

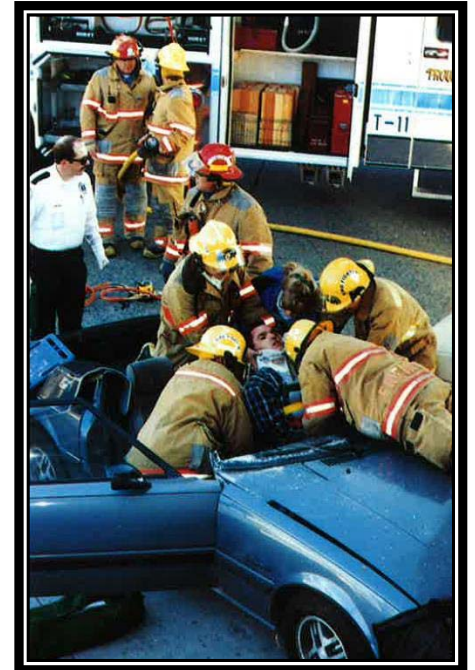
Sparks City Council Consideration

Should Paramedic–Level Service Be
Implemented in the Sparks Fire
Department?



Two-Tiered EMS System

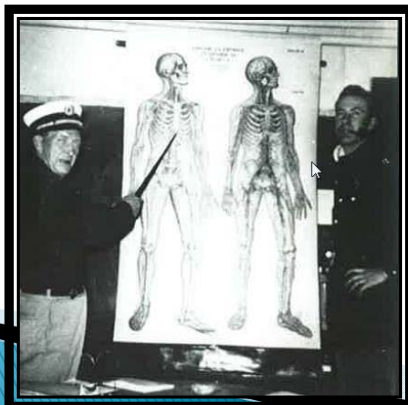
- Designed in 1986
- First-Tier – Fire Departments:
 - Fire strategically placed within 4 minute drive time
 - Provide rapid initial care
- Second-Tier – REMSA Ambulances:
 - Provide Paramedic-level service
 - Provide transport



History of EMS In Sparks Fire Department

- 1986 – First Responder 45% EMS
- 1996 – Basic EMT–D (defibrillators) 60% EMS
- 2000 – Advanced EMT 74% EMS
- 2016 – Paramedic? 80% EMS

**EMS is a Core Service of the Sparks Fire Department*



Is There A Need for SFD Paramedics?

- Only if SFD arrives on scene first
- Only if SFD waits for REMSA to arrive
- Only if these EMS calls are classified as urgent



Does SFD Get to EMS Calls First?

- From January 1, 2015 through March 31, 2016, there were 11,091 EMS calls where both SFD and REMSA responded
- SFD arrived first 6,705 times
- 60.5% of the time SFD arrived first



How Long Does SFD Wait for REMSA

Wait Times for Fire Department	
Calls with Wait Times 0 to 5 Minutes	5410
Calls with Wait Times 5 to 10 Minutes	922
Calls with Wait Times More Than 10 Minutes	373
Total Calls where SFD Waited	6705
Average Wait Time	0:03:24
Maximum Wait Time	1:09:25
Median Wait Time	0:02:18
Count of Matched EMS Calls	11091
% of Time SFD First on Scene	60.5%



Average Wait Times

As EMS calls occur further away from the core of the City wait times increase

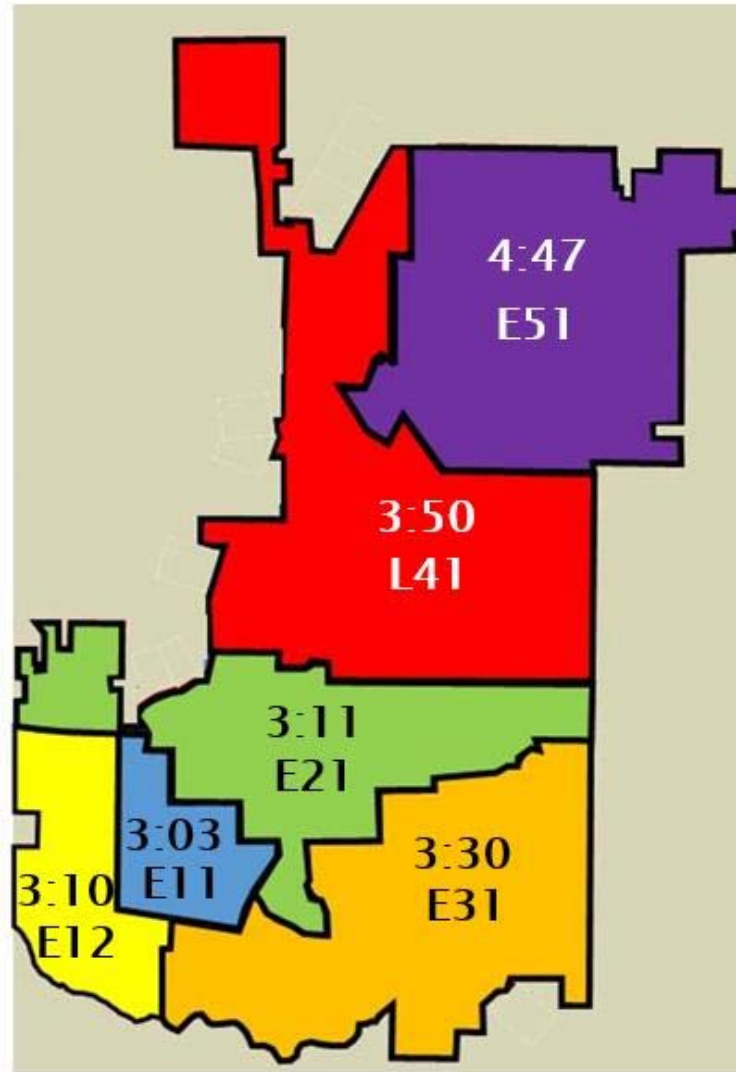


Diagram 1 - Wait Times in Districts



When SFD Arrives First Are Urgent EMS Emergencies Found?

Urgent EMS Call Volume	
Provider Primary Assessment	Number of EMS Incidents
Airway obstruction	24
Allergic reaction	35
Altered level of consciousness	421
Cardiac arrest	74
Cardiac rhythm disturbance	51
Chest pain / discomfort	283
Diabetic symptoms (hypoglycemia)	114
Hyperthermia	6
Hypothermia	2
Hypovolemia / shock	16
Poisoning / drug ingestion	35
Pregnancy / OB delivery	16
Respiratory arrest	3
Respiratory distress	326
Seizure	189
Stroke / CVA	66
Syncope / fainting	184
Traumatic injury	297
Total	2742



Paramedic–Level EMS Service Opportunity to Improve Patient Care

- ✓ •SFD is arriving at EMS calls first
- ✓ •SFD is waiting for REMSA to arrive
- ✓ •Over 40% of these EMS calls are classified as urgent

**These 2742 calls represent opportunities to improve patient care by providing Paramedic–Level service immediately upon Fire’s arrival*



Medically Speaking – Why Upgrade?

Since the inception of our Advanced EMT service in 2000, medicine and associated technology has advanced:

- The Paramedic Scope of Practice has expanded much more than the Advanced scope creating a greater gap between service levels
- Standards of Care regarding the elapsed time between recognition and definitive care for particular medical emergencies now exists for medical systems



EMS Certification Levels

Advanced EMT:

- Performs Basic and a limited set of Advanced and pharmacological interventions:
 - Some advanced airway procedures
 - I.V. access
 - 8 medications common to EMS



EMS Certification Levels

Paramedic:

- Includes Basic and Advanced skills coupled with invasive interventions and pharmacology:
 - Cardiac care including cardiac monitor and defibrillator capabilities
 - Pharmacological Interventions including advanced intravenous techniques and an expanded medication list
 - Advanced airway techniques



Paramedic Interventions

Cardiac:

- 12-Lead EKG
- End Tidal CO₂ monitoring
- Manual Defibrillation
- Synchronized Cardioversion
- Transcutaneous pacing
- Vagal maneuvers
- CPR feedback and data

Airway / Medical:

- Endotracheal intubation
- Cricothyrotomy
- Needle Thoracentesis
- Gastric tube placement
- CPAP administration
- Various routes of medicine administration



Paramedic Medications

- Adding similar medications as our regional partners would quadruple our current medication list:
 - 13 additional cardiac emergency medications
 - Multiple pain management medications
 - Medications for other serious emergencies including seizures, pregnancy problems, respiratory emergencies and altered level of consciousness
- Medications can be tailored to our Community needs



Standards of Care

- STEMI – recognition to notification to transport to definitive care – AHA recommends to strive to reduce this time as much as possible
- Protocols – provides for most appropriate treatment
- Strokes – AHA promotes early recognition as possible
- Airway Management – brain death can occur as early as 4 to 6 minutes without oxygen
- Pain Management – good patient care and efficiency

**Core Measures and Quality Assurance Criteria in high performing EMS Systems*



Paramedic–Level EMS Service Other Reasons for Implementation

- Enhanced Automatic Aid with TMFPD
- Back–up plan for delivering Paramedic level care
- City of Sparks is a full–service city



Recommendation

- Statistical and medical reasons that numerous opportunities exist to improve patient care
- Three other reasons to justify a Paramedic program
- Fire Staff recommends implementation of Paramedics in the fire department
- Two plans proposed, either would be acceptable



Questions?

