



Emergency Response Time Reduction Plan

Statement of the Problem

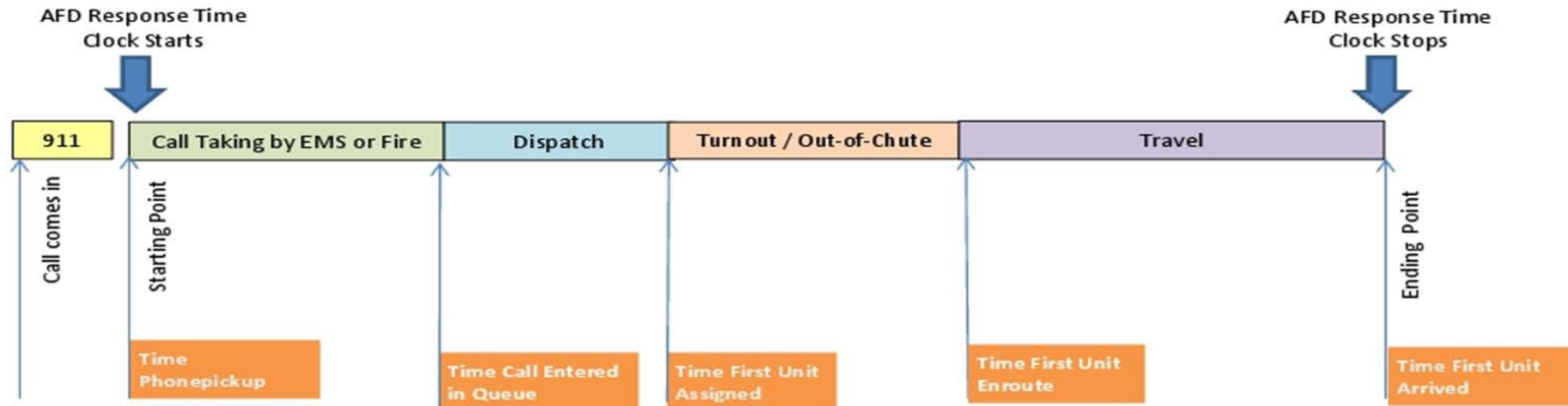


- Austin has experienced a population growth of over 38% over the last 15 years.
- The Urban Institute estimates an additional 30% to 80% growth over the next 15 years in the Austin area.
- Austin currently has an emergency response goal of 8 minutes, 90% of the time.
- Only a small and shrinking area of the COA meet the fire department emergency response time goal of 8 minutes or less.
- Fire station deficiencies in critical areas of the city lead to response time deficiencies.
- Factors other than lack of needed fire stations also increase response time deficiencies.

Goal: 8 Minutes, 90% of the Time

Standard of Coverage Time Segments

Response Time Segments used to Calculate Standard of Coverage



What is AFD's response time standard for the City of Austin?

From the time AFD or EMS receives the call, a fire unit (regardless of agency) arrives on scene within 8 mins, 90% of the time.

Filters: Frontline Units Only (Engines, Quints, Ladders, Rescues, Battalion Chief, Squad, AFRR, Brush Truck), call taker from AFD or EMS, unit responded code 3 (or equivalent), unit was not cancelled before arrival, must have valid timestamps, unique incidents only, removes test calls, City of Austin service area, includes ESD units

Timestamps: Time Phone Pickup to First Arriving Frontline Unit On scene

The SOC is reflective of the response time the resident received.

The "First Arriving Unit Onscene" timestamp is used, regardless of which agency's unit arrived first. If an ESD unit is the first arriving unit to an incident within COA, then the ESD unit's timestamp is used for the response time. If an AFD unit arrived first, then the AFD unit's timestamp is used for the response time.



2015 Standard of Coverage

PERCENTAGE OF RESPONSES IN 8 MINUTES OR LESS FOR FIRST-IN UNIT
(Includes AFD, Auto Aid, and Mutual Aid unit responses)

- From Call Receipt by AFD/EMS to Arrival Onscene
- Case Base equals VALID Response Times Only

90% and up

89% - 80%

79% - 70%

69% - 50%

Less than 50%

0 to 20 Calls

Insufficient Data

AFD BUILT

ESD - Auto Aid

ESD - Mutual Aid

Text in Firebox

95% Percentage of responses within 8 mins

00-1802 Fire Box number

0:09:18 Response Time at 90%

Proposed Fire Stations

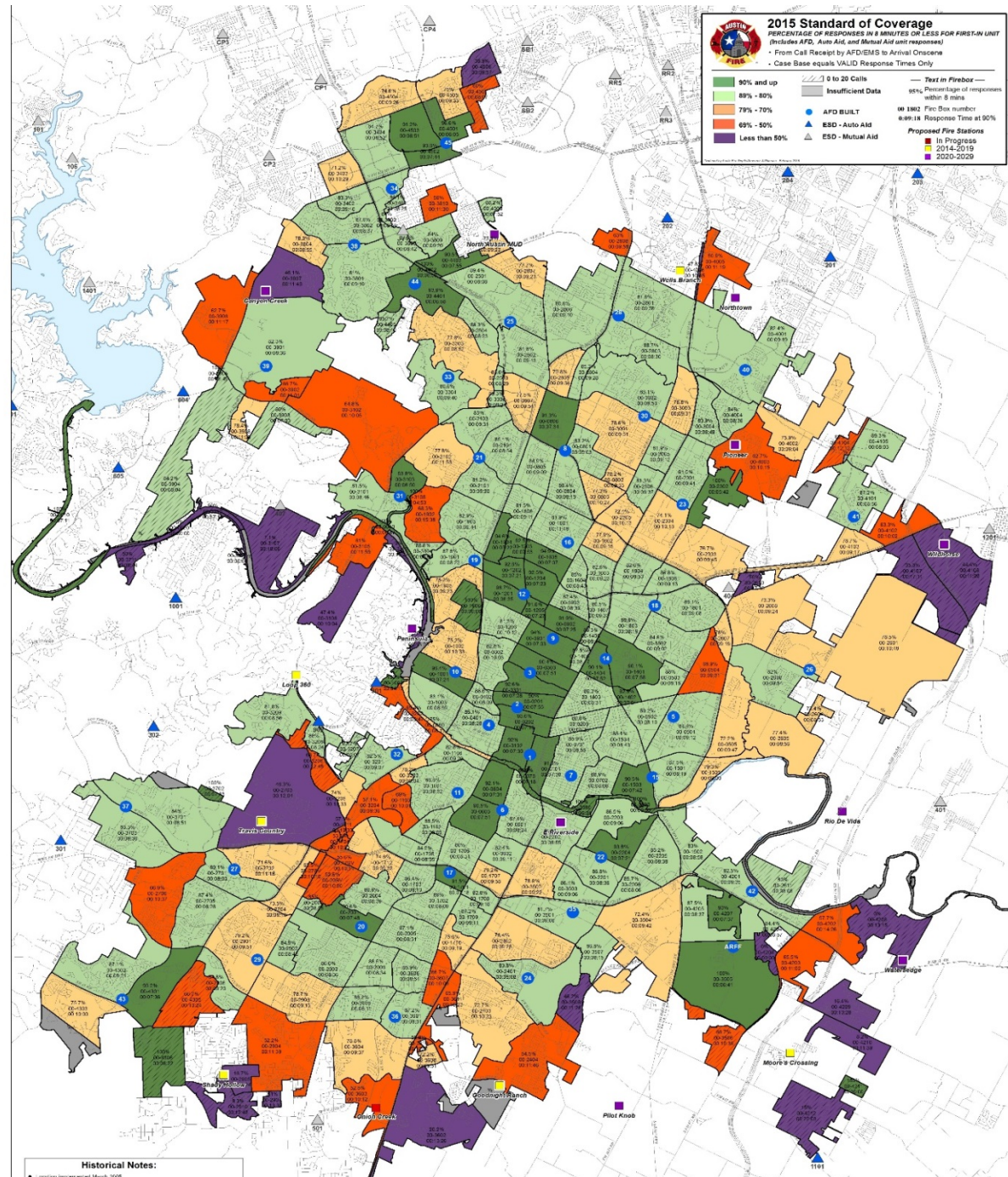
In Progress

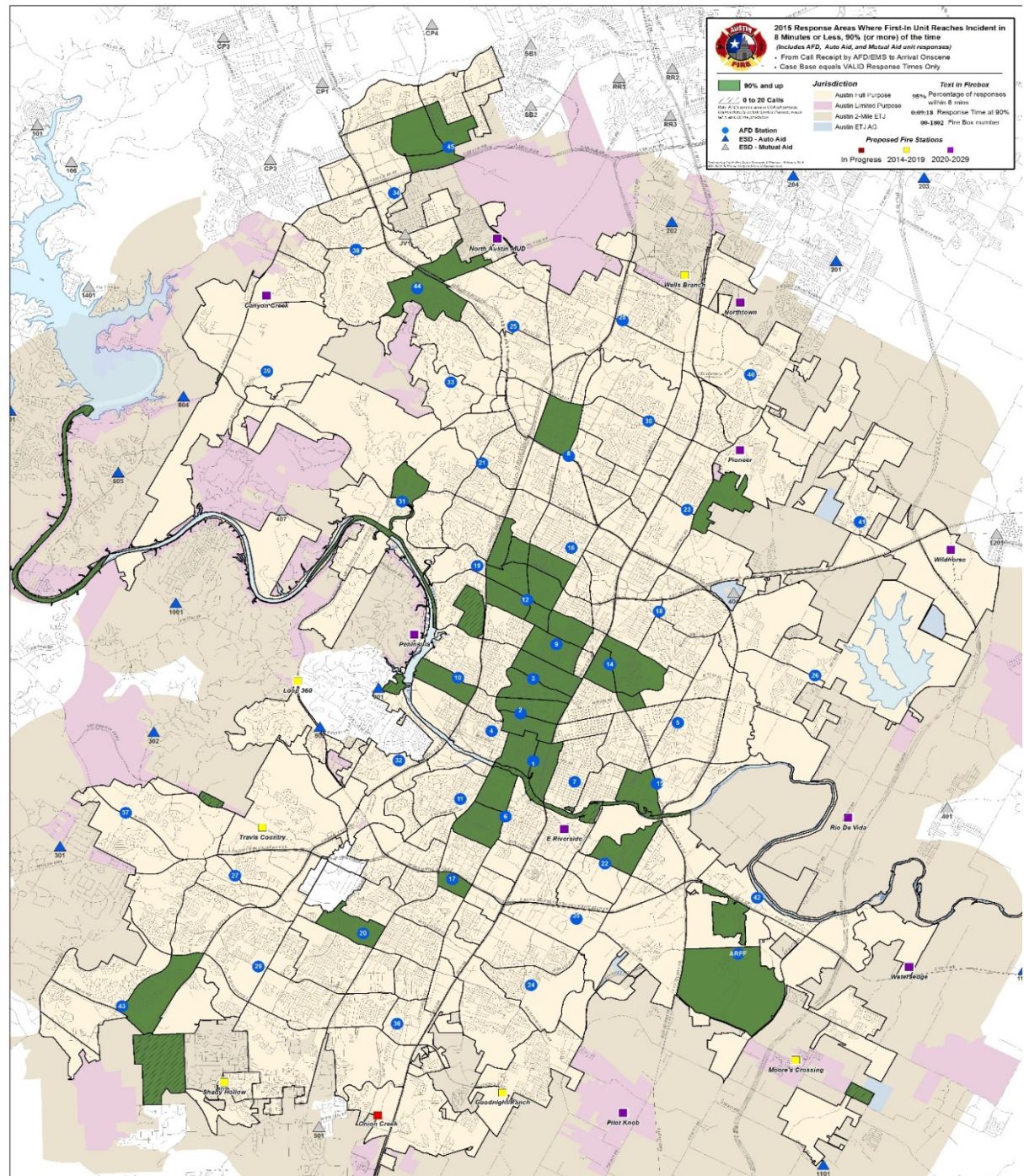
2014-2019

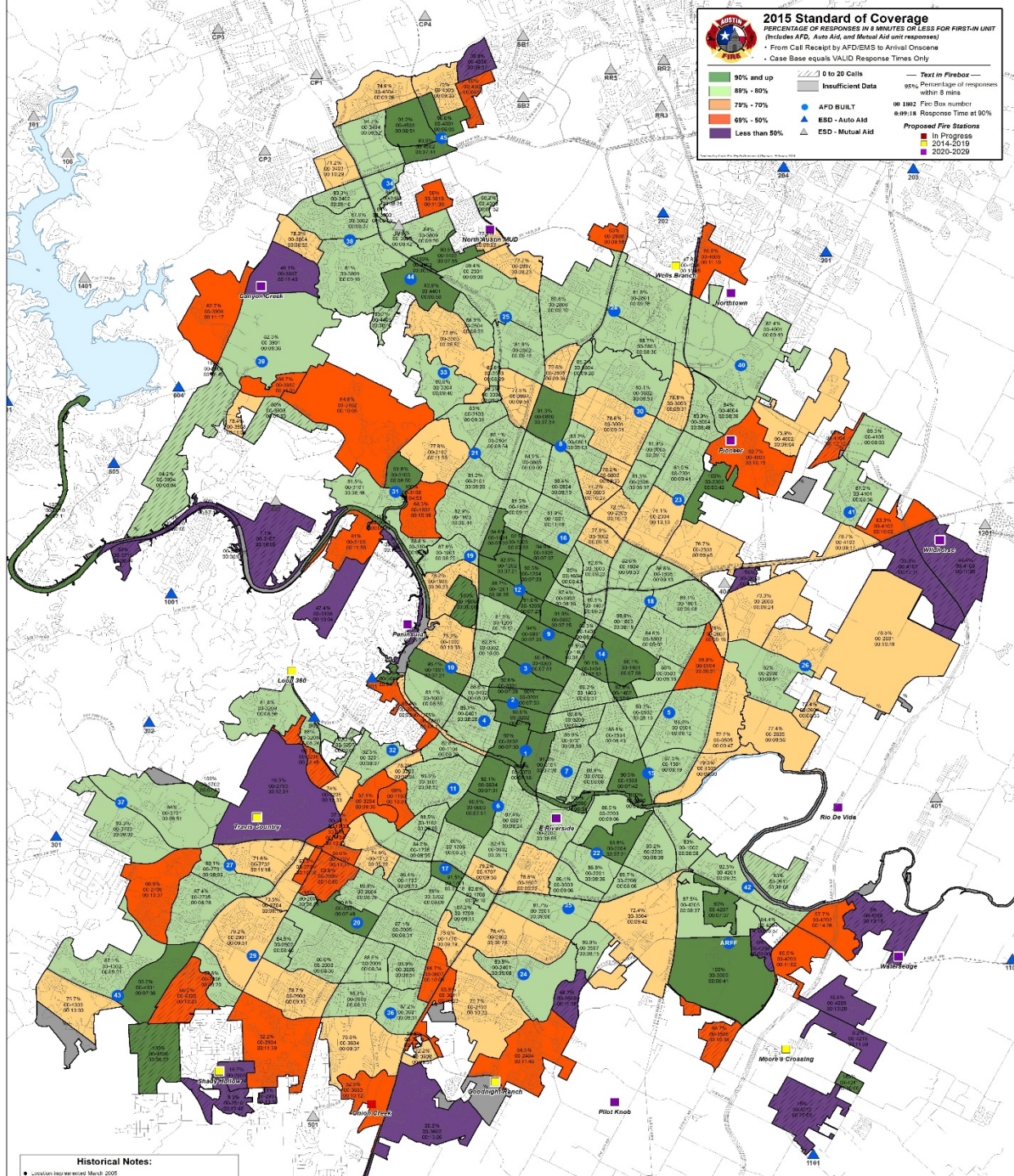
2020-2029


Produced by Austin Fire Dept's Research & Planning - February 2016











2015 Standard of Coverage

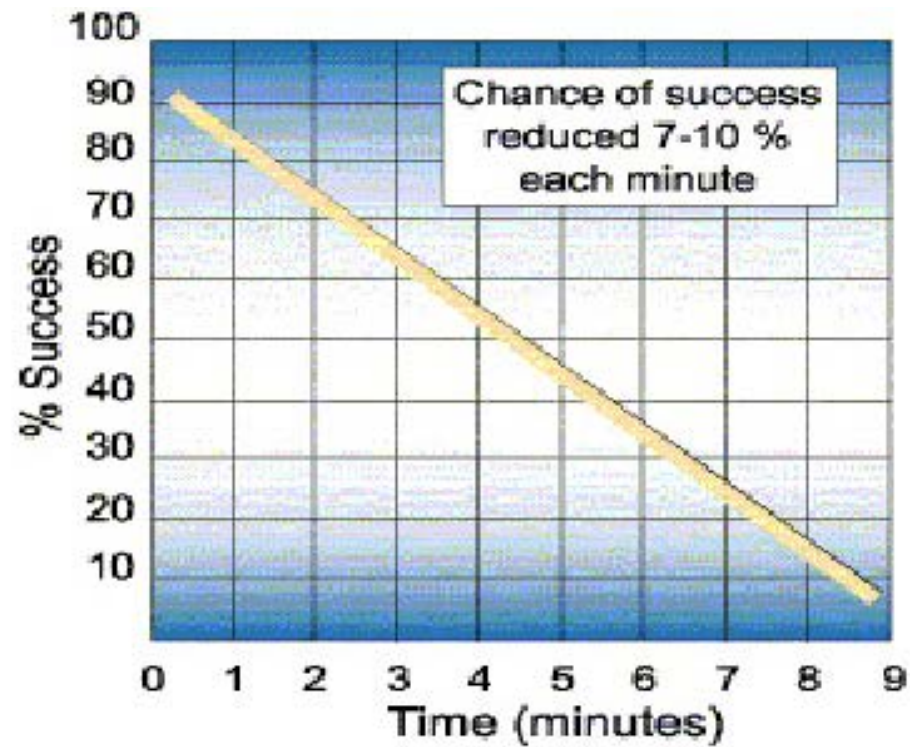
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90% and up	0 to 20 Calls	Text in Firebox
80% - 89%	Insufficient Data	95% Percentage of responses within 8 mins
70% - 79%	AFD BUILT	NE 1802 Fire Box number
60% - 50%	ESD - Auto Aid	8:00-18 Response Time at 90%
Less than 50%	ESD - Mutual Aid	Proposed Fire Stations
		In Progress
		2014-2019
		2020-2029

Historical Notes:
• Location represented March 2005

Why Time Matters?



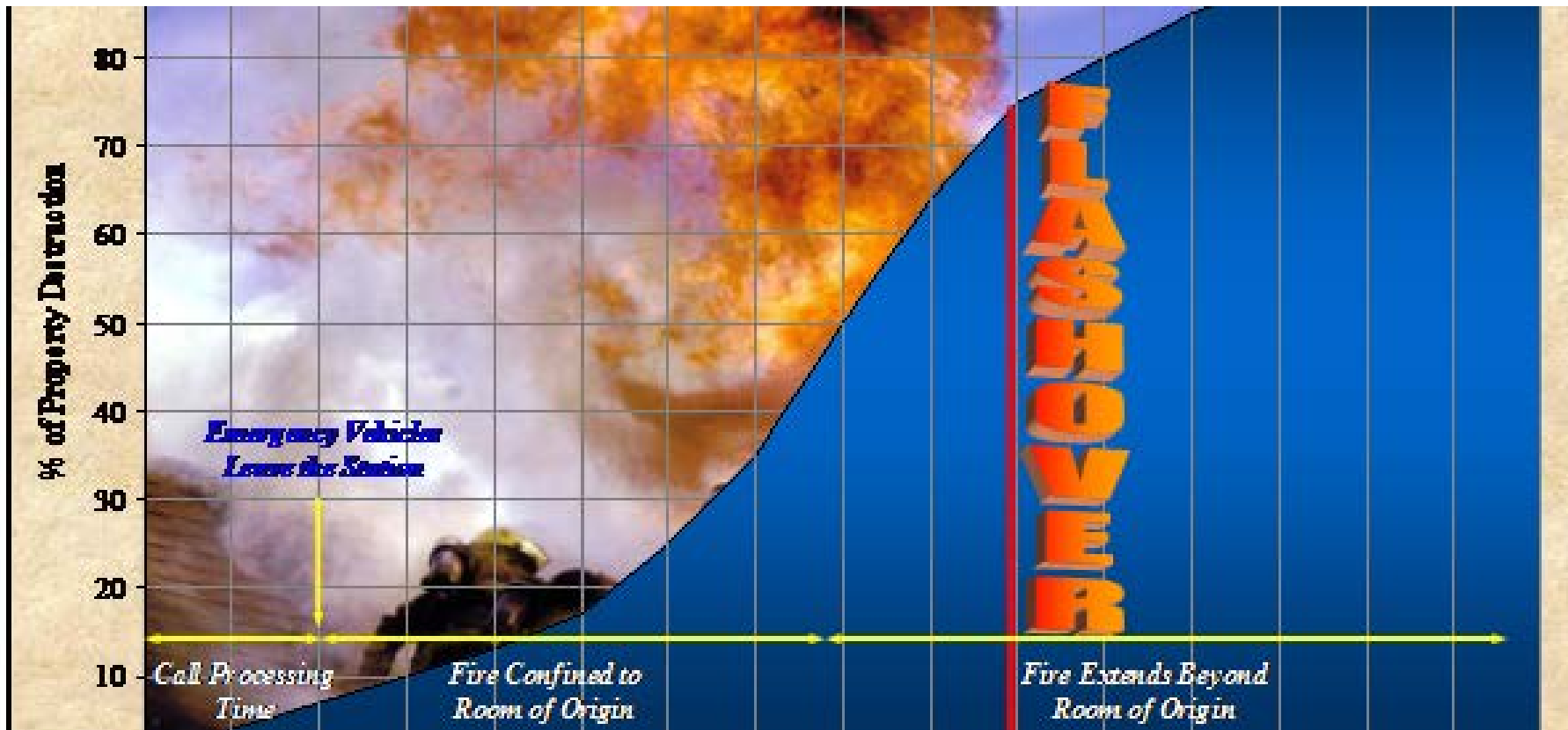
Non-linear

adapted from text: Cummins RO, Annals Emerg Med. 1989; 18:1269-1275.

*

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Why Time Matters?



History - We have been in this exact situation before...



- In 1986, the Austin City Council passed a resolution to build six (6) fire stations and adopted a 3 minute travel response time.
- After this, AFD developed a risk/utility model to proactively justify the timing and location of future fire stations based on several risk factors:
 - This legacy model included eight (8) separate risk factors
 - Used through the early 2000's
- Through a Labor/Management collaboration this risk/utility model is updated, both in terms of data and assumptions.
- This model is now called the Fire Service Delivery Analysis.

Resolution No.

860522-19

1. Six new fire stations shall be constructed as soon as practicable in the following service areas:

83/83-02	Braker and Parkfield
85/85-01	Bee Caves
85/83-03	Burnet Road
85/83-05	Brodie Lane
85/83-06	RM 2222 & Highway 360
85/83-07	Rain Creek

2. Lease purchase the fire equipment until new bonding authority is granted and pay the equipment off at that time. This will allow the Fire Department to order the equipment for staged delivery as the stations are opened. Actual delivery should occur after the next bond election, but the equipment must be ordered well in advance. Sufficient reserves should be maintained to pay for this equipment in the event additional bond financing is not approved;
3. Uncertainty concerning annexation of the Anderson Mill area requires postponement of construction of this station. Buy the land now and defer design, construction and equipment;

What Causes Emergency Response Deficiencies?



1. Lack of fire stations create emergency response time deficiencies.
2. Traffic congestion
3. Lack of emergency response connections (roads) between neighborhoods.
4. Emergency apparatus on non-emergency duties

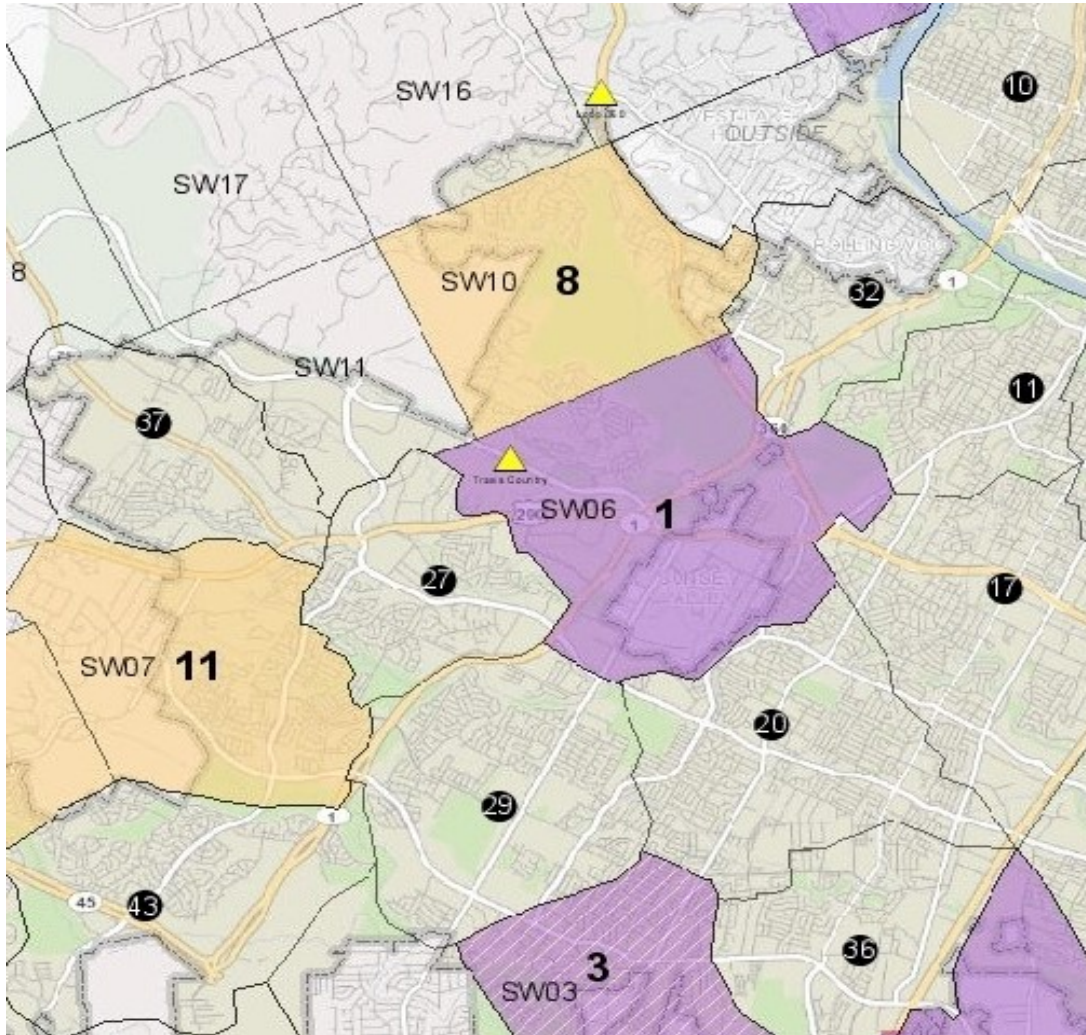
Problem: Lack of Needed Fire Stations



The AFA Resolution Proposes:

- Utilize the updated Fire Service Delivery Analysis for the timing and location of needed fire stations.
- Council Resolution to build the most crucially needed fire stations as soon as practical.
- Council Resolution to have the Fire Service Delivery Analysis presented to City Council each COA budget year.
- The City Manager will present this analysis along with a plan for implementing the construction of the top five (5) most critical fire stations as identified through the Fire Service Delivery Analysis.
 - Critical fire stations may be re-ranked by the council.
- Research ways to reduce station costs and time to complete build.

Updated Fire Service Delivery Analysis



Model Method

1. Filter all Fire Zones to include:

- Areas with only COA Full Purpose Jurisdiction
- Exclude areas already serviced by an AFD station

2. Data elements and weights for calculating COA risk*

- % of Area Developed (25%)
- Resident Population (25%)
- Employee Population (13%)
- Square footage of all property (37%)

3. Filter Fire Zones to include those with above average COA risk scores

4. Risk/Service Delivery elements and weights for calculating Fire Zone ranks*

- Response Times (45%)
- Incident Volume (45%)
- Homes at risk to Wildfires/Floods (10%)

*All data elements were standardized before combining into composite scores.

Service Delivery Analysis

The Fire Risk and Service Delivery model was developed to measure life & property risks in conjunction with fire service delivery within the City of Austin. The results show a need for additional stations based on the current risk and response times.

2016 Model Results

1. Travis Country area (*immediate need*)
2. Loop 360 area (*immediate need*)
3. Manchaca/Slaughter area (*area to watch*)
4. Goodnight Ranch area (*immediate need*)
5. Moore's Crossing area (*immediate need*)
6. Canyon Creek area (*immediate need*)

Immediate Need

Area has significant development, increased population, and response times which are substantially below AFD's goal of 8 mins (call receipt to onscene, 90%).

Area to Watch

Area has significant development, increased population, and response times which are substantially below AFD's goal of 8 mins (call receipt to onscene, 90%).

New fire stations in area have been funded and could impact response times positively. Will review after stations have been in place to determine if an additional station is needed.

Horizon Area

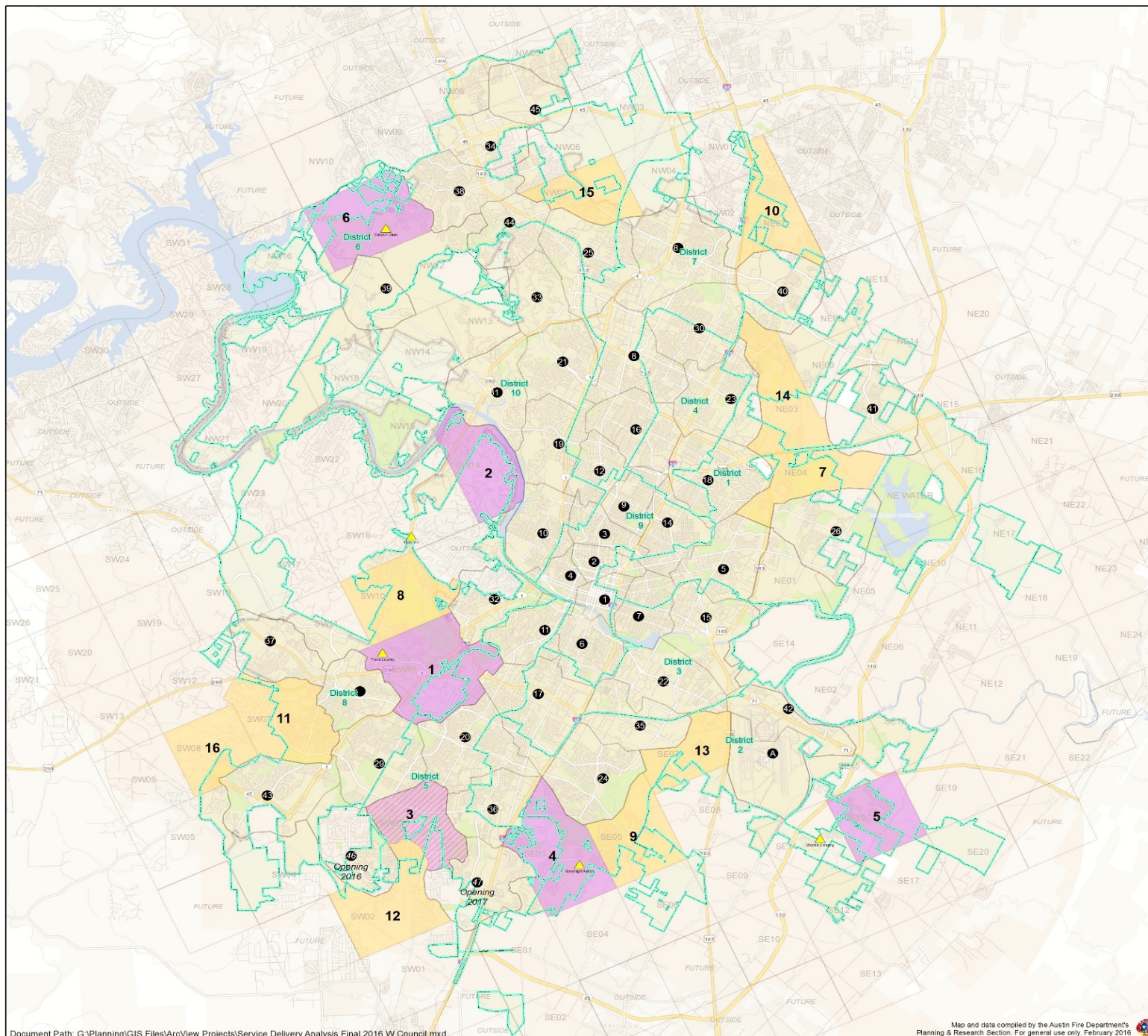
Area has development, increased population, and response times which are below AFD's goal of 8 mins (call receipt to onscene, 90%). If additional development or population occur, area's ranking could increase.

- Fire Zones (1.5 mile/3 min response planning area)
- 1 Final Model Ranking of Fire Zone
- Current Fire Stations
- ▲ Potential Fire Station Site
- Council Districts

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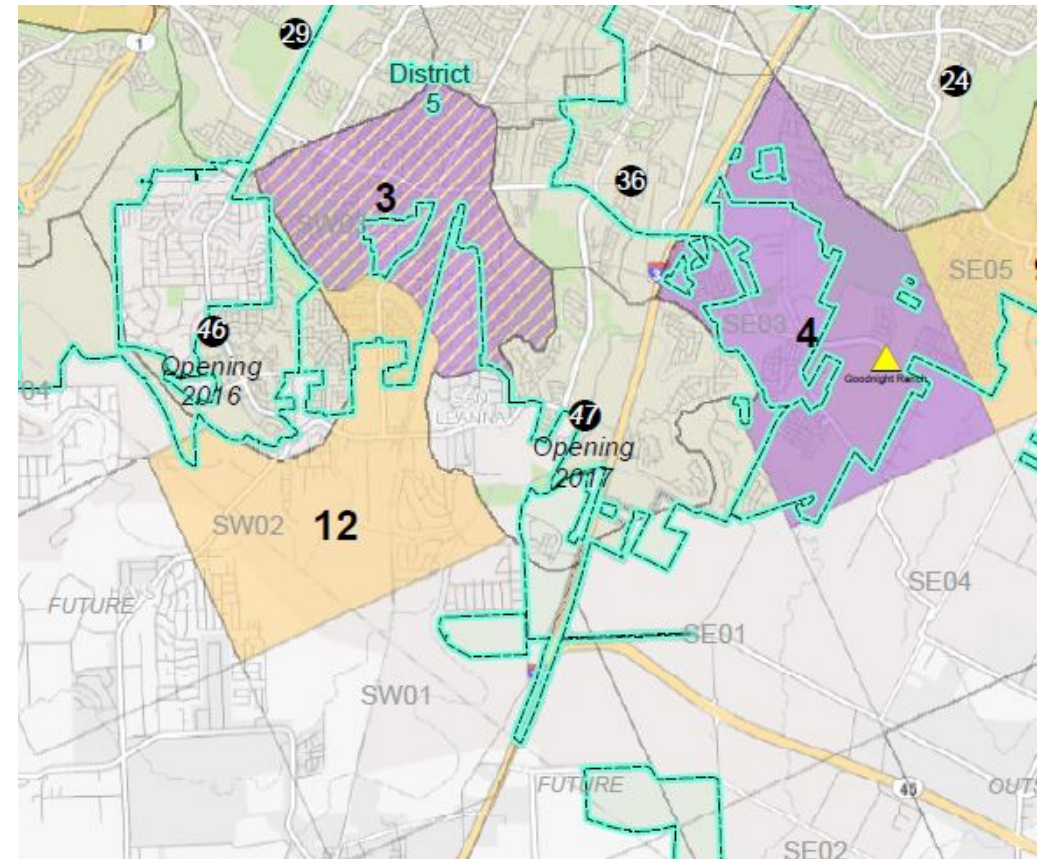
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2016 Model Results Fire Stations Needed

Proposed Resolution

- Travis Country Area (*immediate need*)
- Loop 360 area (*immediate need*)
- Good Night Ranch area (*immediate need*)
- Moore's Crossing area (*immediate need*)
- Canyon Creek area (*immediate need*)
- ~~Manchaca/Slaughter area (*area to watch*)~~



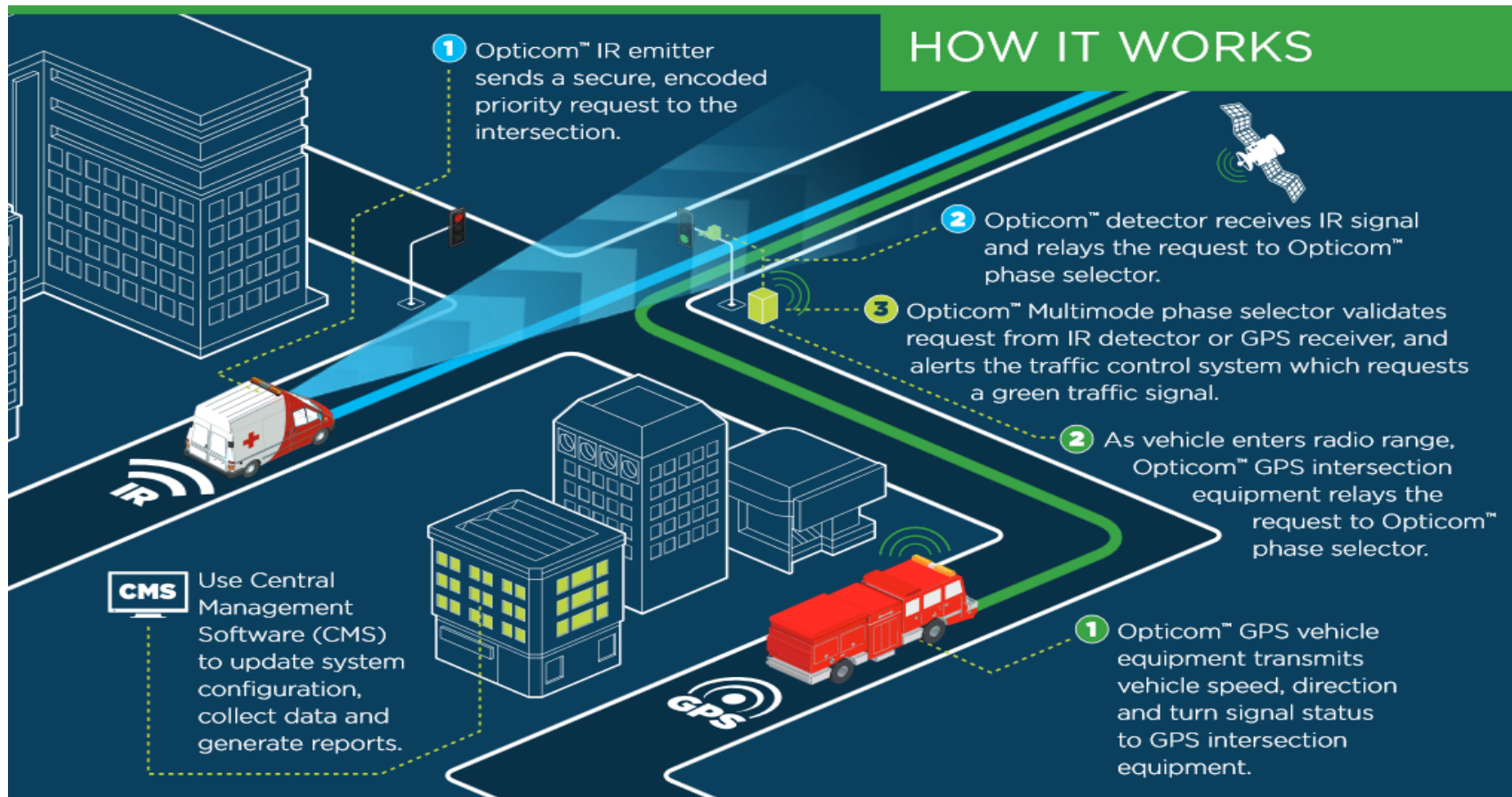
Problem: Lack of Fire Stations, Financing Issues

- The use of general obligation bonds to finance needed fire stations has been the COA “go to” method of financing and has not been successful.

The AFA Resolution Proposes:

- Research ways to reduce station costs and time to complete build
 - Research feasibility of design, build and finance public/private partnerships (P3's)
 - Reduce fire station footprint
 - Thoroughly integrate fire and EMS within one station
- Advantages
 - Reduced Costs
 - Reduce time to build
 - Fire station financing not necessarily linked to bond elections
 - Using P3's, possibly finance fire stations over a 15 year period
 - This system better ensures that fire stations are constructed when needed.

GPS Emergency Vehicle Preemption System



Other Factors to Reduce Response Time Deficiencies



Labor/Management ...and possibly a Public Safety Commission Subcommittee:

- Emergency run typing prospects to better preserve emergency response resources for true emergencies.
- Look for opportunities to reduce sending emergency apparatus on non-emergency duties.
- Examine adding emergency response connections (roads) between neighborhoods.

Next Steps – Resolution Approval



What the Resolution accomplishes?

- Produces a data driven process that will provide Council Members with critical information each year budget cycle so informed decisions can be made on community risk.
- Requests information on cheaper and faster methods for building fire stations.
- Requests research and a report back on GPS emergency vehicle preemption system.

What the Resolution does NOT do?

- Obligate Council to a timeline for building fire stations
- Require any future budgetary expenditures



Questions?