



Date: April 3, 2020

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Submitted by: LRRB via Priority Process (3/25/20 Meeting)			
Originated from: LRRB Idea Solicitation Process (Pre-Screen Board Mtgs)			

Select Type:

Research OR  Implementation

Need Statement Title:

Evaluation of Proprietary Rejuvenators

Need Statement: Describe the problem or the opportunity. Include background and objective.

Local agencies are seeking assistance in understanding the various proprietary rejuvenators that are being marketed, (see partial list below). MnDOT and it's NRRRA member have been active in developing research on this topic. The NRRRA completed a [synthesis](#) (2019) on rejuvenators and is currently soliciting vendors to participate in a field study later this summer/fall to develop test sections on a city street in St. Michael. Vendors will apply their material in 500-foot test sections; the NRRRA will monitor these sections over the next 5-10 years to measure their performance and ability to slow environmental aging of the asphalt binder.

The focus of the LRRB study is to conduct a synthesis on the various proprietary rejuvenators (see partial list is below; however, the final list should be augmented via a survey of Minnesota Cities and Counties to determine what other rejuvenators have been used). The survey should also investigate the agency's experience and inquire which product they'd like to know more about. Then, researching each product, a synthesis should be developed to help local agencies better understand the following:

- When to use/not use?
- What are the pros/cons?
- Cost (initial and life cycle)?
- Performance?
- Construction issues
- Wait (cure) time after applying and before opening to traffic
- Impacts on pavement markings/stripping

A partial of list products to investigate include:

- Gilsonite Sealer Binder, GSB-88 (asphalt rejuvenator)
- Reclamite (Asphalt rejuvenator)
- Blacklidge LD-7 (fast curing emulsion)
- Oynx (mastic seal)
- RePlay (agricultural oil)
- Biorester (agricultural rejuvenator)
- Anova (Bio-based rejuvenator)



Depending on the timing of this RIC project/contract, this project could also assist the NRRRA is documenting (video and field notes) the applications of the various materials applied in St. Michael. The NRRRA will be able to provide yearly performance reports and summary of yearly laboratory testing that will be completed on each product.

### Suggested Deliverables:

Consumer Report type evaluation guide similar to what was done for [pavement management software but much shorter](#).

Develop an informational video showing the various spray rejuvenator products being applied in the field (MnDOT will be collecting field footage of the construction). See the tasks below in the NRRRA 2020 Test Section Development and Laboratory Testing.

### How does this project build upon previous research (include title or reference to a completed research effort)?

Completed

- [NRRRA 2019 Spray Rejuvenator Synthesis](#)
- [LRRB 2016 TRS - Alternatives to Seal Coats](#)

*Ongoing*

- [MnROAD NCAT Partnership with 25 \(US-169\) and 25 \(CSAH-8\)](#) test sections are being monitored to develop a better understanding of various pavement preservation treatments. A couple of the test sections utilized rejuvenators.
- Missouri DOT recently completed a study on spray rejuvenators; Missouri is on the team developing the NRRRA efforts listed below.
- [NRRRA Spray Rejuvenator Test Sections](#) - MnDOT is working with the City of St Michael to develop test sections of a number of spray type rejuvenators for long term monitoring.

### Provide names to consider for a Technical Advisory Panel:

Ben Worel, MnDOT  
Paul Nolan, MnDOT  
Dan Wegman, Braun Intertec  
Steve Bot, St, Michael  
Tony Kutzke at City of Woodbury  
Jerry Geib, MnDOT