



Emergency Medical Services

Agency Evaluation

Rich Buchanan

Senior Project Manager



AP TRITON

VISION • INNOVATION • SOLUTIONS

Project Initiation

Conduct a Comprehensive Agency Evaluation

- Center for Public Safety Excellence (CPSE)
- National Fire Protection Association (NFPA)
- Nationally recognized guidelines and generally accepted industry best practices.
- Balancing resources with opportunities specific to Williamson County

Project Initiation

Project Kick-Off

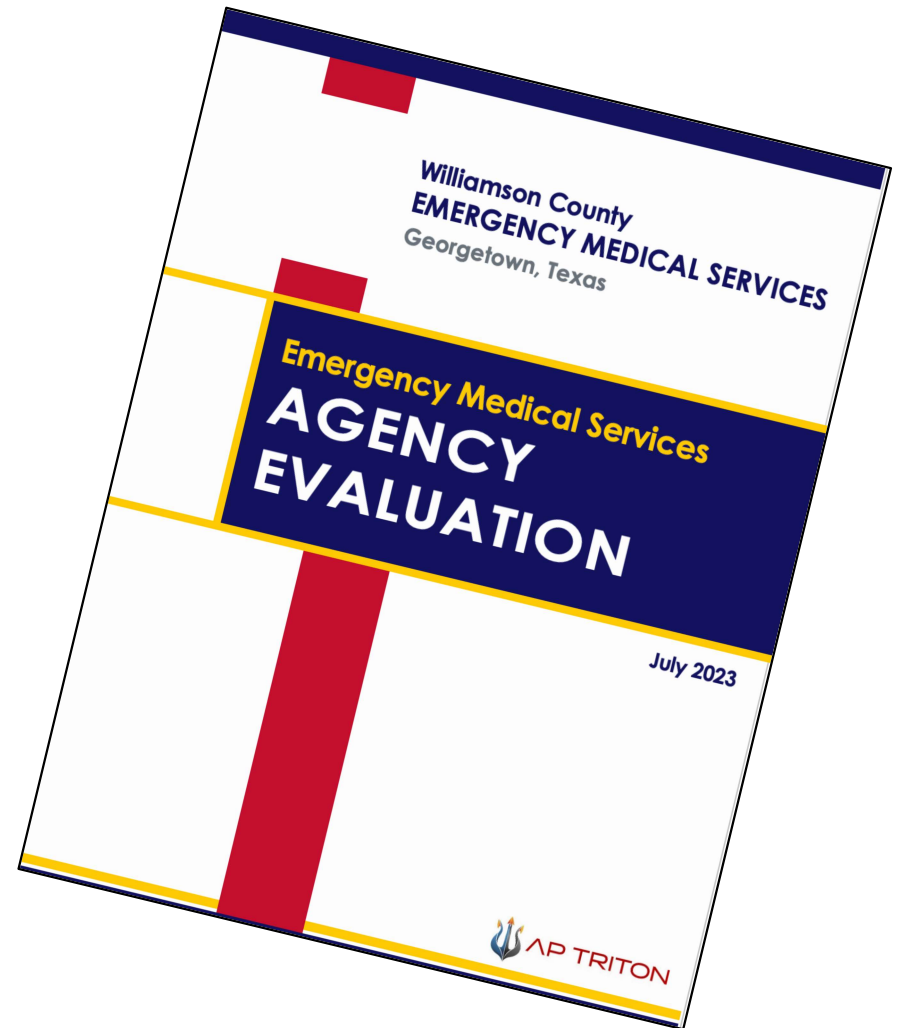
March 16, 2023

Site-Visit

June 6,7,8 2023

Project Completion

August 10, 2023

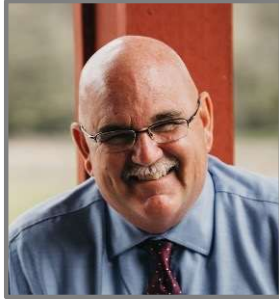


Project Initiation

■ Project Team



Rich Buchanan
Colorado



Bill Boyd
Arizona



Chris Coats
California



John Stouffer
Washington



Eric Schmidt
Florida

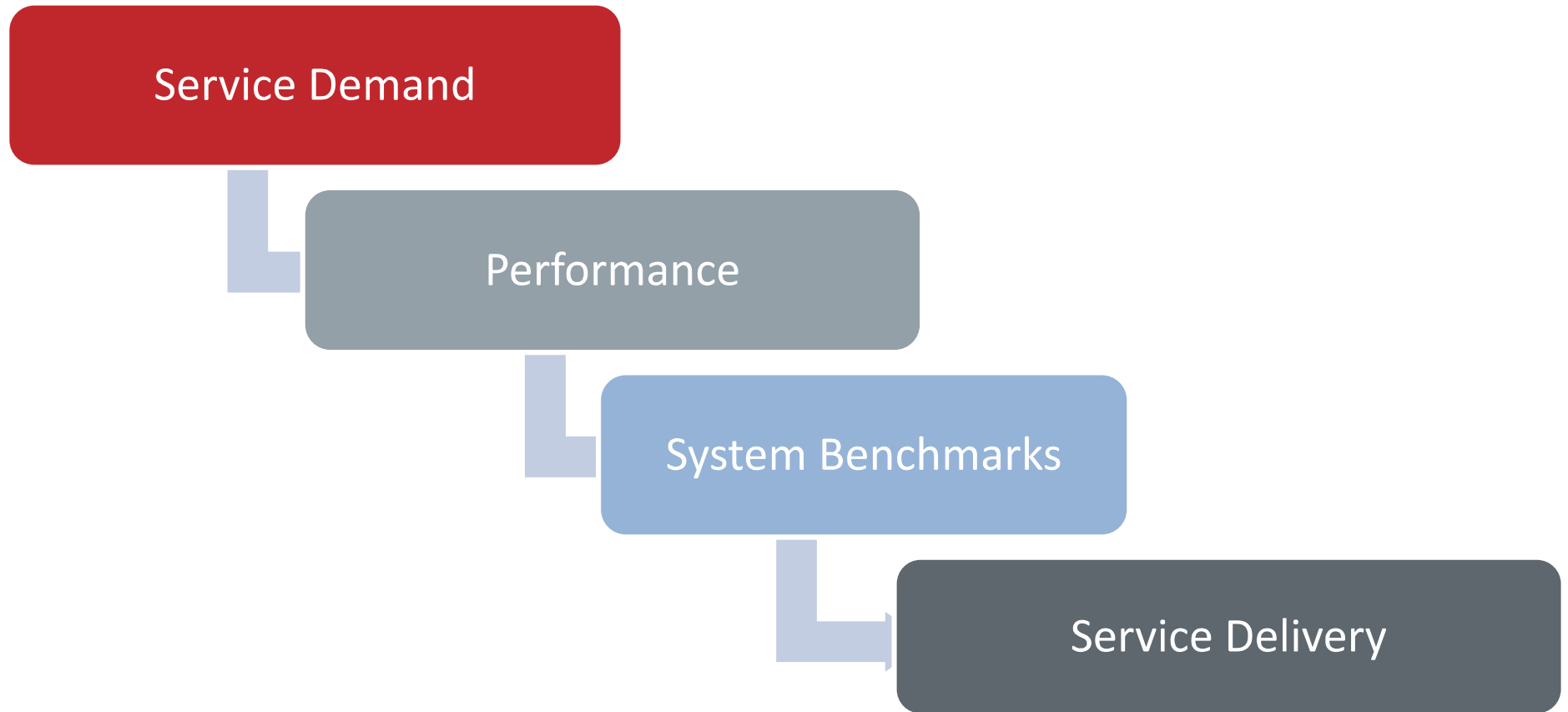


Randy Parr
Texas



Kurt Latipow
Nevada

Overview



Analysis Included:

- Williamson County EMS
 - Review Background Information
 - Local Census and Demographic Information
 - Financial Information
 - SOG's
 - RMS Data and incident records
 - GIS Data
- On site meetings with key staff, paramedics, EMTs, firefighters and elected/appointed officials



SERVICE DEMAND

Service Demand

Figure 58: Incident Breakdown (2018–2022)

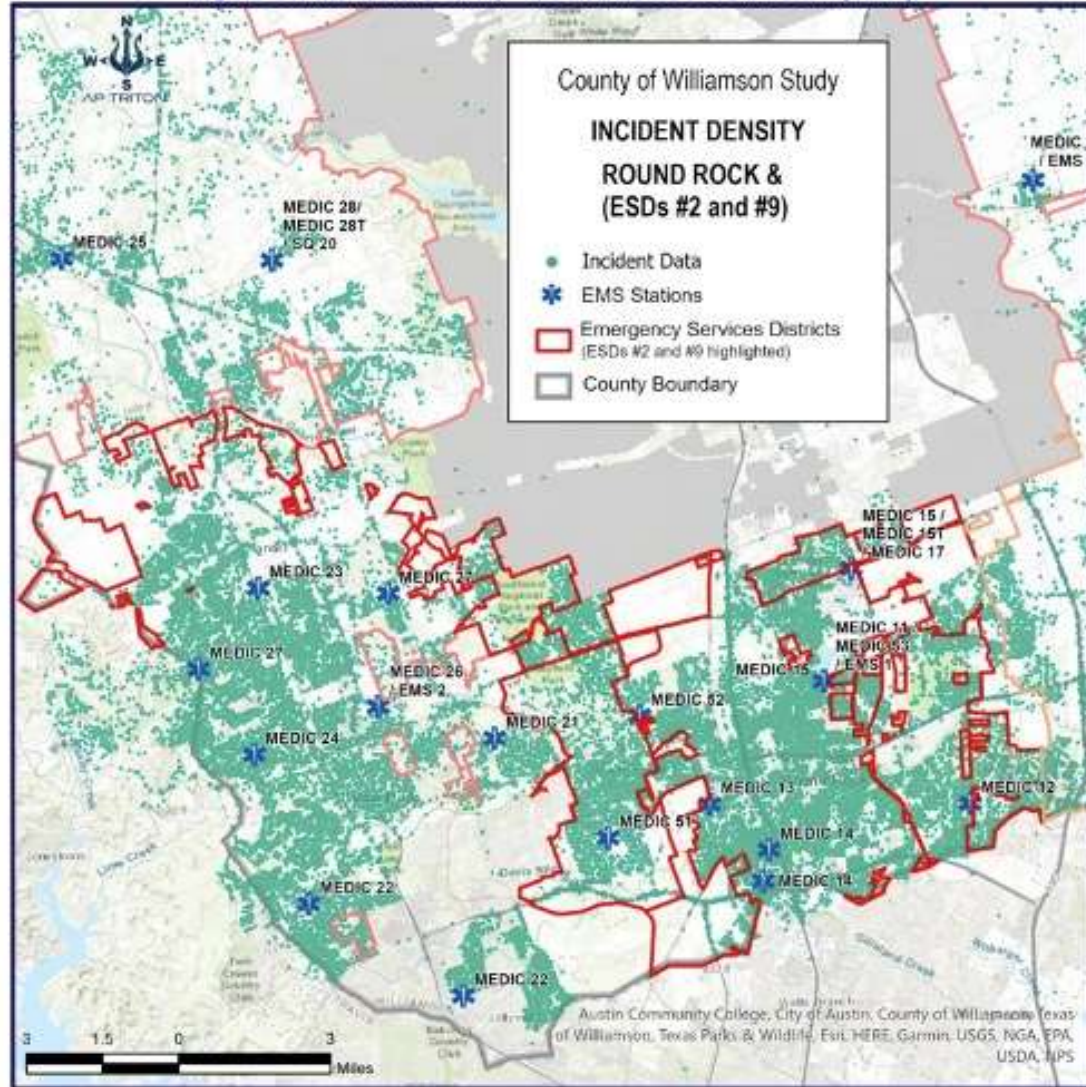
CAD Type Group	Count	% Total Responses
Medical	112,517	79.12%
Accident	14,553	10.23%
Transfer	4,225	2.97%
Assist	4,022	2.83%
LE Medical Assist	3,357	2.36%
Fire	2,283	1.61%
Administrative	650	0.46%
Stand By	307	0.22%
HazMat	181	0.13%
Rescue	101	0.07%
Aircraft	11	0.01%
Total	142,207	

Service Demand

Location	Location Type	Incidents
2701 N. Mays Street	Police Dept.	241
3001 Kalahari Blvd.	Resort	200
911 Tracy Chambers Lane	Police Dept.	199
2700 Sunrise Road	Senior Living/Care	180
2701 S. IH 35	Shopping Center	179
1700 E. Palm Valley Blvd.	Shopping Center	159
1401 Medical Pkwy.	Medical Center	137
1201-100 N. Lakeline Blvd.	Medical Center	132
651 N. US 183	Shopping Center	130
123-140 Ed Schmidt Blvd.	Shoping Center	129

(All Calls 2022)

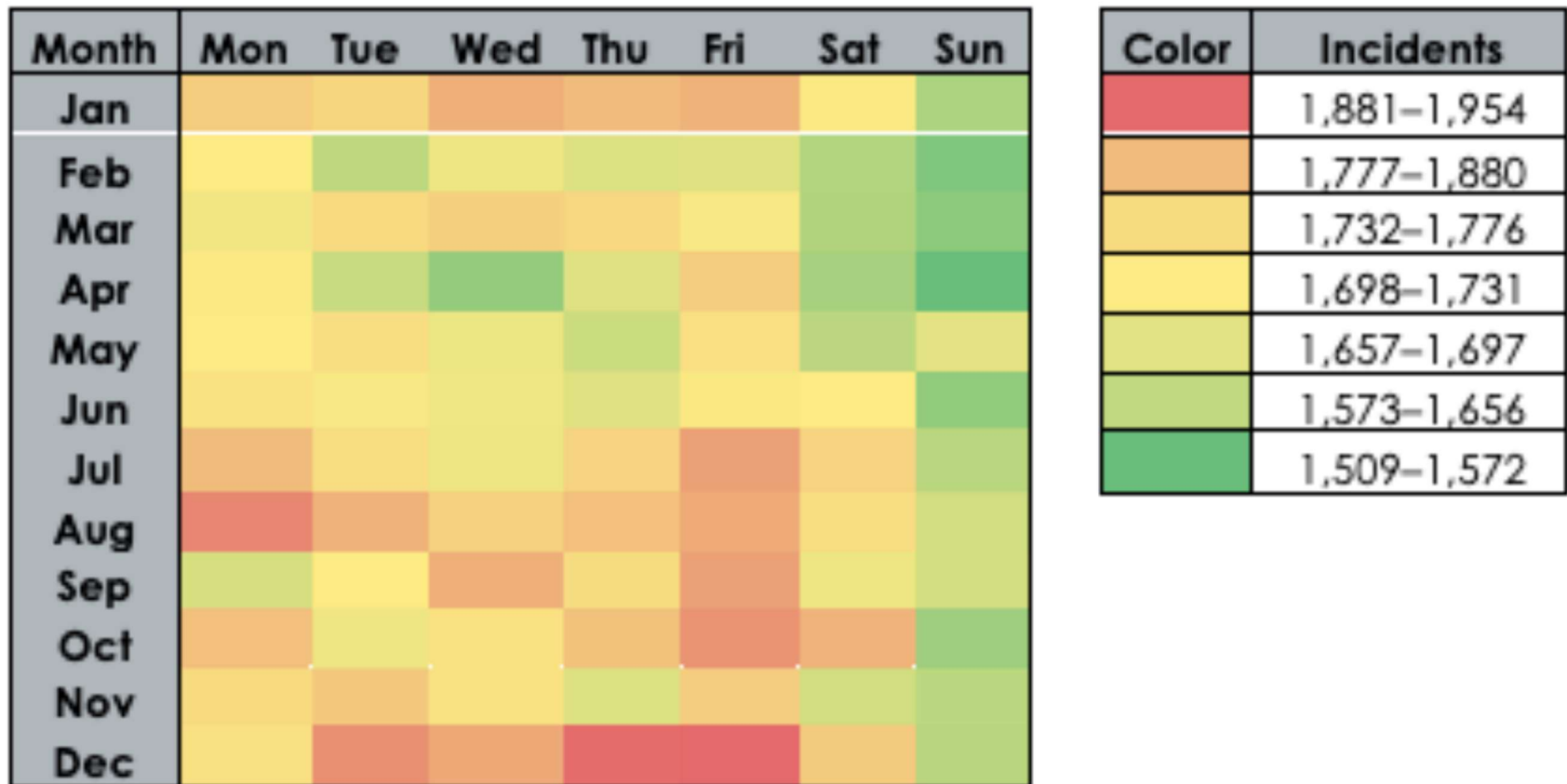
Figure 65: Incident Density—Round Rock ESDs #2 & #9 (2022)



Service Demand

(All Calls 2018-2022)

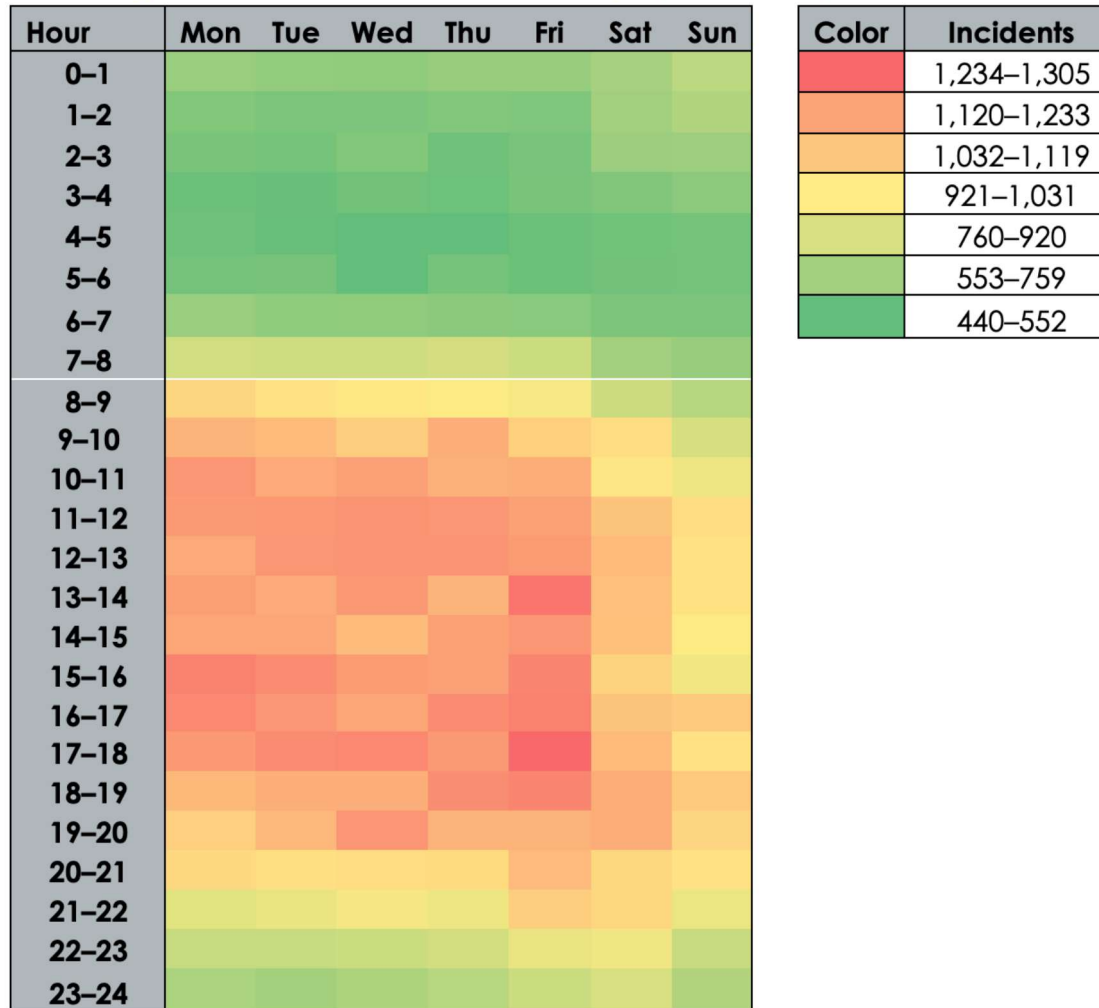
Figure 60: Service Demand by Month Heat Map



Service Demand

(All Calls 2018-2022)

Figure 63: Service Demand Heat Map by Time & Day of the Week



Service Demand

(All Calls 2018-2022)

Figure 7: WCEMS EMS Service Demand (2018–2022)





RESPONSE PERFORMANCE

Performance Standards



Response
Time



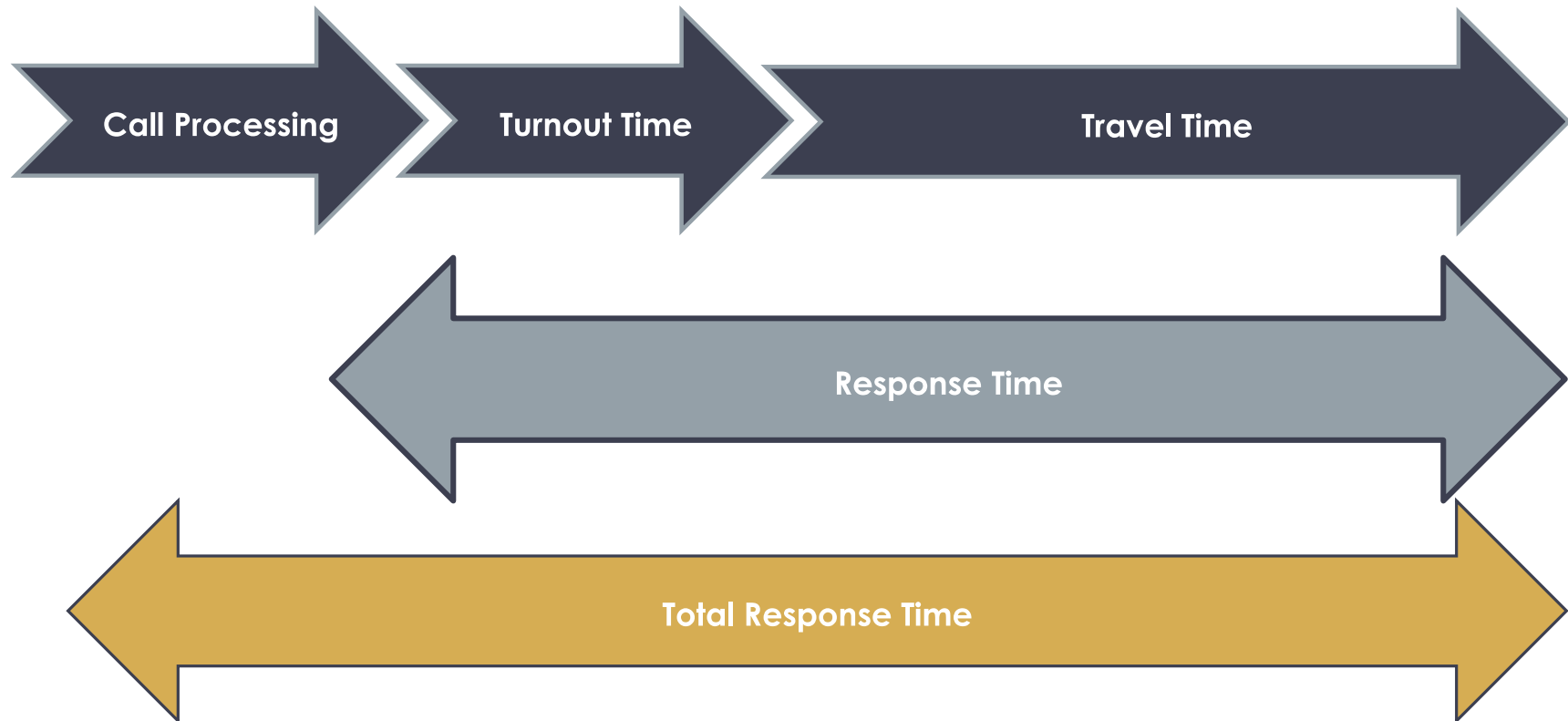
Staffing



Equipment

Total Response Time Performance

Figure 70: Response Time Continuum



Summary of Performance Goals

Figure 79: Summary of Performance Goals

Incident Interval	Performance Goal
911 call answer (time from the first ring to answer).	Within 15 seconds, 90% of the time Within 20 seconds, 95% of the time
Call process time (time from acceptance at the dispatch center until notification of response units).	Within 60 seconds, 90% of the time, for high acuity incidents Incidents requiring EMD or special assistance, 90 seconds, 90% of the <u>time</u> All incidents, 120 seconds 99% of the time
Turnout time (time from notification of response personnel until the initiation of movement towards the incident).	Within 60 seconds, 90% of the time (EMS) Within 80 Seconds, 90% of the time (Fire)
First unit travel time (time from initiation of response until the arrival of the first unit at the incident).	Within 4 minutes, 90% of the time
First unit response time (time from dispatch until the arrival of the first unit at the incident).	Within 5 minutes, 90% of the time (EMS) Within 5 minutes, 20 seconds, 90% of the time (Fire)

WCEMS Total Response Time Performance

Figure 80 WCEMS Response Performance 90th Percentile (2018–2022)

Call Processing	Turnout Time	Travel Time	Total Response Time
3:35	2:32	12:48	14:56

Travel Time Performance (2018-2022)

Figure 88: WCEMS Travel Time Analysis (2018–2022)

Response Area	Emergency	Non-Emergency
Cedar Park FD	10:20	13:35
Coupland/Thrall (ESD10)	22:57	23:43
Florence FD (ESD7)	20:49	22:37
Georgetown FD	25:54	33:53
Hutto FD	11:58	13:48
Jarrell FD	15:25	14:24
Jollyville VFD	14:03	16:55
Leander FD	12:12	16:00
Liberty Hill FD	17:33	18:30
Round Rock FD	10:58	12:44
Sam Bass FD	10:56	12:55
Taylor Area District	13:55	13:48
Weir VFD	19:03	21:09



SERVICE DELIVERY

Service Delivery



Staffing



Training



Capital / Facilities



Communication



Staffing

Figure 38: WCEMS Historical Operations Staff Changes (2019–2023)

Changes	2019	2020	2021	2022	2023	Totals
Turnover Rate	3%	8%	17%	17%	7%	
Attrition #	4	12	25	29	12	82
Personnel Hired	12	6	36	13	11	78
Positions Added	7	0	6	7	8	28
Difference Between Positions Added, Attrition Rate & Staff Hired:	1	-6	5	-23	-9	

Staffing (Relief Factor)

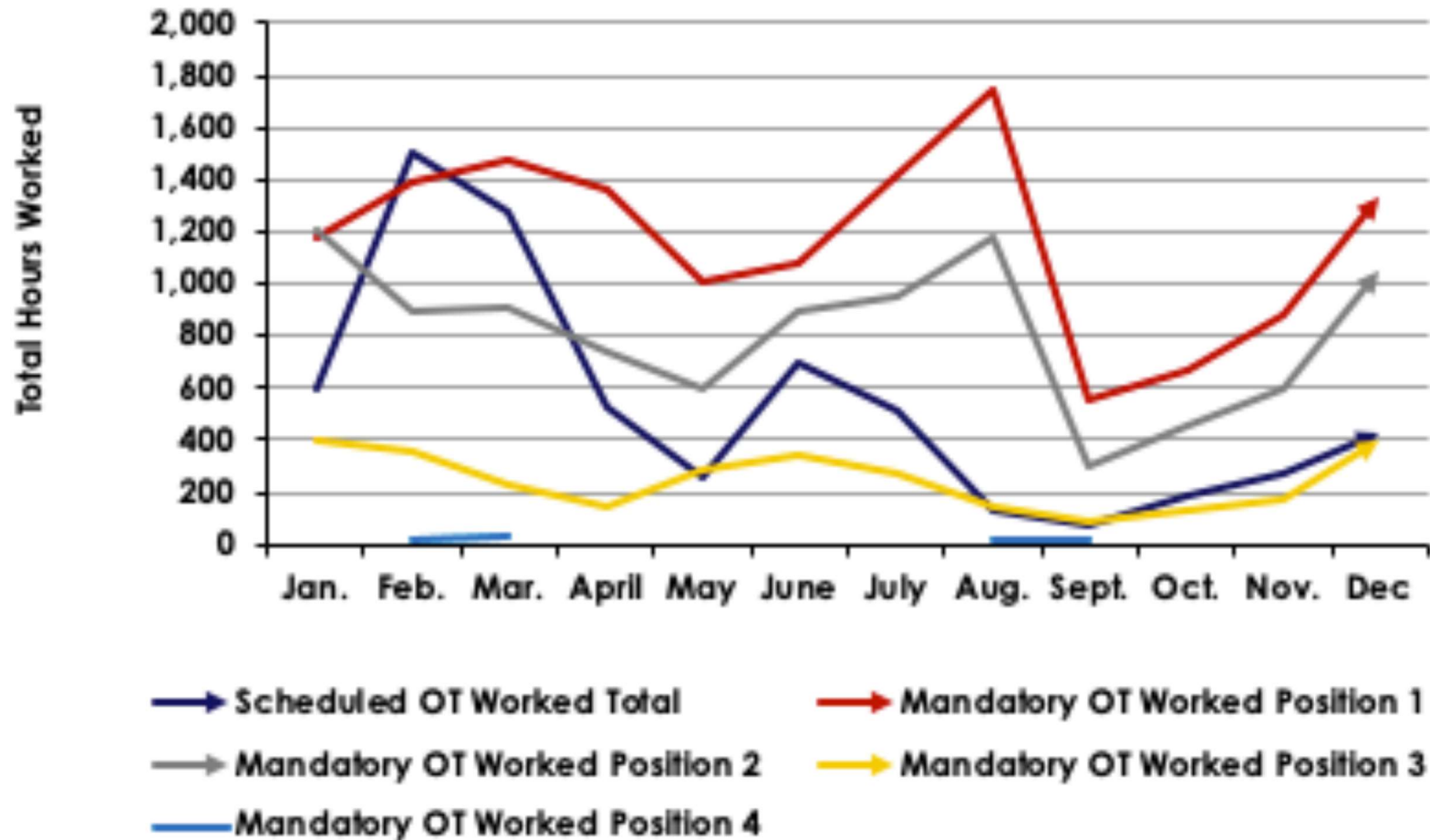
The calculated Staffing relief factor is 1.22

Figure 40: Calculated Operational Staff Shortage/Overage (as of April 2023)

Shift Coverage Required	Calculated Total Personnel Required	Current No. 24/7 Assigned Staff	Staff Shortage or Overage
Vacation, Sick, Holiday, FMLA, Military, etc.	132	134	+2

Staffing

Figure 37: Overtime Hours Worked by Month (2020–April 2023)

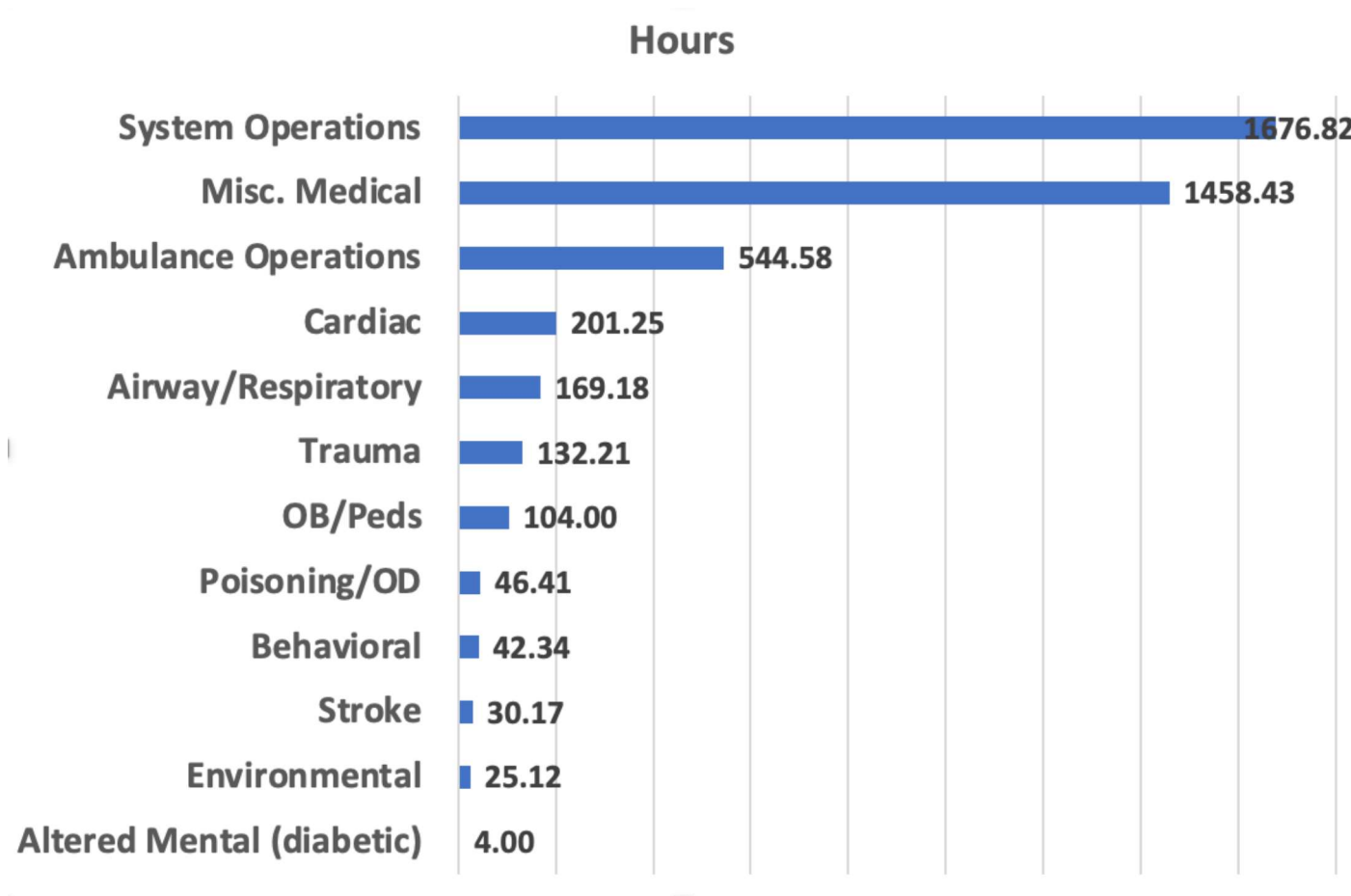


Training



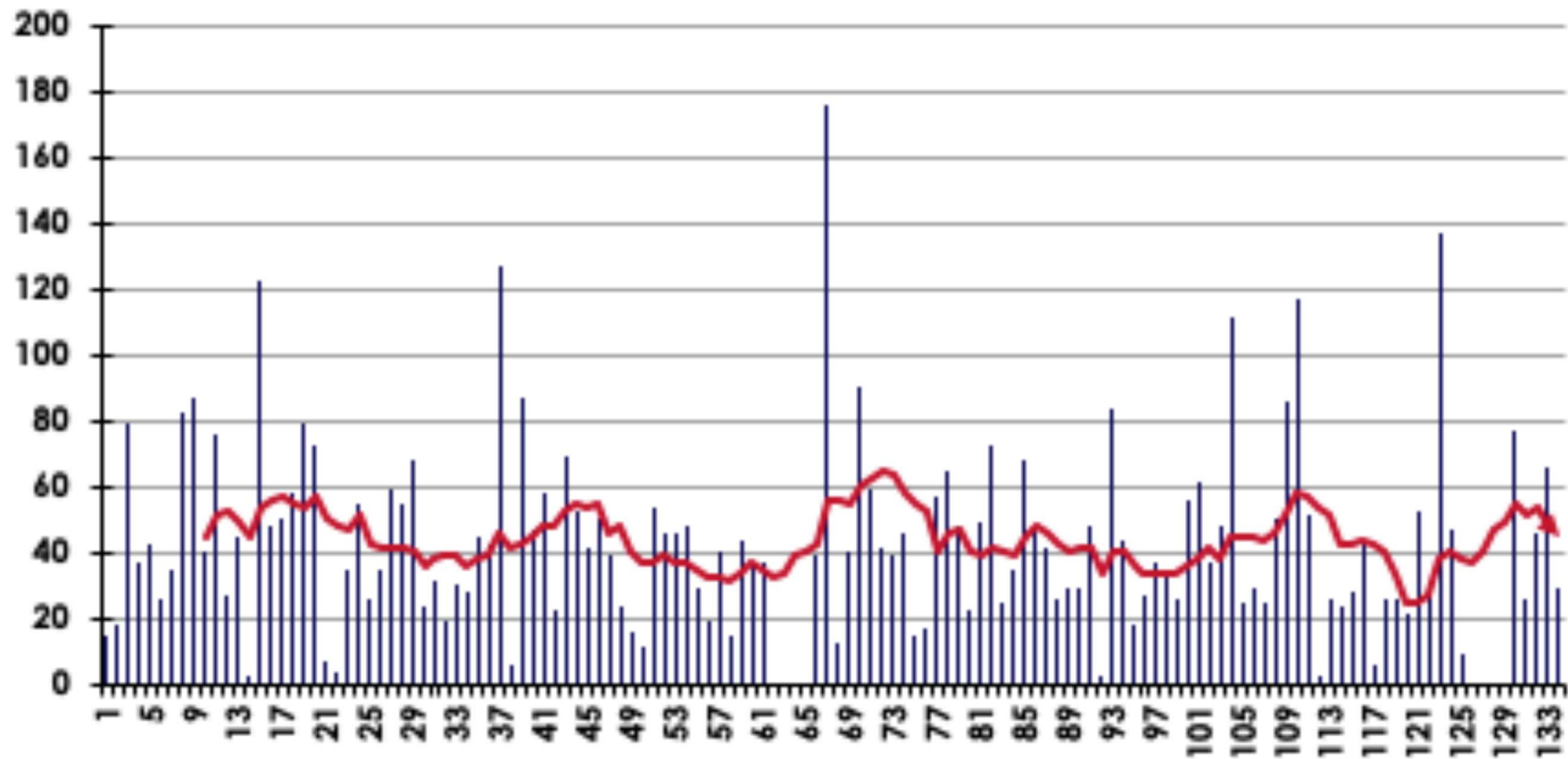
Training

- WCEMS provided 4,434 hours of training in 2022



Training (Individual)

Figure 47: Individual Training Analysis



Capital



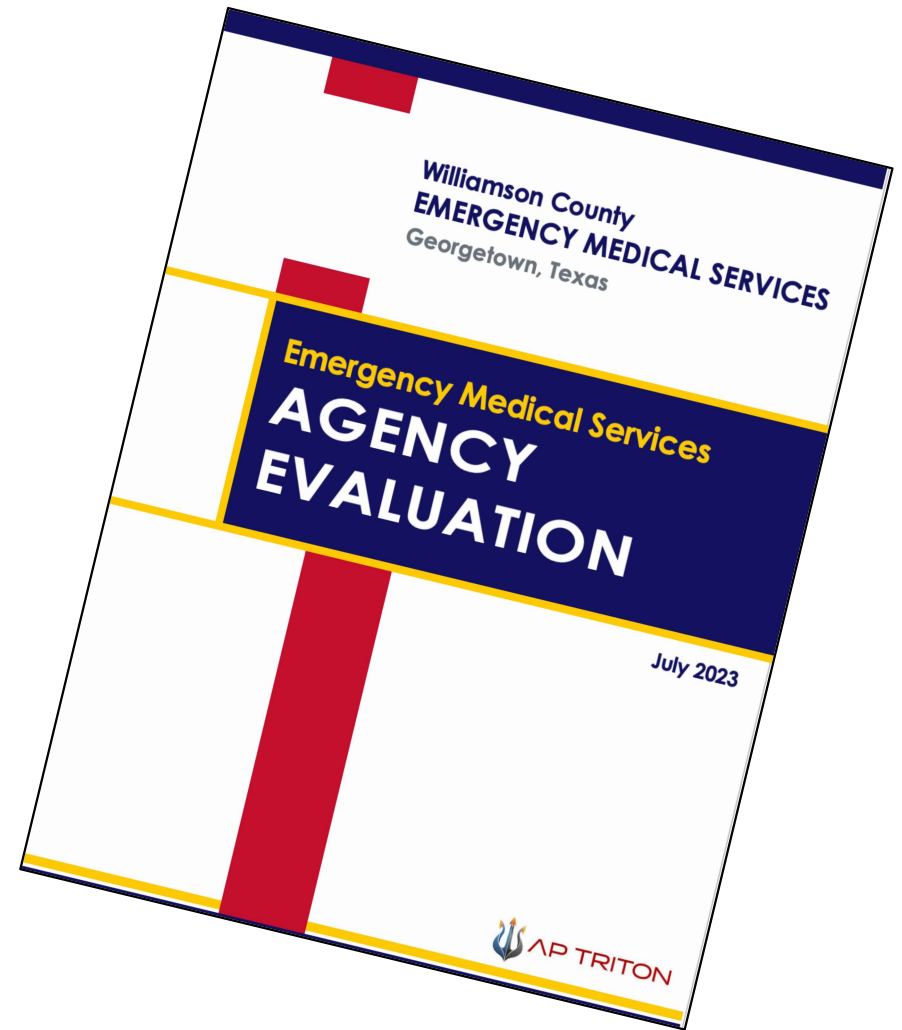
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RECOMMENDATIONS

Recommendations

- Established Benchmarks
- Focused Strategic Plan
- General Recommendations



System Benchmarks

- The community determines standards for response and service delivery served.

Appendix B: Sample Performance Benchmark Resolution

RESOLUTION NO. ____

Series of 2023

RESOLUTION ADOPTING WILLIAMSON COUNTY EMS POLICY ON RESPONSE PERFORMANCE OBJECTIVES

WHEREAS, Williamson County EMS, herein referred to as "WCEMS," provides emergency medical related emergency response to Williamson County and outlying boundaries through the contract and mutual aid agreements; and

WHEREAS, industry standards based on NFPA 1710/1720 *Standard for the Organization and, Emergency Medical Operations, and Special Operations to the Public by Career EMS Departments* provide achievable standards for response to EMS, Technical Rescue, and other types of emergency incidents; and

WHEREAS, Williamson County provides an effective emergency response force that must provide reasonable total response times to mitigate emergency incidents properly and;

WHEREAS, adopting formal performance standards for Williamson County EMS is essential to current and future service demand; and

WHEREAS, low level, moderate level, high level, and extreme risk level are defined as a risk category measurement where threats are measured considering the probability of occurrence, and hazard, danger, or loss is measured in consequence; and

WHEREAS, the following formal standard response performance benchmarks are herein established as core goals for the Williamson County EMS for a response within the boundaries of Williamson County.

Turn Out Time (Emergent Response)

1. For 90% (percentile) of all emergent responses will have an apparatus turn-out time of 90 seconds for all responses 24 hours a day. **EMS/Rescue Benchmarks**
1. For 90% of **Priority 1** medical and rescue incidents, the minimum effective response force staffing shall be one paramedic and one EMT. This first arriving unit shall have

General Recommendations

- **Staffing**

- Re-evaluation and development of the proposed 48/96 staffing schedule
- Evaluation of the base pay for individuals working unscheduled leave.
- Maintain current facilities program housing EMS crews in the various fire stations.

General Recommendations

- **Service Delivery**
 - Improve call processing times by the County Dispatch Center to meet national standards.
 - Improve initial paramedic medical first response time to meet national standards.

General Recommendations

- **Training**

- Evaluate the current training program and look for opportunities for improved consistency and focus relating to actual service demand.
- Decentralize training, when possible, to support the region's fire departments and EMS crews with long travel time to the training facility.
- Increase training specific to behavioral health emergencies.

General Recommendations

- **Community Health Paramedic and Alternate Deployment Models**
 - Evaluate the potential for a “deployable” Community Health Paramedic” program providing immediate response.
 - Work with local stakeholders, non-profits, and area hospitals to negotiate additional funding for the CHP program.
 - Consider adding advanced practice providers such as nurse practitioners, physician assistants, and specialized mental health staff.



Emergency Medical Services

Agency Evaluation

QUESTIONS?

Response Performance

- Use of Average Response Time
 - Minimum Standard 6.5 Minutes

• 7	
• 7.5	
• 8	6 Minute
• 8	Average
• 7	Response
• 8.5	Time
• 2	
• 1	
• 2	
• 9	

- Use of Percentile Response Time
 - Minimum Standard 6.5 Minutes
 - 90th Percentile

• 7	90 th
• 7.5	Percentile of
• 8	8.9 Minutes
• 8	Response
• 7	Time
• 8.5	
• 2	
• 1	
• 2	
• 9	

National Standard