

# THE NEXT GENERATION DELIVERY VEHICLE



## Congressional reps want investigation

**I**n late February, the Postal Service awarded the contract for the Next Generation Delivery Vehicle (NGDV) to Oshkosh Defense of Wisconsin. The winning design provides the Postal Service with the option of ordering either electric or fossil fuel engines. USPS says that at least 10 percent of the new vehicles will come with electric motors.

President Biden described in January his administration's plan for purchasing federal vehicles, as follows: "The federal government also owns an enormous fleet of vehicles, which we're going to replace with clean electric vehicles...."

When the USPS contract was awarded, one of the losing vendors, Workhorse Group Inc., an Ohio-based

startup that specializes in electric vehicles, announced that it would challenge the award, and three members of Congress called for a freeze on the contract. Ohio Reps. Marcy Kaptur and Tim Ryan, along with Rep. Jared Huffman of California, put forward a resolution that calls for Congress to investigate how the Oshkosh contract was awarded. It calls for the award to be in line with the

**A**fter five years of prototypes and testing, on Feb. 23, the Postal Service announced that it had awarded a contract to build the Next Generation Delivery Vehicle (NGDV) to Oshkosh Defense. Under the terms of the contract, Oshkosh Defense will finalize the production design of the NGDV and build up to 165,000 vehicles over the next 10 years.

Throughout this process, NALC and USPS have held numerous meetings regarding the design, production and testing of the prototype vehicles. Drawing on their own experience as letter carriers, as well as input from letter carriers across the country, NALC national officers and staff have worked with representatives from the Postal Service to finalize the required features of the NGDV.

The road from identifying the need to replace the current USPS vehicle fleet to awarding a contract started in 2014, when the Postal Service initiated the process for developing a vehicle that would replace the Long Life Vehicle (LLV). The journey began with USPS soliciting input from city letter carriers regarding the features they would like to see in a right-hand drive delivery vehicle.

In 2015, USPS issued a request for information (RFI) to solicit information from manufacturers interested in building a prototype vehicle for testing. After reviewing submissions from

the 34 companies that responded to the RFI, USPS narrowed the field to 15 prospective vendors. After meeting with these vendors, the Postal Service issued a request for proposal (RFP), inviting each company to submit ideas for building a prototype vehicle for testing. After reviewing the proposals, USPS awarded the contract to build prototype vehicles to five manufacturers in September 2016. One of the vendors awarded the contract was Oshkosh, which partnered with another manufacturer during the prototype phase of the process.

Testing of the prototype vehicles began in September 2017 and was initially scheduled to last through November 2018. USPS tested the durability, fuel economy and emissions of each prototype at the Transportation Research Center in East Liberty, OH, while testing of the components of the vehicles took place at the Dayton T. Brown facility in Bohemia, NY. Field testing of the vehicles began in October 2017 in several locations around the country with varying climates to ensure that each vehicle could perform in the weather conditions letter carriers face throughout the year. Test sites were Flint and Utica in Michigan; Alexandria and Manassas in Virginia; and Tempe, Tucson and Apache Junction in Arizona.

In November 2017, the Postal Service halted field testing and the

## into USPS' NGDV contract award

Paris climate accord and with Biden's electric vehicle policy. It also urges the Postal Service "to freeze the recently awarded contract to purchase 165,000 new vehicles until an expedited review is conducted to determine there was no inappropriate political influence."

In a March letter to leaders of congressional postal committees, Postmaster General Louis DeJoy wrote

that the contract had been awarded "in accordance with Postal Service procurement procedures" after an "extensive" process.

He added that the 10 percent in electric vehicles is a "floor" and not a "ceiling." USPS would like to procure more electric vehicles, DeJoy said, but it needs funding from Congress to do so, in the amount of \$8 billion.

With congressional support, DeJoy wrote, USPS "can commit to a majority of the Postal Service's delivery fleet being electric within ten years...We welcome support from Congress that advances the goal of a Postal Service vehicle fleet with zero emissions and the necessary infrastructure that will be required to support it." **PR**



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prototypes were returned to the Transportation Research Center. This was done so that the manufacturers could address mechanical issues that arose during the course of testing. Once the repairs were made, field testing resumed in April 2018 and continued until the end of March 2019.

Once testing was complete, the Postal Service issued an initial statement of work (SOW), which was provided to the manufacturers and NALC at the national level. In March 2019, Director of City Delivery Chris Jackson and Director of Safety and Health Manuel L. Peralta Jr., along with NALC staff members, met with representatives of the Postal Service regarding the SOW to ask questions, give feedback and offer suggestions for the production model of the NGDV. Between May and June 2019, the Postal Service met with the prospective manufacturers to finalize the specifications based on the supplier's input.

At the conclusion of these meetings, the Postal Service issued the final SOW based on the input from NALC and the prototype manufacturer. The SOW was submitted to the five manufacturers, and they were invited to submit their bids to design and build the final production model of the NGDV. At the time, the Postal Service anticipated the first production models being available for deployment in 2021. Unfortunately, the timeline for awarding the contract and manufacturing the NGDV was delayed due to the COVID-19 pandemic. The final bids from the vendors were delivered to the Postal Service in July 2020.

Once all of the bids were received, USPS reviewed them based on the technical specifications in each submission to ensure that they met the guidelines in the SOW. USPS also reviewed the total cost associated with the NGDV, including the initial cost to purchase the vehicles; the cost to fuel and maintain them for the next 20 years; and any costs related to purchasing electric vehicles. The additional costs for electric vehicles include the installation of charging stations at each facility as well as upgrading the electrical service to handle the increased usage of electricity. The final technical and financial reviews were completed in January 2021, which led to the announcement of the contract on Feb. 23. Based on projections made by the Postal Service, the first vehicles should be ready for deployment in 2023.

From the beginning, NALC's goal has been to ensure that the new delivery vehicle provides a safe working environment by incorporating the advances in automotive safety technology developed over the past 30 years. Also, the NGDV had to integrate features focused on the comfort of letter carriers while operating the vehicle.

In addition to explaining how we reached this point, this article will discuss some of the new features that will be included in the final production model of the NGDV based on the final SOW described earlier. Once Oshkosh finalizes the production model, there may be modifications made to the function of these features based on the design.





One feature almost every carrier is concerned about is the climate inside the vehicle and the ability to maintain a comfortable temperature based on the driver's preferences. What is too hot or too cold to one person may be comfortable to someone else, and the LLV does not adequately allow the driver to regulate the temperature inside the vehicle.

To address these concerns, the NGDV will be equipped with modern climate controls that will help alleviate those concerns. The NGDV will be equipped with air conditioning in the cab area, which must be able to cool the driver to 85 degrees when the outside temperature is 120 degrees,

even when the driver's-side window is open. Second, the heater must be able to heat the driver's footwell to at least 65 degrees within 60 minutes of starting the vehicle when the outside temperature is -20 degrees. A third feature addressed the climate in the cargo area. The NGDV will include an active ventilation system, which must provide sufficient airflow so that the cargo area is within 10 degrees of the outside temperature.

Another area of great concern to letter carriers is the safety of the vehicle. Due to the standards at the time the LLV was built, the current fleet lacks the safety features most people take for granted in their personal vehicle.

**A look at some of the features in the new vehicle**



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The NGDV will include several features that will make the vehicle safer to operate.

Over the past several years, letter carriers have been involved in horrific accidents while working from the rear of the vehicle on the street. Letter carriers have suffered traumatic injuries after being struck and pinned by other vehicles. Tragically, some of these letter carriers have lost their lives. Because of these events, one of NALC's goals in the design of the NGDV has been to ensure that letter carriers can avoid the hazards of standing in the street while loading and unloading the vehicle. To address this safety concern, the NGDV will have a sliding side door that will allow letter carriers

to enter the cargo area from the curb side. This door will be located adjacent to the driver's-side door and will be equipped with electronic locks. A step will be located on the outside of the vehicle and a grab handle will be in the cargo area to assist letter carriers when entering and exiting the vehicle.

In contrast to the manual parking brake in the LLV, the NGDV will be equipped with an automatic brake. The automatic parking brake will engage when the vehicle is shifted in the park position, when the driver leaves the seat, or when the ignition is turned off. The brake will disengage automatically when the vehicle is running and then shifted into either drive or reverse. As an added safety feature, the vehicle will start only when the transmission is in either park or neutral. In addition, the driver will be able to shift out of park only when the seat belt is fastened.

To help avoid collisions, the vehicle will be equipped with sensors in both the front and rear bumpers, which will beep when objects are within 8 feet. This beeping will become continuous when the objects are within 6 inches of the vehicle. This system will also include visual alerts to notify deaf and hard-of-hearing employees.

In addition to the sensors, the NGDV will have a forward collision warning system to alert the driver. The automatic front braking system will monitor the vehicle's speed, trajectory and environment, and automatically apply the brakes if there is a high likelihood of a crash. This system will engage only after the sensors have notified the driver of the impending



crash and the driver has failed to correct the collision trajectory.

To help avoid collisions when traveling in reverse, the NGDV will be equipped with an automatic rear braking system to prevent any impact or contact with the rear of the vehicle. This system will automatically stop the vehicle after the rear sensor has notified the driver of an impending collision and the driver has failed to correct the trajectory.

The vehicle will include a blind-spot warning system that will detect vehicles in the left and right travel lanes and include a visual alert when another vehicle enters one of the blind spots. The system will include a visual and audio alert if the vehicle's turn signal is activated or moves into a lane where another vehicle is present.

In the event a letter carrier is involved in a collision, the vehicle will be equipped with a driver's-side airbag.

To provide the driver with a view of the area surrounding the vehicle, it will be equipped with a 360-degree camera and monitor that displays an area at least 10 feet on each side. The camera and monitor will automatically turn on when the vehicle is traveling less than 5 mph; however, the driver will be able to turn off the monitor if it is distracting or unhelpful. The vehicle also will include a rearview camera to assist the driver while backing up. When the vehicle is shifted into reverse, the monitor will display a rear trajectory projection based on the location of the vehicle and the steering angle of the tires. When the rear camera is activated, it



will override a monitor that has been turned off.

The images captured by the camera will be shown on the touch-enabled operator display inside the cab area. While active, the display will provide the various camera displays and will duplicate the Mobile Delivery Device (MDD) display when the camera system is inactive.

The camera and display system will include an event data recorder that will record and store data from the camera monitoring system. Recording will be activated five seconds before a triggering event, such as a vehicle accident, to five seconds after the event ends.

Another safety concern to letter carriers across the country is the hazard posed when exhaust from a vehicle powered by an internal combustion engine enters the cab area. To alleviate this issue, the exhaust system of vehicles that use an internal combustion engine will discharge on the street side. This will prevent the fumes from entering the cab area through an open window on the driver's side.



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Along with added safety features, the NGDV includes numerous improvements in the cab area to make the vehicle more comfortable and easier to use while delivering mail.

Letter carriers will see a dramatic upgrade in both the look and feel of the cab area in the NGDV. New features include an improved driver's seat, which will incorporate many of the features available on modern vehicles. The new seat will have an adjustable lumbar support, the ability to adjust the seat for height as well as the distance from the steering wheel, and the ability to tilt the seat back. To accommodate drivers of differing heights, the steering wheel on the NGDV will tilt both up and down. The vehicle will even be equipped with intermittent windshield wipers for use on rainy days.

The cab area will also include an adjustable cup holder and coat hooks. A docking station for the MDD adjacent to the driver's seat will be included. This station will charge the device and display the screen on the operator display. The charging station will include two 12-volt power ports, with one port dedicated to the MDD.

The NGDV will be equipped with a two-tiered mail tray in the cab area. The width of both trays will allow three letter-sized or FSS trays to be placed side by side. The lower tray will tilt toward the driver to make it easier to read addresses on mail pieces. Each vehicle will be equipped with two rows of foldable shelving on each side in the cargo area. The driver will be able to stow and lock these shelves in the raised position. To help

prevent slips or falls while working in the vehicle, the cargo area will have anti-skid flooring, like the flooring used in the Promaster van. The cab area will have non-slip flooring that will also provide thermal and acoustic insulation.

To assist letter carriers working in low light, the NGDV will have two lights in the cab area. One will be an overhead light capable of illuminating the entire cab area when it is dark outside. The second will be a task light, which will illuminate the mail tray without generating window glare. The cargo area will have a light equipped with a motion sensor. This light will turn on automatically when the driver enters the cargo area and turn off after one minute if there is no movement in the area.

All of the doors will be equipped with electronic locks, which will be operated with a keyless remote. In addition, the driver's-side door to the cab area will include a manual lock that can be operated with a key. All doors, except the roll-up door at the rear of the vehicle, will lock in the open position.

For those letter carriers who work in parts of the country affected by snow and ice, the NGDV will include an option for all-wheel/four-wheel drive.

As the process moves forward and Oshkosh Defense finalizes the design of the NGDV for production and deployment, we will continue to update the membership about any changes or modifications to the NGDV that may affect the safety and comfort of the new vehicle. **PR**



# The *history* of letter carrier vehicles

**F**or as long as letter carriers have been delivering the mail, the Post Office has been looking for ways to speed up the delivery process, often through the use of vehicles. Now that the Postal Service has awarded a contract for the Next Generation Delivery Vehicle, here is a brief history of the vehicles used by letter carriers.

When the Second Continental Congress created the nation's first postal service in July 1775, it enshrined the Post Office in Article I, Section 8, Clause 7 of the U.S. Constitution, empowering Congress "to establish Post Offices and Post Roads." The Post Office used horses and wagons at the time to transport the mail from city to city along these post roads.

Horses remained the primary mode of transportation even as Free City Delivery was established in 1863. (For more on the establishment of Free City Delivery, see the January 2021 edition of *The Postal Record*.) That same year, Belgian engineer Jean J. Lenoir invented the "horseless carriage." Though the internal combustion motor had been in development for decades, Lenoir's invention was the first commercially successful one. It could move at about 3 mph and had no steering wheel, using a steering tiller instead.

The first Post Office letter carriers delivered on foot in the late 1800s, but carriers often used horse-drawn wagons to collect mail from collection boxes scattered throughout the cities they served, and they would continue to do so even as American inventors started creating their own self-powered vehicles.

In 1879, American inventor George Baldwin filed the first U.S. patent for an automobile, one that looked similar

to Lenoir's horseless carriage. In 1893, brothers Frank and Charles Edgar Duryea developed and road-tested the first successful U.S. gasoline-powered car. Three years later, they started the first American car manufacturing company in Springfield, MA, called Motor Wagons. In 1896, Henry Ford built his first automobile in Detroit.

By 1899, the Post Office had become interested in these developments and set up the first Post Office Department test. The test involved a mail wagon built by the Winton Company of Cleveland. In the December cold, and over snow-covered streets, the vehicle covered 22 miles of paved and unpaved road in just under two and a half hours, stopping at 126 mailboxes along the route. The Post Office estimated that it would have taken a horse-drawn wagon six hours to deliver the same route.

"Officials cheered the dramatic increase in collection speed and soon postmasters across the country were testing motorized vehicles," a historian at the Smithsonian's National Postal Museum later wrote. "Collection times were cut at least in half in most trials. This was exciting news for the time-conscious Post Office Department."

Another test was held in Baltimore in 1906 with a pair of Columbia Mark 3 "autocars." Each had a special compartment holding two mail sacks mounted on the back of the front seat. Because driving wasn't a skill many



A city collection mail wagon that was used in Chicago in 1890



A Winton vehicle in Cleveland in 1899



Harley-Davidson tri-cars



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The Columbia Mark 3s were driven by drivers provided by the manufacturer, who would take the letter carriers along their route.

## A Sit or Stand Van



people had, the company supplied drivers. The letter carriers stood on the back of the truck for easy access to mailboxes along the route.

The tests were successful and motorized mail vehicles were introduced elsewhere. By the end of 1912, they were being used in Boston, Detroit, Indianapolis, San Francisco and other cities, all with drivers provided by the vehicle manufacturers. But these drivers soon proved to be a problem.

In a 1913 New York City public hearing, mail drivers were accused of reckless driving, for allegedly exceeding the 15 mph speed limit and driving on the wrong side of the road. When drivers went on strike in New York that same year, the Post Office decided that it was time to develop its own Motor Vehicle Service. It did so the next year.

Meanwhile, some letter carriers used bicycles for delivery, but the Post Office was less successful with motorcycles, as it was difficult to balance the mail while on the motorcycle. In 1908, the Post Office tested a three-wheel motorcycle called the “tri-car,” which had storage in the rear. Harley-Davidson

and other manufacturers built tri-cars for testing, but the vehicles didn’t perform well in the tests and were abandoned.

In 1920, after the end of World War I, the War Department gave thousands of trucks and motorcycles to the Post Office, but many were too damaged for use. Through the ’20s, ’30s and ’40s, the Post Office amassed a fleet of postal trucks. But with so many different manufacturers and suppliers, it became difficult to service the fleet. During the Great Depression, the Post Office limited purchases of new vehicles, resulting in many remaining on the road longer than expected. And during World War II, the Motor Vehicle Service had to make do with whatever it had on hand, as spare parts were hard to find.

“When you hear talk of keeping a vehicle together with bailing wire, believe me, the Post Office was good at it,” Baltimore letter carrier Jim Byrne said at the time.

Until the 1950s, most carriers and the mail were transported by truck to where their walking routes began. But in the post-World War II period, business was booming, more people were employed and mail volume surged. City delivery had expanded to include curbside delivery in the 1930s, and as suburbs started to grow in the ’50s, the need for better-suited vehicles became a pressing issue. It was time for letter carriers to get behind the wheel.

In Miami in 1954, the Post Office tested many types of vehicles, before focusing on three: the Sit or Stand Van, the Mailster and the Jeep.

The Sit or Stand Vans were built by the Twin Coach Company of Kent, OH, and gave letter carriers the option of standing up while driving short distances or sitting down for longer

**The assembly line  
for the Willys Jeep**



distances. The sliding side panel doors allowed carriers easy access to mailboxes along the route.

The Mailster was a smaller, three-wheeled vehicle based on an ice cream truck design. As soon as the vehicles were put into use, the problems with them became apparent. The heating often didn't work and the Mailster could become immobilized in 3 inches of snow. With three wheels, if the letter carrier went around a corner too fast, it could topple over. One carrier complained that his Mailster was tipped over by a large dog.

The most successful of the new vehicles was the Jeep. The Jeep had become famous for its rugged performance during World War II. Willys Motors of Toledo, OH, produced a right-hand drive vehicle so carriers could save time on their routes by delivering straight from the window. These Jeeps were built in a lighter, less durable design than the standard Jeep.

In the 1980s, the Postal Service decided to replace its fleet, seeking a new vehicle that would meet its needs in terms of longevity. But rather than using a design from an already existing vehicle, as it had in previous searches, it created a set of testing criteria and asked manufacturers to compete to create a new design. Each vehicle had to:

- Drive 5,760 miles on a closed-loop 5-mile-long paved road at 50 to 55 mph.
- Drive 11,520 miles over a gravel road at 30 to 45 mph.
- Drive 2,880 miles over a road with a shoulder, stopping every 250 feet and accelerating to 15 mph in between.
- Drive 960 miles over cobblestones that ranged from 3 to 4 inches high at 10 to 14 mph.

- Drive 960 miles over pot-holes at 10 to 14 mph.
- Haul a 1-ton load during half of the road test.
- Haul a man and a 400-pound load during half of the road test.
- Drive over potholes ensuring that each wheel hits a pothole 35,000 times.
- Make 100 consecutive stops from 15 mph.

Additionally, the vehicles had to have a weather-tight, aluminum-alloy body, be easy to enter and exit for carriers ranging from 4 feet, 11 inches tall to those standing at 6-foot-2 and weighing 210 pounds, and had to be able to run 20 hours a day, seven days a week, for more than 20 years.

The winner of the competition was the Long Life Vehicle (LLV), produced by the Grumman Corporation, then based in Bethpage, NY. It began service in 1986 and 99,150 LLVs were produced until the last was built in 1994. The Postal Service pushed the lifespan up to 30 years, but by 2014, it knew it had to prepare for the next postal vehicle.

The Next Generation Delivery Vehicles are expected to appear on carrier routes in 2023, becoming the latest vehicle to help letter carriers deliver. **PR**



**A Mailster from 1955**

**The Grumman LLV**

