Sounding the Alarm:
America's Fire Apparatus Crisis

Statement of

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Good afternoon, Chairman Hawley, Ranking Member Kim, and members of the subcommittee. I am Jason Shivers, Division Chief of Technical Services of the Forsyth County Fire Department, and chair of the Emergency Vehicle Management Section of the International Association of Fire Chiefs. I appreciate the opportunity today to discuss issues relating to the cost and delivery times of fire apparatus.

Today I am testifying on behalf of the International Association of Fire Chiefs (IAFC). The IAFC represents the leadership of over 1.1 million firefighters and emergency responders. IAFC members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials (hazmat) incidents, wildland fire suppression, natural disasters, search and rescue, and public-safety policy. Since 1873, the IAFC has provided a forum for its members to exchange ideas, develop best practices, participate in executive training, and discover diverse products and services available to first responders.

America's fire and emergency service is an all-hazards response force that is locally situated, staffed, trained, and equipped to respond to all types of emergencies. There are approximately 1.1 million men and women in the fire and emergency service – consisting of approximately 300,000 career firefighters and 800,000 volunteer firefighters – serving in more than 30,000 fire departments around the nation. They are trained to respond to all hazards ranging from earthquakes, hurricanes, tornadoes, and floods to acts of terrorism, hazardous materials incidents, technical rescues, fires, and medical emergencies. Your local fire department is usually the first to arrive on scene at an incident and the last to leave.

The Effects of the Problems with the Fire Apparatus Supply Chain

The delays and escalating costs of fire apparatus have been a challenge for local fire departments since the COVD-19 pandemic. Before the pandemic, there was a period of stability in the fire apparatus market, where local fire departments could depend on receiving their newly ordered fire apparatus in a timely fashion and agreed upon price. It usually took 8-12 months for a manufacturer to deliver a new pumper, also termed as a Type 1 fire engine; 12-18 months for an aerial truck; and specialty units would take 18-24 months to deliver. In addition, an ambulance could be delivered in 9-12 months. Cost adjustments after orders were not routine practices.

As a result of the pandemic, fire departments began to see delivery times and costs increase. The delivery time for a Type 1 fire engine almost doubled to 25-28 months. The time period for delivering an ambulance increased from 9-12 months to 14-20 months. This problem steadily escalated. Now, in many cases, fire chiefs can order fire apparatus and expect their delivery in four years. Meanwhile, fire departments reported that the cost of fire apparatus and ambulances increased by 20% to 25%.

This delay in deliveries and increased costs of fire apparatus caused operational problems for fire departments. The shortage of ambulances forced some fire departments to use command vehicles or alternate means of transportation to send patients to hospitals. Fire departments were forced to use apparatus past the 15-year recommended age limit as recommended by the *NFPA 1901: Standard for Automotive Fire Apparatus.* They also were forced to rely upon their reserve fleets, which were older engines that did not have up-to-date safety improvements, were near the end of

their operational lives, and suffered from reliability problems with more repairs and shortages of spare parts.

These fire apparatus problems affected community safety. Some fire departments did not have fire apparatus to use for consistent and reliable response to mutual aid response requests from their local neighbors or from across the nation. Without fire apparatus, fire departments could not open new fire stations. The escalating costs of fire engines and other vehicles cut into personnel budgets, reducing the ability to hire new fire and EMS personnel.

The Causes of These Problems

The IAFC created a work group headed by its Emergency Vehicle Management Section, including the Metropolitan Fire Chiefs Association, the Wisconsin State Fire Chiefs Association, and the Fire Apparatus Manufacturers' Association to examine the causes of the increased costs and delivery times for fire and EMS vehicles. After more than a year's examination of the issues causing the problems with the fire apparatus supply chain, the working group found that the fire apparatus industry was hit by a perfect storm of increased orders and historic challenges to the production of fire apparatus.

The COVID-19 pandemic began this problem. In 2020, booked orders for fire apparatus dropped by 12 percent. Illness and pandemic closures led to the closure of manufacturing lines. In some cases, the workforce retired or were laid off. As the pandemic ended, it was hard for the fire apparatus manufacturers to re-hire these workers. So, the companies had to hire and train new staff. This educational period takes time, because the fire apparatus manufacturers are artisans and craftsmen working on custom, hand-built fire machinery

The overall supply chain crisis caused other problems. Manufacturers faced challenges in purchasing chassis, microchips, wiring harnesses, and other components of fire apparatus. Because the fire apparatus market is so small, the manufacturers of major components like chassis reportedly would sell them to the more profitable commercial sector for the production of over-the-road trucks. These shortages extended into 2022, which resulted in significant delays in production. In some cases, fire departments had to acquire chassis separately and deliver them to the fire apparatus assembly line for production.

As an unintended consequence, the federal government also played a role in creating this problem. In 2022, engine manufacturers announced plans to update their engines to meet the Environmental Protection Agency's (EPA) 2027 emissions standards. Because of previous problems with new engine emissions technology, many fire departments rushed orders to the fire apparatus manufacturers to buy vehicles that met the existing emissions standards at that time. In addition, the CARES Act (P.L. 116-136) and American Rescue Plan Act (P.L. 117-2) included billions of dollars to help state and local governments respond to and recover from the COVID-19 pandemic. Some of these funds were -- and continue to be -- spent by local fire departments to make large purchases of fire and EMS vehicles.

As fire departments anticipated facing delays in the delivery of fire apparatus, they adjusted their orders. In order to account for the delay, fire departments would order more fire apparatus earlier,

so that they could continue to meet their replacement plans. The federal COVID-19 relief funds also provided funding for fire departments to upgrade their fleets.

As demand increased, supply was still limited. In 2022, orders for fire apparatus were 45% more than the 2011-2019 average, which resulted in 70% more orders than the industrial capacity. Meanwhile, the number of fire apparatus shipped was 9 percent below the 2011-2019 average. The increased prices and longer delivery times remain as the fire industry reacts to this storm. In addition, we are waiting to see how the cost of the new EPA-mandated engines, tariffs, or workforce changes will affect the fire apparatus industry.

Actions That Fire Departments Can Take

Fire departments can take steps to address the problems caused by the problems with the fire apparatus supply chain. For example, the fire department can purchase a stock fire apparatus made by one of the manufacturers or dealers. This vehicle may not meet all of the fire department's traditional customization, but it may cost less and will have a shorter delivery time. In addition, fire departments should look at buying a comparable apparatus from manufacturers who have shorter delivery times.

Also, fire departments can enhance their apparatus maintenance programs and reduce the wear and tear on their existing fleet. This will extend the life of their vehicles and reduce the time out of service for costly repairs. However, the NFPA standards recommend that only specially trained Emergency Vehicle Technicians (EVT) should perform maintenance and repairs on fire apparatus. There is a growing need for more EVTs.

In addition, fire departments can refurbish existing fire apparatus. There are firms that will update fire apparatus to meet current safety standards, complete body remounts, overhaul the drivetrain and fire pump, and maintain the aerial ladder. Refurbishments can be made in house. They will extend the life of the vehicle and allow the fire department to maintain its fleet as it waits for its new vehicles to be delivered.

Fire departments also can take administrative actions to address the problems with the cost and delivery of fire apparatus. If one does not exist, it is highly recommended that fire chiefs should develop Apparatus Specification Committees to evaluate department fleets and conduct community needs assessments. These committees can develop comprehensive, detailed specifications for new fire apparatus and prevent costly change orders that delay production of the ordered vehicles. They also can identify lower cost options or eliminate options that do not justify their cost. Also, these committees can evaluate the community's emergency response needs to ensure that it has the right mix of vehicles, including ambulances for EMS response.

Fleet management and department finance personnel should be included on the committee. They also should be involved in the development of written policies that address capital asset reserves for renewal and replacement of vehicles. These policies support proactive financial management of the fleet and allow longer lead times for purchasing replacement equipment.

Actions that Fire Apparatus Manufacturers Can Take

The fire apparatus manufacturers can take steps to address the problems with fire apparatus cost and delivery. They should either take steps to increase production or stop taking orders. Due to several factors affecting the economy, it is hard to predict the cost of a fire apparatus over a four-year delivery time. In some cases, fire departments are being asked to pay deposits for vehicles and then have to pay unbudgeted additional costs over the time period for construction and delivery of the apparatus.

In addition, the manufacturers can promote the use of base-level vehicles that can be bought without writing specifications. They also could work with organizations like the IAFC to develop standard models for basic fire apparatus, like aerials, heavy rescue, brush trucks, or fire engines with suburban, urban, or rural variants. By purchasing these stock apparatus, fire departments could receive delivery of their fire apparatus in a shorter amount of time for less cost.

Actions that Congress Can Take

Congress also can play a role in addressing the problems with fire apparatus delivery and cost. In light of the need for refurbished apparatus to meet fire department needs, Congress should allow funds from the Assistance to Firefighters Grant (AFG) program to be used to refurbish fire apparatus. In addition, Congress should allow funds from the Staffing for Adequate Fire and Emergency Response (SAFER) grant program to be used to hire EVTs.

Also, we ask that Congress continue to support funding for the Assistance to Firefighters Grant (AFG) and SAFER programs (SAFER). Because the costs of fire apparatus continue to increase, the AFG program will help local fire departments to afford to replace fire apparatus when necessary. The grants are awarded to the local fire departments and require a local match.

We also recommend that Congress work with the fire apparatus industry to incentivize ways to increase the number of fire apparatus being produced. Since there currently is a surge in fire apparatus orders, Congress should look at tax incentives and other ways to allow fire apparatus manufacturers to make capital investments and maintain their workforce as a reserve capacity for future surges of orders. In addition, the Trump Administration and Congress can work with the parts manufacturers to prioritize the delivery of semiconductors, chassis, engines, and other fire apparatus components to both the fire apparatus manufacturers and the EVTs that maintain existing fleets. Because the fire apparatus market is so small, it may need the federal government's help in making sure that its needs are met.

In addition, the U.S. Fire Administration (USFA) can work with the national fire service organizations and fire apparatus manufacturers to develop standardized models for the basic models of fire apparatus. The fire apparatus manufacturers could build these standardized models en masse in the effort to reduce delivery times and costs. These models would be voluntary: a fire department could still order a custom-built vehicle – it would just cost more and take more time to deliver. In addition, the National Fire Academy can develop model educations programs to help technical colleges train more EVTs.

Conclusion

Thank you for the opportunity to testify at today's hearing about the increased cost and delivery times for fire apparatus. This is major problem facing fire departments today. The escalating cost of fire apparatus is hurting fire department budgets and their operations. The delayed delivery times are forcing fire departments to use apparatus that may be close to end-of-life and do not meet current safety requirements. These problems are endangering the safety of local communities. The solution to this problem is for fire departments to take actions to limit the surge in orders for expensive custom-built fire apparatus. The fire apparatus manufacturers must increase and streamline the production of vehicles. The federal government can play a role in resolving this problem by working with the manufacturers and their customers to develop models of various fire apparatus that can be purchased with a streamlined delivery process. By working together, we can resolve this problem and ensure the safety of all Americans.

I thank you for your time and am available to answer any questions that you may have.