



# Chula Vista Fire Department Overview

## Deputy Chief Harry Muns

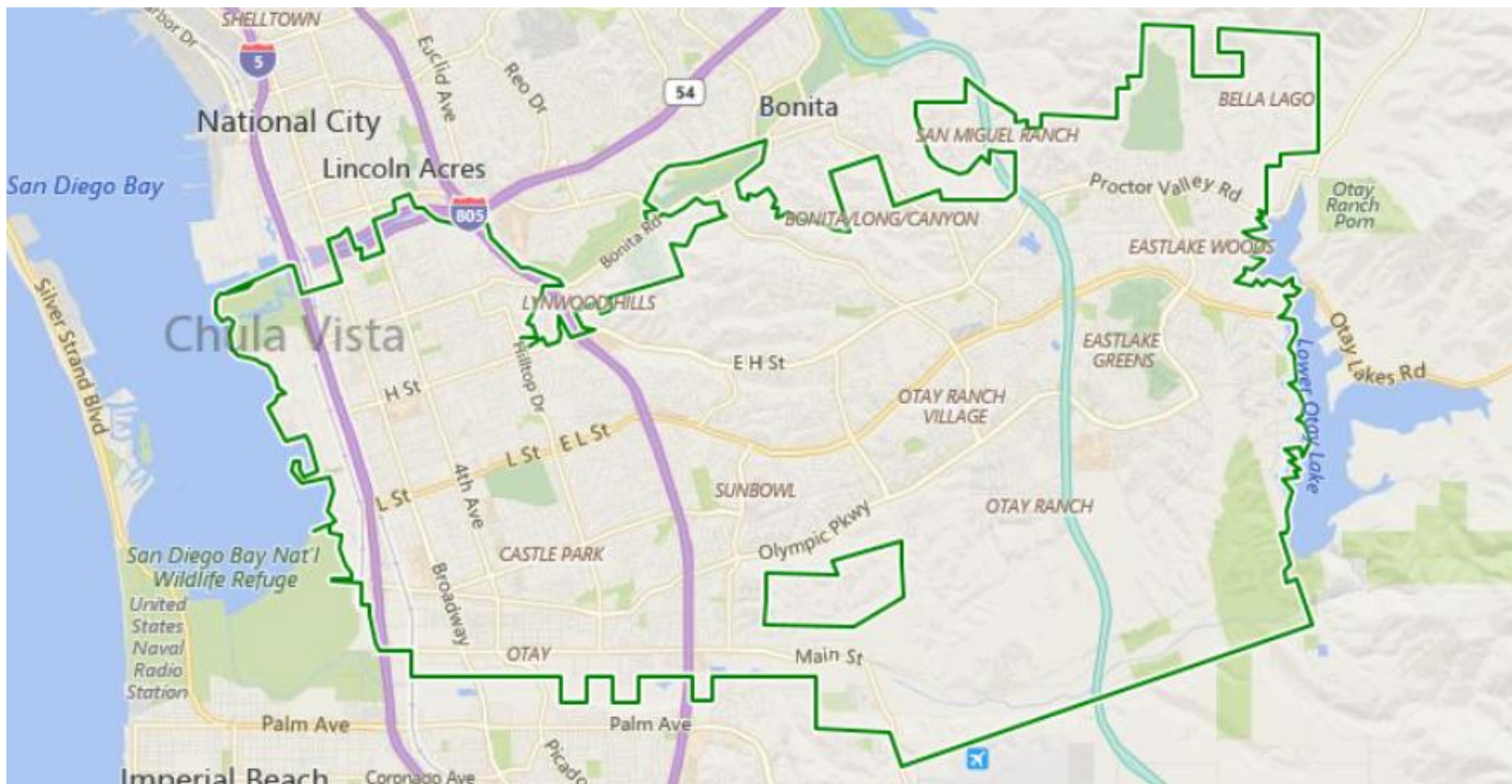






# Chula Vista Fast Facts

- ▶ 267,917 CA DOF 2<sup>nd</sup> largest city in San Diego County
  - ▶ 14<sup>th</sup> largest city in California
  - ▶ Approximately 52 square miles

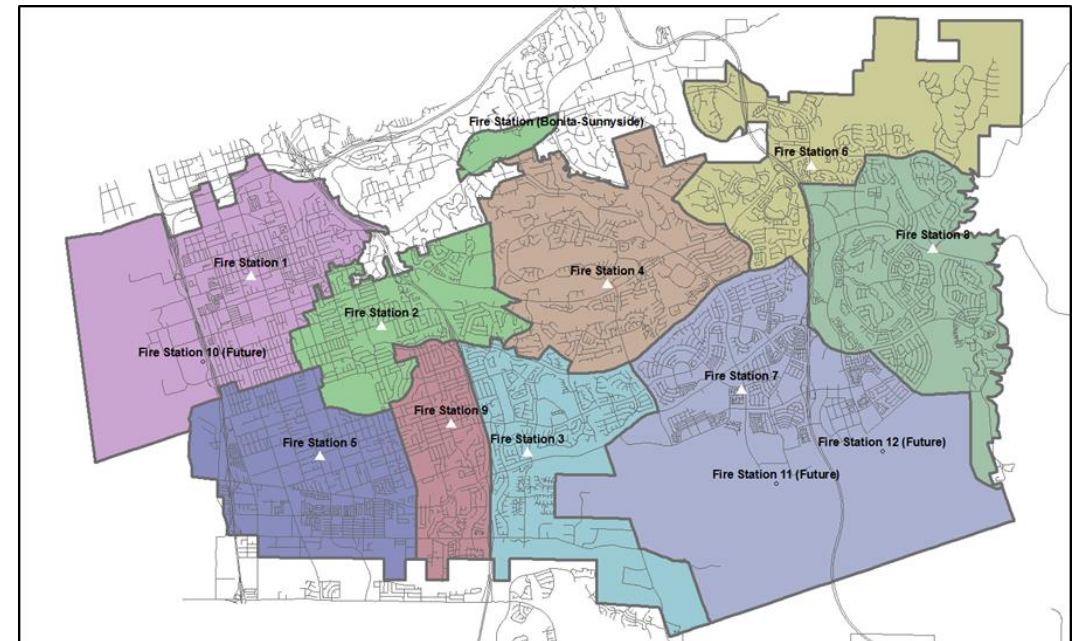






# Chula Vista Fire Department

- \$27.5M Budget
- 130 Authorized sworn staff
- 9 Civilian staff
- 5 lines of business (Admin, Support Services, Training, Operations, Prevention/Investigation)
  - 9 Fire stations
  - Organized into 2 battalions
- 11 response units staffed with 39 firefighters







# Chula Vista Fire Department

- Core Capabilities & Services
- Performance Metrics
- Gaps & Challenges
- Future Focus







# Fire Department Core Capabilities & Services

Emergency Operations

Prevention/Investigation







# Fire Department Core Capabilities & Services

## Emergency Operations

- ▶ Fire Response
- ▶ EMS Response
- ▶ Rescue Response
- ▶ Hazardous Materials
- ▶ Incident Management
- ▶ Resource Deployment
- ▶ Disaster Management
- ▶ Special Responses & Services





# Fire Department Core Capabilities & Services

- ▶ **Distribution**: Resource distribution is associated with geography of the community and travel time to emergencies to initiate incident stabilization
- ▶ **Concentration**: Resource concentration is associated with geography of the community and travel time to emergencies, but focused on the appropriate number of resources to mitigate the incident
- ▶ Response time goals for first-due units (distribution) and for the total effective on-scene emergency response force (concentration) drives fire department objectives like fire station location, apparatus deployed and staffing levels







# Fire Department Core Capabilities & Services

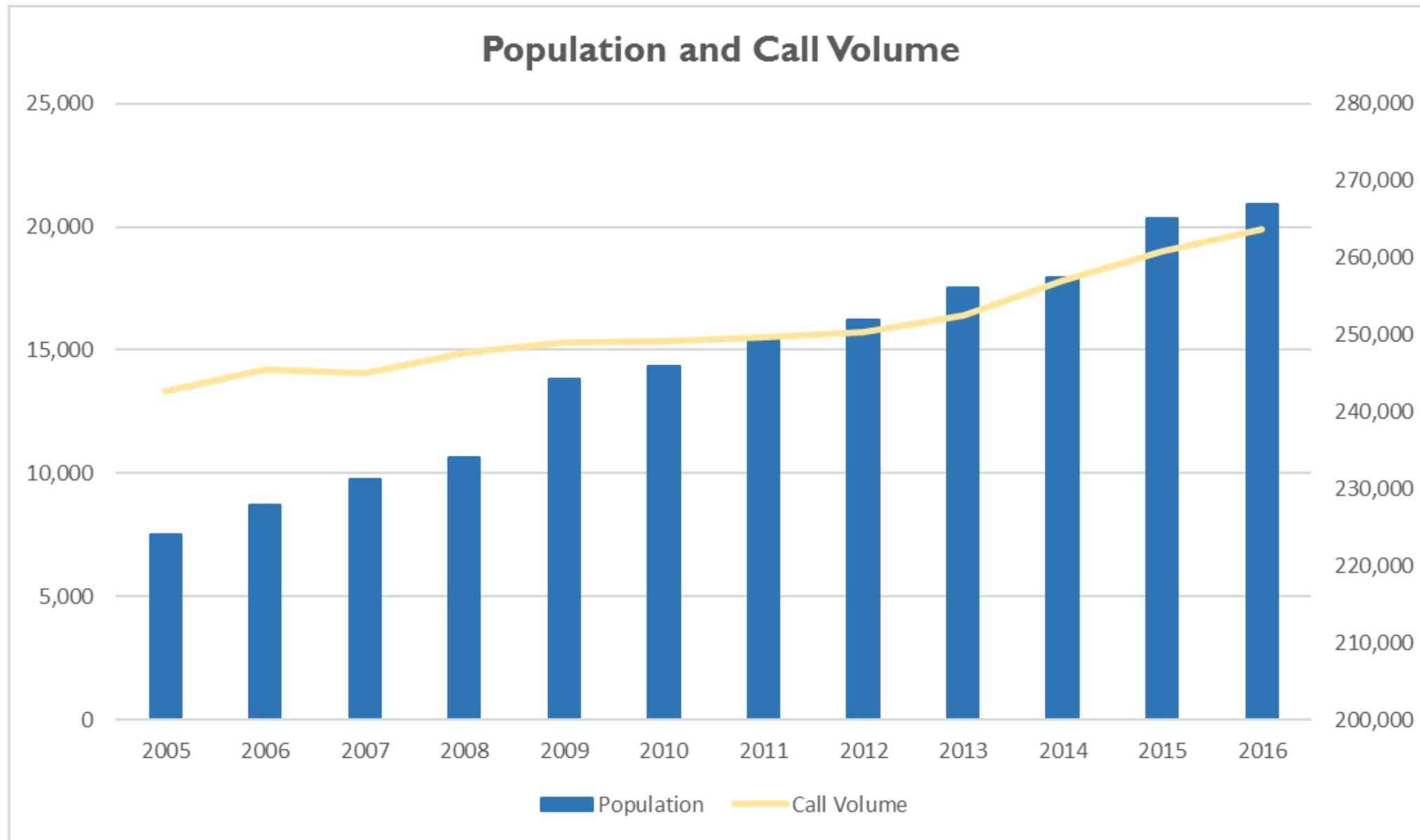
- ▶ **Resource Availability**: is the degree to which the resources are ready and available to respond.
- ▶ **Department Capability**: is the ability of the resources deployed to manage an incident.
- ▶ **Operational Effectiveness**: is the product of availability and capability. It is the outcome achieved by the deployed resources or a measure of the ability to match resources deployed to the risk level to which they are responding.
- ▶ **Operational Reliability**: is defined as the probability that the required number of resources will be available when a fire or emergency call is received.







# Fire Department Core Capabilities & Services







# Fire Department Core Capabilities & Services

## Emergency Operations: 2016 Fire & EMS Calls

- ▶ Fires: 417
  - ▶ Loss: \$9 Million (18%)
  - ▶ Saved: \$43 Million (82%)
- ▶ EMS: 13,494
  - ▶ Acute Patients 5,397
  - ▶ Code 3 transportation for immediate intervention at hospital or receiving multiple ALS treatments.







# Fire Department Core Capabilities & Services

Emergency Operations

Prevention/Investigation







# Fire Department Core Capabilities & Services

## Prevention/Investigation

- ▶ Fire Code Inspection
- ▶ Fire Safety Engineering
- ▶ Fire Investigation
- ▶ Community Risk Reduction Education







# Fire Department Core Capabilities & Services

- ▶ **Prevention/Investigation: 2016 Work Volume**
  - ▶ Fire Code Inspections: 2,235
  - ▶ Fire Safety Engineering: 3,073
  - ▶ Fire Investigations: 36
  - ▶ Community Risk Reduction: 1







# Fire Department Metrics

## Emergency Operations

- ▶ Fire Facility Master Plan/Resolution
- ▶ First Unit On-Scene: 7 minutes 90%
  - Fire Calls For Service
  - EMS Calls for Service
- ▶ Effective Firefighting Force On-Scene: 14 FF 10 minutes 90%
- ▶ Growth Management Oversight Commission: 7 minutes 80%







# Fire Department Metrics Emergency Operations

Influencing Factors: **Flashover**







# Fire Department Metrics Emergency Operations

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# Fire Department Metrics Emergency Operations

Influencing Factors: **Flashover**

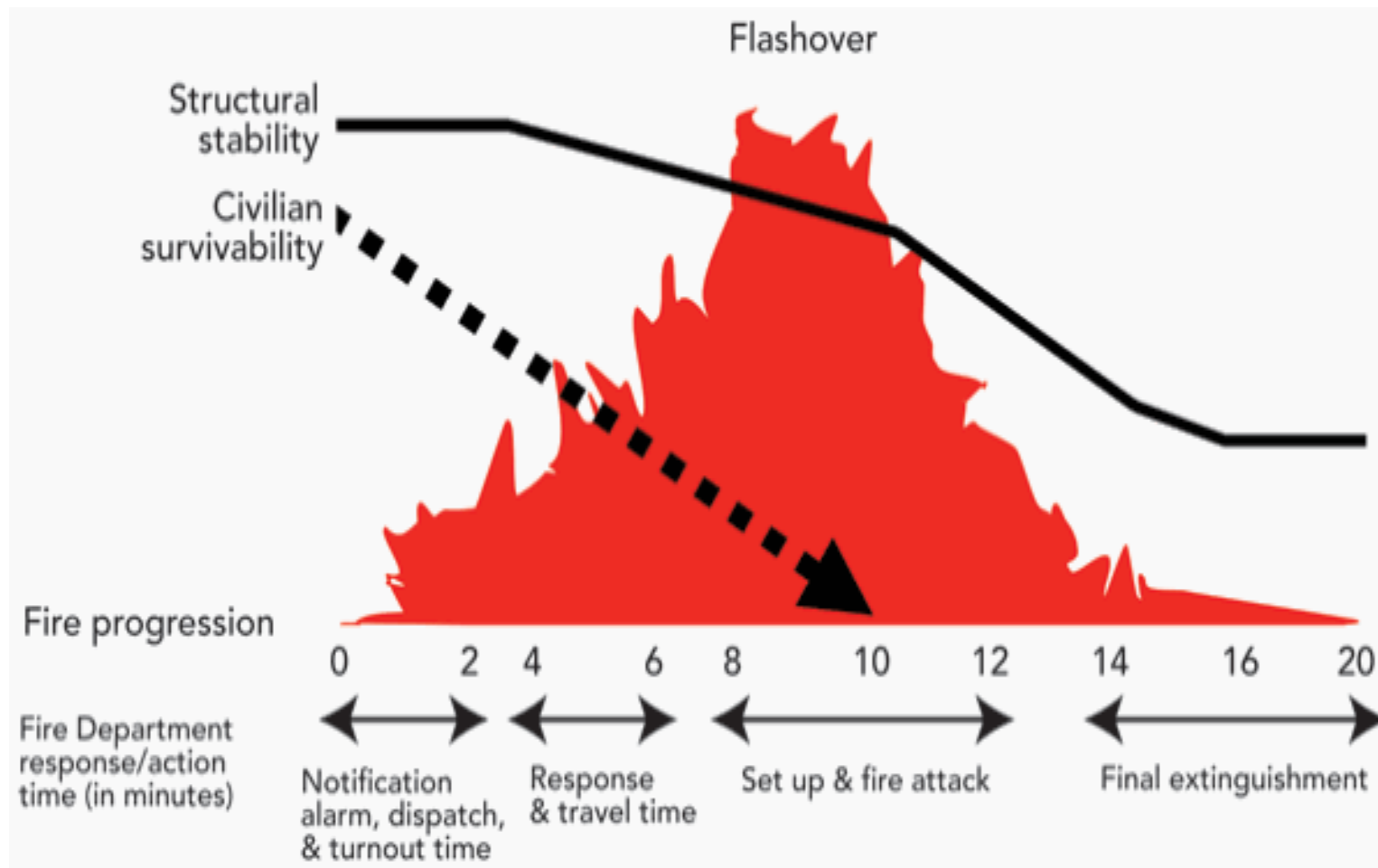






# Fire Department Metrics Emergency Operations

## Influencing Factors: Flashover







# Fire Department Metrics

## Emergency Operations

First Unit On-Scene within **7 minutes 90%**

- ▶ Fire Purpose: Extinguish fire prior to flashover
  - ▶ Flashover nearly eliminates survivability with room of origin
  - ▶ Flashover is when room contents reach ignition temperature and ignite; and when the fire moves outside of the room of origin
  - ▶ **Cal OSHA two-in/two-out: defensive/offensive**
  - ▶ Distribution of resources is critical to achieve this metric







# Fire Department Metrics

## Emergency Operations

First Unit On-Scene within **7 minutes 90%**

- ▶ EMS Purpose: Acute medical calls require immediate intervention.
- ▶ 40% of EMS Calls (5,397 patients)
  - ▶ Cardiac
  - ▶ Neurological
  - ▶ Respiratory
  - ▶ Trauma







# Fire Department Metrics Prevention/Investigation

- ▶ CA State Fire Marshal Regulated Occupancies Inspected Annually
- ▶ Permitted Occupancies Inspected Annually
- ▶ Plan Reviews Completed within Time Review Period
- ▶ Fire Origin & Cause Investigations Performed by Fire Prevention
- ▶ Business License Inspections Completed within 30 Days
- ▶ Number of Public Education and/or Training Classes Delivered

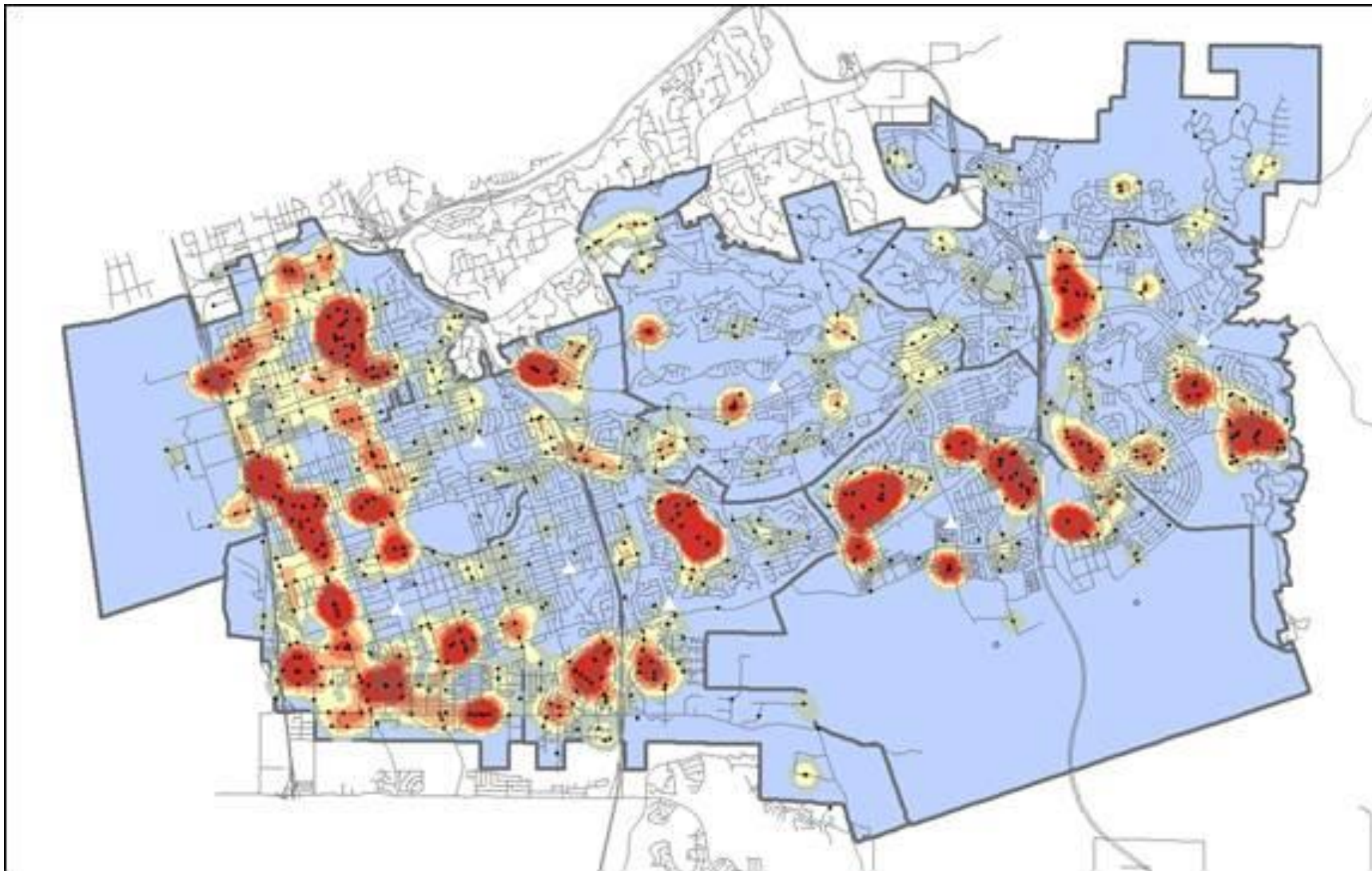






# Fire Department Service Delivery Gaps/Challenges: Emergency Operations

Fire  
> 7 min.

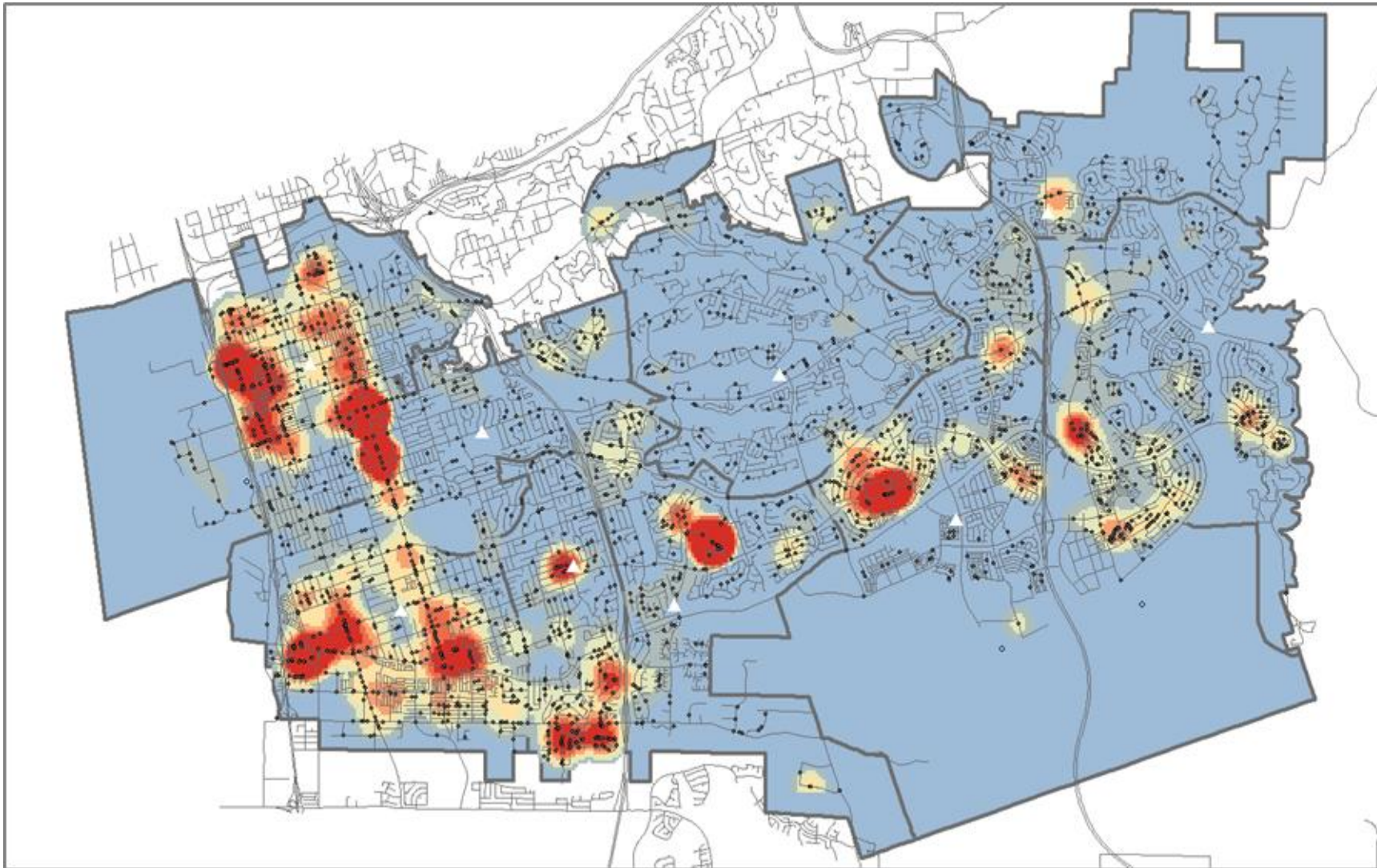






# Fire Department Service Delivery Gaps/Challenges: Emergency Operations

EMS  
> 7 min.

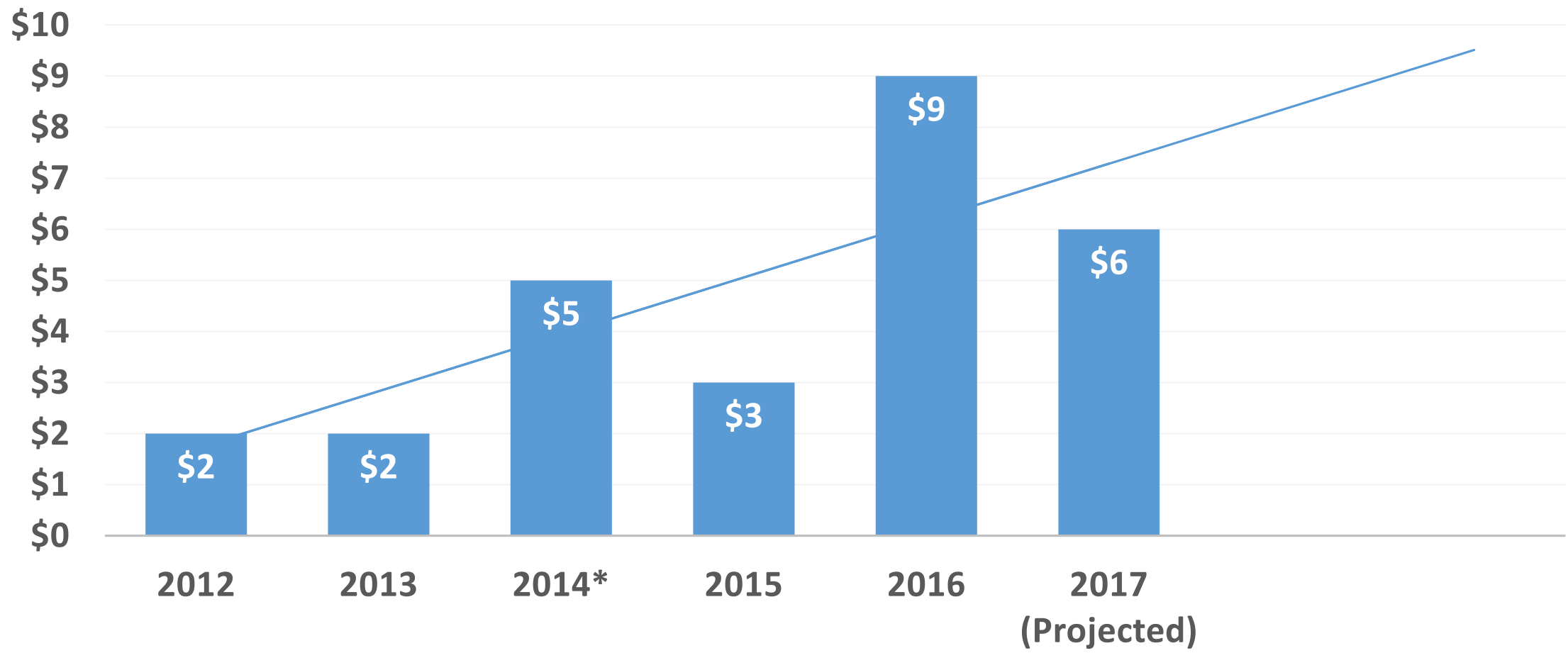






# Fire Department Service Delivery Gaps/Challenges: Emergency Operations

Fire Loss w/Linear Forecast (Millions)







# Fire Department Service Delivery Gaps/Challenges

- ▶ Not meeting response performance metric:
  - ▶ First Unit On-Scene within 7 minutes 90%
    - ▶ Fire: 63.3%
    - ▶ EMS: 80.3%
  - ▶ 14 Firefighters On-Scene within 10 minutes 90%
    - ▶ 58.1%





# Fire Department Service Delivery Gaps/Challenges: Prevention/Investigation

Standard	Threshold	Completion Rate
Permitted Occupancies Inspected Annually	100%	100%
Plan Reviews Completed within Time Review Period	100%	90%
Fire Origin & Cause Investigations Performed by Fire Prevention	100%	9%
Business License Inspections Completed within 30 Days	100%	40%
Number of Public Education and/or Training Classes Delivered	100	1
CA State Fire Marshal Regulated Occupancies Inspected Annually	100%	6%







# Fire Department Future Focus: Emergency Operations

- ▶ Standards of Coverage
- ▶ **Fires:** First unit on-scene within 7 minutes 90% with four firefighters capable of establishing command, initiating fire attack and search & rescue.
- ▶ **Fires:** Effective firefighting force with 14 firefighters within 10 minutes 90% capable of assuming command and control, establishing a water supply, supporting and backing up fire attack, completing search & rescue, ventilation of heat and smoke, providing a rapid intervention crew, and safety officer.
- ▶ **EMS:** First unit on-scene within 7 minutes 90% capable of establishing command, providing basic life support patient care, and initiating advanced life support patient care.





# Fire Department Future Focus: Prevention/Investigation

- ▶ Fire Code Inspections:
  - ▶ Fire Inspectors aren't able to perform governmental mandated apartment inspections or church assembly inspections
    - ▶ 1,046 apartment buildings with approximately 25,000 dwelling units
    - ▶ 150 churches







# Fire Department Future Focus: Prevention/Investigation

- ▶ Fire Investigations:
  - ▶ Fire Investigators don't perform an investigation for all fires
    - ▶ In 2016, Fire Investigators responded to 36 of 417 fire calls for services (9%)
    - ▶ Fire Suppression personnel don't have the training/certification required





# Fire Department Future Focus: Prevention/Investigation

- ▶ Community Risk Reduction Education:
- ▶ No public education programs for:
  - ▶ 45 public elementary schools with over 25,000 students
  - ▶ Chula Vista children population = 37,000
  - ▶ Chula Vista 60 y/o + population = 45,000
  - ▶ Over 40 mobile home parks
  - ▶ 82,000 single- and multi-family dwelling units

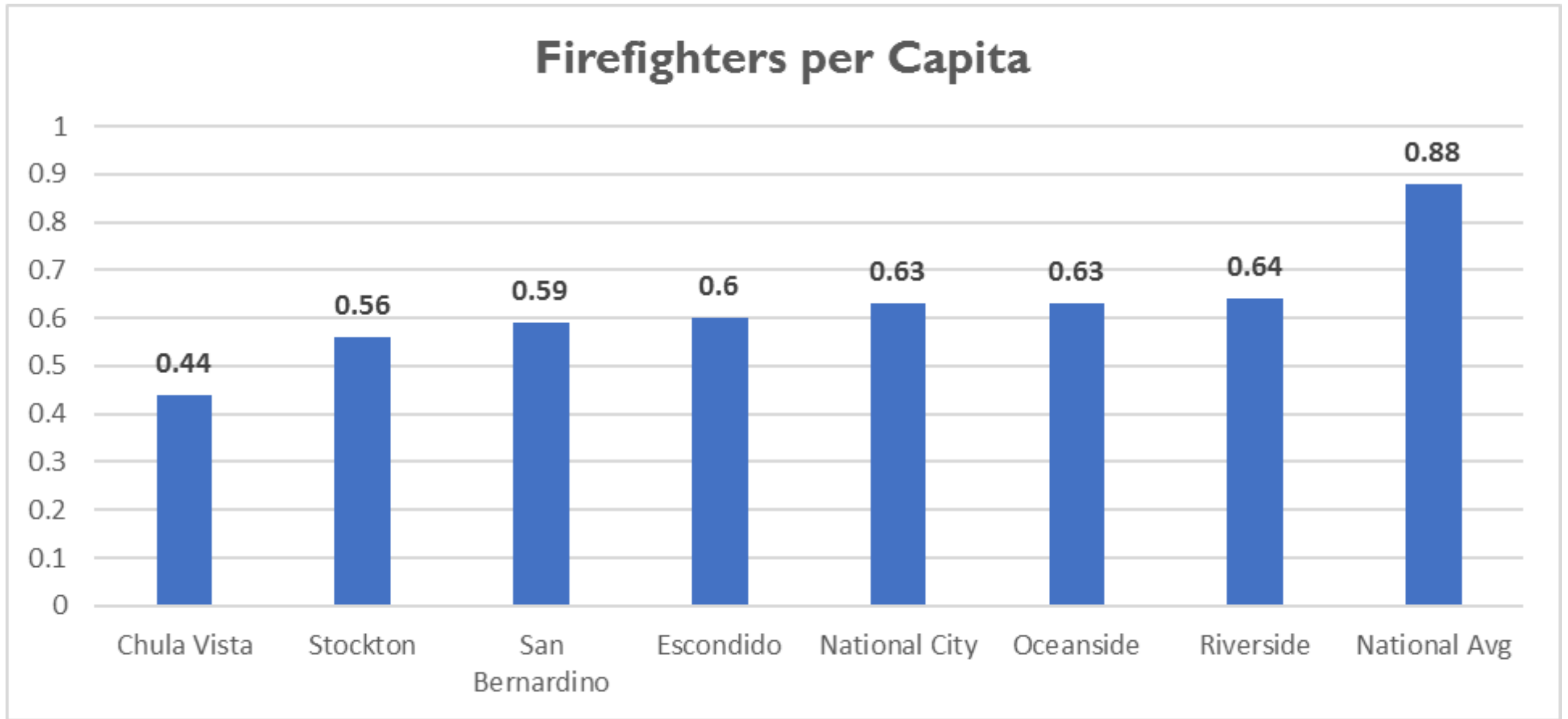






# Fire Department Comparisons

## Firefighters per Capita





# Fire Department Future Focus

- Explore service delivery solutions to:
  - Match the compounding 4% annual increase in EMS calls for service that will improve patient outcomes.
  - Focus on improving calls for service outcomes by stopping the upward trend of response times and fire loss.
  - Complete government mandated inspections.
  - Allow Fire Prevention to perform all fire investigations.
  - Educate on fire and life safety measures through public outreach.







# Fire Department Recommendations

Centered on outcome based capability performance metrics

## Prevention Current Performance:

Standard	Threshold	Completion Rate
Permitted Occupancies Inspected Annually	100%	100%
Plan Reviews Completed within Time Review Period	100%	90%
Fire Origin & Cause Investigations Performed by Fire Prevention	100%	9%
Business License Inspections Completed within 30 Days	100%	40%
Number of Public Education and/or Training Classes Delivered	100	1
CA State Fire Marshal Regulated Occupancies Inspected Annually	100%	6%

**Recommendation: Add three FTE Inspector/Investigators; one FTE Public Education Specialist.**

**Recommendation Outcome: 90-100% compliance.**





# Fire Department Recommendations

Centered on outcome based capability performance metrics

## Operations:

**Fire: 1<sup>st</sup> unit on-scene w/in 7 minutes 90%**

**Fire: 14 firefighters on-scene w/in 10 minutes 90%**

**EMS: 1<sup>st</sup> unit on-scene w/in 7 minutes 90%**







# Fire Department Recommendations

**Fire: 1<sup>st</sup> unit on-scene w/in 7 minutes 90%**

**Current Performance: 63.3%**

**Recommendation: 4.0 Staffing On all Response Companies.**

**Recommendation Outcome (forecasted): 78%**





# Fire Department Recommendations

**Fire: 14 Firefighters On-Scene within 10 minutes 90%**

**Current Performance: 58.1%**

**Recommendation: 4.0 Staffing On all Response Companies; Open Millenia & Bayfront FS, adding two additional Engines and one additional Truck companies; Implement four Squad response units.**

**Recommendation Outcome (forecasted): 84%**







# Fire Department Recommendations

**EMS: 1<sup>st</sup> unit on-scene w/in 7 minutes 90%**

**Current Performance: 80.3%**

**Recommendation: Open Millenia & Bayfront FS, adding two additional Engines and one additional Truck companies; implement four Squad response units.**

**Recommendation Outcome (forecasted): 87%**





# Fire Department Recommendations

## Fire Administration

**Recommendation: Add two FTE Deputy Chiefs focusing on Administration and Support Services.**

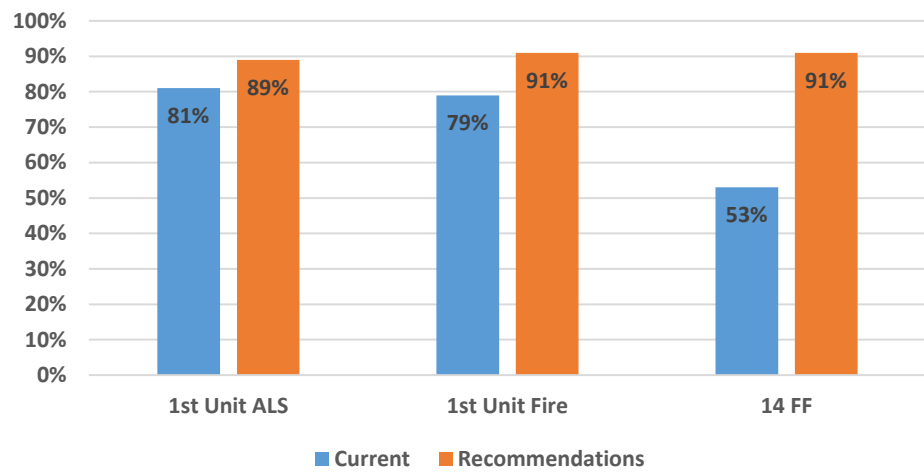




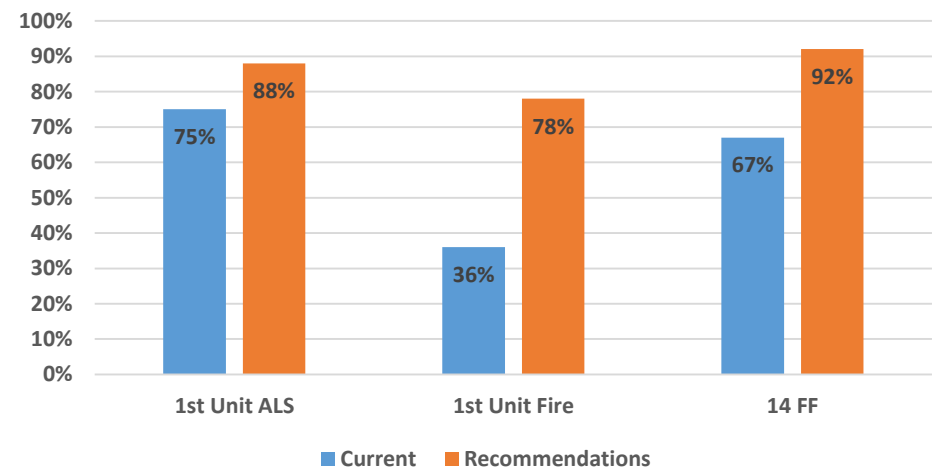


# Fire Department Recommendations

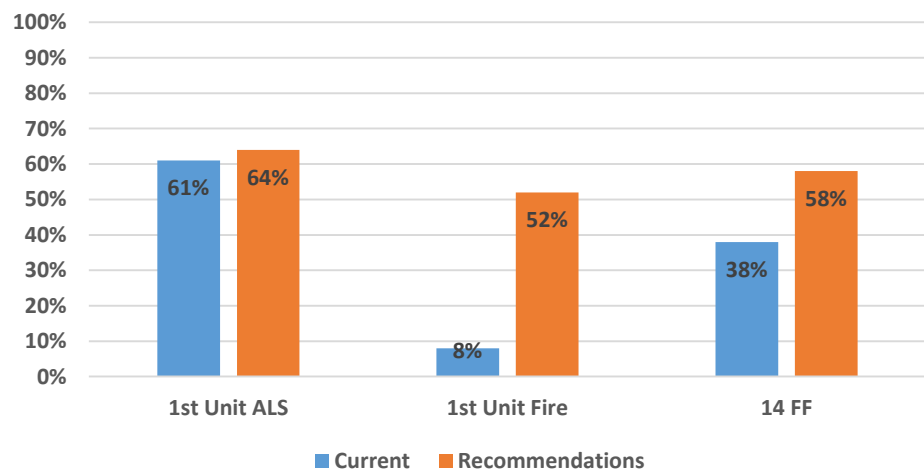
Fire Station 1



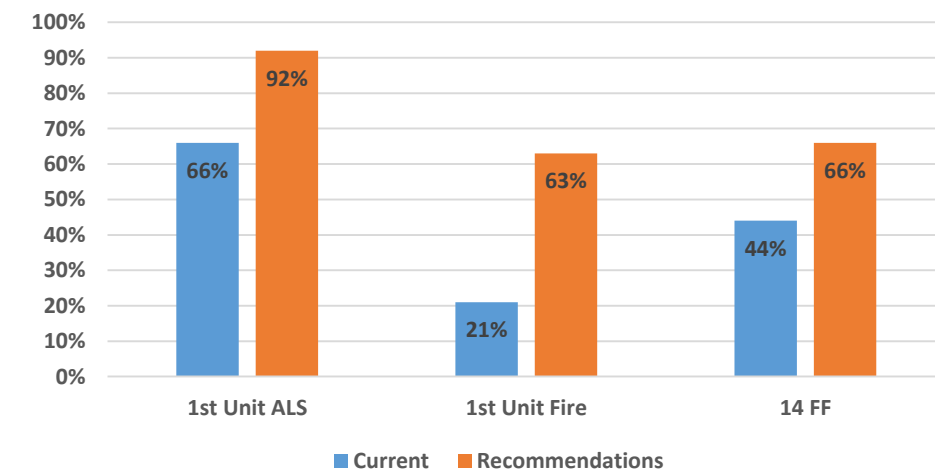
Fire Station 2



Fire Station 3



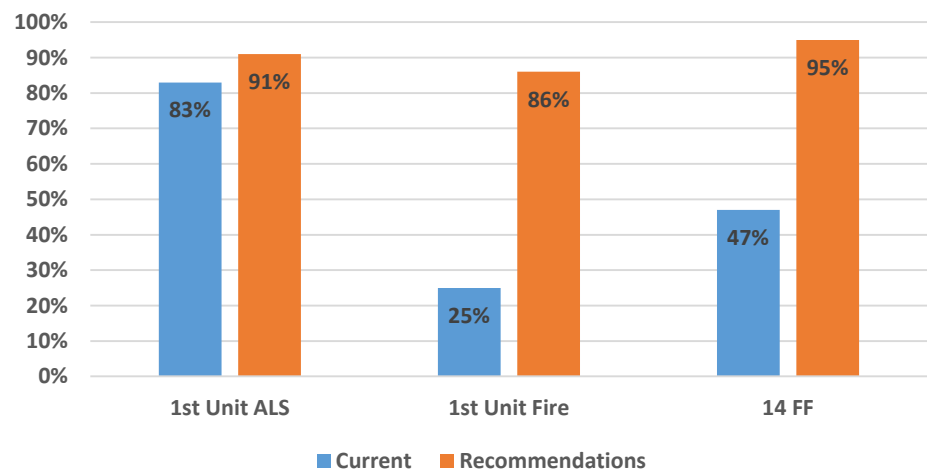
Fire Station 4



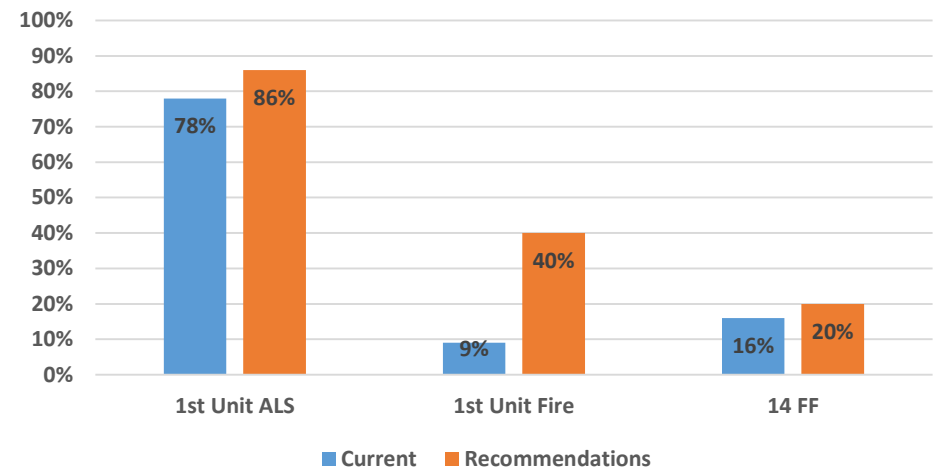


# Fire Department Recommendations

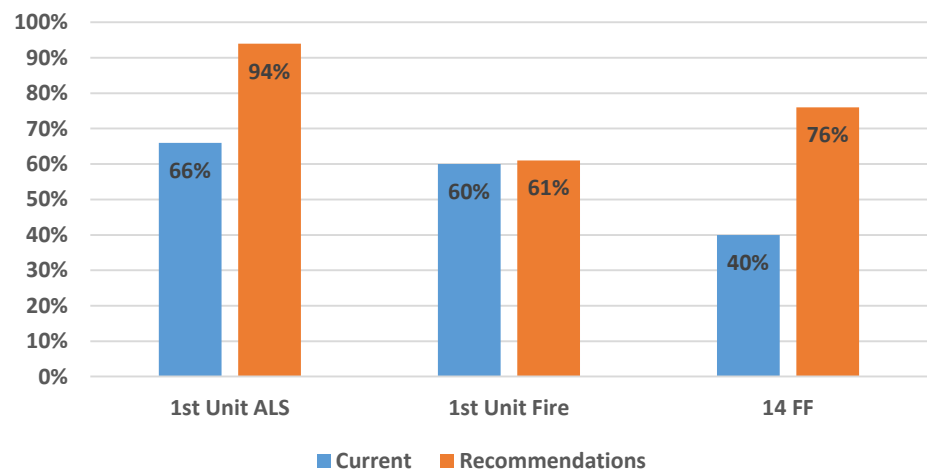
Fire Station 5



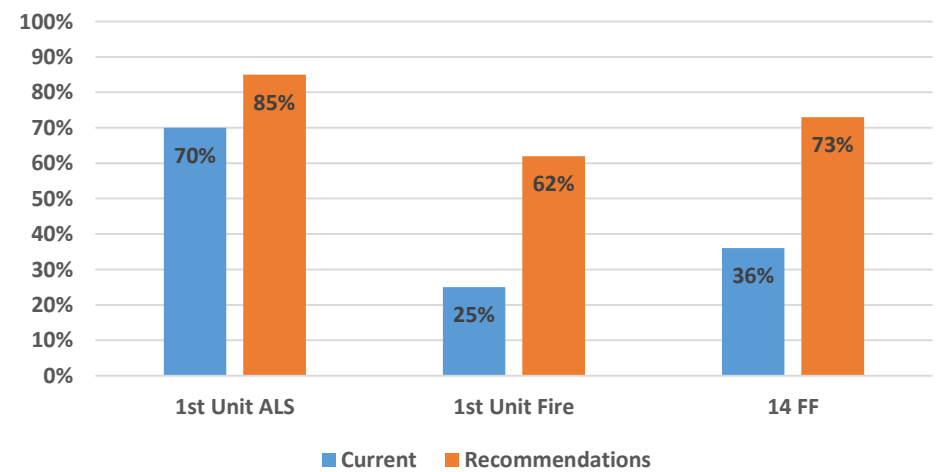
Fire Station 6



Fire Station 7



Fire Station 8







# Fire Department Recommendations

