



Hernando County Fire & Emergency Services



Station Location Study

Michael J. Hogan

Project Manager



Emergency Services Consulting International

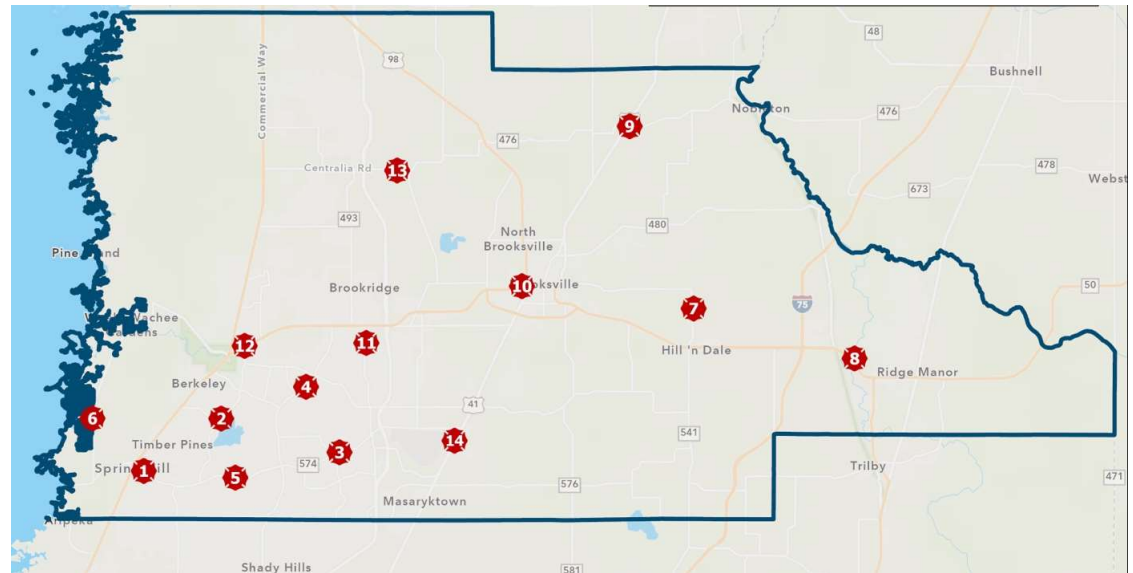
Purpose of Study

Emergency Services Consulting International (ESCI) was contracted by Hernando County, Florida in December 2021 to produce a Station Location Study for Hernando County Fire and Emergency Services (HCFES). The purpose of the study was:

1. Evaluate where the organization is today.
2. Identify future service delivery needs.
3. Provide recommendations and strategies to address future needs.

Current Conditions

- 14 Fire Stations (13 HCFES and 1 City of Brooksville)
- Provides fire, rescue, EMS, technical rescue, and hazardous materials response
- 38,271 Incidents in 2021 (71.5% EMS)
- 2/2Y ISO Rating



Current Fire Stations



HCFES Station	Age ¹	Rated Condition ²	Daily Minimum Staffing ³
Fire Station 1	28 Years	Good	5
Fire Station 2	46 Years	Marginal	8
Fire Station 3	15 Years	Good	5
Fire Station 4	3 Years ⁴	Good	7
Fire Station 5	0 Years	Excellent	9
Fire Station 6	0 Years	Excellent	3
Fire Station 7	29 Years	Fair	6
Fire Station 8	25 Years	Fair	5
Fire Station 9	18 Years	Fair	3
Fire Station 10	24 Years ⁵	Good	2
Fire Station 11	25 Years	Good	6
Fire Station 12	31 Years	Fair	5
Fire Station 13	31 Years	Good	3
Fire Station 14	25 Years	Good	5

¹ Age calculated from 2022

² Rated condition based on I

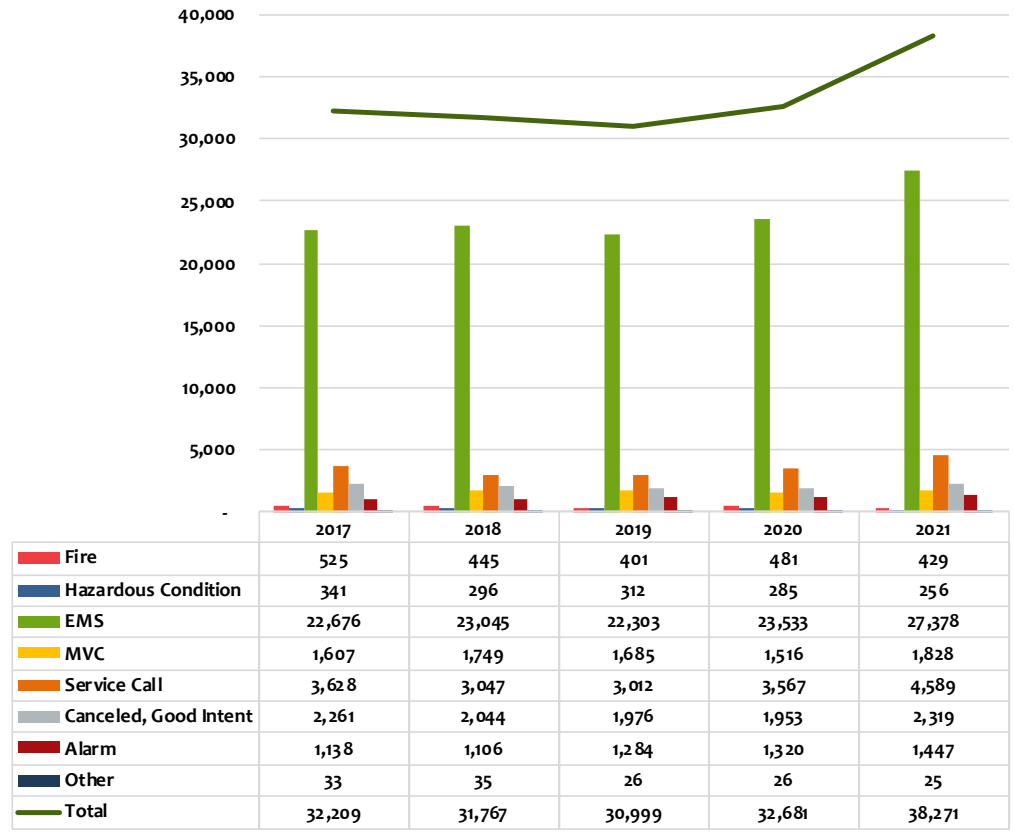
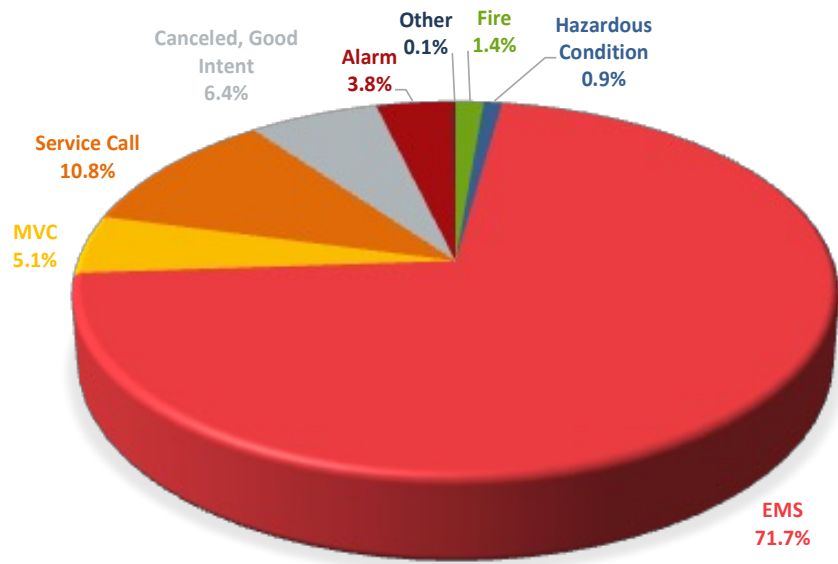
³ HCFES personnel only

⁴ Station 4 age based on remodel year

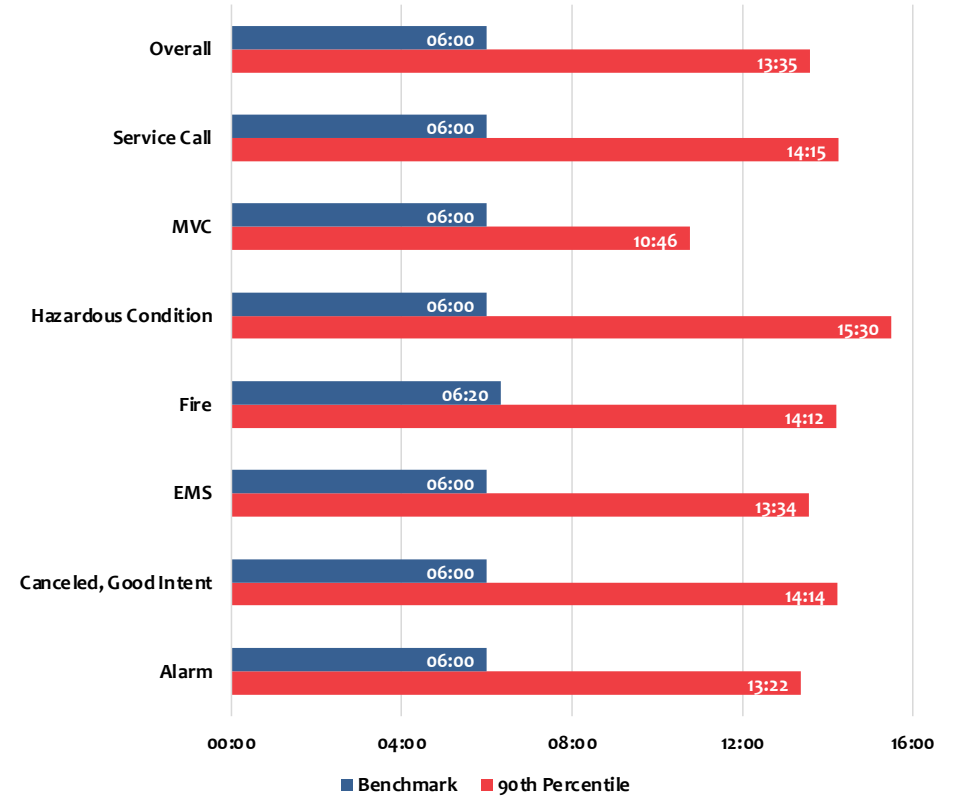
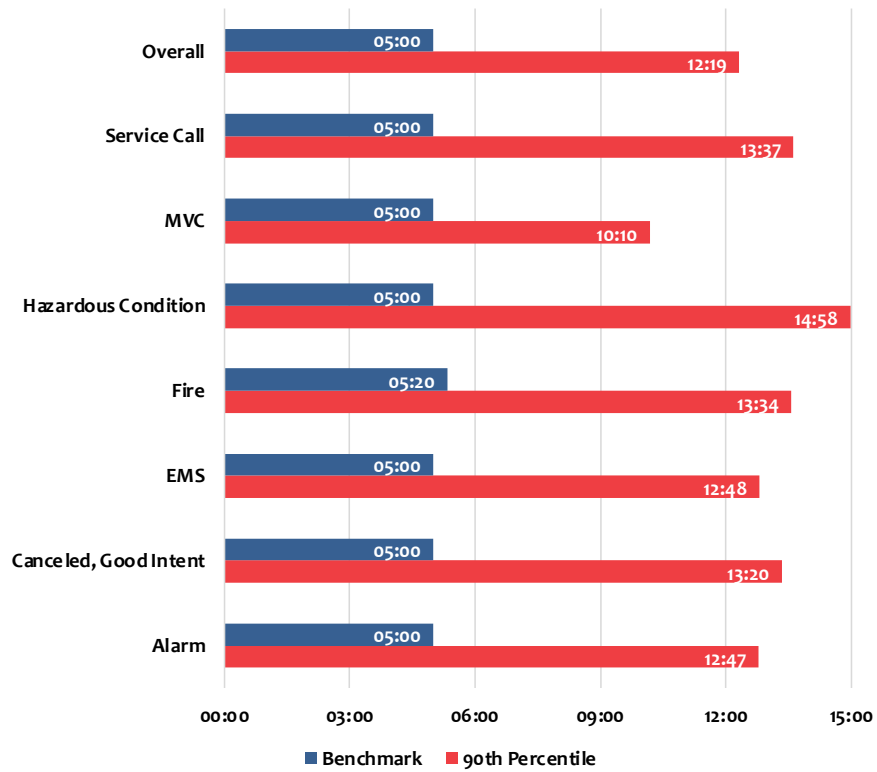
⁵ Station 10 age based on remodel year



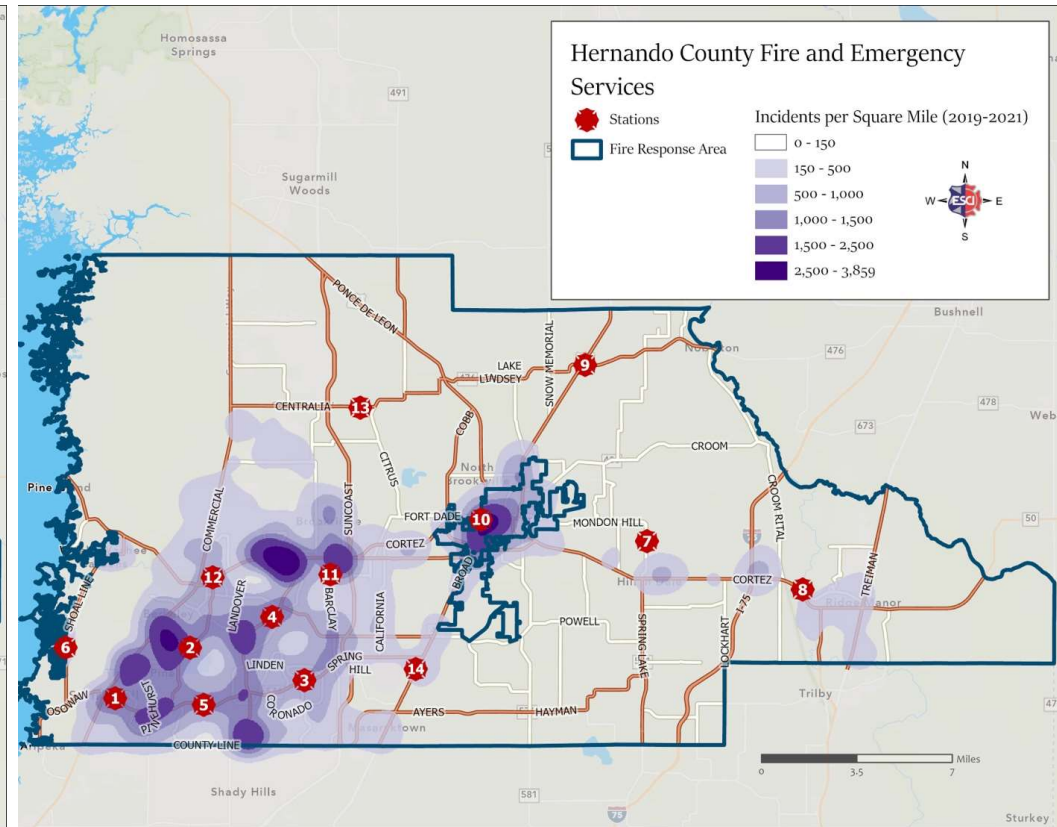
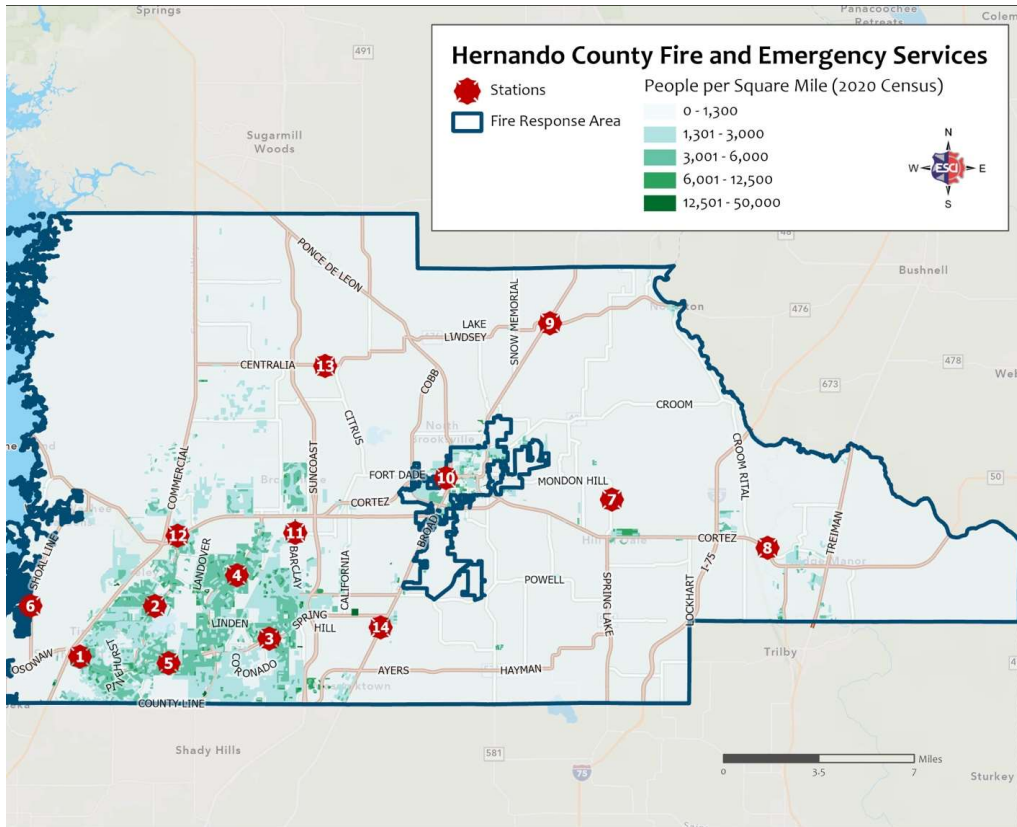
Service Delivery



Response Time & Total Response Time

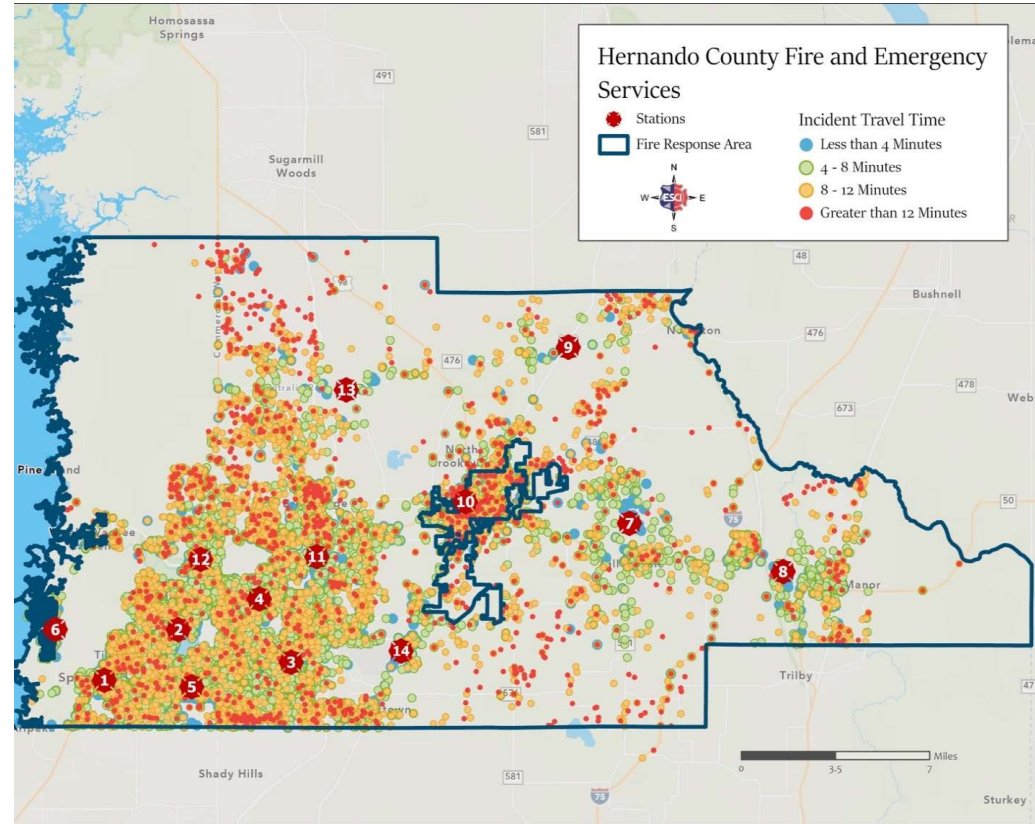
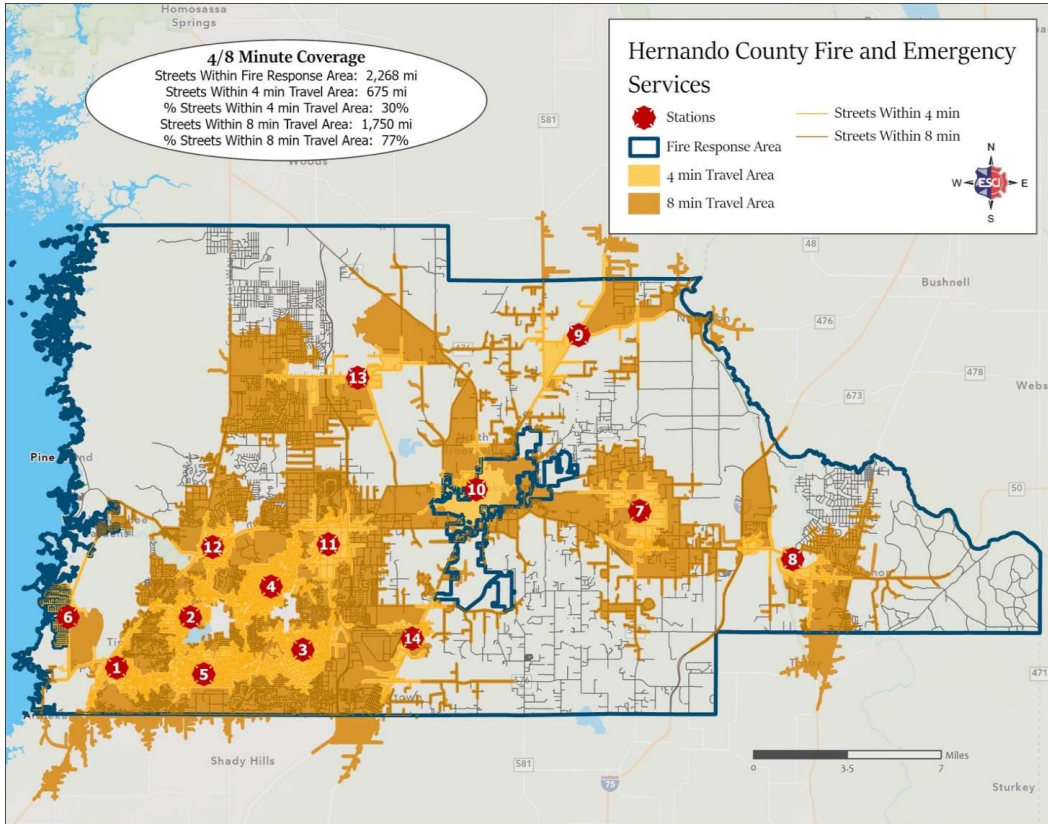


Population & Incident Density

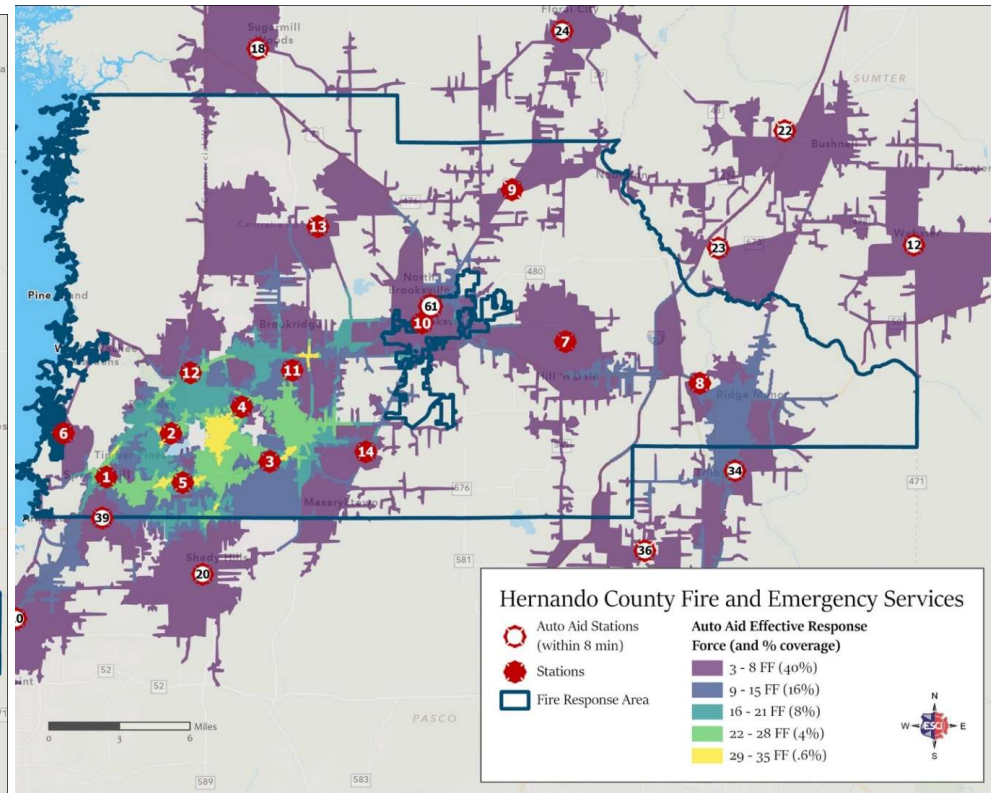
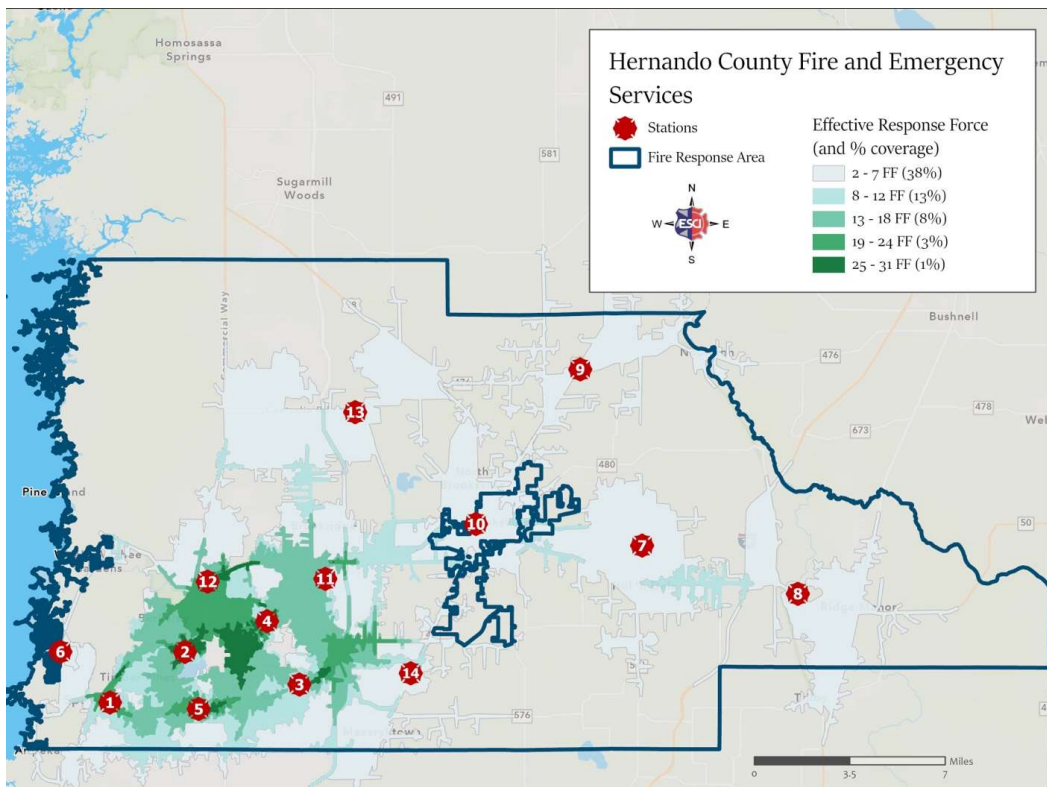


Hernando County Fire & Emergency Services

Travel Time

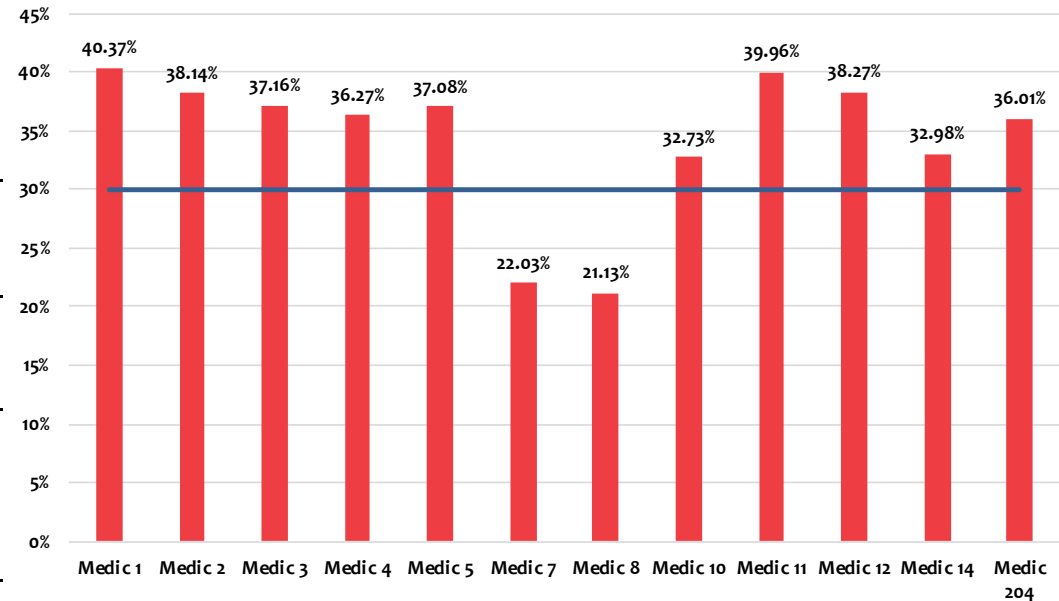


Effective Response Force



Unit Hour Utilization (UHU)

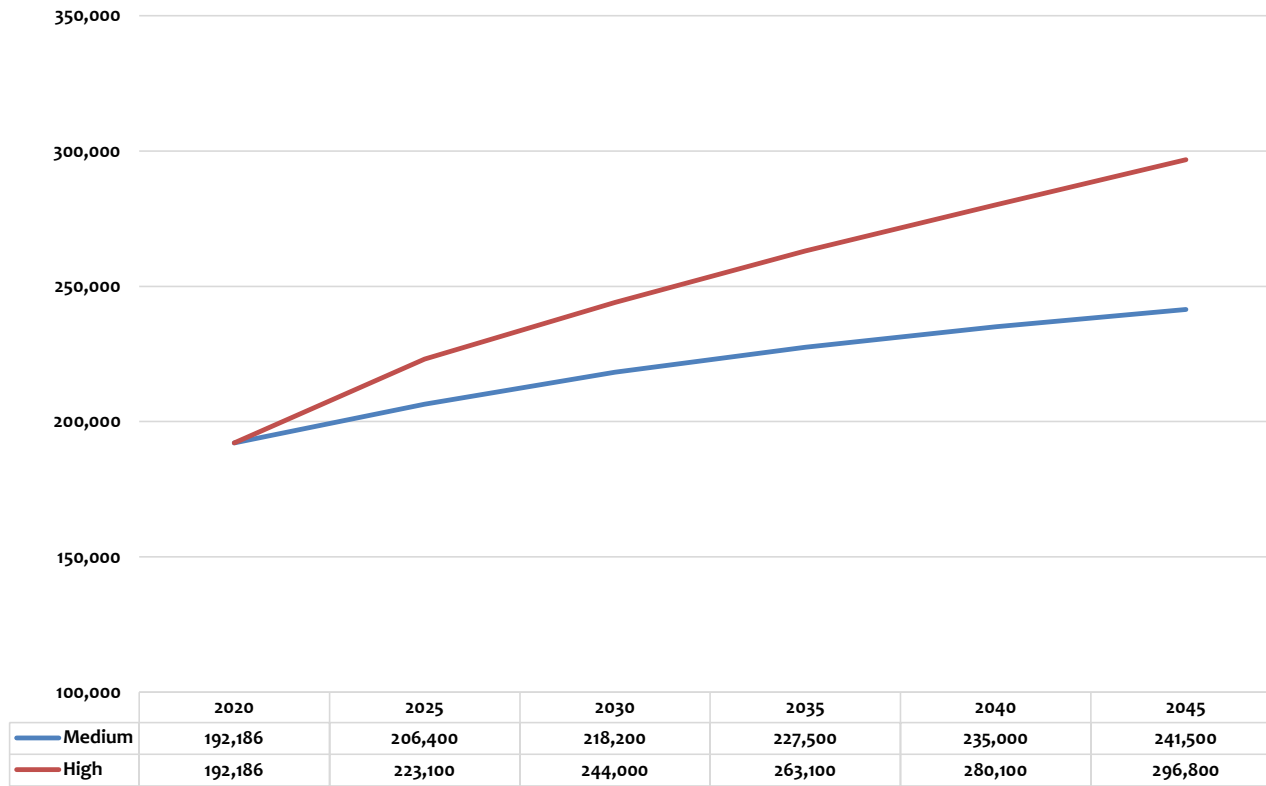
Factor	Indication	Description
16%-24%	Ideal Commitment Range	Personnel can maintain training requirements and physical fitness and can consistently achieve response time benchmarks. Units are available to the community more than 75% of the day.
25%	System Stress	Community availability and unit sustainability are not questioned. First-due units are responding to their assigned community 75% of the time, and response benchmarks are rarely missed.
26%-29%	Evaluation Range	The community served will experience delayed incident responses. Just under 30% of the day, first-due ambulances are unavailable; thus, neighboring responders will likely exceed goals.
30%	“Line in the Sand”	Not Sustainable: Commitment Threshold—community has less than a 70% chance of timely emergency service and immediate relief is vital. Personnel assigned to units at or exceeding 30% may show signs of fatigue and burnout and may be at increased risk of errors. Required training and physical fitness sessions are not consistently completed.



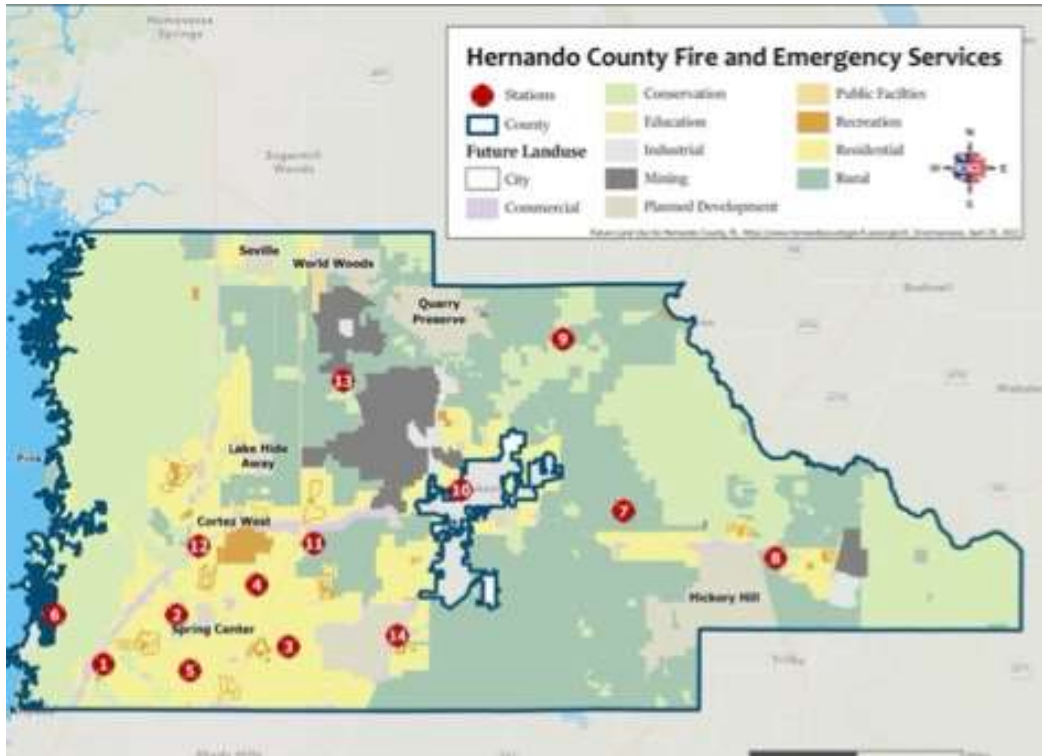
Call Concurrency

Concurrent Incidents	2017	2018	2019	2020	2021	Average
Single Incident	15.5%	21.2%	21.5%	19.7%	14.6%	18.5%
Two Incidents	24.3%	30.0%	30.6%	28.9%	24.8%	27.7%
Three Incidents	22.8%	23.9%	24.2%	24.6%	24.4%	24.0%
Four Incidents	16.4%	13.9%	13.7%	15.1%	17.8%	15.4%
Five Incidents	10.5%	6.6%	6.5%	7.3%	10.2%	8.2%
Six Incidents	5.6%	2.8%	2.4%	3.0%	4.9%	3.7%
Seven Incidents	2.9%	1.1%	0.8%	1.0%	2.2%	1.6%
More than Seven Incidents	2.0%	0.5%	0.3%	0.4%	1.1%	0.9%

Census-Based Population Growth Projections



Community Planning-Based Population Growth



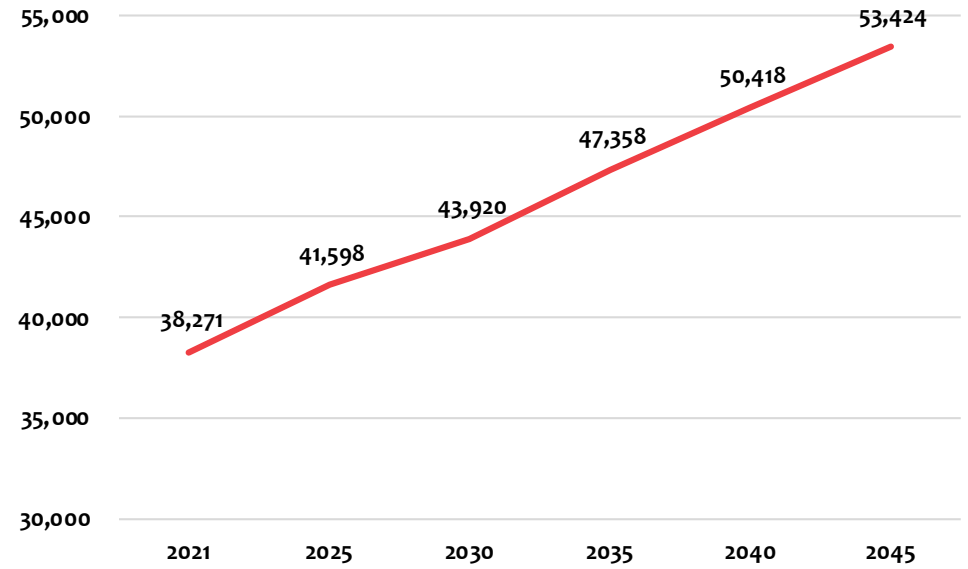
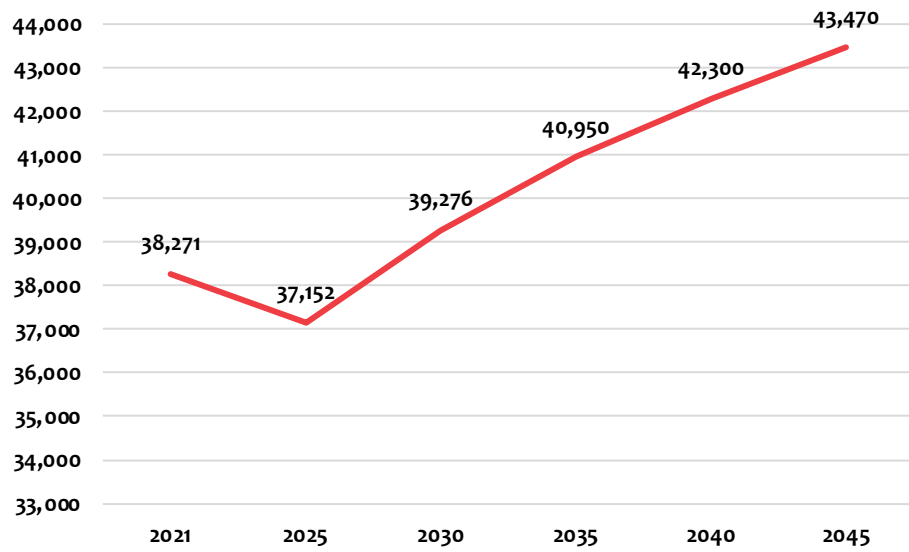
Development Name	Dwelling Units	Estimated Population ¹	Nonresidential Area
Lake Hideaway	3,700	9,102	200,000 sq. ft.
Seville East	726	1,786	800,000 sq. ft.
Seville West	3,085	7,589	54,000 sq. ft.
Quarry Preserve	5,800	14,268	1,165,000 sq. ft. ²
World Woods	1,026	2,524	N/A
I-75/SR 50 PDD/Hickory Hill ³	9,600	23,616	465,000 sq. ft.
Spring Center	3,000	7,380	N/A
Cortez	980	2,411	N/A
Total	27,917	68,676	2,684,000 sq. ft.

¹ Estimated calculated using U.S. Census Bureau average of 2.46 people per household

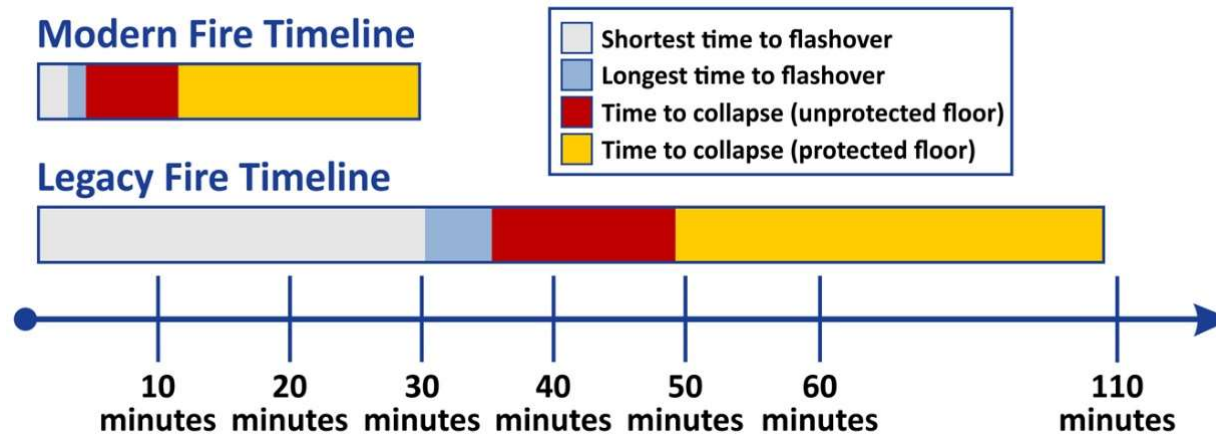
² Includes 850,000 sq. ft. business park

³ PDD = Planned Development District, Includes Sunrise

Service Demand Projections

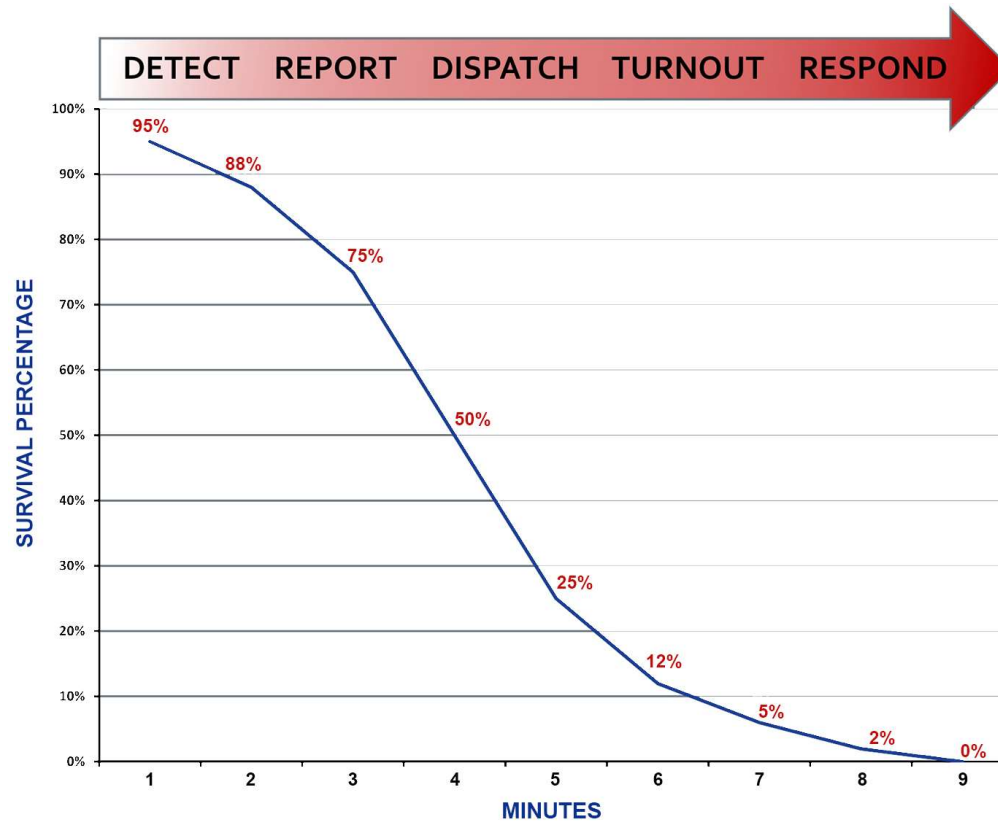


Fire Growth and Response Time

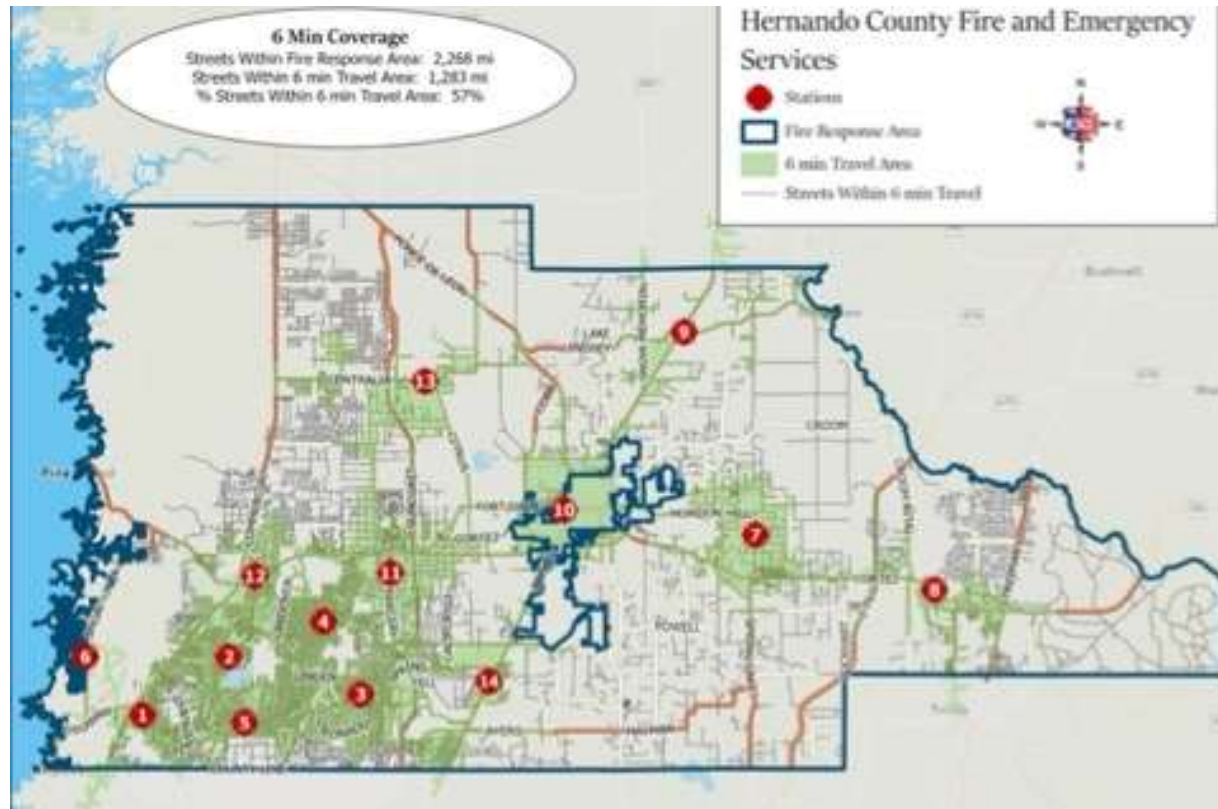


Flame Spread	Rate Per 1,000 Fires		Average Dollar Loss
	Civilian Deaths	Civilian Injuries	
Confined fire or fire spread confined to origin	0.4	11.1	\$1,200
Confined to room of origin, including confined fire and fire confined to object	1.8	23.8	\$4,000
Spread beyond the room of origin but confined to floor of origin	16.2	76.3	\$35,000
Spread beyond the floor of origin	24.6	55.0	\$65,900

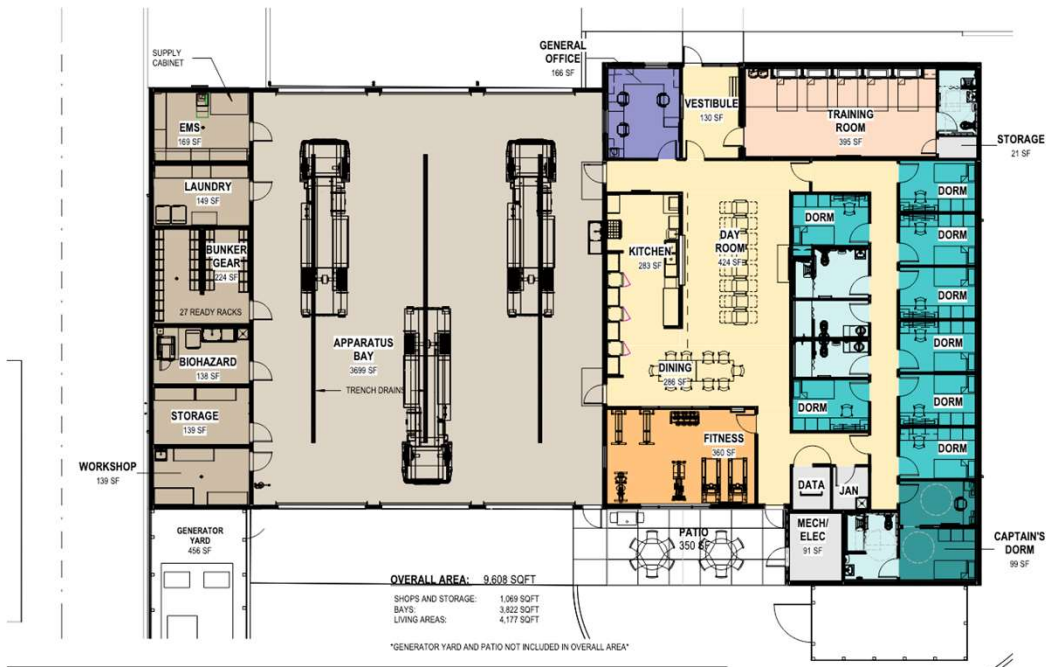
EMS and Response Time



Hernando County 7 Minute Response Goal

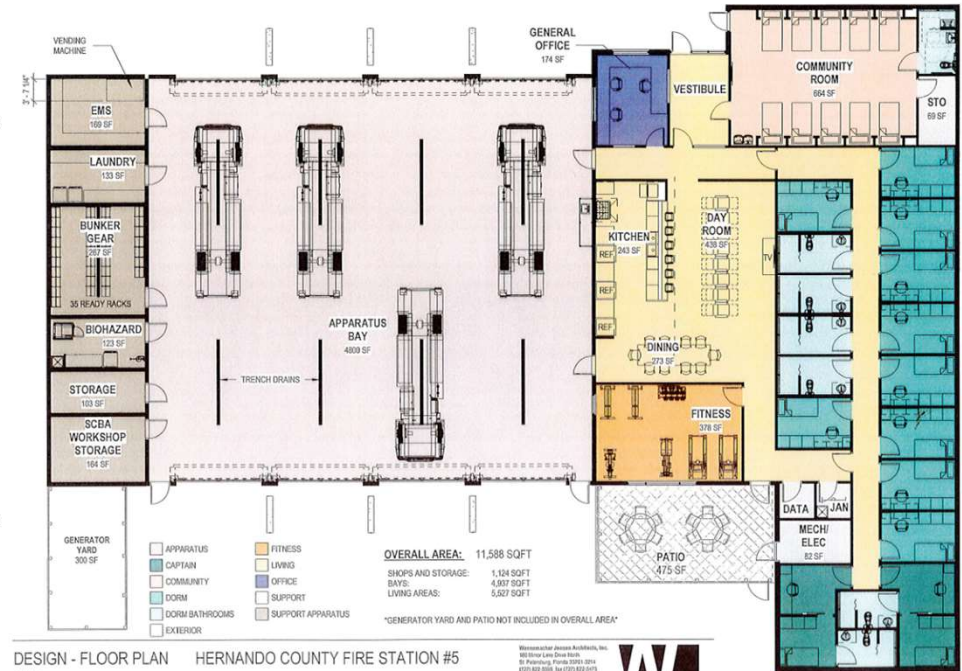


Fire Station Designs



DESIGN FLOOR PLAN HERNANDO COUNTY FIRE STATION #2
 05/25/2022

Worrenmacher Jensen Architects, Inc.
 5000 Lakes Drive North
 St. Petersburg, Florida 33715-3214
 727-432-0300 Fax: 727-432-0475
 www.wja.com
 AIA/NCARB
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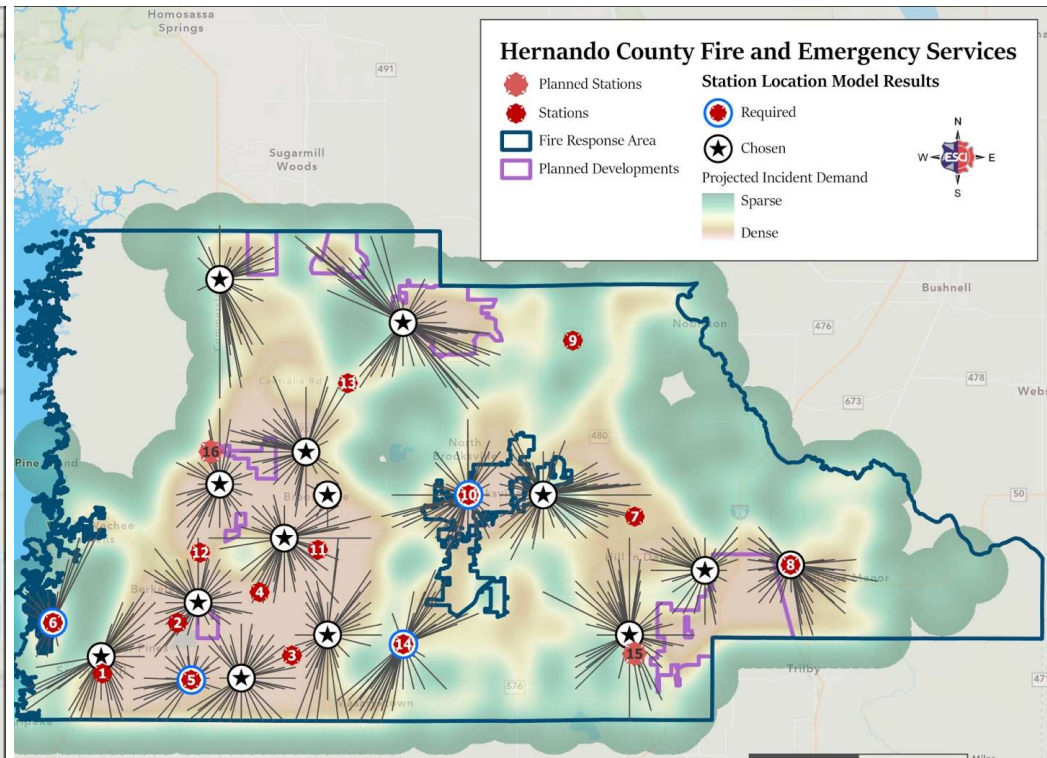
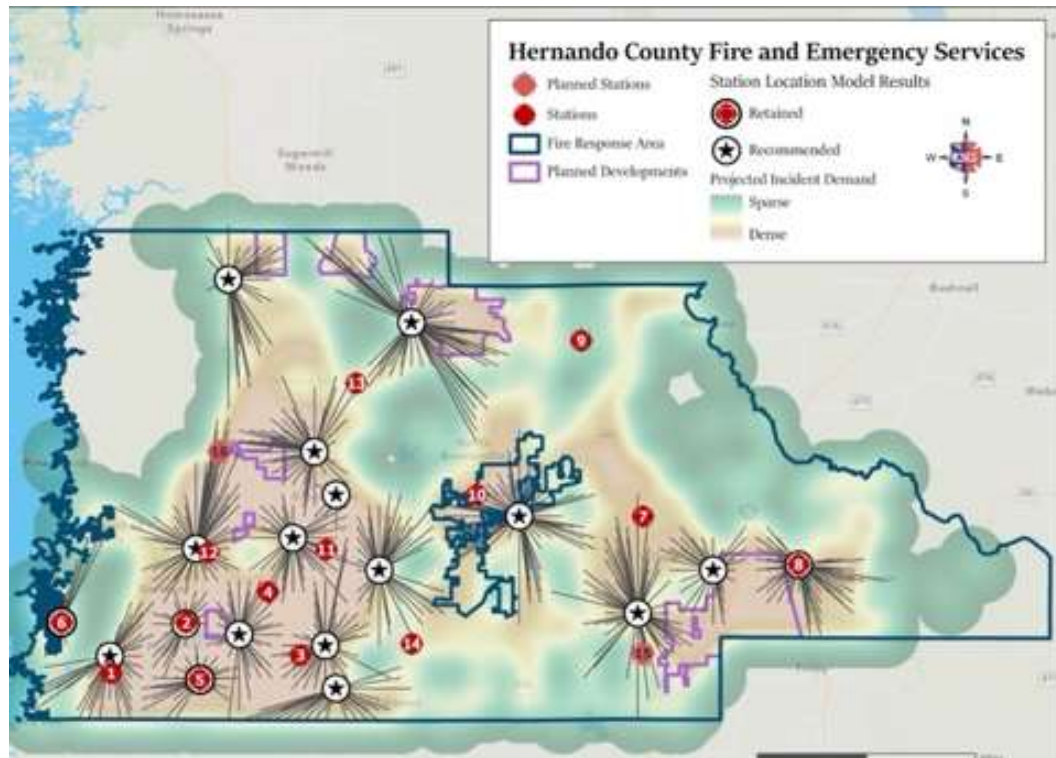


DESIGN - FLOOR PLAN HERNANDO COUNTY FIRE STATION #5
 03/24/20

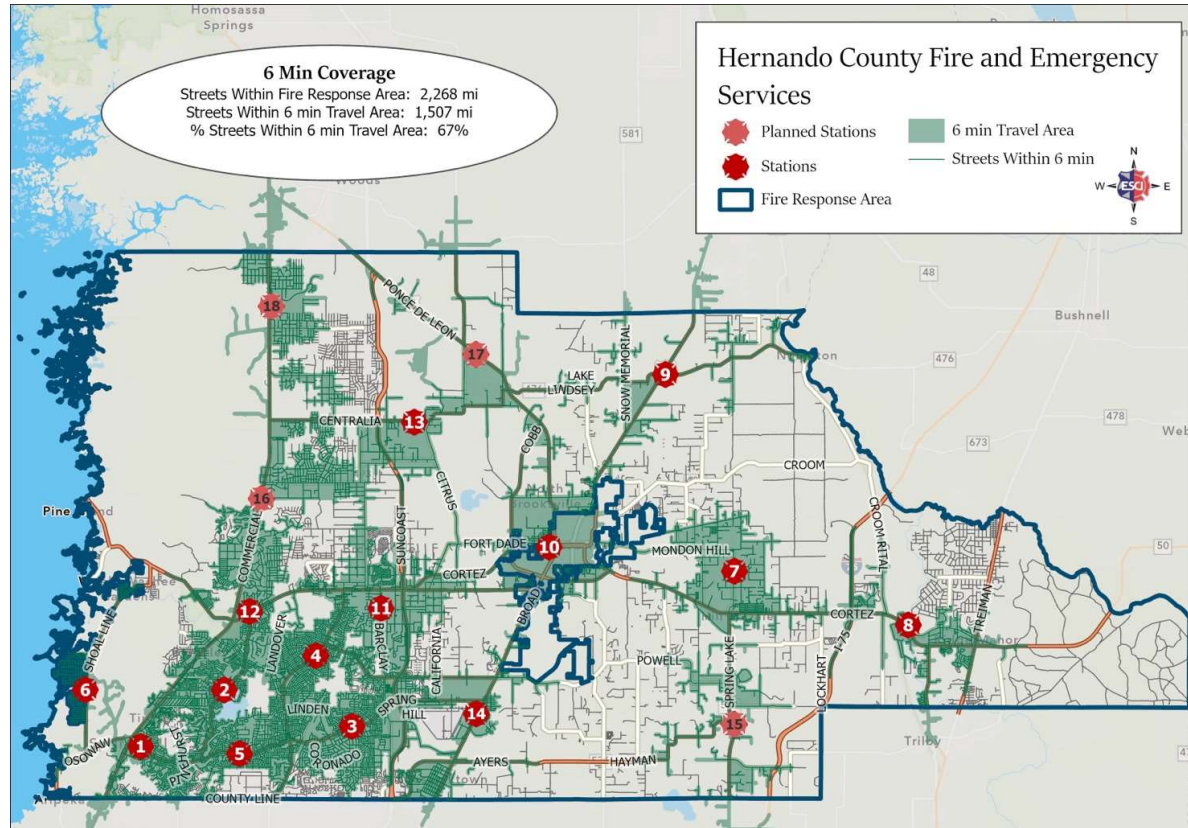
Worrenmacher Jensen Architects, Inc.
 5000 Lakes Drive North
 St. Petersburg, Florida 33715-3214
 727-432-0300 Fax: 727-432-0475
 www.wja.com
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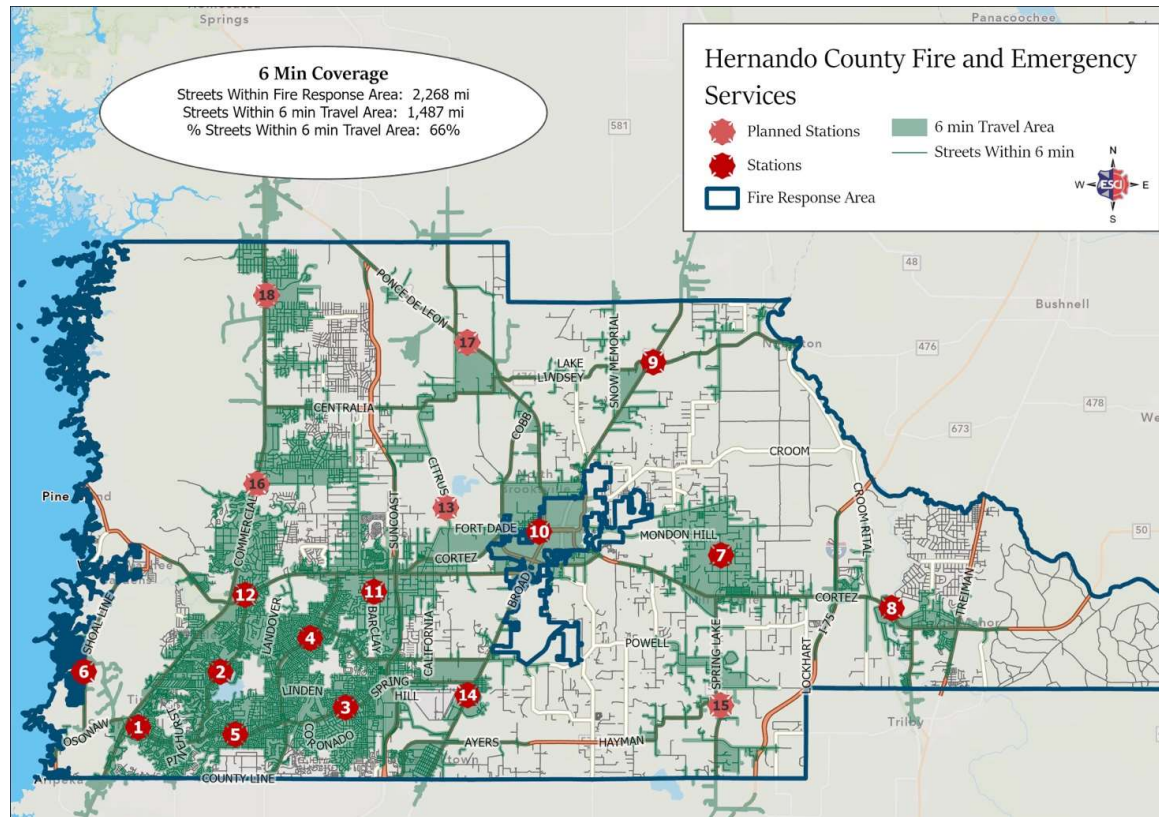
Fire Station Optimization Model



Future Fire Stations



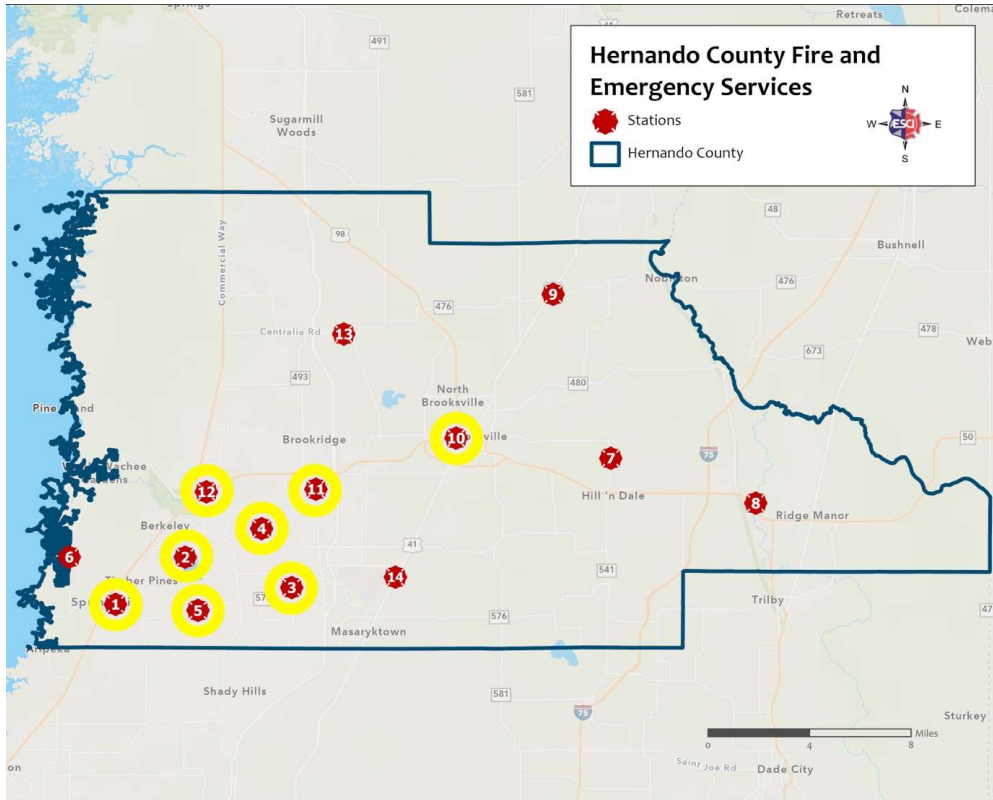
Moving Fire Station 13



Short-Range Recommendations & Strategies

- Recommendation 1-A: Response Performance Objective
- Recommendation 1-B: Divide the County into Performance Areas
- Recommendation 1-C: Ensure Hurricane Protection is Adequate at All Stations
- Recommendation 1-D: Hire an Administrative Assistant/ Data Analyst
- Recommendation 1-F: Utilize Closest Unit Dispatch with the City of Brooksville
- Recommendation 1-H: Develop a Plan for ARFF
- Recommendation 1-I: Determine Ways to Reduce Components of Total Response Time
- Recommendation 1-J: CAD Upgrades

Recommendation 1-E: Add Peak Time Medic Units



Unit	2021 Original	2022 Theoretical	2023 Theoretical	2024 Theoretical	2025 Theoretical	% Change
M1	40.37%	35.93%	35.12%	34.53%	34.12%	-15.48%
M2	38.14%	33.59%	32.66%	31.95%	31.41%	-17.65%
M3	37.16%	32.56%	31.58%	30.81%	30.22%	-18.68%
M4	36.27%	31.63%	30.60%	29.78%	29.14%	-19.66%
M5	37.08%	32.48%	31.49%	30.72%	30.12%	-18.77%
M10	32.73%	27.91%	26.70%	25.69%	24.83%	-24.14%
M11	39.96%	35.50%	34.67%	34.06%	33.62%	-15.87%
M12	38.27%	33.73%	32.81%	32.10%	31.57%	-17.51%
M14 ¹	32.98%	28.17%	26.97%	25.97%	25.14%	-23.77%
M204	36.01%	31.35%	30.31%	29.48%	28.82%	-19.97%
M205	N/A	32.28%	31.29%	30.51%	29.90%	N/A
M211	N/A	32.28%	31.29%	30.51%	29.90%	N/A
M203	N/A	N/A	31.29%	30.51%	29.90%	N/A
M202	N/A	N/A	N/A	30.51%	29.90%	N/A
M210	N/A	N/A	N/A	N/A	29.90%	N/A

¹ 2021 original UHU for M14 is based on 10 hours, 8:00 to 6:00 pm, instead of 12 hours

Fiscal Year	Start Date	Number of Units	Suggested Location
FY2022-2023	October 1, 2022	2	Station 5 and 11
FY2023-2024	October 1, 2023	1	Station 3
FY2024-2025	October 1, 2024	1	Station 2
FY2025-2026	October 1, 2025	1	Station 10

Mid-Range Recommendations & Strategies

- Recommendation 2-A: Relocate Units to Station 17 and Provide Staffing
- Recommendation 2-B: Staff an Additional Ladder Truck
- Recommendation 2-C: Utilize Fire Lieutenants
- Recommendation 2-D: Construct Reserve Unit Storage
- Recommendation 2-F: Create a Staffing Officer Position
- Recommendation 2-G: Add Additional Training Officer
- Recommendation 2-H: Add Additional Fire Inspector

Long-Range Recommendations & Strategies

- Recommendation 3-A: Staff a Ladder Truck in the Southeastern part of the County
- Recommendation 3-B: Staff a Ladder Truck at either Fire Station 16, 17, or 18
- Recommendation 3-C: Redistribute Battalion Assignments
- Recommendation 3-D: Ensure Adequate Reserve Fleet
- Recommendation 3-E: Add Additional Training Officer
- Recommendation 3-F: Add Additional Fire Inspector
- Recommendation 3-G: Implementation of Community Paramedicine Program

HCFES Recommendation

- Review the Funding Sources (EMS MSTU, FIRE MSBU) for HCFES to be adequate as expansion of the Department happens along with growth in the County.
- Review the EMS Billing Rates to be adequate for the service provided.
- Hire Architect to Design site at Station 15 at site to open new station.
- Hire Architect to Design new station 16, including finalization of land to acquire.
- Upon Decision to add new station and fund new FF positions for the staffing of the Fire Station; apply for SAFER Grant to assist in cost for first two years.
- Add Peak Time Paramedic Unit(s) annually to minimize utilization rate.



Station Location Study

QUESTIONS and CLARIFICATIONS



Emergency Services Consulting International