



Emergency Services
Consulting International

Late Material
Item#: 17a
Meeting Date: 09/03/20

Carson City Fire Department Nevada

Emergency Services Long Range Master Plan

September 3, 2020



Purpose & Approach

- Identifies current strengths and opportunities for improvement.
- Identifies options to manage future workload
- Is an effective policymaking and budgeting tool.

- This evaluation is based on data provided by CCFD and collected during ESCI's fieldwork.
- The information is compared to:
 - Nevada state laws and regulations
 - National Fire Protection Association (NFPA) standards
 - Commission on Fire Accreditation International (CFAI) self-assessment criteria
 - Health and safety requirements
 - Federal and state mandates relative to emergency services and generally accepted best practices within the emergency services community



Description of Community Served

The Community

- Urban and rural community
- Resident population – 55,414
- 145 square miles

CCFD

- Career fire department
- 3 fully staffed fire stations, 1 seasonally staffed station
- 18 firefighters on duty per shift (min 16)

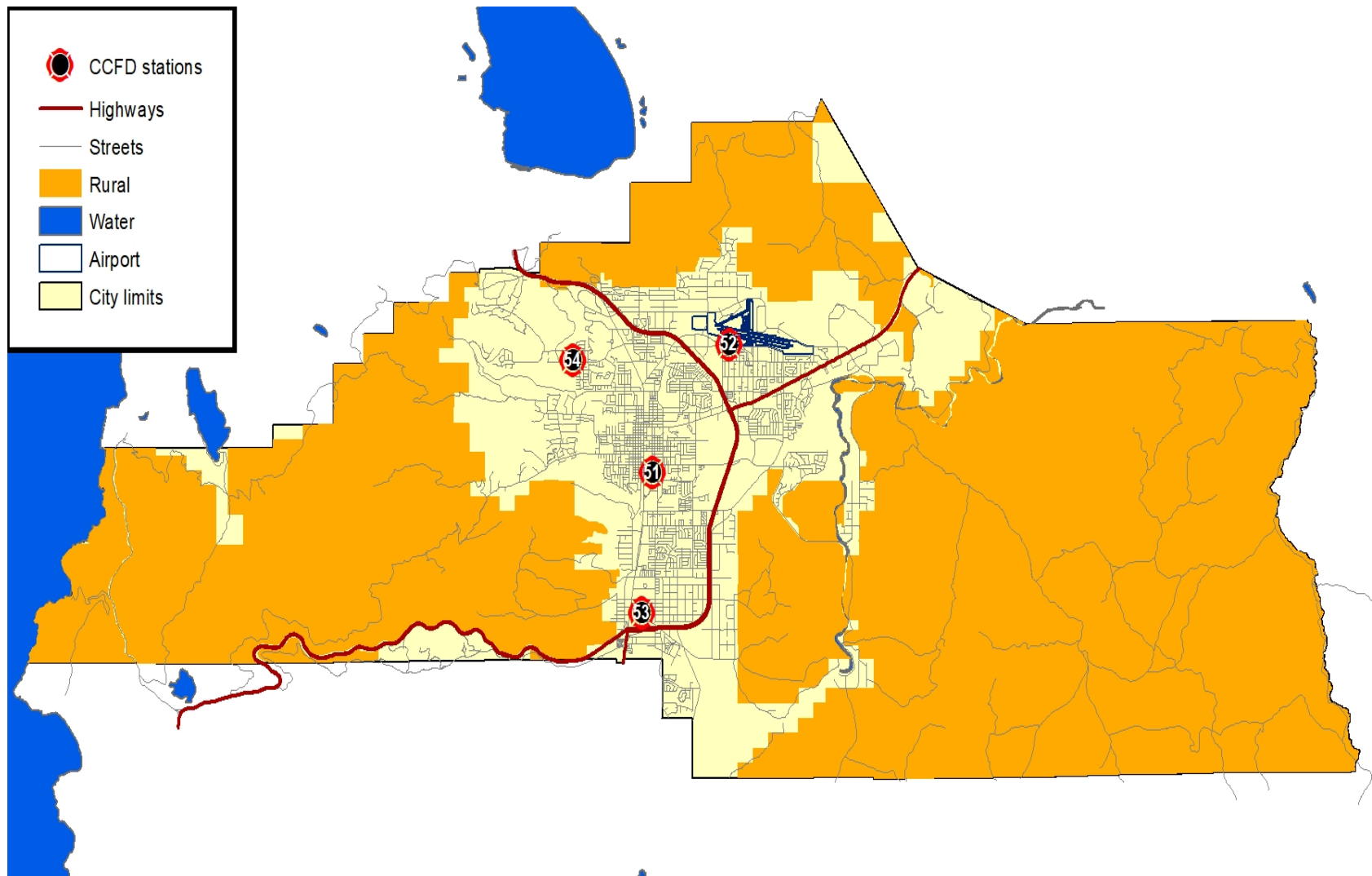


Services Provided

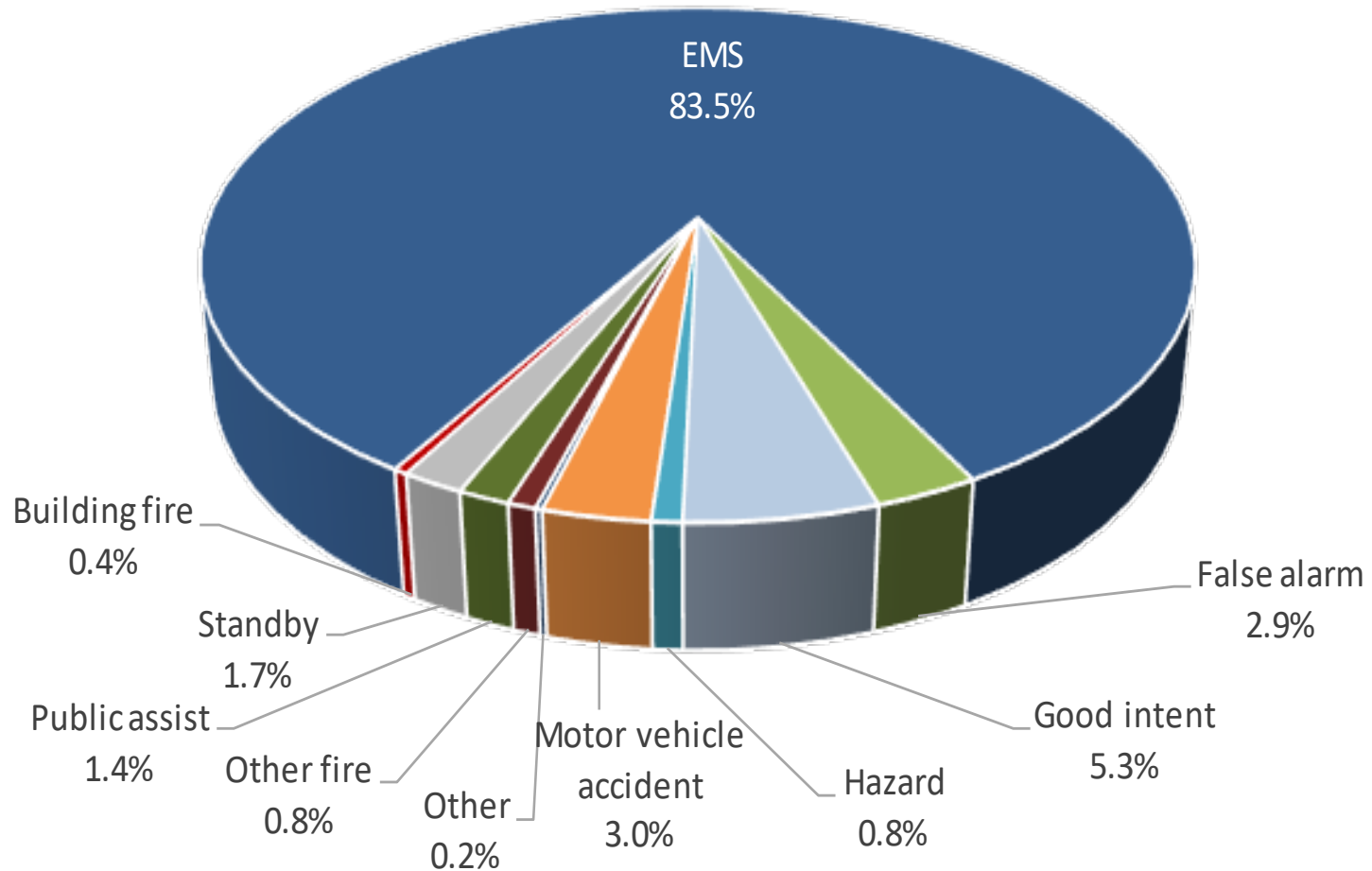
- Fire suppression (structural, wildland, other)
- Emergency medical services (advanced life support)
- Technical rescue
 - Entrapment extrication
 - Swift water
 - High Angle Rescue
 - Trench
 - Confined space
- Hazardous materials emergency response



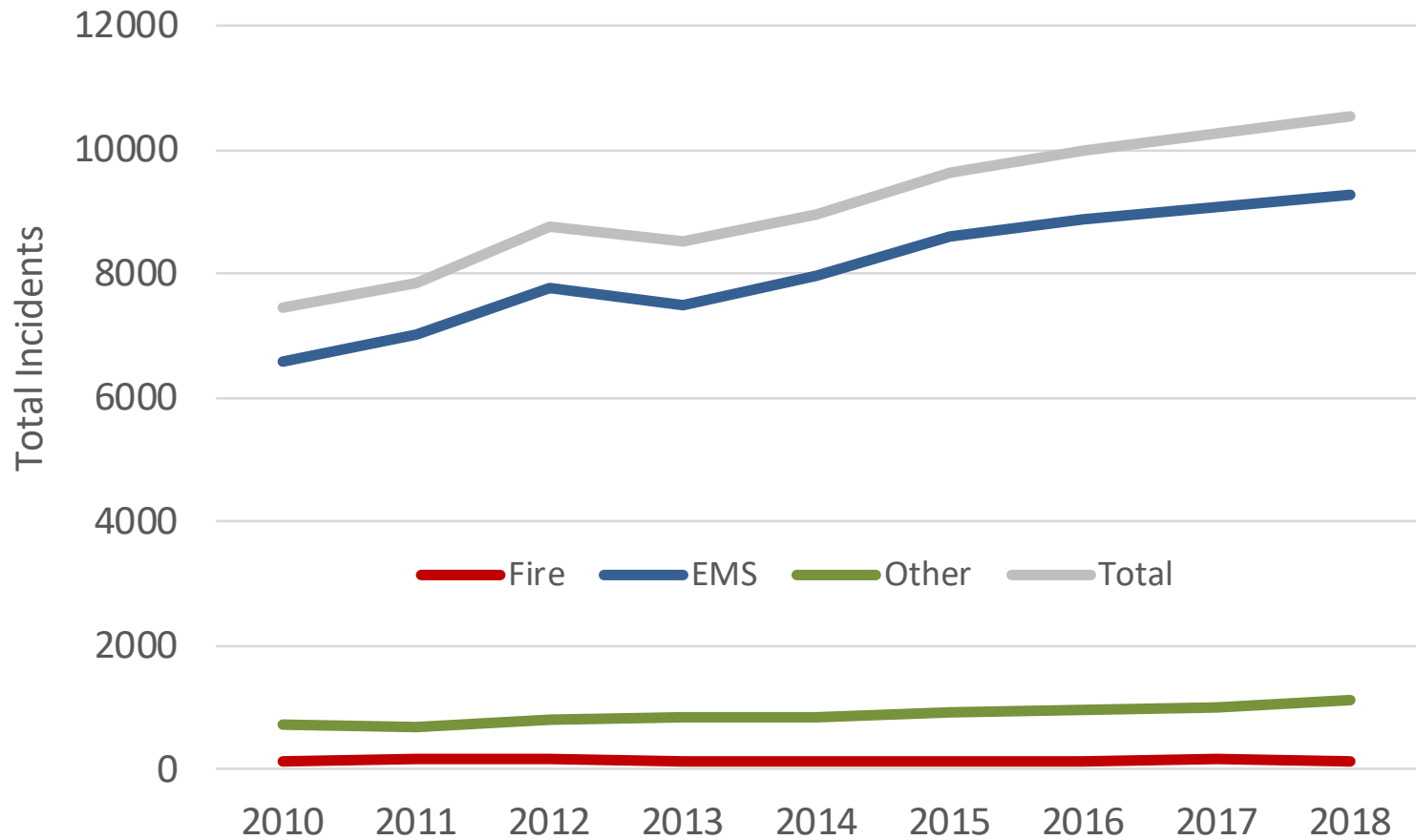
Study Area



System Response Workload



System Response Workload

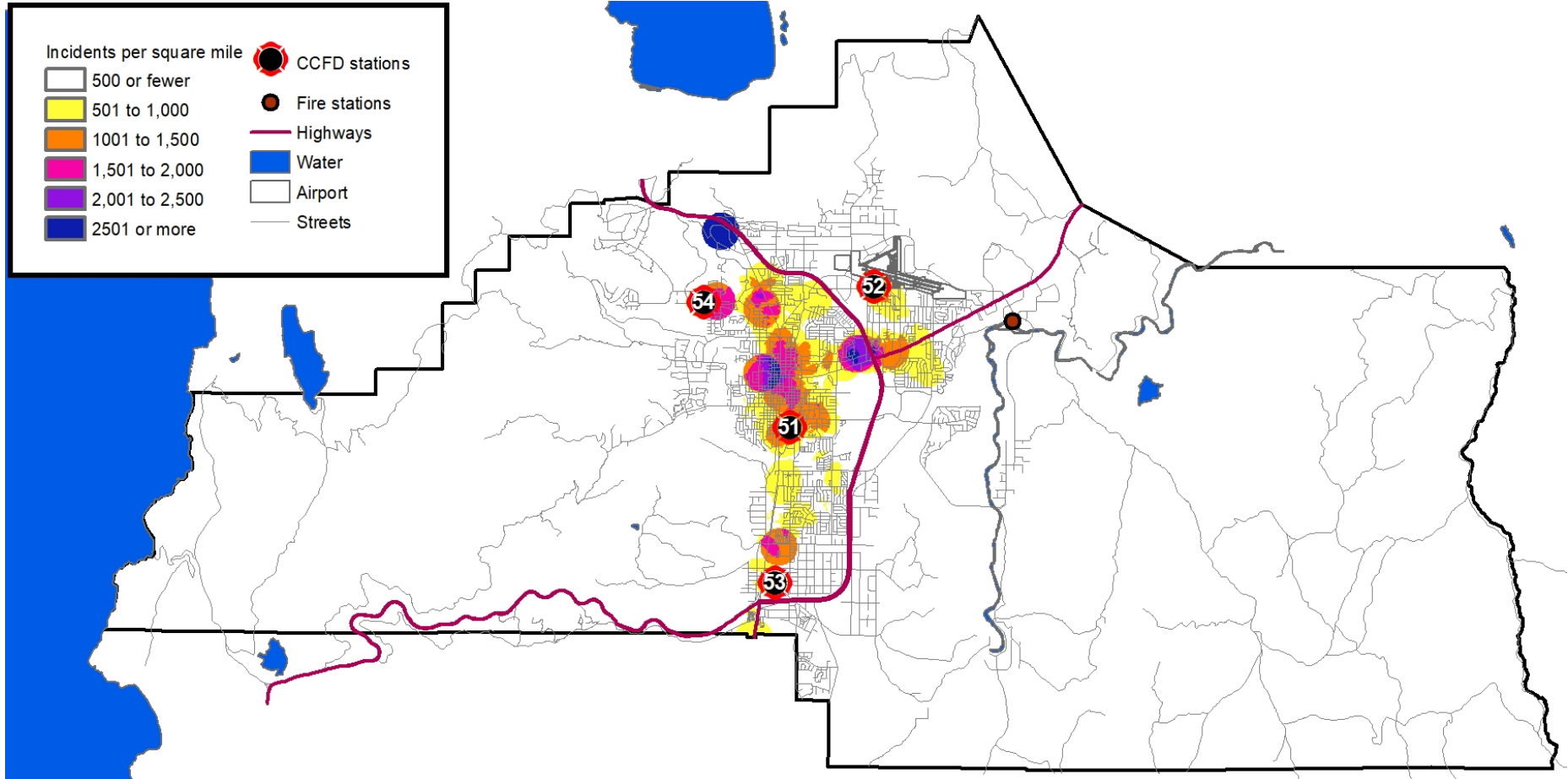


41.6% increase since 2010

40.7% increase in EMS since 2010



Service Demand



People + Tools + Time = Effectiveness

- People – Trained emergency responders
- Tools – Apparatus, equipment
- Time – Duration between event start and intervention
- Effectiveness – Degree to which harm caused by the event is limited

Critical Tasking and Alarm Assignments

Structure fire

People

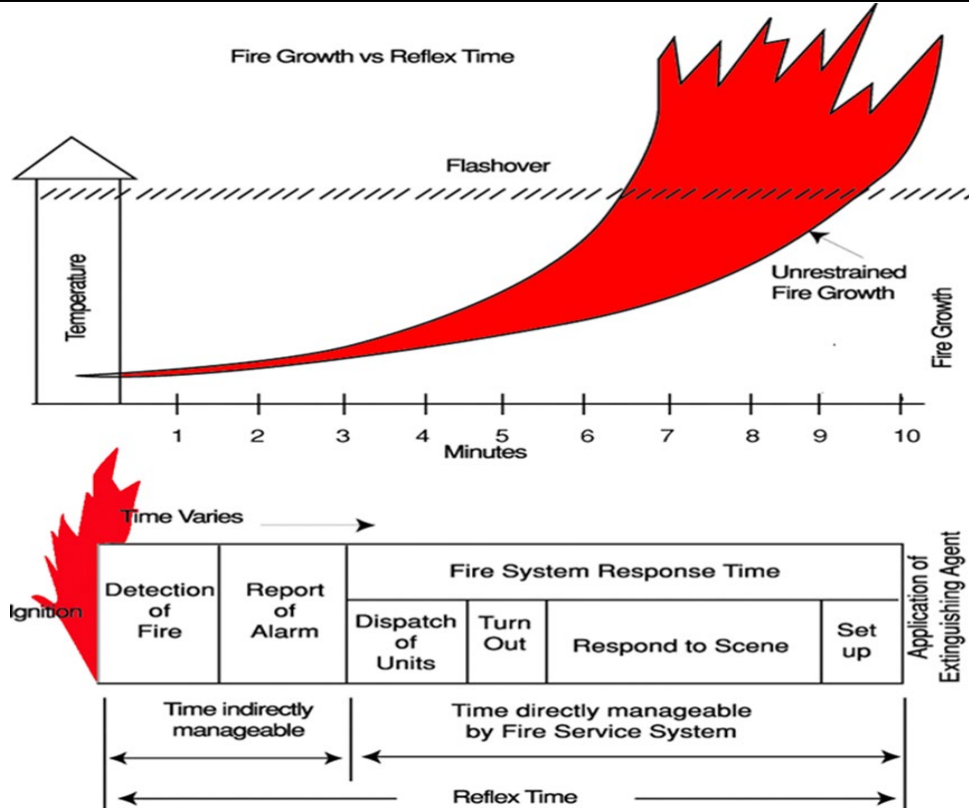
Task	Number of Personnel
Command/Safety	2
Pump Operations	1
Attack Line	3
Search and Rescue	2
Ventilation	2
RIC	3
Backup Line	3
Total	16

Tools

Unit Type	Number of Units	Total Personnel
Engine	4	12
Truck	0	0
Rescues	2	4
Battalion Chief	1	1
Total Staffing Provided		17
Total Staffing Needed		16



Influence of Time



Consequence of Fire Extension in Residential Structures 2011–2015

Rates per 1,000 Fires

Extension

Civilian Deaths

Civilian Injuries

Average Dollar
Loss Per Fire

Confined to room of origin or smaller

1.8

24.8

\$4,200

Confined to floor of origin

15.8

81.4

\$36,300

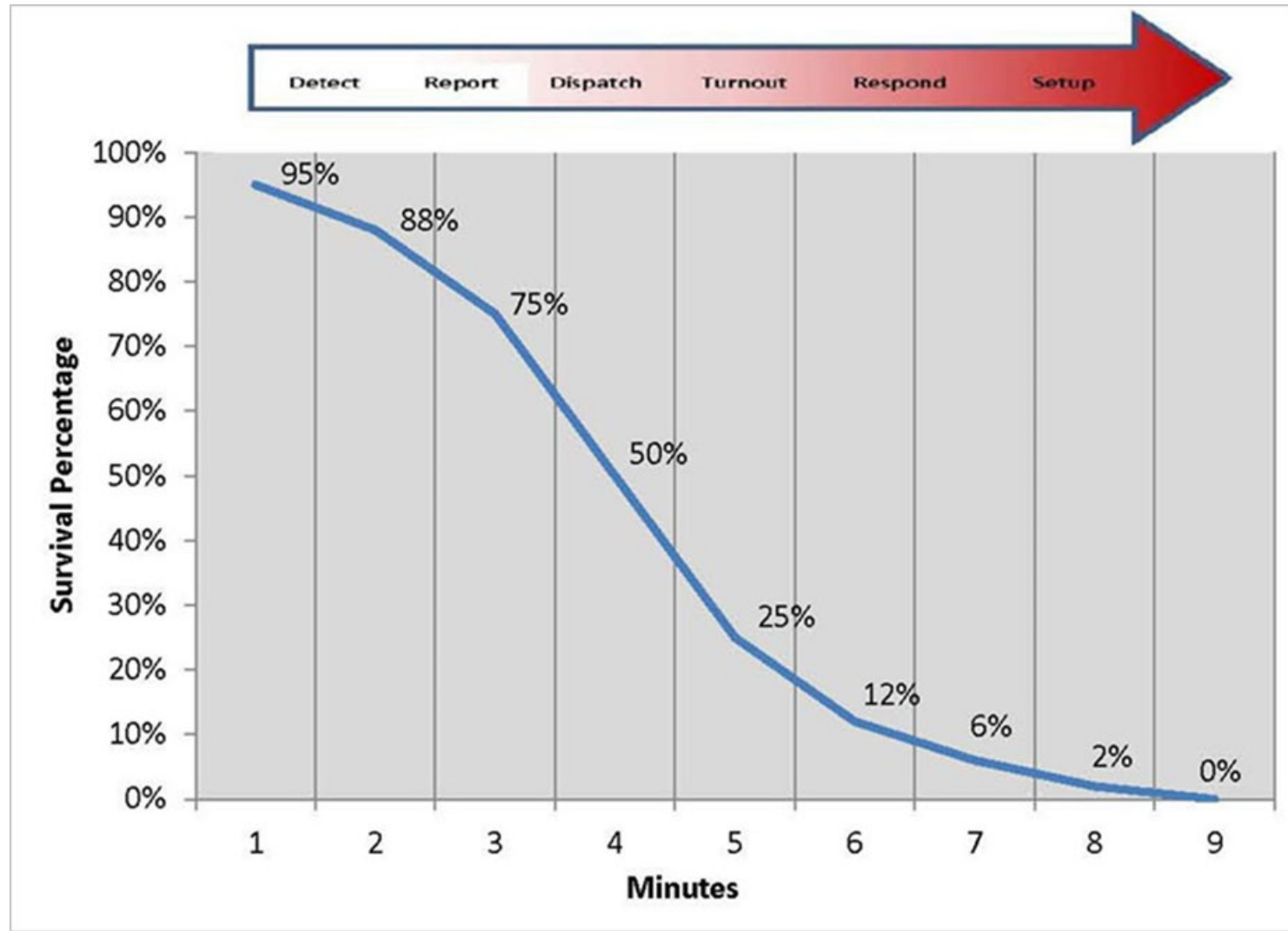
Confined to building of origin or larger

24.0

57.6

\$67,600

Influence of Time



Influence of Time

- Trauma – “Golden hour”
- STEMI – Onset to recognition to treatment in cath lab
- Respiratory compromise during entrapment
- Physical and environmental harm from hazardous materials release

Overview of Findings and Recommendations

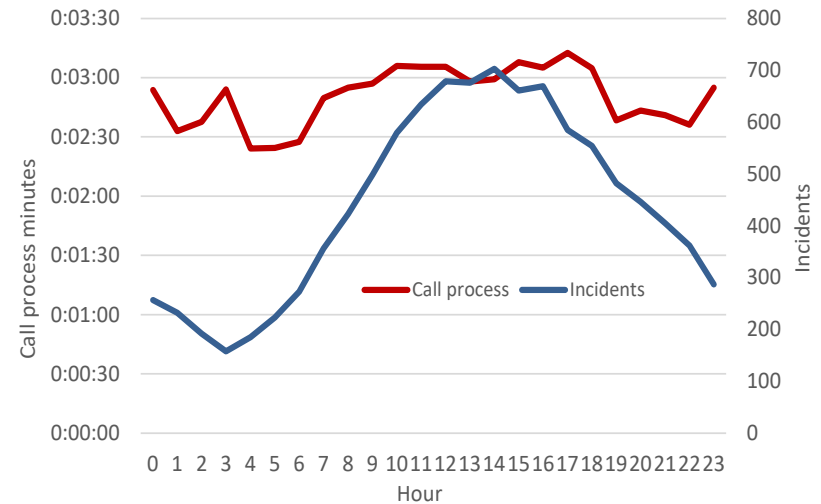
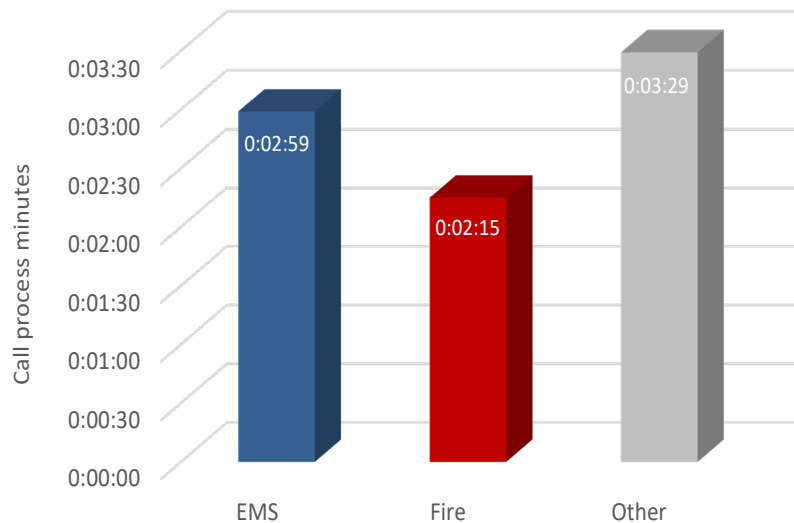
Adopt Response Performance Goals

CCFD should work with policy makers to formally adopt response performance goals

- Balance the needs and expectations of citizens
- Set targets for CCFD to work towards
- Allows CCFD management to regularly report progress

Overview of Findings and Recommendations

Reduce Call Processing Time Interval



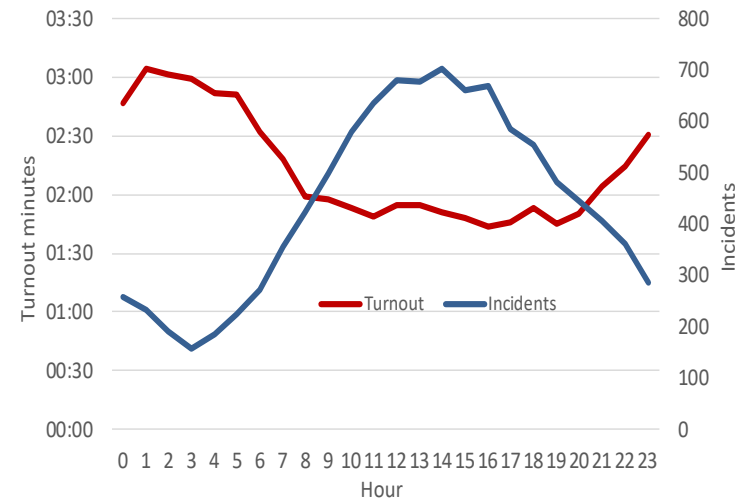
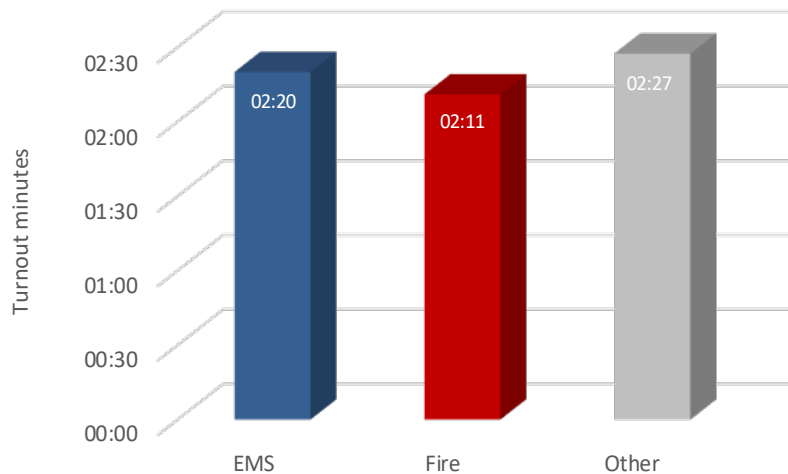
ECC should take steps to reduce call processing time

- Quality assurance
- Staffing
- Pre-alert
- Others



Overview of Findings and Recommendations

Turnout Time Exceeds CCFD Goals



Turnout time – for fire, EMS and special operations exceeded 2 minutes 90 percent of the time

- Station engineering
- Crew awareness

Overview of Findings and Recommendations

Requests for ambulance service are not consistent throughout the day

- Consider dynamic deployment
- Matches resources with incident workload
- Resources can be prepositioned to areas where higher demand is most likely to occur

Queuing analysis indicates 3 to 5 ambulances needed depending on time of day (report page 150)



Overview of Findings and Recommendations

Transition Staffing of ALS Rescue Ambulances to a non-firefighter model

- Accommodates dynamic deployment
- Makes available 18 firefighter/paramedics to the Operations Division



Overview of Findings and Recommendations

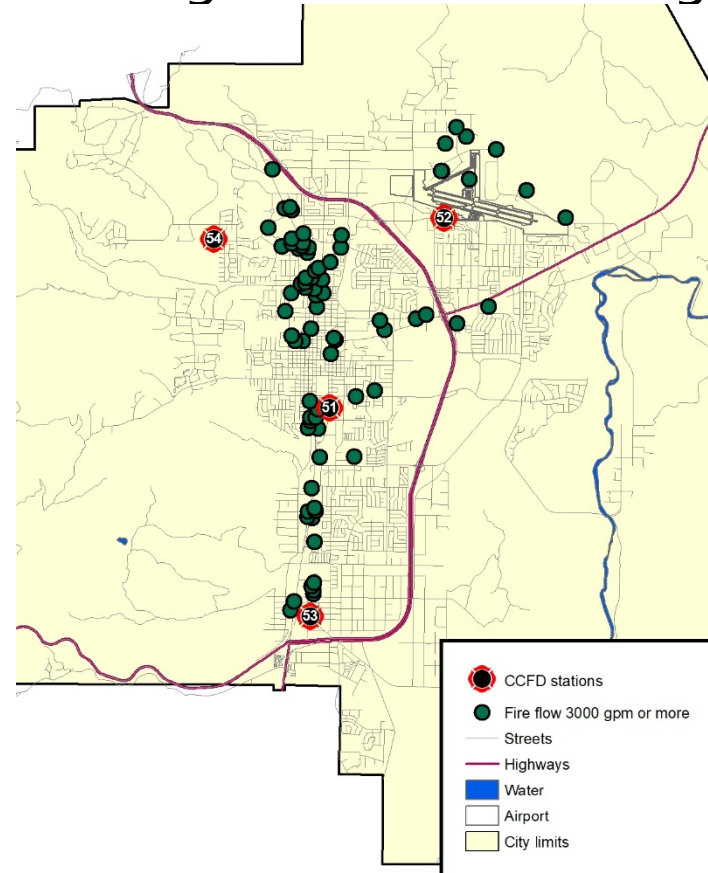
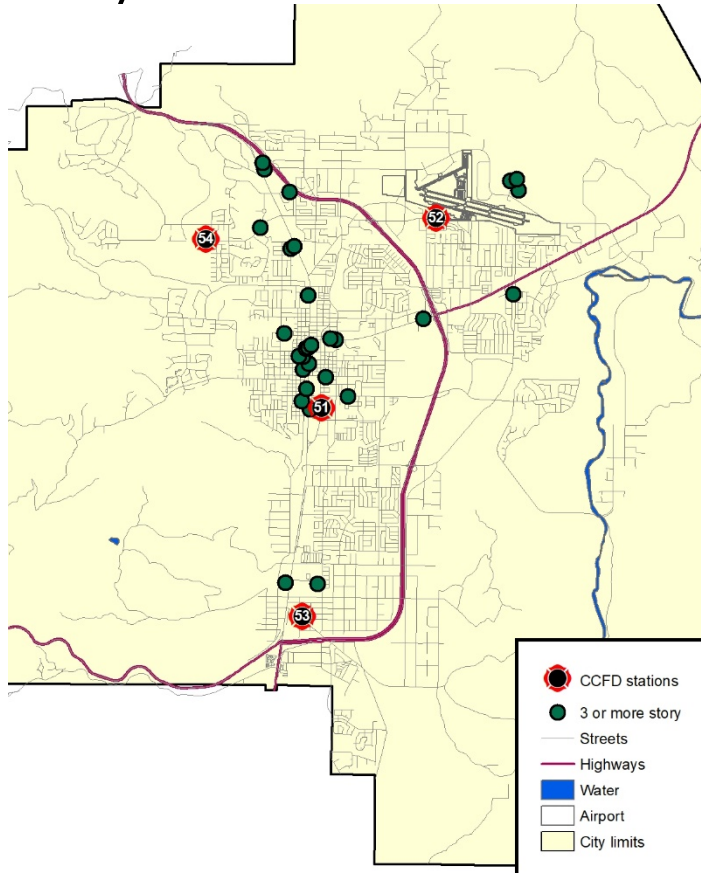
Utilize the firefighter/paramedics transferred to the operations division to staff the department's ladder truck and reduce overtime expenses

- 12 of the available firefighter/paramedics would be assigned to cover the Ladder truck
- The remaining 6 firefighter/paramedics would be used to reduce the use of overtime to cover vacancies
- Approximately \$200,000 annual net savings due to overtime reduction



Overview of Findings and Recommendations

The city has numerous multi-story and high fire flow buildings



- CCFD should fully staff its ladder truck.
- The ladder truck and crew should be assigned to FS 51

Overview of Findings and Recommendations

CCFD's fire inspection program is unable to meet the department's building fire safety inspection program goals.

- Seek additional staff.
- Align inspection programs and goals with NFPA standards



Overview of Findings and Recommendations

CCFD lacks a comprehensive Community Risk Reduction Program.

- Align emergency operations and preventions strategies.
- Comprehensive approach to reducing risks in the community.
- Includes community members, nonprofit organizations, the private sector and others as partners with CCFD in risk mitigation.



Overview of Findings and Recommendations

The city's Computer Aided Dispatch System, should be upgraded to implement closest unit dispatch protocols.

- Identifies the closest resource to the emergency.
- Improves emergency response times.
- Improves resource distribution during peak call demand hours and large incidents.



Overview of Findings and Recommendations

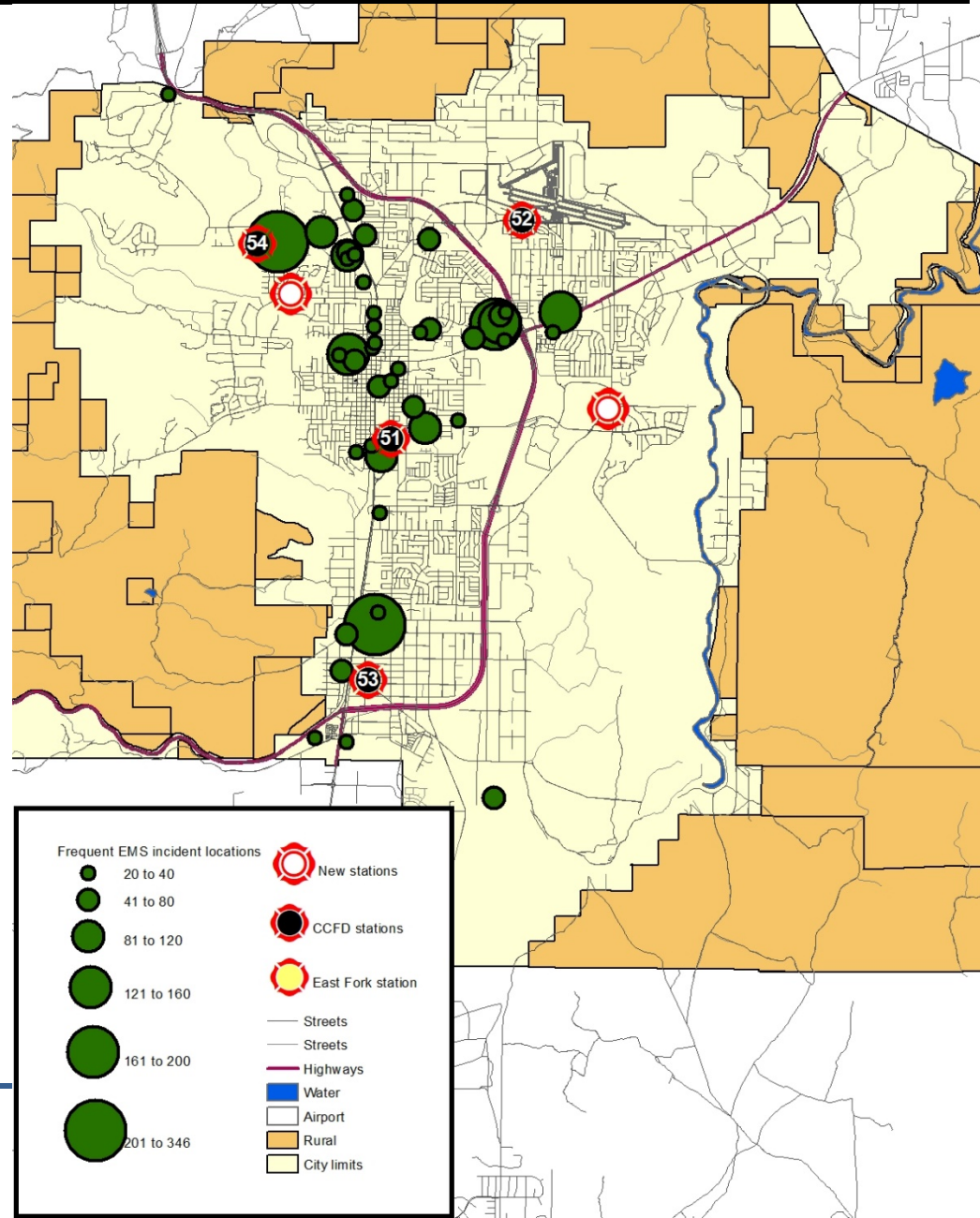
CCFD's response workload has grown by 41.6 percent over the last 9 years. Most of the growth is related to emergency medical services.

- Prioritize calls that are legitimate medical emergencies
- Identify a cost-efficient response protocol for non emergent requests such as lift assists.
- Consider implementation of a community paramedicine type program



Overview of Findings and Recommendations

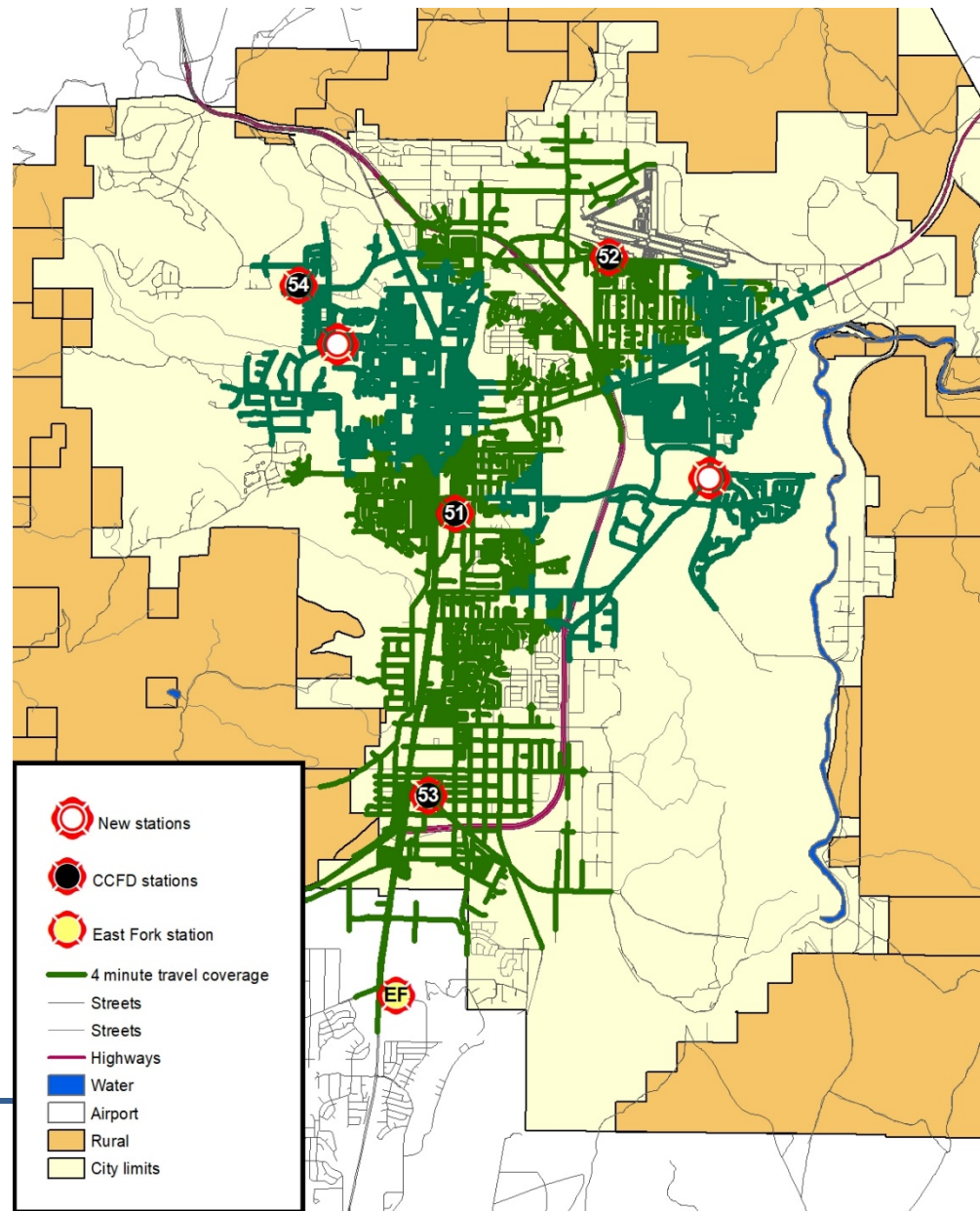
Work with frequent users of the EMS system to identify calls for service that do not warrant a fire department response.



Overview of Findings and Recommendations

CCFD is not meeting its target response times in part due to long travel times.

- Two additional fully staffed stations are needed
- The additional stations will reduce incident travel times
- Improves delivery of the full effective response force



Questions/Discussion

