Response to Questions on the FY 2014 Budget

Request By: Supervisor McKay and Supervisor Gross

Question: Provide additional information on what is driving the cost escalation in replacing large apparatus in the Fire and Rescue Department. Please include the average lifespan of different apparatus types.

Response: Fire apparatus is the most expensive single item purchased by the Fire and Rescue Department (FRD). Fire engines meeting basic Federal Environmental Protection Agency (EPA) regulations and National Fire Protection Association (NFPA) requirements cost approximately $628,000 apiece.

The price of apparatus has risen dramatically since 2007 for all fire and rescue departments, including Fairfax County Volunteers. This increase is the result of a combination of three factors: emissions standards, safety regulations and material costs.

More stringent EPA regulations governing diesel engine emissions took effect in 2007 and again in 2010. While these regulatory requirements caused diesel engine manufacturers to change technologies, it also required apparatus manufacturers to engineer major vehicle cab redesigns to accommodate new diesel engine emissions standards. Redesigns, combined with higher costs of EPA-compliant diesel engines, increased the cost of an engine by $20,000 in 2007 and another $30,000 in 2010. In 2013 even stricter emission standards and fuel efficiency regulations will begin to be phased in. At this time it is unclear how significant the resulting cost increases will be for engines to meet the new standards.

The second fire apparatus cost impact was a result of changes in the National Fire Protection Association Standard for Automotive Fire Apparatus (NFPA #1901). The standard, revised in 2009, added requirements for vehicle data recorders, rollover stability, airbags, enhanced restraint systems, portable equipment and cab-integrity testing. These enhancements, adding an additional $10,000 to vehicle costs, have made emergency vehicles safer for responding and operating at incidents.

On top of cost increases caused by EPA regulations and NFPA standards, the department has experienced price escalations between three and five percent annually due to the rising cost of raw materials.

In an effort to minimize the impact of rising costs, the FRD has identified multiple strategies, including eliminating several nonessential items from fire apparatus, re-evaluating operational needs when replacing vehicles to generate savings, as well as extending lifecycles of some vehicles from 12 to 14 years. Elimination of non-essential items, while still ensuring responders have the safest and most reliable vehicles, has reduced the price of an engine by almost $10,000 each and the removal of water tanks and pumps on rescues has resulted in a $35,000 savings.

The Fire and Rescue Department, in cooperation with the Department of Purchasing and Supply Management, continually works to identify vendors with the best product for the

best price. To take advantage of cost efficiencies, the County routinely searches nationwide to identify existing contracts that offer products meeting County requirements. In cases where acceptable existing contracts cannot be found, the County will request competitive vendor bids in accordance with County purchasing regulations. The County does not use sole source contracts for the purchase of emergency apparatus. Companies from which the County purchases emergency apparatus are leaders in the industry known for reliable work products, low failure rates, comprehensive warranty programs, and easily accessible, authorized repair centers that can support the heavy workload associated with a large fire and rescue department.

The following chart illustrates the life criteria of FRD apparatus:

Apparatus Type	Life of Vehicle
Towers/Aerials	17 Years
Tankers/Hazmat/Light & Air	14 Years
Engines/Rescues	12 Years
Ambulances	10 Years