

Emergency Medical Services

Service Level Improvements and
Pro Forma Analysis
for Ambulance Transport



Truckee Meadows Fire &
Rescue

August 2021



Executive Summary

This proposal recommends a contract between REMSA and TMFR to provide ambulance transport in the Sun Valley and Spanish Springs areas (Stations 45 and 46) and other areas that may benefit the parties. If approved and implemented, this proposal will increase the service level for Truckee Meadows Fire and Rescue (TMFR) constituents with a cost-neutral financial impact.

The current ambulance system in Washoe County was designed in 1986 and has largely remained unchanged for thirty-five years. Except for Incline Village and Gerlach, REMSA provides ambulance operations in Washoe County under a franchise agreement between Washoe County Health District and REMSA. By way of a mutual aid agreement, there are responses provided by TMFR when the system demand is high. TMFR has operated ambulances for 10 years, giving surge capacity and mutual aid support to the current EMS system.

The Sun Valley & Spanish Springs area generate approximately 55% of the District's call volume. The north battalion accounts for 75% of the total call volume District-wide. This proposal recommends twelve additional staff to place two paramedic ambulances in service, 24/7 at the Sun Valley and the Spanish Springs fire stations. The Board could authorize future locations for TMFR ambulance operations. Calls for EMS service in the area have substantially increased since the beginning of the COVID-19 pandemic. The pandemic has put pressure on resources for both REMSA and TMFR, and this program will have mutually beneficial results for both agencies.

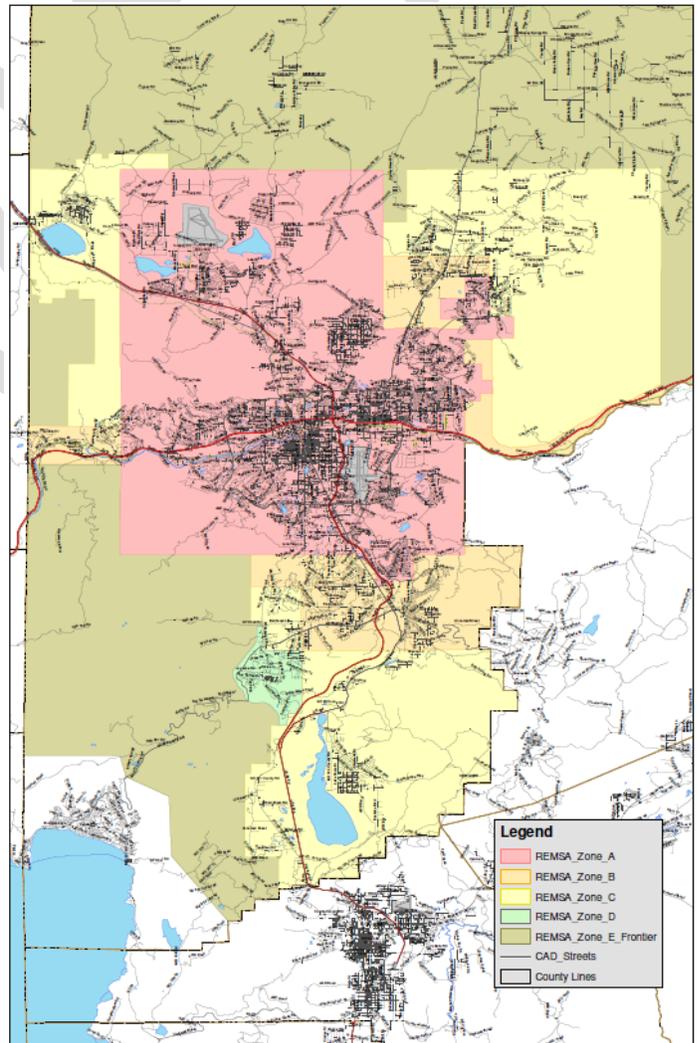
Staff extensively studied expenditures and revenues. In addition to revenues derived from transports, the District can apply for Ground Emergency Medical Transport (GEMT) funds from the State Medicaid Program. A complex formula calculates GEMT funds, but the District would receive reimbursement for a portion of its documented EMS costs across many EMS program cost centers. The GEMT funds are expected to make this proposal a cost-neutral program.

TMFR staff completed its financial analysis and has also contracted with a nationally recognized consultant to estimate the amounts available to the District. Staff will present the consultant's findings at the September 7 regular Board Meeting.



Background

The current ambulance system in Washoe County was designed in 1986 and is essentially unchanged. Except for Incline Village and Gerlach, the ambulance operations in Washoe County fall under the District Board of Health (DBOH) purview. In 1986, the DBOH awarded an exclusive ambulance franchise to REMSA. REMSA is a “not-for-profit” organization comprised of a Board that oversees the franchise. Since its inception, REMSA has chosen to award the ambulance operations of that franchise to its wholly-owned subsidiary called RASI (Regional Ambulance Services Inc.). Most of the employees and functions of the ambulance system belong to RASI. REMSA has the option of awarding that franchise to alternative providers if it chooses. REMSA must also conform to various performance standards to maintain its franchise. The DBOH monitors compliance. This exclusive franchise arrangement was last renewed in 2014 for a 16-year term (expiration in 2030). During the tenth year of this period, a “review of operations” shall be conducted. If operations meet performance standards, the term shall automatically extend an additional six years (to then expire in 2036). The DBOH can then extend the franchise for one more 6-year term if the DBOH is satisfied with operations (to then expire in 2042).



REMSA & RASI currently operate what is called a “system status management” ambulance deployment plan. This means that ambulances generally do not have fixed posts or stations and are moved throughout the system during the day depending on coverage needs and anticipated EMS response needs. This model tends to shift resources towards the core of urban areas, where most of the service needs exist. Furthermore, the franchise has different response time compliance requirements in differing geographic regions of the County, dependent upon population density. Therefore, REMSA has a longer allowable response time to the peripheral/suburban areas of the County and shorter response times in the urban centers.

TMFR has operated rescues (ambulances) in a limited fashion for the last decade. The response has predominantly been an infrequent occurrence. Still, TMFR had one rescue available in Washoe Valley that could respond when REMSA was distant and in need of surge capacity to reduce long wait times for residents in that area. However, in late 2020, due to the impacts of the COVID-19 Pandemic, TMFR was asked to assist REMSA by assuming transport responsibilities in the Sun Valley area as well.

The Washoe Valley and Sun Valley ambulance response through the pandemic was initially accomplished via the established mutual aid agreement and was intended to be a short-term arrangement. However, this arrangement has since been mutually advantageous for both TMFR and REMSA and the community, who benefit from shorter and more efficient responses. Staff is now evaluating a long-term rescue transport program for TMFR in coordination with REMSA.



Challenges and Opportunities

Throughout the era of the REMSA franchise period, the suburban/rural areas of the County have experienced evolving levels of ambulance availability. For many years, REMSA ambulances primarily responded to outlying incidents from a post within the cities. Due to public concern over extended ambulance response times, several “fixed posts” were established closer to the peripheral areas. These recently included an ambulance on Mt. Rose Highway, one in Spanish Springs, and one in the North Valleys. Although these ambulances were often there, they too would be drawn into the urban core when call volume and demand required it. During the COVID-19 Pandemic, staffing shortages, staff quarantines/illnesses, and an increase in EMS demand caused REMSA to shift its resources again to concentrate them in the urban core. In April 2021, REMSA noticed TMFR that an ambulance would no longer regularly post in the locations mentioned above. A noticeable increase in response times to TMFR incidents resulted which delayed definitive care at hospitals and extended TMFR fire engines on-scene time. TMFR has been staffing a rescue in Sun Valley since December 2020, and that rescue has been instrumental in reducing ambulance response times in that area. It is also regularly used to respond into Spanish Springs when it is the closest available unit. 75% of the District’s call volume occurs in the North Battalion (roughly split by I-80). Approximately 55% of the District’s total call volume occurs in Sun Valley & Spanish Springs. For that reason, the staff is recommending an additional rescue that would be staffed and deployed in Spanish Springs while continuing operations of the rescue in Sun Valley.

In years past, operating a rescue for TMFR would have resulted in a budget deficit because the standard billing mechanisms would not cover related expenses. In 2015 the State of Nevada Medicaid program adopted provisions that allowed for government-owned ambulance providers to recover additional costs through what is known as the Ground Emergency Medical Transport Program (GEMT). GEMT requires a complex calculation of direct and indirect costs related to providing ambulance transport and EMS responses. These GEMT offsets will allow TMFR to operate rescues in a cost-neutral way. In that respect, the ability to provide a better service to the community while enhancing firefighter

staffing and suppression capabilities at relatively no additional cost to the District, has now made this program viable and attractive.

In addition to the benefits to TMFR and its residents, the program would have mutually beneficial outcomes for REMSA and the region. With TMFR assuming transport responsibilities in portions of its District, REMSA can better focus its finite resources on other areas within the County and predominantly within the cities. REMSA's system status management model is better designed for that, while TMFR's fixed stations better serve the outlying County areas.

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Benefits of the Proposal

TMFR staffs its ambulances with cross-trained Firefighters/Paramedics. Two personnel assigned to those rescues can fulfill all of the EMS functions equivalent to a REMSA crew and also provide fire & rescue responses when needed. For example, if there is a fire, motor vehicle accident, or other rescues in Sun Valley, the response from that station includes three personnel on the engine and two personnel from the rescue (total of 5). The staffing complement is advantageous for fast & efficient initial fire attacks or more effective rescue & extrication operations.

Additionally, this deployment plan allows personnel to shift to other apparatuses, resources or other assignments depending on the unique demands of each incident. During many fires in the rural setting, water tenders are needed to support water supply needs. Currently, the 3-person engine will have to use one firefighter to cross-staff and respond to the water tender, leaving only two firefighters on the engine, limiting their operational capability. Where the rescues are in-service, the rescue personnel can shift onto water tenders, leaving the engine crew staffing intact for fire attack operations. This dynamic staffing model allows for versatility during evolving emergency incidents.

Another benefit of TMFR staffing its own rescues is the ability to better triage incidents and match response needs accordingly. In lower acuity EMS emergencies, a response of the engine and the rescue is not required. The engine can remain in-service and available for other calls or fires instead of committing to all EMS responses. Furthermore, when there are simultaneous incidents in a respective area, the rescue and engine can split their response and respond to those incidents separately.

Because this endeavor is being done collaboratively with REMSA, it allows the system to operate in a hybrid fashion where REMSA focuses on the urban core, and TMFR focuses on much of the suburban/rural areas of the County. However, there are occasionally times where simultaneous incidents occur or heavy demand overtaxes either agency's resources. TMFR would continue to rely on REMSA to provide a secondary response when closest and TMFR is unavailable. Conversely, when REMSA's system is overloaded and does not have available resources for pending EMS incidents, TMFR can provide a mutual aid response to other areas within the County and region.



Capital Needs

The District currently owns three rescues, with two of them in-service at any given time. The two front-line rescues are now in service in Washoe Valley (2018 model) and Sun Valley (2021 model). The third rescue (2005 model) is kept in reserve status if either of the front-line units needs mechanical service or is otherwise unavailable. Staff recommends that the District agree with REMSA to provide ambulance services in Spanish Springs, Sun Valley, and Washoe Valley. Additional areas could be considered in the future if mutually agreeable to TMFR & REMSA.

The District has submitted a sub-grant funding request to Washoe County for its consideration that would fund the purchase of two additional rescues, as well as the first year's staffing costs. If approved, funds from the American Rescue Plan (ARP) would allow the District to add one rescue in Spanish Springs and retire the older reserve rescue. The requested grant funds would also help offset the first year's rescue staffing costs while awaiting reimbursements that can take a considerable amount of time.

The staff has conducted a preliminary assessment of the stations where three rescues would be located. In Sun Valley, there is already adequate space for all personnel, including the rescue staff, so there are no additional needs there.

In Washoe Valley, the rescue is currently cross-staffed by the 3-person engine crew, so there is adequate space for all of them there. Future alternatives include relocating the rescue to the East Lake fire station or designing the consolidated Washoe Valley fire station with sufficient space for the engine staff and rescue crew.

In Spanish Springs, modifications are needed to the existing station. There is currently only room for four personnel (need a minimum of 5). Short-term and long-term plans are being considered. In the short term, minor modifications can be made to interior space that will allow for two additional bedrooms. A temporary garage space can be added at the rear of the station to house the rescue or possibly construct a small addition for that purpose. Long-term plans would require more significant renovations but should be considered in the District's master planning process.



Personnel (Firefighter/Paramedics)

Each rescue that the District operates requires six full-time employees (Two per shift, with three shifts). The proposed deployment plan would phase in additional staffing by starting with Sun Valley & Spanish Springs staff. The Washoe Valley rescue would continue to be cross-staffed with engine personnel until next year when the District could hire extra staff. The Sun Valley rescue is already operational and will continue operating with existing staff until new employees are hired and trained. Spanish Springs would require six new employees before the rescue becomes operational. The projected timeline to hire and train the staff for Spanish Springs would result in that rescue being active at the beginning of 2022. In total, the District would create 12 new Firefighter/Paramedic positions now and potentially six additional positions for Washoe Valley in the future.

If approved, the District will hire these additional 12 positions (in addition to any other existing vacancies) through a combination of Lateral Firefighters (experienced from other fire agencies) and new EMTs and Paramedics (without fire training). The Lateral Firefighters can be trained in approximately four weeks and begin assisting with staffing needs in a short amount of time. The non-fire trained EMTs and Paramedics would attend the District's 14 week Fire Academy. It is tentatively scheduled to begin in mid-October and would be complete by early February. For that reason, the Spanish Springs rescue would commence service in early 2022, around the same time that the newly hired personnel complete the fire academy.





Expenditures

As previously stated, the substantial costs of operating the TMFR rescue program are with the additional staffing needed for each rescue. Staffing of each rescue would consist of two personnel comprised of either two Firefighter/Paramedics or one Firefighter/Paramedic and one Firefighter/EMT. The District operates three shifts, requiring two personnel (6 total for all three shifts). On average, the 6 FTE's required to staff each rescue would cost the District \$742,719 for the first year (FY 21/22 salaries & benefits). Future costs would be subject to step increases and COLA. The District is currently estimating operational staffing costs at \$800,000/year for each rescue, including salaries, benefits, and coverage over time. Staff recommends operations and staffing of two rescues this year (Sun Valley & Spanish Springs), for a total estimated staffing cost of \$1,600,000/year.

The other significant cost associated with the program is purchasing the rescue, gurney, & equipment. The District already owns the necessary apparatus and equipment for the Sun Valley & Washoe Valley stations, so there are no new costs anticipated for those stations. As previously stated, the District has requested ARP sub-grant funds to purchase two additional rescues and equipment that will allow for the operations of a unit in Spanish Springs, plus one other reserve/special-event unit. Additional operational costs would include routine fleet costs (fuel, tires, maintenance, etc.). With all of these units being relatively new, maintenance/repair costs should be minimal and under warranty. Fuel, tires, and routine costs are estimated at \$8,000/year for each unit.

The only other ongoing cost is EMS supplies that are utilized on incidents. TMFR has a resupply agreement in place with REMSA that leverages their higher volume purchasing to minimize expenses. Those supply costs are also part of the fees that are billed to patients during EMS incidents. On average, each rescue incurs approximately \$6,000/year in supply costs.

The total estimated operational cost of the TMFR rescue program is approximately \$814,000/rescue each year. With the recommendation of staffing two rescues for the first year, the projected total cost is \$1,628,000/year. When the Washoe Valley rescue is staffed with dedicated personnel in future years, this total operational cost will increase to approximately \$2,442,000/year (with 18 additional firefighters).



Revenues

One of the many benefits of the TMFR rescue program is that it creates an additional revenue stream outside ordinary tax revenues. Whether a patient is transported by TMFR, REMSA, or another agency, they are billed for those services, which is customary in the industry. TMFR's rescue program would operate under the requirements outlined in the REMSA franchise agreement. Part of that agreement details the "maximum average bill" that is allowable for rescue transport services. The amount of each bill varies depending upon the level of service provided, types of interventions and medications used, and distance of the transport, amongst other things.

Ambulance transport fees are primarily billed to four sources, those being Medicare, Medicaid, private insurance, and individuals. Every agency has a differing "payer mix," representing the total payer composition of the services patients receive. Furthermore, each agency may have differing payer mixes within its geographic subset areas. This is mainly due to different demographics, including access to healthcare, age, income, and other contributing factors. As an example, the payer mixes and demographics are significantly different in Sun Valley compared to Galena Forest. There is a much higher percentage of Medicaid & uninsured population in Sun Valley, whereas Galena Forest comprises Medicare and privately insured individuals. These differing payer mixes throughout TMFR's jurisdiction contribute to different collection rates for ambulance transport services.

TMFR has begun to gather enough data from its ambulance operations in Sun Valley & Washoe Valley to have preliminary estimates of what its average ambulance billings will be, as well as its recovery rate on those bills. REMSA provided TMFR with the past three years' worth of payer mix and actual revenues from each insurance category. The direct ambulance billing revenues are estimated for each of TMFR's districts in the table below.

TMFR Rescue Transport Revenue Projections						
		Uninsured	Medicaid	Medicare	Commercial	Totals
Washoe Valley	<i>Annual Transport Volume</i>	18	36	137	60	251
	<i>Average Rate</i>	\$161.00	\$295.00	\$459.00	\$1,198.00	
	<i>Revenue Estimate</i>	\$2,898.00	\$10,620.00	\$62,883.00	\$71,880.00	\$148,281.00
Sun Valley	<i>Annual Transport Volume</i>	132	552	693	263	1640
	<i>Average Rate</i>	\$161.00	\$295.00	\$459.00	\$1,198.00	
	<i>Revenue Estimate</i>	\$21,252.00	\$162,840.00	\$318,087.00	\$315,074.00	\$817,253.00
Spanish Springs	<i>Annual Transport Volume</i>	25	47	466	163	701
	<i>Average Rate</i>	\$161.00	\$295.00	\$459.00	\$1,198.00	
	<i>Revenue Estimate</i>	\$4,025.00	\$13,865.00	\$213,894.00	\$195,274.00	\$427,058.00
Total Transports						2592
Total Projected Annual Transport Revenues						\$1,392,592.00

One of the other significant revenue opportunities comes from creating Ground Emergency Medical Transport (GEMT) revenues from Medicaid. Only governmental ambulance providers that transport Medicaid patients are eligible for these funds. The methodology for calculating what those revenues would be is somewhat complex, with several variables. The premise behind the GEMT program is to provide additional funding that matches the offset between what Medicaid pays directly for an ambulance transport bill and the agencies actual cost of providing those services. Those costs include all of the direct costs in staffing, equipment, and supplies related to the ambulance program, as well as indirect costs associated with all other EMS functions and support services throughout the District. Those indirect costs also include providing non-transport EMS services from all of TMFR's engines and personnel. Preliminary estimates of TMFR's GEMT revenue allocation is \$1.5 to \$2 Million in additional revenues if transport services were provided in all three of the proposed service areas.

TMFR has also contracted with AP Triton Consulting services to do a more detailed analysis of projected revenues in the different portions of TMFR's District, as well as the District as a whole. This will also include a more detailed expense projection. Furthermore, REMSA is considering an increase to the allowable "maximum average bill" that is approved by the Health District, which, if approved, should increase private insurance collections going forward.

Total anticipated revenues related to the rescue program including direct insurance billings and GEMT revenues are:

Direct transport fees (Medicare, Medicaid, Private Insurance)	\$1,392,592
GEMT Revenues	\$1,727,023



Non-transport fees (First responder fees, MVA fees, etc.)	\$150,000
TOTAL	\$3,269,615

Projected Net Cost

Based on the projected revenues and expenses analysis, TMFR’s rescue program will generate slightly more revenue than the expenditures associated with the additional staffing of the three rescues. At a minimum, the program can be expected to be cost-neutral. The ability for the District to have 2-3 additional rescues staffed with 12-18 additional personnel is a tremendous benefit to the District. The cross-training of these employees in both EMS & fire disciplines provides an efficient method of adding staffing that benefits the community with additional firefighters when needed while giving an improved EMS/rescue response for people in the District. Adding these capabilities without significantly impacting existing revenue sources provides valuable resources at little to no cost.

Anticipated Revenues	
Direct transport fees (Medicare, Medicaid, Private Insurance)	\$1,392,592
GEMT Revenues	\$1,727,023
Non-transport fees (First responder fees, MVA fees, etc.)	\$150,000

TOTAL	\$3,269,615
Anticipated Expenses (2 Staffed Rescues)	
Staffing (12 full-time employees)	\$1,600,000
Vehicle Maintenance and operational costs	\$16,000
Rescue Supplies	\$12,000
TOTAL	\$1,628,000
Anticipated Expenses (3 Staffed Rescues/Future Years)	
Staffing (12 full-time employees)	\$2,400,000
Vehicle Maintenance and operational costs	\$24,000
Rescue Supplies	\$18,000
TOTAL	\$2,442,000
Net Revenue over Expense (2 Rescue Program)	\$1,641,615
Net Revenue over Expense (3 Rescue Program)	\$827,615



Five Year Projections

Revenue & expense 5-year forecasts show increasing labor costs as new employees receive step/COLA increases. Revenue projections also increase with District-wide call volume

increases anticipated at 5% annual growth plus a 3% increase in inflation/CPI for transport bills.

Labor Cost Estimate	Year 1	Year 2	Year 3	Year 4	Year 5
Position	FF/PM- 2912				
Step 1 Reg Hr Rate	22.94	25.23	27.76	30.53	33.59
Incentive (9% average)	2.06	2.27	2.50	2.75	3.02
Medicare 1.45%	0.36	0.40	0.44	0.48	0.53
PERS Rate 44%	11.00	12.10	13.31	14.64	16.11
*Worker's Comp Rate 7.33%	1.83	2.12	2.33	2.56	2.82
Basic Life ER Amount (prorated per hr)	0.02	0.02	0.03	0.03	0.03
Vision ER Amount (Emp + Fam, prorated per hr)	0.06	0.07	0.07	0.07	0.08
Dental ER Amount (Emp + Fam, prorated per hr)	0.36	0.37	0.39	0.41	0.43
Medical ER Amount (Emp + Fam, prorated per hr)	5.86	6.15	6.46	6.78	7.12
PEHP	0.99	0.99	0.99	0.99	0.99
Uniform Pay	0.34	0.34	0.34	0.34	0.34
Reg Hr Rate Total Including Benefits	\$ 45.83	\$ 50.07	\$ 54.61	\$ 59.59	\$ 65.06
Total Yearly Salary	\$ 133,469.91	\$ 145,805.16	\$ 159,034.54	\$ 173,538.69	\$ 189,442.69
Position	FF/EMT- 2912				
Step 1 Reg Hr Rate	20.05	22.06	24.26	26.69	29.36
Incentive (3% average)	0.60	0.66	0.73	0.80	0.88
Medicare 1.45%	0.30	0.33	0.36	0.40	0.44
PERS Rate 44%	9.09	10.00	10.99	12.09	13.30
*Worker's Comp Rate 7.33%	1.51	1.75	1.92	2.12	2.33
Basic Life ER Amount (prorated per hr)	0.02	0.02	0.03	0.03	0.03
Vision ER Amount (Emp + Fam, prorated per hr)	0.06	0.07	0.07	0.07	0.08
Dental ER Amount (Emp + Fam, prorated per hr)	0.36	0.37	0.39	0.41	0.43
Medical ER Amount (Emp + Fam, prorated per hr)	5.86	6.15	6.46	6.78	7.12
PEHP	0.99	0.99	0.99	0.99	0.99
Uniform Pay	0.34	0.34	0.34	0.34	0.34
Reg Hr Rate Total Including Benefits	\$ 39.18	\$ 42.74	\$ 46.55	\$ 50.72	\$ 55.30
Total Yearly Salary	\$ 114,103.17	\$ 124,450.64	\$ 135,544.57	\$ 147,699.72	\$ 161,019.83
Assumptions:					
3% COLA and 7% Step Annual Increases until top step reached					
Medical and WC 5% Annual Increases					
Annual Cost of 6 FF/PM's	\$ 800,819.43	\$ 874,830.98	\$ 954,207.21	\$ 1,041,232.13	\$ 1,136,656.14
Annual Cost of 6 FF/EMT's	\$ 684,618.99	\$ 746,703.87	\$ 813,267.39	\$ 886,198.32	\$ 966,118.96
Total Cost of Staffing 1 Ambulance (3 PM & 3 EMT)	\$ 742,719.21	\$ 810,767.42	\$ 883,737.30	\$ 963,715.22	\$ 1,051,387.55
Total Annual Staffing Costs of 12 FTE's (2 Ambulances)	\$ 1,485,438.42	\$ 1,621,534.85	\$ 1,767,474.60	\$ 1,927,430.45	\$ 2,102,775.10

TMFR Rescue/Ambulance Implementation Plan

