

Budget presentation FY18

Objective: to present an efficient and cost effective emergency response to Fire and EMS incidents within Jefferson County WV. The presentation is based on deploying supplemental “peak time” career staffing thereby assigning the right balance of volunteer and career personnel to improve emergency response times. In addition, we will present the significant capital costs our dedicated volunteers absorb annually.

JCESA Mission Statement

- * The mission statement of the Jefferson County Emergency Services Agency is to assist the volunteer fire departments in providing fire and emergency medical services to all citizens and visitors of Jefferson County, West Virginia. JCESA and the fire departments will provide these services in a non-discriminatory manner with compassion, integrity and commitment to all those in need in a timely and professional manner

Jefferson County Statistics based on Census Data

- * Population in 2015 =56,482; 2014=55,713; 2010 = 53,498
- * 14.5% over the age of 65
- * 6.3% under the age of 5
- * 23.1% under the age of 18
- * 22,564 housing units (2015 data. Estimated over 23,000 to date)
- * 209.64 square miles
- * 255 persons per square mile. WV averages 77.1 persons per square mile.

Bedroom Community

‘Growth in Jefferson County puts great demands on service delivery. Residential base demands more service with less tax revenue’.

- * 2014 there were 202 new housing units built in Jefferson County
- * 2015 there were 304 new housing units built in Jefferson County
- * 2016 there were 189 new housing units built in Jefferson County

Target Hazards

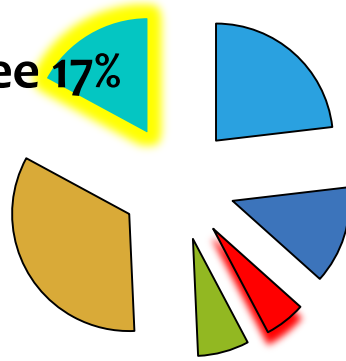
- * Close Proximity to Washington D.C.
- * Camp David
- * Site R
- * Railways
- * Customs and Border Patrol: Level 4 Security. The White House is Level 5 Security
- * US Coast Guard
- * Dept of Agriculture
- * National Conservation Training Center
- * Historic Harpers Ferry
- * Shepherd University
- * American Public University
- * Charles Town Race Track
- * Summit Point Raceway

Fitting the pieces together

- * How do we fit together as an efficient and effective Fire and EMS system?

Did you know that the total costs of Fire and EMS service in Jefferson County WV is \$4,422,843.00 without an overall Capital Improvement Plan? The County funds a total of 46.8% of the EMS and Fire budget.

- Volunteer Ambulance Billing 23%
- Volunteer Commission General Fund 13.4%
- Volunteer Deficit 6%
- WV State Funding 7%
- JCESA Commission General Fund 33.4%
- **JCESA Ambulance Fee 17%**



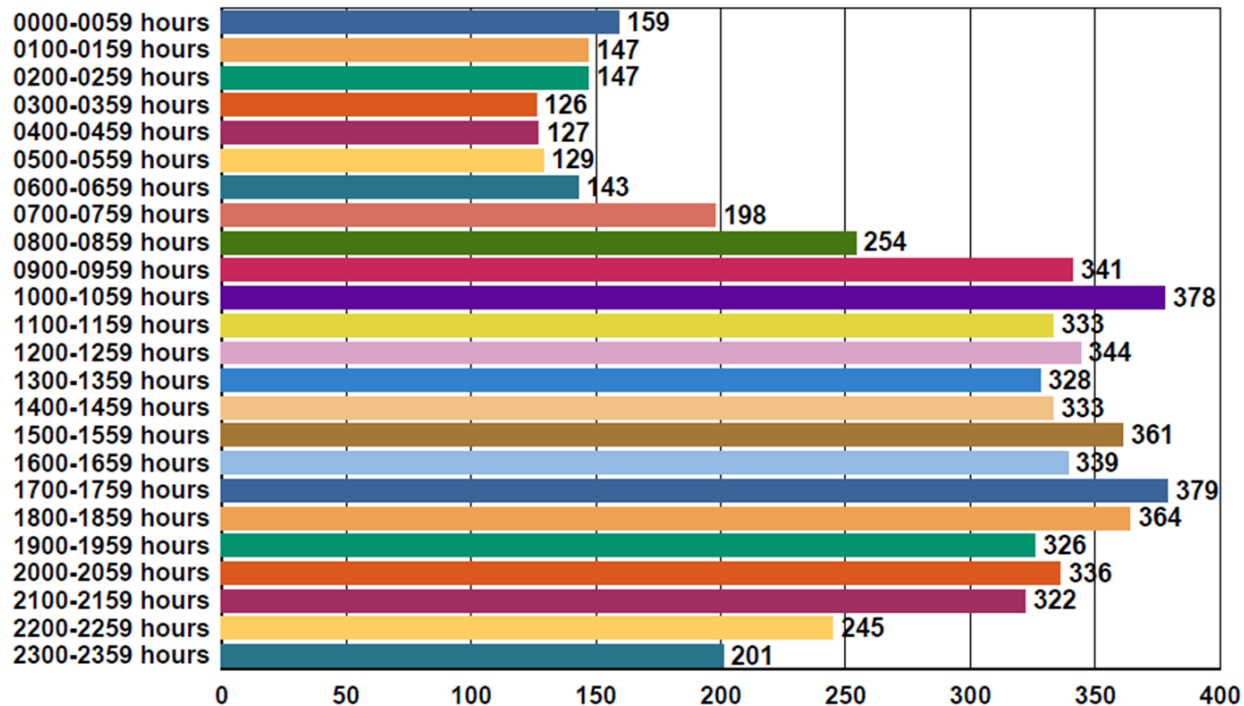
Ambulance Fee history and steps to take moving forward

- * JCESA and the 7 Volunteer Fire Department relationship status in 2014
- * Was the fee that was set in 2014 adequate?
- * How was it set and why?
- * Public safety support is agreed upon
- * How to fund is in question
- * **Solutions: Data driven staffing plan balancing volunteer and career assets.**
- * **Encourage and support volunteerism at the state level**

JCESA FY2017 (We provide the Labor)

* 2017 with 100% Backfill	
* 27 Full Time Staff	
* Full time Salaries	\$1,081,000.00
* Fringe benefits	\$438,000.00
* Part time salaries	\$105,000.00
* Overtime	\$165,000.00
* Workers Comp.	\$143,000.00
* Liability Insurance	\$46,000.00
* All other expenses	\$ 225,000.00
* Total	\$ 2,203,000.00

PEAK TIME DEFINITION: A 12 period of time Jefferson County receives the greatest number of emergency calls (see 2016 data below).
0900 to 2100 hours 2016 totals = 4162 calls



Peak Time Staffing Theory

- * Places a core crew in the fire stations during a portion of high call volume times as indicated by CAD data
- * Allows volunteer staffing to prepare for and return home from work (hence 6 a.m. to 6 p.m.)
- * Avoids the high costs of additional 24 hour shift work employees by simply placing the second staffer in the Fire Stations during designated **“Peak Hours”**
- * Allows a balance of volunteer and career staffing to promote cost efficiency by relying on volunteer staffing during times when our volunteers are available
- * **Expected result: An improvement in response times by 4 minutes on the majority of EMS calls: Alpha, Bravo, Charlie, Omega and send protocols approximately 75% of dispatches. (explain Alpha, Bravo, Charlie, Delta and Omega calls).**
- * **Support the ambulance ordinance: Section 2: maintaining an adequate emergency ambulance service.**

Response Time Goals

- * Provide 2 career staff in fire stations 2,3, and 4 from 6 a.m. to 6 p.m. placing ALS units in service 7 days a week for a large portion of the designated peak time . An average of 59% of the incidents dispatched over a calendar year (2016 data) occur during this time frame. In BLS stations provide a second staffer Monday through Friday for 8 hours and one for 12 hours on the mountain (our 4rth busiest station). A mix of volunteer and career staff can be expected to provide similar response time goals during the remainder of a 24 hour period.
- * Goals: Attempt a 6 minute response time. Expect to reach a bench mark of 8 minutes.
- * **Response Time Standards**
- * NFPA 1221 calls for emergency alarm processing for calls requiring EMD questioning and pre-arrival instructions to be completed within 90 seconds 90 percent of the time and within 120 seconds 99 percent of the time. The ASTM Standard F-1220 sets the benchmark for call processing, including EMD, at 2 minutes.
- * NFPA 1710 calls for travel time of 480 seconds or less for the arrival of an advanced life support (ALS) unit at an emergency medical incident, provided a first responder with AED or basic life support (BLS) unit arrived in 240 seconds or less travel time.

The Chain of Survival Why? AHA Quote “Life Matters”

With our September 6, 2015 deployment of Ambulance Fee staffing, we improved our over all response times by 1 minute. Bringing us to an average of 10 minutes overall.



Brain Cell Death

- * AHA: Reach the patient within 1-4 minutes
- * 4-6 minutes lethal brain cell damage
- * 10 minutes total brain cell death

Golden Hour

- * the hour immediately following traumatic injury in which medical treatment to prevent irreversible internal damage and optimize the chance of survival is most effective.
- * after which time the survival rate for traumatic patients is alleged to fall off dramatically.

What we do know for sure

- * The rate of motor vehicle fatality is four times greater for emergency medical personnel than of all other occupations for U.S. workers, with approximately 65% of all crashes in rural areas. (1)
- * Usually the cause is **SPEED/red lights and sirens**. Weather was not a factor (2)
- * **Conclusion: trying to make up time**
- * **Solution:** Adequate balance of personnel (volunteer and career) assigned within combination departments to promote a reasonable response time combined with an aggressive community outreach designed to educate and train bystanders in AED and CPR

What we do know for sure continued:

- * Spike in the number of heroin overdose calls. Callers realizing to say anything but “overdose” in order for law enforcement not to be dispatched.
- * These types of calls pose a greater risk for our emergency care providers dispatched to a seizure, sick person or trouble breathing call only to find an overdose. Individuals engaged in this type of activity sometimes lack rationale.
- * **National Fallen Firefighters life safety initiative number 12 addresses violent incident response. The recommendation is to prohibit single person resource response to violent incidents.**
- * **Conclusion:** We are at the mercy of the caller and must respond based on information we have been presented with.
- * **Solution: Crew resource management.** CRM addresses five factors that, if not dealt with in a competent manner, will expose firefighters and EMTs to additional risk of injury or death. The five factors are communication, situational awareness, decision-making, teamwork and barriers. (3)

Staffing Plan-ESO Data

- * On average there are approximately 60 instances per month where Command Staff at 11, the Shift Supervisor, and/or the EMT from Sta. 11 is making up the minimum crew for a responding ambulance somewhere in the County. We are currently evaluating how many times these individuals serve as a third or fourth person on emergency calls.

Fire and EMS incidents



- * **5% increase in call volume in 2016=6,328**
- * **6,006 total in 2015**
- * **Over 80% is EMS**
- * **5,910 total in 2014**

Reasonable Travel Time

- * How far can we reasonably and safely drive to an incident after taking all protocols into account

Addresses within 1 minute from a Rescue Station in Jefferson County, WV

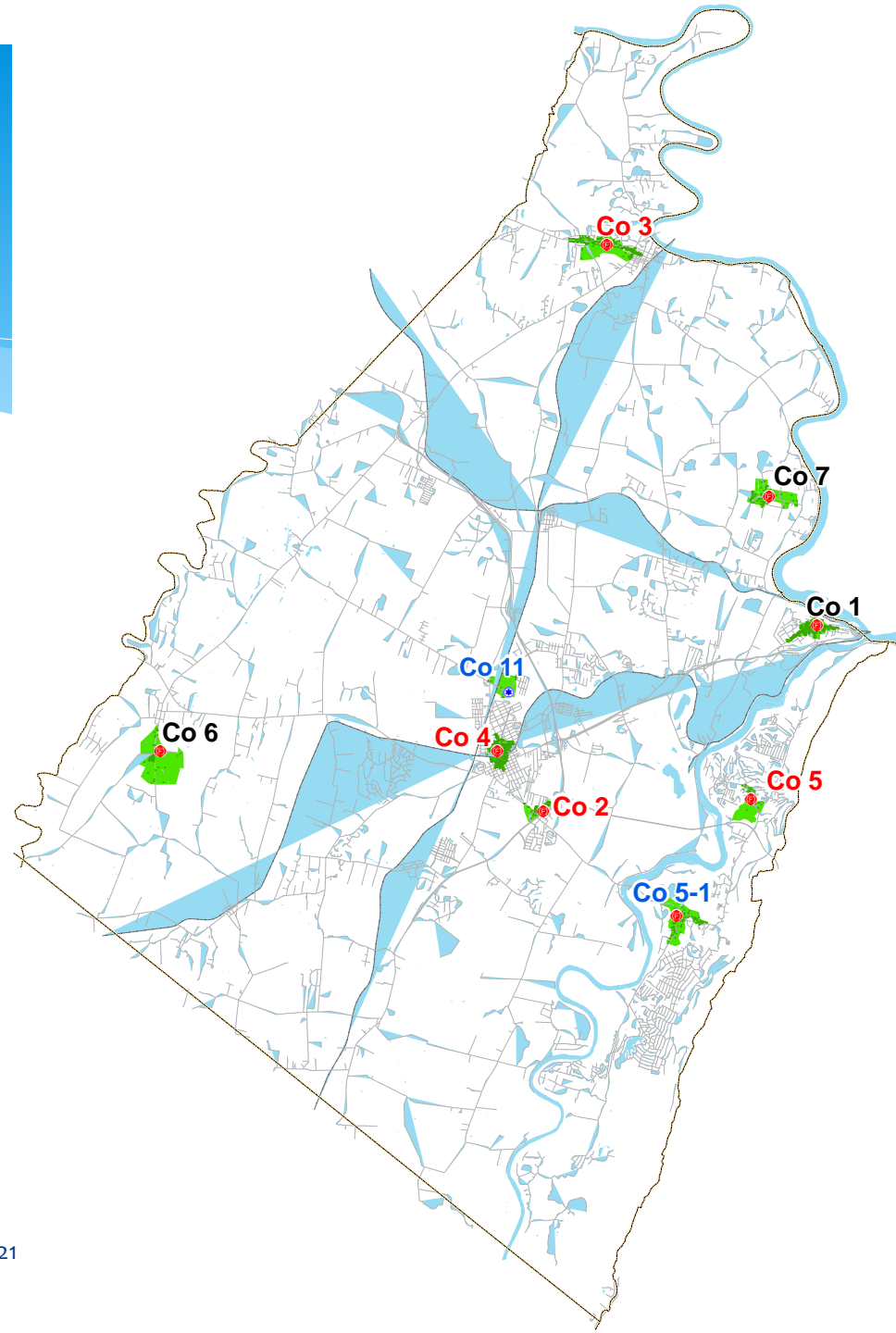
Legend

-  County Fire Stations
-  ALS Station

Response Time from Station

-  Addresses Within 1 Minute or Less

Addresses within:	Per Cent	
1 minute or less	1,583	6.1%
Total Addresses in County	26,136	





EMS Service Areas typically reflecting the area within which a specific paramedic emergency response is expected in order of quickest routing and fastest response by any given station.



Jefferson County's 9-1-1 Center uses Computer Aided Dispatch (CAD) and Geographic Information Systems (GIS) technology to analyze road networks when dispatching emergency calls for service. The GIS develops time-interval service areas based on the CAD Quickest Route feature to illustrate territories along lines determined by equal travel time, not equal distance, between existing ALS stations. Travel time is determined "on the fly" by variables (distance, speed limits, one-way directionality, etc.) which are built into the road network data. The road network intends to model current and existing field conditions, therefore boundaries depicted in CAD and on this map are fluid and subject to change as road conditions or configurations change.

Addresses within 1 to 5 minutes from a Rescue Station in Jefferson County, WV

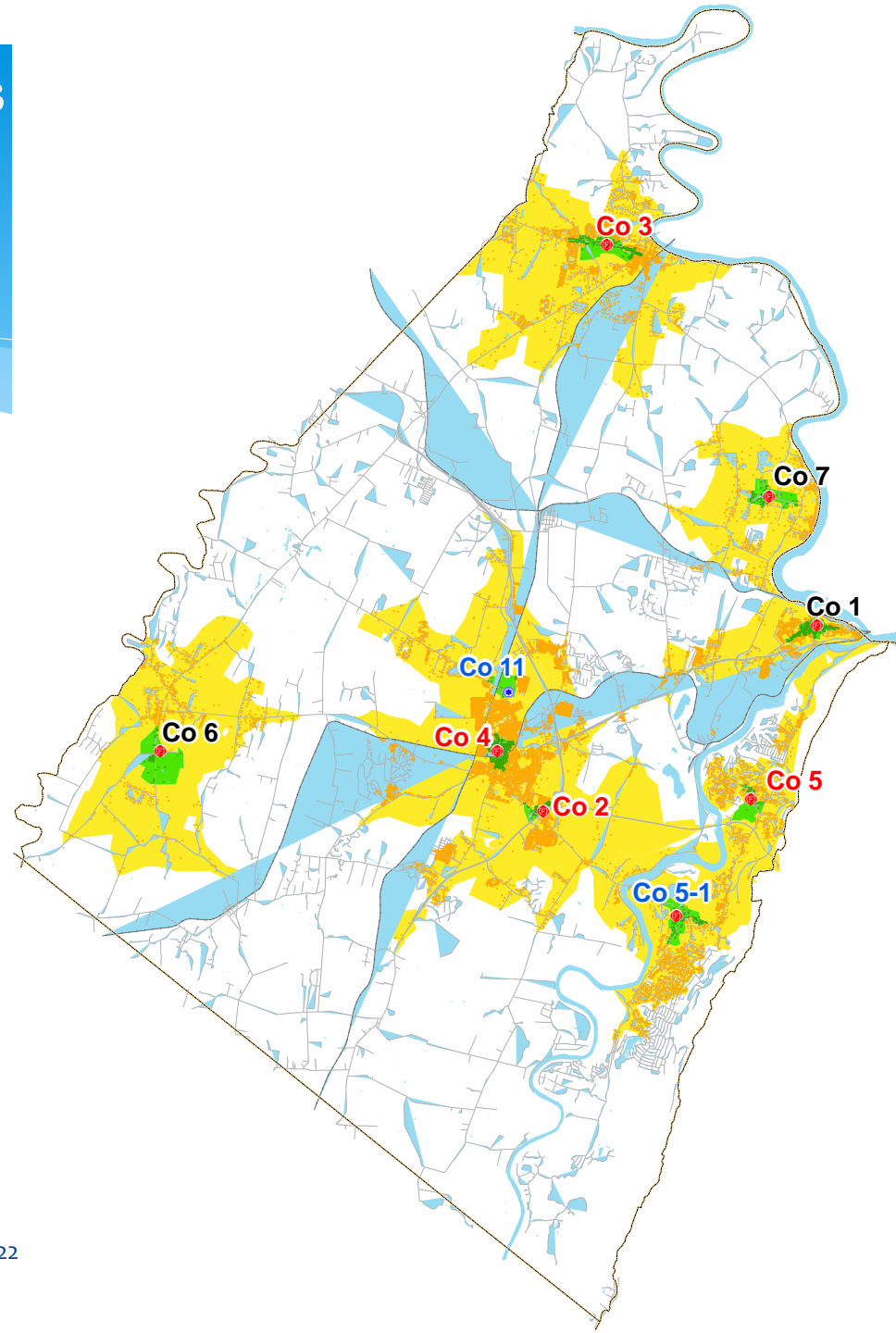
Legend

-  County Fire Stations
-  ALS Station

Response Time from Station

-  Addresses Within 1 Minute or Less
-  Addresses Within 1 to 5 Minutes

Addresses within:	Per Cent	
1 minute or less	1,583	6.1%
1 to 5 minutes	13,461	51.5%
Total Addresses in County	26,136	57.6%





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Addresses within 5 to 7 minutes from a Rescue Station in Jefferson County, WV

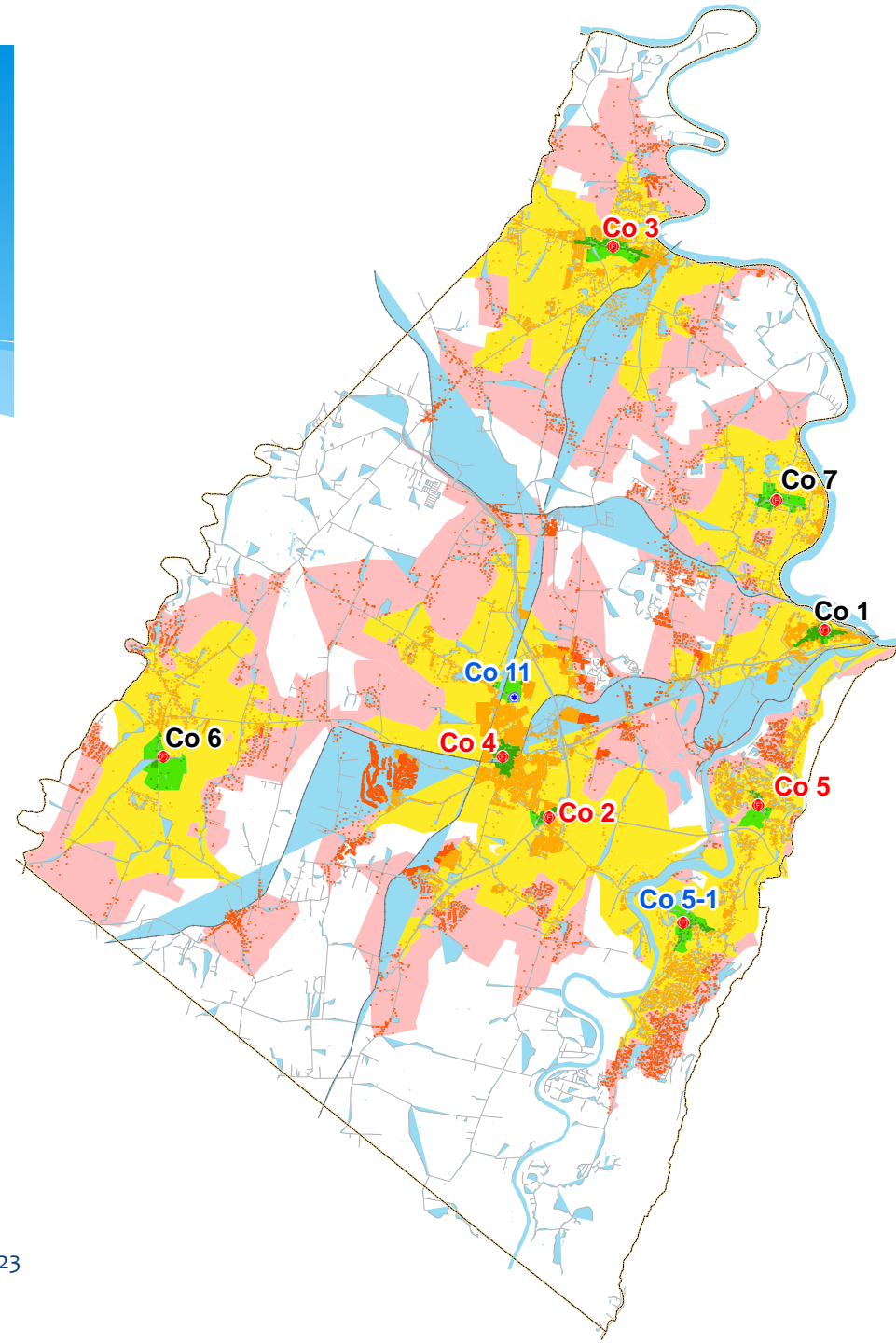
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-  County Fire Stations
-  ALS Station

Response Time from Station

-  Addresses Within 1 Minute or Less
-  Addresses Within 1 to 5 Minutes
-  Addresses Within 5 to 7 Minutes

Addresses within:		Per Cent
1 minute or less	1,583	6.1%
1 to 5 minutes	13,461	51.5%
5 to 7 minutes	6,291	24.1%
Total Addresses in County	26,136	81.7%





EMS Service Areas typically reflecting the area within which a specific paramedic emergency response is expected in order of quickest routing and fastest response by any given station.





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Rescue Response Areas by Time Interval in Jefferson County, WV

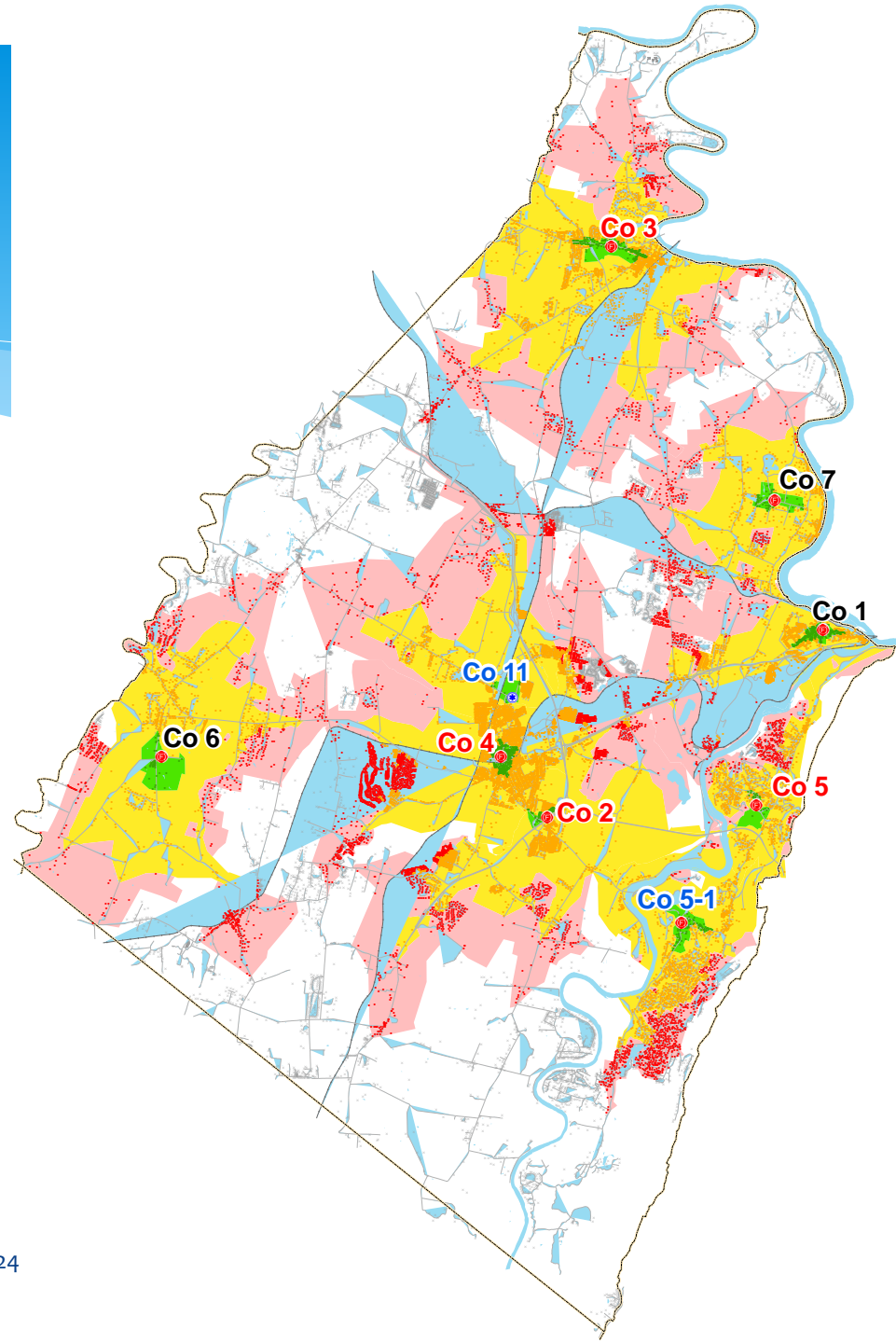
Legend

-  County Fire Stations
-  ALS Station

Response Time from Station

-  Addresses Within 1 Minute or Less
-  Addresses Within 1 to 5 Minutes
-  Addresses Within 5 to 7 Minutes
-  Addresses over 7 Minutes

Addresses within:		Per Cent
1 minute or less	1,583	6.1%
1 to 5 minutes	13,461	51.5%
5 to 7 minutes	6,291	24.1%
over 7 minutes	4,801	18.4%
Total Addresses in County	26,136	100.0%



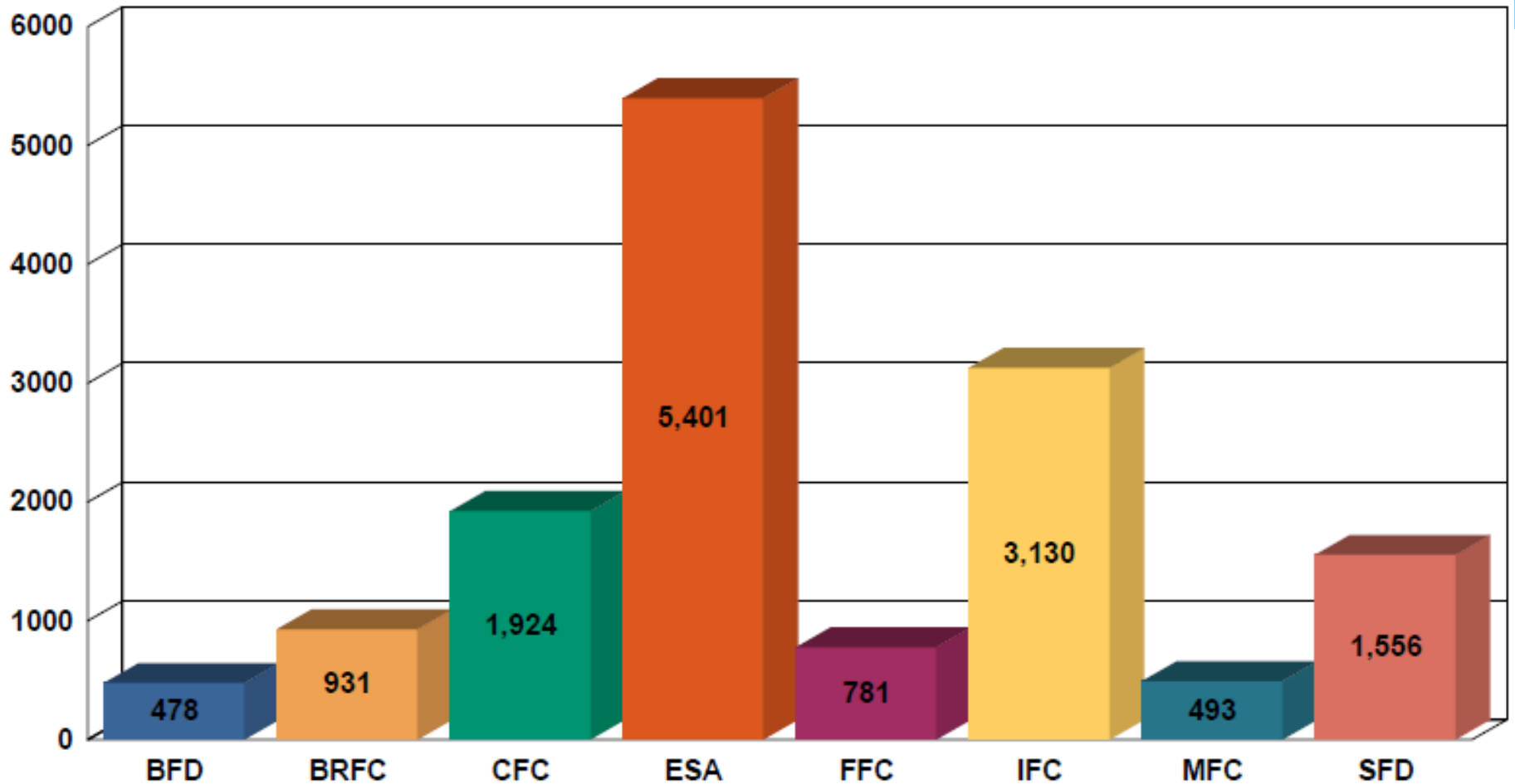
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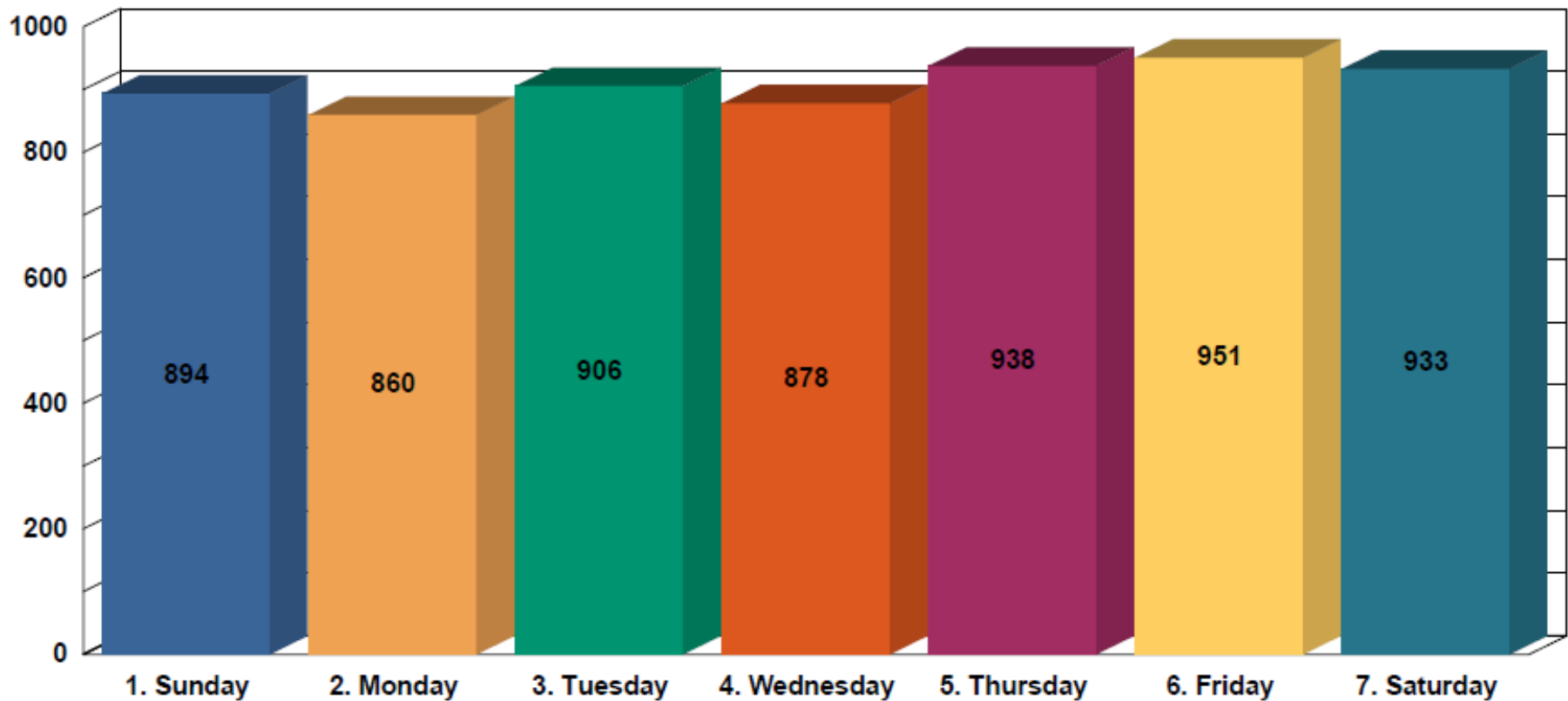
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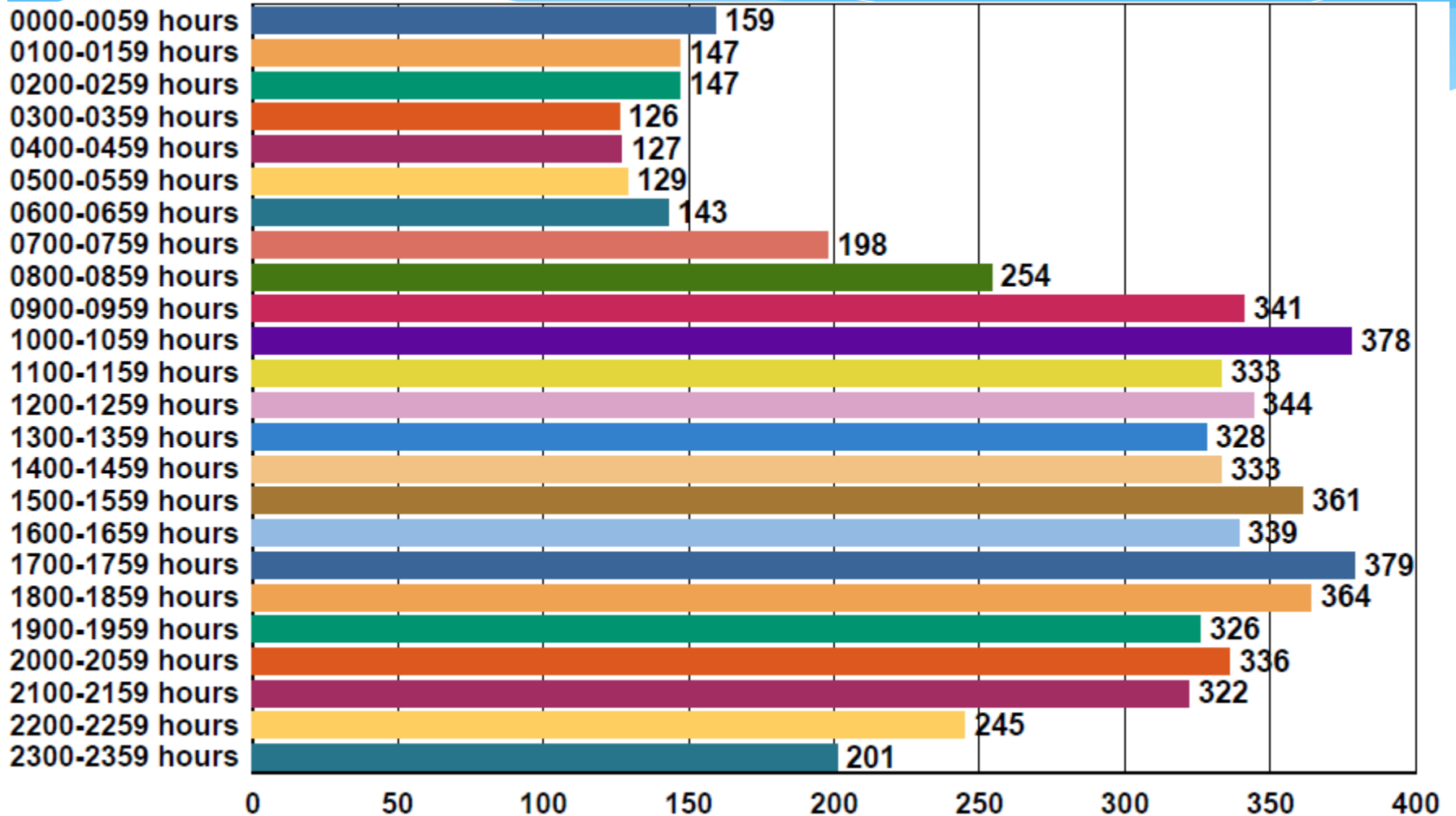
Incidents, by Agency



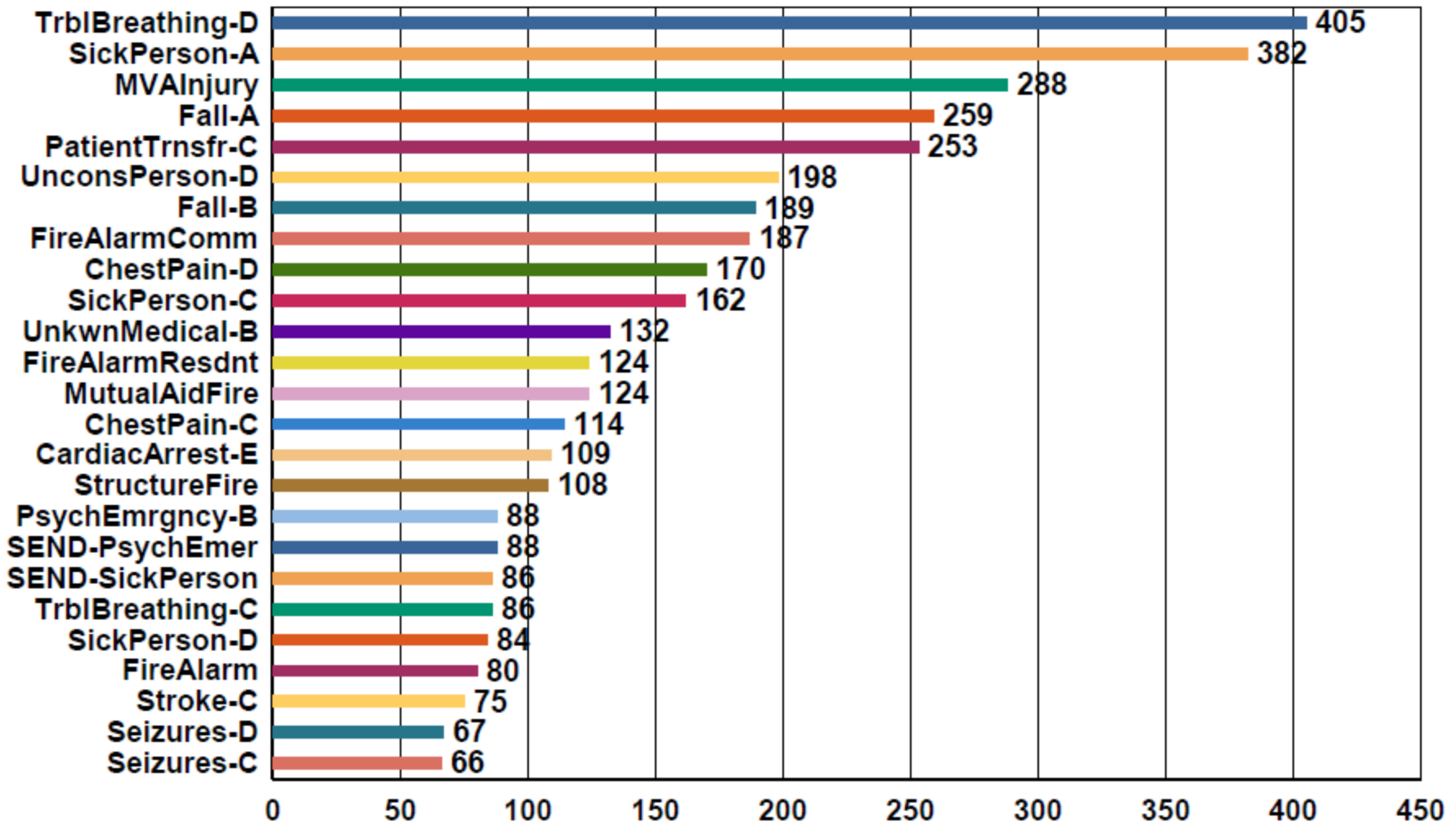
Incidents, by day



Incidents, by hour



Most Commonly Dispatched Nature Codes



FY 2018 Proposed Staff Increase

- * Increase staffing in the Fire Station by **11 FTE's** which will ultimately augment our core staffing by providing peak time drivers to supplement volunteer staffing during the hours volunteers are least available
- * 1 full time Trainer and Quality Assurance Coordinator
- * **1 full time JCESA Executive Admin (Ambulance Billing HIPPA Compliance Officer)**
- * Total Addition of 13 FTE's

Let's talk a little ISO

- * Insurance Services Office rating
- * Based on the following:
- * 40% water supply infrastructure
- * 50% fire departments (staffing, apparatus, training...)
- * 10% communications
- * 5.5% community education programs

What are the possibilities when improving your ISO rating?

- * More staffing improves your ability to move water
- * Reduced insurance premiums
- * Particularly for businesses

Closest “Apples to Apples” comparison

- * Berkley County West Virginia:
- * Berkley Ambulance Authority and the Berkley Fire Departments budgets total \$9,400,000
- * Add the City of Martinsburg (which is included in their total census population data) \$3,643,165
- * Total budget for Berkley County equals \$13,043,165
- * Comparing the two West Virginia Counties by the census data, Jefferson County serves half the population under similar circumstances.
- * 50% of Berkley County Fire and EMS expenditures total \$6,521,582.
- * Jefferson County receives \$4,442,843. towards Fire and EMS expenditures. **This is a total of \$2,098,739.5 dollars less than Berkley County in totality.**

Jefferson County versus Berkley County Comparison for costs of available Fire and EMS resources less the Air Guard and the Veterans Administration

- * Berkley County population: 111,901 persons ($\$13,043,165$ divided by 111,901 persons = $\$116.55$)
- * Cost of Fire and EMS service per person = $\$116.55$
- * Jefferson County population: 56,482
- * Cost of Fire and EMS service per person = $\$78.60$ ($\$4,442,843$ divided by 56,482 persons = $\$78.60$)
- * **With proposed increases, Jefferson County costs for Fire and EMS service in totality (including state funding and the ambulance billing revenue) 5,750,000. This equates to $\$101.80$ per person**

Total Ambulance Fee Income plus General Fund if fee was increased

- * Total Ambulance Fee Income if doubled =
\$1,859,430.00
- * County Allotment = \$1,448,000.00
- * Total JCESA Budget = \$3,307,430.00

Why might we want to consider utilizing the Ambulance Fee as a resource to do this?

- * Because the Tax base was not set up to fund services such as public safety, WV code 7-15 was passed.

- * **§7-15-17. Imposition and collection of special emergency ambulance service fee by county commission.**

A county commission may, by ordinance, impose upon and collect from the users of emergency ambulance service within the county a special service fee, which shall be known as the "special emergency ambulance service fee." The proceeds from the imposition and collection of any special service fee shall be deposited in a special fund and used only to pay reasonable and necessary expenses actually incurred and the cost of buildings and equipment used in providing emergency ambulance service to residents of the county. The proceeds may be used to pay for, in whole or in part, the establishment, maintenance and operation of an authority, as provided for in this article: *Provided*, That an ambulance company or authority receiving funds from the special emergency ambulance fees collected pursuant to this section may not be precluded from making nonemergency transports.

Other Fire Department Operating Budgets

- * 222.3 million = Montgomery County Maryland
- * 55,905,882 million = Loudon County Virginia
- * 54,032,956 million = Frederick County Maryland
- * 11,120,268 million = Frederick County Virginia
- * 4,422,843 million = Jefferson County West Virginia
- * \$13,043,165 million = Berkley County West Virginia (less the Air Guard and the VA)

Dedicated Volunteers

- * work hard to keep the costs for Fire and EMS Service down
- * They hold Bingo games, have pancake breakfasts, sell Christmas trees, make apple butter and much more.
- * Oh, and they answer emergency calls!
- * They have the same financial struggles we all do, but they give selflessly to their Community. The Jefferson County Emergency Services Agency provides supplemental staffing as to allow them to work, go to school and spend some family time. While our Volunteers are working, JCESA needs to increase staffing during the busiest times of the day. JCESA needs to provide “Peak Time” core staffing to ensure we provide service to the Community and preserve our valuable Volunteers! Let’s not burn them out!

Summary of Major Expenses Incurred by Volunteer Fire Departments

* Building, grounds, maintenance, mortgage	\$186,441.00
* Fuel	\$111,153.00
* Insurance (VFIS, workers comp.)	\$350,149.00
* Utilities	\$180,533.00
* Vehicle payments	\$333,930.00
* Vehicle maintenance and repairs	\$ 207,025.00
* Ambulance supplies	\$182,894.00
* Gear and equipment (hose,PPE,SCBA,etc..)	\$ 196,354.00
* Annual testing (hose, pump, ladders, etc..)	\$26,869.00
* Supplies, professional services	\$136,796.00
* Other (function/event, training, reserve)	<u>\$ 307,699.00</u>
* Total expenditures:	\$ 2,219,843.00 (2015 expenses)
* Assuming a 3% increase in expenditures	\$ 2,286,438.29 (still under evaluation: 2016 expenses)

Summary of consistent income for Volunteer Fire Departments

- * Ambulance Billing \$1,045,496
- * Jefferson County Commission \$420,000 = FY2016
- * \$595,000 =FY2017
- * WV State Funding \$339,004
- * **Income less donations FY16 = \$1,804,500 FY17= \$1,979,500 FY18= \$1,979,500**
- * **Cost of doing business (17)\$2,219,843 (18) \$2,286,438.29**
- * **Financial Gap 2016 \$415,343**
- * **Financial Gap 2017 \$240,343**
- * **Financial Gap 2018 (assumes no increase in allotment for Volunteer Company's and a 3% increase of capital and operating expenses) \$306,938.29**

BASIC FLEET COSTS

- Apparatus: \$350,000 per Ambulance; \$1,000,000 Fire Truck; \$600,000 per Engine; \$800,000 per tanker.
- Approximate cost of new front line fleet less brush tankers = **\$14,250,000**.
This includes 7 new ambulances, 7 new engines, 7 new tankers, 2 new fire trucks.
- Replacement standards anywhere between 7 to 15 years (many of our front line units exceed the NFPA 1901 standard).

ADDITIONAL CAPITAL

- * PPE \$2,500 per one set (each member should have one set. Many jurisdictions have two sets). 80 members = **\$200,000.00**
- * SCBA \$5,000 per one SCBA (quantity needed is based on riding positions) 7 engines (28); 2 trucks (12); 7 ambulances (14). Total SCBA = **245,000.00**

SAFER GRANT

- * What is it paying for?
- * What are the measurables?

Five Year Strategic Plan

Five Year Strategic Plan:

Dollars in 000's

	FY17	FY18	FY19	FY20	FY21
	<u>Year-1</u>	<u>Year-2</u>	<u>Year-3</u>	<u>Year-4</u>	<u>Year-5</u>
JCESA	\$1,479.00	\$1,523.00	\$1,569.00	\$1,616.00	\$1,664.00
Ambulance Fee	\$758.00	\$2,050.00 2)	\$2,403.00 2)	\$2,788.00 2)	\$3,191.00 2)
Volunteers	\$595.00	\$793.00 3)	\$817.00	\$842.00	\$867.00
Total	<u><u>\$2,832.00</u></u>	<u><u>\$4,366.00</u></u>	<u><u>\$4,789.00</u></u>	<u><u>\$5,246.00</u></u>	<u><u>\$5,722.00</u></u>
Total Headcount =	26	39	44	48	52
New Headcount =		13	5	4	4

Major Assumptions:

1. Annual escalation of 3% to cover inflation for salaries and expenses.
2. New headcount and associated costs (fringe and equipment) included in Ambulance fee budget for FY18 thru FY21.
3. Volunteer budget in FY18 covers 100% of shortfall in operations costs.
4. Included in FY18 Ambulance fee is a new vehicle at \$60K.

NOTE: Not included above is any capital requirements for volunteers related to gear, SCBA or new trucks/support vehicles.

Dealing with the deceased

- * Blue Ridge Fire Company
- * 200 transports

In Summary

- * We are a hybrid system working together to achieve reasonable response times. Thereby promoting efficient and effective service to the citizens, visitors and workers within Jefferson County, WV
- * We need your support to help sustain our valuable volunteer based system
- * Our volunteer and career personnel are working effectively as a team. We believe the emergency service personnel are our greatest asset. Safe and efficient practices must be championed!
- * Why, “LIFE MATTERS” (AHA).

Thank you for your time!

* Questions?

References

- * 1. Maguire BJ, Hunting KL, Smith GS, et al. Occupational fatalities in emergency medical services: A hidden crisis. *Ann Emerg Med.* 2002;40(6):625–632.
- * 2. Heick R, Young T, Peek-Asa C. Occupational injuries among emergency medical service providers in the United States. *J Occup Environ Med.* 2009;51(8):963–968.
- * 3. Woulfe, John C., Near Miss Reporting: Crew Resource Management. <https://www.iafc.org/on-scene/on-scene-article/near-miss-reporting-crew-resource-management>. 2012