



"... meeting community needs ... enhancing quality of life."

DEPARTMENT OF PUBLIC WORKS
Engineering Division – Traffic Section
2625 E. Glendale Avenue
Appleton, WI 54911
TEL (920) 832-5580
FAX (920) 832-5570

To: CEA Committee
From: Eric S. Lom, City Traffic Engineer
Date: March 25, 2021
Re: Request to Upgrade Truck #185 when Replaced in 2022 (Traffic Section / Sign Shop)

The Sign Shop's existing ¾ ton pickup truck is equipped with a basic utility body, ladder rack, lift gate and hydraulic post puller. This configuration allows us to carry some of the gear and materials we need to conduct our operations, but it greatly hinders our ability to *efficiently* and *safely* conduct our operations in the following regards:

- Inadequate tool and hardware storage: This limitation consistently results in extra trips to the shop since we are not able to carry all the tools and hardware we might need during the course of a work day.
- Inadequate/unsafe sign post storage: We currently carry our sign posts on the ladder rack. These posts are quite long and heavy, which results in ergonomic and safety issues when we load or unload posts. Also, since the posts are ratchet strapped to the ladder rack, it is time consuming and cumbersome to loosen/tighten the ratchet straps every time we need to load/unload a post.
- Inadequate vehicle safety lighting: The current truck has a small arrow "stick," with no ability to add a full-size arrow board. The existing arrow stick does not provide adequate safety/visibility, especially on high speed/volume roadways.
- Impeded access to the truck bed: In order for my technicians to load and unload materials into the bed of the truck, they must get on their hands and knees to crawl under the ladder rack. This is inefficient, poses ergonomic issues and generally makes the bed almost unusable.
- Poor ladder storage: We currently have no choice but to stow our 10' ladder on the ladder rack. This ladder is cumbersome and heavy, which results in ergonomic and safety issues when we load or unload it multiple times over the course of the work day.
- Winter weather limitations: The Sign Shop currently has zero 4-wheel (or all-wheel) drive vehicles. This limitation has become problematic during winter weather, as it is often necessary to mount islands and curbs to conduct operations.

As a part of the truck replacement process, we researched numerous alternate truck types/capabilities that could address many of the operational problems posed by the current vehicle design. In the end, our research led us to three general design options:

- Option 1: Replace In Kind (\$53,000 approximate cost): This option would replace the truck as-is (8' bed). It would fail to address any of the operational efficiency and ergonomic/safety issues identified above and would present a long-term hindrance to our ability to properly maintain our ever-growing sign inventory of over 22,000 signs.
- Option 2: Upgrade to an 11-foot bed (\$78,000 approximate cost): This option would replace our existing truck with a larger pick-up truck (F350) with an extended bed, 4-wheel drive & extended cab, and would address the following operational issues we have with our current truck:

- Tool, hardware and equipment storage (larger utility body)
 - Internal, working-level sign post storage (11' bed)
 - Improved vehicle safety lighting (utilizing a full-size arrow board)
 - Unimpeded access to the truck bed (no ladder rack)
 - Curb-side walk-in access to the truck bed (stairs)
 - Improved, working-level ladder storage (11' bed)
 - Ability to better operate in winter weather conditions (4-wheel drive)
- Option 3: Upgrade to match Truck 182 (\$125,000 approximate cost): This option would replace the existing truck with a much larger pick-up truck (F550) with significantly improved capabilities, mimicking the design of our existing Truck 182. The added capabilities, as compared to Option 2, are:
 - A large storage enclosure for a wide array of signs
 - Addition of a hydraulic system, which would allow us to utilize a hydraulic post driver

After careful consideration of the various options available to us, as well as a thorough review of our own operational processes, we concluded that Option 3 would yield the greatest efficiencies. However, we did not believe the additional costs associated with it were justifiable. Conversely, we concluded that Option 1 was not in the best long-term interest of the City, as it would serve to "lock-in" the associated operational inefficiencies and ergonomic/safety concerns for another 10-15 years.

We believe Option 2 offers the best overall long-term value for the City by addressing nearly all of the identified concerns at a price we believe is reasonable. For this reason, we recommend upgrading Truck 185 as noted herein at an estimated total cost of \$78,000 (\$25,000 above the current in-kind replacement cost). If approved, the additional cost for the upgrade would be included in the DPW budget for 2022.

Attachment: Example Photos



Option 1 (F250): This is our existing service truck that is being replaced



Option 2 (F550): This is our other existing service truck