

Information Item

Date: October 2, 2017

To: The City Manager

From: Fire Chief W. L. Mayo

Subject: SAFER Grant Follow-up from September 11, 2017 Finance Committee

Strategic Focus Area: Improve Public Safety Service Quality

Strategic Objective: No

Strategic Plan Action Item: No

Key Work Item: No

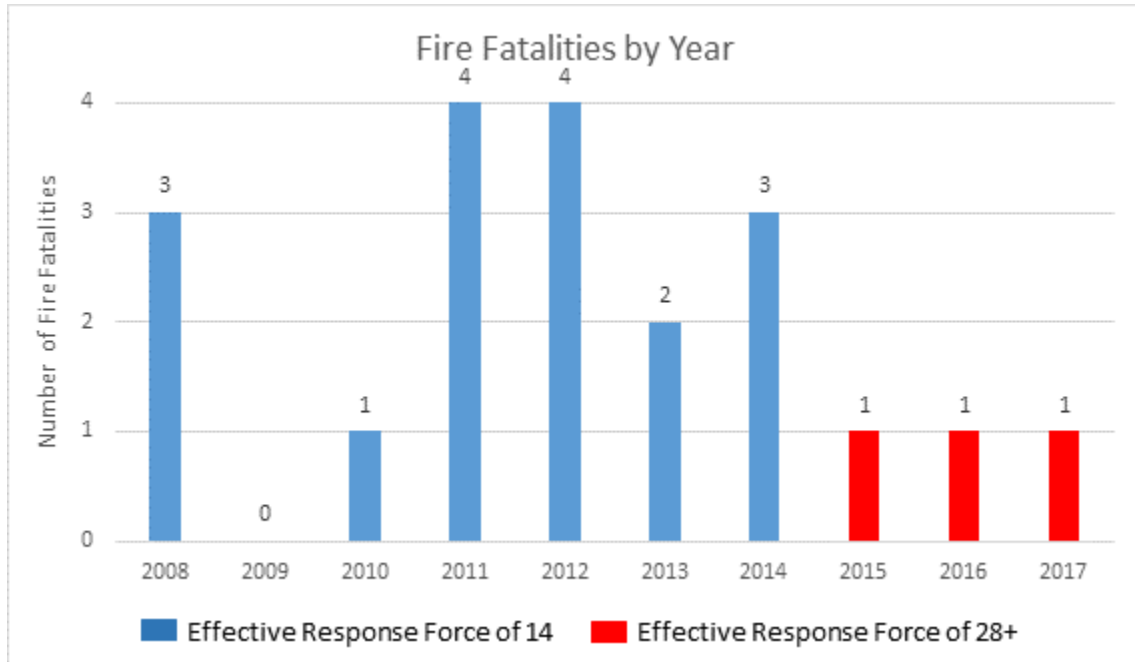


At the September 11, 2017 Finance Committee meeting, the Fire Department presented information related to the potential acceptance of a 2016 Staffing for Adequate Fire and Emergency Response (SAFER) Grant. Committee members requested additional information prior to making a recommendation to the full Council. Below are answers to those questions. As a reminder, the intent of SAFER is to help career fire departments improve their compliance with NFPA 1710, which recommends that 15 firefighters require no more than eight minutes to travel to a moderate-risk house fire, 90% of the time.

- Is there a correlation between travel time and recent fire fatalities?

NFPA 1710 is as much a staffing standard as it is a response-time standard. The last 20 fire fatalities occurred between 2008 and 2017. From 2008 until 2014, the Fire Department's effective response force was 14 personnel. During that time period, there were 17 fatalities, or 2.4 per year. In February of 2015, the effective response force was increased to 28. From February 2015 to current, there have been three fatalities, or 1.1 per year. Independent studies demonstrate that four-person crews accomplish initial critical fireground tasks, including search and rescue, 25% faster than three-person crews. For the 20 fire fatalities referenced above, the first-arriving suppression unit was staffed with four personnel 11% of the time. The travel time for the first 15 firefighters arriving to these fires ranged from 4:45 to 17:03. The average travel time was 9:10. The 90th percentile travel time was 15:30. The NFPA 1710 compliance was 55.6%. At least one of the units to which SAFER-funded firefighters would be assigned would have been on the scene of 78% of these fires. Chart 1 provides a graphical display of the relationship between effective response force and fire fatalities; red indicates years with an increased effective response force.

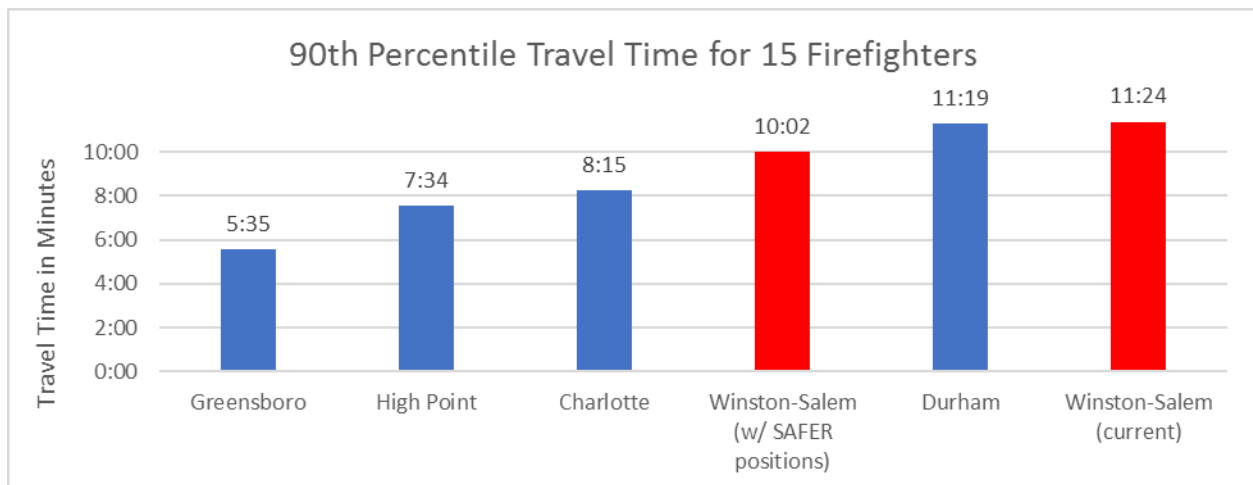
Chart 1



- How does Winston-Salem’s 90th percentile travel time for 15 firefighters compare to other cities?

Chart 2 shows the Fire Department’s NFPA-compliant travel-time performance from July 1, 2016 through June 30, 2017, both current (11:24) and what the performance would have been had the proposed SAFER staffing been in place (10:02).

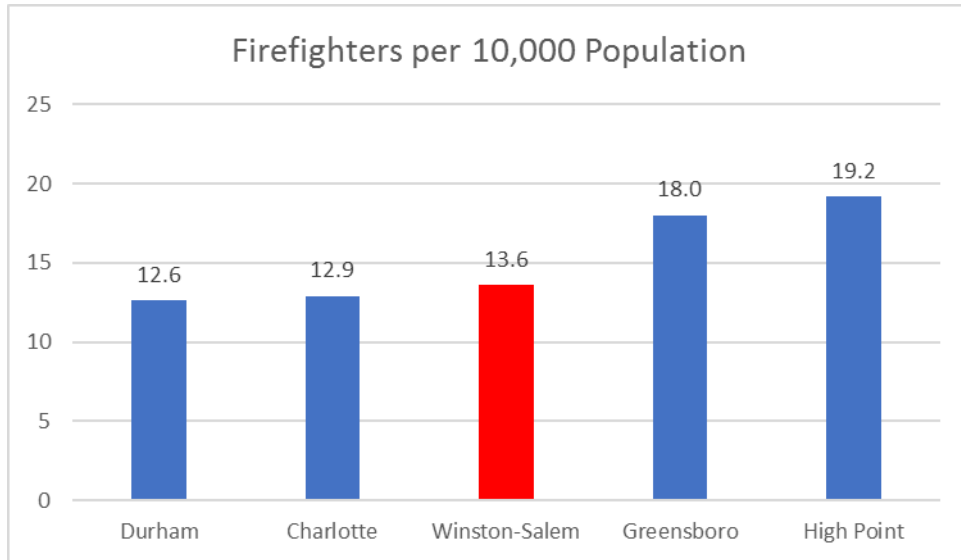
Chart 2



- How many firefighters does Winston-Salem have, per capita, compared to other cities?

Chart 3 shows total authorized personnel in each fire department's Operations Division per 10,000 residents, based on 2015 population estimates.

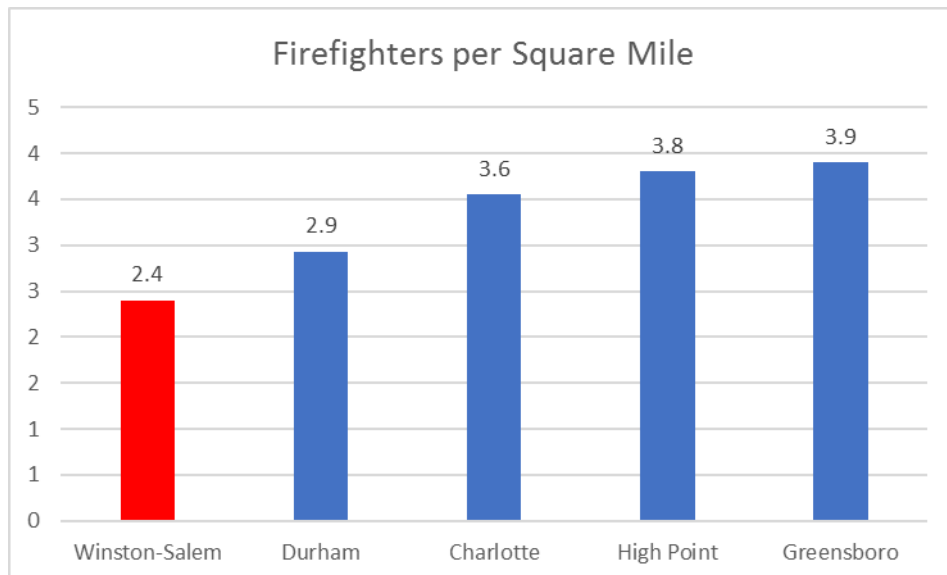
Chart 3



- How many firefighters does Winston-Salem have, per square mile, compared to other cities?

Chart 4 shows total authorized personnel in each fire department's Operations Division per total square mileage inside the city limits.

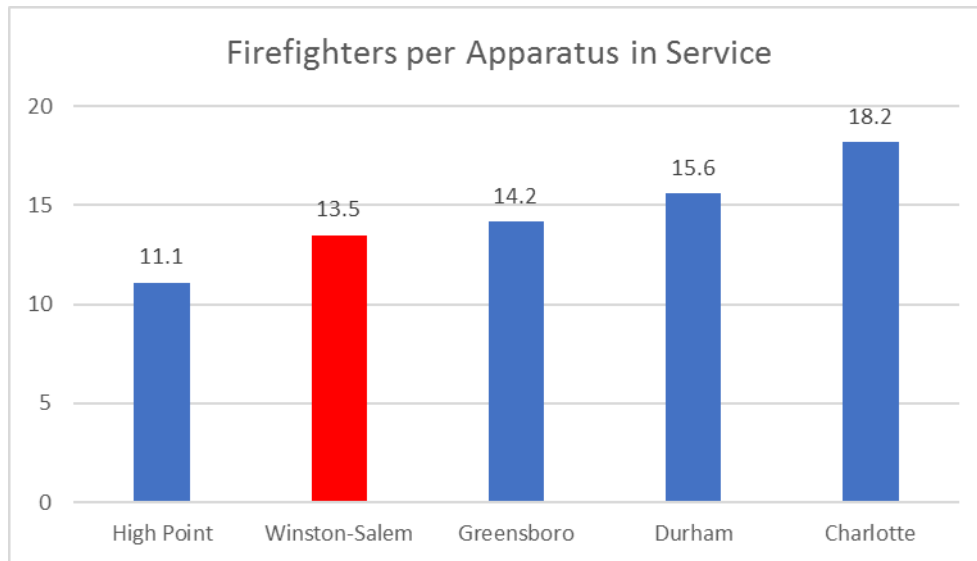
Chart 4



- How many firefighters does Winston-Salem have, per apparatus in service, compared to other cities?

Chart 5 shows each fire department's total authorized staffing in the Operations Division divided by the number of heavy apparatus (engines, ladders, rescues) in service on a 24/7 basis.

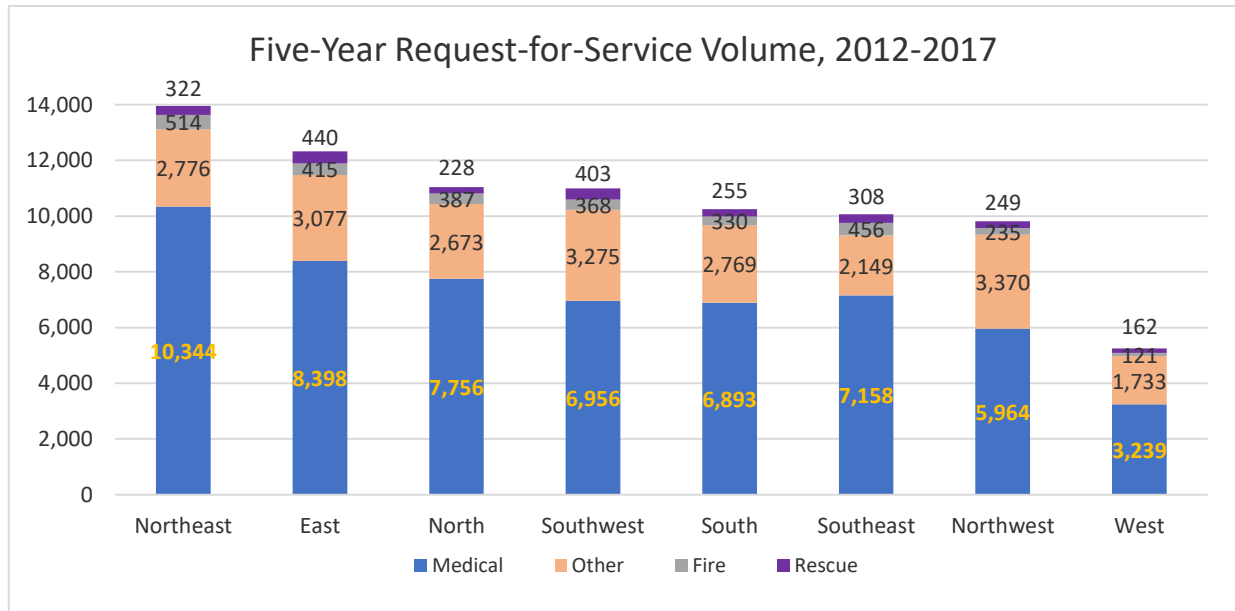
Chart 5



- How many requests for service has the Fire Department received, by ward, in the past five years?

Chart 6 shows fire, rescue, medical, and other calls by ward from July 1, 2012 until June 30, 2017. “Other” calls include all those not clearly defined as belonging in one of the other three categories. These may include power lines on houses, investigations, fire alarm activations, elevated carbon monoxide levels, and various other hazardous conditions.

Chart 6



- Provide an overview of the Fire Department’s deployment model.

The following list illustrates how the NFPA 1710 effective response force compares to Winston-Salem’s. NFPA 1710 is a minimum standard that acknowledges many small fire departments cannot muster 15 personnel on the initial alarm to a building fire without relying on off-duty staff or aid from neighboring departments. Independent research conducted by the National Institute of Standards and Technology clearly indicates the benefit of minimum four-person staffing on apparatus. Multiple studies of fireground critical tasking have shown that a minimum of 13 personnel should be assigned to a rapid intervention team (RIT). A RIT is established as a rescue team for a lost, down, or trapped firefighter or firefighters. NFPA 1710 only recommends two personnel for RIT. WSFD establishes an initial RIT with three, and then a full RIT of nine as sufficient personnel arrive. Upon a RIT activation, an additional alarm is dispatched, bringing two additional engines, an additional ladder, and a third battalion chief to the scene. NFPA 1710 gives no consideration to some critical tasks, such as a safety officer or a personnel accountability officer.

<u>Critical Task</u>	<u>NFPA 1710</u>	<u>WSFD</u>
Incident Command	1	1
Water supply / pump operator	1	1
Attack hoseline	3	3
Back-up hoseline	3	3
Search & rescue	2	3
Ventilation	2	3
Special operations	1	0
Rapid intervention	2	9
Accountability	0	1
Utility control	0	2
Forcible entry	0	2
Safety officer	<u>0</u>	<u>1</u>
Total	15	29

- What will be the annual cost of the 15 SAFER personnel if they remain on the payroll after the grant’s three-year period of performance?

The current estimated annual cost for 15 firefighters is \$858,390.

- Will not accepting the SAFER funding affect future grant eligibility?

According to our FEMA grant support contact, if the decision is made to turn down the grant, future grant applications will not be affected.