



AIM Innovation Showcase Application

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 present the innovation at the Innovation Showcase during the AASHTO Spring Meeting.

1. Sponsoring DOT (State): Missouri

2. Name and Title: Stephen Smith, Equipment Technician Supervisor

Organization: Missouri Department of Transportation

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State: Missouri

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Innovation Description (30 points)

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

3. Name of the innovation:

Joplin-Crowder College Collaboration

4. Please describe the innovation.

The Diesel Technology program at Crowder College in Neosho, MO requires college students to have hands on experience repairing and servicing all types of fleet vehicles and equipment. MoDOT's Joplin maintenance facility developed a collaboration that provides students the experience they need while benefitting MoDOT with much needed assistance in maintenance and repairs of fleet and equipment. Students are supervised by college instructors where they diagnose and repair MoDOT fleet and equipment without charging for labor. The only costs incurred by MoDOT are parts and supplies needed to make repairs. Once the unit has been repaired, quality assurance and quality control processes are performed by the instructor ensuring the services performed meet MoDOT's standards. When the fleet and equipment is returned to MoDOT's maintenance facility, a certified MoDOT technician inspects the repairs and approves the fleet and equipment before allowing MoDOT staff to use the fleet or equipment. The turnaround time on repairs performed by the college is much quicker than outsourcing the repairs a vendor. The students are always ready to get started on MoDOT's units and have repairs completed in less than a week. In the first three months of implementation in 2023, the Southwest District Joplin maintenance facility sent nine units to Crowder College. During that time the labor cost savings was nearly \$16,000. Instructors at Crowder College want their students to graduate from their program with experience that prepares them for their careers. The college trusts MoDOT's values and practices and speak highly of MoDOT to their students. The Joplin maintenance facility has opened its doors to the college students to explore their program to see if MoDOT is a good fit for their future career. The Southwest District has been using this partnership as a way to meet prospective candidates for employment at MoDOT. Multiple tours of the Joplin facility have taken place and MoDOT staff have spoken with Crowder College students in both the diesel technology and truck driving programs about technician and maintenance careers opportunities.

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

Repairing and servicing fleet and equipment.

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

There are times throughout the year when MoDOT technicians are unable to keep up with fleet and equipment repairs which leaves equipment and vehicles out of service for potentially long periods of time.

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7. Briefly describe the history of its development.

The Diesel Technology program at Crowder College in Neosho, MO requires college students to have hands on experience repairing and services all types of fleet vehicles and equipment. MoDOT's Joplin, MO maintenance facility has developed a collaboration that will provide the students the experience they need while benefitting MoDOT with much needed assistance with maintenance and repairs of fleet and equipment.

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 below (if electronic, please provide a separate file). Please list your attachments or weblinks here.

Innovation YouTube Video: [Joplin-Crowder College Collaboration | Missouri Department of Transportation \(modot.org\)](#)



State of Development (10 points)

Innovations must be successfully deployed in at least one State DOT. The AIM 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.

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

In the first three months of implementation, the Southwest district sent nine units to Crowder College. During that time, there was a cost savings of nearly \$16,000 in labor costs. The turnaround time on repairs is much quicker than outsourcing to an outside vendor.

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

MoDOT districts will contact local technical colleges with diesel and fleet repair programs to begin the collaboration.

11. Do you have knowledge of other organizations using, currently developing, or showing interest in this innovation? Yes No

If so, please list organization names and contacts.

Organization	Name	Phone	Email
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Potential Payoff (30 points)

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

12. Identify the top three benefits 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:
Improved Operation Performance	Being able to contract with colleges will free up time for MoDOT technicians to conduct their repairs to fleet and equipment at a normal pace without overtime.
Improved Asset Performance	With college students assisting with maintenance and repairs, performance on MoDOT fleet assets improves.
Cost Savings	MoDOT only pays for parts and supplies needed to make repairs on equipment sent to colleges for repairs. No labor cost is incurred.

Provide any additional details below:

[Click or tap here to enter text.](#)

Deployability (30 points)

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

13. What challenges and/or lessons learned should other organizations be aware of before adopting this innovation?

None

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

Cost: Costs will vary. The only expense MoDOT incurs is the cost of parts and supplies needed to make repairs to MoDOT fleet and equipment.

Level of Effort: Initial setup would be a moderate level task between MoDOT and local college. Moving forward, only minimal effort needed to move fleet and equipment to and from the college.

Time: Roughly 8 to 10 hours for initial setup, and a recurring length of time for travel times only.



15. 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.

MoDOT staff will collaborate with eligible local colleges to implement the program. MoDOT Maintenance supervisors will work with college faculty to launch and continue the program.