

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

1. Sponsoring DOT (State): Pennsylvania

2. Name and Title: George W. McAuley, P.E., Deputy Secretary for Highway Administration

Organization: PennDOT Office of Highway Administration

Street Address: 400 North Street, 8th Floor

City: Harrisburg

State: PA

Zip Code: 17552

Email: GMCAULEY@pa.gov

Phone: (717) 787-6875

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

3. Is the sponsoring State DOT willing to promote this innovation to other states by participating on a Lead States Team supported by the AASHTO Innovation Initiative? Yes No

Innovation Description (10 points)

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

4. Name of the innovation:

High RAP and Cold RAP Mixtures

5. Please describe the innovation. Describe how this innovation transforms your existing “state of play.”

In the effort to continue with the use of RAP mixtures in Pennsylvania and with the advantages with other states research initiatives, there is need to develop a comprehensive manual and training course to continue advancement and progress of evolving High RAP practices throughout the Department and with Industry.

6. If appropriate, please attach photographs, diagrams, or other images illustrating the appearance or functionality of the innovation (if electronic, please provide a separate file). Please list your attachments here. Attach photographs, diagrams, or other images here.

N/A

7. Briefly describe the history of its development.

PennDOT has worked with the Pennsylvania Asphalt Pavement Association to develop a standard special provision (SSP) facilitating the use of higher amounts of reclaimed asphalt pavement (RAP) into 19.0 mm asphalt mixtures for use on low volume roadways. These industry relationships along with utilizing existing national efforts with research related to High RAP and Cold RAP Mixtures, PennDOT has advanced it operations and construction specifications for using these types of materials in cost effective ways.

State of Development (40 points)

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

8. How ready is this innovation for implementation in an operational environment? Please check of the following options. Please describe.

- Prototype is fully functional and yet to be piloted
- Prototype demonstrated successfully in a pilot environment
- Technology has been deployed multiple times in an operational environment
- Technology is ready for full-scale adoption

With the development of standard special provisions that have enabled the application of high RAP in PA asphalt mixes, the practice has been widely accepted.

9. What additional development is necessary to enable routine deployment of the innovation? What resources—such as technical specifications, training materials, and user guides—are already available to assist with the deployment effort?

Training materials and manuals are necessary to supplement continuing changes with High RAP and Cold RAP Mixtures within the Pennsylvania, where research results from active programs, such as in Maine and Idaho would be referenced to further enhance the development of High RAP and Cold RAP practices.

10. Has any other organization used this innovation? Yes No

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

Organization	Name	Phone	Email
Idaho DOT	Tracy McGillick	208-334-8839	Tracy.McGillick@itd.idaho.gov
Maine DOT	Derek-Nener-Plante	(207) 624-3011	Shelly.Wood@maine.gov
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 other current practice (baseline).

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

With the continued use of recycled pavement along with Warm and Cold Mix designs that require less energy to process, this initiative presents an overall benefit to reuse of existing materials, recycling, and implementing new technologies to advance pavement management and rehabilitation and reduce costs.

12. What type and scale of benefits have your DOT realized from using this innovation? Include cost savings, safety improvements, transportation efficiency or effectiveness, environmental benefits, or any other advantages over other existing baseline practice. Please identify the following benefit types:

Check boxes that apply	Benefit Types	Select a rating from the drop-down menu
<input checked="" type="checkbox"/>	Cost Savings	4-Moderate to High
<input type="checkbox"/>	Shortened Project/Service Delivery Schedule	Choose an item.
<input type="checkbox"/>	Improved Customer Service	Choose an item.
<input type="checkbox"/>	Improved Quality	Choose an item.
<input checked="" type="checkbox"/>	Environmental Benefits	7-Exceptional
<input type="checkbox"/>	Organizational Efficiency	Choose an item.
<input type="checkbox"/>	Improved Safety	Choose an item.
<input type="checkbox"/>	Improved Operation Performance	Choose an item.
<input checked="" type="checkbox"/>	Improved Asset Performance	3-Moderate
<input type="checkbox"/>	Other (please describe)	Choose an item.

Provide an additional description, if necessary:

Click or tap here to enter text.

13. Please describe the potential extent of implementation in terms of geography, organization type (including other branches of government and private industry) and size, or other relevant factors. How broadly might the technology be deployed?

Click or tap here to enter text.

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.

14. 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	
<input checked="" type="checkbox"/>	Measuring performance (e.g. benefits documentation)	The training should provide for pavement engineers and

		material vendors and the paving industry with the necessary tools to improve operations.
<input type="checkbox"/>	Improving technology understanding	Click or tap here to enter text.
<input type="checkbox"/>	Overcoming financial constraints	Click or tap here to enter text.
<input type="checkbox"/>	Addressing legal issues (if applicable) (e.g., liability and intellectual property)	Click or tap here to enter text.
<input type="checkbox"/>	Acquiring in-house expertise	.
<input type="checkbox"/>	Resolving conflicts with existing regulations and standards	Click or tap here to enter text.
<input type="checkbox"/>	Other Challenges	Click or tap here to enter text.

15. What is the estimated cost, effort, and length of time required to deploy the innovation in another organization?

Please describe:

Cost: \$300,000

Level of Effort: The proposed project includes development of training materials and workshops to educate agency staff and the paving industry.

Time: 12 months

16. To what extent should the 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.

We anticipate using agency, consultant, and industry groups with experience and expertise in High RAP and Cold RAP process. Existing and completed research in this subject matter will be incorporated with their applicable results.