



Work Session:

Community Risk
Assessment (CRA) and
Standards of Cover (SOC)

Discussion & Direction

August 3, 2020

ESCI Emergency Services
Consulting International

Providing Expertise and Guidance that Enhances Community Safety

Purpose of the CRA/SOC

- *Where are we now?*
- *Where do we need to be?*
- *How do we get there?*

Purpose of the CRA/SOC

- *Where are we now?*

Standards of Cover Elements

- Description of Community Served
- Review of Services Provided
- Review of Service Expectations & Performance Goals
- Overview of Community Risk Assessment
- Review of Historical Performance
- Performance Objectives & Measures
- Conclusions & Recommendations

Overall Observations

- Highly capable fire department.
- Well equipped and trained.
- Strong administration and management.
- Desires to meet future challenges and meet industry best practices.
- There is a need for additional facilities and resources to provide consistent citywide coverage that meets department and national standards and to accommodate growth.

Community Risk Assessment CRA

Listing of Community Target Hazards

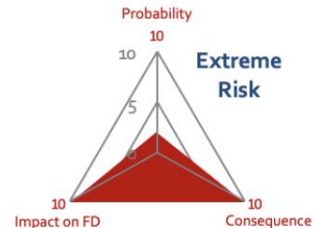
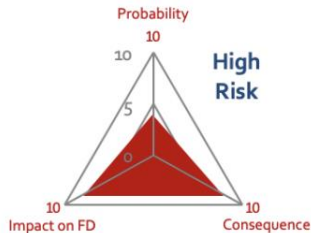
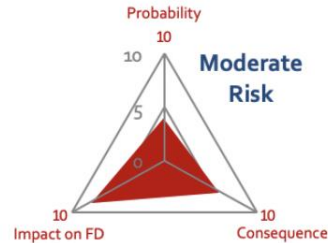
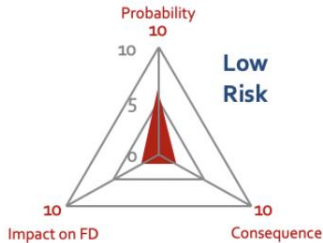
Occupancy/Hazard Area	Description
Large Buildings	Sprinklered vs Non-Sprinklered MF, HR, > 50,000 square feet
Public Assembly	Churches, Restaurants, Bars, Libraries, Sports Stadiums
Educational	Public/Private K–12, University, Day Care
Medical/Congregate Care	Hospitals, Urgent Care, Dependent Care Facilities
Government	Detention Centers, Jails, Court, Local/State/Federal Offices
Energy Systems	Pipeline, Major Power Grids
Communication	Cell Towers, Radio Towers, Broadcast Facilities
Tier II Facilities	Facilities (Superfund Amendments & Reauthorization Act)
Major Employers	Major Employment Centers
Largest Tax Generators	Facilities with High Sales/Property Tax Contributions
Distribution Centers	Large Distribution and Fulfillment Centers
Dam & Flood Prone Areas	Dam or Levee Sites with Flood-Prone Areas
Wildfire Risk	Wildland-Urban Interface Locations

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Fire Risk Profile

Low Dumpster Fire , Moderate House Fire , High Apartment Fire, Extreme High-Rise Fire

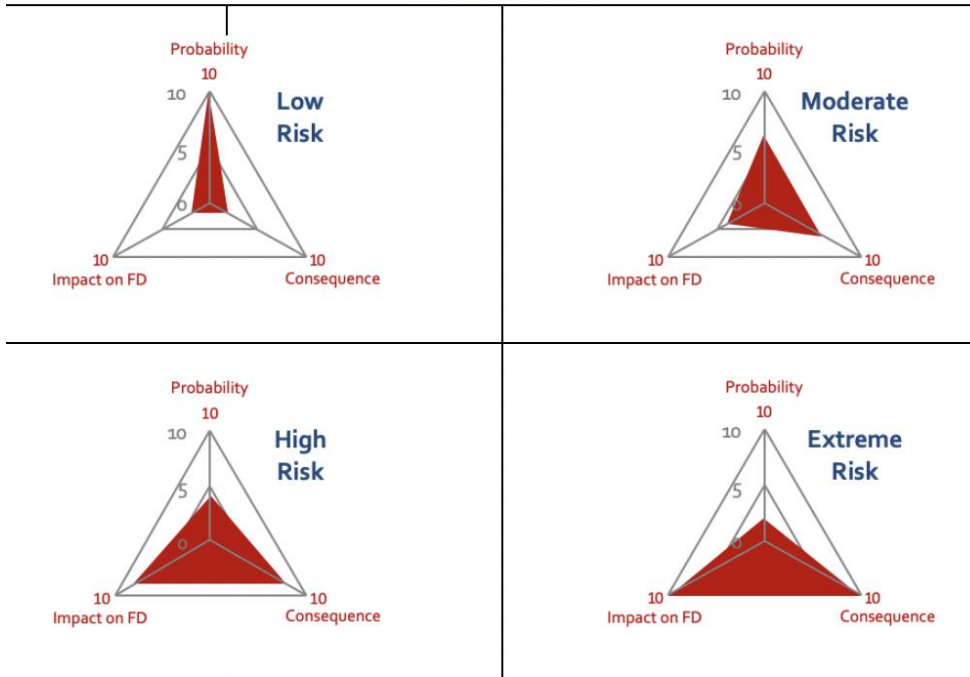
Risk Classification



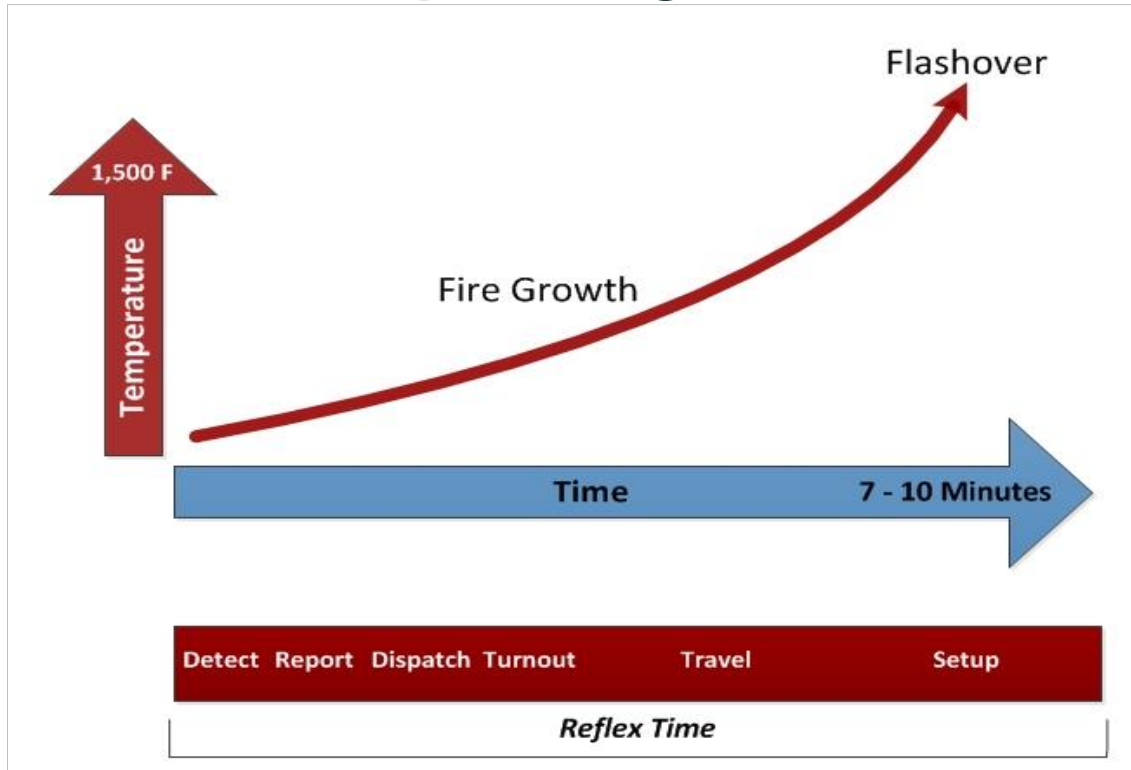
EMS Risk Profile

Low Sick Person , Moderate Cardiac Arrest , High Vehicle Accident 3 patients, Extreme High-Mass Casualty

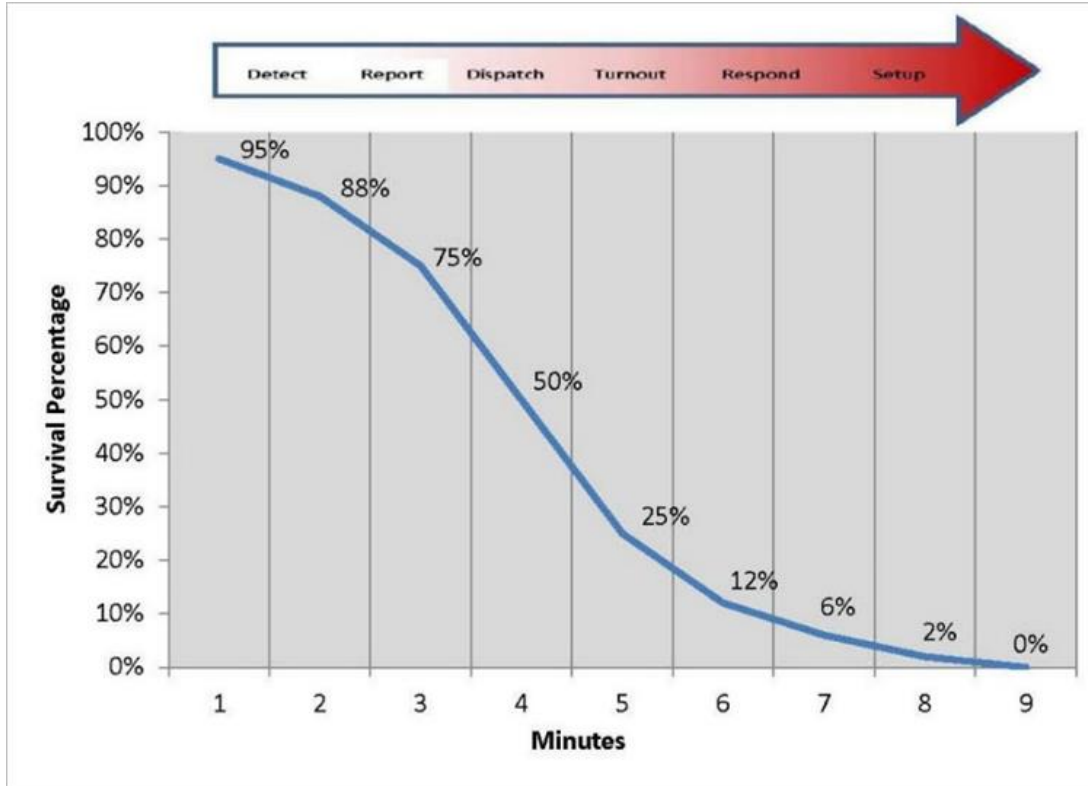
Risk Classification



Fire Event Sequencing



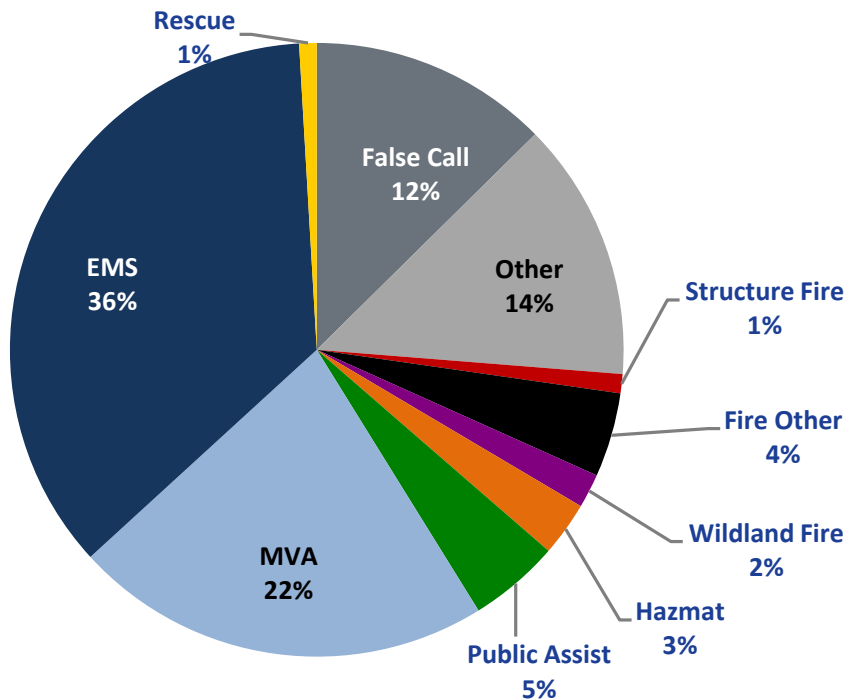
EMS Event Sequencing



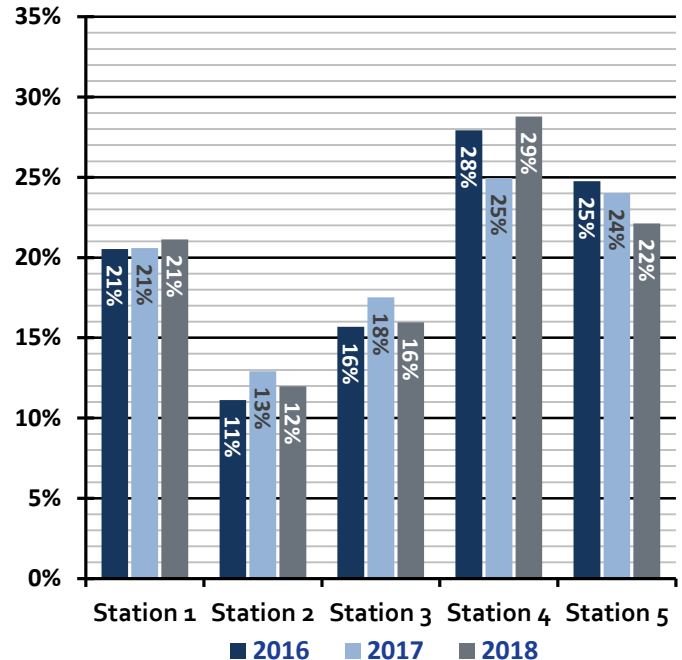
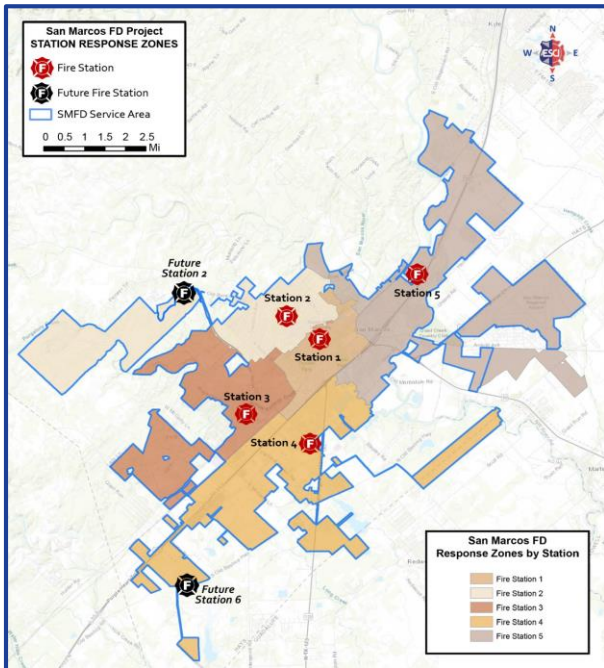
Service Delivery and Performance

- Service Demand
- Resource Distribution
- Resource Concentration
- Response Reliability
- Response Performance

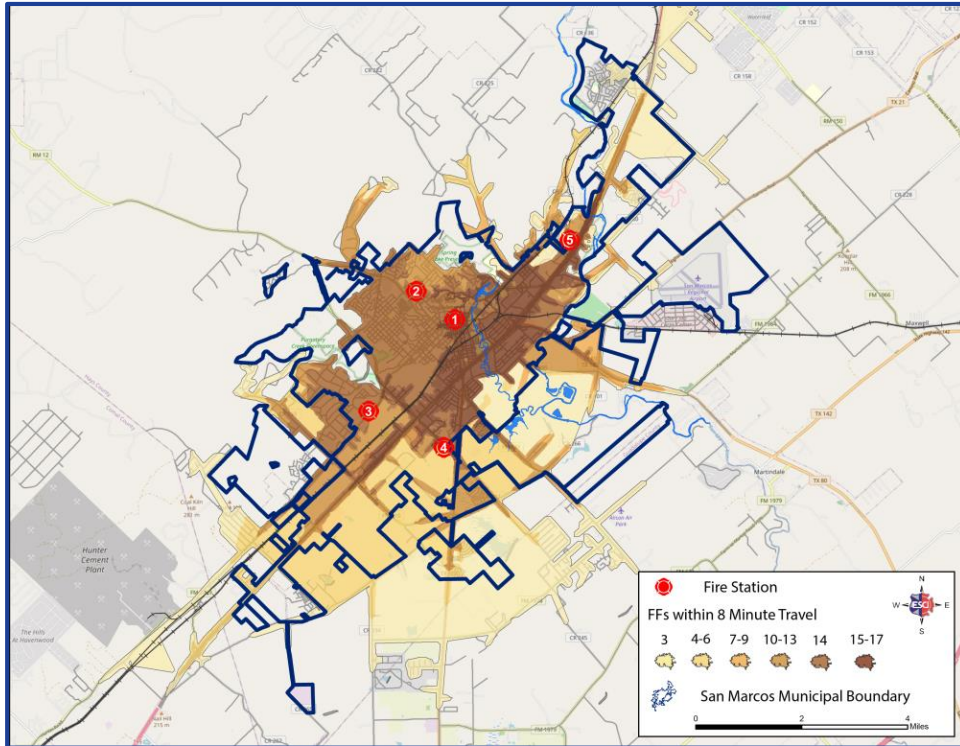
SMFD Service Demand by Type (2014–2018)



Resource Distribution By Fire Station



Service Concentration Effective Response Force (ERF)



Service Reliability

SMFD Concurrent Calls (2016–2018)

Concurrent Calls	2016	2017	2018
One Incident	80.3%	78.8%	76.8%
Two Incidents	17.8%	17.9%	20.3%
Three Incidents	2.1%	2.7%	2.5%
Four or More	0.1%	0.3%	0.2%

Service Delivery and Performance

Baseline Performance Data

Total Response Time Performance	2014	2015	2016	2017	2018	2014–18 Baseline	Benchmark
Fire	10:59	10:46	10:35	10:34	11:52	10:49	06:20
Medical/Rescue	08:29	08:35	08:38	09:09	10:28	09:14	06:00
Hazardous Materials	10:27	10:52	10:37	12:14	12:10	11:26	06:20
Other	10:18	11:40	10:51	11:54	11:16	11:10	06:00
Aggregated Performance Gap @ 90 th Percentile:						09:56	06:00

Findings

- Multiple geographic restriction zones are impacting response times.
- 58% of residential properties are multi-unit and multi-story.
- A large student population combined with low to moderate-income families is impacting risk to residents.
- Major distribution and transportation pipeline via Amazon, HEB, and soon to be built SMART terminal.
- Large retail presence with regionally recognized outlets.
- Limited staffing and fire resources to manage large and/or expanding events.

Recommendations

- Develop plans to increase community flood resiliency and planning.
- Improve thoroughfare conditions to reduce geographic restriction zones.
- Adopt a formal risk assessment program to assign risk classifications to occupancies.
- Establish a Community Risk Reduction Division.
- Establish funding formula within the City budget construct to adequately fund resources to accommodate existing and future growth (see ERF recommendations).
- Explore EMS partnership and innovation with SMHCEMS.

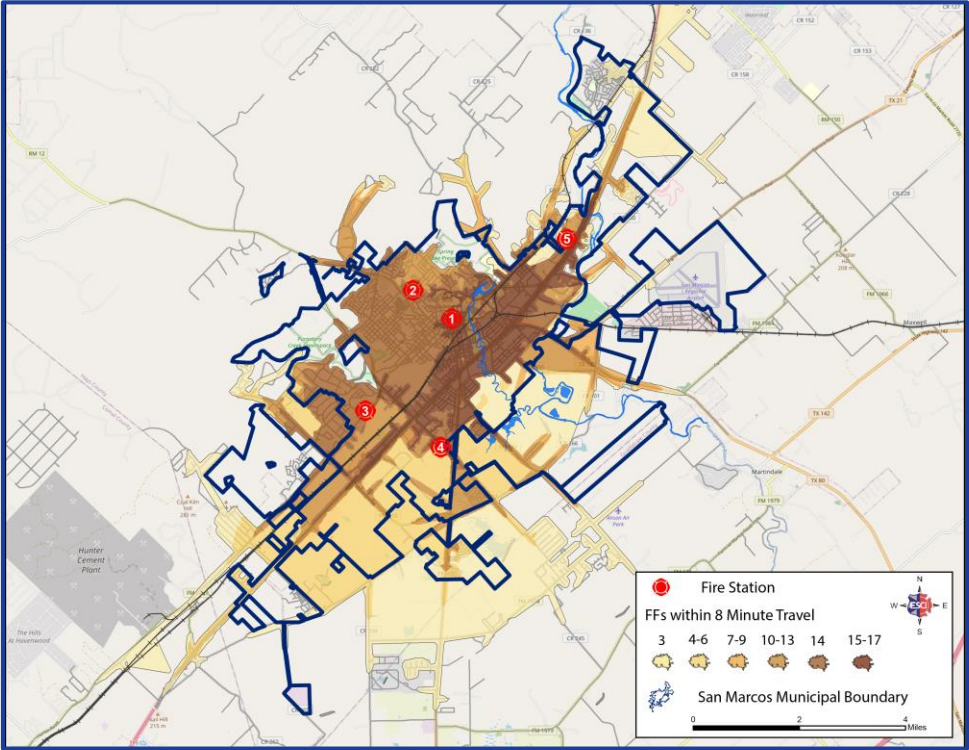
Recommendations

- Review monthly and improve call processing times in accordance with NFPA 1221 standards.
- Review, report, and improve turnout times to adopted SMFD performance goal.

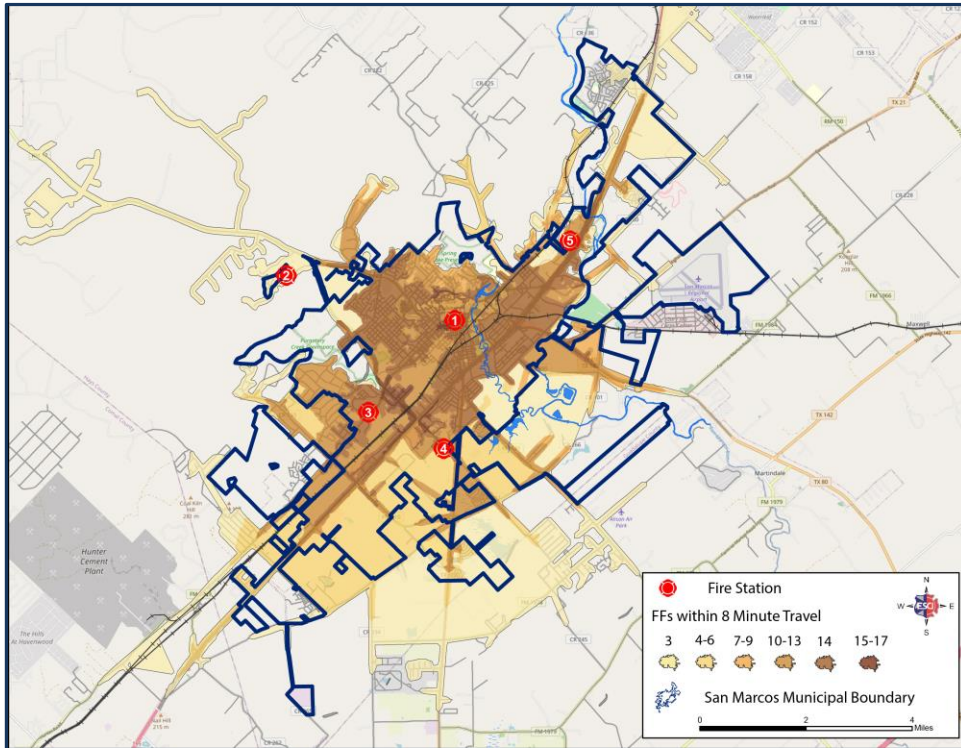
Recommendations

- Establish current and future Effective Response Force to meet current and future risk profile (Goal of 27 personnel).
Based on the following staffing and station progression:

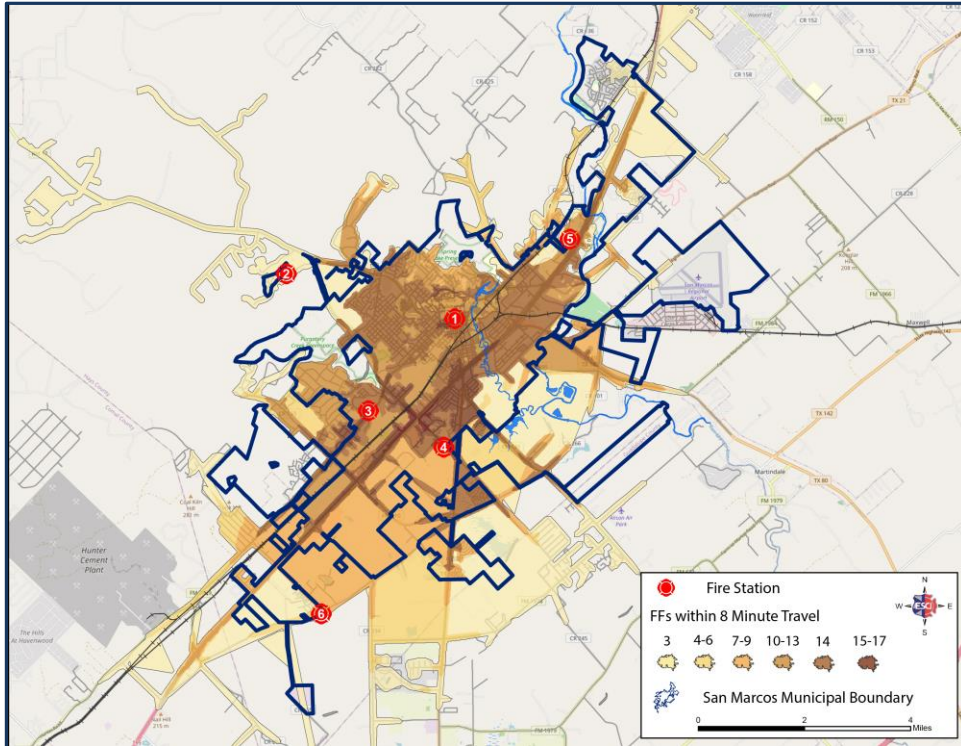
Existing SMFD ERF



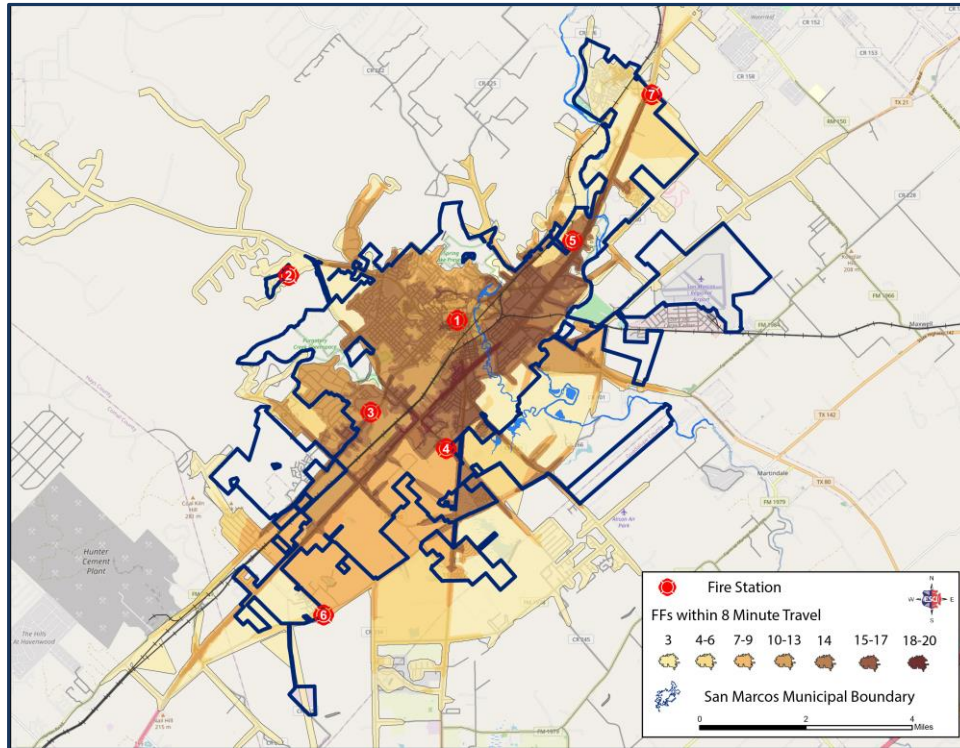
Existing five stations moving Station 2 to Centerpoint, with minimum staffing of 17 personnel.



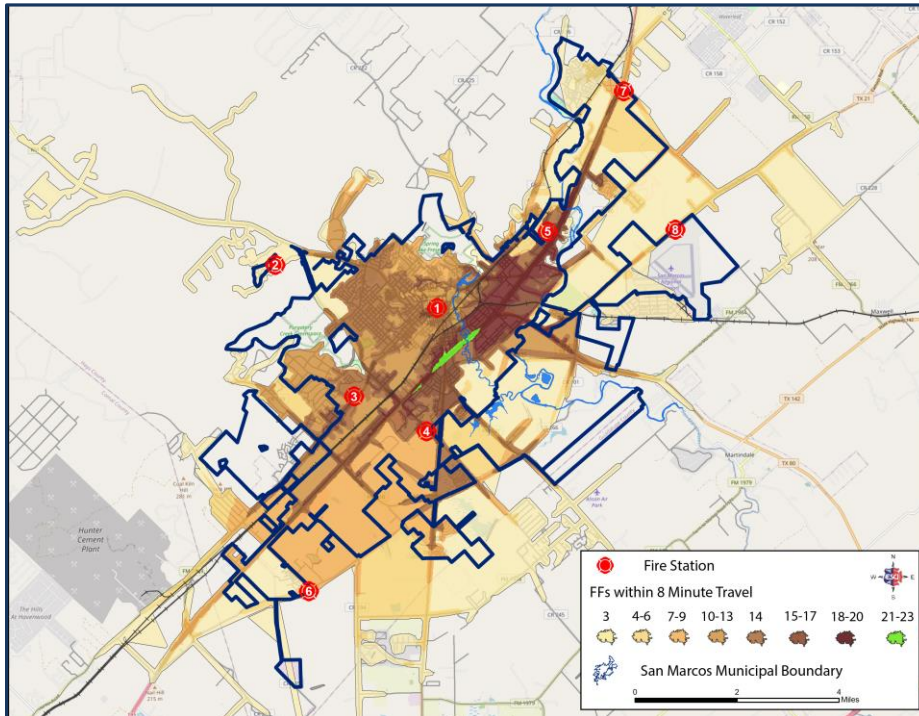
Six fire stations with Station 2 relocated to Centerpoint, and Station 6 at Old Bastrop west of Posey, with minimum staffing of 20 personnel.



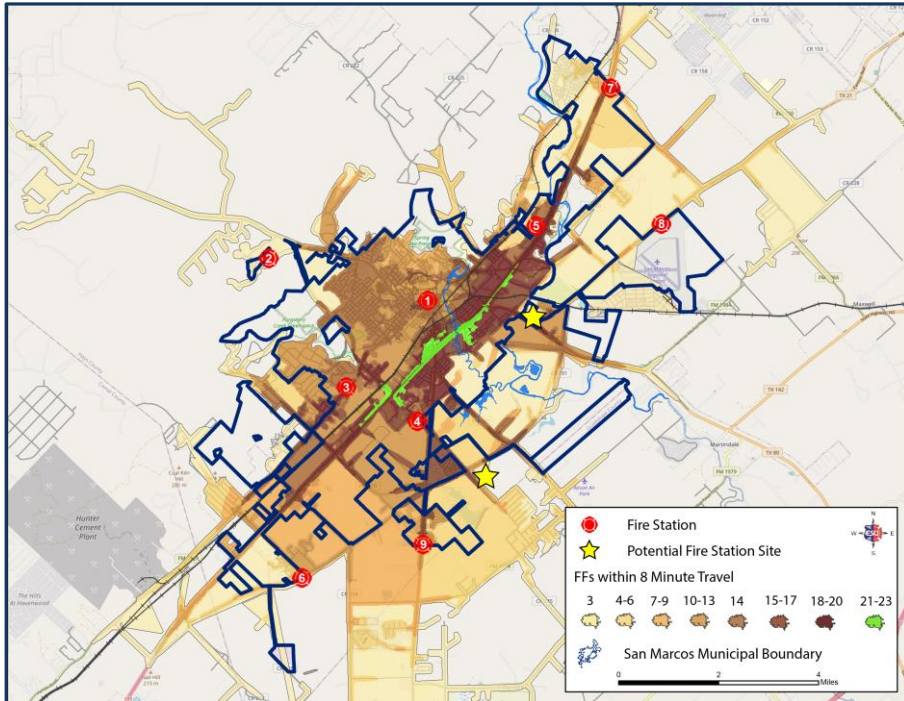
Seven fire stations with Station 2 relocated to Centerpoint, Station 6 at Old Bastrop west of Posey, and Station 7 at Yarrington on the east side of IH-35, with minimum staffing of 23 personnel.



Eight fire stations with Station 2 relocated to Centerpoint, Station 6 at Old Bastrop west of Posey, Station 7 at Yarrington on the east side of IH-35, and Station 8 at Hwy 21 west of William Pettus, with minimum staffing of 26 personnel.



Nine fire stations with Station 2 relocated to Centerpoint, Station 6 at Old Bastrop west of Posey, Station 7 at Yarrington on the east side of IH-35, Station 8 at Hwy 21 west of William Pettus, Station 9 at Hwy 123 south of Rattler, with minimum staffing of 29 personnel. This includes two additional Station 10 and 11 sites off Redwood south of Old Bastrop and the north star located on Hwy 80 at Hwy 21.



Questions and Discussion

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