

Travis County EMERGENCY SERVICE DISTRICT #5
MANCHACA FIRE / RESCUE

SERVICE DELIVERY REVIEW



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THIES CONSULTING

Christine Thies —November 2023—Austin, TX



Core Values

We realize the community is the reason for our existence

- ◆ We believe that without the cooperation of the community and our stakeholders, our ability to provide progressive emergency and non-emergency services would be greatly hampered.

We value the faith and trust of the community, and continually work to deserve that confidence through our approach and conduct

- ◆ We believe service delivery certainly is essential to the cohesiveness and performance of our organization.
- ◆ Professionalism, Values, Respect and Integrity are how we should portray our actions, responses and duties.
- ◆ We are committed to providing effective and responsive emergency and non-emergency services, always assuring the members of our community are treated with dignity and respect.

All members of our district are entitled to our best efforts

- ◆ We believe our duty is to be responsive to our community and its stakeholders both on emergency and non-emergency requests; our goal to exceed customer expectations through skill, knowledge and professionalism.

To strive for excellence in everything we do

- ◆ We believe the pursuit of excellence and demonstrating high professional standards are critical to our work. To ensure the best possible service for our community, we support continuous training and encourages professional development.

Honesty, fairness and integrity will not be compromised

- ◆ We believe the trust placed in us by the public and our colleagues is integral to the performance our duties. We are committed to honest and ethical behavior, and will hold ourselves accountable to these values.

We will provide professional and courteous service at all times

- ◆ We believe we have a duty to be involved in the community; our responsibility is to protect life, property and the environment. We are committed to fulfilling our responsibility and deepening our involvement in the community we service. No request or inquiry will go unanswered.

Executive Summary

Emergency Service District 5 (ESD 5) is currently demonstrating strong performance given their available resources. They boast well-trained personnel who are dedicated to safeguarding lives and property within their territory.

The Department has set specific service delivery objectives:

- ◆ Dispatch to Arrival of first unit within **6:00 mins**, on average
- ◆ Turnout Time completed within **1:00 min**, on average
- ◆ Travel Time completed within **5:00 mins**, on average

ESD 5 is effectively meeting these response time targets with their existing unit, Eng 501, and through Automatic Aid collaboration with other Travis County agencies such as the Austin Fire Department (AFD) and Emergency Service District 11 (ESD 11). While the Department is committed to providing the highest level of service, relying on a single unit places a substantial demand on outside agencies for assistance.

According to the data, the reliance on outside agencies to respond to emergencies within ESD 5's territory deviates from the typical practice among Travis County agencies, which tends to be greater than 80%.

- ◆ ESD 5 Units are providing first-in response to **55%** of the emergency incidents
- ◆ Outside agency units are providing first-in response to **45%** of the emergency incidents

To enhance service delivery for residents and businesses within ESD 5's jurisdiction and to ensure more efficient response by ESD 5, the following recommendations are proposed:

Recommendations

1. Additional Unit / Station 501 — Needed within 1 Year

Primary Challenge: Response division between ESD 5 and Auto Aid partners, growth and development

Recommend an addition unit at Station 501. Will help increase first-due response by an ESD 5 Unit.

2. Additional Station / West — Needed within 2-5 Years

Primary Challenge: Railroad Tracks

The existing railroad track configuration does not allow for traffic flow when in use by train (*no bridge or underpass*). This impacts all vehicle traffic, including emergency response units.

By placing an additional station on the west side of the railroad tracks, ESD 5 would have response on both the west and east side of the territory during railroad track use.

3. Additional Stations / East and Infill — Needed within 5-10 Years

Primary Challenge: Continued growth and development within territory

The expansion of both current and future developments is projected to lead to an increase in incident volume within ESD 5's jurisdiction. While this development is distributed across the territory, it's anticipated that the eastern side may experience growth at a faster pace compared to other regions. Furthermore, the ongoing demand along Menchaca Rd underscores the need for the establishment of an infill station.

Given these considerations, it is recommended to add one station in the Estancia area and one infill station to serve Menchaca Rd.

ESD 5 Territory Statistics

(based on CAD Data, 2 Year Avg—July 2021 thru July 2023)

	Annual Average
Total Number of CAD Incidents within ESD 5 Territory <i>(Includes all incidents, regardless of cancellation status)</i>	1,273
Total Number of Unit Runs within ESD 5 Territory <i>(Included ESD 5 Units, AFD Units, and other ESD Units)</i>	1,639
Number of CAD Emergency Incidents within ESD 5 Territory <i>(Priority 1-3, Includes all incidents, regardless of cancellation status)</i>	598
<i>First-In Unit was ESD 5</i>	55%
<i>First-In Unit was Austin Fire Department</i>	44%
<i>First in Other ESD</i>	1%
Dispatch-to-Arrival / Average	05:45
Total Response Time / Average <i>(Call Receipt-to-Arrival of First Unit)</i>	07:14
<i>Call Processing / Average</i>	01:28
<i>Turnout / Average</i>	01:06
<i>Travel Time / Average</i>	04:39

ESD 5 Territory Demand

(based on CAD Data, 2 Year Average)

	All CAD Incidents (Annual)	Emergency Incidents	Priority	Incident Totals	Inc %	Disp-Arrival Avg	Total Response	
Fire	79	79	1F	13	1%	05:31	06:14	
Medical	987	497	1M	76	6%	05:45	06:57	
Rescue	3	3	1SO	4	<1%	05:33	06:36	
HazMat	9	9	2F	6	<1%	06:31	07:10	
Other	195	11	2M	245	19%	05:59	07:46	
<i>2 Year Average</i>			2SO	8	1%	05:16	05:58	
Total		1,273	599	3F	114	9%	05:17	06:12
			3M	132	10%	05:47	07:30	
			4F	225	18%	06:44	07:47	
			4M	384	30%	06:42	07:53	
			5-8	66	6%	07:21	09:51	

Incident—Number of "requests for service" from 911. This reflects the number of incidents which were dispatched. Included all cancellation statuses.
Ex: Cardiac Pri 1 = 1 incident

Emergency Incident—Number of "requests for service" from 911 which a unit arrived on-scene and had a priority description of Priority 1-4 fire or medical.
Ex: Cardiac Pri 1 with a unit arriving on-scene = 1 Emergency Incident

Runs—Number of units which responded to an incident. These might not result in the unit arriving on-scene due to being cancelled by the caller or by another agency (EMS/SO) prior to arrival on-scene.
Ex: Cardiac Priority 1 = 2 runs (Eng 501 + Eng 49)

ESD 5 Fire Unit Runs

(based on CAD Data, 2 Year Average)

ESD 5 Units	All Unit Runs	Emergency Unit Runs	ESD 5 Territory	Other Territories
<i>Eng 501</i>	1,138	671	638	500
<i>Eng 511</i>	300	191	150	150
<i>Batt 501</i>	19	18	13	6
<i>Brush Truck 501</i>	78	61	41	37
<i>Tender 501</i>	10	10	5	5
<i>Command 501</i>	4	3	4	1
<i>SUP 501</i>	1	1	1	0
<i>2 Year Average Total</i>	1,550	955	851	700

Outside Fire Unit Runs into ESD 5 Territory

(based on CAD Data, 2 Year Average)

Agency	All Unit Runs	Emergency Unit Runs	Agency	All Unit Runs	Emergency Unit Runs
<i>AFD</i>	755	537	<i>ESD 11</i>	33	25
<i>Engine</i>	651	443	<i>Engine</i>	23	17
<i>Aerial</i>	36	32	<i>Aerial</i>	1	1
<i>Battalion Chief</i>	27	27	<i>Battalion Chief</i>	3	3
<i>Brush Truck</i>	15	11	<i>Brush Truck</i>	3	3
<i>Rescue</i>	10	10	<i>Squad</i>	1	1
<i>Other</i>	16	14	<i>ESD 9 / Batt Chief</i>	1	1
			<i>2 Year Average Total</i>	789	563

ESD 5 Territory Profile

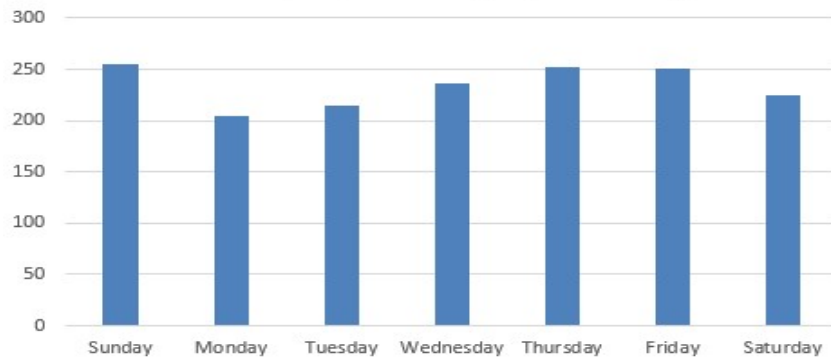
2 Year Average

(based on CAD Data, Census Bureau, and Buildings GIS Layer)

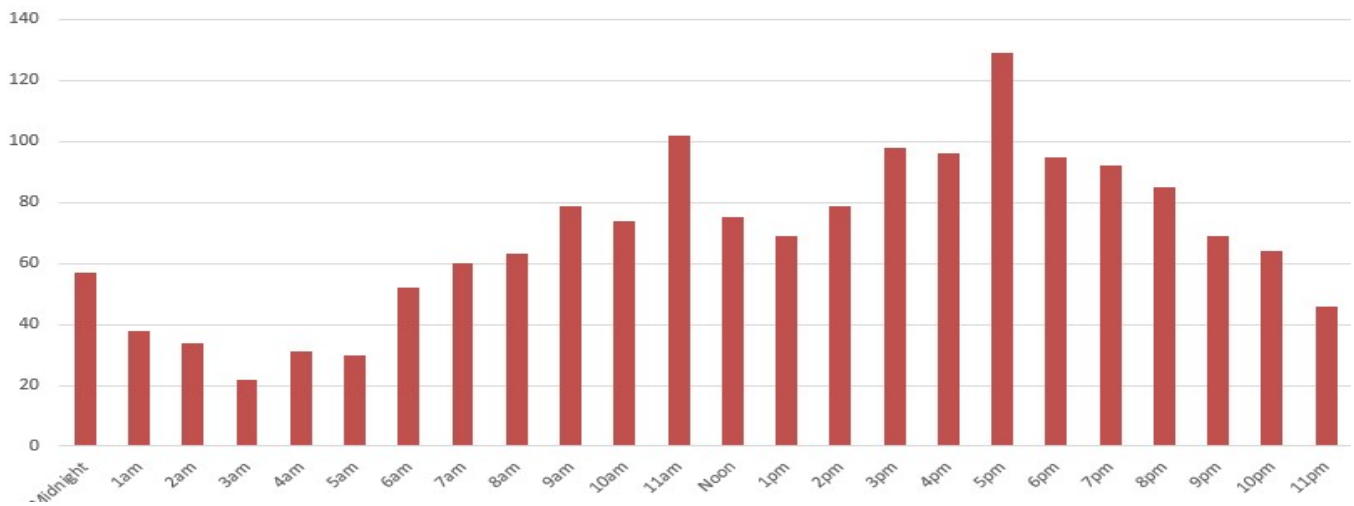
	# of Incidents	# of Emergency Incidents	# of Unit Runs	Total Population (2023 ESRI/ Census)	Total # of Businesses (2023 ESRI / Census)	# Addresses
ESD 5 Territory	1,273	599	1,639	14,530	1,937	5,046
Station 501 First Due	445	214	581	2,280	195	1,042
Station 49 First Due	256	134	380	5,143	22	1,038
Station 46 First Due	521	231	615	7,107	169	2,763
Station 36 First Due	30	12	35	—	—	19
Station 29 First Due	21	8	28	—	—	183

# of Incidents	Number of "requests for service" from 911. This reflects the number of incidents which were dispatched. These might not result in a unit arriving on-scene due to being cancelled by the caller or by another agency (EMS/SO) prior to arrival on-scene. <i>Ex: Cardiac Pri 1 = 1 incident</i>
# of Emergency Incidents	Number of "requests for service" from 911 and had a priority description of Priority 1-3 fire or medical. This reflects the number of incidents which were dispatched. These might not result in a unit arriving on-scene due to being cancelled by the caller or by another agency (EMS/SO) prior to arrival on-scene. <i>Ex: Cardiac Pri 1 = 1 incident</i>
# of Unit Runs	Number of units which responded to an incident. These might not result in a unit arriving on-scene due to being cancelled by the caller or by another agency (EMS/SO) prior to arrival on-scene. <i>Ex: Cardiac Priority 1 = 2 runs (Eng 501 + Eng 49)</i>
Total Population (2023 ESRI / Census)	Number of individuals as per the 2023 ESRI Dataset compiled from the US Census Bureau. This should be considered an estimate and not an exact count of population. Data acquired using ESRI's Data Enrichment process in ArcPro.
Total # of Businesses (2023 ESRI / Census)	Number of businesses as per the 2023 ESRI Dataset compiled from the US Census Bureau. This should be considered an estimate and not an exact count of population. Data acquired using ESRI's Data Enrichment process in ArcPro.
# of Addresses	Number of issued addressing points (homes/businesses/apartment buildings). Data compiled from City of Austin's addressing point layer from 2022.

Runs by Day of Week / 2-year Average



Runs by Time of Day / 2-Year Average



Priority Description / Runs By RAP / 2-year Average

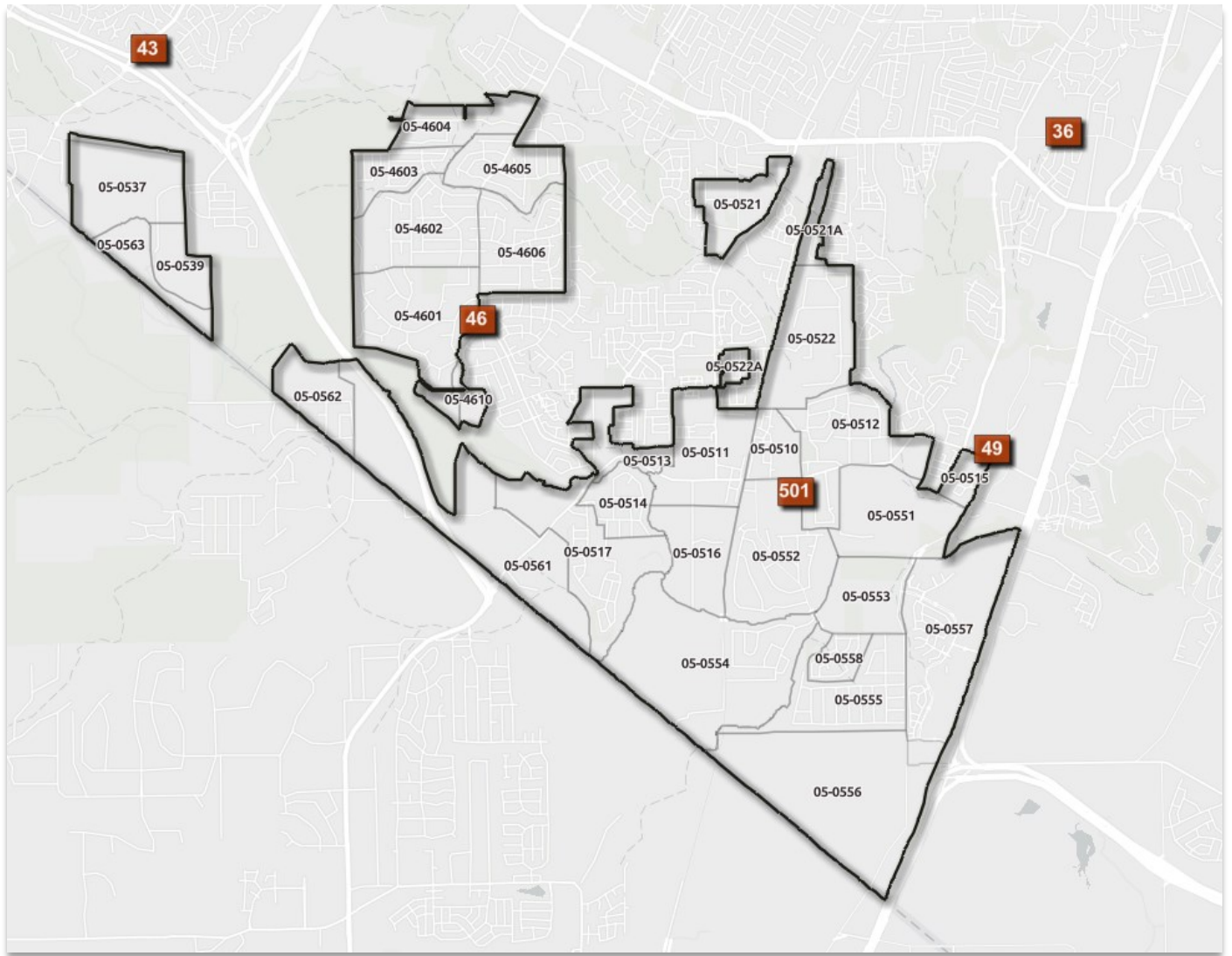
RAP	1F	1M	1SO	2F	2M	2SO	3F	3M	4F	4M	5G	5M	6H	8G
05-0510														
05-0511	High	Medium			High		High	High	High	High		Medium		
05-0512		Medium			High		Medium		Medium	High				
05-0513														
05-0514										Medium				
05-0515			Medium											
05-0516														
05-0517					Medium		High		High	High				
05-0521	Medium				Medium		Medium	Medium	Medium	High				
05-0521A														
05-0522							Medium			Medium				
05-0522A														Medium
05-0551							Medium							
05-0552	High				High		High	Medium	High	High				
05-0553														
05-0554					High					High				
05-0555	Medium				High		Medium		High	High				
05-0556	Medium		Medium											
05-0557	High	Medium			High		Medium	High	High	High				
05-0558														
05-0561					High		Medium		High	High				
05-0562														
05-4601									Medium	Medium				Medium
05-4602		Medium			Medium					High				
05-4603														
05-4604	Medium													
05-4605														
05-4606	Medium				High			Medium	Medium	High				
05-4610														

Low	>20
Medium	20-30
High	30-40
Very High	>40

Pri	Inc Totals
1F	13
1M	76
1SO	4
2F	6
2M	245
2SO	8
3F	114
3M	132
4F	225
4M	384
5-8	66

ESD 5 Territory and Response Area Polygons

Current Response Area Polygons (GIS Layer)



Territory Size: **11.7 sq miles**

Population: **14,530** (2023 Estimated / Census)

Businesses: **1,937** (2023 Estimated / Census)

of Addresses: **5,046** (2022 / City of Austin)

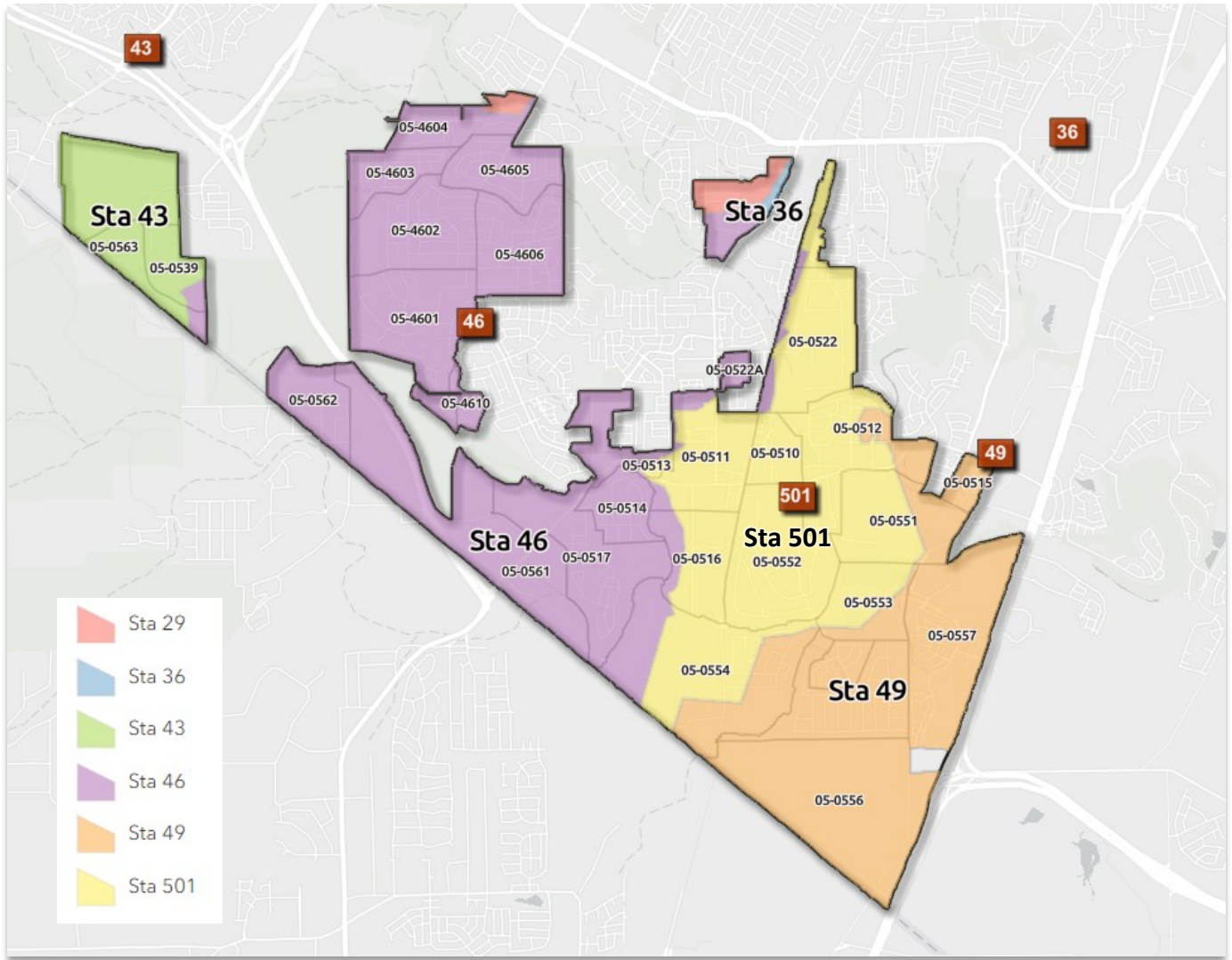
Annual Incident Avg: **1,273 incidents** (all)

Annual Emergency Incident Avg: **599 incidents** (Pri 1-3)

Annual Unit Runs (ESD 5 + Auto Aid): **1,639 incidents** (all)

ESD 5 First Due

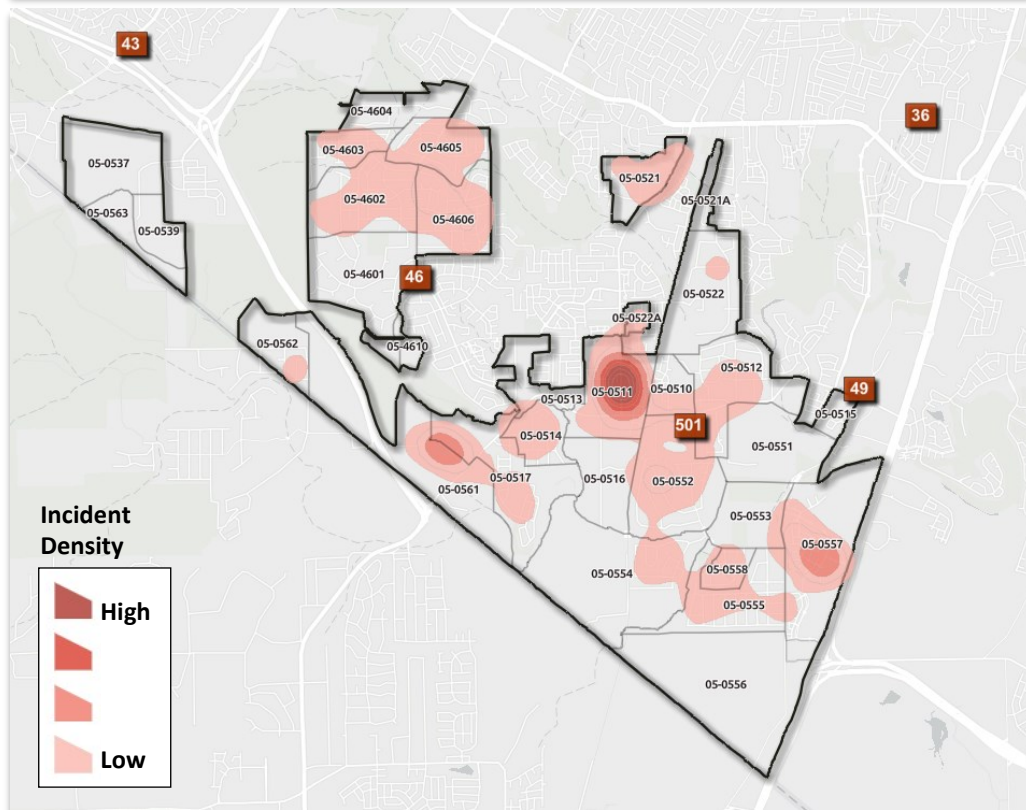
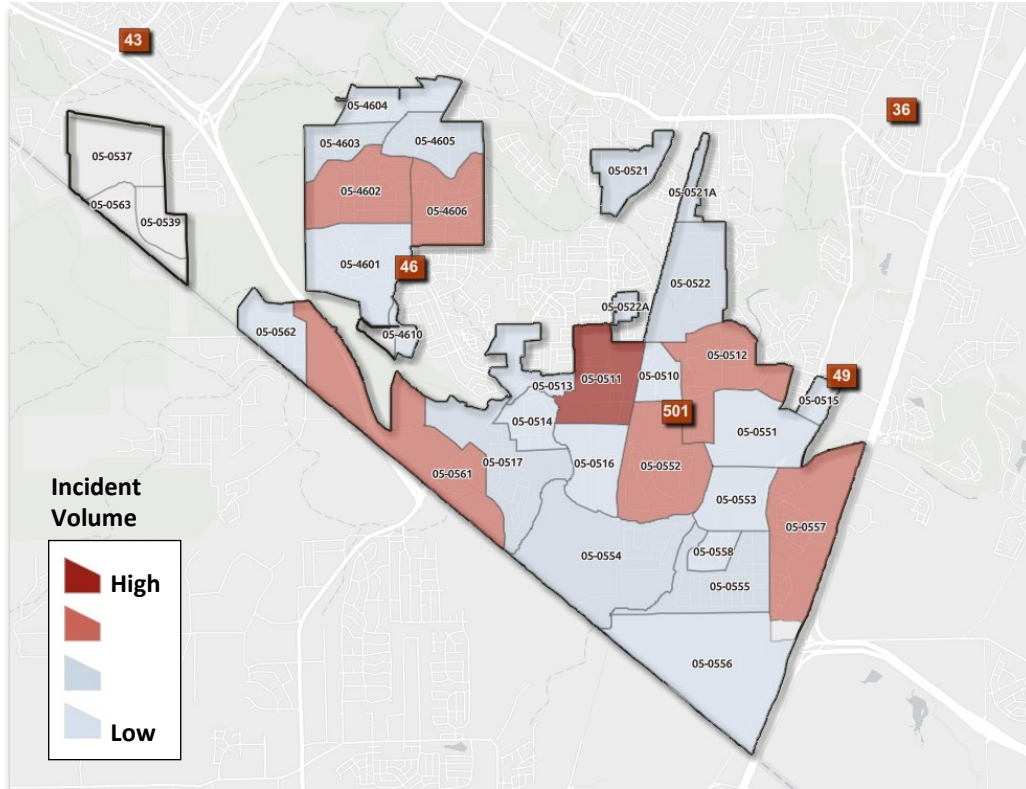
Primary Stations— ESD 5 Station 501, AFD Station 46, AFD Station 49



Territory Size:	11.7 sq miles
Station 501:	3.2 sq miles
Station 46:	4.7 sq miles
Station 49:	2.9 sq miles
Station 43:	0.7 sq miles
Station 29:	0.2 sq miles
Station 36:	0.03 sq miles

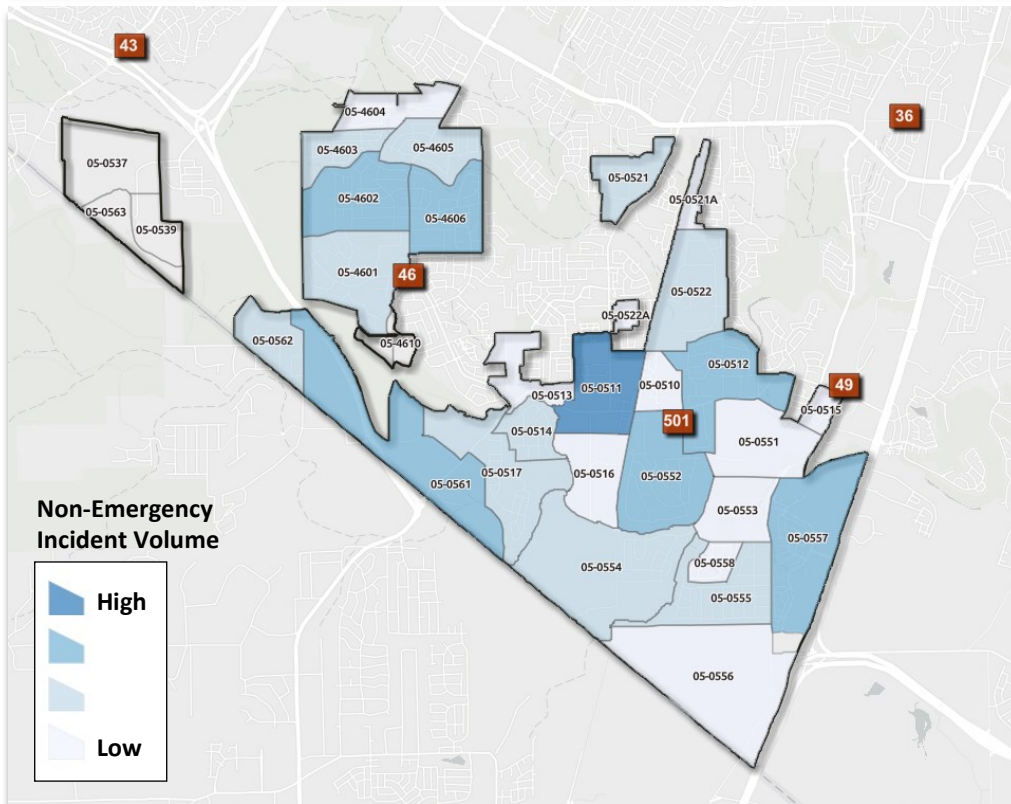
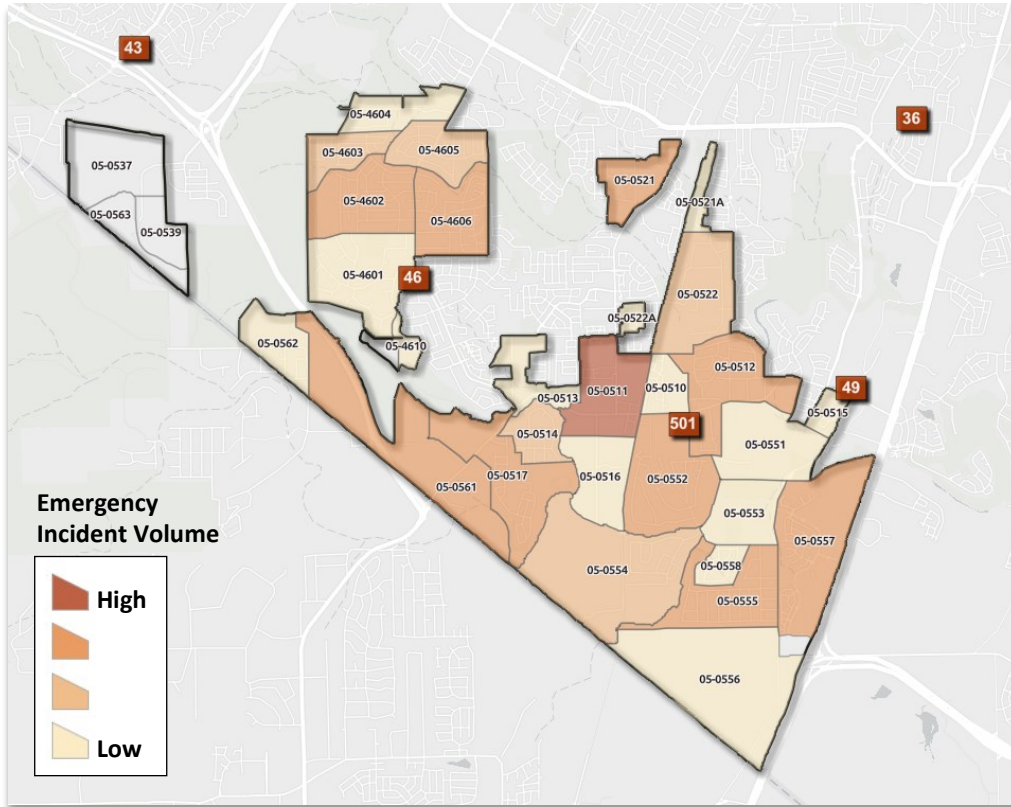
ESD 5 Territory Incident Volume / Density

*All Incidents regardless of Priority and Cancellation Status
(based on CAD Data, 2 Year Totals)*



ESD 5 Territory Emergency & Non-Emergency Incident Volume

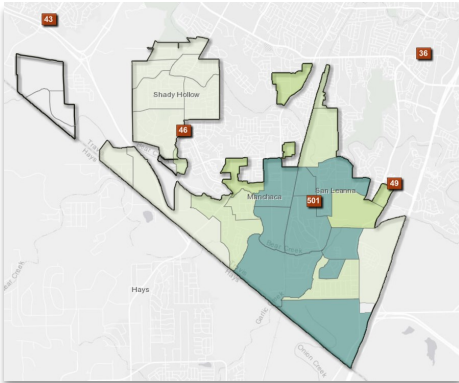
(based on CAD Data, 2 Year Totals)



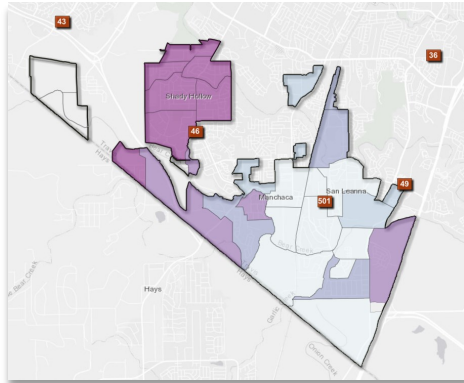
Unit First Arrival by Department

Responses where Department was first on-scene to any incident (Pri 1-8)
(based on CAD Data, 2 Year Totals)

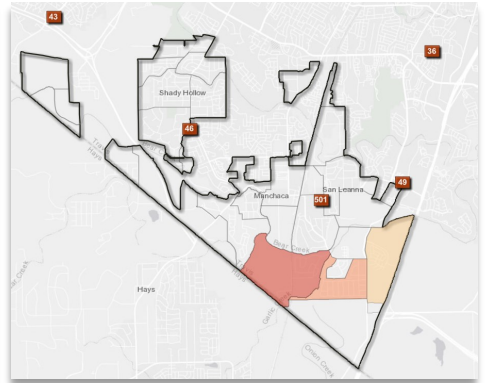
ESD 5 Units



AFD Units



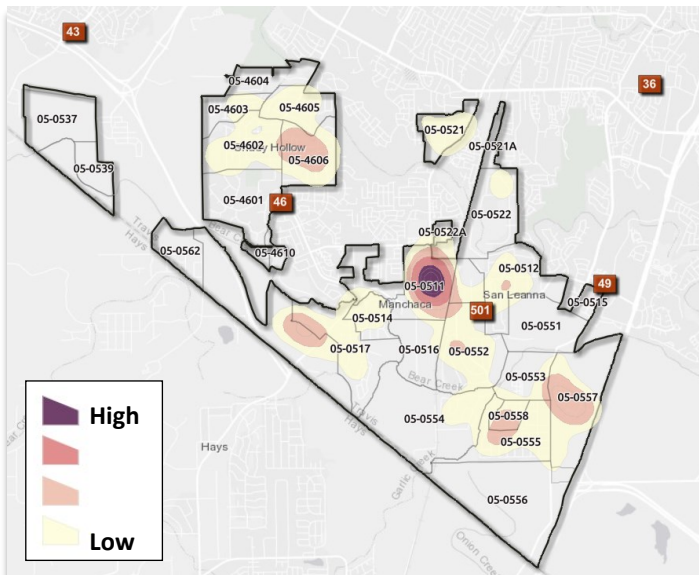
ESD 11 Units



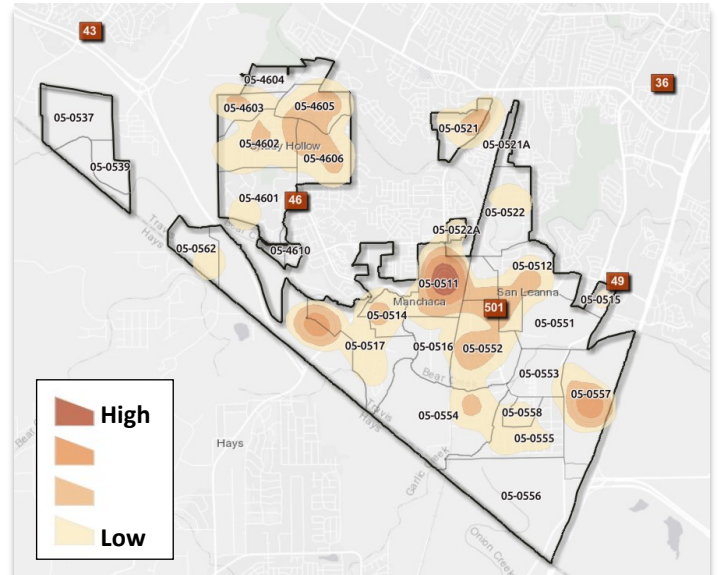
Incident Density

(based on CAD Data, 2 Year Totals)

Emergency Incidents (Pri 1-3)

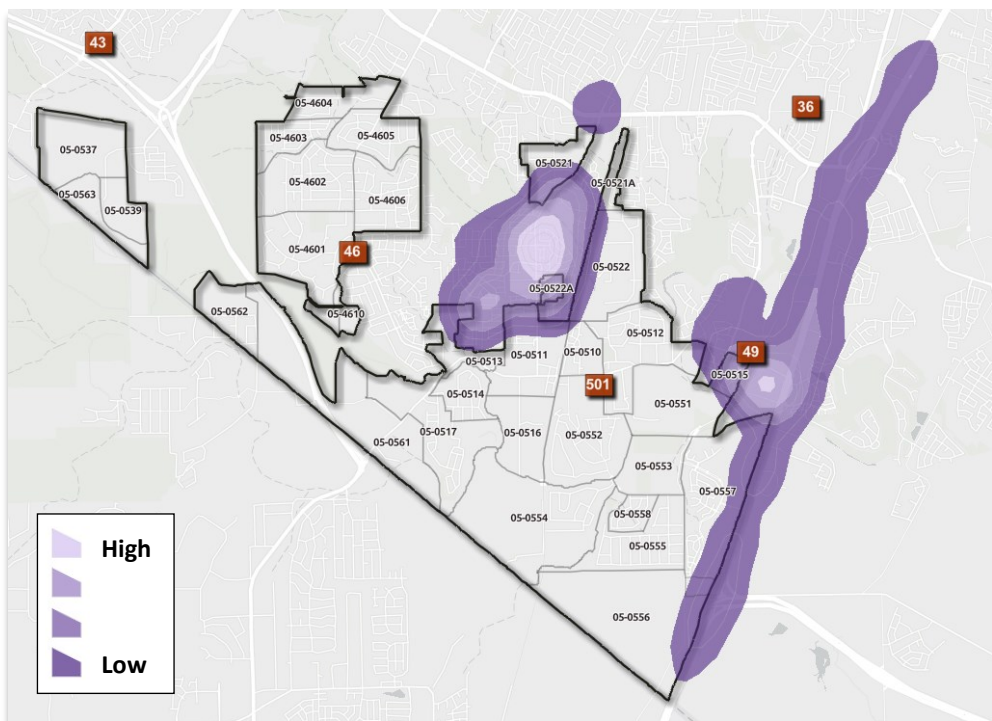
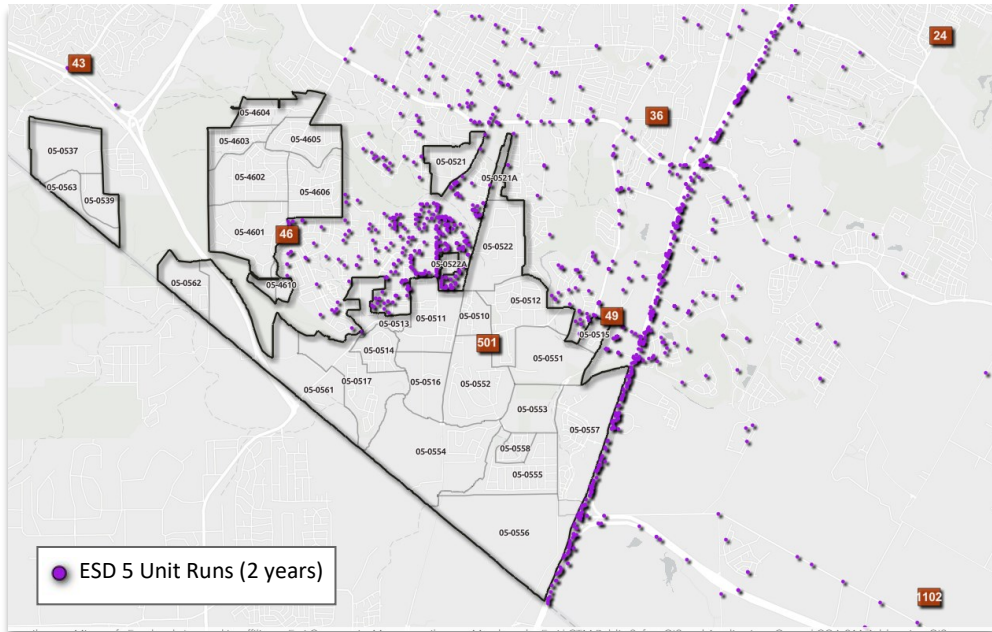


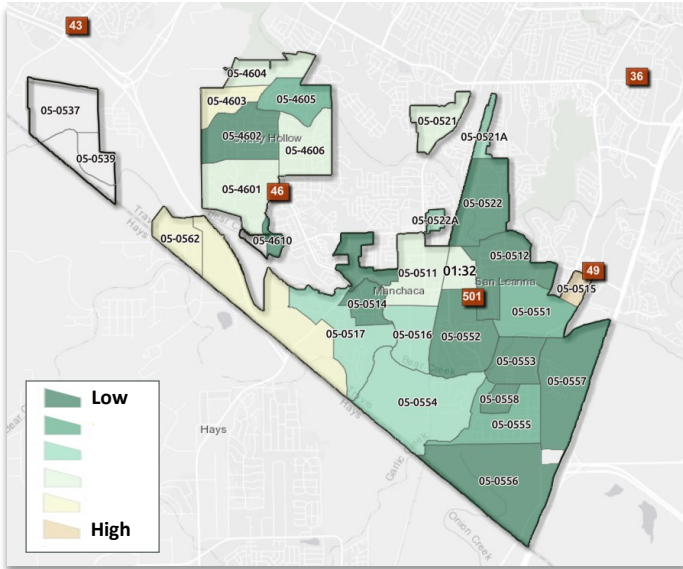
Non-Emergency Incidents (Pri 4-8)



ESD 5 Unit Runs Outside Territory

*All Incidents regardless of Priority and Cancellation Status
(based on CAD Data, 2 Year Totals)*



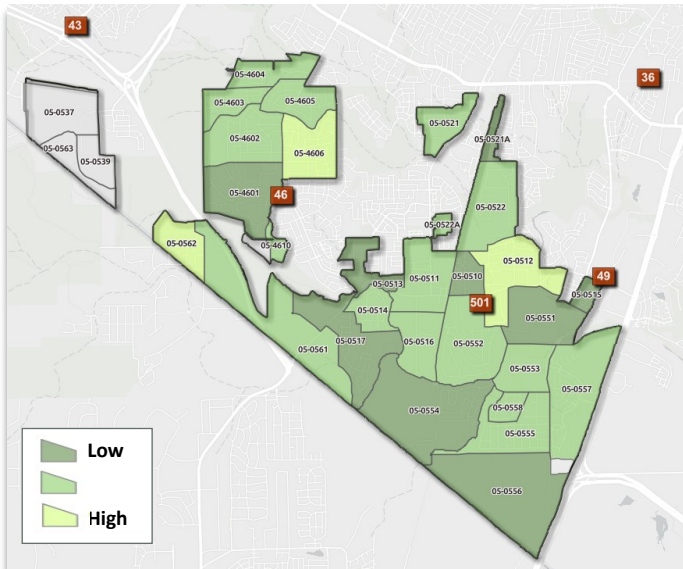


Call Processing

Time Component: Phone pickup to Dispatch

- ✓ Average—1:38
- ✓ Evenly distributed
- ✓ Between 0:51-2:16

Concerns: None

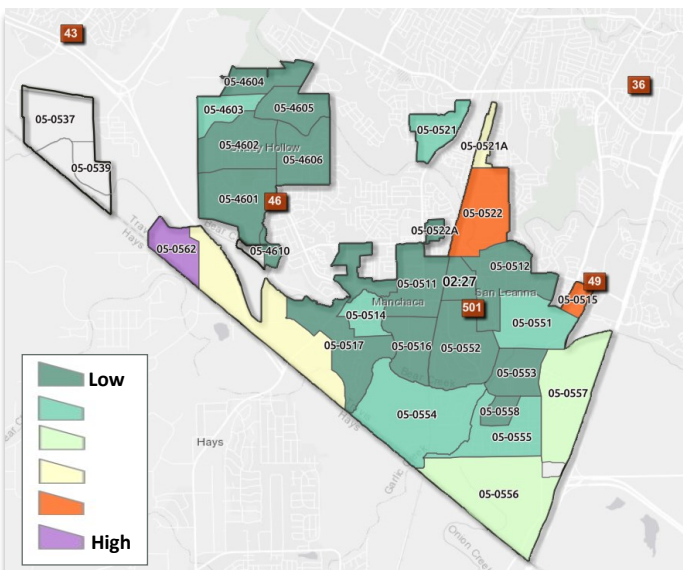


Turnout / Goal—1:00

Time Component: Dispatch to Enroute

- ✓ Average—1:06
- ✓ Evenly distributed
- ✓ Between 0:32-1:41

Concerns: None



Travel / Goal—5:00

Time Component: Enroute to Arrival

- ✓ Average—4:39
- * Not evenly distributed
- * Between 3:02-8:01

Concerns: Meets goal, but longer times along periphery

Recommendation—1

Additional Unit at Existing Station

The recommendation is to place an additional unit at Station 501.

Primary Challenge:

Response division between ESD 5 and Auto Aid partners, which will continue to increase with development

Anticipated Impact:

Improved first-arriving response between ESD 5 and Auto Aid Partners

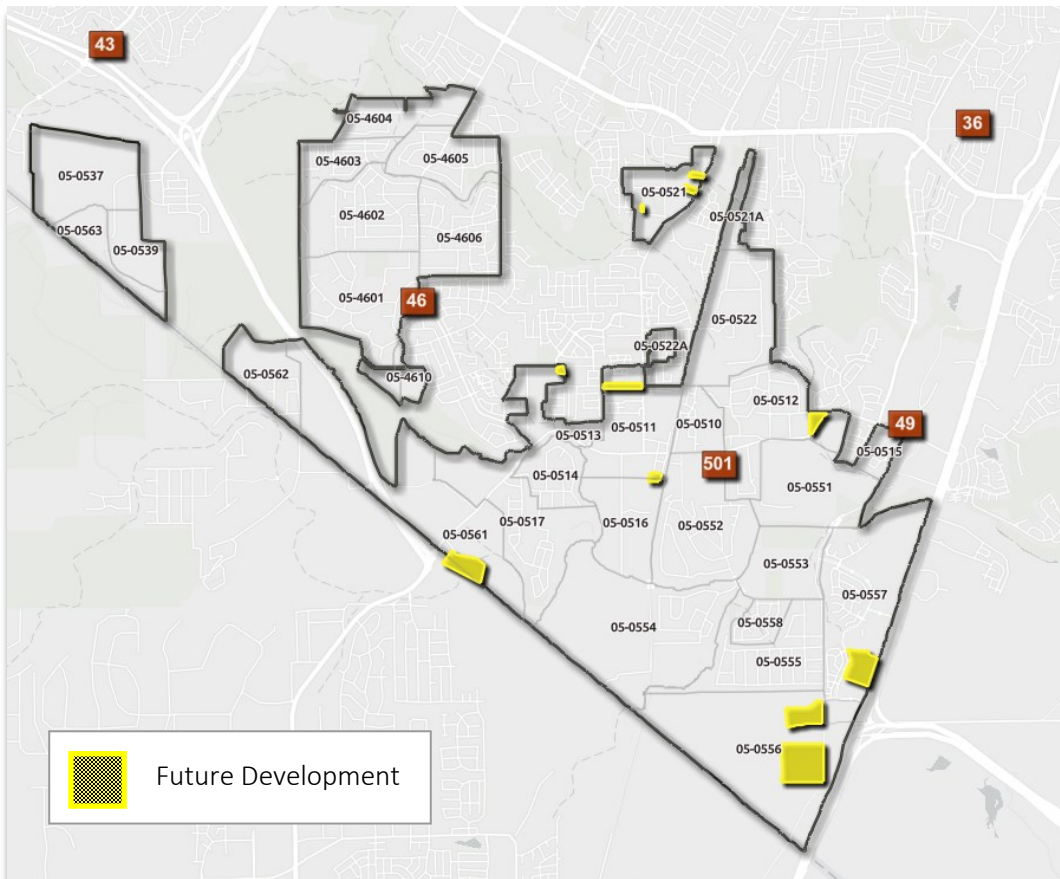
Timeframe:

Within 1 year

While the ESD 5 territory is not experiencing response time issues, 45% of the first-arriving units are from outside agencies. This high response percentage is outside the norm for Travis County fire departments. Most departments are able to provide >80% of the first-due responses within their territory.

The primary risk of relying on an outside agency to provide response is the inability to manage response plans and unit availability. If Automatic Aid is discontinued, ESD 5 residents would immediately feel the impact.

Future Development / as of October 2023



Recommendation—2

Additional Station / Western Side of Territory

The recommendation is to place an additional station west of the railroad tracks.

Primary Challenge:

No traffic flow across railroad tracks during times of train use

Anticipated Impact:

Improved western and northern response during railroad track use

Timeframe:

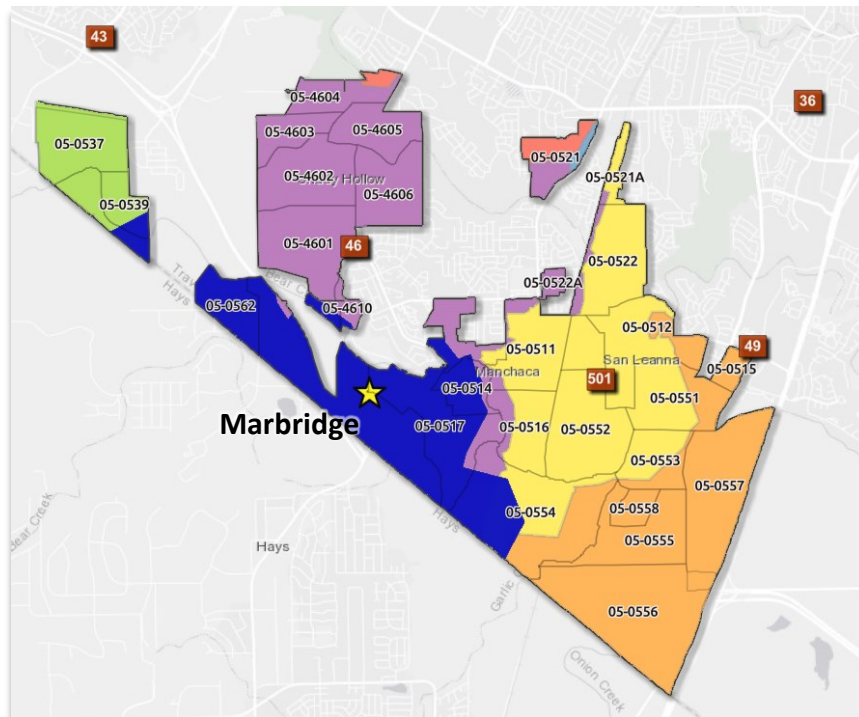
Within 2-5 years

The existing railroad tracks divide ESD 5’s territory into a western and eastern portion. When the railroad tracks are in use by a train, configuration does not allow for traffic flow when in use by train (*no bridge or underpass*). This impacts all vehicle traffic, including emergency response units.

By placing an additional station on the west side of the railroad tracks, ESD 5 would have response on both the west and east side of the territory during railroad track use. The type of unit would be based

First Due Incident Coverage	Estimated First-Due Incident Responses		
	Current %	Recommended %	Change
Station 501	35%	33%	-2%
Station 49	20%	19%	-1%
Station 46	41%	26%	-15%
Station 29	2%	0%	-1%
Station 36	2%	4%	2%
Marbridge Area		18%	

Projected First-Due of Marbridge / Western Station



Recommendation—3

Additional Stations / Eastern Side of Territory and a Northern Infill Station

The recommendation is to place an additional station on the eastern side of territory and an infill station to serve Menchaca Rd / northern portion of territory.

Primary Challenge:

Continued growth and development within territory

Anticipated Impact:

Improved response along Menchaca Rd, northern, and the eastern portion of ESD 5 territory

Timeframe:

Within 5-10 years

The continued expansion of growth and development is projected to lead to an increase in incident volume within ESD 5's territory. While this development is distributed across the territory, it's anticipated that the eastern side may experience growth at a faster pace compared to other regions. The Estancia development has an agreement with the City of Austin to provide a fire station site. This is a possible opportunity for the City of Austin and ESD 5 to work together to identify property options.

The infill station will require more exploration by ESD 5 Administration due to the close proximity to the City of Austin. While this area has significant demand, the current response times meet the Department's goal. The infill station will be impacted by the current Automatic Aid agreement and potentially response often into the Austin Fire Department's territory.

**Western & Eastern Stations
(Marbridge and Estancia)**

First Due Incident Coverage	Estimated First-Due Incident Responses		
	Current %	Recommended %	Change
Station 501	35%	29%	-6%
Station 49	20%	3%	-17%
Station 46	41%	26%	-15%
Station 29	2%	0%	-1%
Station 36	2%	4%	2%
Marbridge Area		18%	
Estancia Area		21%	

**Western, Eastern, and Infill Stations
(Marbridge, Estancia, and Menchaca Rd)**

First Due Incident Coverage	Estimated First-Due Incident Responses		
	Current %	Recommended %	Change
Station 501	35%	7%	-28%
Station 49	20%	3%	-17%
Station 46	41%	23%	-17%
Station 29	2%	0%	-2%
Station 36	2%	0%	-2%
Marbridge Area		15%	
Estancia Area		21%	
Infill / Menchaca Rd		30%	



MANCHACA FIRE / RESCUE

Travis County EMERGENCY SERVICE DISTRICT #5

