



2019 Truckee Meadows
Fire Protection District

DEPLOYMENT PLAN

September 17, 2019



TRUCKEE MEADOWS
FIRE PROTECTION DISTRICT

WASHOE COUNTY, NV

Agenda Item #7A.3 (part 1 of 2)

Truckee Meadows Fire Protection District

Deployment Plan – 2019

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Executive Summary

This analysis examined how District fire stations are geographically positioned relative to service demand and response time. The study looked for challenges and opportunities for making the response as efficient as possible. The analysis utilized data for calls occurring between January 2015 and October 2018.

It was determined that service demand (calls for service) occur at a rate of 3 to 1 in the north areas of the District as compared to the south. The north area has one fewer fire station than the south and the south district has three stations that have the lowest totals for daily responses. The north has the three busiest stations along with a higher total of calls with longer operational periods and simultaneous calls for service. The analysis recommends rebalancing resources to those areas of highest service demand and for future opportunities to reduce response times.

The analysis recommends a consolidation of Fire Stations 32 (Eastlake) and Bowers (30). A new consolidated station would be staffed with four firefighters, increasing the daily compliment by one. Combined, these two stations run an average of 1.6 calls per day, with Bowers (30) running a fraction more than one call every other day. Both stations 30 and 32 are worn and require replacement. A consolidation of stations would save the cost of replacing both stations – saving approximately \$5 million.

New automatic and mutual aid protocols have been put in place with Carson City (CCFD). CCFD will respond into the southern portion of Washoe County. A computer aided dispatch (CAD to CAD) interface is recommended to speed the mutual aid process for both jurisdictions; the software exists today and requires no special software development.

A consolidation of stations 30 and 32, upon completion, would immediately provide a 2 person squad to post at Sun Valley, the District's busiest station, without additional employees or cost. The squad would support responses in Sun Valley and Spanish Springs where call volume is the highest.

Gaps in response time were discovered in Golden Valley and Lemmon Valley. This is due to simple time and distance. There are several possible solutions and options available to the Board. One solution could be closing Stead (44) as a career station and converting Silver Lake and Lemmon Valley to career stations. Stead (44) could become a station for a future fuels crew or a volunteer station. There are opportunities to expand automatic and mutual aid with regional partners. There are many possible available to reduce response times in the north area.



Introduction & History

This analysis was prepared to examine how the District is geographically positioned to respond to calls for service and to look for challenges and opportunities to make its response as efficient as possible. The analysis utilized data for calls occurring between January 2015 and October 2018.

Truckee Meadows Fire Protection District (TMFPD) is a full-service fire agency formed by the Washoe County Commissioners under Nevada Revised Statute 474. It was formed in 1972 to serve the rural portions of the County. Its boundaries extend from the Washoe County – Carson City boundary in the South to Township 22 North. The District protects north of its District boundary into unincorporated areas of the County by way of an Interlocal Agreement. In these areas, there are two volunteer agencies supported financially by the County and managed by TMFPD.

The analysis is limited to the areas of the established District boundary; approximately 1,000 square miles. Excluded are the County areas served by volunteer agencies.

In 1972, the Truckee Meadows Fire Protection District was established, and the boundaries of the new district bisected Washoe Valley. The areas generally east of Old Highway 395 were included into the TMFPD jurisdiction, while everything west of that line remained with the original fire district (then known as the Sierra Forest Fire Protection District). For the reason there was a small population on the West side and a major watershed to protect, Nevada Division of Forestry (NDF) eventually staffed a station in that area. At the same time, TMFPD built a station on the East side to serve most of the population in the Washoe Valley area. The number of emergency incidents in Washoe Valley has historically been very low, and the two fire stations that were staffed in the valley were there, not because of high demand or the distance served, but primarily because there were two jurisdictions having responsibility in Washoe Valley.

In 2012, Truckee Meadows Fire District consolidated operations with Sierra Fire Protection District to form a larger and more logical service boundary. In 2015, Sierra Fire Protection District was dissolved in order to resolve duplication and Truckee Meadows became the successor District to Sierra. Washoe Valley continues to be designated as a rural area, with a low call volume and is now served by one entity. Washoe Valley has been under the jurisdiction of multiple agencies throughout the years. In 1943, The County established an NRS 473 fire district that encompassed all areas outside of the cities of Reno Sparks, south of the Pyramid Lake Indian Reservation.



Introduction & History (continued)

Washoe Valley is predominately a rural area, some distance away from the developed areas of Reno and Carson City. It was originally served with volunteer firefighters.

The District protects mostly suburban and rural areas, and a de minimis amount of urban area. The District's service area is approximately 1,000 square miles and maintains 24/7 staffing from 11 fire stations. Each station is staffed with a minimum of three firefighters. Verdi – Station 40 is staffed with 4 firefighters. Other stations may, on occasion, be staffed with four firefighters dependent upon rosters and schedules.

County areas, as opposed to municipalities, are generally suburban and rural in character – not urban. Population is a factor that drives call volume. Where population is concentrated, so is risk and therefore, call volume is higher. It would be an unaffordable deployment to place fire stations in rural areas that match the concentration of urban areas.

There are many variables in fire suppression that determine the extent of conservation of property. For the reason that every fire is different and every fire has diverging variables, response time is not the only factor to be concerned with. Weather and wind can propagate and intensify a fire very quickly and outpace fire suppression resources. Time of detection (and early detection), fuel load, type of construction, availability of water and access are variables and factors that shape the outcome of a fire. Response time, including call processing and travel time are generally fixed. This analysis considered call demand relative to station placement in order to determine efficiency in station locations.

There is a substantial wildland urban interface within TMFPD, and the summer months are especially active for wildfire. TMFPD responds and often initiates initial attack on federal lands based on mutual aid pacts so as to limit the size of wildfires which could ultimately threaten real property if not checked.

All TMFPD fire stations maintain Advanced Life Support capability. In 2013, the District added advanced life support capability to all fire stations. Previously, only those stations in the Sierra Fire District provided ALS service.



Methodology

The study examined calls for service occurring between **January 1, 2015 and October 31, 2018**. The initial dataset was a unit-based dataset, meaning one line of data for each apparatus that was notified of an incident. The number of individual apparatus notified equaled 52,393. Among those 52,393 apparatus, 1,304 calls were excluded for the reason they could not be mapped or responses occurred outside of Washoe County. The remaining 51,089 (97.5%) individual units were notified of a call for service and were able to be mapped by GIS. The unit-based dataset was then concatenated into an incident-based dataset, meaning only one line of data for each unique call. These calls were condensed to **36,049** unique calls for service with responding station information and mapping locations that confirmed the incident occurred within the jurisdictional boundaries. For select purposes, an additional dataset of TMFPD calls that had been matched to REMSA EMS calls for service was utilized for this study. This dataset spans a time period from July 2017 through December 2018.

The study systematically reviewed the following factors to identify gaps and opportunities across the Department and propose potential solutions for increased efficiency.

1. Examined response times by station and identified those calls that exceeded the 2011 adopted Regional Standards of Cover recommended response times.
2. Utilized predictive mapping analytics to identify ideal station locations to maximize adequate response coverage to the most number of calls.
3. Reviewed special geographic areas (e.g. South Washoe Valley, I80 east corridor/USA Parkway, North Valleys, Geiger Grade, Stead, Silver Knolls and, Spanish Springs) to identify potential efficiencies in service delivery.
4. When problem areas are identified, an examination of responses was conducted to determine what was driving the issue and explore possible solutions.



Methodology (continued)

Each of the analyses was run across the entire Department and each fire station.

The analysis included:

1. Calls for service by REMSA priority
2. Call volume by time of day
3. Proportion of each station's jurisdiction overlay with REMSA response time zones
4. Proportion of each station's call volume occurring within the various REMSA response time zones
5. Call processing measured from PSAP time to Alarm time
6. Turn out time measured from Alarm time to En route time
7. Travel time measured from En route time to Arrival time
8. Response performance relative to the Regional Standards of Cover
9. Simultaneous calls
10. Frequent fliers



Aggregate Call Totals

General Overview

CAD data used to create an incident-based dataset for career station calls from January 1, 2015 through October 31, 2018.

The aggregate total of calls is represented in Table 1:

Table 1: Number of Calls Per Year and Average Number of Calls Per Day		
Year	Total #	Average per Day
2015	8,067	22.10
2016	9,381	25.63
2017	10,430	28.58
2018	8,171	26.88
Total	36,049	25.75

The District operates 2 Battalions, one in the south and one in the north. Call volume in the north surpasses the call volume in the south by almost 3 to 1.

Table 2: Number of Calls per Year and Average Number of Calls Per Day by Battalion				
Year	South Battalion		North Battalion	
	Total	Average per Day	Total	Average per Day
2015	2,162	5.9	5,905	16.2
2016	2,588	7.1	6,793	18.6
2017	2,862	7.8	7,568	20.7
2018	2,089	6.9	6,082	20.0
Total	9,701	6.9	26,348	18.82

Incidents in the north battalion represent 73% of the total responses and the south battalion responds to 27%.



Incidents by Call Type and by Battalion/District/Station

Table three sorts the fire station with the least call volume to the station with the highest call volume. Note that for Bowers and Galena Forest, these stations run a fraction higher than one call every other day. The south District has three fire stations with the lowest call volume in the system.

Table 3a: Average Number of Calls per Day, by Station, January 2015 through October 2018 Aggregate	
Station	Average Calls per Day
Bowers	0.58
Galena Forest	0.64
East Washoe Valley	1.03
Verdi - Mogul	1.25
Arrowcreek	1.39
Hidden Valley	1.56
Foothill	1.72
Cold Springs	2.24
Stead	3.00
Spanish Springs	4.97
Sun Valley	7.37



Incidents by Call Type and by Battalion/District/Station

Table 3 breaks down calls by incident type and by Battalion-District. Fires and fire related calls make up 10% of the total calls in both the north and south Districts. The north district includes Verdi and the south Battalion includes Hidden Valley and the I-80 corridor.

Table 3b: Number and Percent of Calls by Call Type and Battalion						
CALL TYPE	South Bat		North Bat		Total	
	#	%	#	%	#	%
Fire Total	961	10%	2,655	10%	3,616	10%
Hazard	212	2%	438	2%	650	2%
Mobile Vehicle Fire	54	1%	96	0%	150	0%
Natural Vegetation Fire	129	1%	249	1%	378	1%
Other Outside Fire	20	0%	89	0%	109	0%
Overpressure/Explosion (no fire)	9	0%	16	0%	25	0%
Public Service	323	3%	916	3%	1,239	3%
Structure Fire	81	1%	233	1%	314	1%
Unauthorized Burning	133	1%	618	2%	751	2%
EMS Total	5,814	60%	18,904	72%	24,718	69%
Extrication	9	0%	21	0%	30	0%
Lost Person	10	0%	7	0%	17	0%
MVA	745	8%	1272	5%	2,017	6%
Medical Call	4,984	51%	17,321	66%	22,305	62%
Other	54	1%	257	1%	311	1%
Rescue Other	8	0%	15	0%	23	0%
Water Rescue	4	0%	11	0%	15	0%
Other Calls Total	2,926	30%	4,789	18%	7,715	21%
Aid Given	198	2%	810	3%	1,008	3%
Canceled	1,637	17%	2,276	9%	3,913	11%
Citizen Complaint	4	0%	9	0%	13	0%
False Alarm	477	5%	653	2%	1,130	3%
Good Intent	583	6%	992	4%	1,575	4%
Severe Weather/Natural Disaster	27	0%	49	0%	76	0%
Total	9,701	100%	26,348	100%	36,049	100%



Incidents by District and Duration

Table 4 reports the total aggregate number of fires and the operational periods needed to accomplish suppression. It follows that crews are committed for more hours in the north and it suggests potentials for extended response times until fire engines can be repositioned or off duty crews called back for coverage arrive at station.

Table 4: Number of Structure and Brush Fires by Battalion and Median and Average Times from Dispatch to Call Closed, January 2015 through October 2018						
Battalion	Structure Fires			Brush Fires		
	Median	Mean	#	Median	Mean	#
South/30	0:39:32	1:29:57	81	1:14:38	2:50:16	129
North/40	0:40:15	1:28:56	233	1:17:10	3:15:07	249

Table 5 shows the aggregate calls each station responded to that took longer than one hour to resolve. Stations with a high percentage are highlighted.

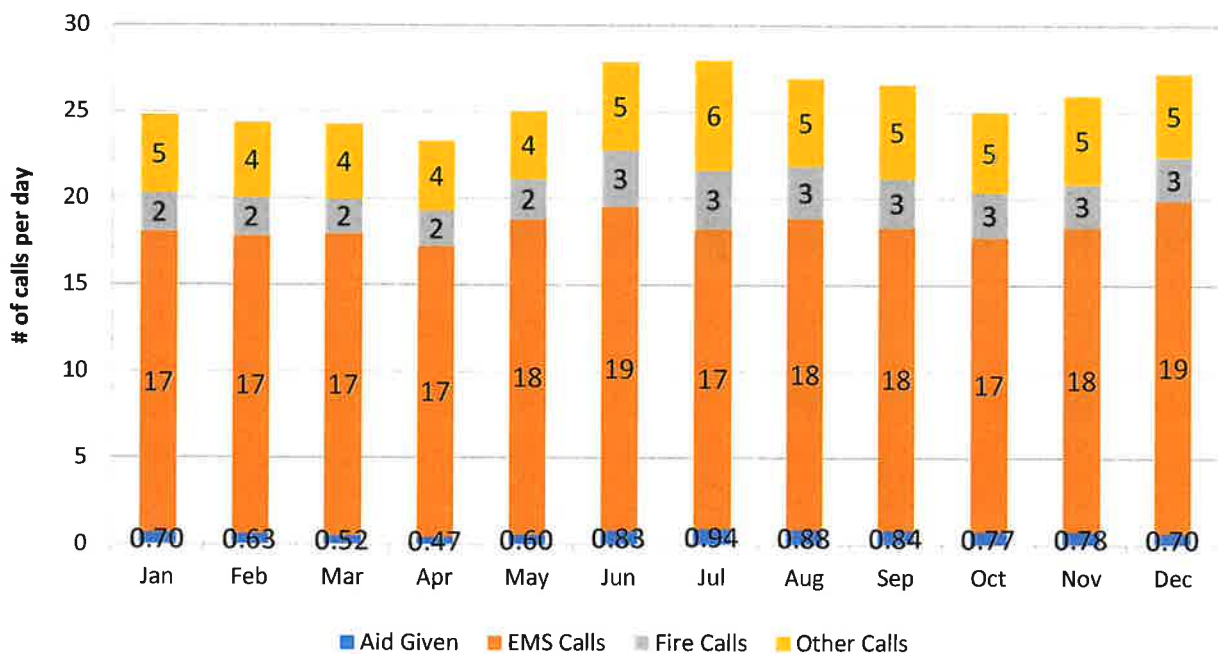
Table 5: Number and Percent of Call Longer than 1 Hour from Dispatch to Call Closed by Station and Battalion, January 2015 through October 2018			
Station/Battalion	# of Calls > 1 Hour	Total # Calls	% of Total Calls > 1 Hour
South Battalion	449	9,033	5%
Bowers	55	767	7%
East Washoe Valley	100	1,424	7%
Foothill	76	1,991	4%
Arrowcreek	43	1,886	2%
Hidden Valley	106	2,094	5%
Galena Forest	69	871	8%
North Battalion	693	25,108	3%
Verdi/Mogul	114	1,609	7%
Cold Springs	60	2,883	2%
Stead	136	3,921	3%
Sun Valley	178	10,118	2%
Spanish Springs	205	6,577	3%
Total	1,142	34,141	3%



Average Calls per Day

Figure 1 shows the number of calls per day throughout the system. There is small seasonal spike in the summer months but the incident volume stays relatively even throughout the year when measured by the aggregate total and by call type.

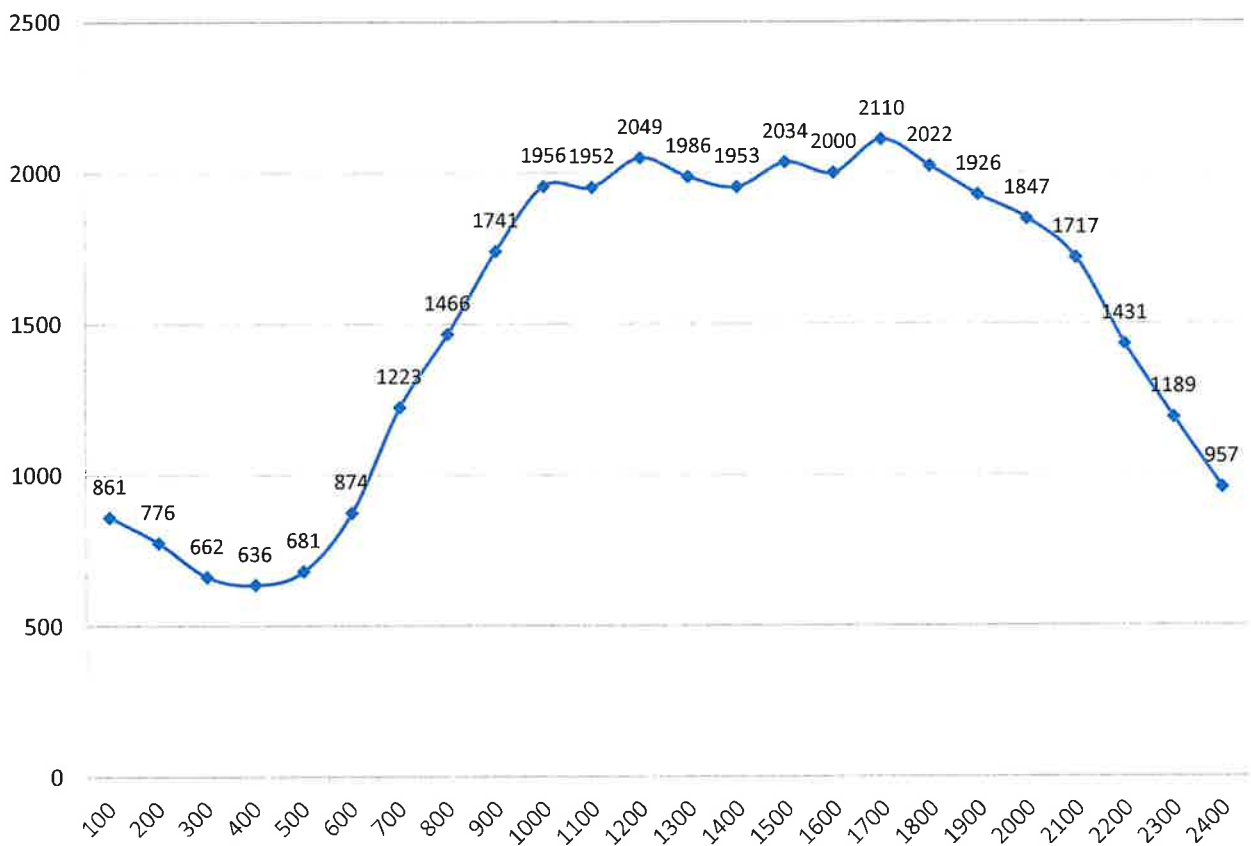
Figure 1: Average Number of Calls per Day by Call Type and Month, All Stations Combined, January 2015 through October 2018



Number of Calls by Hour of the Day

Figure 2 shows the variation in the total calls for service by hour. The majority of calls occur between the hours of 1000 hours and 2000 hours.

Figure 2: Number of Calls Received by Hour of Day, January 2015 through October 2018



Response Time Measurements

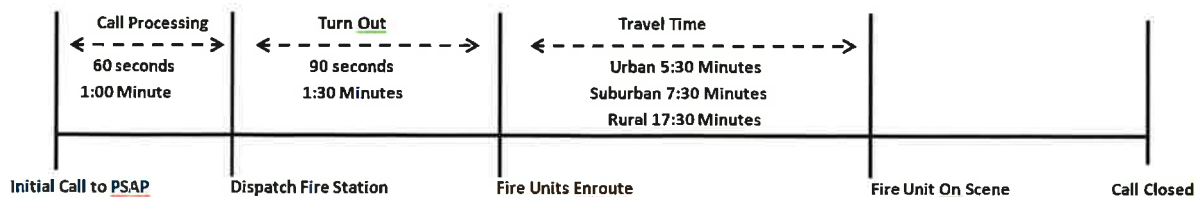
In 2011, the Board of County Commissioners adopted a Regional Standards of Cover (SOC) plan. The plan evaluated response resources, deployment strategies, operational elements and overall community risks.

In a typical Standards of Cover process, service area classifications are broken down into five categories:

- Metropolitan: Geographical areas with populations over 200,000 and/or a density of over 3,000 people per square mile.
- Urban: Geographical areas with populations over 30,000 and/or a density of over 2,000 people per square mile.
- Suburban: Geographical areas with populations over 10,000 to 29,999 and/or a density of between 1,000 and 2,000 people per square mile. The first due service should arrive within 10 minutes – 85% of the time.
- Rural: Geographical areas with populations less than 10,000 to 29,999 and/or a density of less than 1,000 per square mile. The first due service should arrive within 20 minutes – 85% of the time.
- Frontier: Geographical areas that are both rural and not readily accessible – or are a distance away so as not to have a practical response time.

The study measured responses against the following, from the 2011 SOC. In any emergency response, there is time needed to take and process the 911 call – and alert the appropriate station. These times are noted below, along with the travel time of the fire engine.

Standards Measured from Enroute to Arrival



Response Time Measurements

BIG PICTURE:

GIS calculated travel time from the existing stations; the District's compliance meets the SOC with 87.7% compliance.

The analysis did find the Lemmon Valley and Silver Lake areas are the portions of the District with the highest percentage of responses not meeting the SOC. A GIS analysis was run splitting Station 44 (Stead) into two stations – one to Lemmon Valley and the other to Silver Lake. The numbers of incidents out of compliance with the SOC is virtually eliminated and SOC compliance increases to 92.7%.

SOC Performance from Existing Stations

	#Calls	# Calls	#Calls	Tier One Response	
Type Of Call	Meets	Does Not Meet	Total	%Meets	%DoesNotMeet
FIRE	2,764	522	3,286	84.1%	15.9%
EMS	20,587	2,760	23,347	88.2%	11.8%
Combined Calls	23,351	3,282	26,633	87.7%	12.3%

SOC Performance from Stead (44) Split to Lemmon Valley and Silver Lake with Consolidated 30 and 32

	#Calls	# Calls	#Calls	Tier One Response	
Type Of Call	Meets	DoesNotMeet	Total	%Meets	%DoesNotMeet
FIRE	3,012	274	3,286	91.7%	8.3%
EMS	21,671	1,676	23,347	92.8%	7.2%
Combined Calls	24,683	1,950	26,633	92.7%	7.3%

See supporting maps in the Appendix



Emergency Medical Services Response

The following section utilized the dataset of TMFPD EMS calls that matched to REMSA. The time frame for this dataset was **July 2017 through December 2018**. Emergency medical calls represent comprise nearly 70% of the total call volume. Severity of the EMS call is defined by a priority number. REMSA has response zones throughout the franchise area that have been broken down into zones A, B, C and D.

A Priority 1 response is to immediately life threatening incidents, and necessitates an emergency response and a two-tier response (REMSA and Fire). The zone response time standard for REMSA is:

- A- 8:59
- B- 15:59
- C- 20:59
- D- 30:59

A Priority 2 response is potentially life threatening incident, and an emergency response and a two-tier response (REMSA and Fire) but allows more response time:

- A- 12:59
- B- 19:59
- C- 24:59
- D- 34:59

A Priority 3 response is a response made at normal traffic speed without emergency equipment. It does not require a two-tier response but the Fire response is determined by jurisdictional policy.

The lowest acuity calls are designated as “omega determinants” and do not have either a fire or ambulance response. These calls are referred to REMSA’s Nurse Health line for further action.

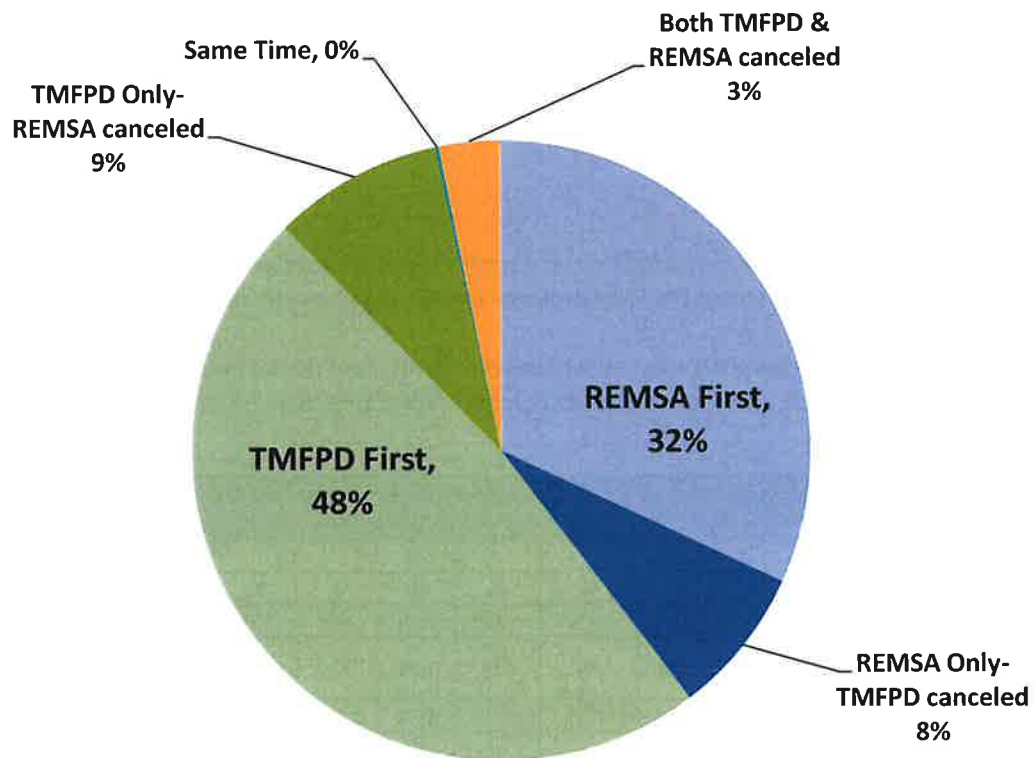
Table 6: Number and Percent of Matched Calls by REMSA Priority and Arrival On Scene, July 2017 through December 2018												
Arrival On Scene	0		1		2		3		9		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
REMSA First	1	1%	1,953	38%	1,162	27%	592	29%	37	18%	3,745	32%
REMSA Only-Fire canceled	0	0%	369	7%	413	10%	101	5%	23	11%	906	8%
TM Fire First	1	1%	2,564	50%	1,916	45%	1,058	52%	101	50%	5,640	48%
TM Fire Only-REMSA canceled	41	57%	169	3%	532	12%	273	13%	28	14%	1,043	9%
Same Time	0	0%	14	0%	8	0%	0	0%	0	0%	22	0%
All canceled	29	40%	72	1%	238	6%	19	1%	13	6%	371	3%
Total	72	100%	5,141	100%	4,269	100%	2,043	100%	202	100%	11,727	100%



Emergency Medical Services Response

Figure 4 compares the arrival of TMFPD to REMSA. TM responds in a two tiered response (Fire and REMSA). This is especially necessary for critical patients when certain patients require more than one attending medic during transport to the emergency room.

Figure 4: TMFPD Calls Matched to REMSA, Arrival On Scene, July 2017-December 2018



Emergency Medical Services Response

This table shows in minutes the wait time for each agency to arrive.

Table 7: TMFPD Calls Matched to REMSA, Median Time when an Agency Arrives First on Scene, July 2017 through December 2018		
Station/Battalion	Median Time Until Second Agency Arrives	
	When TMFPD On Scene 1st	When REMSA On Scene 1st
South Battalion	04:45	01:51
Bowers	07:03	02:42
East Washoe Valley	08:16	01:21
Foothill	02:38	01:52
Arrowcreek	03:52	01:19
Hidden Valley	03:44	03:02
Galena Forest	04:49	01:41
North Battalion	03:50	01:48
Verdi/Mogul	03:26	02:01
Cold Springs	05:46	02:07
Stead	03:19	03:27
Sun Valley	03:07	01:37
Spanish Springs	04:05	01:23
Total	04:06	01:49



Simultaneous Calls

Simultaneous Calls

Simultaneous calls were counted when the dispatch time for an incoming call preceded the call closed time for the previous incident, within the same fire response district. A 60 second buffer time was allowed; therefore, if an incident was dispatched 60 seconds before the previous call closed, the call was NOT counted as a simultaneous call and the unit on a call is able to utilize the 60 seconds prior to closing the first call the same as a "turnout" time prior to rolling en route if the unit were dispatching from the station.

Inclusion criteria:

1. Only data for calendar year 2017 were used for this analysis, as this was the busiest year in terms of call volume.
2. The incident must have occurred in a TMFPD career response district.
3. The dispatch time and call close time both must be populated.

Table 9 indicates the Arrowcreek station had the fewest proportion of simultaneous calls (1%), while the Sun Valley station had the highest number (n = 199) and proportion (7%) of calls that occurred simultaneously.

Table 8: Number and Percent of Calls within Each FRD that were Simultaneous, Calendar Year 2017			
Station	Total # Analyzed	# Simultaneous	% Simultaneous
Bowers	249	11	4%
East Washoe Valley	462	12	3%
Foothill	639	32	5%
Arrowcreek	555	4	1%
Hidden Valley	627	18	3%
Galena Forest	254	10	4%
Verdi-Mogul	539	12	2%
Cold Springs	844	19	2%
Stead	1,105	55	5%
Sun Valley	2,835	199	7%
Spanish Springs	1,879	118	6%

The data further supports the addition of resources to the north battalion.



Response Time Analysis for Stations 30 and 32 Consolidated and Stead

Maps at the end of the Appendix show the ultimate effect of the recommendations.

The consolidated station scheme shows that 70 calls would have been outside the Standards of Cover. The margin ranged from 30 seconds to 3 minutes.

A GIS analysis shows that there is an additional 3 minutes of travel time from the new proposed consolidated location to the existing station 32.

The second map shows the response time effect of Carson City fire into the most southern portion of the District.

Maps three and four show the effect of improved response times in Lemmon Valley and Silver Lake resulting from a split of existing Station 44 (Stead).



Recommendations

The recommendations in the analysis are aimed at creating strategies that seek to rebalance resources from “least engaged” to areas that are “highly engaged” in emergency response. The recommendations are intended to be practical and sensitive to limitations of budget.

Key recommendations of the analysis are:

1. Authorize staff to develop a plan to consolidate Stations 30 and 32.
2. If consolidated stations are approved, increase the new consolidated crew size to 4 personnel per day.
3. Continue to develop alternatives to reduce response times in Silver Lake and Lemmon Valley. The alternatives and final recommendations and plans are a longer term than consolidating stations 30 and 32 - but are dependent upon the consolidation of the aforementioned stations.
4. Explore expansion of mutual and automatic aid protocols with regional partners.
5. Develop a CAD to CAD interface with Carson City Fire Department.



Appendix A

Appendix A provides station-by-station analyses for all 11 career stations in TMFPD's jurisdiction. Station-specific analyses are provided in order from fewest calls to most calls during the time period from January 2015 through October 2018. The final table and graph in each section utilized a dataset of calls matched to REMSA from July 2017 through December 2018

APPENDIX A

Appendix A

Appendix A provides station-by-station analyses for all 11 career stations in TMFPD's jurisdiction. Station-specific analyses are provided in order from fewest calls to most calls during the time period from January 2015 through October 2018. The final table and graph in each section utilized a dataset of calls matched to REMSA from July 2017 through December 2018.

Table 1 provides an overview of the average number of calls run per day from January 2015 through October 2018.

Table 1: Average Number of Calls per Day, by Station, January 2015 through October 2018 Aggregate	
Station	Avg Calls per Day
Bowers	0.58
Galena Forest	0.64
East Washoe Valley	1.03
Verdi - Mogul	1.25
Arrowcreek	1.39
Hidden Valley	1.56
Foothill	1.72
Cold Springs	2.24
Stead	3.00
Spanish Springs	4.97
Sun Valley	7.37

The following sets of analyses contain five tables and two figures as described below:

- Table 1: The total number of calls per year and yearly average number of calls per day, by year.
- Table 2: The number and percent of calls by call type, Fire, EMS, and Other along with the subcategories included under those major three call types.
- Table 3: The number and percent of calls by hour of day, by year.
- Fig 1: Illustrates Table 3 in graph form.
- Table 4: Top call locations by address.
- Table 5: Utilizes calls that were matched to REMSA from July 2017 through December 2018 and the breakdown by priority and arrival on scene for the 18 months combined
- Fig2: Illustrates Table 5 in graph form

APPENDIX A

Station 30/BOWERS

Table 1: Number of Calls by Year and Average Number of Calls by Day, January 2015 through October 2018

Year	Total	Average per Day
2015	165	0.45
2016	199	0.54
2017	259	0.71
2018*	195	0.64
Total	818	0.58

*2018 not a full year of data

Table 2: Number and Percent of Calls by Call Type, January 2015 through October 2018

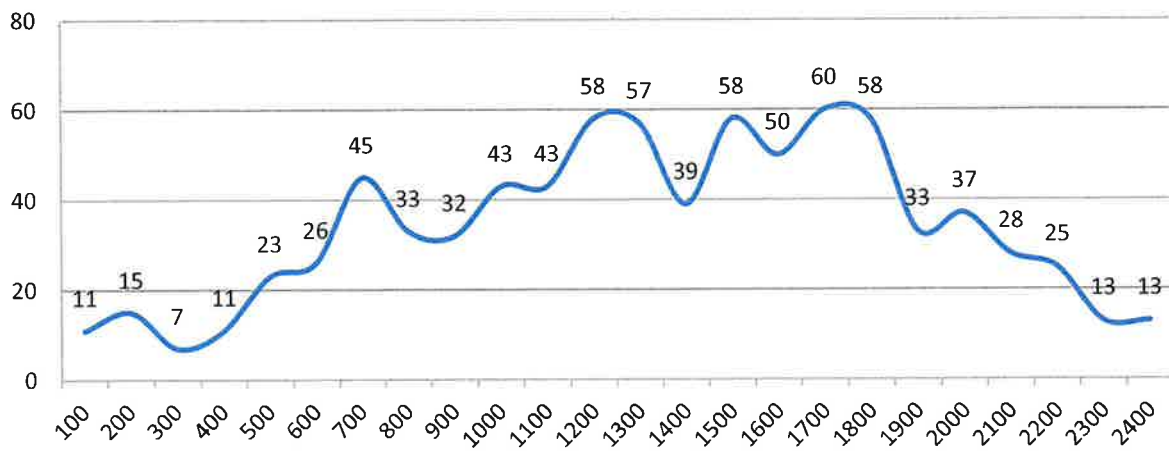
CALL TYPE	2015		2016		2017		2018		Total	
	#	%	#	%	#	%	#	%	#	%
Fire Total	26	16%	19	10%	36	14%	31	16%	112	14%
Hazard	7	4%	6	3%	6	2%	5	3%	24	3%
Mobile Vehicle Fire	4	2%	3	2%	5	2%	4	2%	16	2%
Natural Vegetation Fire	1	1%	1	1%	4	2%	7	4%	13	2%
Other Outside Fire	0	0%	1	1%	0	0%	1	1%	2	0%
Overpressure/Explosion (no fire)	1	1%	0	0%	0	0%	0	0%	1	0%
Public Service	9	5%	7	4%	15	6%	9	5%	40	5%
Structure Fire	0	0%	0	0%	3	1%	0	0%	3	0%
Unauthorized Burning	4	2%	1	1%	3	1%	5	3%	13	2%
EMS Total	93	56%	118	59%	146	56%	101	52%	458	56%
Extrication	1	1%	0	0%	1	0%	0	0%	2	0%
Lost Person	0	0%	0	0%	0	0%	1	1%	1	0%
MVA	51	31%	70	35%	74	29%	45	23%	240	29%
Medical Call	39	24%	48	24%	69	27%	53	27%	209	26%
Other	1	1%	0	0%	1	0%	0	0%	2	0%
Rescue Other	1	1%	0	0%	1	0%	2	1%	4	0%
Other Calls Total	46	28%	62	31%	77	30%	63	32%	248	30%
Aid Given	2	1%	4	2%	6	2%	9	5%	21	3%
Canceled	13	8%	23	12%	38	15%	17	9%	91	11%
False Alarm	6	4%	5	3%	6	2%	5	3%	22	3%
Good Intent	25	15%	30	15%	25	10%	30	15%	110	13%
Severe Weather/Natural Disaster	0	0%	0	0%	2	1%	2	1%	4	0%
Total	165	100%	199	100%	259	100%	195	100%	818	100%

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Station 30/BOWERS

Hour	2015	2016	2017	2018	Total Number	% of Total Calls
100	2	4	4	1	11	1%
200	3	4	5	3	15	2%
300	0	1	1	5	7	1%
400	3	3	2	3	11	1%
500	2	4	11	6	23	3%
600	3	7	12	4	26	3%
700	13	7	16	9	45	6%
800	4	11	10	8	33	4%
900	10	6	8	8	32	4%
1000	6	9	19	9	43	5%
1100	8	10	11	14	43	5%
1200	18	14	17	9	58	7%
1300	7	20	18	12	57	7%
1400	11	9	9	10	39	5%
1500	12	23	14	9	58	7%
1600	5	13	23	9	50	6%
1700	14	6	22	18	60	7%
1800	14	12	17	15	58	7%
1900	7	8	11	7	33	4%
2000	8	9	8	12	37	5%
2100	7	6	7	8	28	3%
2200	3	7	7	8	25	3%
2300	3	2	5	3	13	2%
2400	2	4	2	5	13	2%
Total	165	199	259	195	818	100%

Fig 1: Number of Calls by Hour, Station 30 - Bowers, Jan 2015 - Oct 2018
Aggregate



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Station 30/BOWERS

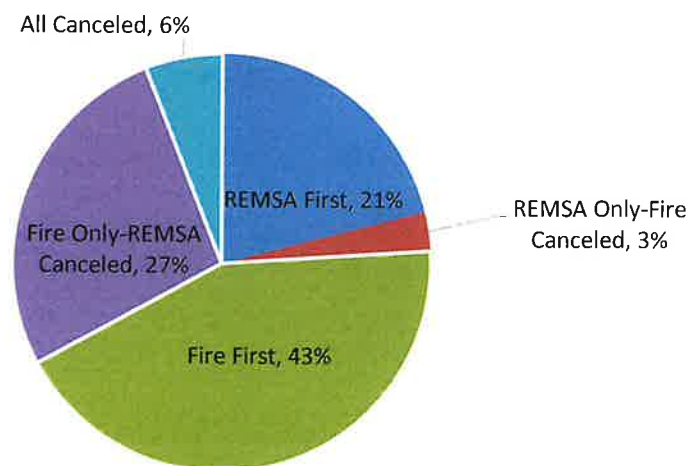
Table 4: Top Call Addresses, 2015-2018 Aggregate	
Address	# of Incidents
XX Davis Creek	81
3005 Old 395	55
I580	43
1 GALENA CREEK BRIDGE	39
SB I580 AT GALENA CREEK BRIDGE	37
N I-580	29
SB I580 AT BELLEVUE	24
SB I580 AT EASTLAKE BL	23
NB I580 AT EASTLAKE BL	22
Old 395S & Eastlake	21
7400 OLD 395	14
5600 Old US 395 S	13
XX Sharon Way	10
4005 I580	10

NOTE: XX indicates address is private residence

TMFPD Calls Matched to REMSA

Table 5: Number and Percent of Calls by Arrival on Scene and REMSA Priority, July 2017 through December 2018												
Arrival On Scene	0		1		2		3		9		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
REMSA First	0	0%	13	19%	30	26%	0	0%	0	0%	43	21%
REMSA Only-Fire Canceled	0	0%	4	6%	2	2%	0	0%	0	0%	6	3%
Fire First	0	0%	34	51%	36	32%	17	77%	2	100%	89	43%
Fire Only-REMSA Canceled	2	100%	12	18%	37	32%	5	23%	0	0%	56	27%
All Canceled	0	0%	4	6%	9	8%	0	0%	0	0%	13	6%
Total	2	100%	67	100%	114	100%	22	100%	2	100%	207	100%

Fig 2: TMFPD and REMSA Arrival on Scene, July 2017 - December 2018



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Station 39/GALENA FOREST

Table 1: Number of Calls by Year and Average Number of Calls by Day, January 2015 through October 2018		
Year	Total	Average per Day
2015	195	0.53
2016	238	0.65
2017	262	0.72
2018*	200	0.66
Total	895	0.64

*2018 not a full year of data

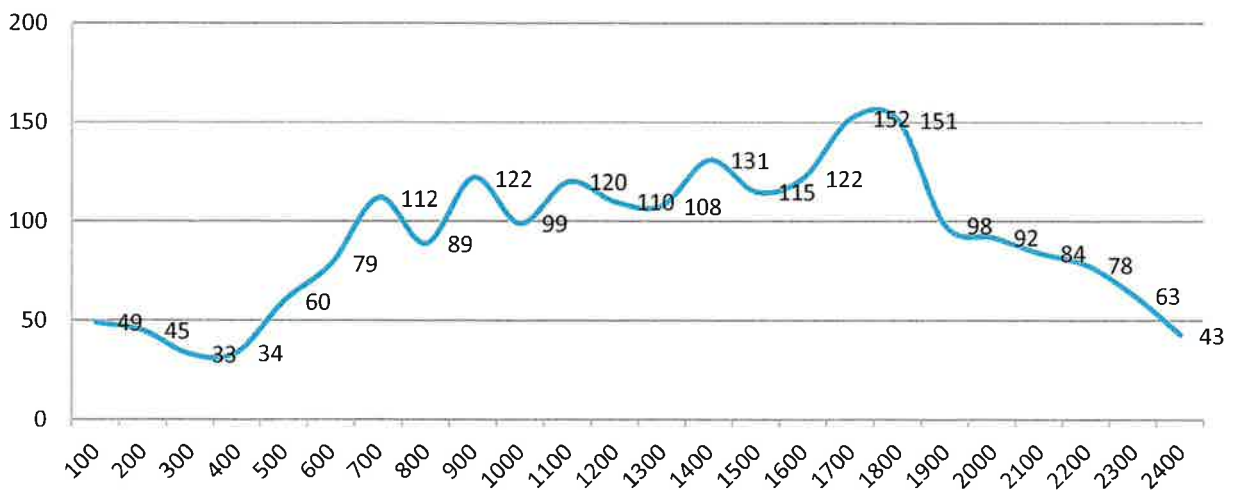
Table 2: Number and Percent of Calls by Call Type, January 2015 through October 2018										
CALL TYPE	2015		2016		2017		2018		Total	
	#	%	#	%	#	%	#	%	#	%
Fire Total	15	8%	12	5%	17	6%	17	9%	61	7%
Hazard	2	1%	5	2%	5	2%	3	2%	15	2%
Mobile Vehicle Fire	0	0%	0	0%	2	1%	2	1%	4	0%
Natural Vegetation Fire	2	1%	0	0%	2	1%	2	1%	6	1%
Other Outside Fire	1	1%	1	0%	0	0%	0	0%	2	0%
Overpressure/Explosion (no fire)	0	0%	1	0%	0	0%	0	0%	1	0%
Public Service	9	5%	2	1%	4	2%	6	3%	21	2%
Structure Fire	0	0%	2	1%	3	1%	2	1%	7	1%
Unauthorized Burning	1	1%	1	0%	1	0%	2	1%	5	1%
EMS Total	95	49%	119	50%	125	48%	109	55%	448	50%
Extrication	0	0%	0	0%	0	0%	1	1%	1	0%
Lost Person	1	1%	1	0%	2	1%	0	0%	4	0%
MVA	31	16%	40	17%	32	12%	33	17%	136	15%
Medical Call	60	31%	77	32%	90	34%	75	38%	302	34%
Other	3	2%	1	0%	0	0%	0	0%	4	0%
Rescue Other	0	0%	0	0%	1	0%	0	0%	1	0%
Other Calls Total	85	44%	107	45%	120	46%	74	37%	386	43%
Aid Given	2	1%	7	3%	8	3%	6	3%	23	3%
Canceled	58	30%	52	22%	70	27%	27	14%	207	23%
Citizen Complaint	0	0%	0	0%	0	0%	1	1%	1	0%
False Alarm	11	6%	21	9%	16	6%	14	7%	62	7%
Good Intent	14	7%	27	11%	26	10%	24	12%	91	10%
Severe Weather/Natural Disaster	0	0%	0	0%	0	0%	2	1%	2	0%
Total	195	100%	238	100%	262	100%	200	100%	895	100%

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Hour	2015	2016	2017	2018	Total	% of Total Calls
100	6	2	7	3	18	2%
200	2	1	0	0	3	0%
300	2	2	3	3	10	1%
400	0	0	2	2	4	0%
500	4	2	4	2	12	1%
600	2	3	5	2	12	1%
700	9	8	6	1	24	3%
800	7	4	9	7	27	3%
900	8	10	12	9	39	4%
1000	12	15	20	7	54	6%
1100	17	22	22	24	85	9%
1200	14	18	20	16	68	8%
1300	16	24	12	11	63	7%
1400	14	13	25	11	63	7%
1500	16	20	16	14	66	7%
1600	19	30	14	13	76	8%
1700	7	14	16	6	43	5%
1800	11	11	15	15	52	6%
1900	7	9	14	14	44	5%
2000	6	5	9	11	31	3%
2100	8	6	12	8	34	4%
2200	4	8	10	9	31	3%
2300	0	5	5	10	20	2%
2400	4	6	4	2	16	2%
Total	195	238	262	200	895	100%

Fig 1: Number of Calls by Hour, Station 39 - Galena Forest, Jan 2015 - Oct 2018



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Station 39/GALENA FOREST

Table 4: Top Call Addresses, 2015-2018 Aggregate	
Location	# of Incidents
20007 Mount Rose	169
1 MT ROSE	36
22222 MT ROSE	29
10000 Mount Rose	26
Mt Rose & Douglas Fir	22
XX DELACROIX	18
XX Green Ash	16
18077 Bordeaux	16
20989 MT ROSE	15
9000 Mount Rose	13
25451 Mount Rose	9
25000 Mount Rose	8
1 THOMAS CREEK TRAILHEAD	8

NOTE: XX indicates address is private residence

TMFPD Calls Matched to REMSA

Table 5: Number and Percent of Calls by Arrival On Scene and REMSA Priority, July 2017-December 2018												
Arrival On Scene	0		1		2		3		9		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
REMSA First	0	0%	18	23%	15	20%	6	30%	0	0%	39	22%
REMSA Only-Fire canceled	0	0%	2	3%	4	5%	0	0%	0	0%	6	3%
Fire First	0	0%	45	58%	32	43%	12	60%	2	100%	91	51%
Fire Only-REMSA canceled	3	75%	9	12%	19	25%	1	5%	0	0%	32	18%
Same Time	0	0%	1	1%	0	0%	0	0%	0	0%	1	1%
All Canceled	1	25%	3	4%	5	7%	1	5%	0	0%	10	6%
Total	4	100%	78	100%	75	100%	20	100%	2	100%	179	100%

Fig 2: TMFPD and REMSA Arrival on Scene, July 2017 - December 2018

