



# 2021 AEMA-ARRA-ISSA Annual Meeting

February 15-18





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## The Tides of Change

RoadResource.org

Lindsay Matush, CEO  
Vario

roadresource.org

# THE TIDES OF CHANGE

Lindsay Matush • Grace Stansbery



**“UNPRECEDENTED”**



**2020 SET THE STAGE  
FOR A SEA CHANGE IN OUR FAVOR**

**THE WORLD  
WENT VIRTUAL**

**PPRA  
WAS READY**

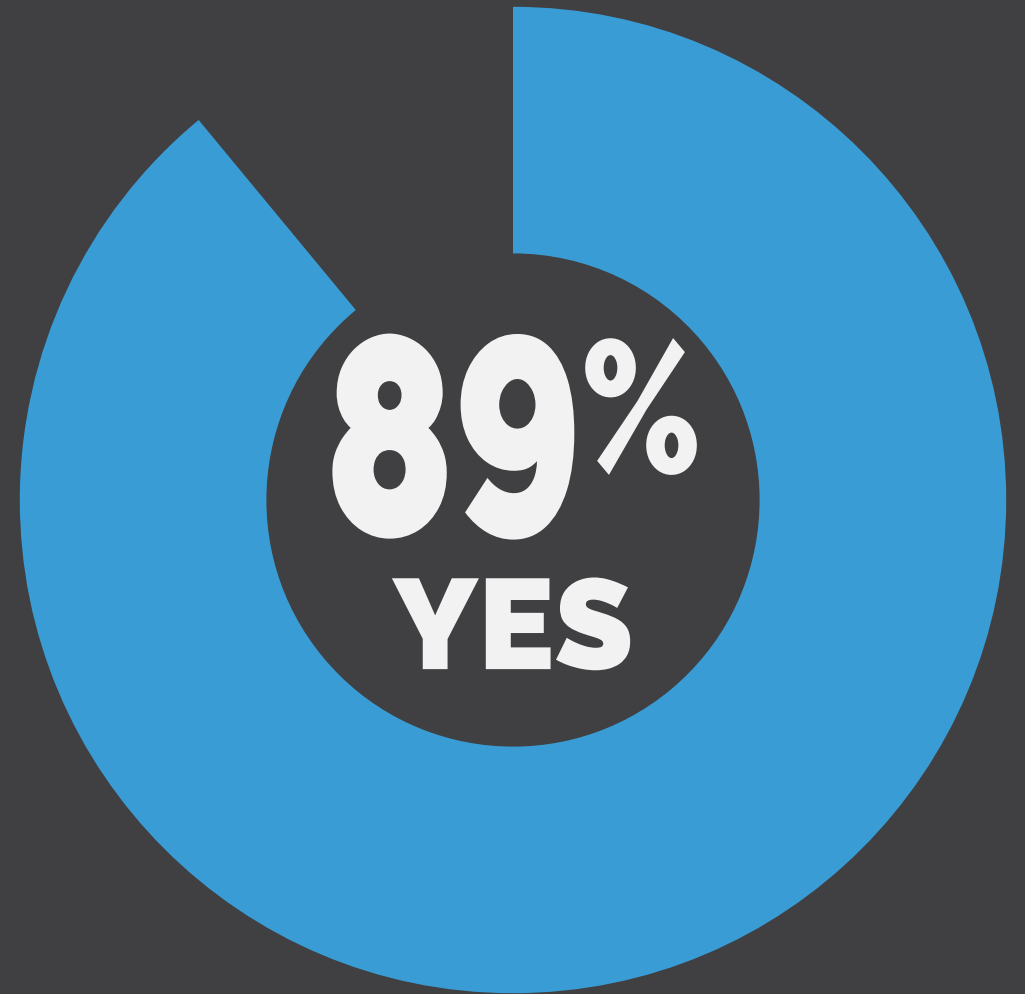
**NOW WOULD  
PROBABLY  
BE A GOOD  
TIME TO PAVE  
THE ROADS**

Quarantine is your time to shine  
MoDOT! While we're all safe & secure  
off the roads you have unfettered  
access to all the potholes. Shine  
MoDOT, Shine!

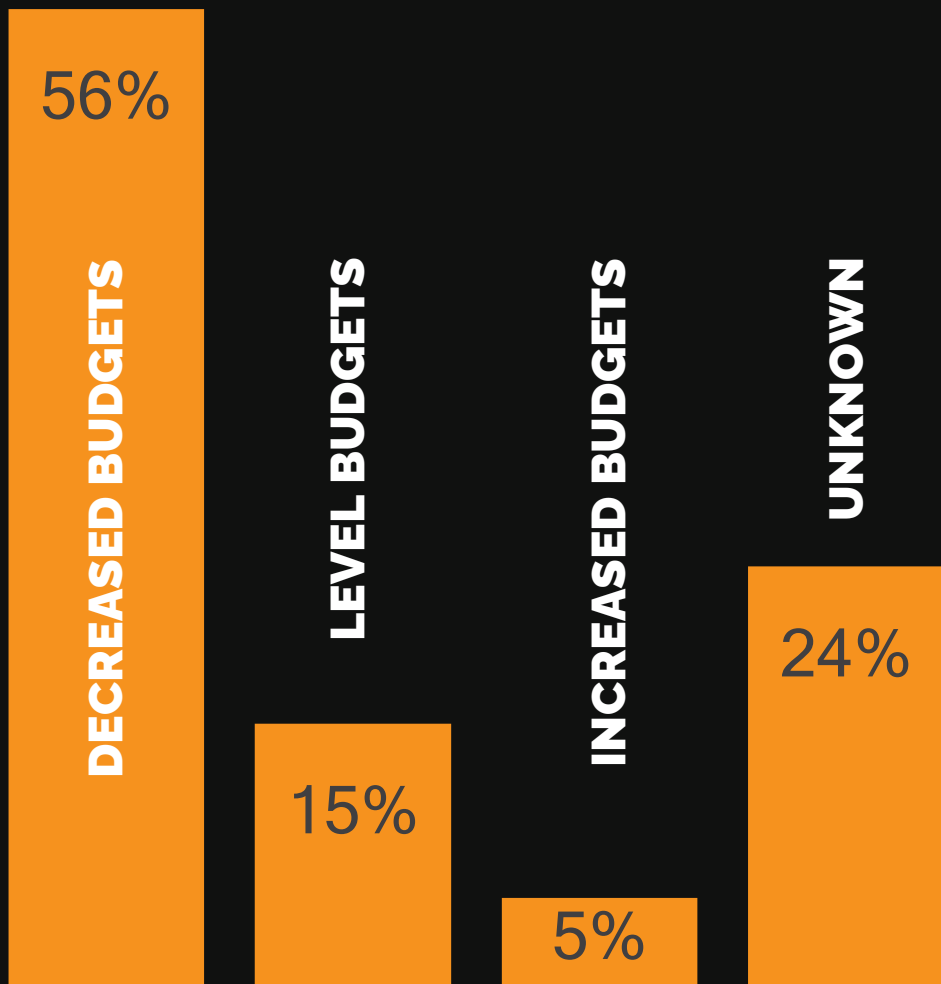


**BUDGET UNCERTAINTY  
INSPIRES A WILLINGNESS TO CHANGE**

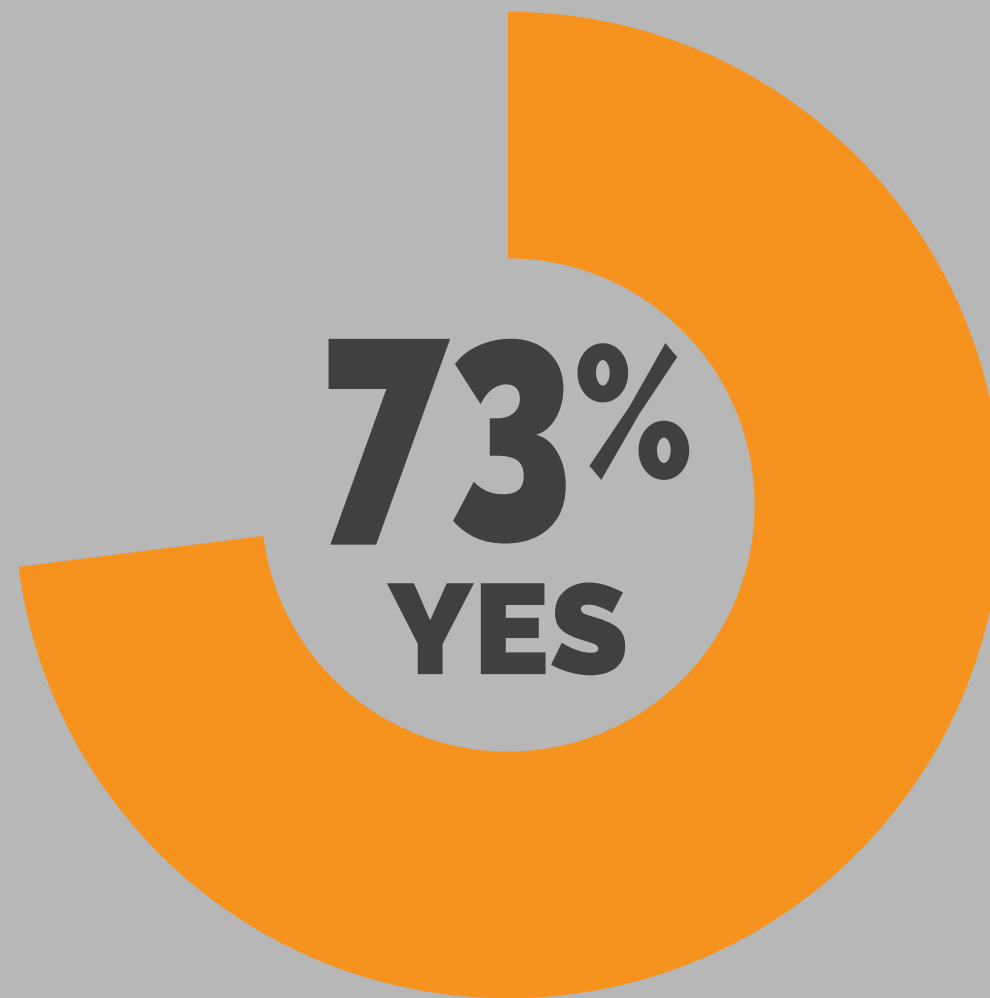
# **AGENCIES ARE OPEN TO TRYING NEW TREATMENTS**



**Does your agency need to expand  
the pavement maintenance toolbox?**



**Are you anticipating decreased, level or increased budgets in 2021?**



**Are you making changes to your network as a result?**

**OPPORTUNITY**



# WHAT ARE YOU DOING AS A RESULT?

“Focusing more on **lower-cost maintenance** work and less on expensive capital or reconstruction type projects.”

“**Programming more overlays** and less reconstructions or pavement replacements to affect the overall health of the system.”

“Increasing **preventative maintenance strategies** (i.e., microsurface, crack sealing, etc.)”

“I would like to **redevelop our entire pavement program from the ground up** to implement more cost-effective maintenance and preservation treatments rather than our current overlay program which selects roads by worst-first and are treated like capital improvements.”

“Reviewing the list of candidates that are moving forward in the budget process for 2021 and comparing to how this affects the PCI and if the Council mandated PCI will be achieved. Less overlays, **more preventative maintenance.**”



**BUSINESS  
AS UNUSUAL**



# **WHAT WAS BEHAVIOR LIKE IN 2020?**

**106342**

**VISITS SINCE LAUNCH**

**FROM 180 COUNTRIES**

**30000**

**VISITORS IN 2020**

**3:13 AVERAGE TIME ON SITE**

**960**

**WEBINAR ATTENDEES**



**1714**  
**REGISTERED USERS**



**12:43**  
**AVERAGE TIME**  
**ON SITE**

## Stored Data & Preferences

### Units of Measure

Please select your preferred units of measure for site-wide calculators.

U.S. DOLLARS

CANADIAN DOLLARS

US STANDARD

METRIC

### My Stored Data

Input data relevant to your region. When you are logged in, this data will auto-populate within calculators across the website for more accurate comparisons and tools.

This data will NOT be used or monitored by any associations within PPRA or other third-party sources. The purpose of this dashboard is only to better equip users with more useful and relevant information.

Pre-loaded cost data was gathered from a nationally-aggregated cost survey. [Learn More.](#)

Costs for Treatments

My Custom Treatments

+ CREATE CUSTOM TREATMENT

Treatment	Unit Cost (Per Sq. Yard) <sup>?</sup>	Life Extension <sup>?</sup>	Structural Coefficient <sup>?</sup>	Unit Cost (Per Sq. Yard Per Inch) <sup>?</sup>
<b>Preservation</b>				
Bonded Wearing Course	6.98	10.0	N/A	N/A
Cape Seal	1.00	9.0	N/A	N/A
Chip Seal	2.06	6.0	N/A	N/A
Crack Seal	0.48	2.3	N/A	N/A
Fog Seal	2.00	2.0	N/A	N/A
Micro Surfacing- Double Lift	3.92	8.0	N/A	N/A
Micro Surfacing- Single Lift	2.77	6.0	N/A	N/A
Prepacked Aggregate	2.50	5.0	N/A	N/A

# IN THE PRESS

PAVEMENT MAINTENANCE

## NAVIGATING ECONOMIC CRISIS

WHAT ROAD MANAGERS CAN LEARN IN COVID TIMES FROM A 2008 RECESSION ACTION PLAN

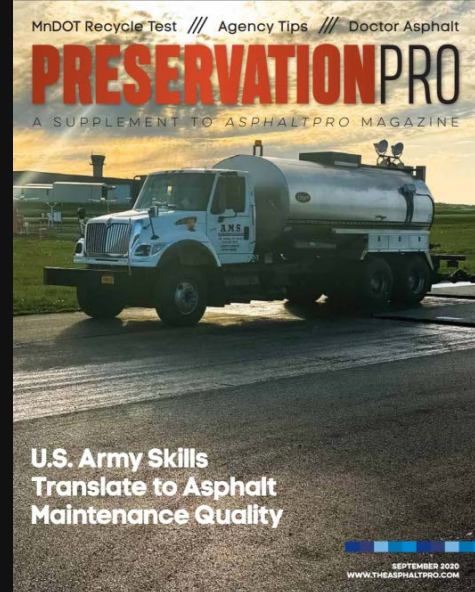
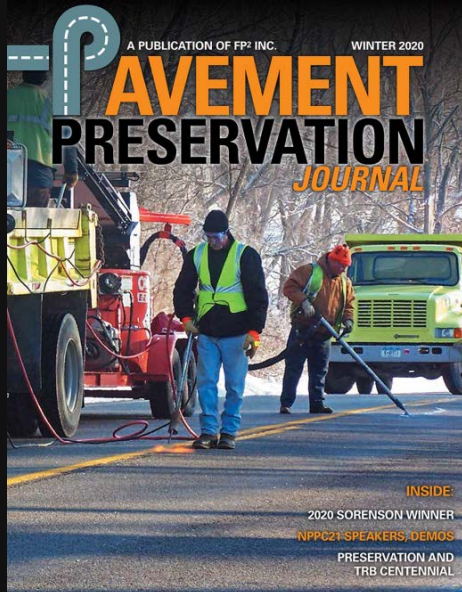
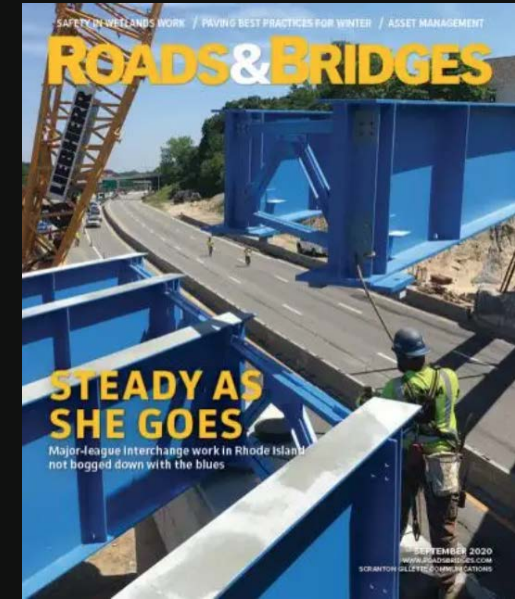
GRACE STANSBERRY / SEPTEMBER 28, 2020 / 5 MINUTE READ



## RoadResource.org Super Users Get 'Ahead of the Curve'



Photo from March 2019 Super User Training: This first class of Super Users met in St. Louis for a full-day training session; This year, Super User Training is hosted virtually, with participants across the United States and Canada



AUG 23, 2020

## Stretch Budgets Further After COVID-19 with Road Network Life Support

PPRA shares viewpoints from experienced agency budget managers for funding your network maintenance after COVID-19 financial impacts.

BY PPRA

### LEGISLATION & FUNDING

mented a full-depth reclamation (FDR) program, instead of the conventional methods for severely deteriorated roads. O'Neill said he considered every option to save with each lane mile and each project.

"Mill and fill is not in my toolbox at the moment," he said. "I looked at the numbers, and it just didn't make sense as a realistic approach to fix the network. We couldn't afford to spend our money that way. Instead, we treat the roads above poor pavement conditions, or reclaim the more deteriorated roads if we have to. Right now, there isn't an in-between."

O'Neill said he's careful when he selects an application for a given road. In some cases, when the pavement requires a specific treatment, he has to get creative.

"We're small, and we occasionally run into the problem that there aren't contractors for a given treatment in our area. A few times, we've partnered with neighboring agencies to make it worthwhile for a contractor from another area to travel this direction. It's how we're able to keep a larger toolbox of treatments."

By shifting projects up and down the deterioration curve, O'Neill was able to cover more lane miles with a limited budget. As a result, Matthews' network has remained in good health.

After seeing the progress O'Neill made with reduced budgets, the town board began to an-

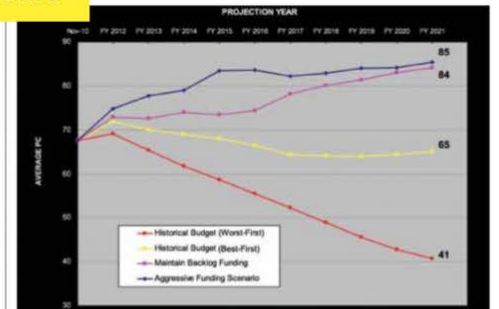


Table 1 Lexington's 10-year Projection (Graph created in 2010)



# OUTPUTS

## How are Emulsions Named & Classified?

*You can learn a lot from a name*

Emulsions are named based on their properties. What may seem like a complex series of numbers and letters can be easily broken into components that describe a specific emulsion's behavior and chemical makeup. Some states and agencies use different naming conventions that meet local needs, but the majority of emulsions follow these standards:

### IONIC CHARGE

Formulated for compatibility with specific aggregates and components



### AGGREGATE COATING THICKNESS

Utilizes a chemical formulation that promotes a gel quality to the emulsion, increasing performance



### SPEED AT WHICH EMULSIONS ARE SET

Engineered for optimal break time and workability



### VISCOSITY & HARDNESS

**4807 VIEWS**

# Cold In-Place Recycling

CIR	Optimum Performance	Average Performance	Stop-Gap Performance
Types of Distress	<ul style="list-style-type: none"><li>• Transverse, longitudinal, multiple cracking</li><li>• Ravelling</li><li>• Oxidation</li></ul>	<ul style="list-style-type: none"><li>• Wheelpath cracking</li><li>• Rutting (asphalt or subgrade)</li></ul>	<ul style="list-style-type: none"><li>• Alligator cracking from base failure</li><li>• Distortion</li></ul>
Depth of Distress	Within treatment depth (2"-5")	1"-3" below treatment depth	More than 4"-6" below treatment depth
Life Extension	20-25 years	10-20 years	5-10 years

## EXAMPLES OF ROADS THAT HAVE BEEN TREATED WITH COLD IN-PLACE RECYCLING OVER VARIOUS STAGES IN SERVICE LIFE:



CIR 1 Year Later: Hwy 7Aa, Bethany Ontario



CIR 3 years later: Prescott-Russel County Road, Ontario



CIR 5 years later: Bloomington Road, Ontario



CIR 7 years later: Hwy 6, Ontario

# 2729 VIEWS

# Micro Surfacing

## OVERVIEW

ABOUT

PROCESS &  
VARIATIONS

EXPECTATIONS

COST

HISTORY

BEST PRACTICES

## PRE-CONSTRUCTION

SITE SELECTION

MATERIAL SELECTION

MIX DESIGN

SPECIFICATION REVIEW

## CONSTRUCTION

PREPARATION

WEATHER  
REQUIREMENTS

EQUIPMENT

CALIBRATION

TRAFFIC CONTROL

## Micro surfacing catching on in Sylvania

Sylvania, OH is using micro surfacing to save money when resurfacing streets. They expect 8 - 12 years of life extension with micro surfacing, costing 35 cents on the dollar compared to asphalt mill and repair.



Cost is 35% compared to mill and resurface.



8 - 12 years

## BACKSTORY

The City of Sylvania, OH started using micro surfacing a few years ago, and based on past performance, is extending its use to major roads. The price is 35% of typical asphalt milling and resurfacing, and they expect 8 - 12 years of life extension for the pavements. They understand not all roads are candidates for micro surfacing, but have seen good performance on side streets for the last few years. Other districts in the area such as Perrysburg and Lucas County are using micro surfacing as well.

## PROBLEM

The Deputy Service Director Joe Shaw was looking for a way to save taxpayers money while still getting good performance for their streets. Micro surfacing is their answer for roads in the right condition.

## SOLUTION

# 4226 VIEWS

# Cold Planing & Micro Milling

## OVERVIEW

- ABOUT
- PROCESS & VARIATIONS
- EXPECTATIONS
- COST
- HISTORY
- BEST PRACTICES**

## PRE-CONSTRUCTION

- SITE SELECTION
- MATERIAL SELECTION
- MIX DESIGN
- SPECIFICATION REVIEW

## CONSTRUCTION

- PREPARATION
- WEATHER REQUIREMENTS
- EQUIPMENT
- CALIBRATION
- TRAFFIC CONTROL
- APPLICATION

## QUALITY ASSURANCE

- INSPECTION
- TESTING PROTOCOL



## Cold Planing & Micro Milling Best Practices

Copies of the BARM can be obtained at [www.arrya.org](http://www.arrya.org). Information on where to obtain the best practice guidelines and additional CP resources can be found in the **Additional Resources** section. As with any construction process, if the owner agency is concerned with any part of the process, the owner agency should have a conversation with the contractor.

You can mill to a required depth or cross-slope but not both.

Typically the fewer passes that are made the better the results but it is common to do a full lane with 2 passes of a half lane machine

Cold planing is a smoothness opportunity and in most cases a better place to make geometric corrections than with the overlay that goes on top of it

# 1594 VIEWS

# OUTCOMES

# INDUSTRY STORIES






**69000**

**USERS**



**345000**

**ROAD MANAGERS**



**690000**

**BELIEVERS**

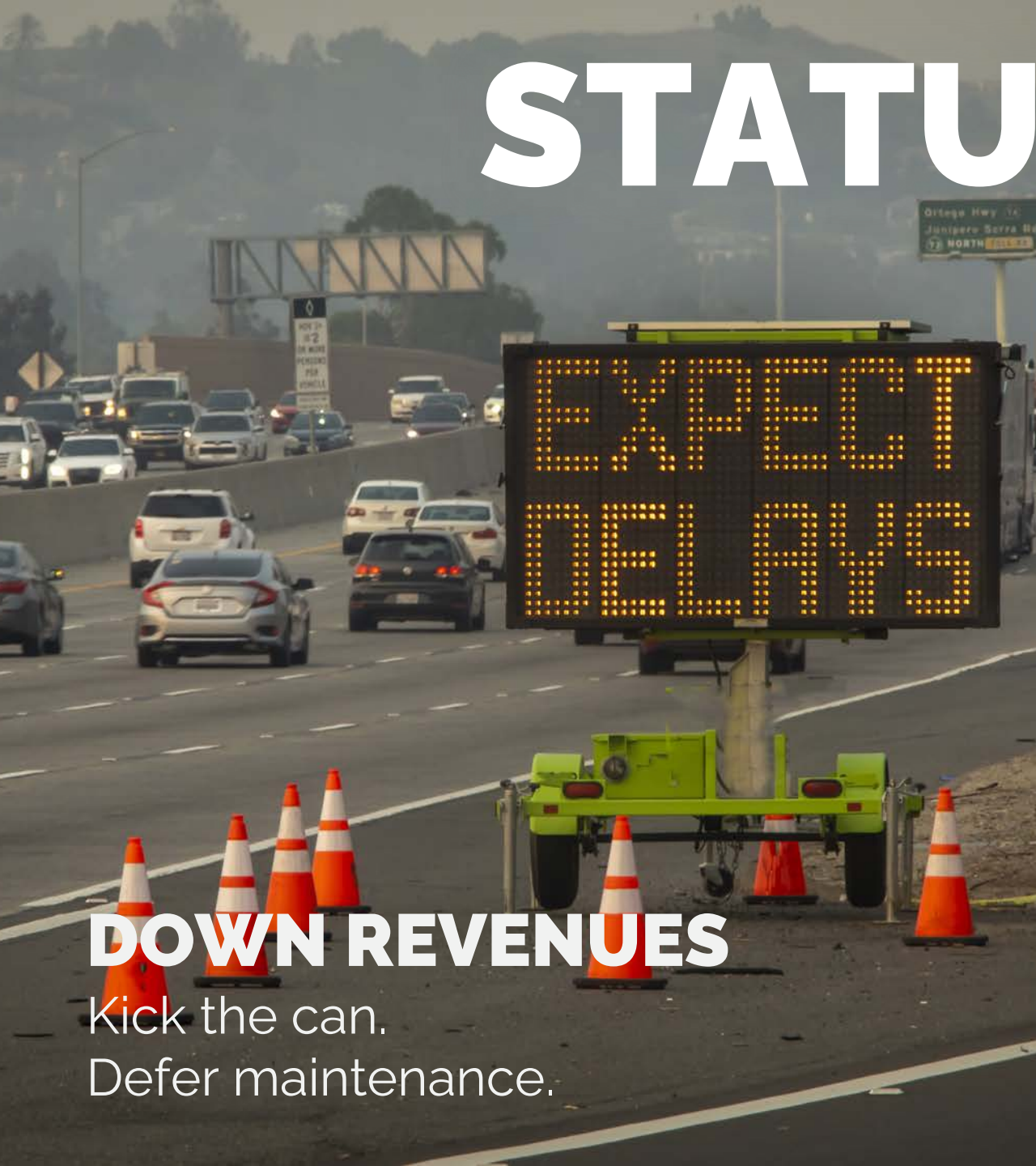
**IN PRESERVATION & RECYCLING**



**1035000**

**AGENCY MEMBERS  
DISRUPTING THE STATUS QUO**

# STATUS QUO



## DOWN REVENUES

Kick the can.  
Defer maintenance.



## INFLUX OF STIMULUS

Spend on large capital projects.  
Worst-first.



# LOOKING AT THE SITUATION DIFFERENTLY

## UP OR DOWN

Improve your network with smarter spending  
and a larger toolbox.

**WHAT DOES IT TAKE  
TO GO FROM INTEREST  
TO ACTION?**

An aerial photograph of a coastal area. At the top, greenish waves with white foam wash onto a wide, sandy beach. Below the beach is a row of palm trees and a paved promenade. A multi-lane road with a median runs parallel to the beach, with several cars and a motorcycle visible. The text 'FIVE WAYS TO TURN THE TIDE' is overlaid in large white letters across the center of the image.

# FIVE WAYS TO TURN THE TIDE

**1**

**EDUCATE  
YOUR AGENCIES**

# 1



# 1

## AGENCY FEEDBACK

"I have to say, **probably the best since COVID started.** I enjoyed the forced engagement with workbooks, breakout sessions & questions.

"Can't wait until I have some slack time to go and play around."

**"Best online training ever!"**

"The class was very useful! **I plan on starting to enter data into the system and start running "what ifs" as soon as I can.**"

## Remaining Service Life Calculator

### "Worst First" Approach

Many agencies are learning that the use of limited funds toward a "worst first" approach accelerates the decline of their overall network, as miles of good roads go untreated each year.

Treatment Type	Lane-Miles 	Lane-Mile-Years 	Total Cost
Reconstruction	9	225	\$2,883,618
Rehabilitation	16	208	\$1,737,283
Preservation	0	0	\$0
<b>Totals:</b>	<b>25</b>	<b>433</b>	<b>\$4,620,901</b>

Total Network Lane-Miles **1000**  
 Total Lane-Mile-Years Lost Annually **1000**  
 Lane-Mile-Years Added **433**

Annual Network Deficit  
**(-567)**

### Optimized Approach

Consider an Optimized approach, which reallocates funds across more efficient strategies to keep good roads good and help you get ahead of the curve.

Treatment Type	Lane-Miles 	Lane-Mile-Years 	Total Cost
Reconstruction	4	100	\$937,634
Rehabilitation	8	104	\$815,912
Preservation	192	900	\$2,905,547
<b>Totals:</b>	<b>204</b>	<b>1,104</b>	<b>\$4,654,093</b>

Total Network Lane-Miles **1000**  
 Total Lane-Mile-Years Lost Annually **1000**  
 Lane-Mile-Years Added **1104**

Annual Network Gain  
**104**

### Ready To Optimize Your Network?

Are you injecting the most life into your network or are you fighting a losing battle with a worst-first approach?

# Sustainability Calculator

1

CONVENTIONAL APPROACH		PRESERVATION & RECYCLING APPROACH	
TREATMENT:	Major Mill & Fill	TREATMENT:	Cold Recycling + 1.5" HMA
UNIT COST:	16.64	UNIT COST:	13.00
LIFE EXTENSION:	15.0	LIFE EXTENSION:	15.0
SQUARE YARDS:	100000	SQUARE YARDS:	100000

Total Cost: **\$1,664,000**  
Equivalent Annualized Cost: **1.11**

Total Cost: **\$1,300,000**  
Equivalent Annualized Cost: **0.87**

By choosing a preservation & recycling approach...



That's the green equivalent of removing **79 passenger vehicles** from US roadways for a year!

Curry County saves their river road in shady, cool conditions thanks to the next evolution in Chip and Fog Seal Treatments.

-  75% annual savings in methods
-  900% increase in application rate per minute

**BACKSTORY:**

The South Bank Chetco River Road in Curry County, Oregon sits near the Southwest corner of the county. The road is in a constant battle with the elements, and budget limitations made a complete repave leaving a specialized approach to Chip and Fog Sealing as the best option.

**PROBLEM:**

The River Road sits three miles off the coast, under a canopy of trees. Their initial chip seal required the road surface temperature to be 70 degrees or above to effectively seal and protect. Environmental conditions simply would not allow. As the roads worsened, due to the lack of sunlight from the ocean and the summer fog belt, Curry County needed an affordable, effective solution to protect the road from further deterioration.

“ At the onset, this was set to be a particularly challenging project. However, after it was finished the Road Engineering Department confirmed, it ended up being one of the best chip seal projects the department had ever performed. ”

— Richard Christensen, Roadmaster, Curry County Oregon

**SOLUTION:**

In 2018, the town turned to Albina Asphalt to provide a specialized approach to chip sealing (Temperature, Polymer-Modified Anionic Emulsion), which can be applied at road surface temperatures as low as 40 degrees.

This emulsion breaks chemically from the bottom up, and so does not require sunlight or heat to “break”-- making it the ideal emulsion for River Road’s shady conditions. Once applied, the chip seal treatment filled cracks and provided a better driving



Chip seal in process



Chip seal in process



End product



Freshly applied emulsion

# 1

## ACTUAL SALES TEAM CONVERSATION AFTER SPONSORING CUSTOMERS

“Michael from [township] said the seminar was awesome.”

“I just heard from Eric in [township]. He was very impressed with the training.”

“I just heard from Mat in [township] and this is what he had to say: The training was good and very detailed. I picked up a few things I would like to use going forward. Thanks again for sponsoring Alec.”

# 1

## THREE WAYS TO EDUCATE AGENCIES

- Sponsor the training for your agencies
- Host a lunch & learn during PPRA webinars
- Make sure every agency in your contact list is signed up for email list

**ENCOURAGE  
AGENCIES TO LEARN  
FROM OTHER AGENCIES**

Webinar clips

2

# 2021 WEBINAR SERIES HOW I BUILT THIS

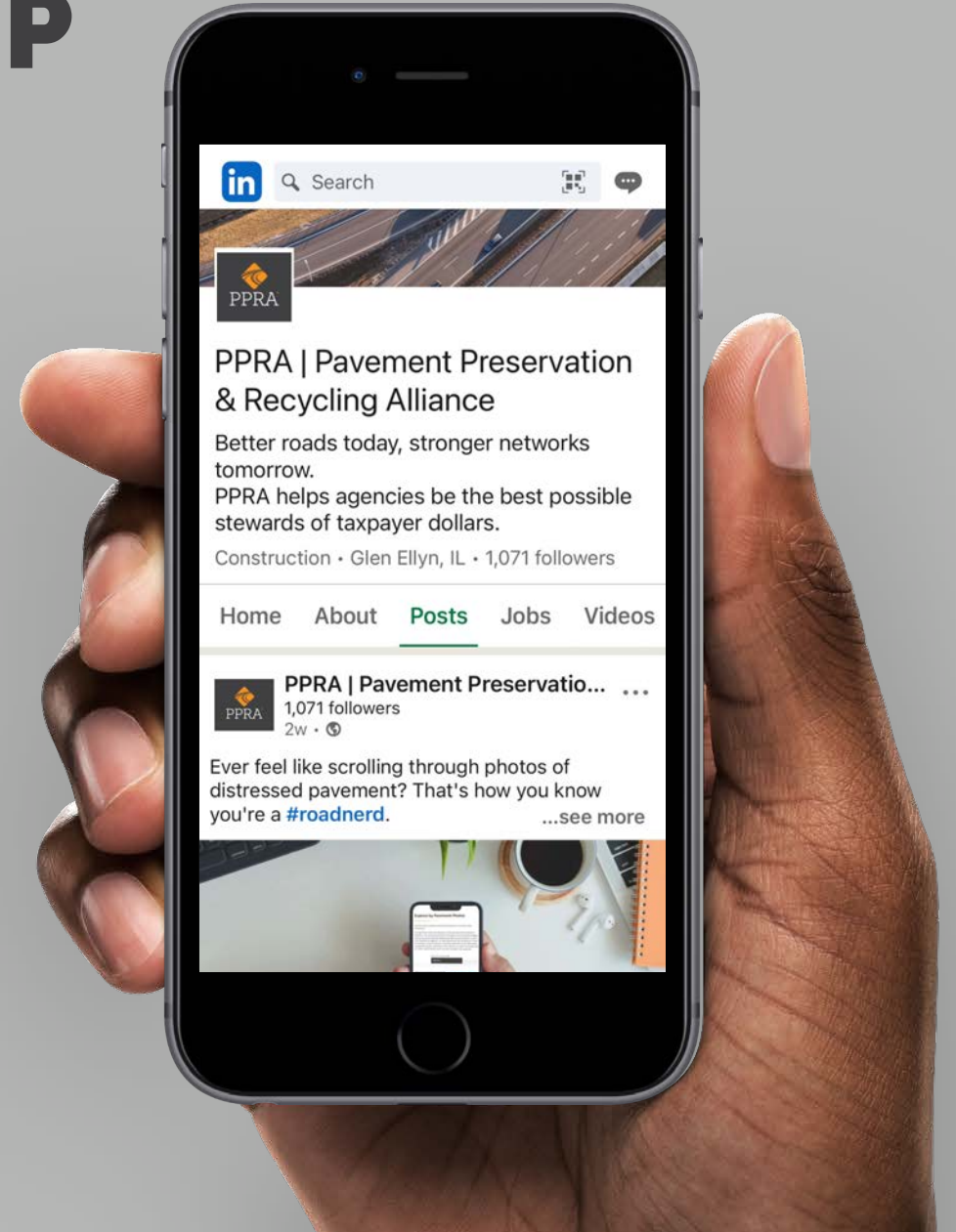
Topics focused around agency panels  
and interviews



# 2

## 2021 LINKEDIN GROUP

- Peer exchange
- Helpful Tips
- Collaboration
- Industry expertise
- Agency experience



3

**MAKE YOUR CHAMPIONS  
NATIONAL  
CHAMPIONS**

What if every agency in a 200-mile radius knew about your most successful client?

What if every agency in North America knew?



# 3

## HOW TO MAKE YOUR CHAMPION A NATIONAL CHAMPION

1. Write a success story

2. Introduce them to us

4

**HELP THEM  
MAKE THE CASE**

# AGENCY STRUGLES

“Electeds don’t want anything but mill & pave.”

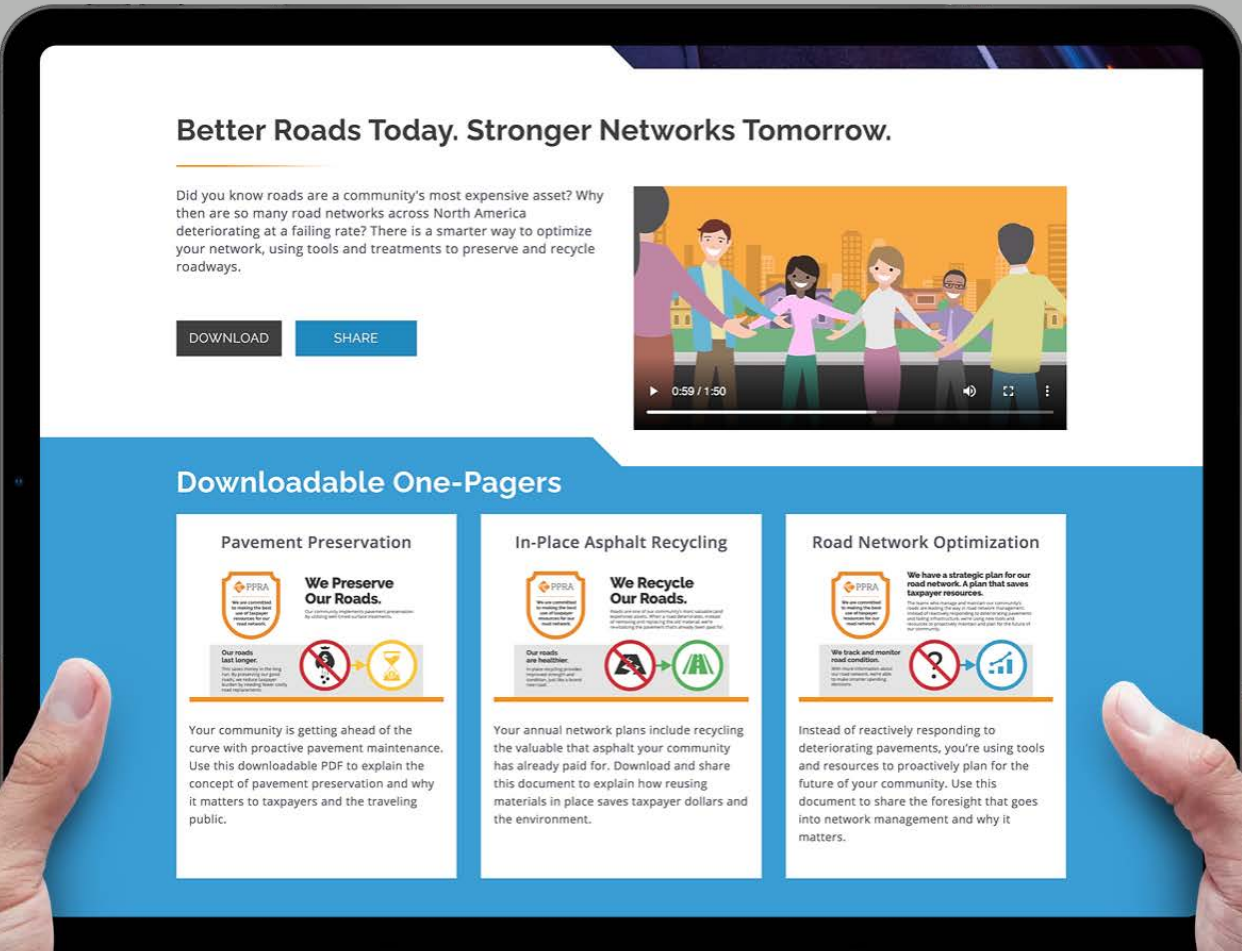
**“Educating the public seems to be the biggest trick!”**

“People not being on board with the plan and being stubborn and **not wanting to change.**”

**“Trying to maintain consistency with personnel.** At times when agency personnel change, So do the game plan with maintaining pavements. I’ve been through 5 managers of engineering.”

“Hiring **new engineers** who know nothing about preservation.”

““Budget budget budget.”



## Better Roads Today. Stronger Networks Tomorrow.

Did you know roads are a community's most expensive asset? Why then are so many road networks across North America deteriorating at a failing rate? There is a smarter way to optimize your network, using tools and treatments to preserve and recycle roadways.

DOWNLOAD SHARE



## Downloadable One-Pagers

### Pavement Preservation

**We Preserve Our Roads.**

Our roads last longer.

Your community is getting ahead of the curve with proactive pavement maintenance. Use this downloadable PDF to explain the concept of pavement preservation and why it matters to taxpayers and the traveling public.

### In-Place Asphalt Recycling

**We Recycle Our Roads.**

Our roads are healthier.

Your annual network plans include recycling the valuable that asphalt your community has already paid for. Download and share this document to explain how reusing materials in place saves taxpayer dollars and the environment.

### Road Network Optimization

**We have a strategic plan for our road network. A plan that saves taxpayer resources.**

We track and monitor road condition.

Instead of reactively responding to deteriorating pavements, you're using tools and resources to proactively plan for the future of your community. Use this document to share the foresight that goes into network management and why it matters.

# 4

# COMING IN 2021 FULL COMMUNICATION TOOLKIT

- Press release template
- PowerPoint template
- Social media materials
- Door hangers
- Yard signs



# 4

## COMING IN 2021 ROI VISUALIZATION TOOL

Illustrate the impact of various planning methods on a network



**5**

**ENGAGE**  
**CONSULTING ENGINEERS**

# 5

## CONSULTING ENGINEERS

- Unbiased recommendations
- Agencies' trusted resource



# 5

## COMING IN 2021

# BRING IN CONSULTING ENGINEERS

- Site messaging and updates for consulting engineers
- New ways to get involved and affiliated with the associations at a peer level



A scenic sunset over a rocky beach. The sun is low on the horizon, casting a golden glow over the sky and reflecting on the water. The foreground is filled with dark, wet rocks. The text "TURN THE TIDE" is overlaid in large, white, bold letters across the center of the image.

**TURN THE TIDE**



**BIT.LY/PPRA2021**

**THANKS**

2020 Synergy Committee & CM Services

# **DAN PATENAUDE**

King of the Network

# XLT

Any question, I'll help you problem solve.



# RYAN ESSEX

Cutter through the Clutter

**MARK  
M<sup>C</sup>COLLOUGH**

O.G. Visionary

# TODD RYNE

Shut up and listen when he talks.

**REX  
EBERLY**

**DOUG  
HOGUE**

**DARREN  
COUGHLIN**

**STEVE  
CROSS**

**THANKS**

2020 Synergy Committee & CM Services