

## Municipal Vulnerability Preparedness Program Action Grant Case Study

**Municipality:** Town of Sheffield, New Marlborough, and Sandisfield

**Project Title:** Rural Dirt Road Vulnerability Assessment

**Award Year (FY):** FY21

**Grant Award:** \$123,973

**Match:** \$41,520

**Match Source:** Time Match Commitment

**One or Two Year Project:** One-Year Project

**Municipal Department Leading Project:** Town of Sheffield, Town Administrator

**Project Website URL:** <https://mvpresilientdirtroadsproject.wordpress.com/>

### Community Overview:

- What is the population size of your community and where is it located?
- Do you have any [Environmental Justice](#) or other Climate Vulnerable communities? (Think about both those who live and work in your town.)
- Other unique traits of your municipality like who the top employers are, geography, history, etc.

The towns of Sheffield, New Marlborough, and Sandisfield are adjacent rural Massachusetts communities that share a border with Connecticut in the southwestern corner of the state. These towns are recognized in the Berkshire Region for important cultural and natural resources such as the Housatonic River in Sheffield, New Marlborough's Five Historic Villages, and Sandisfield's large parcels of open-space managed under conservation restriction. While Sheffield, New Marlborough, and Sandisfield have generally small populations (approximately 3257, 1458, and 900, respectively), each community sees a significant spike in population during the summer months when second home owners and vacationers visit the Berkshires for recreation.

### Project Description and Goals:

- Where was the project located?
- What climate change impacts did the project address?
- What were the specific goals and tasks of the project as stated in your application?
- Did your project meet the goals set forth in your application in terms of:
  - Employing nature-based solutions
  - Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations
  - Providing regional benefits
  - Implementing the public involvement and community engagement plan set forth in your application
  - Finishing the project on time

This three-community (i.e. regional) rural dirt road vulnerability assessment sought to better understand how and under what conditions rural dirt roads are vulnerable to the effects of climate change. In addition to the important cultural value of rural dirt roads, there is a significant cost for municipalities to maintain and repair dirt roads and the social costs related to public health and safety, public services, and school bus routes are strained by the effects of a changing climate. The expansive network of rural dirt roads in mountainous regions of western, Massachusetts are uniquely vulnerable to changing climate conditions – effects that have already been observed. Sheffield, New Marlborough, and Sandisfield identified the vulnerability of dirt roads as a top climate resilience priority in previous MVP planning efforts. While each community recognizes the infrastructural, social, and environmental impacts on the community due to dirt road vulnerability, this project was a logical first-step to better understand this issue. This project resulted in an assessment report, a novel methodology to assess dirt road vulnerability, and a prioritized list of vulnerable dirt roads for each participating community.

### **Results and Deliverables:**

- Describe, and quantify (where possible) project results (e.g. square footage of habitat restored or created, increase in tree canopy coverage, etc.). Report out on the metrics outlined in your application.
- Provide a brief summary of project deliverables with web links, if available.

This project developed a unique scoring methodology based on various factors of sensitivity and criticality. Measures of vulnerability were informed through community feedback, a robust field and desktop data collection effort, and municipal stakeholder engagement. This scoring methodology provides a flexible framework for application in other municipalities that face similar challenges related to dirt road vulnerability. A rural dirt road vulnerability assessment report was prepared to describe findings of this assessment, present the novel assessment methodology developed for this project, and provide resilience recommendations.

### **Lessons Learned:**

- What lessons were learned as a result of the project? Focus on both the technical matter of the project and process-oriented lessons learned.
- What is the best way for other communities to learn from your project/process?

This project resulted in an important first order understanding of rural dirt road vulnerability in the context of a changing climate. To better understand these challenges, two important revisions to the assessment methodology are needed. First, additional and more robust climate data/modeling is needed to better contextualize the effects of climate exposure on these important rural roadways. Second, each dirt roadway evaluated was assessed as a singular unit often containing multiple sources of vulnerability on a given roadway. Future assessments may benefit from evaluating dirt roadways in segments based on source of climate exposure.

### **Partners and Other Support:**

- Include a list of all project partners and describe their role in supporting/assisting in the project.

The Towns of Sheffield, New Marlborough, and Sandisfield were instrumental project partners on this project. Thank you to the Berkshire Region Highway Superintendents Association for hosting a project informational session where the assessment methodology was presented to BRHSA members.

### **Project Photos:**

- In your electronic submission of this report, please attach (as .jpg or .png) a few high-resolution (at least 300 pixels per inch) representative photos of the project. Photos should not show persons who can be easily identified, and avoid inclusion of any copyrighted, trademarked, or branded logos in the images. MVP may use these images on its website or other promotional purposes, so please also let us know if there is someone who should receive credit for taking the photo.



Mud Season in Sandisfield (January 2021) Photo Credit: Town of Sandisfield





Entrenched Roadway, Town of Sheffield



Partially Flooded Segment of Dodd Road, Town of Sandisfield