

AASHTO Innovation Initiative

[Proposed] Nomination of Innovation Ready for Implementation

Sponsor

Nominations must be submitted by an AASHTO member DOT willing to help promote the innovation. If selected, the sponsoring DOT will be asked to promote the innovation to other states by participating on a Lead States Team supported by the AASHTO Innovation Initiative.

1. **Sponsoring DOT (State):** Florida DOT
2. **Name and Title:** Steven Kelly, Maintenance Environmental Specialist

Organization: Florida Department of Transportation

Street Address: 801 North Broadway Ave.

City: Bartow

State: Florida

Zip Code: 33831

Email: steven.kelly@dot.state.fl.us

Phone: (863) 450-0819

Fax: N/A

Innovation Description (10 points)

The term “innovation” may include processes, products, techniques, procedures, and practices.

3. **Name of the innovation:**

Fabricated Water Truck

4. **Please describe the innovation.**

The FDOT Fort Myers Operations Center needed a way to water vegetation and control dust in areas where water is not available. A new commercial water truck is approximately \$80,000. Unfortunately, the

OPS Center did not have the funds to purchase a commercial water truck, so Mark Prescott fabricated a cost-effective water tank that fits in the back of an FDOT 550 truck. The tank set-up includes an on-board generator that runs the water pump and an amber warning light that is solar powered.

5. What is the existing baseline practice that the innovation intends to replace/improve?

Prior to the innovation, the Fort Myers Operations Center did not have a water truck.

6. What problems associated with the baseline practice does the innovation propose to solve?

The primary issue was the inability to water new wildflowers and sod in the dry season. Florida has a dry season with little to no rainfall from February to May. During the dry season, newly planted wildflower areas, and new sod were prone to dying due to lack of water. The Fort Myers OPS Center needed a way to water vegetation and control dust in areas where irrigation is not available.

7. Briefly describe the history of its development.

Mr. Prescott is a skilled electrician and welder. He fabricated the water tank set-up that sits on two stainless steel pallets. The tank includes piping that allows water distribution on both sides and in the rear of the truck. The tank includes an on-board generator that runs the water pump and an amber warning light (for added safety when using the roadway) that is solar powered. The cost of the materials to build the water tank was approximately \$7,500.

8. What resources—such as technical specifications, training materials, and user guides—have you developed to assist with the deployment effort? If appropriate, please attach or provide weblinks to reports, videos, photographs, diagrams, or other images illustrating the appearance or functionality of the innovation (if electronic, please provide a separate file). Please list your attachments or weblinks here.

Please see the following photos of the Fort Myers OPS Center Fabricated Water Truck.

Attach photographs, diagrams, or other images here. If images are of larger resolution size, please provide as separate files.



State of Development (40 points)

Innovations must be successfully deployed in at least one State DOT. The AII selection process will favor innovations that have advanced beyond the research stage, at least to the pilot deployment stage, and preferably into routine use.

9. How ready is this innovation for implementation in an operational environment? Please select from the following options. Please describe.

- ☐ Prototype is fully functional and yet to be piloted
- ☐ Prototype has been piloted successfully in an operational environment
- ☒ Technology has been deployed multiple times in an operational environment
- ☐ Technology is ready for full-scale implementation

The fabricated water tank is constructed and has been in-use since 2019.

10. What additional development is necessary to enable implementation of the innovation for routine use?

There is no additional development necessary.

11. Are other organizations using, currently developing, or have they shown interest in this innovation or of similar technology?? ☐ Yes ☒ No

If so, please list organization names and contacts. Please identify the source of this information.

Organization	Name	Phone	Email
N/A	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Potential Payoff (30 points)

Payoff is defined as the combination of broad applicability and significant benefit or advantage over baseline practice .

12. How does the innovation meet customer or stakeholder needs in your State DOT or other organizations that have used it?

The use of the fabricated water truck has improved the performance and survivability of the Fort Myers OPS Center wildflower program. The truck is a cost-effective tool that was developed in-house that allows staff to water vegetation in areas where water is not available.

13. Identify the top three benefit types your DOT has realized from using this innovation. Describe the type and scale of benefits of using this innovation over baseline practice. Provide additional information, if available, using quantitative metrics, to describe the benefits.

Benefit Types	Please describe:
Cost Savings	A new water truck is expensive. The budget for a “new” water truck would be approximately \$50,000 to \$80,000. This would result in a savings between \$42,500 to \$72,500. It allows staff it remove the tank from the 550 when it’s not needed. Increasing the versatility of our existing equipment.
Improved Safety	To improve traffic / worker safety, the water tank includes a yellow amber warning light that is activated when the tank is in use. In addition, the water cannons mounted on the tank, allow staff to operate the tank from the safety of the vehicle cab.
Improved Operation Performance	The fabricated water truck allowed the Fort Myers Operations Center to water wildflower plots during the dry season. The OPS Center tried for years to successfully plant wildflowers on the Michael G Ripp Causeway. The fabricated water truck helped make this possible.

Provide any additional description, if necessary:

N/A

14 How broadly might this innovation be deployed for other applications. in the transportation industry (including other disciplines of a DOT, other transportation modes, and private industry)?

This innovation could be deployed and used in the transportation industry including other DOT agencies and private industry.

Market Readiness (20 points)

The All selection process will favor innovations that can be adopted with a reasonable amount of effort and cost, commensurate with the payoff potential.

15. What specific actions would another organization need to take along each of the following dimensions to adopt this innovation?

Check boxes that apply	Dimensions	Please describe:
<input type="checkbox"/>	Gaining executive leadership support	Click or tap here to enter text.
<input type="checkbox"/>	Communicating benefits	Click or tap here to enter text.
<input type="checkbox"/>	Overcoming funding constraints	Click or tap here to enter text.
<input checked="" type="checkbox"/>	Acquiring in-house capabilities	Mark Prescott who was instrumental in building the water truck is a skilled welder. If an organization adopted this innovation, the task would require staff with welding capabilities.
<input type="checkbox"/>	Addressing legal issues (if applicable) (e.g., liability and intellectual property)	Click or tap here to enter text.
<input type="checkbox"/>	Resolving conflicts with existing national/state regulations and standards	Click or tap here to enter text.
<input checked="" type="checkbox"/>	Other challenges	Prior to modifying an FDOT vehicle, we work with the Florida Highway Patrol and the Florida Highway Safety and Motor Vehicles to ensure that the vehicle is designed and registered properly to operate on the road safely.

16. Please provide details of cost, effort, and length of time expended to deploy the innovation in your organization.

Cost: The materials to build the water tank including two stainless steel pallets, generator, pumping apparatuses, amber warning light cost approximately \$7,500.

Level of Effort: The project required a skilled welder to build the fabricated water tank.

Time: The fabricated water tank took about six months to build.

17. To what extent might implementation of this innovation require the involvement of third parties, including vendors, contractors, and consultants? If so, please describe. List the type of expertise required for implementation.

This innovation was a “home-grown” innovation and did not include third parties. FDOT staff developed and constructed the innovation.