

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN**

MEETING SUMMARY

PROJECT: LANCASTER-SHELBURNE 40844
US ROUTE 2 SAFFETY IMPROVEMENTS

DATE OF CONFERENCE: March 21, 2024, 6:00 pm

LOCATION OF CONFERENCE: Virtual – Microsoft Teams

SUBJECT: Public Officials/Informational Meeting

ATTENDANCE:

PROJECT TEAM

Corey Spetelunas..... NHDOT Project Manager

Amanda Zatecka NHDOT Project Lead

MEMBERS OF THE PUBLIC

See attached sign-in sheet.

NOTES ON MEETING:

The New Hampshire Department of Transportation (NHDOT) held a Public Officials/Informational Meeting to present citizens and public officials with information regarding the proposed Lancaster-Shelburne 40844 US Route 2 project. NHDOT solicited community input to aid in the refinement of rumble strip locations to avoid unnecessary nuisance hits that would not provide a significant safety benefit.

Corey Spetelunas began the meeting by presenting the purpose of the project, why rumble strips are being put forward for installation along US Route 2, why they are an effective lane departure countermeasure, and reviewed specific installation locations identified. This presentation can be found at this link: [Lancaster-Shelburne 40844](#). He then welcomed public input and discussion.

June Hammond, chair of the Randolph Planning Board, addressed the project and shared a letter that was subsequently sent to the William Cass, NHDOT Commissioner, voicing Randolph's comments for this project.

1. Noise Impacts from Rumble Strips: A number of residents expressed noise a primary concern at the previous public meeting held December 3, 2020. A large contributing factor is the topography of the area adjacent to US Route 2, being in a valley surrounded by steep slopes. This often generates echoes and causes noise to be heard far away from US Route 2. The 2001 US Route 2

Corridor Study completed by VHB documented this concern. Randolph would like to advise the NHDOT that these proposed rumble strips be removed in the future if the noise causes adverse impacts to property owners and visitors.

- a. *Corey noted that this project will be exclusively using sinusoidal rumble strips (also known as mumble strips) to reduce the amount of noise generated when vehicles depart their lane and traverse the strips. These are about half as loud as the traditional rectangular rumble strips that most drivers are accustomed to, but still provide many of the same benefits to inhabitants of the vehicles.*
2. **Bicycle Safety:** US Route 2 is a common location for bicyclists to utilize and Randolph wants to ensure that the proposed rumble strips accommodate these users. Of particular concern are areas with guardrail or where the shoulder is narrow.
 - a. *Corey reinforced that rumble strips will not be installed on shoulders that measure less than 6' (or 7' with an immediate obstruction at the edge of pavement, such as guardrail) to ensure that bicyclists maintain at least 4' of available space, which is the minimum permissible width documented in the AASHTO Guide for the Development of Bicycle Facilities, 4th Edition. It was also shared that shoulder rumble strips are comprised of 48' of rumble strip followed by 12' of opening to allow bicyclists to enter and exist the shoulder without having to traverse over the rumble strips. If a shoulder measures less than these values, shoulder rumble strips will not be installed.*
 3. **Passing Zones:** Randolph asked the NHDOT to reduce the number of passing zones along US Route 2 to enhance safety and minimize noise impacts from vehicles passing in these locations. Specific to this request is the passing zone immediately east of the Appalachia trailhead, which often has vehicles parked on the shoulder or adjacent gravel area along the south side of US Route 2. These vehicles can impede the sight distance along US Route 2 for drivers leaving the trailhead and this passing zone increases the potential hazard due to this situation.
 - a. *Corey noted that the primary issue at Appalachia appears to be parking along shoulders when the trailhead parking lot is full, which can impede the sight distance for drivers trying to enter US Route 2. While this passing zone can complicate this issue, improvements to the parking would alleviate most of these concerns. It was suggested to install and enforce 'No Parking' signs along the shoulder or add additional parking, which could be accomplished via parking lot expansion or a gravel pull-off beyond the shoulder for vehicles to park and allow the sight lines to be unobstructed.*

The letter concludes with Randolph asking the NHDOT to consider the specific context of the community during the finalization of the plans for this project.

Lori Rosenthal typed a question in chat noting that US Route 2 gets very dark at night, and if lighting or additional reflectors had been considered as well.

- a. *Corey noted that lighting has not been considered along US Route 2 due to the Department's lighting policy, and recent removal of lighting across the state. Lights are typically reserved for pedestrian crossings, signalized intersections, or prominent conflict points.*

- b. *Delineation is another countermeasure to discourage run-off-the-road crashes. Delineation should already be present, but additional delineation or larger retroreflective placards could be provided in areas that do not qualify for rumble strips. These are an effective tool, but not to level of effectiveness that rumble strips provide.*
 - i. *Later in the meeting, Amanda Zatecka noted that delineation can reduce run-off-the-road crashes by up to 15%, but that this number was obtained in a study where the existing condition was no delineators at all.*
 - 1. *Corey followed-up to indicate that is a project were to include both rumble strips and delineators, the overall improvement would be expected to be better than the larger of the individual components (rumble strips are the more effective countermeasure) but would not obtain an improvement as large as adding both countermeasures together.*

Another question placed into the chat was inquiring about the reduction of crashes and fatalities if rumble strips were installed.

- a. *The Department had not completed this predictive analysis at the time of this presentation. Corey noted the crash modification factors obtained through the Highway Safety Manual (44%-64% reduction of head-on crashes, and 13%-51% reduction in single-vehicle roadway departure crashes).*
- b. *Amanda referred to the Wakefield sample data, which observed a 45% reduction in single-vehicle roadway departure crashes.*
- c. *Corey surmised that due to the percentage of Randolph's crashes being defined as run-off-the-road crashes, that the observed reduction after this project is constructed would be on the higher side of the predicted range of crash reductions.*

Mark Kelley asked how sinusoidal rumble (mumble) strips will affect driving in inclement weather and winter maintenance (snowplows) via the chat.

- a. *Corey noted that both variations of rumble strips are recessed, allowing plow blades to be unaffected. Having a recessed line of pavement also helps extend the lifespan and effectiveness of the pavement markings, as they are no longer being scraped by the plow blades and causing a loss in reflectivity and visibility.*
- b. *There is no conclusive indication that these will be ineffective in snow or retain water and should have no negative affect on driving during adverse weather conditions. There may be times during heavier snow fall where snow gets packed into the recessed rumble strips, but this would be a temporary condition.*
- c. *After the meeting, further research was done with the following conclusions:*
 - a. *Even in snowy conditions, the rumble pattern remains discernible and audible and can help enhance driver recognition of lane boundaries.*
 - b. *Snow plow operators have indicated that rumble strips are actually helpful in detecting the edges of the lane during snow removal.*

June Hammond asked in the chat for an overview of the NEPA* process for this project.

**NEPA (The National Environmental Policy Act) is an environmental law designed to promote the enhancement of the environment.*

- a. *This project was originally part of the Statewide 40842 project, which included NH 106. Previous public outreach for the project was conducted back in 2020 as that project, which is a requirement of NEPA. Other considerations are cultural or historic impacts, endangered species, wetland impacts, and similar concerns. The NEPA process for this project was concluded on February 13, 2024.*
- b. *Corey recognized the shortcomings in his oversimplified answer and would be happy to connect anyone that is interested in a more detailed answers or specific concerns to the Environmental Manager for this project.*

June Hammond asked about the estimated cost of this project.

- a. *Corey shared that while the estimate construction cost of this project is approximately \$350,000, it will ultimately depend on the low-bid process used by the State and what value a contractor estimates their work to cost to be awarded this project.*

Barbara and Bill Arnold noted that as first responders, they support the installation of rumble strips and have responded to many crashes, fatal and non-fatal, that they believe could have been prevented had rumble strips been present. Mostly notably is the fatal centerline crossover crash killing seven motorcyclists back in 2019. They also wanted to note the noise level of modified jake brakes and if this would be an enforcement issue.

- a. *Corey thanked Barbara and Bill for their support and their contributions.*
- b. *If modified jake brakes are illegal, this would be up to the local enforcement agencies to monitor and deter the installation and use of modified jake brakes.*

June Hammond asked to please describe the NHDOT's design process for this project and the Engineer visits in the area.

- a. *Amanda described that the project locations were generated via information obtained from our pavement van, which collects data on every state-maintained road on a regular basis. Field visits supported this initial location determination. Notable locations where rumble strips were broken if they were proposed in the immediate area are major driveways, intersections, bridges, or other areas that may generate unnecessary rumble strip crossings due to turning vehicles and undermine the safety benefit of those particular locations. The project engineers will also visit the site before installation to verify if roadway widths are accurate.*

June asked if the locations where Durand Road intersects US Route 2 can be excluded from rumble strip installation.

- a. *Rumble strips will not be installed at intersections, which may not be clearly visible on the provided maps. These areas will be confirmed during the field visit during Construction before installation.*

Mark Kelley noted in chat that Appalachia has two access points in a short distance, and wondered if that will receive rumble strips.

- a. *Corey acknowledged this could be a higher turning movement location and will be considered when the field visits occur to avoid unnecessary rumble strip crossings.*

Corey concluded the meeting by thanking everyone for attending and their participation. He provided his contact information and encouraged anyone with further questions or would like to discuss further, to contact him via email or phone.

NOTED BY: C. Spetelunas

cc: File

1. Summary

Meeting title	Lancaster-Shelburne 40844 - Rumble Strips - Randolph Public Meeting
Attended participants	12
Start time	3/21/24, 5:46:48 PM
End time	3/21/24, 7:15:33 PM
Meeting duration	1h 28m 45s
Average attendance time	58m 47s

2. Participants

Name	First Join	Last Leave	In-Meeting Duration	Role
Spetelunas, Corey	3/21/24, 5:47:45 PM	3/21/24, 7:13:03 PM	1h 18m 41s	Organizer
Paul Cormier	3/21/24, 5:54:30 PM	3/21/24, 7:12:37 PM	1h 18m 7s	Attendee
Alan Balog	3/21/24, 5:55:10 PM	3/21/24, 6:54:49 PM	59m 38s	Attendee
Zatecka, AmandaJoe	3/21/24, 5:55:57 PM	3/21/24, 7:13:02 PM	1h 17m 4s	Presenter
Barbara Tetreault	3/21/24, 5:56:26 PM	3/21/24, 6:04:02 PM	7m 36s	Attendee
Barbara & Bill Arnold	3/21/24, 5:57:35 PM	3/21/24, 7:12:38 PM	1h 15m 3s	Attendee
June Hammond Rowan	3/21/24, 5:59:18 PM	3/21/24, 7:13:14 PM	1h 13m 55s	Attendee
Rosenthal, Lori H	3/21/24, 6:01:31 PM	3/21/24, 7:12:33 PM	1h 11m 2s	Attendee
Barbara Tetreault	3/21/24, 6:01:48 PM	3/21/24, 7:13:00 PM	1h 11m 11s	Attendee
Mark Kelley (Guest)	3/21/24, 6:11:26 PM	3/21/24, 7:15:33 PM	1h 4m 6s	Attendee
16039159042	3/21/24, 6:11:45 PM	3/21/24, 6:35:52 PM	24m 7s	Attendee
Paul Alfred Jadis	3/21/24, 6:14:55 PM	3/21/24, 6:39:55 PM	24m 59s	Attendee