

Bonita Springs Fire Control & Rescue District

STANDARDS OF COVER



Executive Summary

Bonita Springs Fire Control & Rescue District (BSFD) completed a Community Risk Assessment and Standards of Cover study in 2022/23. The Standards of Cover (SOC) is defined by the Commission on Fire Accreditation International (CFAI) as the “adopted written policies and procedures that determine the distribution, concentration, and reliability of fixed and mobile response forces for fire, emergency medical service (EMS) hazardous materials, and other technical types of responses.”

A comprehensive assessment of risks and demand were completed so that the district leadership can adopt policies with the utmost confidence to meet community expectations with a high degree of transparency.

The executive summary highlights the most substantive recommendations and alternatives for the district.

Overall, there were four main themes that were utilized to frame opportunities for improvement and a pathway forward that best aligned resource allocation to risks.

Once fully implemented, the citizens and visitors of the district would receive Bonita Springs Fire Control & Rescue improved response capability and maintain or improve response time performance.

The district is very close to the 60-64 second standard of dispatch times. A slight improvement would bring them into national standards.

The district will benefit in closely monitoring growth in less populated areas to determine when a need for additional stations and personnel are needed.

Introducing outcome measures of performance management strategies will improve response times and overall better provided services to the community.

The fire district staff should review the strategic plan with the fire commission, department members and the general public for additional input and refinement. Consistent assessments of facilities, apparatus and tools will assist in forecasting future budgetary needs.

Top Four Priorities

1. Improve turnout time and work closely with county to improve call processing.
2. Continue planning to meet the increased community needs for services and infrastructure.
3. Embrace additional outcome measures to ensure improved performance.
4. Adopt a system of measures for future action planning and decision making.

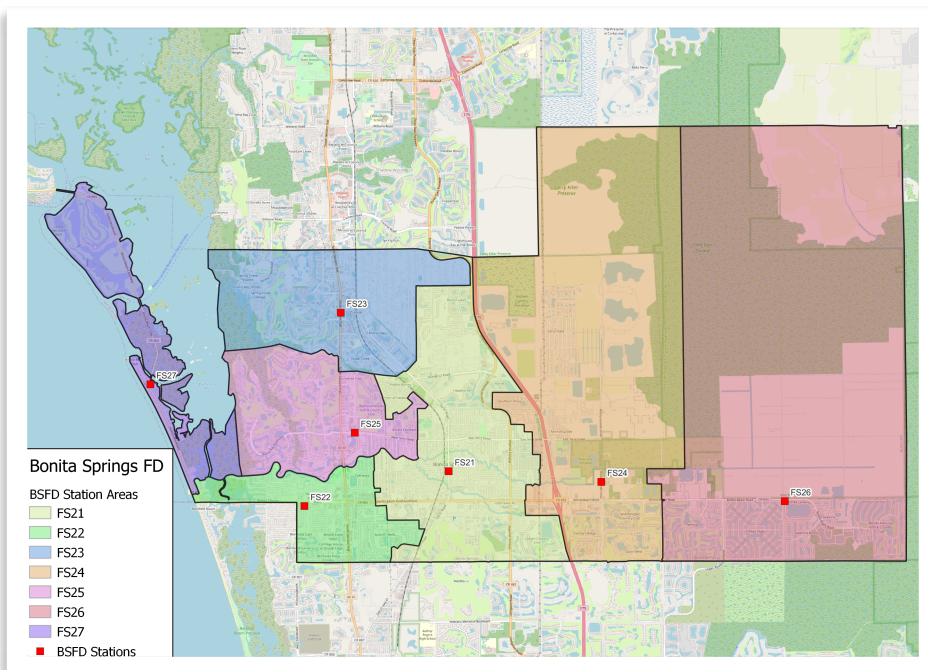




Documentation of Area Characteristics

Bonita Springs Fire Control & Rescue District is a full-service fire district providing fire suppression, EMS, fire prevention, hazardous materials, and technical rescue services for approximately 50,000 residents, increasing to approximately 90,000 residents in-season over 72 square miles in Lee County Florida.

BSFD as it stands today, is the result of a Special Legislative Act of the Florida Legislative Act in the year 1965.



Located in Southwest Florida along the beaches of the Gulf of Mexico, Bonita Springs makes up the southernmost edge of Lee County. Each year, Bonita Springs attracts increasing numbers of tourists and year-round residents. With over one hundred miles of shorelines, the steady growth of residential developments, restaurants, shopping centers, and increasing job opportunities, fire and rescue service demands have increased.

Furthermore, enhanced fire rescue response capabilities were necessary to provide life safety for the increasing high-rise population within gated communities, and the

expansion of commerce on the US 41 corridor in Bonita Springs.

Currently, BSFD has seven fire stations strategically located to provide the best and most economical service. The fire district strives to be on scene in less than six minutes from the time the call is received. The seven fire stations, coupled with the fleet of fire apparatus and highly skilled firefighter/EMTs and firefighter/paramedics, attend to the fire and life safety needs of the citizens and visitors of Bonita Springs.

BSFD serves the City of Bonita Springs and surrounding areas by way of mutual aid and automatic aid agreements with the following agencies: Estero Fire Rescue District, Fort Myers Beach Fire Control District, Iona McGregor Fire Protection and Rescue Service District, Sanibel Fire and Rescue District, San Carlos Park Fire Protection and Rescue Service District, South Trail Fire Protection and Rescue Service District, Lehigh Acres Fire Control and Rescue District and the City of Fort Myers Fire Department.



Legal Basis

Bonita Springs Fire Control & Rescue District is an established charter within the State of Florida. The charter is the primary legal document that establishes the structure and authority of the district, including the roles and powers of the Chairman and Council, the process for holding elections, and the budget and financial management of the district. BSFD has operated under the Board of Fire Commissioners form of government since 1965. Policy-making and legislative authority are vested in the governing body consisting of the chairman and four additional elected council members. The governing body serves as the principal policy maker of the district. The governing body is responsible for passing ordinances, management of district, finances, and adopting the budget.

The Fire Chief is the chief administrative officer of the district and is responsible for carrying out the policies and ordinances approved by the governing body. In addition to overseeing the day-to-day operations of the district, the Fire Chief also appoints district officers, prepares the annual budget and keeps the governing body informed of the financial condition and needs of the district. In addition to the charter, the BSFD is governed by state and federal laws.

Automatic/Mutual Aid

Bonita Springs Fire Control & Rescue District maintains a supportive relationship with surrounding agencies, through a formalized automatic aid agreement that ensures the public will get the closest unit response to their emergencies regardless of jurisdictional boundaries.

BSFD is a member of the State of Florida statewide mutual aid system and also maintains mutual aid agreements and closest unit response agreements(*) with the following agencies: Alva Fire & Rescue District, Bayshore Fire Protection & Rescue Service District, Boca Grande Fire Department, Lehigh Acres Fire Control & Rescue District*, City of Cape Coral Fire Department, Captiva Island Fire Control District, City of Fort Myers Fire Department*, Estero Fire Protection and Rescue District*, Fort Myers Beach Fire Control District*, Fort Myers Shores Fire & Rescue Control District, Iona McGregor Fire District*, Lee County Port Authority Aircraft Rescue & Firefighting, Matlacha-Pine Island Fire Control District, North Fort Myers Fire Control and Rescue District, San Carlos Park Fire Protection & Rescue Service District*, Sanibel Fire & Rescue District*, South Trail Fire Protection & Rescue District*, Tice Fire & Rescue District, Upper Captiva Fire & Rescue District and Useppa Island Fire Rescue.

Jurisdiction	Program	Number of Calls ¹	Number of Responses ²	Average Responses per Call	Total Busy Hours	Responses with Time Data ³	Average Busy Minutes per Response	Average Calls per Day	Average Responses per Day
Outside of BSFD	EMS	363	393	1.1	102.6	392	15.7	1.0	1.1
	Fire	293	361	1.2	178.0	358	29.8	0.8	1.0
	Hazmat	2	5	2.5	2.4	5	28.3	< 0.1	< 0.1
	Rescue	65	93	1.4	39.2	93	25.3	0.2	0.3
	Total	723	852	1.2	322.1	848	22.8	2.0	2.3



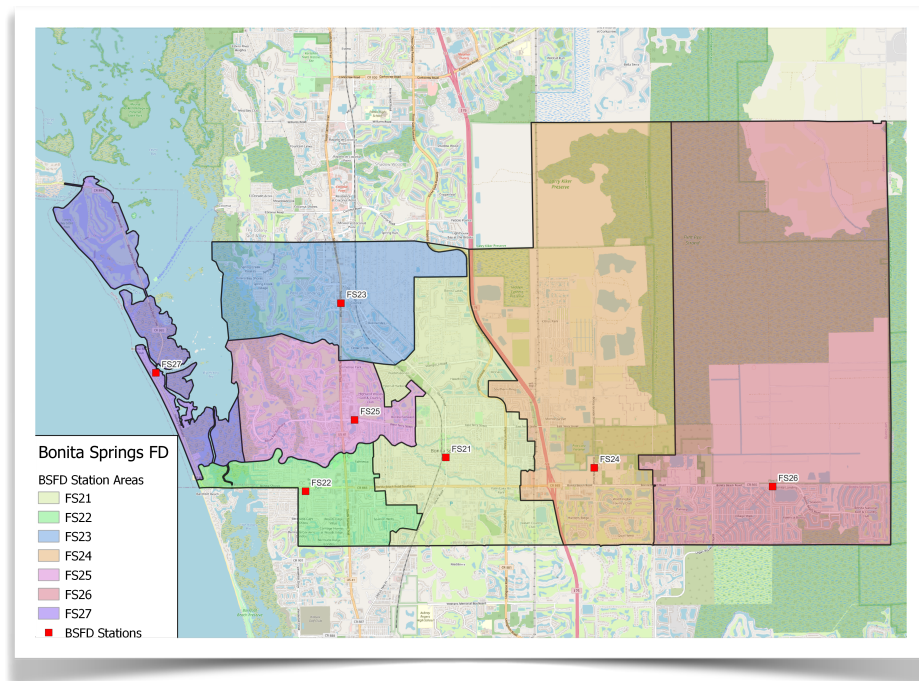
Community Risk Assessment

To study the unique feature of Bonita Springs Fire Control and Rescue District, the district utilized a comprehensive two-part documented and adopted methodology that organizes response areas into geographical planning zones. The first is by the district's entire response area. The second utilized a more gradual assessment of station demand zones (SDZ). These SDZs have specific resource allocation strategies based on calculated risks. From an emergency response standpoint, the district is divided into 7 SDZs each with a dedicated fire station. The SDZs are not divided equally in terms of demographics and population density.

Variables of Risk

All variables measured at the SDZ level

- Population density
- Square mileage of each SDZ
- Median age of residents
- Median household income
- Unemployment rate
- Percentage of homes greater than 50 years old
- Number of moderate-, high-, and maximum-risk structures
- Community demand
- Call concurrency



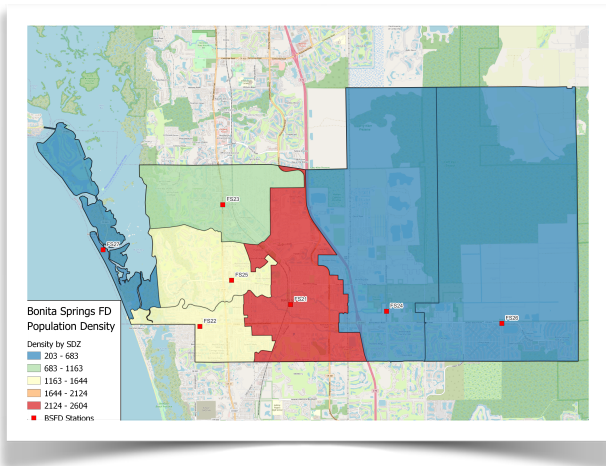
Socioeconomic and Demographic Risks

SDZs were utilized to assess each planning zone for risks that inform response time performance objectives. The risk assessment process utilized socioeconomic variables such as median household income and unemployment as well as demographic variable such as population density and median age. Other variables considered included square mileage, the number of moderate-, high-, and maximum-risk occupancies, and the percentage of homes greater than 50 years old.



Economic and Demographic Assessment by SDZ

Population density by SDZ was evaluated. The population for each first due station was calculated using total population for 2017-2021 from U.S. Census Bureau data, and the area of each first due station in square miles available through GIS mapping from BSFD shape files. Stations 24, 26, and 27 had the lowest population density.

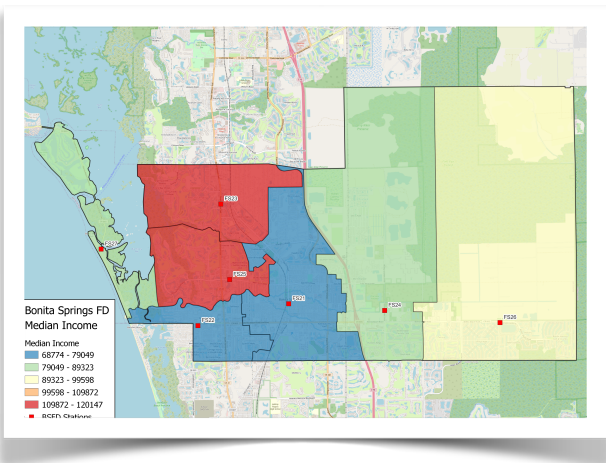
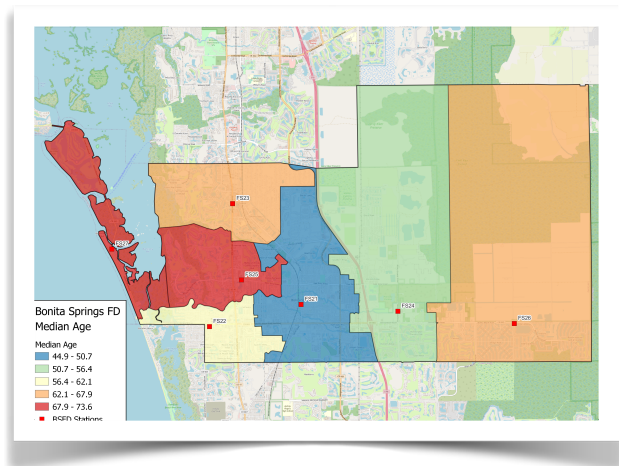


Research has demonstrated a relationship between age and use of EMS and fire services or the events leading to the need for EMS and fire services, wherein use and need tend to be highest among older adults, as compared to those in younger age groups.

Recommendation

It is recommended that the district continues to monitor socioeconomic and demographic variables correlated with changes in risk.

For Example, older adults (e.g., 65 years and older) or the elderly (e.g., 85 years and older) have been found to experience higher rates of burns, falls, fires, and fire-related injuries or deaths, have higher rates of ambulance transport and use of EMS, in general. The elderly are also one of the most vulnerable groups during and following disasters such as hurricanes, tornadoes, and earthquakes.



Based on U.S. Census Bureau data for 2017-2021, adjusted for 2021 dollars, median household income for Bonita Springs, FL was \$78,347.



Critical Tasking and Staffing to Risk

Fire, EMS, Hazardous Materials, Technical Rescue related critical tasking was completed for both risk classification and risk categorization by low, moderate, high and maximum risks. The associated critical tasks were validated to ensure that the staffing strategy would accomplish the critical needs of the risk level and that the process of classifying and categorizing risks support the appropriate resource allocation at the moment of dispatch.

All effective response force (ERF) strategies were established through the critical tasking exercises and validated by ongoing assessment of real time events.

The Department's commitment to safety and after action reporting.

Fire Incidents

Effective Response Force for Fire Incidents				
Task	Maximum	High	Moderate	Low
Command	1	1	1	1
Driver/Pump Operator	1	1	1	1
Fire Attack	2	3	2	1
Water Supply	1	1	1	
Back-up Line	2	3	2	
Safety	1	1	1	
IRIT	2	2	2	
Search	2	2	2	
Ventilation	0	0	2	
Ventilation	2	2		
Fire Attack Line 2	2			
ERF Personnel	16	16	14	3
Unit Count	7	7	7	1

Maximum Risk -
High Rise
Big Box Store

High Risk -
Commercial
Multi-family

Moderate Risk -
Residential Fire

Low Risk -
Dumpster
Mulch
Vehicle Fire Unoccupied
Refuse Fire
Unauthorized Burn
Smoke Investigation

Maximum Risk -
Mass Casualty
Active Assailant
ECHO Calls

High Risk -
Delta Calls
Multiple Injuries/NOT MCI

Moderate Risk -
Charlie Calls
Chest Pain
Stroke

Low Risk -
Alpha & Bravo Calls
General Illness

EMS Incidents

Effective Response Force for EMS Incidents				
Task	Maximum	High	Moderate	Low
Triage/Treatment	4	2	2	2
Documentation	1	1	1	1
Safety	1	0		
Command	1	1		
Medical Branch	0			
RTF	0			
ERF Personnel	7	4	3	3
Unit Count	3	2	1	1



Hazardous Materials Incidents

Maximum Risk-
 City of Ft. Myers Hazmat
 Long duration hazardous materials incident

High Risk -
 City of Ft. Myers Hazmat
 Incidents that require significantly more hazardous materials expertise and capabilities, large evacuations, and/or long duration events that necessity relief.

Moderate Risk -
 City of Ft. Myers Hazmat Response
 Incidents that require hazmat technicians, Level A entry protection, and technical research capabilities for incidents that exceed first responder and operations level capabilities.

Low Risk -
 Fuel Spill
 Smell of Gas

Effective Response Force for HAZMAT Incidents				
Task	Maximum	High	Moderate	Low
Command	1	1	1	1
Hazard Mitigation	0	0	2	2
Safety	1	1	1	
Entry Team	2	2	2	
Back up Team	2	2	2	
Decontamination	2	2	2	
Research	1	1	1	
Support	4	4		
Rehab	2			
ERF Personnel	15	13	11	3
Unit Count	7	6	4	1



Technical Rescue Incidents

Effective Response Force for RESCUE Incidents				
Task	Maximum	High	Moderate	Low
Command	1	1	1	1
Rescue Team	9	4	2	2
Suppression Line	1	1	1	
Medical	4	2	2	
Support	0	2		
ERF Personnel	15	10	6	3
Unit Count	7	5	3	1

Maximum Risk-
 Structural Collapse
 Trench Rescue

High Risk -
 Lee County Squad Concept
 Complex Extrication
 Confined Space

Moderate Risk -
 Vehicle Extrication

Low Risk -
 Elevator Rescue

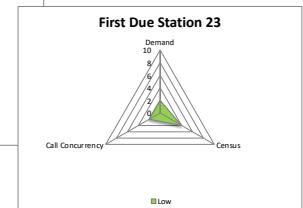
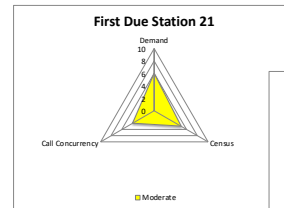
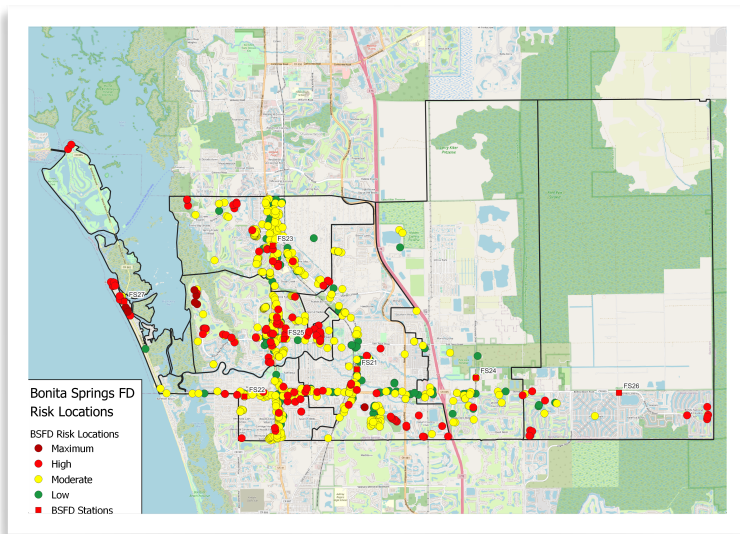


Occupancy-Level Risk

Occupancy level data was utilized to measure the relative risk of buildings within each of the SDZ areas. Overall 878 buildings were rated. This scoring process resulted in 271 occupancies classified as low risk, 501 occupancies classified as moderate risk, 152 occupancies classified as high risk, and eight occupancies classified as maximum risk in the jurisdiction.

Recommendation

It is recommended that the department develop a more robust data collection process to support a more granular assessment of building and occupancy risks.

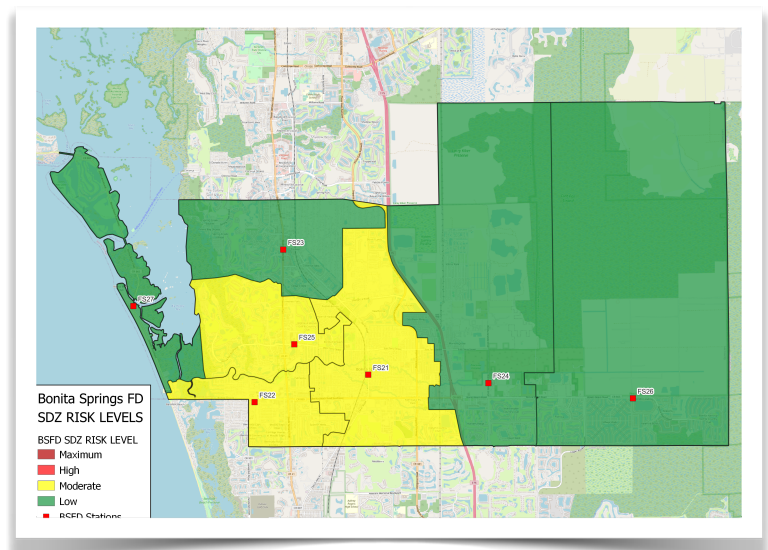


SDZ-Level Risk

Standard Demand Zones (SDZ) were assigned an overall risk level classification of low, moderate, high, or maximum based on the resulting value of the risk matrices.

Ultimately, Stations 21, 22, and 25 were classified as moderate risk stations (yellow). Stations 23, 24, 26 and 27 were classified as low risk stations (green).

Finally, 3-dimensional models were created to evaluate each SDZs unique risk profile.





Categorizing and Classifying Risk

Jurisdiction was based on classifications of the values for the “Beat” variable in the CAD data file. Demand zones (i.e., first due station areas) were based on geo-coding of records in conjunction with GIS shape files provided by BSFD through use of latitude and longitude values or address information, as available.

Program	Call Type	CAD Call Type'	Risk Level Classification
EMS	Illness and Other	UNKNOWN PROBLEM (MAN	Low
EMS	Illness and Other	Unknown Problem (Person Down)	Low
EMS	Illness and Other	Unknown Problem (Person Down) [HOT]	Low
EMS	Illness and Other	Welfare Check	Low

Program	Call Type	CAD Call Type'	Risk Level Classification		
				(Stings, Bites)	Moderate
				(Stings, Bites)	Moderate
Fire	Structure Fire	Structure Fire - Override [HOT]	Moderate		
Fire	Structure Fire	Structure Fire - SMALL NON-DWELLING building/structure	Moderate	(Stings, Bites)	Moderate
Fire	Structure Fire	Structure Fire - Unknown building/structure type	Moderate		Moderate
Fire	Structure Fire	Structure Fire - Unknown building/structure type [HOT]	Moderate		Moderate
Fire	Structure Fire	STRUCTURE FIRE-APPLI	Moderate		Moderate
Fire	Structure Fire	STRUCTURE FIRE-EXTIN	Moderate		Moderate
Fire	Structure Fire	STRUCTURE FIRE-MOBIL	Moderate		Moderate
Fire	Structure Fire	STRUCTURE FIRE-NONDW	Moderate		Moderate
Fire	Structure Fire	STRUCTURE FIRE-RESID	Moderate		Moderate
Fire	Structure Fire	STRUCTURE FIRE-UNKNO	Moderate	OT]	Moderate
Fire	Structure Fire	STRUTURE FIRE-OVERRI	Moderate		High
Fire	Structure Fire	Structure Fire - Building/Structure over water	High	AT / CBRN	High
Fire	Structure Fire	Structure Fire - Residential (multiple)	High	AT / CBRN [HOT]	High
Fire	Structure Fire	Structure Fire - Residential (multiple) [HOT]	High		Moderate
Fire	Structure Fire	Structure Fire - Residential (single)	High		Moderate
Fire	Structure Fire	Structure Fire - Residential (single) [HOT]	High		Moderate
Fire	Structure Fire	Structure Fire - COMMERCIAL/INDUSTRIAL building	Maximum		Moderate
Fire	Structure Fire	Structure Fire - COMMERCIAL/INDUSTRIAL building [HOT]	Maximum]	Moderate
Fire	Structure Fire	STRUCTURE FIRE - HIG	Maximum		Moderate
Fire	Structure Fire	Structure Fire - HIGH LIFE HAZARD	Maximum		
Fire	Structure Fire	Structure Fire - HIGH RISE	Maximum		
Fire	Structure Fire	STRUCTURE FIRE-COMM/	Maximum		
Fire	Structure Fire	STRUCTURE FIRE-COMME	Maximum		
Fire	Structure Fire	STRUCTURE FIRE-HIGH	Maximum		

“Call Type” variable entries in the CAD data file were classified into the program areas of EMS, fire, hazmat, and rescue based on departmental leadership decisions, and records were additionally assigned a risk classification based on departmental leadership criteria depending upon available data. Risk classifications were assigned based on determinant, when available, and based on call type when determinant was not available.

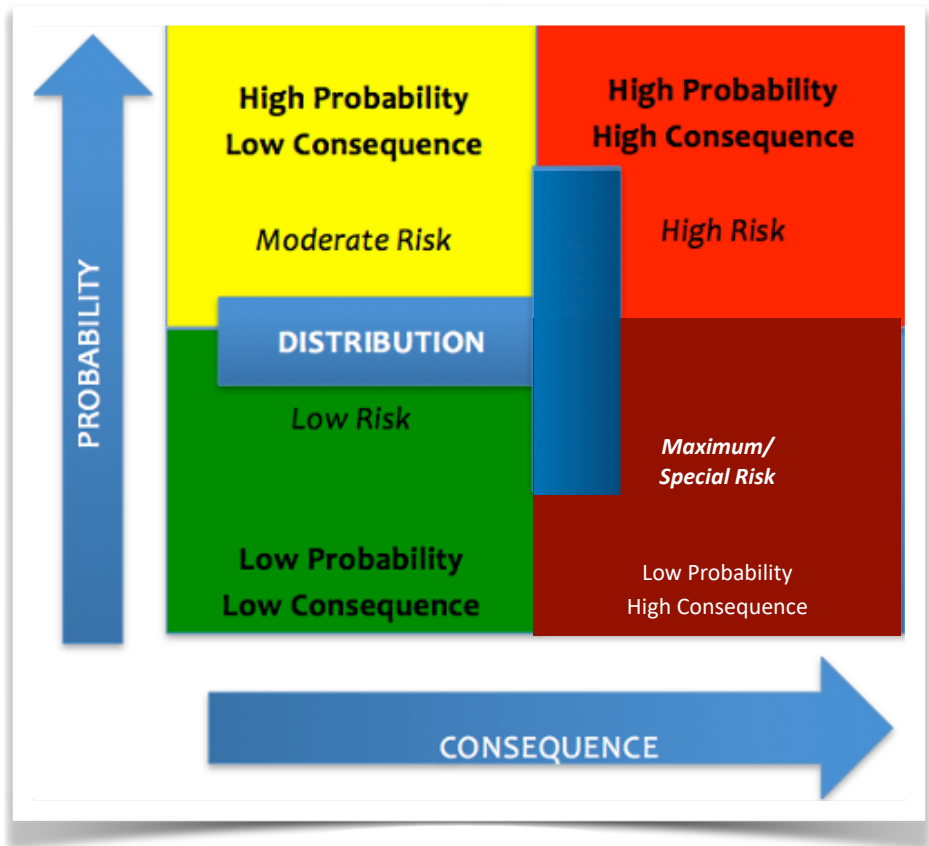
Determinant ¹	Risk Classification
A	Low
B	Low
C	Moderate
D	High
E	Maximum
O	Low
<Blank>	<Use Call Type>



Correlated Risks

Risks may be divided into correlated and uncorrelated risks. All previous risk analyses have been primarily based on uncorrelated risks such as single unique events for EMS or a single property structure fire. Risks were calculated based on socioeconomic and demographic factors that may contribute to unique events. All previous analyses utilized a robust quantitative approach to leasing risk using a 3-axis, 3-dimensional Heron formula.

However, correlated risks occur with much less frequency and were assessed using a 2-dimensional probability and consequence model. Example of correlated risks would include more regional or system wide events, such as natural hazards and pandemics.



Low Risk	Moderate Risk	High Risk	Max/Special Risk
Construction Limitations	Political and Growth Boundaries	Hurricanes	Critical Infrastructure
	Severe Weather	Contagious and Chronic Diseases	Hazardous Materials
	Topography Response Barriers	Flooding	Technical Rescue
	Population Growth	Transportation Network	Tornadoes
	Wildfire		
	Rural Interface		
	Emergency Medical Services		
	Fire Suppression		



Historical Service Demands

Historical service demands were classified by risk and distributed across the risk categories of low, moderate, high, and maximum risk.

Observation

The greatest increase in community service demands has been in EMS with approximately a 1,100 call increase over five years.

Reporting Period ²	Program	Number of Incidents					Percentage of Incidents ¹				
		Risk Rating					Risk Rating				
		Low	Moderate	High	Maximum	Total	Low	Moderate	High	Maximum	Total
2018	EMS	2,515	1,180	1,458	91	5,244	48.0	22.5	27.8	1.7	100.0
	Fire	759	405	62	11	1,237	61.4	32.7	5.0	0.9	100.0
	Hazmat	8	9	7	0	24	33.3	37.5	29.2	0.0	100.0
	Rescue	48	0	0	0	48	100.0	0.0	0.0	0.0	100.0
	Total	3,330	1,594	1,527	102	6,553	50.8	24.3	23.3	1.6	100.0
2019	EMS	2,612	1,255	1,626	79	5,572	46.9	22.5	29.2	1.4	100.0
	Fire	829	422	59	9	1,319	62.9	32.0	4.5	0.7	100.0
	Hazmat	11	5	5	0	21	52.4	23.8	23.8	0.0	100.0
	Rescue	47	0	6	0	53	88.7	0.0	11.3	0.0	100.0
	Total	3,499	1,682	1,696	88	6,965	50.2	24.1	24.4	1.3	100.0
2020	EMS	2,532	1,102	1,569	105	5,308	47.7	20.8	29.6	2.0	100.0
	Fire	979	428	61	21	1,489	65.7	28.7	4.1	1.4	100.0
	Hazmat	22	7	3	0	32	68.8	21.9	9.4	0.0	100.0
	Rescue	46	2	3	0	51	90.2	3.9	5.9	0.0	100.0
	Total	3,579	1,539	1,636	126	6,880	52.0	22.4	23.8	1.8	100.0
2021	EMS	2,661	1,203	1,853	94	5,811	45.8	20.7	31.9	1.6	100.0
	Fire	1,108	414	61	11	1,594	69.5	26.0	3.8	0.7	100.0
	Hazmat	17	6	13	0	36	47.2	16.7	36.1	0.0	100.0
	Rescue	61	0	4	1	66	92.4	0.0	6.1	1.5	100.0
	Total	3,847	1,623	1,931	106	7,507	51.2	21.6	25.7	1.4	100.0
2022	EMS	2,837	1,445	1,957	108	6,347	44.7	22.8	30.8	1.7	100.0
	Fire	1,310	593	79	30	2,012	65.1	29.5	3.9	1.5	100.0
	Hazmat	29	13	7	0	49	59.2	26.5	14.3	0.0	100.0
	Rescue	53	3	0	1	57	93.0	5.3	0.0	1.8	100.0
	Total	4,229	2,054	2,043	139	8,465	50.0	24.3	24.1	1.6	100.0
All	EMS	13,157	6,185	8,463	477	28,282	46.5	21.9	29.9	1.7	100.0
	Fire	4,985	2,262	322	82	7,651	65.2	29.6	4.2	1.1	100.0
	Hazmat	87	40	35	0	162	53.7	24.7	21.6	0.0	100.0
	Rescue	255	5	13	2	275	92.7	1.8	4.7	0.7	100.0
	Total	18,484	8,492	8,833	561	36,370	50.8	23.3	24.3	1.5	100.0

Overall, during the 5-year reporting period, all risk levels made incremental changes with an overall increase due to call load increases. The percentage of the risk levels remained relatively level.

Through the 5 years, the low risk had an overall average of 50.8% of the calls, moderate was 23.3%, high 24.7% and maximum was at 1.5%.



Historical Performance

The district understands the relative opportunity to improve the citizens' experience by maximizing the efficiency of the dispatch interval and turnout time. Dispatch Time is defined as the time from when the 911 center receives a request for service and the fire district is notified to respond. Turnout Time is defined as the time between the fire district being notified of a call (dispatched) and when they are actually driving to the incident.

The National Fire Protection Association (NFPA) 1710 and 1225, recommend a 1:04 (mm:ss), and 1:00 minute dispatch time, respectively. The current performance averages 1:12 minutes for all types of calls at the 90th percentile.

Similarly, the NFPA and the Commission on Fire Accreditation International (CFAI), recommend a turnout time of 1:00 minute for EMS incidents and between 1:20 and 1:30 minutes for non-EMS incidents, respectively. The district's current performance is at 1:42 minutes for EMS and 1:48 minutes for fire related incidents, both exceeding the recommended best practice performance.

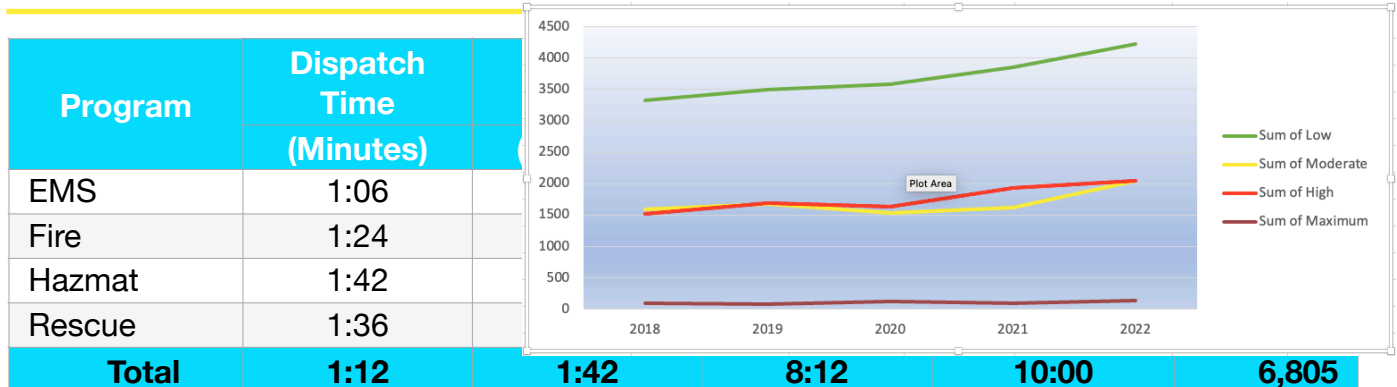
Travel Time is measured from when the apparatus and crews make notification that they are driving to the incident until they notify that they are on-scene. NFPA 1710 recommends a 4:00 minute travel time at the 90th percentile. CFAI had historically provided for a 5:12 minutes travel time at the 90th percentile. However, the current performance 8:12 minutes is reasonably well aligned with the national experience for districts with similar geographic challenges.

Response Time is the total time from 911 receipt to arrival.

Recommendations

- Evaluate the integrity of the dispatch and turnout time data to ensure accuracy.
- Align dispatch and turnout times with best practices.

2021 90th

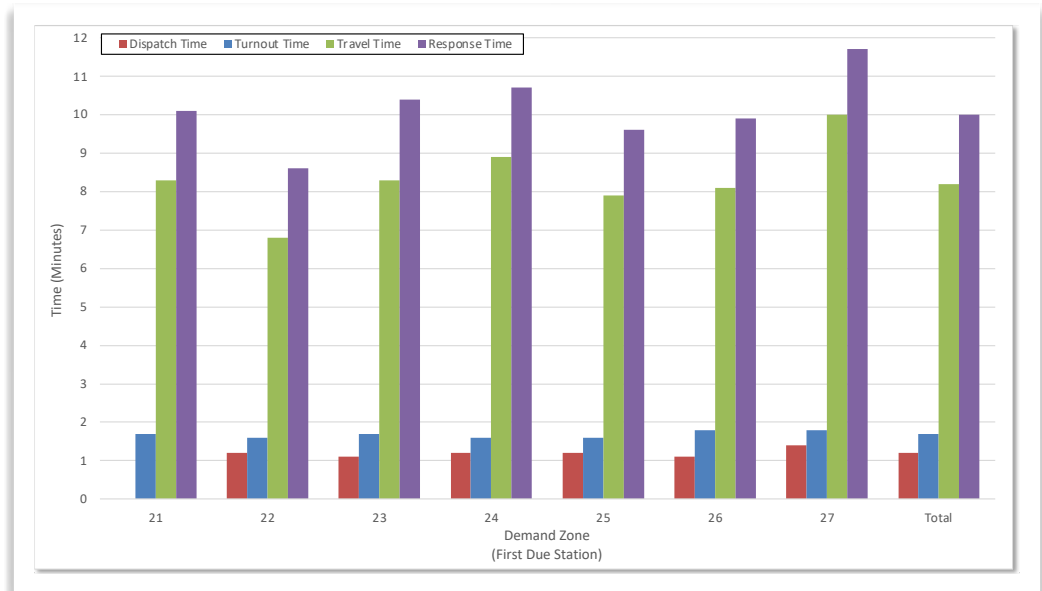


1:42 8:12 10:00 6,805

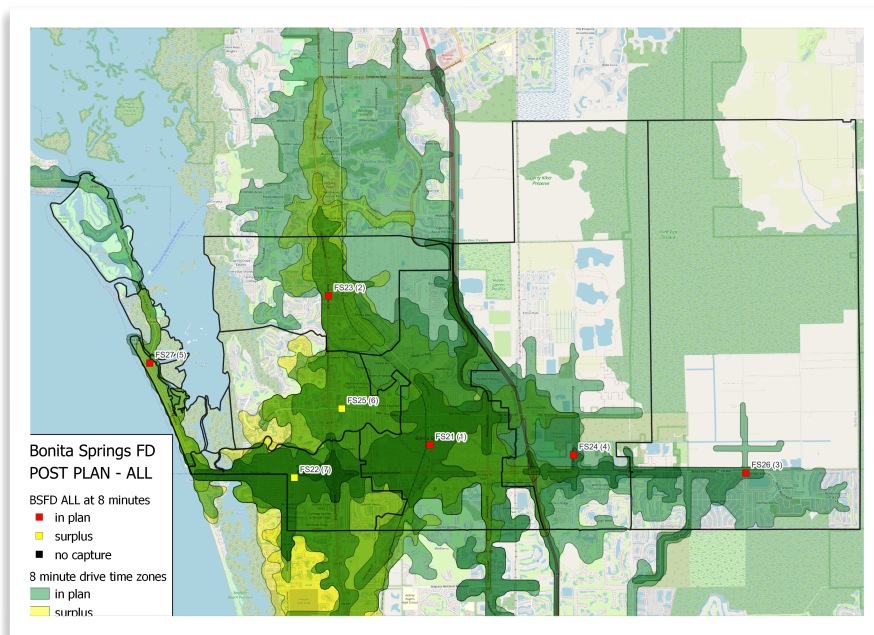


Distribution Study

Response time elements are evaluated by SDZ, consistent with other comparable districts. The majority of travel time is between approximately 6:48 to 10:00 minutes at the 90th percentile. The longest duration outliers are at Station 27 with less than 200 calls per year. The remaining stations have a travel time between 6:48 and 8:54 minutes.



8:00 Minute Travel Time



GIS analyses validated that 91.32% of the incidents could be responded to within 8:00 minutes travel time from the current station configuration.

The green shaded areas indicate the 91% response capability within 8:00 minutes. Any successively darker shades of green indicate that more than one station can service the area within 8:00 minutes.

The yellow shaded areas show the additional coverage within 8:00 minutes between 85% and 90%.



Concentration Study

The concentration of resources sufficient to respond to the frequency and duration of the community demand is utilized to evaluate the efficacy of the deployment strategy for the identified risk. Analyses reveal that the department has an average hourly demand of approximately 1.6 calls per hour during peak periods.

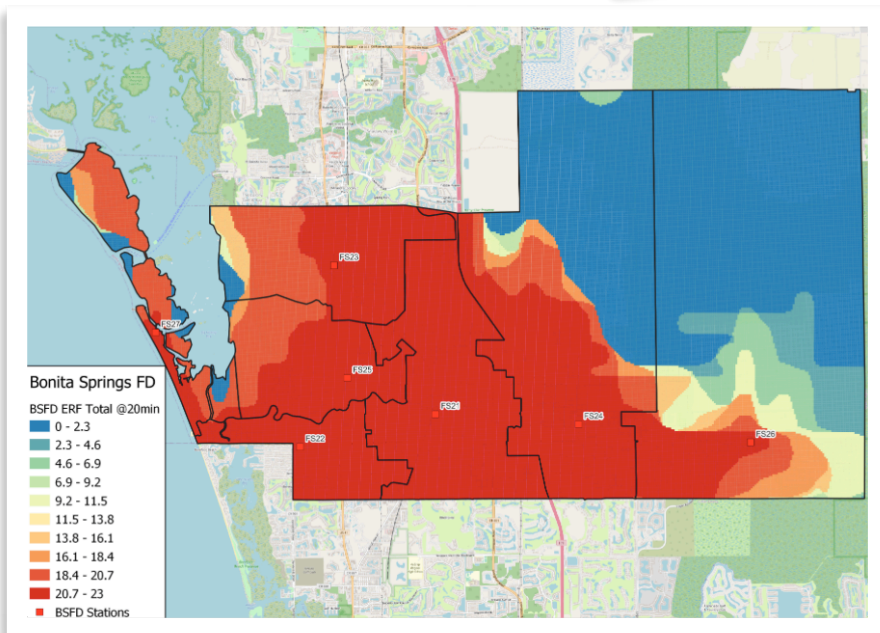
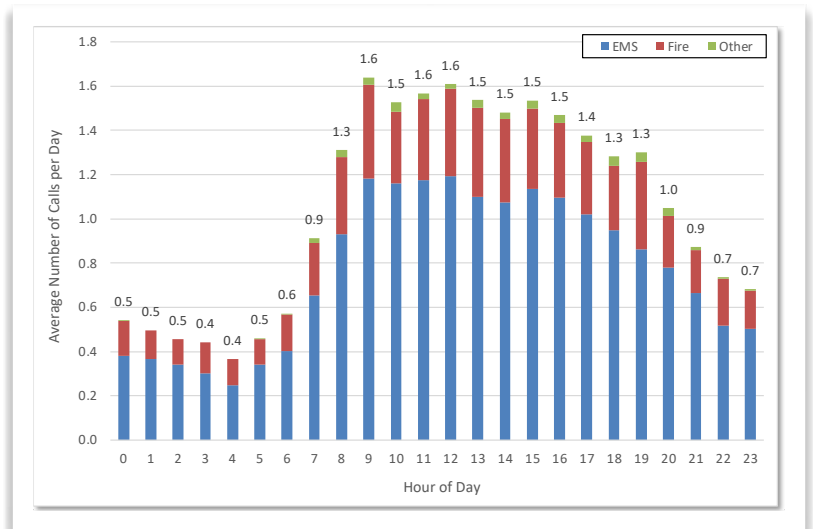
Considering the current performance of approximately 8:00 minutes travel time, the minimum deployment required to meet community demands and maintain sufficient capacity for the desired performance, is 11 resources at all times.

Observation

Peak activity for the district is between 8:00 and 19:00 hours.

The Effective Response Force (ERF) is the concentration or quantity of emergency personnel required to mitigate each class and category of risk. The appropriate ERF was established during the development of the risk based critical tasking.

NFPA 1710 suggests that the ERF should arrive in 8:00 minutes travel time or less.



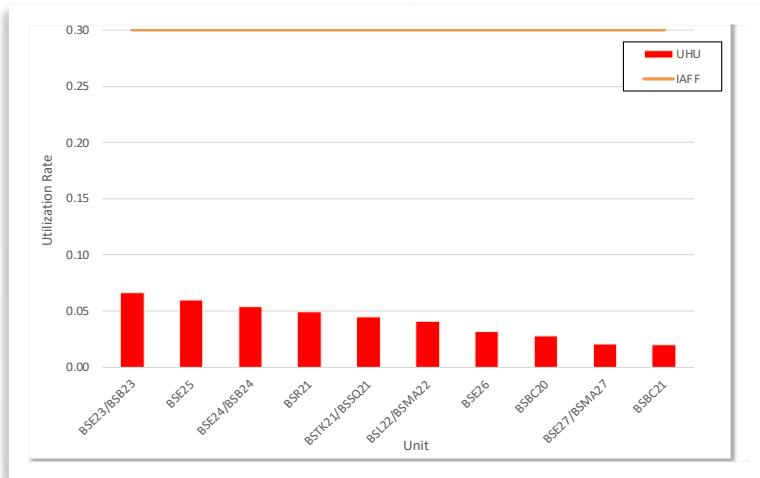
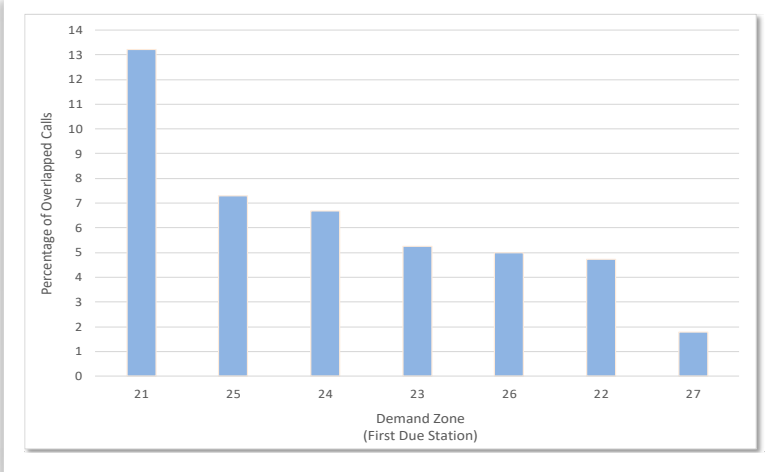
Alternately, the CFAI provides a baseline travel time performance objective of 10:24 minutes 90% of the time or less as well as a 13:00 minute travel time ERF for suburban areas.

Under the current model configuration, with 7 stations, approximately 54% of the **total** geography can be served with a 17-person ERF within 20:00 minutes with the current staffing strategy. However, the mapping will be much more informative to the reader due to the large undeveloped area in the east.



Assessing System Resiliency

Station 21 experienced the highest percentage of overlapped calls during 2022 at 13.2% (384/2,904), followed by first due Station 25 at 7.3% (113/1,550).

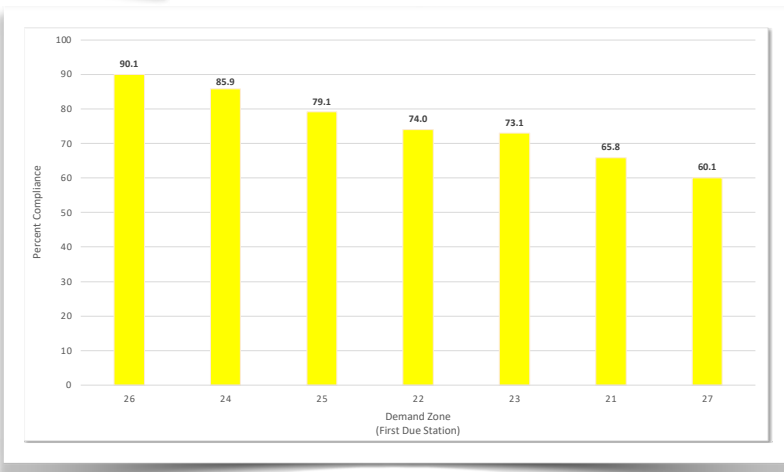


Unit Hour Utilization (UHU) is an objective measure of time on task for deployed resources. BSFD is as busy as other similarly sized departments that provide first response EMS, fire suppression, hazardous materials and technical rescue responses.

All units had UHU values < 0.30. The busiest unit in the department during 2022 was cross-staffed unit BSE23/BSB23 with a UHU value of 0.07, followed by BSE25 with a UHU value of 0.06.

Station reliability is a measure of the ability of the units assigned to a specific station to respond to the calls within their first due SDZ.

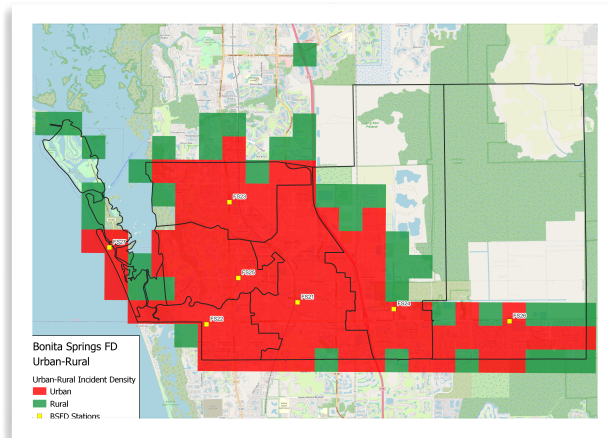
Station 26 had the highest reliability at 90.1%. All remaining station zones were between 65.8% and 85.9% except Station 27 which was at 60.1%.





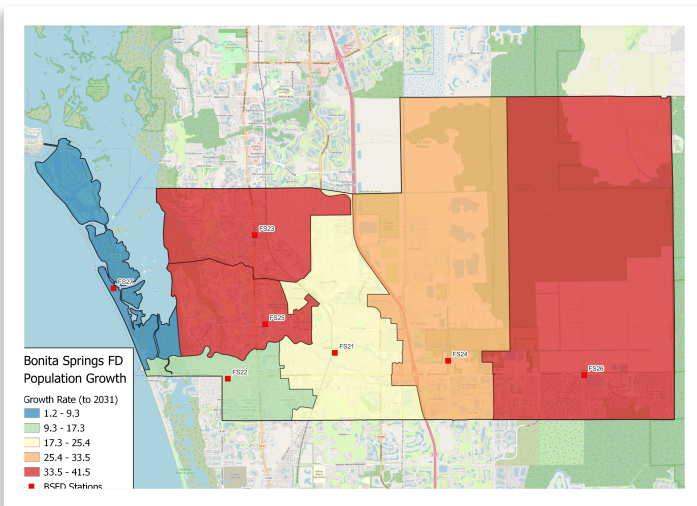
Commensurate Risk Model and Projected Growth

The call density analysis calculates the relative concentration of incidents based on approximately 0.5 geographic areas and at least half of the adjacent 0.5 grids. The assessment is based on call density and not population. The red areas are designed as urban level service areas and green areas are designed as rural.



Recommendation

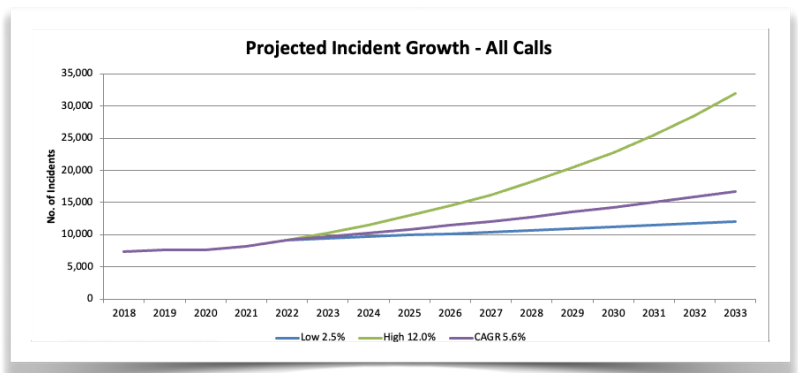
It is recommended that the district continue to monitor changes in the environment related to population growth and increased community demand.



Population growth projections through 2031 were evaluated by SDZ. Stations 23, 25, and 26 are projected to have positive growth of up to 41.5%. Overall the western coastal region is expected to have the least projected growth. The departments station planning efforts are well-aligned with projected growth.

From 2018 to 2022, calls for BSFD services increased from 7,395 to 9,204, with Compound Annual Growth Rate (CAGR) of 5.6% per year. It is notable that during Covid-19, there was a year of negative growth, so the 5.6% average growth over the reporting period may be understated, especially if the more recent growth of greater than 12.0% continues.

The figure depicts observed call volume during the last five-year reporting periods and various hypothetical growth scenarios through 2033. These projections should be used with caution due to the variability in growth observed across prior calendar years. In all cases, data should be reviewed annually to ensure timely updates to projections and utilize a five-year rolling





Adopting Outcome Measures

In addition to setting goals or benchmarks related to impact or outcome measures, systems typically set goals or benchmarks related to outputs or process measures due to the presumed or evidence-based relationship between the two measures. For example, it is assumed that a faster response time would be beneficial for structure fires.

Outputs or process measures are typically more easily evaluated, as the system exerts direct influence over their outputs and processes, and can oversee related data collection and management. Impact or outcome measures become more difficult to evaluate when data collection and management are outside the purview of the system, and interpretation of data must account for other intervening factors.

Beginning to consider outcome measures allows the agency to desensitize some of the assumed output and process measures. For example, if structure fires are held to the room of origin at the desired percentage of time, then the district may not have to act immediately if the response time increased by 30 seconds over the previous year. It provides greater flexibility for the policy group to attempt to understand which variables are contributing and their root causes.

Recommendation

The district should adopt a system of measures based on desired outcomes.

Fire Suppression		
Measure	Benchmark Performance	Current Performance
Fire Spread-Degree of Confinement - All Building Fires with Fire Spread		
Fire Confined to Building of Origin	95%	%
Fire Confined to Floor of Origin	75%	%
Fire Confined to Room of Origin	50%	%
Time to Fire Confined (from FD arrival)	10:00	mm:ss
Fire Spread-Degree of Confinement - Residential Structures with Fire Spread		
Fire Confined to Room of Origin		
Fire Controlled by Fire Suppression Systems		
Percentage of Fires Extinguished by Fire Suppression Systems in Protected Buildings	90%	%
Preventable Fire Incidents		
Percentage of Fires Unpreventable	%	%
Building Fires in Commercial Occupancies		
Confined to Room of Origin	%	%
Fire Loss as a Percentage of Total Protected Property Value <i>with</i> Fire Protection System	%	%
Fire Loss as a Percentage of Total Protected Property Value <i>without</i> Fire Protection System	%	%
Property Saved in Buildings with Fires		
Value of Property Saved in Dollars	\$	\$
Fire Loss as a Percentage of Total Protected Property Value	0.05%	%
Emergency Medical Services		
Cardiac Arrest Patient Management		
Percent of patients (in cardiac arrest before EMS arrival) with a witnessed collapse and found in an initially "shockable" rhythm, with survival to discharge from the acute care hospital	≥ 50%	%
Percent of overall cardiac arrest patients with survival to discharge from hospital	≥ 10%	%

Nevertheless, systems are encouraged to move beyond goal setting or benchmarking and evaluation related to outputs or process measures, and consider ways that impact or outcome measures can be evaluated.



Adopting a System of Measures

However, it is still important to measure and manage the efficiencies of a well-run operation using a system of measures as presented in the table below. In this manner, the daily management continues in place, but the strict adherence to system design performance is secondary to the outcomes measures. For example, if response time increases and there is no change in outcomes then it would be purely a policy choice to act. Conversely, if the outcomes change, then the district leadership will turn to the system of measures and attempt to discern which of the variables or combination of variables may be contributing to the change in outcomes.

The summary of measures provided below include all aspects of time, apparatus staffing by type, relative risk ratings, and system resiliency measures such as reliability, call concurrency, workload, and unit hour utilization. For example, reliability should be at least 70% for each station and only if the reliability drops below the 70% threshold before considering a mitigation reaction. Similarly, call concurrency is credible until the call concurrency reaches 70%. In other words, only 30% of the calls are overlapping. Call concurrency is suggested as a per unit threshold unless the majority of calls are Multi-unit responses. For example, if there are two units assigned to a station, the station level call concurrency can perform well at 60% or less for single unit responses.

The system of measures provided are not intended to be overly prescriptive for the district. The district should adopt the system performance objectives internally and update as needed.

Type of Measure	Performance Metric	Recommended Performance	Priority	Review Period
Station/Unit Performance	Turnout Time - EMS	≤1.7 Min at 90%	Emergent	Quarterly
	Turnout Time - All Other	≤1.8 Min at 90%	Emergent	Quarterly
	Travel Time	≤8.2 Min at 90%	Emergent	Quarterly
	Minimum Engine/Quint Staffing	≥2 Firefighters	All Responses	Daily
	Minimum Medic Staffing on Engine/Quint	≥1 FF/PM	All Responses	Daily
System Design and Performance	Dispatch Time	≤2 Min at 90%	Emergent	Monthly
	Station Risk Rating	Increases in Risk		Annually
	Reliability	≥70%		Quarterly
	Call Concurrency	≤30% Per Unit		Quarterly
	Call Volume	3,000 -initial		Annually
		1,000 - Ongoing		
	Unit Hour Utilization	≤0.25 on 24-hour on EMS units		Quarterly
		≤0.15 on 24-hour on Engines and Aerials		
		≤0.50 on 12-hour units		
	Cross-Staffing at Unit Level	<1,500 annual calls and 15% Call Concurrency		Annually



Continuous Improvement and Annual Appraisal

This SOC document is designed to guide the district to continuously monitor performance, seek areas for improvement, and to clearly articulate service levels and performance to the community we have the privilege of serving. Therefore, the Fire Chief has established a Compliance Team to continuously monitor elements of this SOC and make recommendations for system adjustment or improvement quarterly.

Recommendation

The district should regularly analyze performance data and outcome measurements to ensure alignment with strategic goals and objectives.

Compliance Team and Responsibilities

The Compliance Team will consist of the following district members (TBD) and will have the responsibility of continuously monitoring changes in risk, community service demands and district performance in each program area, fire district demand zone, and/or risk category.

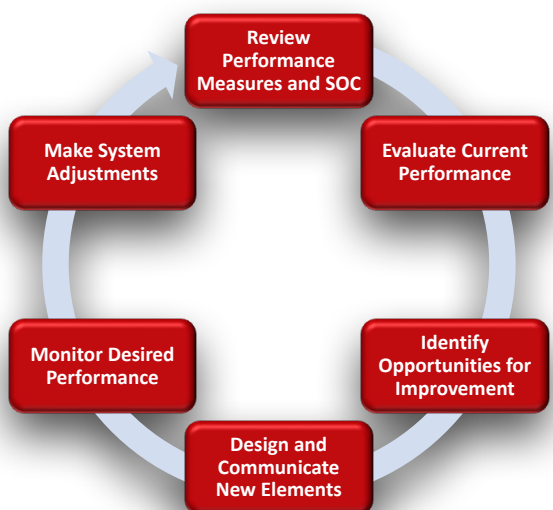
- Chair – Fire Chief’s Designee
- Member – Community Risk Reduction
- Member – Operations
- Member – Administration
- Member – Logistics

Performance Evaluation and Compliance Strategy

The Compliance Team will evaluate system performance by measuring first due unit performance at the 90th percentile quarterly and annually. In addition, the district will evaluate first due performance by each individual SDZ and by program area. Measures for the ERF by each program area, SDZ, and risk category will be evaluated annually. Annual reviews will be conducted in January of each year regarding the previous year. All response performance monitoring will exclusively evaluate emergency responses.

The Compliance Team will determine the strength, weaknesses, opportunities, and challenges of the system performance annually and make recommendations for system adjustments to the Fire Chief. Finally, the team will annually update and evaluate the risk assessment matrices for relevancy and changes in community risk.

Ultimately, it is recommended that outcome measures are adopted and serve as the primary evaluation tool and that the traditional performance objectives and measures presented previously are utilized primarily as a management tool. In this manner, the district will not be overly sensitized to incremental changes in performance criteria if the outcomes continue to be met.





Community Risk Reduction Strategies

Research has shown that the best opportunity to reduce loss of life and property destruction is to prevent these events before they occur. The term Community Risk Reduction (CRR) is an evolution and expansion of the core principles learned since the 1970s in fire prevention.

In fact, the department's concept is to offer various programs to educate the public on risk reduction. The Fire Marshal oversees this division and has five (5) specially trained staff providing plans review to meet state fire codes, life safety inspections, fire scene investigation, and public education.

In 2022 the district performed 46 fire flow inspections, 128 system reports and special assignments, 146 use/occupancy inspections, 2,601 occupancies inspected, 654 occupancies reinspected and 3,193 new construction inspections.

- Child Car Seat Assistance
- AHA First-Aid
- Friendly Firefighters Curriculum –
Preschool & Elementary Fire Prevention
- Parades
- Water Safety
- Wildfire Safety
- Severe Weather Safety
- Safe Home Project
- Victim Assistance Program
- CPR Classes
- Fire Safety Curriculum
- Media Relations
- Community Emergency Response Team

Another area of performance is the various programs and information that are delivered to the community via the agency's website and social media outlets. The district provided the residents of Bonita Springs with over 30 Public Education Programs.

Community Risk Reduction and Other Preventative Process Efforts

Measure	Benchmark Performance	Current Performance
Fire Investigations Program		
Percentage of incendiary fire investigations that meet the elements for arson referred to the district attorney for prosecution	%	%
Percentage of fire investigations resulting in a classification of accidental, incendiary, that meet the elements for arson	%	%
Number of fire investigations conducted	#	#
Number of juveniles referred to the Youth Fire-Setter Intervention Program	#	#
Fire Code Compliance Program		
Percentage of fire protection system plan reviews completed within 5 business days of receipt	%	%
Percentage of identified high-risk commercial locations inspected by renewal date	%	%
Percentage of initial new construction inspections completed within 2 business days of request	%	%
Number of identified high-risk commercial locations inspected by renewal date	#	#
Number of requests for service completed (re-inspections, surveys, open records requests, training sessions, and monthly permits)	#	#
Public Safety Education Services Program		
Percentage of elementary public schools in city limits participating in CRR activities	100%	%
Percentage of youth referred to department that have previously attended the Youth Fire-Setter Intervention Program	%	%
Number of Fire Department public safety education participants served	#	#
Number of elementary students in the city limits participating in CRR activities	#	#
Number of Health and Safety sessions provided	#	#
Number of hours spent on CRR requests for service	#	#
Number of smoke alarms distributed to residents	#	#
Emergency Medical Services Program		
Number of MIH interventions completed	#	#



Community Driven Strategic Planning

Best practices support the concept that the fire district would benefit from a focused strategic planning exercise to help guide the next three-year period. Therefore, it is recommended that the fire district create a strategic plan for the fire district that would include results found in the CRA, SOC, Data Report, GIS Report, Financial Reports and the County/District Future Planning Report.

In *FITCH's* experience, the most successful strategic planning processes typically include a high level of involvement from key leaders, both formal and informal, from within the organization such as the Fire Chief and labor group leadership, and external stakeholders and community members. While their participation is not required at each and every step, their buy-in along the way provides the highest chances of a successful planning effort for all stakeholders in the end.

Observation

The district conducted a strategic planning process to help guide the district through the next three years.

Recommendations

- Conduct consistent assessments of facilities, apparatus and tools to forecast future needs.
- Provide mentoring, training, learning opportunities and project participation to enhance leadership growth.

An integral part of the strategic planning process is the completion of a SWOT analysis. SWOT stands for Strength, Weaknesses, Opportunities, and Threats.

The process is a broad-based stakeholder gap analysis where the opportunities and threats are more focused on external origins, and strengths and weaknesses are more focused on internal origins.

The strategic planning process will assist the department in focusing on key initiatives for the next 3-year period and horizon issues.

Strengths	Weaknesses
Educational Training	Team members treated differently according to employee tenure.
Top notch equipment	Upper mobility (no one wants to be chief) *succession planning
	Resistance to change. Roll out change: names the intent. Something bigger: goes out via memo. Power DMS. New Drugs: training, then vector solutions - Roll out plan.
Good stewards	(There is a process, but still resistance to change)
Quality employees	Rumors
Improved communication	Officer Development (for people who don't want them)
Good PR	Succession planning
County-wide mutual aid	Lack of vision
	Getting along in Prevention. Can't move to other truck/station. (Talk about conflict resolution within strategic plan)
Leadership development (work in progress)	Being organized - with their day. How will they accomplish goals for their day? Fire Prevention has lacked leadership until recently.
Proactive (get ahead of issues)	
Compassion	
Responsibility	
Forward-thinking	
Involved (Greg) - Involvement shows investment.	Involved (Greg) - can seem like micromanagement. Could stifle growth. Convince me why the change is necessary. Bottleneck (Greg's involvement).
Opportunities	Threats
Improve communication	Rumors
More proactive	Board turnover
More involvement (culture)	Labor
Administrative functions	Political changes
Officer training (decision-making, accountability & responsibility)	Reduced budget merger (districts). Every 5-7 years
Chiefs making rounds	Lack of knowledge
More grants	Older population - increase in service use
End-drive updating process (IT updates on regular basis, personnel layers deep that can handle absence from upper management)	Physical threats: drug-induced, holiday season, active shooter,
Endless Availability of classes - taking advantage of it. \$170,000 training budget. We have the means.	Unrealistic expectations of public
Better software *Improve software and IT master plan	Thinning pool of possible employees
Stronger relationship with county	Pension
	Board of Commissioners

Bonita Springs Fire Control & Rescue District



FY 24-FY26 Strategic Plan

Strategic Plan 2024-2026		Mission Preserve life and property and promote public safety through strong leadership, management, professionalism, and integrity.	Vision To provide top-tier public safety services to our community and ensure the well-being of our dedicated team members.	Values Professionalism Quality Integrity Openness Innovation	Facilitators William Sturgeon Hannah Fitch
Pillar	Community Risk Reduction	Operations	Administration	Logistics	Horizon Issues
Owner	Eric Scholz	Greg DeWitt	Greg DeWitt	Eric Madden	Greg DeWitt
Backup	Brad Johnson	Jason Brod	Jason Brod	Andrew Schmidt	Jason Brod
Desired Outcome	Life safety through education and inspections for the protection of the public.	Through training, preparedness, and readiness we preserve life and property for the community & ourselves.	Provide leadership, support, and collaboration for our department and the district.	Procurement and maintenance of tools, facilities, and equipment to provide unparalleled services and to meet mission outcomes.	
FY24 Strategy	Improve fire inspections in Bonita Springs	Improve leadership quality	Enhance district efficiencies and organization	Shore up logistical needs of aging district assets	
FY25 Strategy	Improve public education presence	Improve management quality	Improve internal communications	Forecast budgetary needs and future costs	
FY26 Strategy	Meet community's education needs	Improve behavioral health initiatives	Enhance community, regional, and state relationships	Targeting efficiencies and resiliency of logistics	
Horizon Issues	Staffing, hiring, community growth, succession, residential fire sprinklers, public education/awareness	Budget concerns, succession planning, aging equipment, aging facilities, hiring, incident command simulation lab	Political concerns, mergers, recruitment, retention, forecasting, succession, incident command simulation lab	Aging facilities, forecast future stations, staffing, outsourcing, continuous evaluation of IT advancements	

Strategic Plan by Fitch and Associates, LLC

FY24 - FY26 Operational Plan		Community Risk Reduction		Metrics		
Lead	Eric Scholz	Life safety through education and inspections for the protection of the public.		Tasks	Count	Percentage
Support	Brad Johnson			Completed	63	100.00%
				Unfinished	0	0.00%
				Cancelled	0	0.00%
				Total	63	100.00%
						Last Updated 11/2/23

FY24 - FY26 Operational Plan		Operations		Metrics		
Lead	Greg DeWitt	Through training, preparedness, and readiness we preserve life and property for the community & ourselves.		Tasks	Count	Percentage
Support	Jason Brod			Completed	63	100.00%
				Unfinished	0	0.00%
				Cancelled	0	0.00%
				Total	63	100.00%
						Last Updated 11/2/23

FY24 - FY26 Operational Plan		Administration		Metrics		
Lead	Jason Brod	Provide leadership, support, and collaboration for our department and the district.		Tasks	Count	Percentage
Support				Completed	53	100.00%
				Unfinished	0	0.00%
				Cancelled	0	0.00%
				Total	53	100.00%
						Last Updated 11/2/23

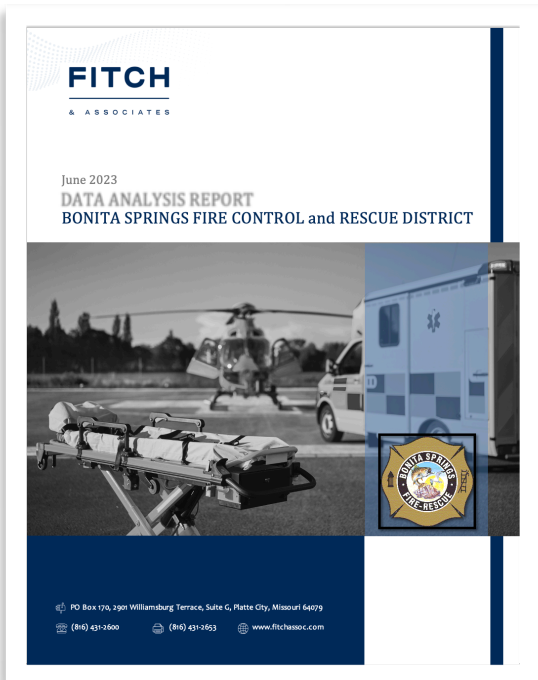
FY24 - FY26 Operational Plan		Logistics		Metrics		
Lead	Eric Madden	Procurement and maintenance of tools, facilities, and equipment to provide unparalleled services and to meet mission outcomes.		Tasks	Count	Percentage
Support	Andrew Schmidt			Completed	56	100.00%
				Unfinished	0	0.00%
				Cancelled	0	0.00%
				Total	56	100.00%
						Last Updated 11/2/23



Appendices - Supporting Documents

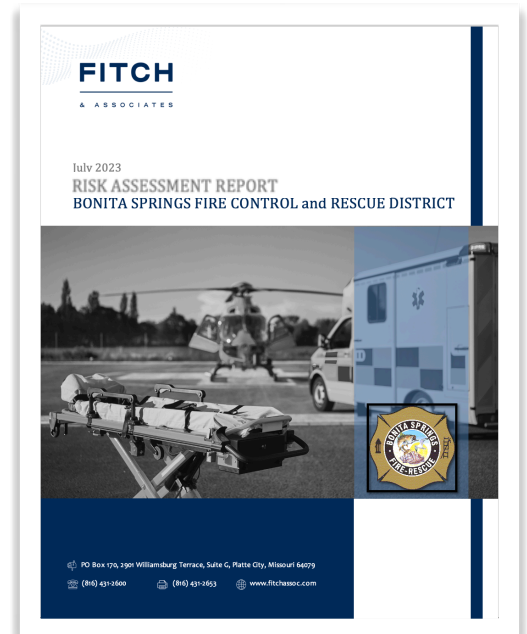
The Community Risk Assessment (CRA) is presented as a supporting document to provide greater detail and transparency into the risk assessment process.

This summary report provided the high-level substantive results of the community risk assessment. However, if greater detail is desired, please refer to the Community Risk Assessment report located in the appendices.



The comprehensive geospatial analysis (GIS) is presented as a supporting document to provide greater detail and transparency into the response time and fire station location study.

This summary report provided the high-level substantive results of the comprehensive data analysis. However, if greater detail is desired, please refer to the GIS Analysis report located in the appendices.



The comprehensive quantitative data analysis is presented as a supporting document to provide greater detail and transparency into the historical performance of the fire district.

This summary report provided the high-level substantive results of the comprehensive data analysis. However, if greater detail is desired, please refer to the Data Analysis report located in the appendices.

