Fire Department Emergency Response
BIRDIE Report
July 2019

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Executive Summary

Opportunity Evaluated

The BIRDIE team evaluated opportunities to improve the efficiency and effectiveness of the Village of Pinehurst Fire Department Emergency Response process. The team evaluated the current process, identified customer and supplier requirements, reviewed data regarding dispatching, calls for service, staffing, and vehicles to determine improvements that could make the process of emergency response more efficient.

The BIRDIE team's recommendations support the Village's strategic goal to ***"Safeguard the Community."***

Final BIRDIE Team Recommendations

After evaluating alternative solutions, the BIRDIE team recommends the Village take five (5) key actions that will result in improved efficiency and effectiveness of the Fire Department's Emergency Response:

1. Increase the minimum staffing level of the Fire Department to nine firefighters per shift. The team recommends hiring one full time equivalent (FTE) firefighter as a floater among three shifts and supplement the remaining vacancies with additional reserve hours and six reserve positions;
2. Replace the rescue truck, as scheduled on the fleet replacement plan, with a new rescue truck that is right-sized and better equipped to manage EMS calls;
3. Evaluate the need and location for Fire Station 93;
4. Amend the Pinehurst Development Ordinance and the Pinehurst Municipal Code regarding minimum signage requirements for addressing residential properties; and
5. Implement real-time route selection technology for fire apparatus using the current supplier, Southern Software, Inc.

Overview of the Process and Data Used to Determine Recommendations

Following our systematic BIRDIE process, the team conducted a thorough review of how Fire Department Emergency Response can be improved for more efficient and effective delivery of services to the public. To develop the recommendations included in this report, the team researched and evaluated the following:

- Current process for Fire Department Emergency Response, including supplier and customer requirements;
- Key Performance Indicators (KPIs) related to Fire Department Emergency Response; and
- Other data collected relative to dispatch, addressing, calls for service, staffing, and vehicles.

Evaluation Process

Description of the BIRDIE Process and Team Members

The evaluation of the Fire Department Emergency Response process began with the formation of a BIRDIE team in January 2019. BIRDIE is the Village's systematic, six-step process to evaluate and improve key organizational processes that have a considerable ongoing staffing and financial impact.

The BIRDIE team that evaluated opportunities for improving the efficiency and effectiveness of the Fire Department Emergency Response process over the course of seven months included the following members:

- Jeff Sanborn, Village Manager
- John Bouldry, Mayor Pro Tem
- Carlton Cole, Fire Chief
- Lauren Craig, Performance Management Director
- Donna Page, Fire and Life Safety Educator
- Angie Kantor, Human Resources Director
- Randy Kuhn, Fleet Maintenance Director
- JR McLaughlin, Firefighter

BIRDIE

B Bring the opportunity forward

I Investigate the opportunity

R Review potential solutions

D Determine the solution

I Implement the solution

E Evaluate the solution

Root Cause Analysis

The BIRDIE team's evaluation began with documenting the current Fire Department Emergency Response process using a SIPOC: identifying Suppliers, Inputs, Process, Outputs, and Customers. Once these items were identified, the BIRDIE team then indicated the requirements of the suppliers and the customers (or input and output requirements) of the processes and if these requirements were currently being met. Next, the BIRDIE team identified the root causes of why the supplier and/or customer requirements are not being met with the current process design. Performing the root cause analysis indicated that multiple requirements of the Fire Department Emergency Response process are not being consistently met today.

Figure 1 indicates the supplier and customer requirements identified by the BIRDIE team for the emergency response process, with requirements not currently consistently met noted in **red**:

Figure 1. FD Emergency Response Process Requirements
Input Requirements - What do the suppliers of the process need?
Complete information to dispatch from caller
Quality and accuracy of dispatch information
Accurate GIS and CAD information
Visible posting of address, street names, or landmark identification
Access to the 911 system
Appropriate and well located Fire Stations
Qualified staff

Adequate staffing levels
Training time and resources
Appropriate vehicles
Reliable technology
Ease of travel for response
Available Resources - Emergency Response Equipment/Tools/EMS supplies/Class A Foam
Appropriate Resources - Emergency Response Equipment/Tools/EMS supplies/Class A Foam
Best use of vehicles
Output Requirements - What do customers of the process expect?
Timely response
Efficient use of resources
Qualified staff
Good customer service
Resolve the issue of the call

Key reasons for not meeting requirements of suppliers and customers include:

- Lack of public awareness of the requirements for posting a residential address;
- The physical road system is not conducive to quick response from the two current fire station locations;
- The current authorized staffing levels are not sufficient given turnover, authorized absence, and overlapping calls;
- The current rescue truck is not ideal for medical or rescue calls; and
- The increased traffic, large construction vehicles on small Village roadways, and the train (passing through or stopped) can disrupt travel routes for calls.

Solutions Evaluated and Perspectives Considered

After identifying all potential solutions, the BIRDIE team evaluated possible solutions from two different perspectives, identifying the key advantages/benefits, the key disadvantages/costs, and any mitigating actions staff could take to minimize potential disadvantages/costs. ***Appendix B*** indicates the cost/benefit analysis for each of the BIRDIE team's five (5) recommendations. The two perspectives considered in the analysis included:

1. Fire Department's perspective and
2. The Village of Pinehurst's perspective.

Detailed Recommendations

After evaluating alternative solutions from a variety of perspectives, the BIRDIE team recommends the Village implement the five (5) recommendations described in detail below to allocate resources more effectively to improve both the efficiency and effectiveness of the Fire Department's emergency response efforts.

Recommendation #1 – Increase the minimum staffing level of the Fire Department to nine firefighters per shift. The team recommends hiring one full time equivalent as a floater among three shifts and supplement the remaining vacancies with additional reserve hours and six reserve positions.

Staffing the Fire Department at appropriate levels is important for delivering effective and efficient emergency response services to the Village of Pinehurst's fire district. Firefighters work on 24-hour shifts to ensure effective fire safety services. The shift schedule is complex and offers little room for variation due to requirements by Occupational Safety and Health Administration (OSHA) and the Village's current minimum staffing requirements (seven firefighters). If the staffing level drops below seven firefighters on a shift, only one fire station can be in operation.

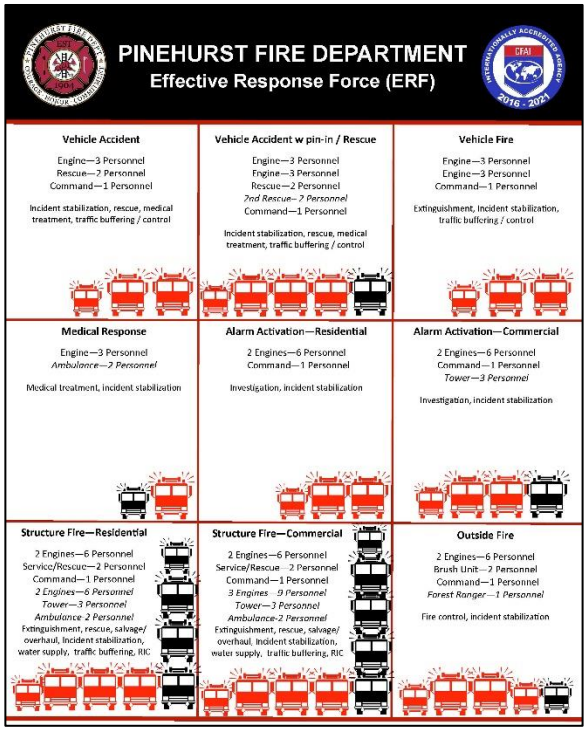
The BIRDIE team recommends **increasing the minimum staffing level of the Fire Department to nine firefighters per shift** based on review of the:

1. Fire Department shift schedule,
2. Other approved leave time, affecting staffing levels,
3. Effective Response Force (ERF) requirements, and
4. Emergency response call volume.

1. *Fire Department shift schedule:* The Fire Department operates on a 28-day cycle and utilizes three shifts of nine full-time equivalent (FTE) firefighters. Each cycle, one shift is scheduled for ten days (the "big cycle") while the other two shifts are schedule for nine days. The shift in the "big cycle" requires that each of the nine firefighters take one nonscheduled (unpaid) day in order to prevent excess overtime costs. A nonscheduled day means one person from that shift does not work, dropping the maximum staff available from nine to eight firefighters. An individual firefighter that works over 212 hours in the 28-day cycle will earn overtime pay. The Village budgets for every firefighter to work nine shifts each cycle, which means they are eligible each 28-day cycle for four hours of overtime (216 hours).
2. *Other approved leave time, affecting staffing levels:* The Fire Department shift schedule described above does not take into account days when employees take vacation, sick, or other approved leave. When reviewing data over an 18-month period, the team found on average there are 7.8 full-time firefighters present per shift.

   In order to maintain adequate staffing levels, Fire Department leadership utilizes a "pool" of reserve firefighters. These firefighters work "on-call" for shifts that need to maintain the minimum staffing level and are not eligible for benefits through the Village of Pinehurst. Reserve firefighters may not work more than 999 hours each year. The Village has eight reserve firefighter positions. If reserve firefighters are unable to fill the shifts, the

department manages staffing levels by calling back full-time firefighters to fill the vacancies, risking overtime costs. If necessary, the Fire Chief or Deputy Fire Chief have also filled a shift position in order to meet the minimum standards.



3. *Effective Response Force (ERF) requirements:* The National Fire Protection Association (NFPA) and the Commission on Fire Accreditation International (CFAI) look to the Effective Response Force (ERF) for staffing requirements. The ERF determines the personnel needed to respond based on the equipment deployed for the emergency. The ERF also accounts for a countywide automatic aid and mutual aid agreements. The worst-case scenario for response requirements is a structure fire, which requires two fire engines, one rescue/service truck, and one command vehicle. To meet the required response capability, the ERF requires nine Pinehurst firefighters to man the vehicles and respond on scene to this type of emergency, along with automatic aid.
4. *Emergency response call volume:* The Village of Pinehurst Fire Department has experienced a significant increase in call volume and an increase in EMS calls since partnering with Moore County to be a Medical First Response (MFR) agency in December 2015. Overlapping calls occur when an emergency call is received while actively responding to another call for service. Although relatively small in proportion, the number of these overlapping calls have increased. Approximately 11% of emergency calls received are overlapping calls; however, only 6% are determined to impact services due to the nature of the emergencies and required response capabilities. From FY 2014 to FY 2018, the department experienced a 67% increase of incidents per year and the total overlapping incidents has increased from 73 to 150. See *Appendix A* for more information. The BIRDIE team analyzed EMS call types for FY 2018 and most original and overlapping calls pertained to fire and EMS incidents. Higher staffing levels would help respond to these increasing numbers.

Increasing the minimum staffing level to nine firefighters will provide the resources needed to deploy effective emergency response services to the Village of Pinehurst.

Recommended Staffing Solution: Next, the BIRDIE team evaluated three potential solutions to implement the recommendation to increase the minimum staffing level of the Fire Department to nine firefighters per shift:

1. Eliminate the Non-Scheduled Day, increasing overtime for current employees, and utilize reserve firefighters to fill other authorized leave
2. Hire three full time equivalents and utilize reserve firefighters to fill other authorized leave
3. Hire one full time equivalent as a floater among three shifts and supplement the remaining vacancies with additional reserve hours and six reserve positions.

Upon a thorough cost benefit analysis, the BIRDIE team determined to recommend **adding one full time equivalent firefighter as a floater among three shifts and supplement the remaining vacancies with additional reserve hours and six new reserve positions.**

The additional firefighter would work on the shift that is in its "big cycle" to fill the non-scheduled day vacancy and would rotate to another shift every 28-day cycle. This would increase the staffing level to nine firefighters during the big cycle shifts.

As staffing levels drop below nine firefighters, the department would utilize the "on call" reserve firefighters to achieve the minimum staffing of nine per shift. The Village currently budgets approximately 4,000 hours per year for the reserve program. This solution recommends budgeting over 8,500 hours for the program in order to maintain the minimum staffing level at nine per shift. This creates a need to recruit approximately six additional reserve firefighters due to the more frequent use and the limitation of work hours.

This solution is the most cost effective and controls overtime costs. It maintains the current staffing schedule, but also provides the one additional firefighter needed to fill each of the non-scheduled days. Supervision of the new firefighter is a potential challenge, as the employee would work among the three shifts. However, the Fire Chief recommended the new firefighter report to the Deputy Fire Chief with input from supervisors of the three shifts.

The Fire Department has not hired additional firefighters since 2008, although the Village's population has increased from approximately 11,000 to 17,000 residents.

Recommendation #2 – Replace the rescue truck, as scheduled on the fleet replacement plan, with a new rescue truck that is right-sized and better equipped to manage all EMS calls.

The current rescue truck used by the Fire Department was due for replacement according to the Village's fleet replacement plan in FY 2019, but the Senior Leadership Team determined to delay the replacement until a further evaluation was completed. The Senior Leadership Team recommended reviewing other alternatives for replacing the truck. The BIRDIE team conducted a thorough analysis on the use of the current fire engines running EMS calls versus using a dedicated

rescue truck to run EMS calls. The team evaluated the financial and non-financial impacts of these two scenarios.

In FY 2018, the rescue truck ran only 2% of EMS calls, while fire engines responded to the remaining 98%. According to the Fire Department, the current rescue truck was not used for EMS calls in FY 2018 because:

1. The typical staffing levels of shifts were not sufficient to send two people in the rescue truck. Doing so would result in an under-staffed fire engine left at the station. The firefighters typically responded to EMS calls with a fire engine in order to position themselves appropriately for Effective Response Force requirements and to be ready for the next incident.
2. The current rescue truck is not appropriately sized for the use of running EMS calls. The rescue truck was purchased in 2007 as a used beverage vehicle that was outfitted for rescue calls. Due to the increase of Village EMS calls and added responsibility of Medical First Response (MFR) with Moore County since December 2015, the vehicle is not appropriately sized or equipped to meet the capability and response requirements.

The evaluation also determined that it costs $3.07 per mile to run a fire engine and only $0.58 per mile to run the current rescue truck. When looking at the total annual EMS capital cost plus maintenance and fuel of a vehicle, the cost for using fire engines nearly doubled compared to the cost of a rescue truck. It is more cost effective to run a rescue truck for EMS calls.

Another alternative studied included replacing the rescue truck with two SUVs. While the evaluation concluded that it would be the most cost effective alternative, it would not meet the requirements for equipment storage, use, and staffing for the vehicle.

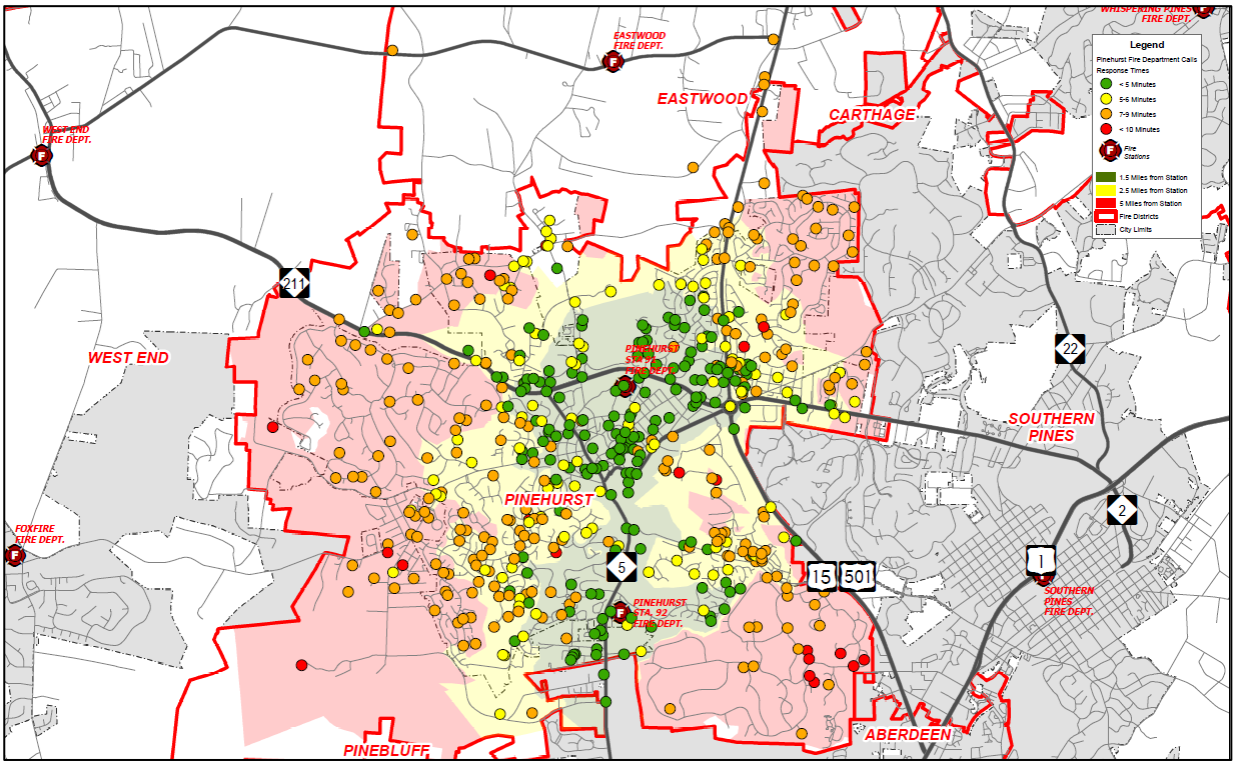
Ultimately, the team recommends replacing the current rescue truck with a right-sized rescue truck that meets the needs of the Fire Department. Recommendation #1 supports the staffing needs to utilize the rescue truck for more EMS calls while maintaining fire engines at constant readiness.

Recommendation #3 – Evaluate the need and location for Fire Station 93.

One of the key reasons the Fire Department is not meeting the customer requirement of timely response is due to the physical road system in and around the Village of Pinehurst. The BIRDIE team analyzed response time data on a map of locations to determine which areas were not achieving the response time goal of 6 minutes and 30 seconds or less. The areas where long response times seemed to be a significant trend included the Lake Pinehurst and Pinewild neighborhoods. There were similar response time issues in the area of CCNC/Morganton Road and Pinehurst No. 6 on a smaller scale.

Ultimately, the team concluded that the road system in and around the Village is not conducive to quick response from the two current fire station locations. Since the road system cannot be easily changed or influenced, the team determined adding a third fire station would significantly impact response times that do not meet the performance goal.

The BIRDIE team recommends the Village form a separate evaluation team to study the need for a third fire station, Fire Station 93, and potential locations. In addition, results of the Long Range Comprehensive Plan could influence the location on the next fire station and should considered during the next evaluation.



Response Times by Location

Recommendation #4 – Amend the Pinehurst Development Ordinance and the Pinehurst Municipal Code regarding minimum signage requirements for addressing residential properties.

When responding to emergencies, it is critical to have a visible posting of the address, street names, or landmark identification for the emergency location. The Fire Department recalled several occasions when the address was not posted and/or visible for the first responders. Upon reviewing the requirements from the NC State Fire Codes, NC State Building Codes, Pinehurst Development Ordinance, and Pinehurst Municipal Code, the team identified several opportunities for improvement to ensure consistent wording and requirements for addressing residential properties.

The team has worked with the Planning and Inspections Department to recommend text amendments to the Pinehurst Development Ordinance and the Pinehurst Municipal Code. The proposed text amendments are as follows:

Pinehurst Development Ordinance

9.7.1.6 Signs Not Requiring a Permit

(G) Occupant/Street Number Signs

(1) Signs that give the name or address of the occupant of a building, mailboxes, newspaper tubes, and similar uses customarily associated with residential and non-residential structures. No development permit is required~~, provided that the sign complies with the following standards:~~.

(~~1~~2) All dwellings and non-residential buildings shall ~~have address numbers that are easily readable from the fronting road by a person with normal vision (corrected if necessary) and are conspicuously located as to provide good visibility from the road on which the building fronts.~~have address numbers posted in accordance with Section 95.018 of the Pinehurst Municipal Code.

~~(2) All such signs are of contrasting color to their background material.~~

(3) All buildings in the Local Historic District Overlay may have a one (1) square foot sign identifying the name of the structure in letters not larger than four (4) inches in height.

Municipal Code

§ 95.018 STREET ADDRESSES; NUMBERING OF BUILDINGS.

(C) All residential and commercial properties shall post the address numbers and shall be legible from the road to which the property is assigned. ~~in a conspicuous location as to provide good visibility from the road to which the property address is assigned to.~~ All numbers shall be sized according to NC State Building Codes and of a contrasting color to the background material in which they are posted. ~~and easily readable from the fronting road by a person with normal vision (corrected if necessary).~~

Once the text amendments go through the appropriate channels of approval with the Planning and Zoning Board and the Village Council, Village staff will coordinate a public awareness campaign to promote these requirements.

Recommendation #5 – Implement real-time route selection technology for fire apparatus using current the supplier, Southern Software, Inc.

Over the last several years, the Village has experienced an increase in traffic and a rise in residential development, producing large construction vehicles on small Village roadways. Also running through the corporate limits is an active railroad track, occasionally disrupting travel along thoroughfares.

Although many firefighters use their local knowledge of the Village's roadways and are frequently tested on this, real-time data would benefit the department to respond to emergencies as efficiently as possible. If firefighters have real-time traffic data, they can determine the most time efficient

route based on current traffic conditions. Each of the Village's fire apparatus are equipped with a Mobile Data Information System (MDIS) with GPS capabilities sourced by Southern Software, Inc., a contractor of the Village of Pinehurst. MDIS does not currently include real-time data on roadways; however, Southern Software, Inc. has indicated they would like to incorporate this feature into the current system in coordination with this BIRDIE recommendation.

The BIRDIE team recommends implementing this real-time route selection technology for fire apparatus by collaborating with Southern Software, Inc. to provide this capability.

Impact of Recommendations

Performance Impact

The impact on performance measures will not be immediately measurable, thus the goals are projected for FY 2023. The most significant lead performance measures of the emergency response process are reaction time and response time.

The department measures reaction time from the 911 notification until the wheels are rolling out of the fire station. Response time is measured from the 911 notification until the first due apparatus arrives on scene. Reaction time is controlled internally, providing few variables to get firefighters out the door quickly. Response time is influenced by many external variables once the engine leaves the station. See *Appendix A* for response and reaction time performance relative to the increase of incidents and overlapping calls.

The BIRDIE team's recommendations focus on improving response time, but can also influence other measures. See *Figure 2* below for the team's performance impact projections for FY 2023:

Figure 2. FD BIRDIE Recommendations - Performance Impact

	FY 2016	FY 2017	FY 2018	FY 2023 Goal
% of emergency calls with a response time of 6 minutes and 30 seconds for first due apparatus	71%	70%	68%	**75%**
% of dispatched emergency calls with a reaction time of 90 seconds or less	80%	86%	88%	**90%**
Response time (in minutes) – average	0:05:39	0:05:46	0:05:45	**0:05:35**

Workforce Impact

The BIRDIE team's recommendations will have an impact on Fire Department staff over the next few years. By staffing at nine firefighters, the staff will be better equipped to respond to emergency calls and overlapping calls. The staff will also have a right-sized rescue truck manned and equipped for a more efficient response. The impact of the text amendments to the PDO and Municipal Code will be minimal but the public awareness of how to display a residential address could help aid the

first responders in locating incidents, which would help response times and potentially save lives. Integration of real-time traffic data to the MDIS system may require minimal training.

Other departments will also be impacted by these recommendations, including Human Resources and Financial Services. These departments play a support role to recruit and hire the full-time and reserve firefighters

Financial Impact

Of the five recommendations, only three recommendations have costs associated. See the financial impact of each recommendation in *Figure 3* below:

Figure 3. FD BIRDIE Recommendations - Financial Impact	
Increase the minimum staffing level of the Fire Department to nine firefighters per shift by hiring one full time equivalent firefighter as a floater among three shifts and supplement the remaining vacancies with additional reserve hours and six positions;	Estimated $134,500
Replace the Rescue Truck, as scheduled on the fleet replacement plan, with a new Rescue Truck that is right-sized and better manage EMS calls;	$425,000
Evaluate the need and location for Fire Station 93;	$200,000
Amend the Pinehurst Development Ordinance and the Pinehurst Municipal Code regarding minimum signage requirements for addressing residential properties; and	-
Implement real-time route selection technology for fire apparatus using the current supplier, Southern Software, Inc.	-
Total Estimated Cost	$759,500

The FY 2020 budget contains approximately $681,000, which includes the one FTE firefighter position, the rescue truck replacement, and the land purchase for a future fire station location if the need is determined.

Conclusion

Overall, the BIRDIE team believes the advantages or benefits of the team's five recommendations significantly outweigh the disadvantages or costs. The advantages and disadvantages of the overall recommendations are shown in *Appendix B*.

When the BIRDIE team considered the financial impacts, workforce impacts, performance impacts and other advantages and disadvantages from different perspectives, the team unanimously concluded the recommendations contained within this report are intelligent risks the Village should pursue.

These five recommendations represent meaningful improvements to key Village processes and services that will add new value for all stakeholders. They also address a FY 2020 strategic opportunity identified by the Village Council to "*Determine need for Fire Station 93*" and a strategic challenge of "*Responding to increased demand for services and changing needs due to growth*."

The BIRDIE team requests the Village Council approve the recommendations presented in this report.

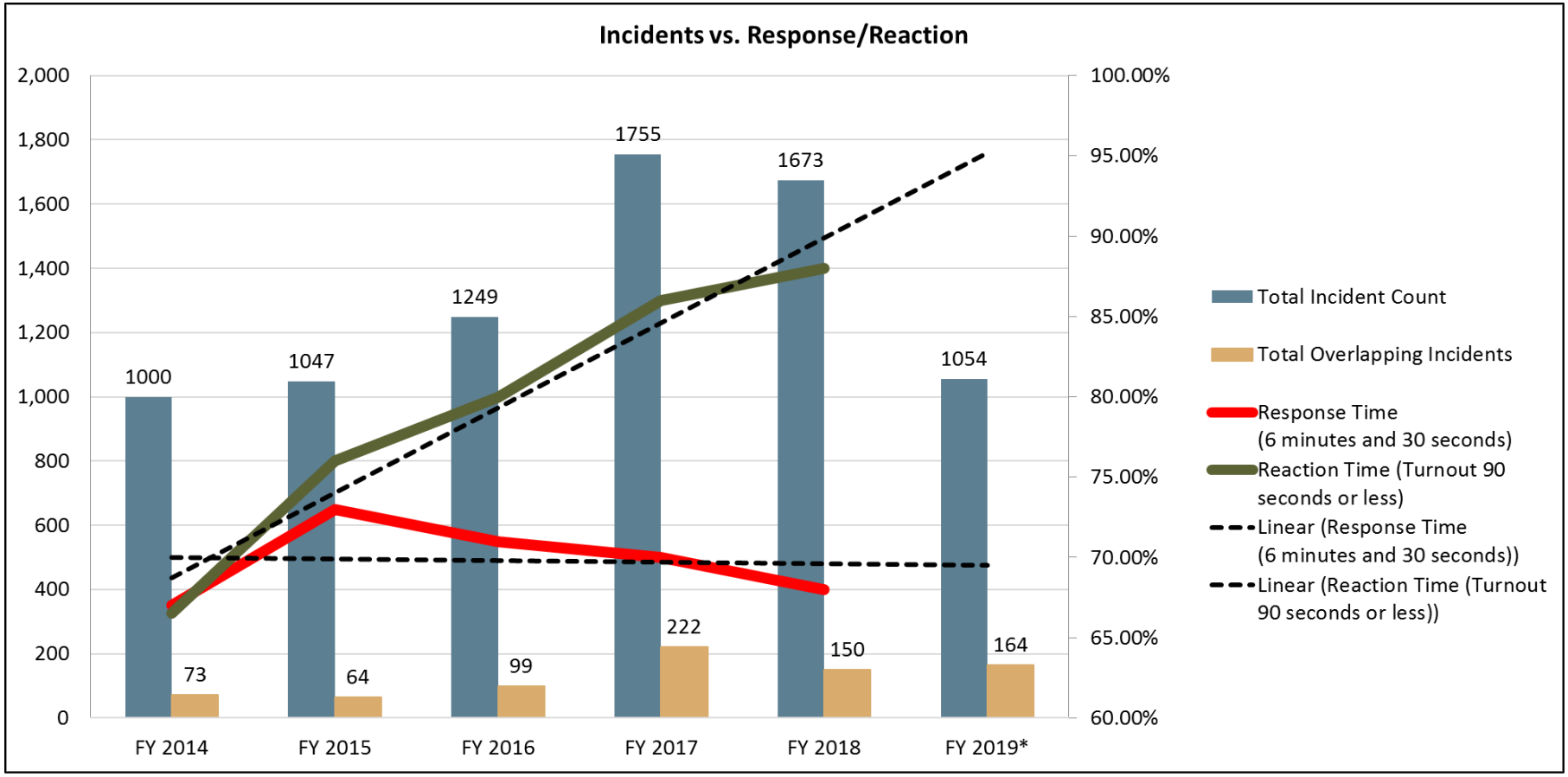
Implementation Plan

Should the Village Council approve these recommendations, the BIRDIE Team suggests the following implementation plan and timeline shown in *Figure 4*. The recommendation for hiring the additional full-time equivalent firefighter position is included in FY 2020 and the additional reserve firefighter positions and hours will be included in the FY 2022 budget following an interim evaluation in November 2020. Otherwise, all of the recommendations will begin implementation in FY 2020.

Figure 4. Implementation Plan	
July 31, 2019	Post available 1 FTE firefighter position for recruitment
September 30, 2019	Propose Pinehurst Development Ordinance amendment for addressing signage to the Planning and Zoning Board
	Hiring deadline for the new FTE firefighter
	Sign contract to construct the new Rescue Truck
October 31, 2019	Form a new team to evaluate the future location for Fire Station 93
	Propose Municipal Code and Pinehurst Development Ordinance amendment for addressing signage to the Village Council
	Start a public education campaign for residential addressing requirements
June 30, 2020	Receive and pay for the new Rescue Truck
	Work with Southern Software, Inc. to implement new capabilities for route selection technology
August 31, 2020	Surplus the old Rescue Truck
November 30, 2020	BIRDIE team interim evaluation
July 1, 2021	The FY 2022 budget will include additional reserve firefighters and increased hours if supported by the interim evaluation
June 30, 2023	Complete evaluation for BIRDIE

Appendix A

Incidents vs. Response/Reaction Times



*6 months of data shown

Appendix B

Detail of Advantages and Disadvantages of Individual Recommendations

Recommendation #1: Increase the minimum staffing level of the Fire Department to 9 firefighters per shift by hiring 1 full time equivalent as a floater among three shifts and supplement the remaining vacancies with additional reserve hours and 6 positions		
	Fire Department	**Village of Pinehurst**
Advantages	• More people to respond to calls • Schedule remains the same for all Fire Department employees • More consistent staffing levels • Appropriate staffing of vehicles to respond to calls • Meets ISO and NFPA standards better • Better able to respond to overlapping calls • Strategic operations and deployment of resources allows VOP to respond to EMS calls with more appropriate vehicles • A FTE firefighter would be more committed to the VOP	• More people to respond to calls • Only 1 FTE compared with alternative solutions evaluated • Few administrative changes • More cost effective solution • Controls OT costs
Disadvantages	• Supervision of the floater could be challenging among the three shifts • Floater could potentially work back to back shifts • Complexity for scheduling Reserves to fill the additional hours vs. hiring multiple FTEs.	• Increase of cost to hire FTE firefighter (salary, benefits, etc.) • Increases cost of Reserve program to staff at minimum of 9
Mitigating Actions	• Regular conversations for supervisor to receive feedback on the FTE firefighter • Make sure the first day of the big cycle is the floater's non-scheduled day so they have time off between shifts	• Budget appropriately

Recommendation #2: Replace the rescue truck, as scheduled on the fleet replacement plan, with a new rescue truck that is right-sized and better equipped to run all EMS calls.		
	Fire Department	**Village of Pinehurst**
Advantages	• The Fire Department can obtain a right sized vehicle for rescue and EMS services • With a minimum of 9 staffing level (Recommendation #1), this vehicle will have dedicated staff and will be driven more • The cost to run EMS calls with a rescue truck is significantly less than running them with a fire engine • A rescue truck can hold the equipment necessary for the duties	• Cost savings for utilizing the rescue truck vs. fire engines
Disadvantages	• n/a	• Cost of purchasing a replacement vehicle
Mitigating Actions	• n/a	• This was already in the fleet replacement schedule in FY 2019 but was delayed for this evaluation to be completed

Recommendation #3: Evaluate the need to locate land for Fire Station 93.		
	Fire Department	**Village of Pinehurst**
Advantages	• Opportunity to purchase land for a future fire station, it determined necessary, which will eventually help the response time issues around the Village.	• Opportunity to place the next station near the proposed growth/expansion areas ID by the Long Range Comprehensive Plan • Purchase land while land is still available
Disadvantages	• n/a	• Potentially purchasing land in the wrong area • Cost associated with purchasing land
Mitigating Actions	• n/a	• Fully vet the locations based on our current need for response coupled with the anticipated areas of growth identified in the Long Range Comprehensive Plan • One time cost to purchase the land and hold it until the further assessment for constructing a fire station

Recommendation #4: Amend the Pinehurst Development Ordinance and the Pinehurst Municipal Code regarding minimum signage requirements for addressing residential properties.		
	Fire Department	**Village of Pinehurst**
Advantages	• Ensure wording is consistent among the varying codes and ordinances that Village staff have to implement. • A public awareness campaign of these requirements will improve signage for addressing homes. This will help the Fire Department (and other emergency service providers) locate residential homes better.	• Ensure wording is consistent among the varying codes and ordinances that Village staff have to implement.
Disadvantages	• N/A	• Additional time for promoting these requirements (minimal) for public awareness
Mitigating Actions	• N/A	• Coordinate the implementation with the Village's Communications Specialist

Recommendation #5: Implement route selection technology for fire trucks using current supplier, Southern Software, Inc.		
	Fire Department	**Village of Pinehurst**
Advantages	• More efficient routing based on real time data • Integrated with technology already installed and used on fire apparatus • Potential for better response times	• Potential for better response times
Disadvantages	• It could require additional cost • Employees may rely on the technology and not their own knowledge which might be more reliable in some instances	• n/a
Mitigating Actions	• By integrating this with CAD (Southern Software, Inc.), there will be no additional steps in the fire response process • We already have a contract with Southern Software, Inc. for other services and could expand the scope for additional technology when available • Continued familiarization with streets	• n/a