

# 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): **New Hampshire**
2. Name and Title: **Richard Arcand, Program Specialist**

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## Innovation Description (10 points)

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

3. Name of the innovation:

Overcoming COVID-19 TMC Operational Challenges

4. Please describe the innovation.

The COVID-19 pandemic required a unique solution that would allow the NH Transportation Management Center staff to work from home and complete their mission. By utilizing “off the shelf”

radio communication equipment and software used in other areas of State Government, the group can now safely operate all of the NH TMC systems remotely. TMC staff can activate any ITS device, fully utilize the Advanced Transportation Management System, communicate with NHDOT employees via the radio and communicate via the VoIP phone system.

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

All of the DOT Transportation Management Centers were built to bring groups of people together during emergencies. These buildings contain a complex group of secure computer systems that are normally only accessed from within the building.

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

Connectivity without physically being in the building.

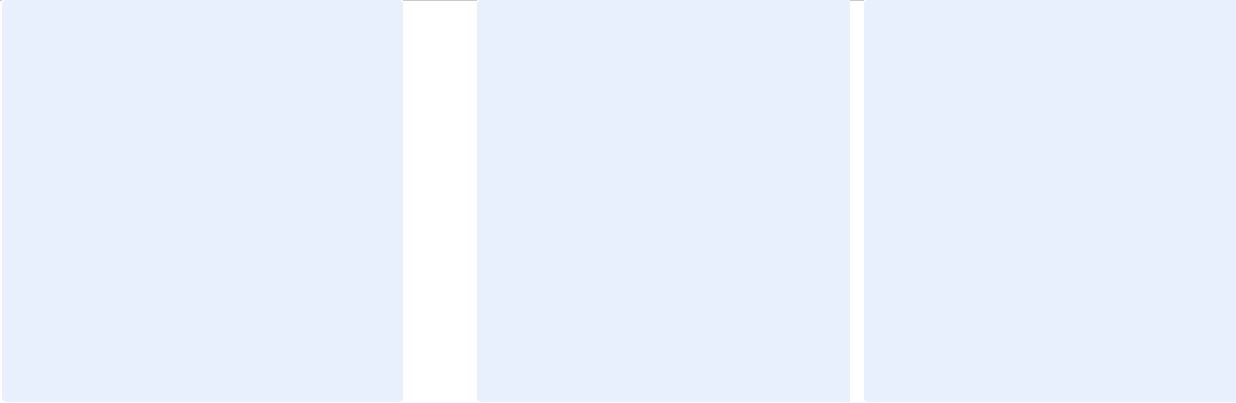
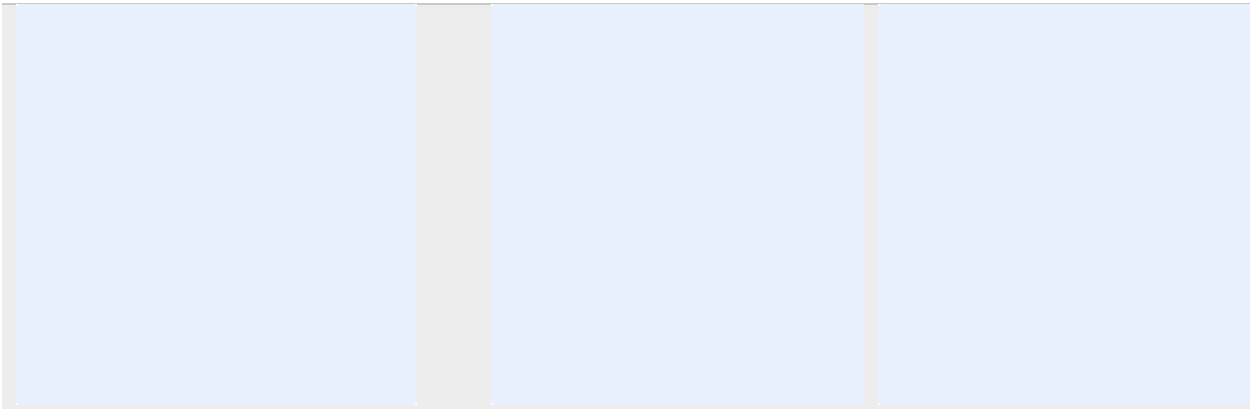
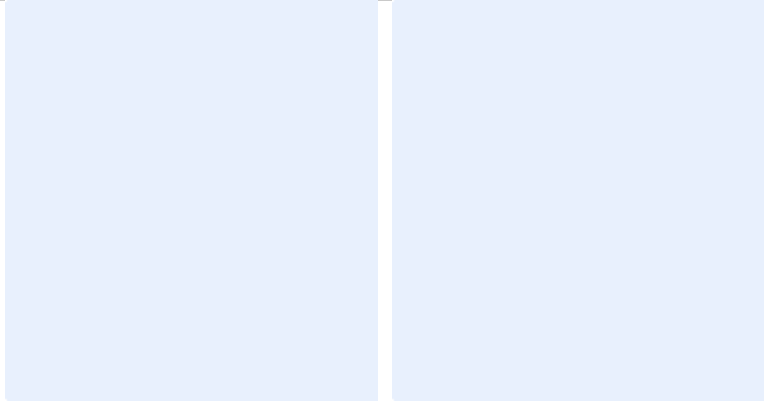
7. Briefly describe the history of its development.

When the virus outbreak began management knew they needed to act quickly to continue operations and protect employees – Several employees needed to work from home and the decision was made to find a way to make it work.

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.

NHDOT Communication maintenance and State IT worked together to develop a solution in one afternoon. Communication staff programmed an older radio console and built a collapsible 7-foot antenna so it could be transported in my Subaru and set up on the back porch. IT installed Cisco Jabber on laptops and provided headsets. Communication and IT worked jointly to provide secure access to ATMS hosted software remotely without relying on the state network.

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 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.

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
- X - **Technology has been deployed multiple times in an operational environment.**
- Technology is ready for full-scale implementation

Click or tap here to enter text.

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

We are working on putting the entire Radio over IP network on laptop with connection via secure wireless technology. Once that is complete- the TMC Operators will have the same look and feel as if in the TMC and not have to use the older radio console.

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

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

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

The staff can remain COVID-19 free and complete their work responsibilities.

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:
Healthy Employees.	No need to socially distance in the office areas.
Lower Maintenance.	No need to clean desks or conference rooms on a daily basis.
Staying Connected.	Access to all the systems and other agencies is key to the mission of the TMC..

Provide any additional description, if necessary:

Working from home has relieved the stress of commuting and has allowed those with younger kids the ability to help as needed.

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)?

It should work for many Management Centers.

## 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:
- X -	Gaining executive leadership support	It requires IT resources, some funding.
<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 type="checkbox"/>	Acquiring in-house capabilities	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"/>	Resolving conflicts with existing national/state regulations and standards	Click or tap here to enter text.
<input type="checkbox"/>	Other challenges	Click or tap here to enter text.

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

**Cost:** Cost was negligible because NHDOT already owned the radio, antenna parts, software and secure tunnel.

**Level of Effort:** This took 1 afternoon for 3 people to construct.

**Time:** 4 hours

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.

It may require purchasing some equipment and software. IT professionals were essential to our success.