skilled Nursing/Rehabilitation Centers. Through meetings, the workgroup has determined that REMSA will continue to respond to all Card 33 facilities; however fire partners will only respond to priority 1 calls and will be cancelled to a priority 2 or priority 3 calls to all of these facilities.

## Total Unit Hours Saved

This section provides the estimated saving of unit hours with the implementation of the alternative response for the identified facilities. The data utilized for this section was the most current matched data for the region. Therefore, total unit hours saved was calculated using 6 months of matched calls from July 2017 to December 2017. True cost savings to a jurisdiction could be estimated utilizing the total unit hour provided in the below chart and multiplying that by the jurisdictional cost per hour of equipment/personnel.

By utilizing current data, the data analysis provides a more recent estimation of the impact to the system, accounting for the continuing increase of call volume across all jurisdictions. For REMSA, unit hours were measured from time en route to call complete. For Fire, unit hours were measured from time dispatched to call complete. The first table identifies the median and average time spent by each partner on an identified Alpha call for service. This provides the framework for the estimated savings per regional partner.

| Agency | Matched Call Data July-December 2017 | | |
|---|---|---|---|
| | # Card 33 Calls | Median Unit Hours per Call | Average Unit Hours per Call |
| RFD | 80 | 9:06 | 11:11 |
| SFD | 85 | 13:57 | 16:20 |
| TMFPD | 0 | - | - |
| REMSA | 0 | - | - |

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# Card 33 Call Summary & Analysis

| Agency | 6 Month Savings (July-December 2017) | | | | Estimated Annual Savings | | |
|---|---|---|---|---|---|---|---|
| | Total Calls | # Approved Card 33 Calls | Total Unit Hours | Approved Card 33 / Total Reported Calls | Total Calls | # Approved Card 33 Calls | Total Unit Hours |
| RFD | 19,153 | 80 | 14.5 | 0.42% | 38,306 | 160 | 29.0 |
| SFD | 5,681 | 85 | 23.1 | 1.50% | 11,362 | 170 | 46.2 |
| TMFPD | 3,947 | 0 | 0.0 | 0.00% | 7,894 | 0 | - |
| REMSA | 36,308 | 0 | 0.0 | 0.00% | 72,616 | 0 | - |
| **Region** | 37,715* | 165 | 37.6 | 0.44% | 75,430 | 330 | 75.2 |

*Number reflects both matched and unmatched EMS calls for service

- Regionally there were 37,715 calls for service and 165 (0.44%) were priority 2 or priority 3 calls to Card 33 facilities from July to December 2017.
- From July to December 2017 a total of 37.6 unit hours were spent responding to Card 33 facilities. If doubled, 330 calls would receive an alternative response resulting in a potential annual savings of 75.2 total unit hours regionally.

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## ALPHA CALL SUMMARY AND ANALYSIS

Objective 1.2, under Goal 1, of the Regional 5-Year EMS Strategic Plan states that the region will "implement appropriate protocols to determine service level through EMD process to low acuity Priority 3 calls…." A workgroup was formed to address this strategic planning initiative. One of the call types reviewed was an Alpha Call, which is indicating a call that could receive a non-lights/siren BLS ambulance response.

The workgroup systematically reviewed the proposed Alpha determinates, utilizing data reports, to recommend alternative response protocols. In alignment with the strategic plan, employing a more appropriate response mechanism could potentially decrease emergency room visits as well as the medical costs to the patient. Additionally, it could assist a resident's ability to access appropriate healthcare services that are more in line with their medical needs.

There were 52 Emergency Medical Determinants (EMDs) that REMSA originally requested to be considered to receive an alternate response.

- Total REMSA calls over 2 year time period was 132,002
- Priority 3 calls were 23,976 (18.16%) of overall REMSA calls
    - Requested Alpha calls were 9,034 (6.8%) of overall REMSA calls
- Among the requested Alpha calls (9,034), 60.93% (5,504) matched to fire. This accounts for 4.16% of the total REMSA calls for the two-year time period. The matched requested Alpha calls account for approximately 4-7% of fire calls, depending on the total EMS-related calls reported by those fire jurisdictions as follows:
    - Estimated 4.67% of RFD total EMS calls reported over a 2 year period
    - Estimated 7.55% of SFD total EMS calls reported over a 2 year period
    - Estimated 6.60% of TMFPD total EMS calls reported over a 2 year period

The workgroup reviewed the EMD code description and agreed to assess preliminary match data for 36 EMD types. A document was drafted for the 36 EMD codes and 24 were approved by the workgroup to receive a thorough data analysis and discussion. This took place over a four-month period of time. Data documents were produced for each of the 24 EMDs, to include chart review for a sample of each of the determinants. Among those 24 analyzed EMD types, 18 EMDs were approved for alternate response.

52 Alpha EMDs "Requested" →36 Alpha EMDs "Considered"

24 Alpha EMDs "Analyzed/ discussed" → **18 EMDs "Approved" for alternate transport**

| Call Type | # of Calls for Service | % of Total Calls Reported by REMSA | # Matched to Fire | % Matched to Fire | Matched / Total Matched Calls | # of EMD Types |
|---|---|---|---|---|---|---|
| Alpha calls requested by REMSA | 9,166 | 6.94% | NA | NA | NA | 52 |
| Alpha calls considered by Work Group | 9,034 | 6.84% | 5,504 | 60.93% | 5.68% | 36 |
| Alpha calls discussed by Work Group | 4,797 | 3.63% | 2,567 | 53.51% | 2.65% | 24 |
| Alpha calls approved by Work Group | 2,644 | 2.00% | 1,318 | 49.85% | 1.36% | 18 |

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The regional summary table splits out the Alpha EMDs as those requested, considered, discussed, and recommended for approval over the two-year period from July 2015 through June 2017.

## Jurisdictional Summaries July 2015-June 2017

The jurisdictional summaries provide insight on the potential impact to each jurisdiction if the Alpha EMDs recommended by the Work Group were to receive an alternative response. The summary data in the tables were calculated using the same two-year time period that was utilized for the Alpha data analyses. It should be noted that TMFPD calls include only areas TMFPD indicated are within their jurisdiction. Because REMSA provides transportation to other partners within the region, the jurisdictional data for TMFPD, SFD, and RFD will not add up to the total calls in REMSA's jurisdictional table or the regional summary table.

There were a total of 16 Alpha EMDs recommended for an alternative response for both fire and REMSA. An additional Alpha EMD was recommended for an alternate REMSA response and one additional Alpha EMD recommended for an alternate Fire response. Therefore, each below chart includes 17 EMDs per agency, although a total of 18 were identified in total.

### REMSA

| Call Type | # of Calls for Service | % of Total Calls Reported by REMSA |
|---|---|---|
| Total calls reported by REMSA | 132,002 | 100.00% |
| Priority 3 Calls | 23,976 | 18.16% |
| Alpha calls approved by Work Group | 2,601 | 1.97% |

- If the recommendations had been implemented, it is estimated REMSA would not have responded to 2,601 calls, equivalent to 1.97% of the reported EMS calls for service over the two year period.

### Reno Fire Department

| Call Type | # of Calls for Service | % of Total Calls Reported by RFD | # Matched to REMSA | % Matched to REMSA / Total RFD Reported Calls |
|---|---|---|---|---|
| Total calls reported by RFD | 65,669 | 100.00% | 61,132 | 93.09% |
| REMSA Priority 3 Calls | NA | NA | 7,864 | 11.98% |
| Alpha calls approved by Work Group | NA | 2.73% | 639 | 0.97% |

- If the recommendations had been implemented, it is estimated that RFD would not have responded to 639 calls, equivalent to .97% of the reported EMS calls for service over the two-year period.

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## Sparks Fire Department

| Call Type | # of Calls for Service | % of Total Calls Reported by SFD | # Matched to REMSA | % Matched to REMSA/ Total SFD Reported Calls |
|---|---|---|---|---|
| Total calls reported by SFD | 22,205 | 100.00% | 21,399 | 96.37% |
| REMSA Priority 3 Calls | NA | NA | 3,632 | 16.36% |
| Alpha calls approved by Work Group | NA | 2.22% | 419 | 1.89% |

- If the recommendations had been implemented, it is estimated SFD would not have respond to 419 calls, equivalent to 1.89% of the reported EMS calls for service over the two-year period.

## Truckee Meadows Fire Protection District

| Call Type | # of Calls for Service | % of Total Calls Reported by TMFPD | # Matched to REMSA | % Matched to REMSA / Total TMFPD Reported Calls |
|---|---|---|---|---|
| Total calls reported by TMFPFD | 14,621 | 100.00% | 13,848 | 94.71% |
| REMSA Priority 3 Calls | NA | NA | 2,335 | 15.97% |
| Alpha calls approved by Work Group | NA | 2.67% | 300 | 2.05% |

- If the recommendations were implemented, it is estimated TMFPD would not have responded to 300 calls, equivalent to 2.05% of the reported EMS calls for service over the two-year period.

FOUO - Project Specific

## Total Hour Units Saved

At the request of the workgroup, this section attempts to identify the estimated saving of unit hours with the implementation of an alternative response for the identified EMDs. The data utilized for this section was the most current matched data for the region. Therefore, total unit hours saved was calculated using 6 months of matched calls from July 2017 to December 2017.

By utilizing current data, the data analysis is able to provide a more recent estimation of the impact to the system, accounting for the continuing increase of call volume across all jurisdictions. For REMSA, unit hours were measured from time en route to call complete. For Fire, unit hours were measured from time dispatched to call complete.

The first table identifies the median and average time spent by each partner on an identified Alpha call for service. This provides the framework for the estimated savings per regional partner.

| Agency | Median & Average Time per Call Matched Data July-December 2017 | | |
|---|---|---|---|
| | # Alpha Approved Alpha Calls | Median Time per Call | Average Time per Call |
| RFD | 263 | 6:20 | 10:52 |
| SFD | 105 | 15:54 | 17:01 |
| TMFPD | 93 | 19:33 | 20:41 |
| REMSA | 878 | 55:41 | 54:08 |

- Regionally, there were 36,308 calls for service, and 2.42% (878) were identified as one of the 18 recommended Alpha EMDs.

| Agency | 6 Month Savings (July-December 2017) | | | | Estimated Annual Savings | | |
|---|---|---|---|---|---|---|---|
| | Total Calls | # Approved Alpha Calls | Total Unit Hours | Approved Alphas / Total Reported Calls | Total Calls | # Approved Alpha Calls | Total Unit Hours |
| RFD | 19,153 | 263 | 47.6 | 1.37% | 38,306 | 526 | 95.2 |
| SFD | 5,681 | 105 | 29.8 | 1.85% | 11,362 | 210 | 59.5 |
| TMFPD | 3,947 | 93 | 30.3 | 2.36% | 7,894 | 186 | 60.7 |
| REMSA | 36,308 | 878 | 792.1 | 2.42% | 72,616 | 1,756 | 1,584.1 |
| **Region** | **36,308** | **878** | **899.8** | **2.42%** | **72,616** | **1,756** | **1,799.5** |

- Over a 6 month period of time (July-December 2017), a total of 899.8 total unit hours were spent responding to approved Alpha calls. If doubled, the recommended 18 Alpha EMDs could result in an annual savings of 1,799.5 unit hours across the region.

Project Specific

Item 9

Christopher J. Hicks
District Attorney

P.O. Box 11130
Reno, NV 89520

775.328.3200
Washoe county.us/da

**STAFF REPORT**
**EMS ADVISORY BOARD MEETING DATE:** October 4, 2018

**TO:** EMS Advisory Board Members

**FROM:** Leslie Admirand, Deputy District Attorney
775-337-5714, ladmirand@washoeocounty.us

**SUBJECT:** **Approval of Revised Bylaws of the Emergency Medical Services Advisory Board to allow each representative of a City, County or Health District authority to designate an alternate to replace the representative in the representative's absence from meetings of the Advisory Board with alternates being a City or County Assistant Manager or Health District Division Director.**

---

## SUMMARY

Chair Slaughter requested Council draft guidelines to allow alternates for Board membership. The Interlocal Agreement (ILA) for EMS Oversight was amended to allow City, County and Health District representatives of the EMS Advisory Board authority to designate an alternate to replace the representative in the representative's absence from meetings, with alternates being a City or County Assistant Manager or Health District Division Director.

## PREVIOUS ACTION

During the October 6, 2016 EMS Advisory Board meeting, during the agenda item regarding the updated EMSAB bylaws, it was noted proxy votes were not permitted in the updated bylaws. Deputy District Attorney representing the EMSAB stated that alternates or proxies were addressed in the Open Meeting Law, and the enabling legislation creating the Board, being the ILA, would have to contain the authority for members to appoint proxies. Upon review of the language of the ILA and it was determined that it did not contain an allowance for proxies to be used.

During January 4, 2018 meeting, Chairman Slaughter requested the DDA to draft guidelines to allow alternates for Board membership.

On April 5, 2018, Amendment #1 to the ILA was approved by the EMSAB with direction for staff to present the amendment to the ILA signing jurisdictions for possible approval.

On May 24, 2018, the District Board of Health approved Amendment #1. On June 19, 2018, the Truckee Meadows Fire Protection District approved Amendment #1. On June 19, 2018, Washoe County approved Amendment #1. On May 23, 2018, the City of Reno approved Amendment #1. On July 9, 2018, the City of Sparks approved Amendment #1.

## BACKGROUND

The ILA was approved by the Washoe County Health District, City of Reno, City of Sparks, Truckee Meadows Fire Protection District and Washoe County and became effective on August 26, 2014.

During a bylaws update agenda item at the October 6, 2016 EMS Advisory Board meeting there was discussion related to proxy appointments and whether that was allowable through the City Charters and/or ILA for EMS Oversight.

At the January 4, 2018 EMS Advisory Board meeting, Chair Slaughter requested Council draft guidelines to allow alternates for Board membership.

On May 24, 2018, the District Board of Health approved Amendment #1. On June 19, 2018, the Truckee Meadows Fire Protection District approved Amendment #1. On June 19, 2018, Washoe County approved Amendment #1. On May 23, 2018, the City of Reno approved Amendment #1. On July 9, 2018, the City of Sparks approved Amendment #1.

## FISCAL IMPACT

There will be no direct fiscal impact associated with the amendment to the ILA for EMS Oversight.

## RECOMMENDATION

Staff recommends that the EMS Advisory Board approve Revised Bylaws of the Emergency Medical Services Advisory Board to allow each representative of a City, County or Health District authority to designate an alternate to replace the representative in the representative's absence from meetings of the Advisory Board with alternates being a City, or County Assistant Manager or Health District Division Director.

## POSSIBLE MOTION

Should the Board agree with staff's recommendation, a possible motion would be:

"Move to approve Revised Bylaws of the Emergency Medical Services Advisory Board to allow each representative of a City, County or Health District authority to designate an alternate to replace the representative in the representative's absence from meetings of the Advisory Board with alternates being a City or County Assistant Manager or Health District Division Director."

# EMERGENCY MEDICAL SERVICES ADVISORY BOARD

# BYLAWS

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

**Approved**
March 2015

**Dates of Revision/Review**
October 2016

## ARTICLE I – NAME AND PURPOSE

**Section 1 - Name**

The name of this body is the Emergency Medical Services (EMS) Advisory Board (hereinafter referred to as "Advisory Board").

**Section 2 - Purpose**

The Advisory Board is established to provide for concurrent review of present topics within the Washoe County EMS system by the City of Reno, a municipal corporation in the State of Nevada ("RENO"), and the City of Sparks, a municipal corporation in the State of Nevada ("SPARKS") and Washoe County, a political subdivision of the State of Nevada ("WASHOE").

The Advisory Board is established by the Inter-Local Agreement (ILA) for Emergency Medical Services Oversight, executed on August 26, 2014. The purpose of the Advisory Board is to review reports, evaluations and recommendations of the Regional Emergency Medical Services Oversight Program (the "Program"), discuss issues related to regional emergency medical services and make recommendations to the respective jurisdictional Boards and/or the District Board of Health ("DBOH").

**Section 3 - Duties**

Duties of the Advisory Board shall include:

a. Make recommendations to the District Health Officer and/or the DBOH related to performance standards and attainment of those standards, medical protocols, communication, coordination, and other items of importance to a high-performing Regional Emergency Medical Services system.
b. Strive to implement recommendations of the Program, or submit those recommendations to their governing bodies for consideration and possible action if determined necessary and appropriate by the respective managers.
c. Make recommendations to the respective Boards regarding participating in working groups established by the Program for coordination, review, evaluation, and continuous improvement of Emergency Medical Services.
d. Support the Program in establishing and utilizing a Computer Aided Dispatch ("CAD") – to – CAD two-way interface with Regional Emergency Medical Services Authority ("REMSA") which provides for the instantaneous and simultaneous transmission of call-related information for unit status updates.

e. Work cooperatively with the Program to provide input to the development of the Five-Year Strategic Plan, as it relates to the continuous improvement of Emergency Medical Services.
f. Support and work cooperatively with the Program to achieve the Program duties as outlined in the ILA.

## ARTICLE II – MEMBERSHIP

### Section 1 - Board Composition

The Advisory Board shall be composed of the following members:

a. City Manager, Reno
b. City Manager, Sparks
c. County Manager, Washoe County
d. District Health Officer
e. Emergency Room Physician (DBOH Appointment)
f. Hospital Continuous Quality Improvement (CQI) Representative (DBOH Appointment)

Each representative of a City, County or Health District shall have authority to designate an alternate to replace the representative in the representative's absence from meetings of the Advisory Board. The alternate must be a City or County Assistant Manager or Health District Division Director.

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### Section 2 - DBOH Appointments

Two positions within the Advisory Board are appointed by the District Board of Health and will serve staggered terms to ensure stability of the Advisory Board. The Emergency Room Physician appointment, a representative of the Prehospital Medical Advisory Committee, will be for three (3) years while the Hospital Continuous Quality Improvement (CQI) representative will serve a four (4) year term. Both appointees are eligible for reappointment for up to two additional two (2) year terms.

### Section 3 - Resignation and Termination of DBOH Appointees

Advisory Board membership may be resigned at any time to the DBOH in writing.

Upon the resignation or expiration of the DBOH appointee's term, the member shall continue to serve until his/her successor qualifies and is appointed.

### Section 4 - Terms/Board Administration

The Advisory Board shall elect a chair and a vice-chair from among its membership to manage the meetings. The chair and vice-chair shall serve for two (2) years. Both positions are eligible for reappointment for up to two additional two (2) year terms.

The Advisory Board shall be subject to the requirements of Nevada Revised Statutes Chapter 241, Open Meeting Laws. A majority of the Advisory Board constitutes a quorum for the conduct of business and a majority of the quorum is necessary to act on any matter.

## ARTICLE III – MEETINGS

**Section 1 - Meetings**

The Advisory Board shall hold a minimum of one meeting per fiscal year. Additional meetings may be held at the discretion of the chair or as frequently as needed to perform the duties of the Advisory Board.

A quorum of the Advisory Board members must be present to transact business legally – a quorum consists of four (4) Advisory Board members. A majority vote is required for any official action of the Advisory Board unless otherwise specified in the rules of order, which are defined below.

The chair presides over the meetings:

a. The chair opens the meetings.
b. The chair determines that a quorum is present by a roll call vote.
c. The chair calls the meeting to order.
d. Approval of minutes of the prior meeting.
    i. Unanimous consent can be used instead of motions to expedite the proceedings.
e. Every meeting of the Advisory Board shall be conducted in accordance with the adopted agenda.
    i. The written agenda will be approved by the chair prior to distribution and will be distributed to all committee members at least three (3) working days prior to the meeting.
f. The vice-chair shall preside over meetings when the chair is absent.

**Section 2 - Voting**

Each Advisory Board member will have one (1) vote. Proxy votes are not permitted.

**Section 3 - Attendance**

Consistent meeting attendance and participation is critical to the success of the Advisory Board. Members who are unable to attend an Advisory Board meeting will notify the Chair of the Advisory Board and Program staff. Program staff will record attendance of all members at each Advisory Board meeting.

**Section 4 - Minutes**

Minutes shall be kept and recorded of all meetings and forwarded to all members of the Advisory Board as promptly as possible following the adjournment of each meeting.

**Section 5 - Conflict of Interest**

A member of the Advisory Board may not vote on a matter with respect to which the member has a conflict of interest.

**ARTICLE IV – AMENDMENTS**

**Section 1 - Amendments**

The bylaws may be amended as necessary at any Advisory Board meeting, but will be reviewed at minimum every two (2) years. All amendments requests must be indicated at the Advisory Board meeting as a future agenda item and require an approval of a two-thirds vote for adoption. Amendments take effect immediately upon approval of the Advisory Board.

Approved and adopted this 4 ~~6~~th day of October 201~~6~~8, by the Emergency Medical Services Advisory Board.

______________________________

John Slaughter, Chair

# EMERGENCY MEDICAL SERVICES ADVISORY BOARD

# BYLAWS

WASHOE COUNTY HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

Public Health
Prevent. Promote. Protect.

**Approved**
March 2015

**Dates of Revision/Review**
October 2016

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Approved and adopted this 4th day of October 2018, by the Emergency Medical Services Advisory Board.

________________________________

John Slaughter, Chair

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

# STAFF REPORT
## EMERGENCY MEDICAL SERVICES ADVISORY BOARD
## MEETING DATE: October 4, 2018

**TO:** EMS Advisory Board Members

**FROM:** Christina Conti, EMS Oversight Program Manager
775-326-6042, cconti@washoecounty.us

**SUBJECT:** **Presentation, discussion and possible approval of annual REMSA Franchise Map review recommendation.**

---

## SUMMARY

The purpose of this agenda item is to present for discussion the outcome and recommendations of the annual REMSA Franchise Map review. The EMS Oversight Program does not recommend any changes be made to the REMSA Franchise Map at this time.

## PREVIOUS ACTION

The EMS Advisory Board approved and recommended the draft map response zones within the REMSA ambulance franchise service area be presented to the District Board of Health on January 7, 2016.

The District Board of Health reviewed and approved the draft REMSA response zone map within the Washoe County REMSA ambulance franchise service area on January 28, 2016.

The District Board of Health reviewed and approved the implementation plan of the approved REMSA response zones within the Washoe County REMSA ambulance service area on February 25, 2016.

The EMS Advisory Board approved the REMSA Franchise Map review methodology on April 6, 2017.

The EMS Advisory Board approved the REMSA Franchise Map review and recommendation for no changes on October 5, 2017.

The District Board of Health approved the REMSA Franchise Map review and recommendation for no changes on October 26, 2017.

## BACKGROUND

During the March 2015, the EMS Advisory Board meeting a recommendation was made to develop a data-driven REMSA response map. The region formed a map revision workgroup that was comprised of representatives from all partner agencies and Washoe County GIS. Additionally, a company, Inspironix, was contracted to develop recommendations for the map revisions to be reviewed by regional workgroup members.

The map revision workgroup met regularly from May to December 2015 to develop a project charter that would govern the process and then to review a variety of draft versions of a revised REMSA Franchise map. The workgroup focused on population density that was the primary driver of call volume.

The EMS Advisory Board heard updates on the revision process at each meeting during that time period. During the January 7, 2016 regular meeting, the EMS Advisory Board approved and recommended the revised map to be presented for approval to the District Board of Health (DBOH). The revised REMSA Franchise map was then presented and approved at the January 28, 2016 DBOH meeting. During the meeting, it was stated the implementation plan would be developed and brought back to the DBOH at a future date. The REMSA Franchise map implementation plan was approved during the February 25, 2016 DBOH meeting with an implementation date of July 1, 2016.

During the development of the Regional EMS 5-Year Strategic Plan, an objective was approved that established the ambulance franchise map review methodology. During the April 6, 2017 EMS Advisory Board meeting the REMSA Franchise Map review methodology was approved and included proposed methodology for annual reviews, 5-year reviews and 10-year reviews.

The proposed annual review methodology stated each year (2017-2020 and 2022-2025) the calls which occurred during the fiscal year would be mapped to determine any possible response concerns including, an increase in calls occurring in Zone B, C, D, or E or a lack of calls occurring in portions of Zone A.

As outlined in the map methodology, EMS Program staff then worked with GIS to compare FY15 data to FY18 data to determine if any "hot spots" appeared that would suggest the map should be revised. By conducting this type of review, staff could ensure there were no anomalies in call volume and locations of calls to support a change in the Franchise map.

The increase in call volume between FY15 and FY18 was 28.6%, however the growth in EMS calls for service, as reported by REMSA indicate that the year to year growth has slowed as FY17 to FY18 experienced an increase of 1.62% from last fiscal year to the most recent. EMS Program staff is not recommending any revisions to the ambulance franchise map.

However, patterns emerged that are similar to last year's annual franchise map findings. As found during FY17 review, there were several "hot spots" locations identified within Zone A. This calls attention to the urgency at which low acuity calls should be continued to be evaluated for a more appropriate response or alternative response altogether.

EMS Program staff are aware of current initiatives at the Council levels and recommend jurisdictions continue to take a proactive approach to addressing growing concerns with the downtown "hot spot" area. Furthermore, Program staff recommends identifying data elements to be utilized to measure project successes, which can be provided to the planning committees.

The map review methodology and findings highlight the need for jurisdictions to partner on determining methods to respond to calls within the region to reduce burdens across all EMS partner as an increase in regional call volume may impact wait timed for fire partners on scene at lower acuity calls.

## FISCAL IMPACT

There is no additional fiscal impact should the Advisory Board approve the presentation, discussion and possible approval of annual REMSA Franchise Map review recommendations.

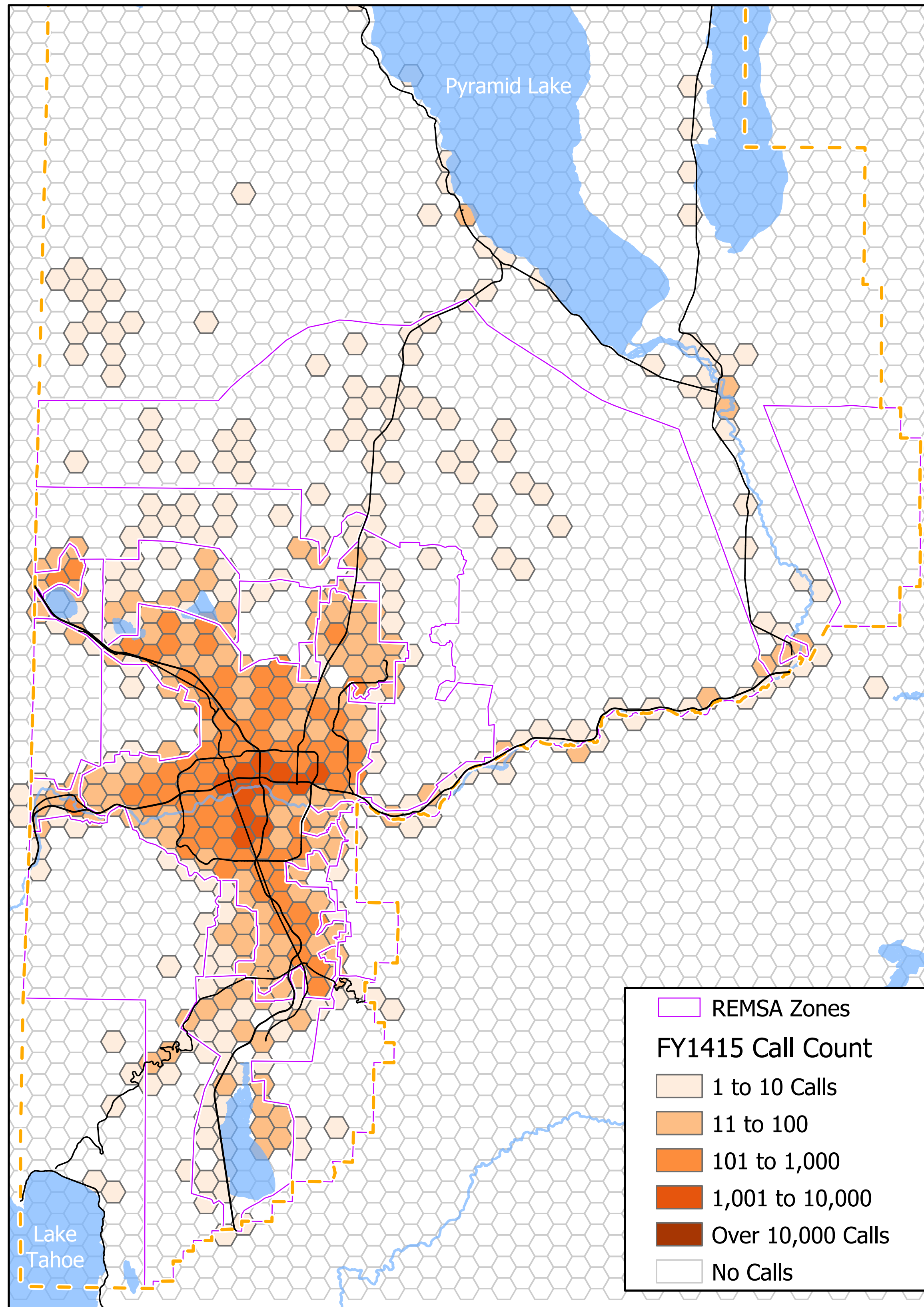
## RECOMMENDATION

Staff recommends the Board approve the presentation, discussion and approve no changes to the REMSA Franchise Map.

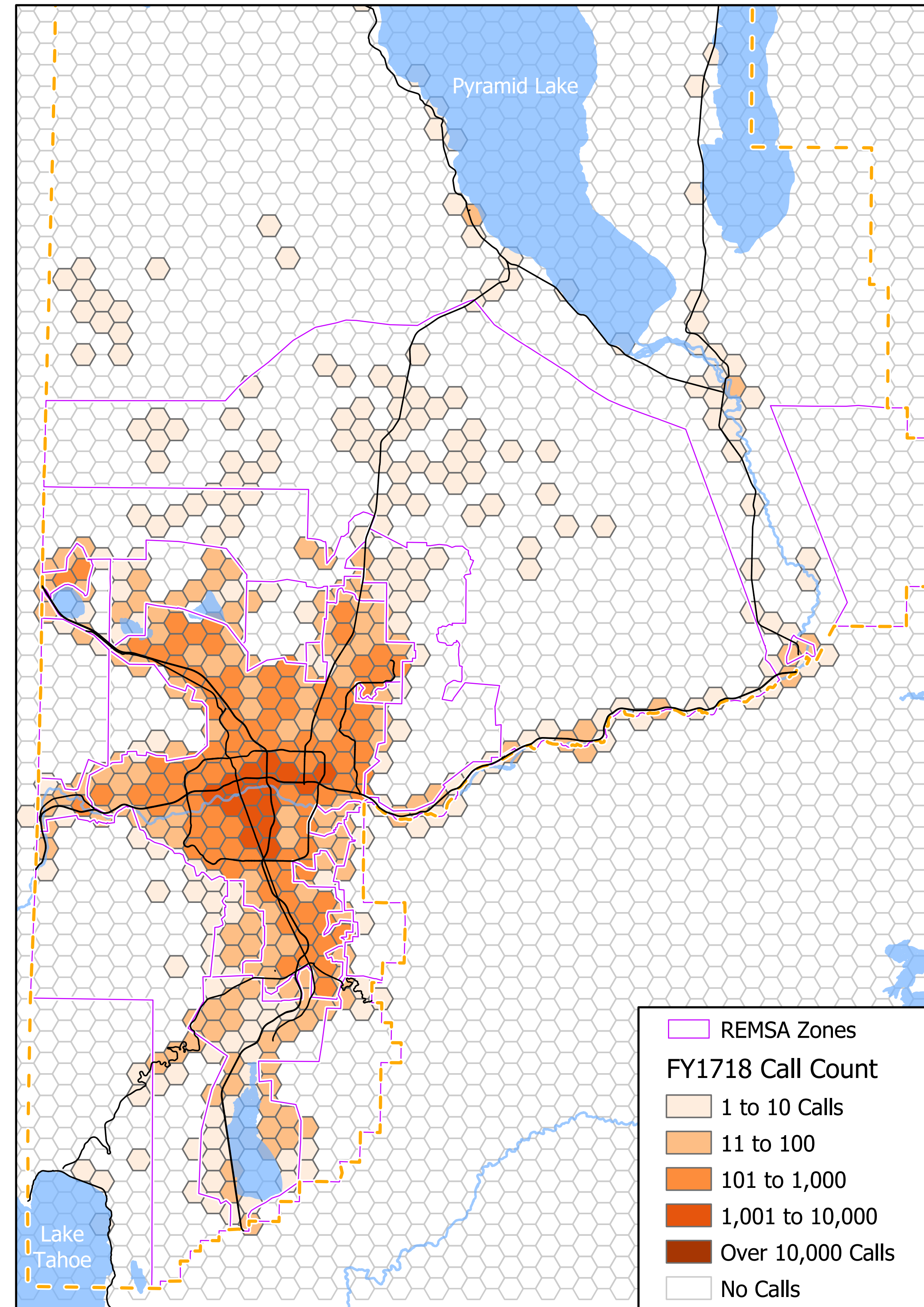
## POSSIBLE MOTION

Should the Board agree with staff's recommendation, a possible motion would be: "Move to approve the presentation, discussion and possible approval of annual REMSA Franchise Map review recommendation."

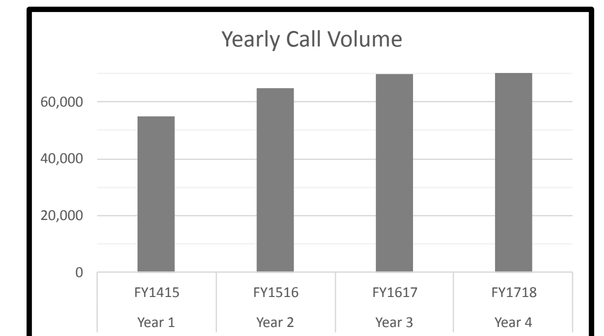
Year 1 FY1415
55,098 Calls




Year 4 FY1718
70,876 Calls




| | Call Volume |
|---|---|
| Year 1 | 55,098 |
| Year 2 | 64,767 |
| Year 3 | 69,743 |
| Year 4 | 70,876 |




Hexagon sampling areas are 1 square mile in size.

# EMS Call Volume Year 1 to Year 4 Comparison

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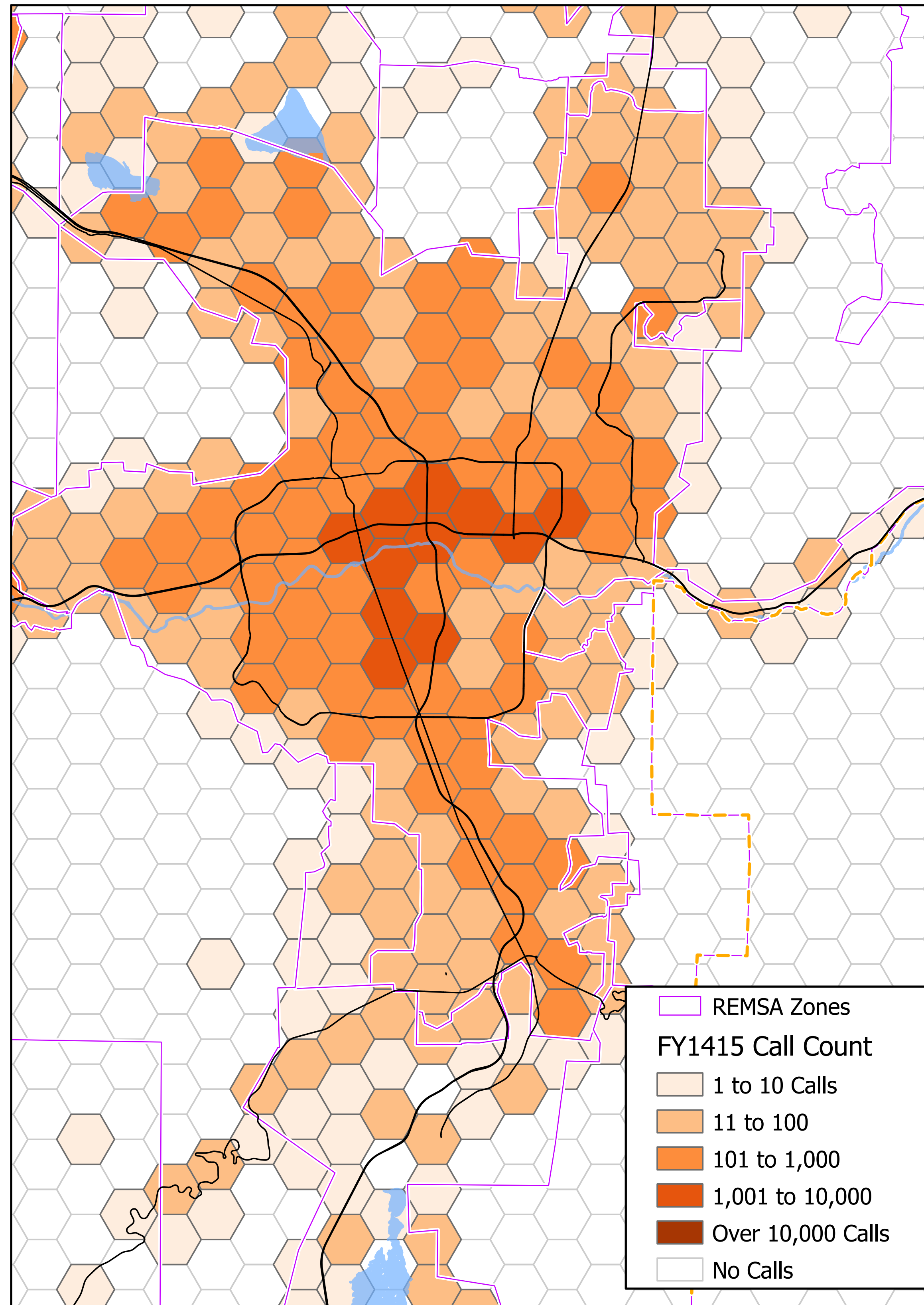


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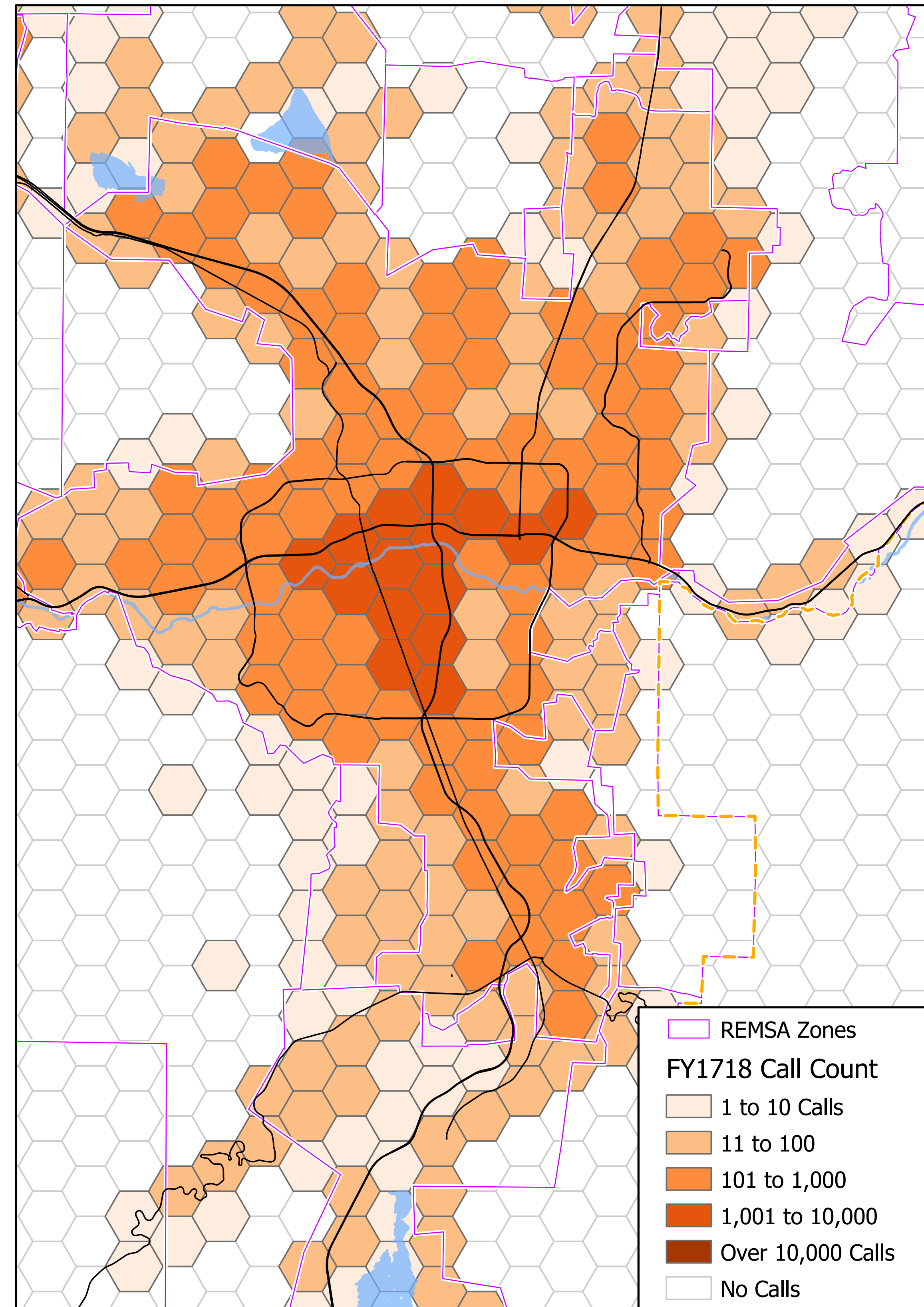


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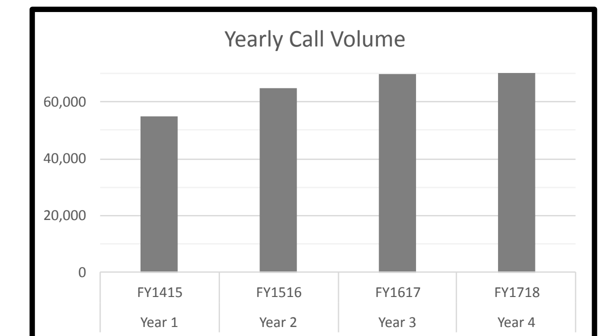


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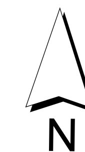
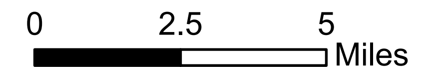
TECHNOLOGY SERVICES






# EMS Call Volume Year 1 to Year 4 Comparison

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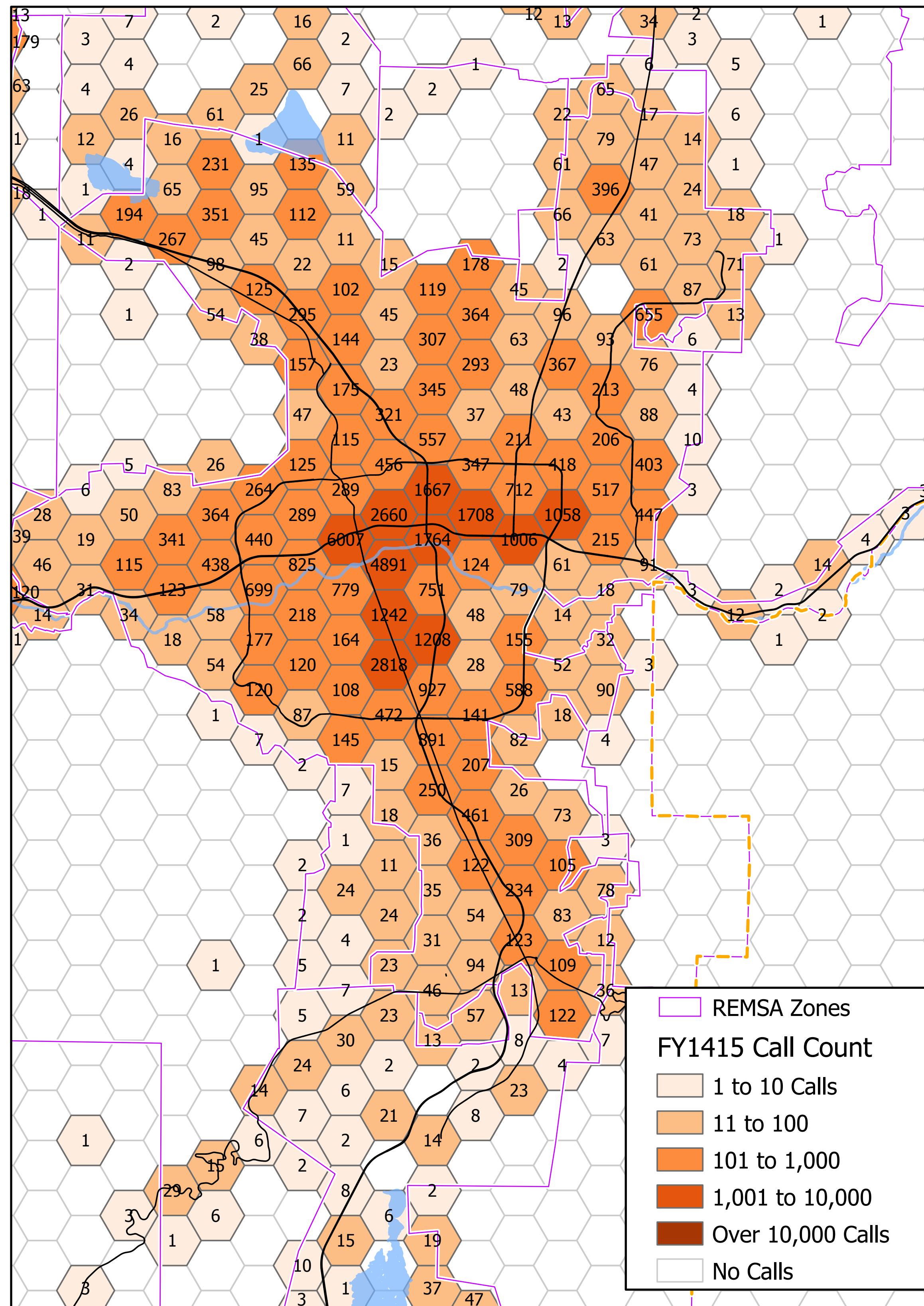


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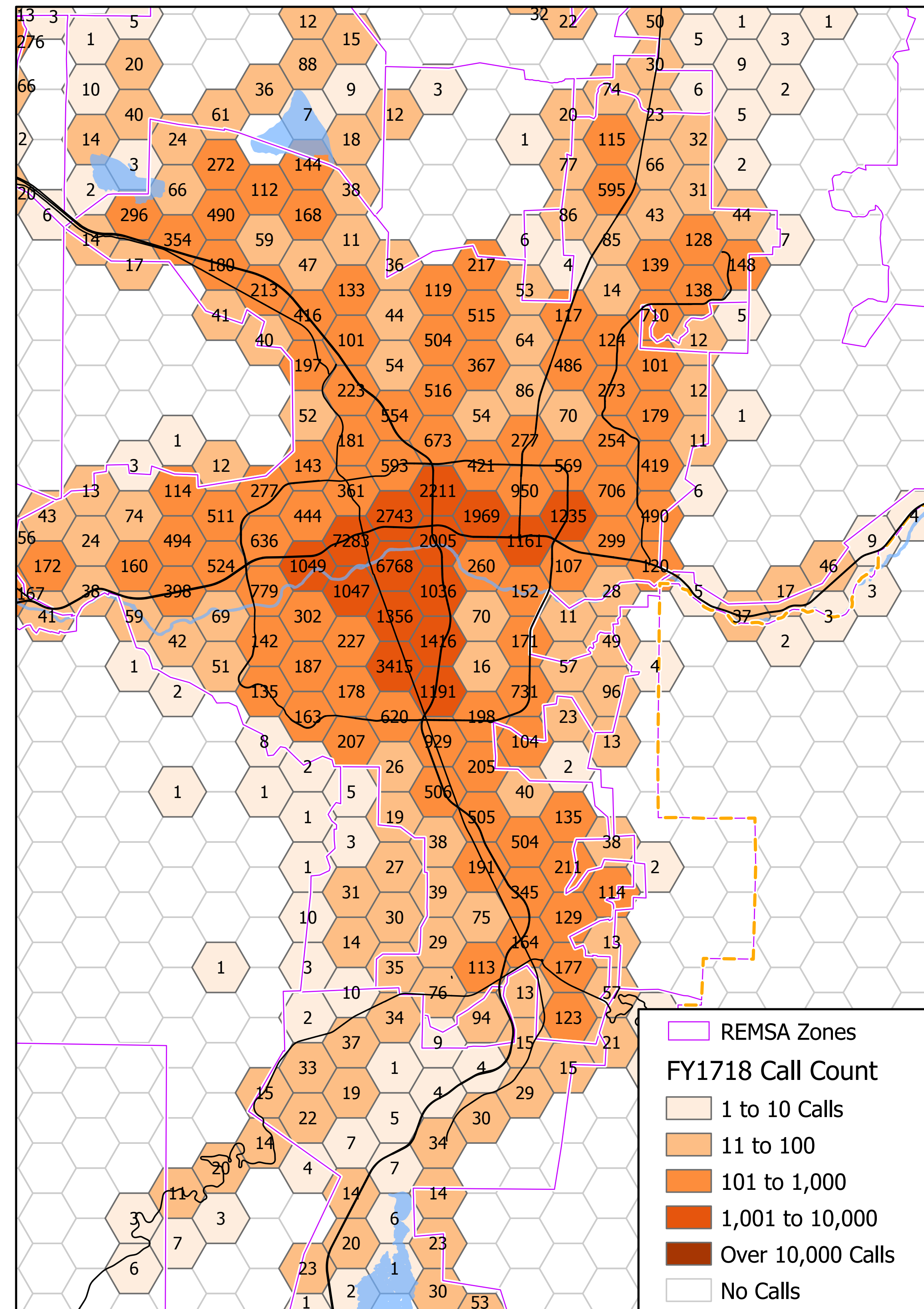


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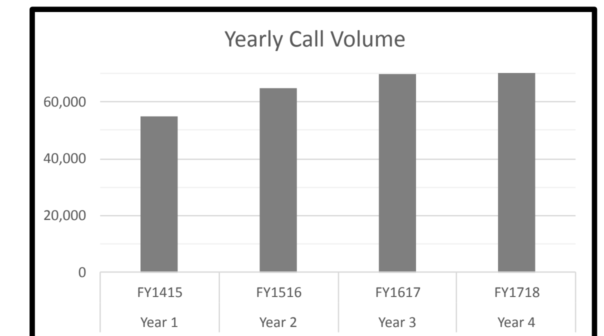


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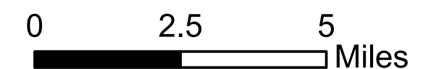


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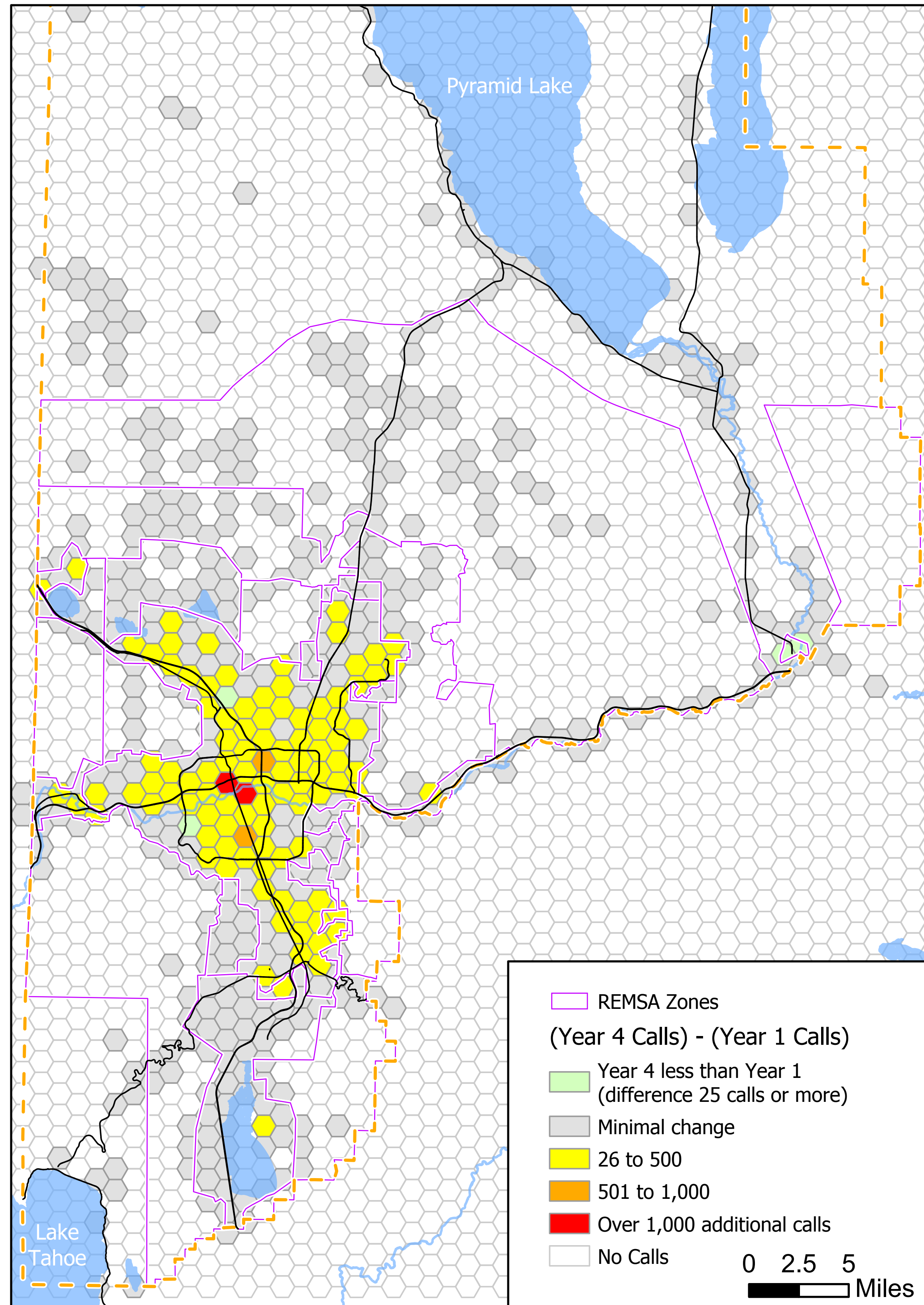
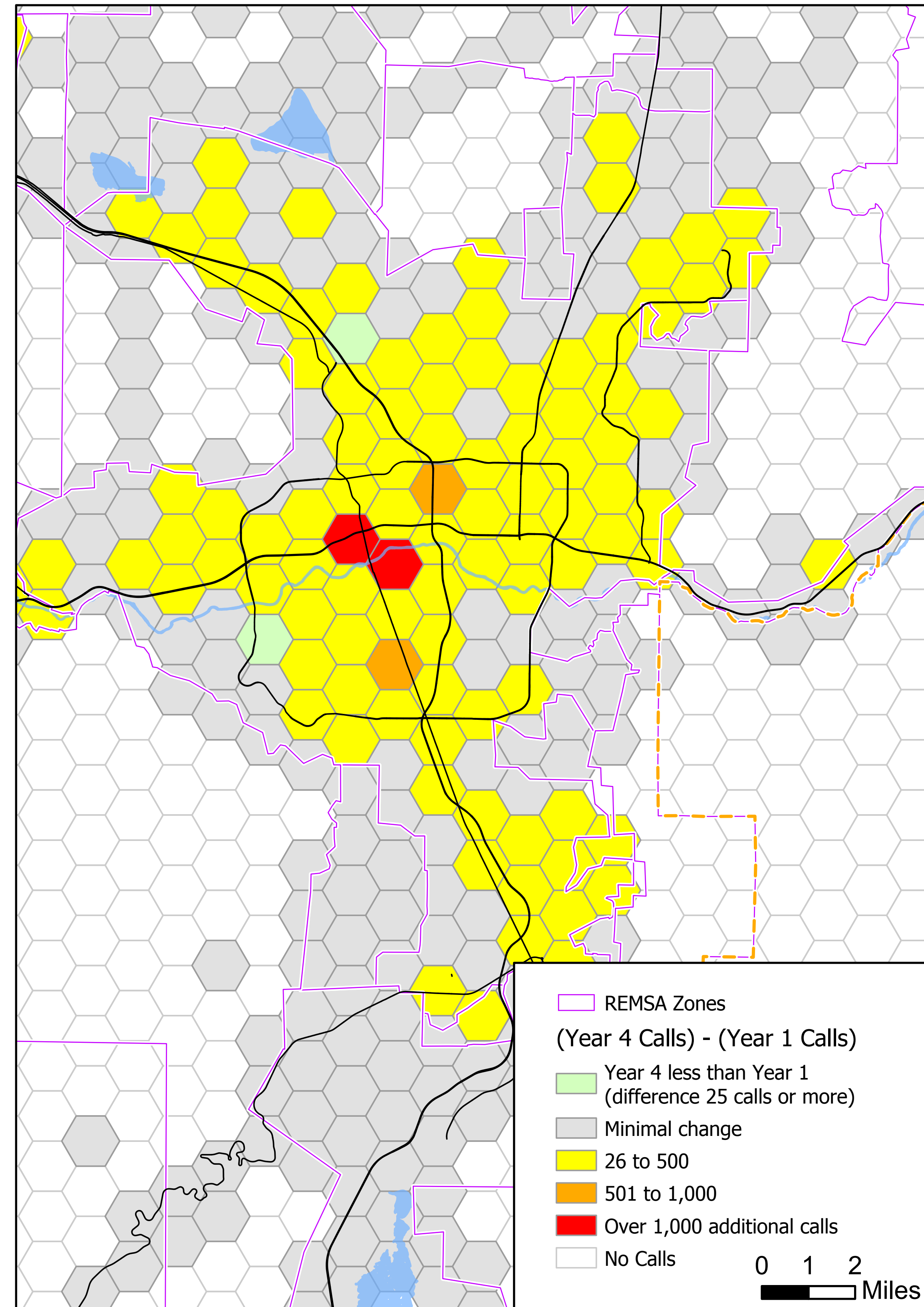
Change in Call Volume
Year 1 to Year 4




Change in Call Volume
Year 1 to Year 4 -- Zoomed In

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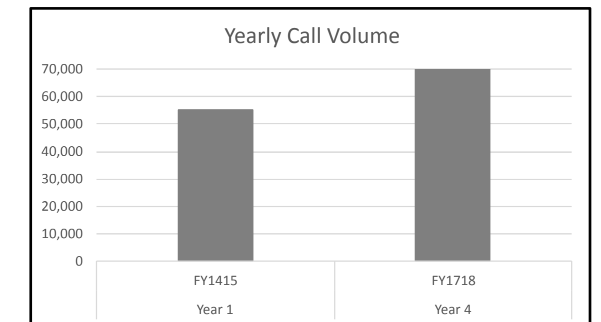
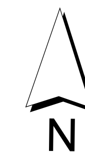



| Number of Additional Calls | Increase |
|---|---|
| 15,778 | 28.6% |



# EMS Changes in Call Volume Year 1 to Year 4

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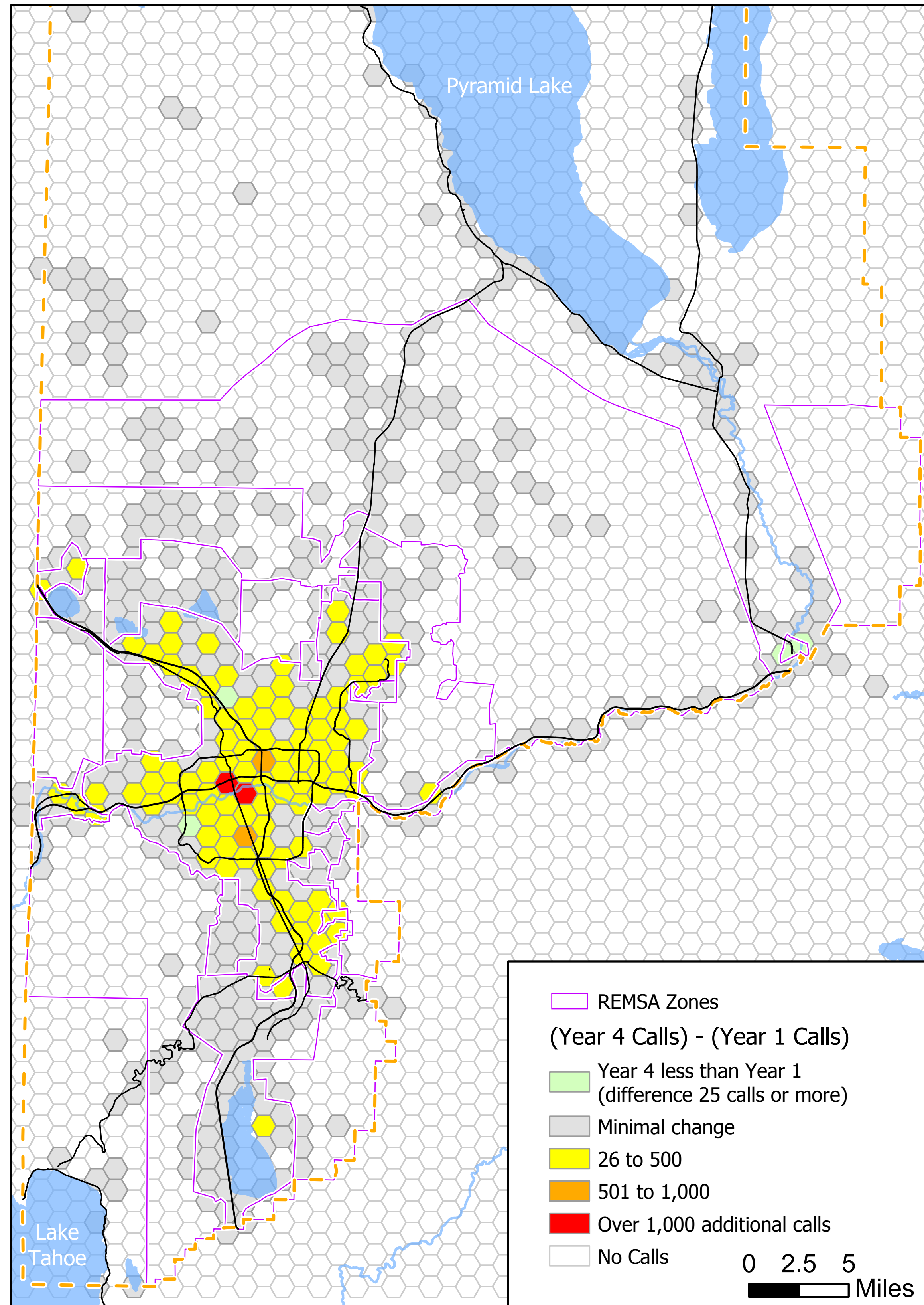
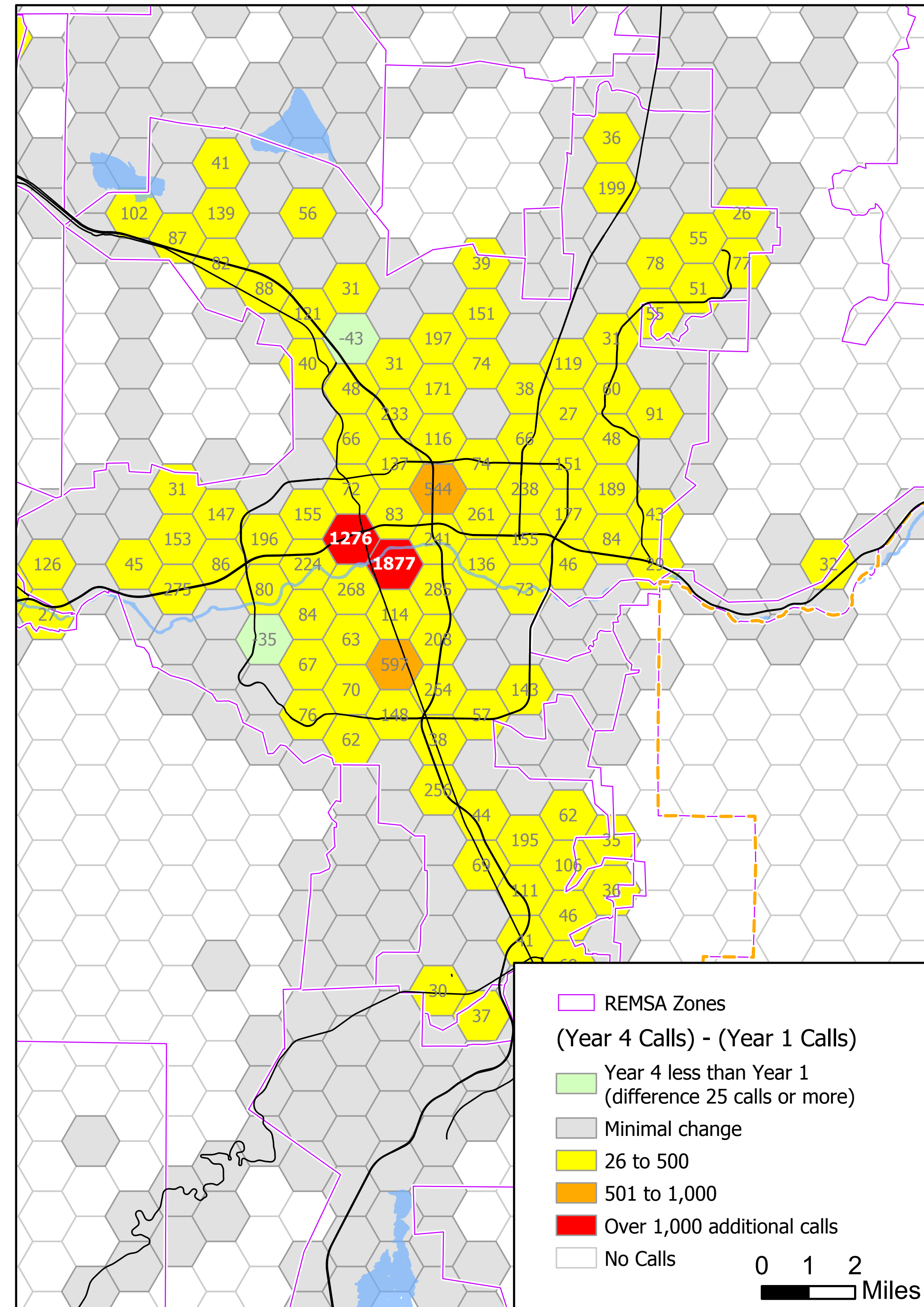
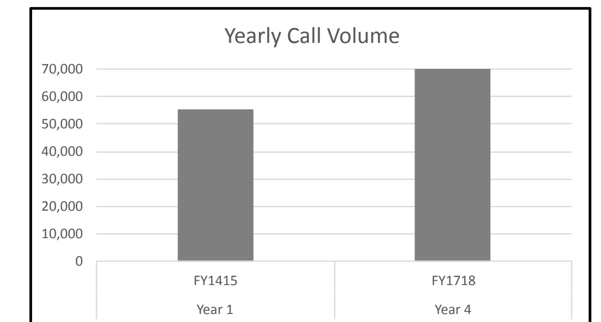
Change in Call Volume
Year 1 to Year 4




Change in Call Volume
Year 1 to Year 4 -- Zoomed In

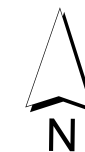



| | Call Volume |
|---|---|
| Year 1 | 55,098 |
| Year 4 | 70,876 |




| Number of Additional Calls | Increase |
|---|---|
| 15,778 | 28.6% |

TECHNOLOGY SERVICES




WASHOE COUNTY HEALTH DISTRICT
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# EMS Changes in Call Volume Year 1 to Year 4

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Year 4 Calls at Location

- 100 to 250
- 251 to 500
- 501 to 750
- 751 to 1,000
- Over 1,000 calls

395N
Pyramid
Baring
Sutro
El Rancho
Prater
Kings Row
I80
2nd
Glendale
4th
Greg
Mill
California
Mayberry
Plumb
Virginia
Rock
Mccarran
Moana
Kietzke
Skyline
Longley
Airway
Veterans
I580
Double Diamond
Double R
South Meadows

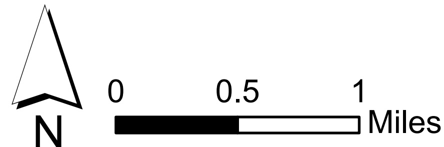
## Top 30 Call Locations in Year 4

| Address | # Calls | Name |
|---|---|---|
| 315 Record St | 1760 | Homeless Shelter |
| 2707 S Virginia St | 484 | Peppermill |
| 200 E 4th St | 449 | RTC Bus Station |
| 2500 E 2nd St | 428 | Grand Sierra Resort |
| 275 Neighborhood Way | 420 | Cascades of the Sierra Assisted Living |
| 407 N Virginia St | 403 | Silver Legacy Resort Casino |
| 3101 Plumas St | 396 | ManorCare Health Services |
| 2360 Wingfield Hills Rd | 385 | MorningStar Senior Living |
| 1240 E 9th St | 376 | Coral Academy of Science |
| 911 E Parr Blvd | 356 | Washoe County Jail |
| 345 N Virginia St | 341 | El Dorado Resort Casino |
| 500 N Sierra St | 322 | Circus Circus |
| 1100 Nugget Ave | 294 | Nugget Casino Resort |
| 3800 S Virginia St | 286 | Atlantis Casino |
| 2001 E Plumb Ln | 285 | Tahoe Reno Regional Airport |
| 219 N Center St | 273 | Harrah's Hotel & Casino |
| 38 E 2nd St | 263 | Club CalNeva |
| 3201 Plumas St | 238 | Five Star Premier Residences |
| 2350 Wingfield Hills Rd | 231 | ManorCare Nursing Home |
| 345 N Arlington Ave | 219 | Sands Regency Casino Hotel |
| 480 Galletti Way | 218 | Adolescent Treatment Center |
| 1155 Beech St | 214 | Reno Valley Assisted Living |
| 1950 Baring Blvd | 214 | Hearthstone Assisted Living |
| 222 E Patriot Blvd | 208 | Summit Estates Assisted Living |
| 515 S Virginia St | 183 | Wild Orchid Club |
| 2350 Paradise Dr | 178 | Sierra Manor/VOA |
| 855 Brinkby Ave | 171 | Lakeside Manor Retirement |
| 695 W 3rd St | 171 | Courtyard Centre Apts |
| 4195 W 7th St | 171 | Vintage Hills Senior Apts |
| 555 Hammill Ln | 164 | Regent Care Center |

## Top 10 Increased Call Locations Year 1 to Year 4

| Address | Yr4 Count | Yr4LessYr1 | Name |
|---|---|---|---|
| 315 Record St | 1760 | 845 | Homeless Shelter |
| 222 E Patriot Blvd | 208 | 208 | Summit Estates Assisted Living |
| 275 Neighborhood Way | 420 | 170 | Cascades of the Sierra Assisted Living |
| 6225 Sharlands Ave | 158 | 158 | St Mary's Urgent Care |
| 3105 Plumas St | 139 | 139 | Brookdale (Elder Care) |
| 911 E Parr Blvd | 356 | 139 | Washoe County Jail |
| 975 Ryland St | 134 | 134 | Renown Urgent Care |
| 355 Record St | 134 | 134 | Community Health Alliance |
| 1100 E Plumb Ln | 131 | 131 | Airport Center |
| 265 Washington St | 131 | 131 | |

# High Demand Locations
# Filtered for 100 or More Calls in Year 4



WASHOE COUNTY HEALTH DISTRICT
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**STAFF REPORT**
**EMERGENCY MEDICAL SERVICES ADVISORY BOARD**
**MEETING DATE:** October 4, 2018

**TO:** Emergency Medical Services Advisory Board

**FROM:** Heather Kerwin, EMS Statistician
775-326-6041, hkerwin@washoecounty.us

**SUBJECT:** Presentation, discussion and possible approval for distribution the 2017 Washoe County Trauma Data Report.

## SUMMARY

The state produces a report, which is summative in nature and does not provide the level of detail needed to gain a better understanding of the nature of trauma-related incidents in Washoe County. The EMS Statistician developed a Washoe County-specific trauma report which provides descriptive epidemiology of trauma and patients admitted for trauma to Washoe County hospitals during 2017.

## PREVIOUS ACTION

The Nevada Trauma Registry data were reported to the EMS Program for Washoe County facilities for calendar year 2017. The EMS Advisory Board approved the 2015-2016 Washoe County Trauma Data Report during the August 3, 2017 board meeting.

## BACKGROUND

The Nevada Division of Public and Behavioral Health released the Nevada Trauma Registry data for Washoe County, the data are based on a national set of guidelines for reporting variables. After evaluating the data, the EMS Statistician produced a Washoe County-specific trauma report which allows for a big-picture overview of the descriptive characteristics of trauma and trauma patients in the county. The Washoe County-specific trauma report includes areas such as demographic characteristics, injury characteristics, mode of arrival, payment type, substance use, and patient outcomes. The analyses include were modeled from the 2016 National Trauma Data Bank Annual Report.

Limitations of the Washoe County trauma data include incomplete reporting of variables, lack of necessary variables to conduct match to REMSA call data, and few pre-hospital variables being captured in the Nevada Trauma Registry which limits the ability to evaluate pre-hospital care. This is the second Trauma Data Report produced for Washoe County and while there are some tables and graphs which are comparable to the previous report, there are many areas which cannot be assessed for trend due to the change in ICD-9 and ICD-10 coding.

The trauma data analyses result in similar findings from previous years, the majority (68%) of traumatic injuries in Washoe County in 2017 were due to falls and motor vehicle accidents combined. There are several traffic-related evidence-based best practices that should be adopted to reduce the number of fatalities in Washoe County. These policy-based changes include adopting a primary seat

belt law, mandatory interlock ignition for all persons convicted of drunk driving, car seats or booster for all children up to the age of 8 years, and requiring children to wear bike helmets.

## FISCAL IMPACT

There is no additional fiscal impact should the Advisory Board move to approve the presentation and distribution of the Washoe County Trauma Data Report.

## RECOMMENDATION

EMS Staff recommends the EMS Advisory Board approves the presentation and distribution of the 2017 Washoe County Trauma Data Report.

## POSSIBLE MOTION

Should the Board agree with staff recommendation, a possible motion would be: "Move to accept the presentation and distribution of the 2017 Washoe County Trauma Data Report."

Item 11A

WASHOE COUNTY
HEALTH DISTRICT

ENHANCING QUALITY OF LIFE

# Washoe County 2017 Trauma Data Report

Published July 2018

Thank you to the Nevada Division of Public and Behavioral Health for providing Nevada Trauma Registry data reported by Washoe County healthcare facilities.

For further reading, the American College of Surgeon's National Trauma Reports can be accessed at https://www.facs.org/quality-programs/trauma/ntdb/docpub

Questions regarding the Washoe County Trauma Report can be sent to the EMS Oversight Program email at EMSProgram@washoecounty.us

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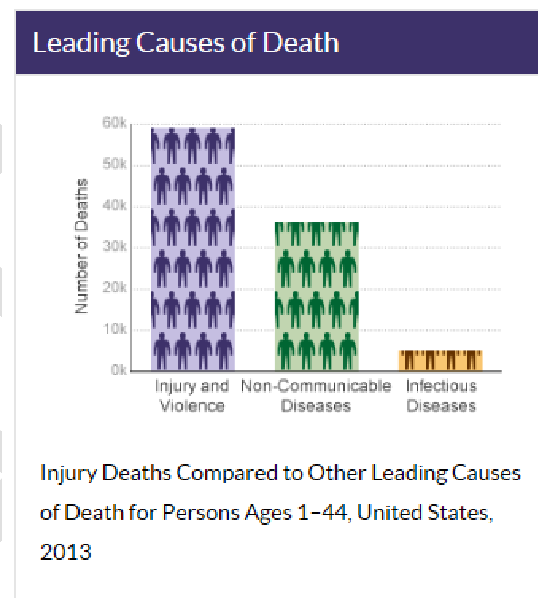
## Traumatic Injury in the United States

According to the National Center for Health Statistics, injuries are the leading cause of death among persons 1 to 44 years of age, accounting for 59% of deaths in that age group in the United States. The majority of traumatic injuries do not result in death. However, non-fatal injuries often result in long-term impacts including mental, physical, and financial complications. For every fatality due to injury and violence there are 13 people hospitalized and another 135 people treated in an emergency room. In 2013, injury and violence resulted in a $671 billion cost due to medical expenditures and work-loss related costs.[1]

Injuries are categorized into three major types of injury. These categories are unintentional, intentional, and undetermined injuries. Falls and motor vehicle crashes account for the largest proportion of traumatic unintentional injuries, while homicide/assault and suicides are the leading causes of traumatic intentional injuries across the United States, as well as locally in Washoe County.




Injury Deaths Compared to Other Leading Causes of Death for Persons Ages 1–44, United States, 2013

Source: Centers for Disease Control and Prevention. Injury Prevention & Control, Key Injury and Violence Data.

Reducing the risk of unintentional injury involves basic preventive mechanisms, such as following traffic safety laws and wearing seatbelts to reduce the likelihood and severity of injury due to motor vehicle accidents. Other methods of risk reduction include incorporating non-slip surfaces and hand railings into homes of elderly adults to reduce the likelihood of high impact falls.

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## Trauma Centers

There are two parts to identifying trauma centers in the United States, a designation process and a verification process. The designation of trauma centers is done at the state and local level and involves the jurisdictions identifying the criteria to categorize a facility as a trauma center. Trauma center verification is conducted by the American

[1] Centers for Disease Control and Prevention. Injury Prevention & Control. Key Injury and Violence Data. Accessed https://www.cdc.gov/injury/wisqars/overview/key_data.html

College of Surgeons (ACS), which confirms the resource capability of a facility in order to verify it as a Trauma Center.[2] Trauma Centers are classified into various Levels (Level I, II, III, IV, or V), based on the kinds of resources available in the facility and the number of patients admitted annually.[3]

**Table 1: Trauma Center Levels & Capabilities**

| Trauma Center Level | Capability |
|---|---|
| Level I | Total care for every aspect of injury from prevention through rehabilitation. |
| Level II | Initiate definitive care for all injured patients. |
| Level III | Prompt assessment, resuscitation, survey, intensive care, and stabilization of injured patients and emergency operations. |
| Level IV | Provide advanced trauma life support prior to transfer of patients to a higher level trauma center. Provide evaluation, stabilization, and diagnostics for injured patients. |
| Level V | Provide initial evaluation, stabilization and diagnostic capabilities and prepares patients for transfer to higher levels of care. |

Nevada has one Level I Trauma Center, located in Las Vegas, an 8 hour drive south of Washoe County. Renown Regional Medical Center, located near downtown Reno, is designated as a Level II Trauma Center and is Northern Nevada's only designated and verified Trauma Center. Renown Regional Medical Center receives trauma patients from across the northern part of Nevada, Northeastern California, and Southern Idaho. Patients that experience traumatic injury may arrive at a facility which is not a designated Trauma Center. Medical personnel make an informed decision as to whether a patient should be transferred to a designated Trauma Center in the region.

## Trauma Data Registry

Hospital-based trauma registries provide the foundation for research and evaluation that is conducted to better assist clinicians and policy makers to positively impact patient outcomes. Having a well-defined and standardized set of variables is necessary to better understand and evaluate trauma patients.

The National Trauma Data Bank (NTDB) is the largest combined trauma registry in the United States with over 7 million records. Healthcare facilities across the nation submit data related to trauma patients to the NTDB including basic demographic information and other factors which categorize and help to describe traumatic injuries. The

[2] American College of Surgeons. Searching for Verified Trauma Centers. Accessed https://www.facs.org/search/trauma-centers
[3] American Trauma Society. Trauma Center levels Explained, Designation vs Verification. Accessed http://www.amtrauma.org

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National Trauma Data Standard (formerly known as the National Trauma Registry) defines a core set of variables to be captured and reported to the NTDB.[4]

The flow chart on page 5 illustrates the criteria a patient must meet in order to be reported to the Nevada Trauma Registry. A facility does not have to be a designated or verified Trauma Center to have the ability to report data on a patient experiencing traumatic injury. Trauma data are currently reported to the Nevada Trauma Registry by five healthcare facilities in Washoe County; Incline Village Community Hospital, Northern Nevada Medical Center, Renown Regional Medical Center, Renown South Meadows Medical Center, and Saint Mary's Regional Medical Center.

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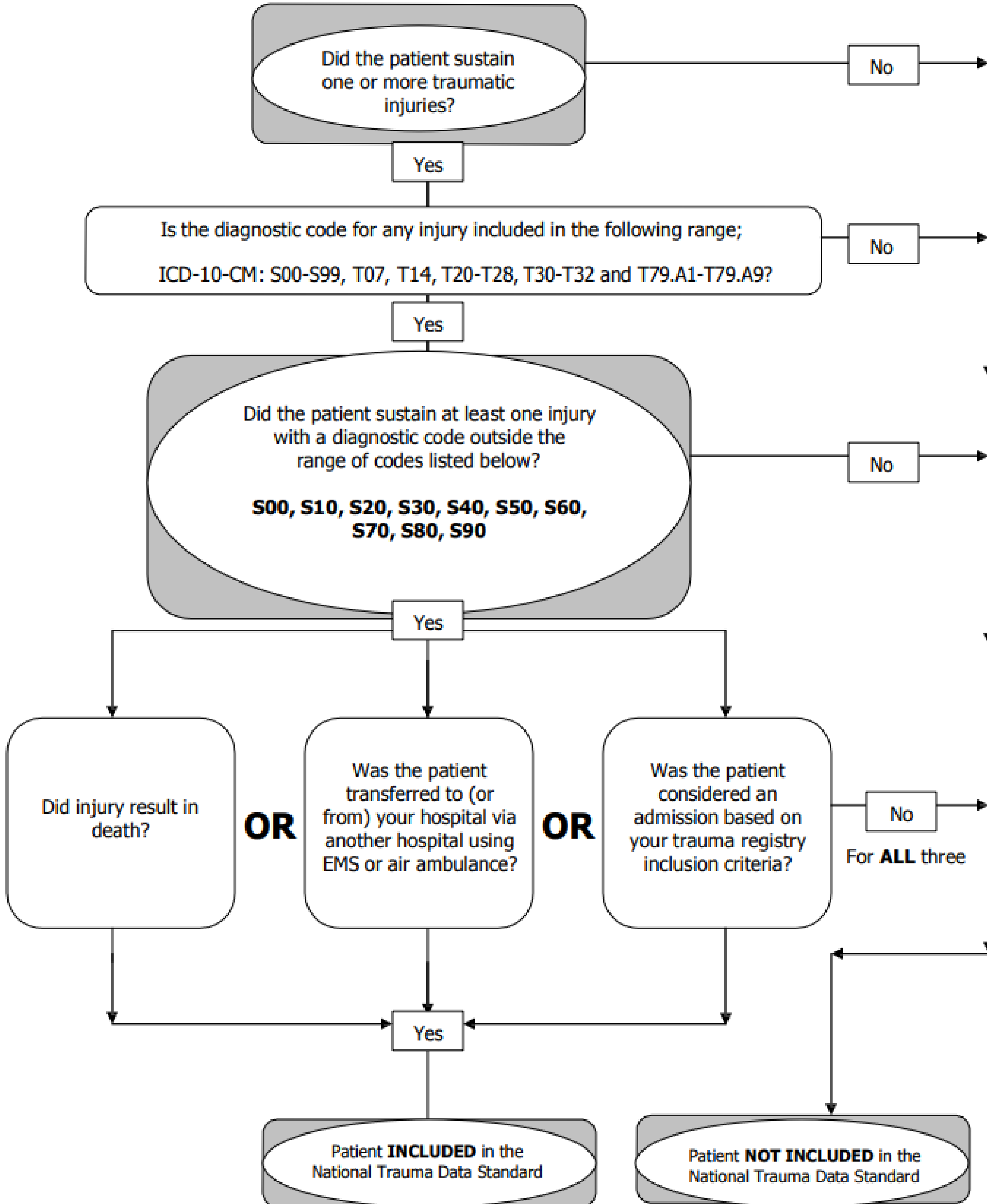
[4] American College of Surgeons. What is the NTDS?. Accessed https://www.facs.org/quality-programs/trauma/ntdb/ntds/about-ntds




Adapted from American College of Surgeons. (2017). National Trauma Data Standard Data Dictionary 2018 Admissions. Available at: https://www.facs.org/quality-programs/trauma/ntdb/ntds/data-dictionary

## Washoe County Trauma Data Analysis

The American College of Surgeons produces annual adult and pediatric trauma reports, which contain descriptive information about trauma patients, demographics and injury characteristics, and outcomes. The Washoe County Trauma Data Report contains analyses modeled from the 2016 National Trauma Data Bank Annual Report. These analyses are descriptive in nature and define Washoe County trauma patients in terms of age, sex, and race/ethnicity. The tables and figures also describe the epidemiology of traumatic injuries, including where and how injuries occur, as well as the severity of the injuries. These analyses are designed to explore the mechanisms of traumatic injury and help identify subgroups which might benefit from preventive educational messages aimed to reduce the risk of experiencing traumatic injury.

### Limitations

- **Patients represented:** Any trauma patient admitted to an emergency room or hospital which reported patient data to the Nevada Trauma Registry is counted. This includes out of state and international visitors who may have experienced a traumatic injury in or near Washoe County.

- **Duplicates:** When a patient with traumatic injury arrives at a facility that is unable to provide the level of care warranted, the patient may be transferred to a facility which can provide a higher level of care. All of the standardized patient variables are entered into the Nevada Trauma registry by each facility that has seen the patient. Each patient entry is assigned a number by each facility and this number does not follow the patient from one facility to the next. The reported data are stripped of patient identifiers such as name. Therefore, duplicates are identifiable only if a record contains an identical date of birth, sex, and injury date.

- **Small numbers:** It was not feasible to replicate every analysis in the 2016 National Trauma Data Bank Annual Report. This was due to the relatively low number of traumatic injuries reported by Washoe County facilities each year.

- **Totals used for each table:** The numbers presented in each table may not add up to the complete number of trauma patients reported each year. This is due to missing or incomplete data and varies from table to table depending on the variables utilized for each analysis.

- **Transition from ICD-9-CM to ICD-10-CM**: October 1, 2015 signaled the transition from the ninth revision of the International Classification of Diseases and Clinical Modification to the tenth revision; however, Trauma Registry data

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did not transition until calendar year 2017. Due to the change from ICD-9-CM to ICD-10-CM, not all tables and figures were able to be compared for trend analysis. See Table 2 for the detailed differences.

**Table 2: Differences Between ICD-9-CM & ICD-10-CM Codes**

| ICD-9-CM | ICD-10-CM |
|---|---|
| 3 to 5 characters in length | 3 to 7 characters in length |
| Approximately 13,000 codes | Approximately 68,000 current codes |
| First character may be alpha (E or V) or numeric; characters 2–5 are numeric | Character 1 is alpha; characters 2 and 3 are numeric; characters 4–7 are alpha or numeric |
| Limited space for new codes | New codes can be added |
| Limited code detail | Specific code detail |
| No laterality | Includes laterality |

Source: Fantus, R.J. (2018). Bulletin: Annual Report 2017: ICD-10. The American College of Surgeons. Accessed http://bulletin.facs.org/2018/01/annual-report-2017-icd-10

## Number & Rate of Traumatic Injuries

The number of patients with an injury classified as traumatic that were reported by Washoe County facilities increased from 2015 (n=1,765) to 2016 (n=2,154), however decreased in 2017 (n=1,841).

**Table 3: Number & Rate of Trauma Incidents by Year, Washoe County, 2015-2017**

| Year | Number of Incidents | Rate per 100,000 population |
|---|---|---|
| 2015 | 1,765 | 400.44 |
| 2016 | 2,154 | 481.73 |
| 2017 | 1,841 | 407.14 |

Note: Population totals used to calculate rates per 100,000 population are based on Nevada Department of Taxation, Nevada State Demographer (2018).
Source: Nevada County Age, Sex, Race, and Hispanic Origin Estimates and Projections 2017 to 2036 (https://tax.nv.gov).

## Demographic Characteristics

Males accounted for the majority (64.5%) of trauma patients in Washoe County during 2017, which was similar to the proportion of males during 2015-2016 (combined). In 2017, eight out of ten (80%) trauma patients were white, non-Hispanic. Hispanics of any race accounted for 8%, while 3% were African American, non-Hispanic, 3% were Asian/Pacific Islander, 2% were American Indian, 3% were of an unknown race/ethnicity, and 1% were an “other” race. The majority of trauma patients were between 25 and 64 years of age at the time of injury.

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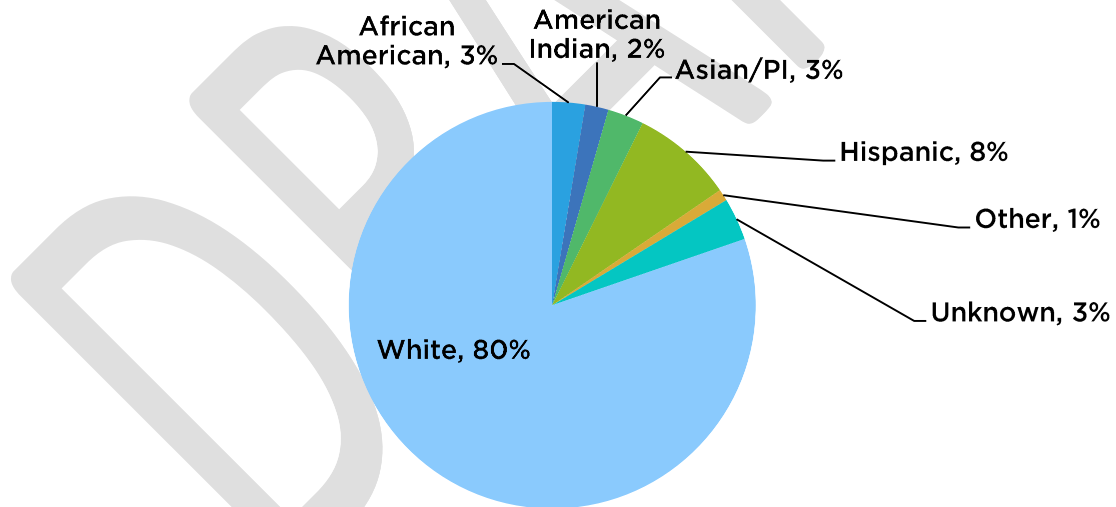
| Table 4: Percent of Patients, by Sex & Age Group, Washoe County, 2017 | | | | |
|---|---|---|---|---|
| Age | Number of Incidents | Male | Female | Unknown |
| 0-4 years | 20 | 1% | 1% | 0% |
| 5-9 years | 19 | 1% | 1% | 0% |
| 10-14 years | 41 | 2% | 2% | 0% |
| 15-19 years | 93 | 6% | 3% | 0% |
| 20-24 years | 134 | 9% | 5% | 0% |
| 25-34 years | 250 | 17% | 6% | 25% |
| 35-44 years | 174 | 12% | 6% | 0% |
| 45-54 years | 223 | 14% | 9% | 25% |
| 55-64 years | 289 | 14% | 18% | 25% |
| 65-74 years | 251 | 11% | 18% | 0% |
| 75-84 years | 207 | 8% | 17% | 0% |
| 85+ years | 140 | 4% | 14% | 25% |
| **Total** | **1,841** | **1,188** | **649** | **4** |

- The majority of trauma patients in Washoe County were male (67.3%).
- The age groups from 25 to 64 years represented the largest proportion of male trauma patients.
- The age groups of 55 years and older represented the largest proportion of female patients.

**Fig 1: Percent of Trauma Patients, by Race/Ethnicity, Washoe County, 2017**




- The majority of trauma patients in Washoe County during 2017 were white, non-Hispanic (80%), followed by those identified as Hispanic of any race (8%).

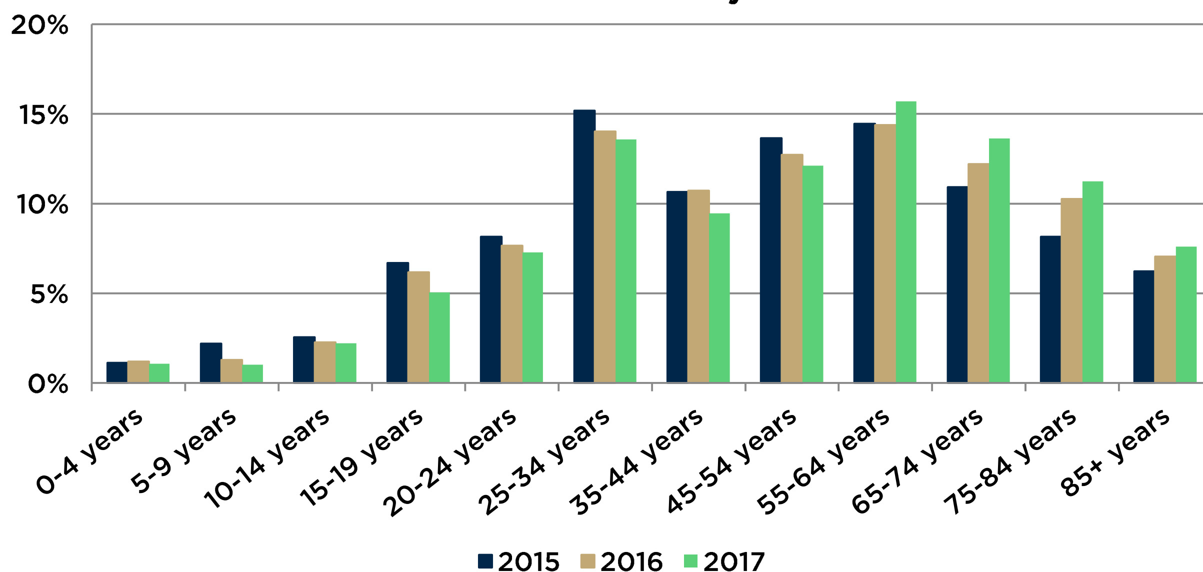



**Table 5: Rate of Case Fatality by Age, Washoe County, 2017**

| Age Group | Number of Incidents | Percent of Incidents | Deaths | Case Fatality Rate* |
|---|---|---|---|---|
| 0-4 years | 20 | 1.1% | 2 | 10.0 |
| 5-9 years | 19 | 1.0% | 0 | 0.0 |
| 10-14 years | 41 | 2.2% | 0 | 0.0 |
| 15-19 years | 93 | 5.1% | 8 | 8.6 |
| 20-24 years | 134 | 7.3% | 5 | 3.7 |
| 25-34 years | 250 | 13.6% | 13 | 5.2 |
| 35-44 years | 174 | 9.5% | 9 | 5.2 |
| 45-54 years | 223 | 12.1% | 7 | 3.1 |
| 55-64 years | 289 | 15.7% | 14 | 4.8 |
| 65-74 years | 251 | 13.6% | 22 | 8.8 |
| 75-84 years | 207 | 11.2% | 16 | 7.7 |
| 85+ years | 140 | 7.6% | 10 | 7.1 |
| **Total** | **1,841** | **100.0%** | **106** | **5.8** |

*Rate per 100 trauma patients

- In 2017, the highest case fatality rate occurred among those aged 0-4 years (10.0 per 100).

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## Injury Characteristics

### Intent of Injury

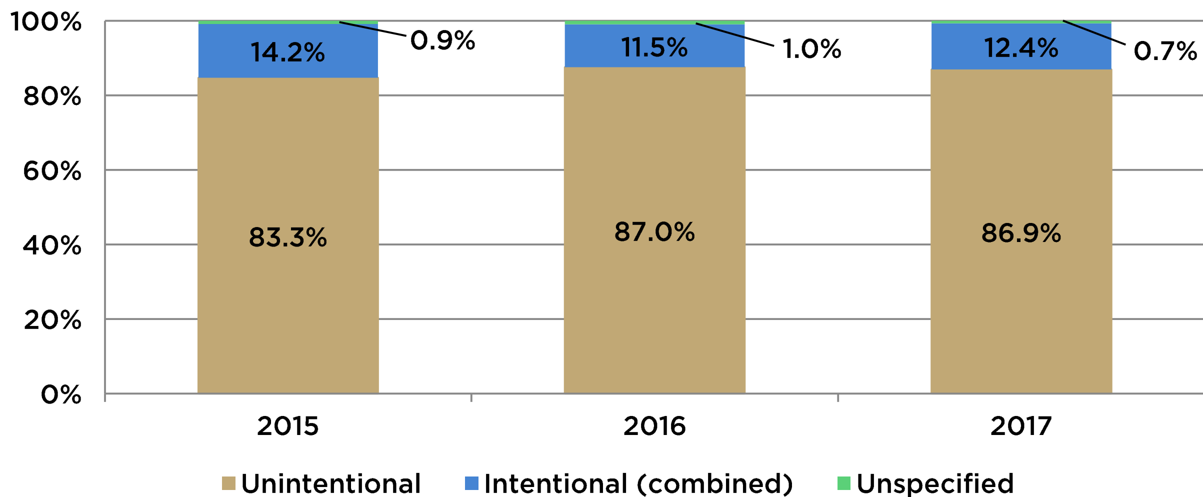
In 2017, unintentional injuries accounted for 86.9% of all traumatic injuries reported by Washoe County healthcare facilities. Intentional injury due to homicide/assault (9.2%), self-inflicted injury/suicide (2.8%), and legal interventions (0.4%) combined accounted for 12.4% of traumatic injury, while 0.7% of traumatic injuries were not classified as either intentional or unintentional.

**Table 6: Incidents by Intent & Case Fatality, Washoe County, 2017**

| Type of Intent | Number | Percent | Deaths | Case Fatality Rate* |
|---|---|---|---|---|
| Unintentional | 1,599 | 86.9% | 80 | 5.0 |
| Intentional (combined) | 228 | 12.4% | 24 | 10.5 |
| *Homicide/Assault* | 169 | 9.2% | 9 | 5.3 |
| *Legal Intervention* | 7 | 0.4% | 2 | 28.6 |
| *Self-inflicted* | 52 | 2.8% | 13 | 25.0 |
| Undetermined | 13 | 0.7% | 2 | 15.4 |
| Missing | 1 | 0.1% | 0 | 0.0 |
| **Total** | **1,841** | **100%** | **106** | **5.8** |

*Rate per 100 trauma patients

- The case fatality rate in 2017 was highest among injuries due to legal intervention (28.6 per 100), followed by self-inflicted injuries (25.0 per 100).




- The intent of injury has remained relatively similar from 2015 to 2017, with unintentional injuries representing the majority of injuries across all three years.
- Intentional injuries accounted for more than one in ten traumatic injuries during 2015, 2016, and 2017.

## Place of Injury

As of 2017, the Nevada Trauma Registry database captures place of injury through ICD 10 codes, which allows for detailed classification of the place of injury. Previous reports documented the place of injury into categories such as the street, in a home, during recreation, or in public buildings, farms, mines, or industrial locations. Nearly one in three (30.0%) injuries occurred in the street or highway, while another 29.5% of injuries occurred in a private residence.

**Table 7: Detailed Place of Injury, Washoe County, 2017**

| Place of Injury | # | % |
|---|---|---|
| Airplane | 1 | 0.1% |
| Ambulatory health service | 3 | 0.2% |
| Athletic court/Field | 59 | 3.2% |
| Bike path | 1 | 0.1% |
| Farm | 14 | 0.8% |
| Industrial/Construction | 24 | 1.3% |
| Institutional residence - Hospital | 2 | 0.1% |
| Institutional residence - Nursing home | 38 | 2.1% |
| Institutional residence - Other | 11 | 0.6% |
| Institutional residence - Prison | 37 | 2.0% |
| Institutional residence – Military base | 1 | 0.1% |
| Movie house | 2 | 0.1% |
| Other non-institutional residence | 8 | 0.4% |
| Other paved roadway | 18 | 1.0% |
| Other specified place | 28 | 1.5% |
| Parking lot | 38 | 2.1% |
| Private commercial establishment | 28 | 1.5% |
| Private residence | 543 | 29.5% |
| Public building | 8 | 0.4% |
| Recreation area | 115 | 6.2% |
| Service area | 45 | 2.4% |
| Sidewalk | 30 | 1.6% |
| Street/Highway | 552 | 30.0% |
| Unspecified place/NA | 151 | 8.2% |
| Wilderness area | 84 | 4.6% |
| **Total** | **1,841** | **100%** |

**Table 8: Rate of Fatality by Place of Injury, Washoe County, 2017**

| Place of Injury | Number | Percent | Deaths | Case Fatality Rate* |
|---|---|---|---|---|
| Roads/Sidewalk/Parking Lot | 638 | 34.7% | 50 | 7.8 |
| Private/Non-institutional Residence | 551 | 29.9% | 42 | 7.6 |
| Recreation/Wilderness | 259 | 14.1% | 3 | 1.2 |
| Institutional Residence | 89 | 4.8% | 4 | 4.5 |
| Other | 115 | 6.2% | 1 | 0.9 |
| Farm/Industrial | 38 | 2.1% | 1 | 2.6 |
| Unknown | 151 | 8.2% | 5 | 3.3 |
| **Total** | **1,841** | **100.0%** | **106** | **5.8** |

*Rate per 100 trauma patients

- The highest case fatality rates were among incidents on roads, sidewalks, or parking lots (7.8 per 100) and private, non-institutional residences (7.6 per 100) during 2017 in Washoe County.

## Mechanism of Injury

Mechanism of injury was determined by the ICD-10-CM primary external cause code (e-code) reported as the factor that caused the injury event. Four in ten traumatic injuries in Washoe County (40.6%) were due to falls, the majority of which occurred in the home. The second highest contributing factor to traumatic injury in Washoe County involved motor vehicles (28.3%). In 2017, the highest case fatality rate was due to suffocation, followed by injury due to firearms [Table 9]. Those 20 to 54 years of age accounted for over half of the injuries due to motor vehicle accidents, while those 55 years of age and older represented more than half of the injuries due to falls.

**Table 9: Incidents by Mechanism of Injury, Washoe County, 2017**

| Mechanism of Injury | Number | Percent | Number of Deaths | Case Fatality Rate* |
|---|---|---|---|---|
| Bite/Sting | 10 | 0.5% | 0 | 0.0 |
| Cut/Pierce | 104 | 5.6% | 0 | 0.0 |
| Drowning/Submersion | 1 | 0.1% | 0 | 0.0 |
| Fall | 748 | 40.6% | 42 | 5.6 |
| Fire/Burn | 10 | 0.5% | 0 | 0.0 |
| Firearm | 81 | 4.4% | 19 | 23.5 |
| Hot Object/Substance | 2 | 0.1% | 0 | 0.0 |
| Machinery | 9 | 0.5% | 1 | 11.1 |
| Motor Vehicle | 521 | 28.3% | 34 | 6.5 |
| Natural/Environmental | 13 | 0.7% | 0 | 0.0 |
| No E-code Listed | 1 | 0.1% | 0 | 0.0 |
| Other Land Transport | 94 | 5.1% | 2 | 2.1 |
| Other Specified, Classifiable | 41 | 2.2% | 0 | 0.0 |
| Other Transport | 10 | 0.5% | 0 | 0.0 |
| Overexertion | 1 | 0.1% | 0 | 0.0 |
| Pedal Cyclist, Other | 52 | 2.8% | 1 | 1.9 |
| Pedestrian, Other | 20 | 1.1% | 1 | 5.0 |
| Struck by/Against | 120 | 6.5% | 3 | 2.5 |
| Suffocation | 3 | 0.2% | 3 | 100.0 |
| **Total** | **1,841** | 85.5% | **106** | **5.8** |

*Rate per 100 trauma patients

- The highest case fatality occurred among incidents involving suffocation (100.0 per 100), while incidents involving firearms had the second highest fatality rate (23.5 per 100).

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## Mechanism of Injury by Age Group

The following tables indicate the top three mechanisms of traumatic injury for each age group. Falls and motor vehicles were among the top two mechanisms of injury across all age groups, with the exception of those aged 15 to 19 years.

**Table 10: Top 3 Mechanisms of Injury by Number of Incidents Among Youth 0-19 years, Washoe County, 2017**

| Rank | 0-4 years | 5-9 years | 10-14 years | 15-19 years |
|---|---|---|---|---|
| 1 | Fall | Fall | Motor Vehicle | Motor Vehicle |
| 2 | Motor Vehicle | Motor Vehicle | Fall | Firearm |
| 3 | ~ | ~ | Struck by/Against | Fall & Other Land Transport |

Note: ~ fewer than 3 incidents occurring, due to small numbers not ranked.

**Table 11: Top 3 Mechanisms of Injury by Number of Incidents Among Adults 20-54 years, Washoe County, 2017**

| Rank | 20-24 years | 25-34 years | 35-44 years | 45-54 years |
|---|---|---|---|---|
| 1 | Motor Vehicle | Motor Vehicle | Motor Vehicle | Motor Vehicle |
| 2 | Fall | Fall | Fall | Fall |
| 3 | Firearm | Cut/Pierce | Cut/Pierce & Struck by /Against | Cut/Pierce & Struck by /Against |

**Table 12: Top 3 Mechanisms of Injury by Number of Incidents Among Adults 55+ years, Washoe County, 2017**

| Rank | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|---|---|---|---|---|
| 1 | Fall | Fall | Fall | Fall |
| 2 | Motor Vehicle | Motor Vehicle | Motor Vehicle | Motor Vehicle |
| 3 | Other Land Transport | Struck by /Against | Struck by /Against | Cut/Pierce & Struck by /Against |

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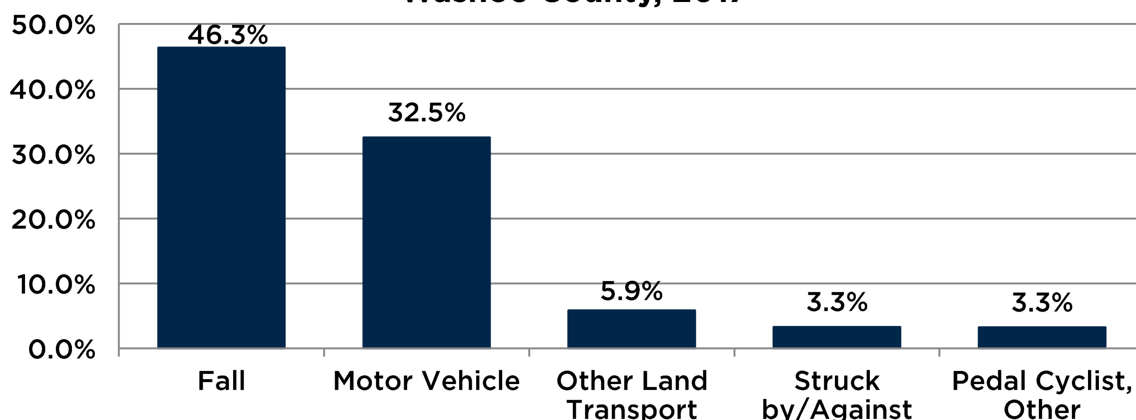
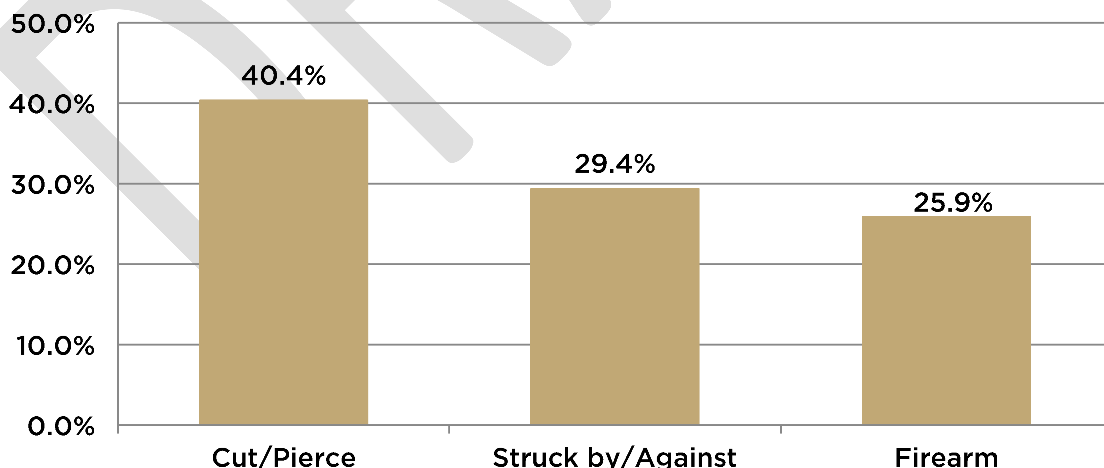
### Mechanism of Injury by Intent

Nearly 8 out of 10 unintentional (accidental) traumatic injuries were caused by falls or motor vehicles in 2017 [Fig 4]. Combining all types of intentional injuries, the top three mechanisms of injury were due to cut/pierce (40.4%), struck by/against (29.4%), or injury due to firearms (25.9%) [Fig 5]. Additionally, cut/pierce and firearms accounted for 8 in 10 suicides and 6 in 10 homicide/assaults [Fig 6].




- In 2017, falls were the primary mechanism of injury (46.3%), followed by motor vehicle incidents (32.5%).




- Among all types of intentional injury (suicide, homicide/assault, and injury resulting from legal intervention), cut/pierce was the most frequently occurring mechanism of injury (40.4%), followed by struck by/against (29.4%) and injuries due to firearms (25.9%).

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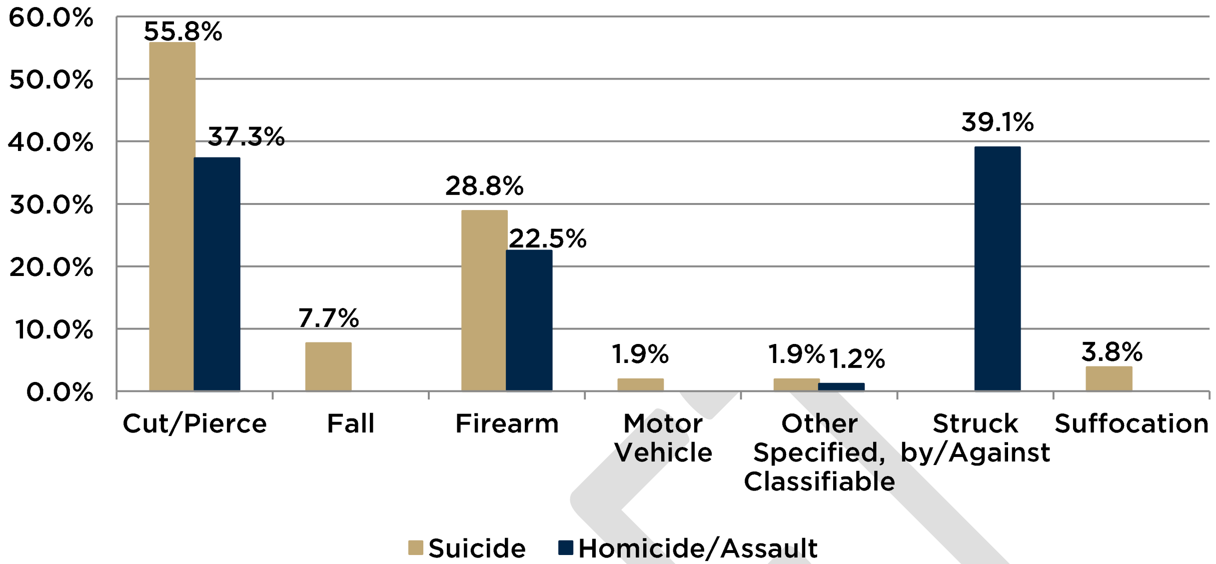


- Suicide (n=52) and homicide/assault (n=169) accounted for all but seven of the 228 intentional injuries [Table 6].
- Combined, injuries due to cut/pierce and firearms accounted for the majority of suicides and homicide/assaults.

### Detailed Types of Falls

Due to the large number of fall injuries, a detailed table categorizing the type of fall and proportion of deaths due to each type are provided in Table 13. Slips, trips and stumbles were responsible for the majority of falls (53.1%), while intentional falls (falls due to suicide) lead to the highest proportion of deaths (75.0%)

**Table 13: Detailed Falls by Type & Mortality, Washoe County, 2017**

| Type of Fall | # of Falls | Percent of Falls | # of Deaths | Percent Fatal |
|---|---|---|---|---|
| Bed/Chair/Toilet/Shower/Other Furniture | 55 | 7.4% | 1 | 1.8% |
| Fall on Same Level/Unspecified Fall | 81 | 10.8% | 14 | 17.3% |
| Intentional Fall/Suicide | 4 | 0.5% | 3 | 75.0% |
| Ladder/Balcony/Roof/Window/Other Structure | 61 | 8.2% | 1 | 1.6% |
| Off of Moving Object | 52 | 7.0% | 0 | 0.0% |
| Slip, trip, or stumble/Ice or Snow | 397 | 53.1% | 22 | 5.5% |
| Stairs/Steps | 46 | 6.1% | 1 | 2.2% |
| Tree/Cliff/Into Water/Hole/One Level to Another | 49 | 6.6% | 0 | 0.0% |
| Undetermined Fall | 3 | 0.4% | 0 | 0.0% |
| **Total** | **748** | **100.0%** | **42** | **5.6%** |

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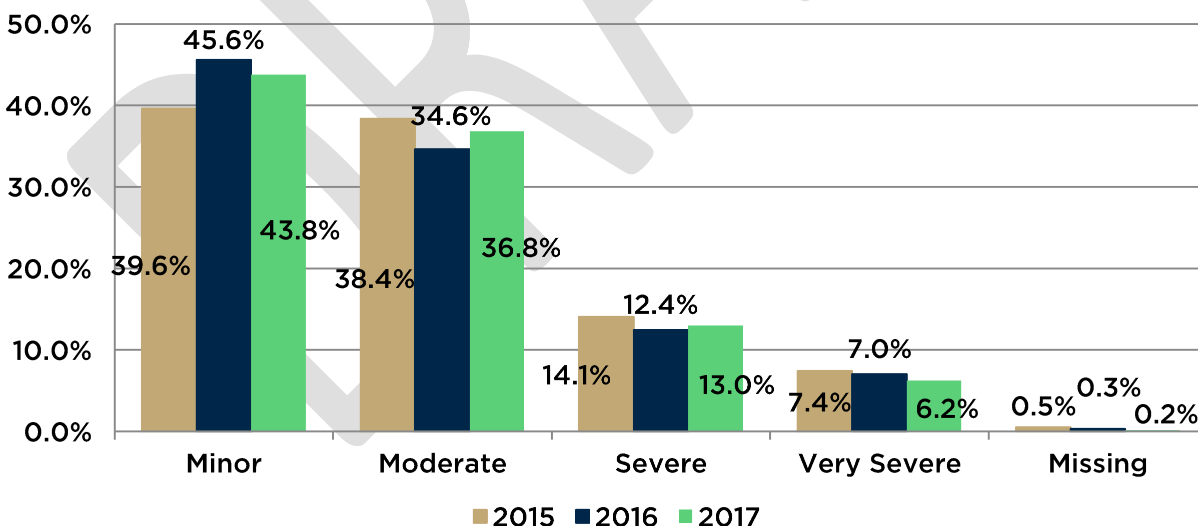
## Injury Severity

The injury severity score (ISS) is an anatomical scoring system that provides an overall score for patients with multiple injuries. The score may range from 1-75. The category of the injury severity (minor, moderate, severe, or very severe) was based on the 2016 National Trauma Data Bank Annual Report which assigns ISS into the following groups;

| Table 14: Injury Severity Score & Crosswalk | |
|---|---|
| **Injury Severity Score (ISS)** | **ISS Category** |
| 1 to 8 | Minor |
| 9 to 15 | Moderate |
| 16 to 24 | Severe |
| 24 or higher | Very Severe |

Approximately four in ten traumatic injuries in Washoe County were categorized as minor or moderate injuries each year (2015, 2016, & 2017), while nearly one in five incidents were categorized as severe or very severe [Fig 7]. The case fatality rate increased dramatically with each increase in ISS category [Table 15], as those with severe or very severe injuries accounted for nearly three out of four deaths during 2017.

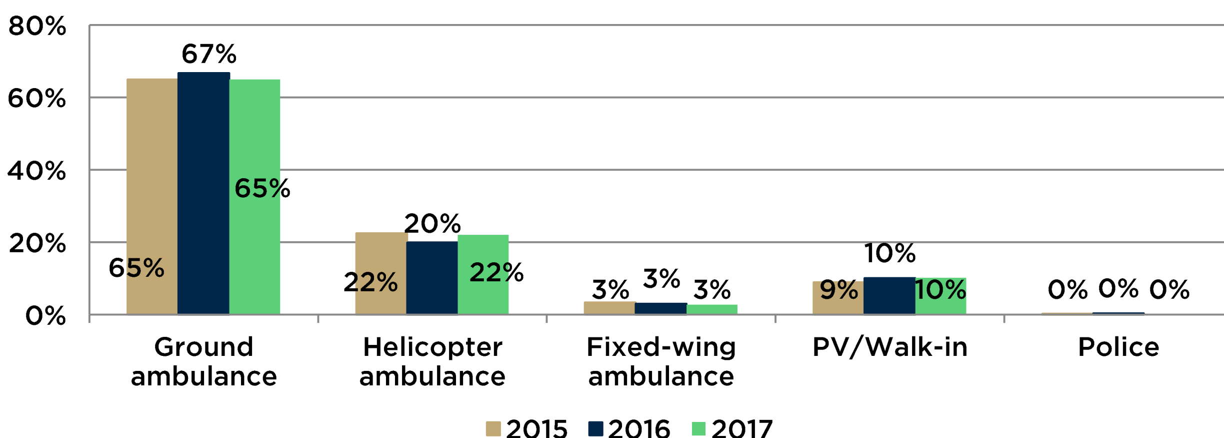


| Table 15: Fatality Rate by Injury Severity Score Category, Washoe County, 2017 | | | | |
|---|---|---|---|---|
| **Injury Severity Score Category** | **Number** | **Percent** | **Deaths** | **Case Fatality Rate*** |
| Minor | 806 | 43.8% | 11 | 1.4 |
| Moderate | 678 | 36.8% | 17 | 2.5 |
| Severe | 239 | 13.0% | 29 | 12.1 |
| Very Severe | 115 | 6.2% | 48 | 41.7 |
| Missing | 3 | 0.2% | 1 | 33.3 |
| **Total** | **1,841** | **100.0%** | **106** | **5.8** |

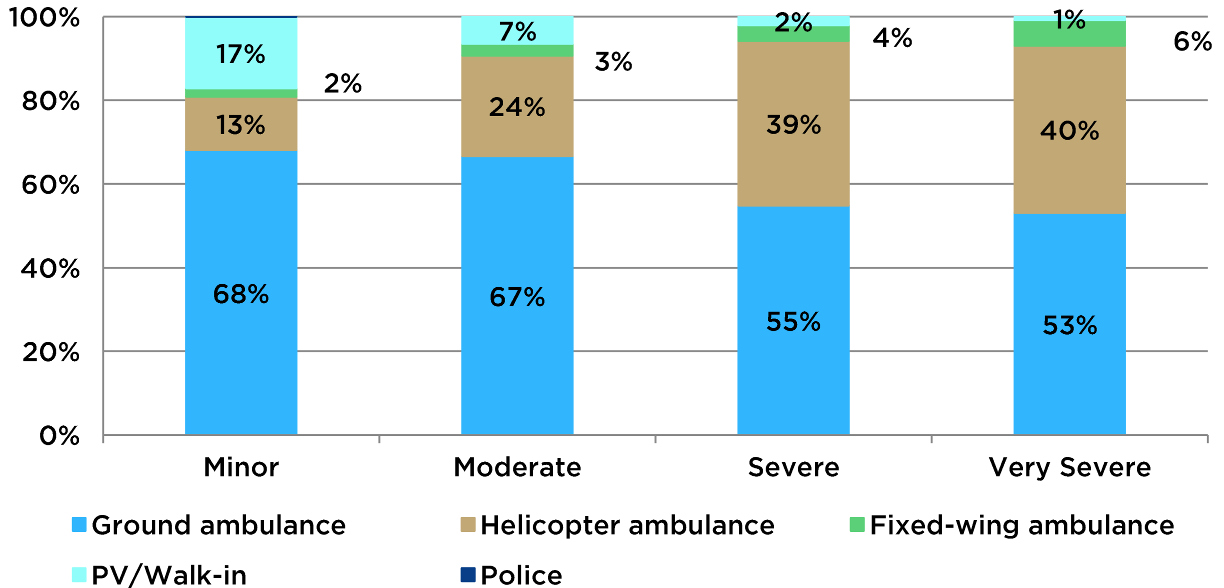
*Rate per 100 trauma patients

## Prehospital Characteristics

The majority of trauma patients were transported via ground ambulance. However, as injury severity increased the proportion of patients transported via helicopter ambulance also increased.




- The primary mode of arrival among traumatic incidents from 2015 through 2017 has been by ground ambulance, followed by helicopter ambulance.
- From 2015 to 2017, about one in ten patients with traumatic injury have arrived to the hospital by personal vehicle or walk-in.




- In 2017, the majority of patients were transported by ground ambulance across all four categories of injury severity.
- Over one in three patients with injuries classified as severe (39%) or very severe (40%) were transported by helicopter ambulance.
- As the injury severity score category increased, the proportion of patients transported in a personal vehicle or walk-in (PV/walk-in) decreased.

**Table 16: Incidents by Mode of Arrival, Washoe County, 2017**

| Mode of Arrival | Number | Percent | Deaths | Case Fatality Rate* |
|---|---|---|---|---|
| Ground ambulance | 1191 | 64.9% | 78 | 6.5 |
| Helicopter ambulance | 405 | 22.1% | 24 | 5.9 |
| Fixed-wing ambulance | 51 | 2.8% | 4 | 7.8 |
| PV/Walk-in | 187 | 10.2% | 0 | 0.0 |
| Police | 1 | 0.1% | 0 | 0.0 |
| **Total** | **1,835** | **100.0%** | **106** | **5.8** |

*Rate per 100 trauma patients

- During 2017, two out of three (64.9%) patients arrived via ground ambulance.
- The case fatality rate was highest among those patients that arrived via fixed-wing ambulance (7.8 per 100).

## Primary Payment

The form of primary payment data are provided each year, 2015 through 2017 for Washoe County trauma patients, as well as the United States overall for 2016 [Table 17]. Unfortunately, 42.6% of traumatic incidents in 2017 reported by Washoe County facilities did not have the payment source identified.

**Table 17: Primary Payment Source by Type, Washoe County 2015-2017 & the United States 2016**

| Primary Payment Source | Washoe County | | | U.S. |
|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2016 |
| Self-pay | 4.7% | 2.8% | 2.0% | 11.25% |
| Private | 33.1% | 28.6% | 19.3% | 35.15 |
| Medicare | 14.1% | 16.5% | 16.2% | 27% |
| Medicaid | 15.2% | 11.3% | 7.2% | 16.28% |
| Military | 0.3% | 0.1% | 0.0% | NA |
| Other Government | 4.1% | 3.4% | 2.1% | 2.48% |
| Workers Compensation | 2.2% | 1.6% | 1.9% | NA |
| Car Insurance | 19.7% | 12.9% | 8.6% | NA |
| Other/Unknown | 6.7% | 22.8% | 42.6% | NA |

United States source: American College of Surgeons. (2016). National Trauma Data Bank Annual Report 2016. Chicago, IL.

NA = data for specified category not available

## Substance Use

During 2015 and 2016 (combined) half of patients (51.7%) with traumatic injury in Washoe County were not tested for alcohol use. This decreased to 38% in 2017, while there was an increase in those who had no alcohol use confirmed by test and confirmed alcohol use at trace levels [Table 18]. Additionally, the vast majority of patients with traumatic injury were not tested for drug use during 2015/2016 combined (91.4%) increasing in 2017 (94.8%) [Table 19].

**Table 18: Alcohol Test Results, Washoe County, 2015-2016 Combined & 2017**

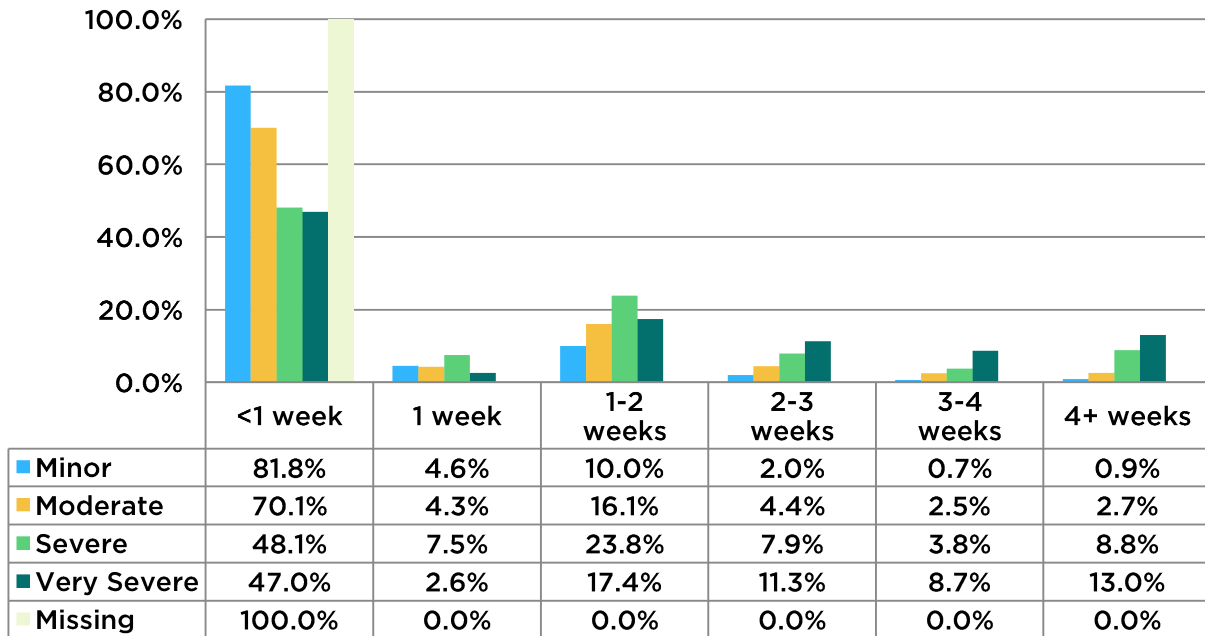
| Alcohol Use | 2015 & 2016 Combined | | 2017 | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| No (not tested) | 2,023 | 51.7% | 700 | 38.0% |
| No (confirmed by test) | 960 | 24.5% | 656 | 35.6% |
| Yes (confirmed by test, trace levels) | 303 | 7.7% | 249 | 13.5% |
| Yes (confirmed by test, beyond legal limit) | 478 | 12.2% | 226 | 12.3% |
| Unknown | 0 | 3.9% | 10 | 0.5% |

**Table 19: Drug Test Results, Washoe County, 2015-2016 Combined & 2017**

| Drug Use | 2015 & 2016 Combined | | 2017 | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| No (not tested) | 3,582 | 91.4% | 1,745 | 94.8% |
| No (confirmed by test) | 65 | 1.7% | 25 | 1.4% |
| Yes (confirmed by test, prescription drug) | 22 | 0.6% | 9 | 0.5% |
| Yes (confirmed by test, illegal drug) | 98 | 2.5% | 49 | 2.7% |
| Yes (confirmed by test, both prescription and illegal drugs) | 4 | 0.1% | 0 | 0.0% |
| Unknown | 146 | 3.7% | 13 | 0.7% |

## Patient Outcomes

Patient outcomes highlighted in this section include overall length of stay and days spent in an intensive care unit. Discharge status (dead or alive) was provided for many of the tables presented throughout the report.




| | <1 week | 1 week | 1-2 weeks | 2-3 weeks | 3-4 weeks | 4+ weeks |
|---|---|---|---|---|---|---|
| Minor | 81.8% | 4.6% | 10.0% | 2.0% | 0.7% | 0.9% |
| Moderate | 70.1% | 4.3% | 16.1% | 4.4% | 2.5% | 2.7% |
| Severe | 48.1% | 7.5% | 23.8% | 7.9% | 3.8% | 8.8% |
| Very Severe | 47.0% | 2.6% | 17.4% | 11.3% | 8.7% | 13.0% |
| Missing | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

- The majority of patients with trauma classified as minor (81.8%) or moderate (70.1%) were hospitalized for less than one week.
- The length of stay increased as the severity of the injury increased, as demonstrated by over half of patients with a very severe traumatic injury being hospitalized for longer than one week.

## Intensive Care Unit

The median number of days spent in an intensive care unit (ICU) increased as the severity of injury increased [Table 20] for all years 2015 through 2017. In 2015, incidents involving suffocation had the longest median length of stay in an ICU, followed by incidents involving motor vehicles. In 2016, incidents involving pedestrians had the longest median stay in an ICU, followed by incidents with an unspecified mechanism of injury. In 2017, incidents involving suffocation were again the longest median stay, followed by incidents categorized as pedestrian, other [Table 21].

**Table 20: Incidents by Injury Severity Score & Median ICU Days, Washoe County, 2015 - 2017**

| ISS Category | Median Number of ICU Days | | |
|---|---|---|---|
| | 2015 | 2016 | 2017 |
| Minor | 2 | 0 | 0 |
| Moderate | 2 | 3 | 2 |
| Severe | 4 | 4 | 3 |
| Very Severe | 7 | 5 | 5 |
| Missing | 0 | 2 | 1 |
| **Total** | **3** | **2** | **2** |

**Table 21: Incidents by Mechanism of Injury & Median Days in ICU, Washoe County, 2015-2017**

| Mechanism of Injury | 2015 | 2016 | 2017 |
|---|---|---|---|
| Bite/Sting | - | - | 3.0 |
| Cut/Pierce | 2.0 | 2.0 | 3.0 |
| Drowning/Submersion | - | - | 3.0 |
| Fall | 2.0 | 0.0 | 1.0 |
| Fire/Burn | 3.0 | 0.0 | 0.0 |
| Firearm | 3.0 | 3.0 | 3.0 |
| Hot Object/Substance | - | - | 3.0 |
| Machinery | 3.0 | 0.0 | 0.0 |
| Motor Vehicle | 3.5 | 3.0 | 3.0 |
| No E-code Listed | 2.0 | 2.0 | 3.0 |
| Natural/Environmental Factors | 2.0 | 2.0 | 2.5 |
| Other Land Transport | - | - | 2.5 |
| Other specified, classifiable | 2.0 | 0.5 | 3.0 |
| Other specified, not elsewhere classifiable | 0.0 | 0.0 | - |
| Overexertion | 0.0 | 0.0 | 0.0 |
| Pedal Cyclist, other | 3.0 | 3.0 | 3.0 |
| Pedestrian, other | - | 6.0 | 3.5 |
| Poisoning | 0.0 | 0.0 | |
| Struck by/Against | 2.0 | 2.0 | 2.0 |
| Suffocation | 9.0 | 3.0 | 8.0 |
| Transport, other | 3.0 | 3.0 | 2.0 |
| Unspecified | 3.0 | 4.0 | - |
| **Total** | **3.0** | **2.0** | **2.0** |

Note: Due to changes from ICD-9 to ICD-10 coding, not all mechanisms of injury are represented across all three years.

## Total Length of Stay

The total median number of days spent in the emergency room and hospital combined, increased as the severity of injury increased [Table 22].

**Table 22: Incidents by Injury Severity Score & Median Length of Stay (days), Washoe County, 2015-2017**

| ISS Category | 2015 | 2016 | 2017 |
|---|---|---|---|
| Minor | 2.0 | 2.0 | 2.0 |
| Moderate | 3.0 | 3.0 | 3.0 |
| Severe | 7.0 | 5.0 | 6.0 |
| Very Severe | 8.0 | 6.0 | 7.0 |
| Missing | 1.0 | 0.0 | 1.0 |
| **Total** | **3.0** | **3.0** | **3.0** |

**Table 23: Incidents by Mechanism of Injury & Median Length of Stay (days), Washoe County, 2015-2017**

| Mechanism of Injury | 2015 | 2016 | 2017 |
|---|---|---|---|
| Bite/Sting | - | - | 2.0 |
| Cut/Pierce | 3.0 | 2.0 | 3.0 |
| Drowning/Submersion | - | - | 3.0 |
| Fall | 3.0 | 3.0 | 3.0 |
| Fire/Burn | 0.5 | 1.0 | 0.0 |
| Firearm | 3.0 | 3.0 | 2.0 |
| Hot Object/Substance | - | - | 2.0 |
| Machinery | 2.0 | 0.5 | 1.0 |
| Motor Vehicle | 4.0 | 4.0 | 4.0 |
| No E-code Listed | 2.5 | 4.0 | 3.0 |
| Natural/Environmental Factors | 2.0 | 1.0 | 2.0 |
| Other Land Transport | - | - | 2.0 |
| Other specified, classifiable | 1.0 | 0.0 | 2.0 |
| Other specified, not elsewhere classifiable | 0.0 | 1.5 | - |
| Overexertion | 2.0 | 0.0 | 15.0 |
| Pedal Cyclist, other | 2.0 | 3.0 | 2.0 |
| Pedestrian, other | 4.5 | 4.0 | 4.5 |
| Poisoning | 3.0 | 2.0 | - |
| Struck by/Against | 2.0 | 2.0 | 3.0 |
| Suffocation | 2.0 | 3.0 | 7.0 |
| Transport, other | 2.0 | 2.0 | 3.0 |
| Unspecified | 3.0 | 2.5 | - |
| **Total** | **3.0** | **3.0** | **3.0** |

Note: Due to changes from ICD-9 to ICD-10 coding, not all mechanisms of injury are represented across all three years.

## Policy Recommendations

More than two in three traumatic injuries in Washoe County were due to falls and motor vehicles combined, this trend remains stable across all three years of available Trauma Registry data from 2015 through 2017. There are several evidence-based approaches and policies that have been proven effective in reducing the number of injuries and fatalities resulting from injury.

The following highlights and resulting recommendations are based on findings identified in The Facts Hurt: A State-by-State Injury Prevention Policy Report.[5] The report reviews 10 indicators which frame the efforts states have adopted to prevent and reduce injuries; these efforts include policies, laws, and programs. Updated data were available for a few indicators and notations have been made accordingly.

✓ Policy or law exists in Nevada or rates below national benchmark

✗ Policy or law does not exist in Nevada or rates higher than national benchmark

| Injury Type | Indicator | National Snapshot | Nevada |
|---|---|---|---|
| Motor Vehicle Injuries | Primary seat belt law | 34 states & D.C. have primary seat belt laws | ✗ |
| Motor Vehicle Injuries | Mandatory ignition interlocks for all convicted drunk drivers, even first time offenders | 21 states require mandatory ignition interlocks for all convicted drunk drivers, even first time offenders | ✗ |
| Motor Vehicle Injuries | Car seats or booster seats for children up to at least age 8 | 35 states & D.C. require children ride in car seats or booster seats up to at least the age of 8 | ✗ |
| Motor Vehicle Injuries | Restrict teens for nighttime driving after 10 p.m. | 11 states restrict nighttime driving for teens starting at 10 p.m. in the Graduated Driver Licensing laws | ✓ |
| Other Vehicle Injuries | Bike helmets required for children | 21 states & D.C. require bike helmets for all children | ✗ |
| Violence-Related Deaths | Homicide death rate below national U.S. Department of Health and Human Services goal (Healthy People 2020 objective IVP-29) | 31 states have homicide rates at or below the national goal of 5.5 per 100,000 people (Healthy People 2020 objective IVP-29) | ✗ Data as of 2015, indicate both Nevada (6.5) and Washoe County (6.0) have higher rates[6] |

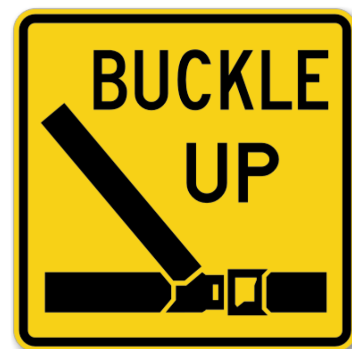
[5] Levi, J, Segal, L.M., & Martin, A. (2015). The Facts Hurt: A State-by-State Injury Prevention Policy Report. Trust for America's Health, Robert Wood Johnson Foundation.
[6] Kerwin, H. (2018). 2018-2020 Washoe County Community Health Needs Assessment. Accessed https://www.washoecounty.us/health/files/data-publications-reports

| Injury Type | Indicator | National Snapshot | Nevada |
|---|---|---|---|
| Child Abuse & Neglect | Child abuse and neglect at or below the national rate | 25 states have child abuse and neglect rates at or below the national rate of 9.1 per 1,000 children | ✓ |
| Injuries from Falls | Unintentional fall death rate lower than national U.S. Department of Health and Human Services goal (Healthy People 2020 objective IVP-23.1) | 9 states have unintentional fall death rate below national goal of 7.2 deaths per 100,000 people[7] (Healthy People 2020 objective IVP-23.1) | ✗ |
| Injuries from Drug Overdose | Mandatory use of prescription drug monitoring program (PDMP) by at least some healthcare providers | 25 states require mandatory use of PDMPs for healthcare providers in at least some circumstances | ✓ |
| Injuries from Drug Overdose | Laws in place to expand access to, and use of, naloxone as an overdose rescue drug | 34 states & D.C. have a law making it easier for medical professionals to prescribe and dispense naloxone and/or lay administrators to use it without the potential for legal ramifications | ✓ |

The following are brief descriptions of the policies that Nevada has not adopted, to provide context and further understanding of the potential benefits of implementing such practices.

## Primary Seat Belt Law

According to Nevada's Center for Traffic Safety Research, persons involved in motor vehicle accidents in Nevada that were not wearing a seat belt at the time of the crash had more severe injuries, longer hospital stays, more days in the ICU, more days on a ventilator, and accrued a median of $12,110 more per person in hospital charges compared to persons wearing a seatbelt. Seatbelt use was the highest predictor of injury severity in Nevada.[8]




[7] Healthy People 2020: Injury and Violence Prevention: IVP 23.1 State-level Data 2016. Accessed https://www.healthypeople.gov/2020/data/map/4752?year=2016
[8] Nevada Office of Traffic Safety, Department of Public Safety. (2017). Nevada's Traffic Research and Education Newsletter. 6(3). Carson City, NV.

A primary seat belt law allows law enforcement officers to stop drivers and issue a ticket if someone is not wearing a seat belt, without any other traffic offense occurring. A secondary seat belt law only allows a ticket to be issued for not wearing a seat belt, if someone has been pulled over for some other traffic violation. In states with primary seat belt laws, 88 percent of people wear seat belts, which is nine percent higher than states with secondary laws or no laws.[9]

## Ignition Interlock for Alcohol-Impaired DUI Offenses

According to the National Highway Traffic Safety Administration, from 2006 through 2016, approximately one in three fatal motor vehicle accidents in Nevada involved a driver with a blood alcohol content (BAC) equal to or over the legal limit of 0.08.[10]

Ignition interlocks are one of the most effective evidence-based strategies identified to reduce impaired driving. Ignition interlocks prevent people from driving under the influence by requiring the driver to blow into a device to verify the blood alcohol content (BAC) in order to start the vehicle. Researchers have found once ignition interlock devices were put into effect, re-arrest rates for alcohol-impaired driving decreased ranging from 50 to 90 percent.[11,12]

## Child Car Seats and Booster Seats

Standard seat belts in vehicles are not designed to adequately protect the smaller body frames of children. Nevada Revised Statue (NRS 484B.157) indicates that children less than six years of age and

[9] Centers for Disease Control and Prevention. (2011). Vital Signs: Adult Seat Belt Use. Accessed https://www.cdc.gov/vitalsigns/seatbeltuse/index.html

[10] National Highway Traffic Safety Administration, Fatality Analysis Reporting System. Accessed https://www-fars.nhtsa.dot.gov/Trends/TrendsGeneral.aspx

[11] Guide to Community Preventive Services. Reducing Alcohol-Impaired Driving: Ignition Interlocks. Accessed https://www.thecommunityguide.org/findings/motor-vehicle-injury-alcohol-impaired-driving-ignition-interlocks

[12] Centers for Disease Control and Prevention. (2011). Policy Impact: Alcohol-Impaired Driving. Accessed https://www.cdc.gov/motorvehiclesafety/pdf/PolicyImpact-Alcohol-a.pdf

weighing less than 60 pounds must ride in an approved child restraint system.[13] However, the Trust for America's Health recommends that a comprehensive child passenger law be passed in every state that requires the following:

- Age and size appropriate car seats for infants and children up to age four; with rear-facing seats until at least two years.
- Belt-positioning booster seats for most children ages four to eight years.
- Lap and shoulder belts for all children who have outgrown booster seats.
- All children under the age of 13 years ride in the back seat.

## Bicycle Helmets for All Children

Nevada law does not require bicyclists to wear a helmet, at any age. The National Highway Traffic Safety Administration and the Centers for Disease Control and Prevention recommend all people, regardless of age, wear a properly fitted helmet while riding a bicycle.[14,15] Research indicates bike helmets reduce the risk for head, brain, and severe brain injury by 63% to 88%.[16]

A potential concern in Reno and Sparks is the newly implemented LimeBike program being piloted as of early 2018. LimeBike is a dock-free bike share program that allows users to locate and ride bikes at affordable rates. Unfortunately, research has found in cities that offer a public bicycle share program, head injuries due to bicycle-related incidents were found to have a statistically significant ($p<.01$) increase from 42.3% to 50.1% after adopting the bike share program. Researchers recommend that public bike share programs offer to make helmets available with each bike.[17]

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[13] Nevada Department of Motor Vehicles. Nevada DMV Traffic Safety Quick Tips: Buckle Up!. Accessed http://www.dmvnv.com/pdfforms/qtbelts.pdf
[14] National Highway Traffic Safety Administration. (2017). Traffic Safety Facts: Bicyclists and Other Cyclists. DOT HS 812 382. Washington, DC.
[15] Centers for Disease Control and Prevention. (2017). Motor Vehicle Safety: Bicycle Safety. Accessed https://www.cdc.gov/motorvehiclesafety/bicycle/
[16] Thompson, D.C, Rivara, F.P., & Thompson, R. (2000). Helmets for preventing head and facial injuries in bicyclists. Cochrane Database Systematic Reviews. 2; CD001855.
[17] Graves, J.M., Pless, B., Moore, L., Nathens, A.B., Hunte, G., & Rivara, F.P. (2014). Public Bicycle Share Program and Head Injuries. American Journal of Public Health. 104; e106-e111.

## Conclusion

The number and severity of traumatic injuries can be largely prevented by following safety guidelines, rules of the road, and taking additional measures to prevent risk of injury, or reduce injury severity when accidents occur. Adoption of best-practice policy as recommended in this report would also greatly reduce contributing risk factors for traumatic injuries, specifically those involving motor vehicles, the second most frequent mechanism of injury in Washoe County.

This report is designed to inform readers about the nature of traumatic injuries sustained in 2017 and how they occurred. The findings can be used by various agencies concerned with minimizing the likelihood and effects of traumatic injury and contributing to safety and injury prevention efforts.

Exhibit A

# RENO FIRE DEPARTMENT

## MEMORANDUM

**DATE:** **September 26, 2018**

**TO:** **Sabra Newby, City Manager**

**FROM:** **Steve Leighton, Operations Chief**

**SUBJECT:** **Fire Department Update on Providing Data to EMS Advisory Board**

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In the fall of 2016, the Reno Fire Department in conjunction with the City's IT Department updated its Zoll Fire Records Management System (RMS) from a City non-hosted environment to a Zoll hosted environment. Zoll RMS is the program that the Department uses to generate all of its response and detail statistics.

Due to the level and complexity of our data, the Zoll RMS program itself does not have the capability of generating these detailed reports and we had contracted with another outside vendor, My Fire Rules that gave us the flexibility to generate specific tailored reports, including the report that was provided to the EMS Advisory Board.

Unfortunately, in January of 2018, Zoll could no longer support the My Fire Rules vendor in the hosted environment, which meant that we could no longer provide the level of detail reporting needed for the EMS Advisory Board. At that time, we started working with Zoll in researching our alternatives for generating data that would fit our needs. Zoll provided us with three vendors that they refer agencies to that require in-depth detail reporting that they cannot provide. After meeting with these vendors, we contracted with BLD Consulting in July 2018. BLD Consulting will not only provide us with the reports we need, they will also teach various RFD staff members how to extract data from the Zoll hosted environment to satisfy specific data requests. As of this date, we are within 60 days of having our reports finalized for distribution.

As a side note, since this spring, we have been in constant communication with Heather Kerwin, Statistician, Washoe County Health District about our issues and delays in providing data and reports.

Please feel free to contact me if you have any additional questions or concerns.

Thank you.

# WASHOE COUNTY
# CONTINUOUS QUALITY IMPROVEMENT PROGRAM
## ALS Provider, Dispatch and Hospital Reporting Guidelines

Approved by PMAC 09.19.2018

*This procedural document is designed to guide continuous quality improvement (CQI) processes and provide structure for the Washoe County Quality Improvement Program. The PMAC (Prehospital Medical Advisory Committee) can choose to change or update the requirements at any time.*

The primary objective of the Prehospital Medical Advisory Committee (PMAC) is to maintain and improve the high quality of prehospital care in Washoe County through the evaluation of protocols, resolving conflicts between protocols, quality assurance activities, research, and by making recommendations to the Washoe County District Board of Health, the agencies providing prehospital care and the hospitals providing emergency care.

Quality improvement begins with the idea that all members of the system want it to function effectively and efficiently and are willing to regularly examine incidents to determine how to achieve this overarching goal. The Washoe County Quality Improvement Program (WC-CQI Program) guidelines provide the structure for the regional CQI process for Washoe County, outline the criteria for patient cases to be reviewed and provide guidance for regional protocol review.

**Mission**
The mission of the PMAC is to be the advocate for the local community and its associated Emergency Medical Services (EMS) catchment area through continuing to augment quality and suggest evidence based recommendations to our EMS Interlocal agency agreement providers, in order to optimize emergency medical services.

The mission of the WC-CQI Program, a subcommittee of PMAC, is to assure the safety and health of Washoe County residents and visitors by setting and reviewing standards; recommending training, outreach, and education; fostering regional partnerships; and encouraging continuous quality improvement in EMS care. The WC-CQI Program intends to be an ongoing system of evaluation and recommendations that encourages system performance enhancement.

**Purpose and Authority**
The purpose of the regional WC-CQI Program is to create a learning environment and to provide structure and future growth of our EMS system. All actions are dedicated to the continued advancement of quality emergency medical services in Washoe County. It is a no-blame environment with the objective of identifying improvement opportunities for comprehensive changes for the benefit of future calls for service.

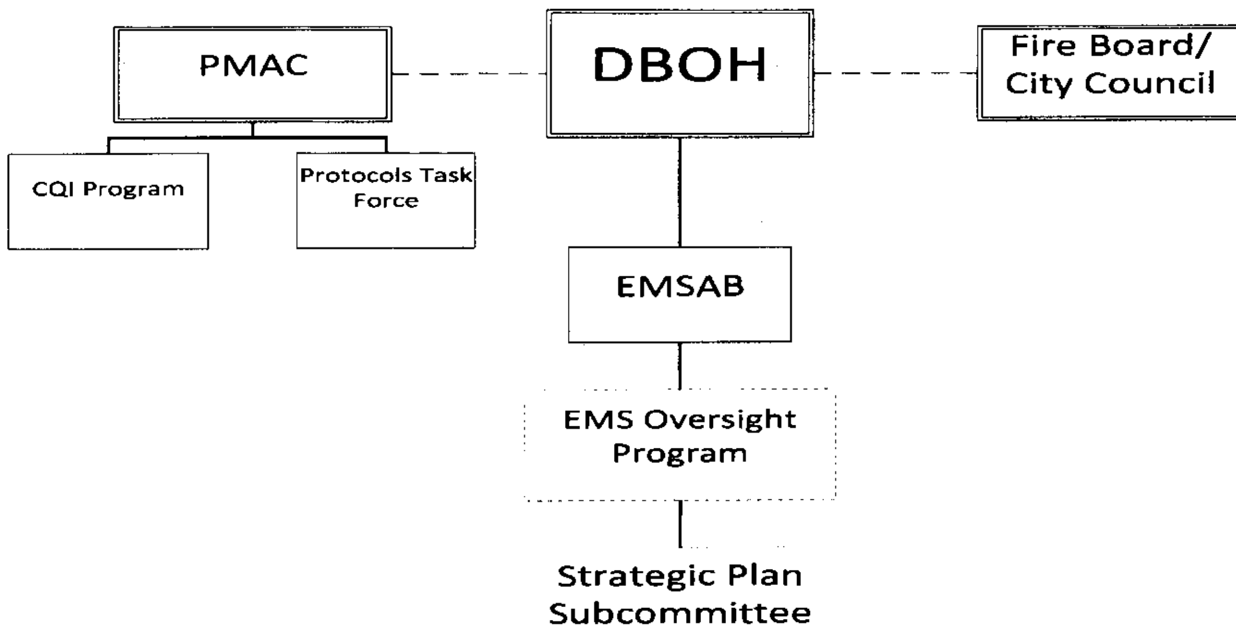
The authority of the WC-CQI Program lies within the 5-year EMS Strategic Plan, Objective 5.2. The EMS Strategic Plan is a requirement of the Inter Local Agreement (ILA) for Emergency Medical Services Oversight. The ILA was established by five political jurisdictions within Washoe County: City of Reno, City of Sparks, Washoe County, District Board of Health, and the Washoe County Board of Fire Commissioners. The EMS Strategic plan was originally approved October 6, 2016, with an approved revision on October 5, 2017.

**CQI Program Structure and Confidentiality**
Members include individuals who are affiliated with PMAC. PMAC membership is comprised of the EMS agency Medical Directors, Emergency Department Physicians, Family Practice Physicians, and trauma Physicians. The EMS Oversight Program will provide personnel to administratively support the CQI program.

Additional participants in the CQI process might include agency personnel affiliated with fire/EMS agencies, dispatch personnel and/or hospitals. The participation of the additional personnel will be determined on a case by case basis, receiving approval from the PMAC chairman prior to the meeting. All information shared during these review meetings is confidential and cannot be used for any purpose other than the review itself. All team members, staff and case review participants will sign a confidentiality agreement annually. New participants will sign a confidentiality agreement at the beginning of the review meeting. The confidentiality agreement is attached in Appendix A of this document.

All documents affiliated with the CQI review will be provided at the meeting by the presenting agency/Medical Director, as well as, collected at the end of the meetings. All materials collected for the review will be destroyed with the exception of any data collection and the recommendations drafted through the review process. (The Washoe County EMS Oversight Program can be requested to compile and subsequently shred CQI documents.)

The CQI process will not be contained within the PMAC meeting minutes as the discussions are confidential. However, the Washoe County EMS Oversight Program will maintain the list of recommendations from the CQI process to be compiled in an annual CQI Report from PMAC to the regional EMS agencies.




**Case Selection Criteria**
The following components should be followed for selecting cases to present to the WC-CQI Program:

1. A regional protocol is requested to be reviewed; patient cases are utilized for research and review of protocol effectiveness.
   a. The Medical Director or EMS agency would identify to PMAC or the Protocol Task Force the desire to review a specific protocol utilizing patient cases.
   b. The EMS Oversight Program will coordinate with the PMAC Chair for scheduling and with the regional EMS agencies to ensure participation in the scheduled WC-CQI Program meeting.

2. The EMS agency (EMS Chief or his/her designee) identifies a case that would benefit from a regional quality review. Examples include rare patient case details or uncommon patient outcomes.
   a. The agency would forward the information to their Medical Director for review, discussion, and/or approval to review by the WC-CQI Program.
   b. The Medical Director will coordinate with the PMAC Chair for scheduling with the regional EMS agencies to ensure participation in the scheduled WC-CQI Program meeting.

**Review Process**
Patient case reviews can be presented by several different agencies within Washoe County. The following minimum details need to be included for a thoughtful discussion by PMAC and WC-CQI Program participants.

A packet should be provided for each attendee. The packet should include:

- Timeline for the call for service: PSAP through hospital arrival

- If hospital component is necessary, should include through hospital disposition
- Call summary to include relevant patient information such as age, physical capabilities, pre-existing conditions, etc.
- Applicable interventions/protocols utilized throughout call
- Patient case outcomes
- Internal agency QI information
- Reason why the case was selected for presentation to the WC-CQI Program

The patient case should be presented by either the Medical Director or the agency EMS Chief/Captain. The presenter should at no time identify the field providers affiliated with the case, rather utilizing verbiage such as "fire department staff" or "REMSA staff." If appropriate, dispatch tapes may be considered for inclusion in presentation of the case. Since audio tapes are unable to be truly redacted, use of tapes should be minimal and audio reviewed should focus specifically on correspondence relevant to the CQI topic.

**Improvement Recommendations**
PMAC and WC-CQI Program participants will discuss the case and have the opportunity to question the presenter about the case. The presenter should identify areas for review, as identified through agency QI. Potentially, the presenter will have identified trends to discuss with the WC-CQI Program and PMAC.

The WC-CQI process could include recommendations of the following:

- Future data to be measured to validate and quantify the identified problem
- Analysis of data and symptoms of the problem to attempt to determine the root cause
- Recommendation of a plan of action through education, or protocol revision

**Reevaluation**
The outcome for each reviewed item will be reevaluated at the next WC-CQI meeting to determine if the solution was appropriate.

**Meeting Schedule**
Initially, the meetings will occur biannually, on the same dates as the currently scheduled PMAC meetings. The items to be reviewed will be presented and discussed among the WC-CQI members. Meetings may occur more frequently, if the determination is made that further review is necessary.

In addition, the team may meet once per year to review the overall findings and recommendations for inclusion in the annual report or to handle other non-review specific business. WC-CQI meetings are not subject to Nevada Open Meeting Law; however, meetings may be open to the public at the discretion of the team.

**Annual Report**
Annually, PMAC will create a report of the activities of the WC-CQI Program including the number of cases reviewed, team membership, and any findings or recommendations generated from the reviews. This report will be compiled by the PMAC Chair and the EMS Oversight Program and reviewed by members of the program.

The report will then be sent to the regional EMS agency Chiefs for review. In addition, PMAC may send recommendations for improvement to the EMS Advisory Board for review and possible action. Recommendations to Chiefs and EMS Advisory Board could include an update of regional protocols, inclusion of items in the strategic plan, training and educational recommendations, etc.

**Appendix A: Confidentiality Agreement**

## Washoe County Continuous Quality Improvement Program
## Confidentiality Agreement

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The purpose of the Washoe County Continuous Quality Improvement Program (WC-CQI Program) is to review selected cases within the EMS system. All information shared during case review is confidential and cannot be used for any purpose other than the review itself. As a condition of participation, the undersigned agrees to the following:

1. **SCOPE OF PARTICIPATION.** The undersigned may only share with the WC-CQI Program information concerning the patient who is the subject of a review and/or any other information pertinent to the review.

2. **TREATMENT OF INFORMATION SHARED; CONFIDENTIALITY.**

   a. Any information shared by and between the WC-CQI Program and the undersigned is confidential.

   b. The undersigned shall keep confidential all information, in whatever form, produced, prepared, observed or received through participation in the WC-CQI Program to the extent necessary to comply with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the intent of the WC-CQI Program.

   c. The undersigned shall return any materials received through participation in the WC-CQI Program to the extent necessary to comply with HIPAA guidelines and the intent of the WC-CQI Program.

   d. Furthermore, participation in the WC-CQI activities by the undersigned is in reliance to the belief that every other member of the CQI team will similarly preserve the confidentiality of these activities.

   e. The undersigned understands that all affected persons and agencies are entitled to undertake such action as is deemed appropriate to ensure that this confidentiality is maintained, including action necessitated by any breach or threatened breach thereof.

5. **EARLY TERMINATION.** Participation by the undersigned may be terminated by the PMAC Chair and/or the WC-CQI Program with or without cause prior to the conclusion of a case review. In the event of early termination, the provisions of paragraph (2) survive termination.

IN WITNESS WHEREOF, the parties hereto have caused this Confidentiality Agreement to be signed and intend to be legally bound thereby.

**Participant [NAME] ____________________________________:**

| ______________________ | ______________________ | ____________ |
|---|---|---|
| Signature | Title/Agency | Date |