ON THE ROAD

"PAVING THE FUTURE"

2022 UTAH ASPHALT CONFERENCE

PAGE 17

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Let's get better. Let's think anew about what we have done for decades. Is it working? The answer is a resounding yes.

EXECUTIVE DIRECTOR MESSAGE

Innovation. Dedication. Commitment. Three simple words that come to mind as I ponder this issue of *On the Road*. Without fail, each year as we dedicate an issue of our magazine to cover not only the Utah Asphalt Conference but also the host of great projects, wonderful people, and exciting changes that make up our industry I tend to get a little teary-eyed and proud of all that this industry sets forth and accomplishes each year.

You don't have to look far into these pages to see that Utah is indeed the place to be. But there is another word that comes to mind as you look through these pages: uncomfortable. Probably not what you were guessing, but it's true. We should be uncomfortable. What once made us great is no longer sufficient. Look closely; words and features like 'The Road Forward' and 'Solving Thick Lift Challenges' should cause you pause. What once was, will soon have to change if we are to survive as an industry moving forward. Mix design methodologies from seventy years ago or even thirty years ago need to be reevaluated. The way our industry engages and works within our climate and environment must be evaluated and, dare I say, improved.

So, my invitation for you in 2022 is this: Let's get uncomfortable, together. Let's have some hard conversations. Let's get better. Let's think anew about what we have done for decades. Is it working? The answer is a resounding yes. And that is a wonderful thing, but can it get better? Absolutely. The two responses don't have to be exclusive and both responses can be true at the same time.

That's why I hope you will enjoy reading about all that was accomplished in 2021, while also joining with me to focus on what lies ahead. The Road Forward program that has been launched by the National Asphalt Pavement Association (NAPA) is a good place to start. Together, we are going to have to spend some time in the trenches to figure this out. Becoming better stewards of our resources will take all of us – owners, agencies, producers, suppliers, and contractors. It will take time. It will take our talents. And it will take us getting a little uncomfortable for a time. Today's a good day to start.

As we venture down this proverbial road together, I would be remiss if I did not thank Jeff Collard for his two years of leadership at UAPA. Jeff is our first-ever President that served two years in a row and I could not think of better person to have served alongside these past two years. Jeff is a mentor and Jeff is my friend. Most importantly, he is just a good person – one of the best, in fact, that you could ever hope to meet. I wish him well in his retirement from UAPA leadership, but he should also realize it likely won't last long!

Innovative. Dedicated. Committed. Uncomfortable. That's UAPA in 2022. It's a good place to be with each of these descriptive principles driving us all towards something better. Our story didn't start today, but I'm awfully glad we get to write the next few chapters of it together.

Enjoy this issue of On the Road. We are truly grateful for all you do.

- Reed

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JEFF COLLARD
OUTGOING UAPA PRESIDENT

> Being a member of UAPA gives us all one voice in the industry. Having a single voice helps to foster the relationships we have built as we continue to build trust with the owners and owners' representatives. Just being part of the organization improves individuals, but membership also improves the industry.

UAPA recently sat down with Jeff Collard, the outgoing UAPA President, to talk about his experiences with UAPA, including his time as president and his thoughts about UAPA and the industry. We appreciate him and everything he has done for the association, and we look forward to our continued friendship with him as he steps away from this particular leadership role. He has done a great job. Thank you, Jeff!

How were you involved in UAPA before you became President?

When UAPA was formed, the Technical Committee was formed as well. It had five members from various companies. I was one of the Technical Committee's first members, and I served on it for roughly ten years, right up until I became President-Elect.

Was your previous experience helpful?

Definitely. I built many relationships while I was on the Technical Committee, and I met many new colleagues from different companies, including company owners, consultants, and public agency representatives. That helped me when I became the UAPA President because I could continue those relationships and build on them.

What would have helped you be better prepared?

Because I was on the Technical Committee, I was so focused on specifications and the group that I never really made it to any board meetings or learned about the Executive Committee. It was new to me to be part of those two things. I had never had an experience like that before, but I had some great mentors on the Executive Committee to help me be prepared and give me good ideas. Jaden Kemp and Reed Ryan were probably my greatest mentors. They both helped to coach me along.

Please tell us about a memorable experience — good or bad — that took place during your tenure. Why was it memorable?

The most memorable experience for me was the 2020 Utah Asphalt Conference. It was such a great success, and close to 1,200 people attended. What made it special for me was the day I was moderating. I introduced Governor Spencer Cox, who was the Lieutenant Governor then, and Mark Eaton. Mark Eaton's wife was there, too, and I was able to meet and talk with all of them. It was a great experience.

What are your biggest accomplishments as President?

Everything is a team effort in UAPA. It's not about individual accomplishments.

In the last couple of years, we have been able to work with UDOT, APWA, and the Utah City Engineers Association. I was on a couple of small task teams. We worked together on a couple of specifications that have pushed the industry forward by building trust with the owners and expressing our interest in truly developing better specifications for longer-lasting asphalt pavements. The UDOT specification was the MOI Section 960, Superpave Volumetric Mix Design and Verification, and the specification for the city and counties was the APWA Asphalt Specification. The specifications have done a lot for the asphalt industry, cities, and counties.

Why is UAPA membership important?

Being a member of UAPA gives us all one voice in the industry. Having a single voice helps to foster the relationships we have built as we continue to build trust with the owners. Just being part

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of the organization improves individuals, but membership also improves the industry. So much educational material is presented that being a member of UAPA allows you to learn a lot. In the long run, applying what we learn makes our asphalt pavements and roads last a lot longer. That saves taxpayer money and makes roads safer.

Everybody drives on our roads. No one wants to hit a pothole on the road that will damage their car. People who use the roads to visit their extended families or drive home after work want to focus on where they are going, not road quality.

Membership in UAPA helps members make better roads for everyone to use.

How will the infrastructure bill impact the asphalt industry during the years to come?

From what I understand, a large part of the bill will go toward roads, bridges, and other highway projects. It will be great for our industry. We will use the money to build and preserve roads. This involves many companies and people that perform pavement preservation treatments, asphalt overlays, cold in-place recycling, milling, liquid asphalt suppliers, and equipment suppliers. The infrastructure bill will help to continue to build the economy.

What is the most important issue or problem the asphalt industry faces?

Labor and supply shortages are a problem for all of us because there is a lot of construction in Utah right now. People are constructing roads and building houses. It takes a lot of labor force to run all these construction companies and a lot of equipment to perform the work. Since finding and retaining qualified employees is a struggle for us in the asphalt industry, UAPA is focused on this problem.

We need to bring more women and more diversity into our industry. Women of Asphalt is a national organization, but it has a local Utah branch. We want to see them grow more and more because their success is vital to the success of the asphalt industry. Organizations like Women of Asphalt that support and encourage industry diversity can help alleviate labor shortages.

I am not savvy enough to completely understand what is causing the supply chain shortages, but I am certain many people must be working on it behind the scenes to solve that problem. With their help, I am hoping it will work itself out. The pandemic seems to have shown us the problems with long, brittle supply chains. The inland port might be part of the solution because it would bring more of the supply chain right next to us.

What are your thoughts about the direction UAPA is headed?

UAPA is going to continue to grow. It's exciting to see.

We are just in the early stages of the Utah Eastern Council, but its addition gives us councils through the entire state of Utah. We already have a Southern Council and a Northern Council. The Eastern Council covers the central and eastern parts of the state. I'm in the central part of the state, so the Eastern Council covers my area.

Part of where UAPA will continue to grow is with Women of Asphalt. They are gaining momentum. We are also always looking at our carbon footprint and seeing what we can do to reduce it. We want to sustain the environment. We already recycle asphalt, but now we are trying to lower the asphalt mix temperatures to burn less energy, have fewer emissions and reduce our carbon footprint.

Do you have any advice for the incoming President?

Not really. Doug Watson has been around the last couple of years as President-Elect and has been on the Executive Committee. He knows what to expect and has already filled in when I could not meet with people. Doug is going to be great. He has a lot of vision and experience behind him, and he will push UAPA forward and help it grow.

Any last words?

I just want to thank people for the support I've had over the last couple of years. Working with UAPA's internal leaders and members has been a great experience. It has been even better to meet new people the last couple of years of my presidency. Keri Dumont and Reed Ryan, thank you for all you do. I am excited to see where UAPA goes in the future.

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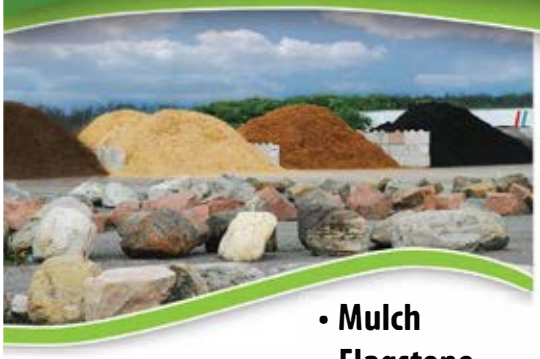

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SOLVING THICK-LIFT CHALLENGES: A SUCCESS STORY

The asphalt industry is careful about adopting new materials or techniques. It has to be: people's lives depend on the materials or techniques working as advertised. At the same time, no innovation means no improvements, which doesn't work either. Improving pavement requires rigorously thinking through the risks of new ideas and finding the best field projects to test them.

Enter the idea of installing a highly modified Superpave mixture in one thick lift. Howard Anderson, a state asphalt engineer for Utah with more than 30 years of experience, and Lonnie Merchant, a Region 2 UDOT materials engineer, worked together to implement a UDOT thick lift project of their own in Utah. Anderson was drawn to the idea because he viewed applying two layers as a waste of time. Instead, he wanted to find a good way to do one layer without sacrificing quality. For five years, Anderson and others researched projects done elsewhere and did lab tests in Utah to solve the problems they faced.

Their goal was to reduce construction time, eliminate problems caused by multi-lift paving such as tack coat and delamination between layers, and put the asphalt down in a location that would make quality shortfalls obvious. However, the most challenging part of the project was producing high-quality asphalt with 1% air voids to achieve their goals.

Constructing stable, durable HMA depends on the pavement's density. Compaction determines density, but the thicker the lift, the harder it is to get the correct density. In general, the asphalt industry has gotten its best results when in-place air voids are limited to a 3%-8% range. That means successful pavement with 1% air voids is something out of the ordinary. According to Anderson, normal mix designs in the U.S. are usually 4%. The Utah average is 3.5%.

What determines the specifications for most air voids? When they are below 3%, pavement tends to rut and form ripples. The ripples are also called shoving or wash-boarding. When air voids are above 8%, air and water can get into the pavement and cause cracking, oxidation, raveling, and water damage. Raveling occurs when traffic wears away aggregate particles from the asphalt cement. It indicates a poor quality mixture or asphalt hardening.

Anderson was familiar with rutting risks when air voids are below 2%. However, he also knew that binding technology had changed. Polymer-modified binders would provide a stronger glue than was available in the past, which meant going below 4% air voids was no longer an unrealistic goal. Even with the smaller air void percentage, laying quality asphalt would still be possible.

In 2016, Anderson worked with Clark Allen, a UDOT central lab technician, to run Hamburg rut tests that used 76-34 polymer modified binder instead of the standard UDOT choice, 64-34 polymer modified binder. It is two grades higher and has twice as much polymer as the standard. Allen tested binder contents of 4.8%, 5.8% and 6.8%. The results were tested with extra weight after the first test was successful. The material would not rut, and Anderson learned that when the binder content approaches 7%, the asphalt acts more like the polymer than regular asphalt. It doesn't become sensitive to over-asphalting.

Having higher binder content minus the rutting risk meant thicker asphalt lifts could be compacted than was possible previously. Two lifts separated by a tack coat could be replaced with one lift, and the increased binder would lubricate compaction.

Anderson attended the WASHTO Conference in April 2016, held in Salt Lake City, and he presented his idea at the conference. After additional presentations, Staker Parson Materials & Construction decided to use the idea as part of a larger project. They had agreed to mill two inches off 20 miles on I-80 and replace it with two inches of stone matrix asphalt totaling 40,000 tons. A port of entry with a six-inch lift was part of the project spec.

The project site is between Nevada and Utah, and it is located in the middle of the Bonneville Salt Flats. It's hard to imagine a more difficult place for using asphalt. Most asphalt that has been laid at this location begins having problems days after being laid. Summer temperatures are often higher than 100 degrees Fahrenheit. Winter temperatures are often below 10 degrees Fahrenheit. Heavy truck traffic headed for California ports is a day-in, day-out reality. The annual daily traffic count is 7,600 vehicles per day. Of that total, 51% are trucks.

UDOT usually uses a 12.5 mm 75 gyration mix. The binder is 5%, and the air void target is 3.5%. For the port-of-entry test strip, the recipe was different. They used a 12.5 mm 50 gyration Superpave mix. It had 15% RAP, PG76-34 binder, 0.5% Evotherm, 6% total asphalt content and 1% air voids.

The project superintendent was Mike Stevens. He and his crew at Staker Parson Materials & Construction wanted to eliminate some of the mix's unknowns before laying the port-of-entry test strip. They decided to pave a 100-ton test strip in its pit the day before the other test strip was laid. The 100-ton test strip was useful. Staker Parson changed the rolling pattern and calibrated its equipment thanks to information gained. The mix was stiffer than the crew was used to, and they knew they would have to pave it down fast. Since the test strip retained more heat than expected, they allowed extra time for the paving to cool there and on-site.

Preparation for the paving job included having a subcontractor, Coalville's Construction Material Recycling (CMR), mill out asphalt and concrete. The subcontractor removed three inches of asphalt and three inches of concrete. They started 300 feet ahead of the scale, ended 100 feet after the scale, and created a strip that was 14 feet wide. CMR also chipped off concrete from the scale's metal housing and swept.

Stevens and his crew decided to prepare ahead and minimize any potential waiting while doing the work. The crew brought everything they thought they might need, including a spare material transfer vehicle, paver and roller, so they wouldn't have to wait for anything. Instead of having four trucks running between the plant and the job, they had nine trucks. One truck left the plant every 15-20 minutes and then drove 1.5 hours to the site.

One truck blew a tire in transit, paving stopped briefly, and that mix had to be recycled. Otherwise, though, the process went smoothly. The lift was 7.5 inches thick before one roller pass with vibration took care of compaction. The crew monitored the work with Troxler 4640 nuclear gauges. Stevens had an extra double drum roller on-site in case it was necessary to use it, but the first roller pass was enough.

Staker Parson Materials & Construction paved on a Thursday and kept the paving closed to traffic until Sunday afternoon. (The paving had reached 100-120 degrees Fahrenheit two days after paving, but they wanted to be extra careful because they were doing something new.) Asphalt industry leaders came to watch. Attendees that day included regional directors, UDOT and Staker Parson staff, UAPA's Reed Ryan, the Asphalt Institute's Dave Johnson and others. The crew cored the pavement Friday and found the pavement's average density was 97%. Anderson anticipated that result. He had designed for 1% but hoped for 3%-4% in the field.

UDOT pulled four cores, one of which was at the point where paving had stopped after the truck blew a tire. That core had the lowest density. Despite the one sample with a lower density, Peterson was happy because the crew achieved full depth compaction and received 100% pay for gradation, binder content, and density. The compaction results are shown in the following graph.

Core number	Density (top 3 inches, %)	Density (bottom 3 inches, %)
1	97.9	98.0
2	97.8	94.4
3	97.2	92.8
4	97.3	97.6

Staker Parson Materials & Construction did an additional six-inch core on its own test strip. That one achieved 97% compaction.

Although using multiple asphalt layers can improve rideability and smoothness, their thick-lift test strip has not had any problems related to smoothness, though the crew did have to grind down the end joints. However, even though they had to grind the surface, they didn't open the pavement to water.

Anderson visited the port of entry months after it was paved and found it was still free of ruts despite the high temperatures of summer 2021.

The port-of-entry project was successful, and it showcased the collaboration between UDOT and industry members and contractors. Anderson has found that many people are interested in the project because of its potential benefits. Production was faster, there was less inconvenience for drivers, and the project had cost savings. Because there was only one lift, there was no track coat. Also, one lift instead of two requires less traffic control and half the quality control. All those cost savings make it possible to spend more money on a high polymer mix.

Using a thick lift could also expand the paving season. November and April have cooler temperatures, which means paving during those months would speed up how fast the mat cools down after compaction.

Anderson's next goal is laying a high-polymer, low void mix on a ten-mile road section and compacting it until it is eight inches thick. He suggests the results might be a perpetual pavement. Lifts of that thickness are similar to what can be done with concrete. If thick-lift asphalt can be placed and opened for use faster than concrete, and if the performance is equivalent to or better than concrete because joints could be eliminated, the industry benefits are obvious.

As Reed Ryan has pointed out, Marshall Mix Design has been used for 70 years, Superpave has been used for 30 years, and thick lifts might be the next step forward for the asphalt industry. Many people are interested, including DOTs for other states, legislators, and industry experts within Utah. Anderson expects to see more projects that use thick lifts with 1% air voids and a 76-34 binder.

UAPA's leaders expect that, too, and they plan to continue being deeply involved. UAPA is valued when asphalt innovations are being discussed. That fact is a big benefit for all association members.

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THE ROAD FORWARD PROGRAM

Global climate experts have been interested in emissions and their connection to climate change for decades. That interest has caused a shift toward extremely specific actions. As a result, the asphalt industry's customers want to use low-carbon materials more and more, and the clean policies being written reflect that.

NAPA created The Road Forward program after more than a year of preparation by a 21-member Climate Stewardship Task Force. The program is important: one article compared the initiative to the construction of the Interstate Highway System in the 1950s and 1960s.

NAPA hopes The Road Forward's vision will galvanize the industry.

The Road Forward program was released at NAPA's Annual Conference, held in January 2022 in Scottsdale, Arizona. It includes four goals, nineteen tactics to help achieve each goal, and eight knowledge gaps involving the research and implementation needed to succeed. The group studied what the industry is currently doing, identified opportunities for improvement, and set an ambitious goal: net-zero carbon emissions by 2050.

Although large parts of The Road Forward program should sound familiar, such as using more Reclaimed Asphalt Pavement (RAP) and Warm Mix Asphalt (WMA) technologies, the overall goals are much broader in scope than just using more RAP and reducing mix production temperatures.

The program's four goals are as follows:

1. Achieve net-zero carbon emissions during asphalt production and construction by 2050

2. Partner with customers to reduce emissions through pavement quality, durability, longevity, and efficiency standards by 2050

3. Develop a net-zero materials supply chain by 2050

4. Transition to electricity from renewable energy providers to support net zero-carbon electricity by 2050 and reduce electrical intensities

The stated mission of the plan is to "Engage, educate, and empower the U.S. asphalt community to produce and construct net-zero carbon emission asphalt pavements." The stated vision is: "Sustainable communities and commerce, connected by net-zero carbon emission asphalt pavements."

In short, the plan states that human forces, the free market, and governments are aligning to reduce carbon emissions by injecting policies and practices into business models. NAPA leaders believe that, over the next several decades, reducing carbon emissions will be the industry's foremost goal, persisting even amid changing political or economic situations.

NAPA also has guidance about developing Environmental Product Declarations (EPDs) to help the asphalt industry prepare for new bidding requirements. A completed EPD is 11 pages long and quantifies the embodied carbon emissions and other environmental impacts such as acid rain-caused emissions and smog. Joseph Shacat, NAPA's director of sustainable pavement, spoke with UAPA about EPDs and The Road Forward. "It doesn't matter what state you live in. We are moving into an era where agencies at some level will be looking at these issues. It isn't abstract anymore. The train is leaving the station, and the question is, are we going to be at the terminal wondering what happened? Or are we going to have a ticket to get on that train?"

According to Mr. Shacat, the real value of The Road Forward program is the way it sets out long-range goals for the industry and stays ahead of the curve. "This program is moving us in the direction our industry's customers are going to want over the coming year," he said. "We are starting to see what states and agencies are looking for. The federal government is launching a 'buy clean' program directly targeted at asphalt and concrete, and the government recently asked the industry to brainstorm by issuing a Request for Information (RFI) that was due at 6 p.m. March 1, 2022." The RFI is about asphalt, and it is formally called Environmental Product Declarations and Sustainable or Low Embodied Carbon Products.

Emissions can be categorized as embodied or operational. Embodied emissions occur during manufacturing, and operational emissions occur when a product is being used. For example, embodied emissions occur when a manufacturer builds a vehicle, and operational emissions occur once the vehicle is on the road. The same

is true for road construction: emissions that occur from the manufacturing of raw materials, asphalt mix production and paving are embodied. The emissions that occur after a road has been paved with asphalt are operational.

Joseph Shacat said, "What we are seeing is that agencies at the federal, state, and local level are beginning to require contractors to submit EPDs because they want to know what the environmental impact is of the products they purchase. Once a government organization has the report, the organization can require or incentivize lower emissions on projects."

After gathering specific information about each company, the RFI asked about seven areas of interest. The first was **cradle-to-gate EPDs** for asphalt mixes: how they are generated, whether there is any non-EPD documentation, and whether EPDs have attracted business customers. The second was the question of **market demand** for low embodied carbon asphalt and what strategies are being used to reduce carbon emissions, such as EPDs, and whether the responding company has a dedicated or specialized sustainability staff.

The third RFI question pertained to companies producing or supplying low embodied carbon asphalt, and the **production details** and cost comparisons about innovative or outstanding environmental attributes, and the performance attributes associated with manufacturing, installing or using asphalt. The fourth question was about **obstacles** (technical, economic, or regulatory) and for suggestions about reducing asphalt manufacturing's carbon footprint.

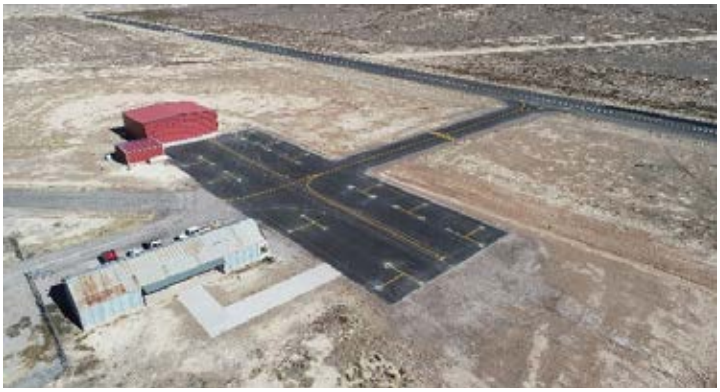
The final three questions related to **product testing, states using environmentally preferable asphalt,** and **the location of asphalt plants.** They wanted to know about challenges, implementation lessons and best practices when using environmentally-preferable asphalt. They also wanted to know if mobile plants are used at remote sites and if the company could recycle pavement on-site.

Richard Willis, Ph.D., NAPA's vice president for engineering research and technology, attended the Utah Asphalt Conference 2022, held Feb. 1-2, 2022, at Mountain America Expo Center. While there, he also presented about EPDs. UAPA contacted him after the conference to talk about EPDs and The Road Forward. He said, "The Road Forward presents an opportunity for contractors in Utah and throughout the country to become better businesses. The program allows everyone to look holistically at how their businesses are positively affecting the community."

Mr. Willis and Mr. Shacat are part of the task force leadership that produced The Road Forward program. The plan's details can be found at asphaltpavement.org/climate.

SALINA-GUNNISON COMPLETES AIRPORT PAVEMENT RECONSTRUCTION

By Craig A. Ide, P.E., MBA, Pavement Engineer,
Utah Aeronautics Division, UDOT



Salina-Gunnison Airport recently completed its Runway 2/20 Reconstruction Project. Project engineering firm Savage Associates Engineering headquartered in Richfield, Utah, provided the design of the runway, taxiway connecter, and apron asphalt pavements.

Salina-Gunnison Airport, FAA identifier 44U, built a runway on an unobstructed plain located between the two cities around 1947. Over the years Salina and Gunnison have shared the matching costs with support of state aviation grants.

Salina-Gunnison has one runway designated 2/20 which measures 3855' x 60' and parking for eight aircraft. The airport is opened 24/7 with aviation fuel availability. However, there is no fixed base operator on the field.

The project included roto milling 32,000 square yards, 5350 tons of [3"] hot mix asphalt, and 5000 tons of UBC, 140 gallons of reflective marking paint. Hales Sand & Gravel, a CRH Company, was awarded the project in August 2021, began construction Sep. 6, 2021, and completed mid-November 2021.

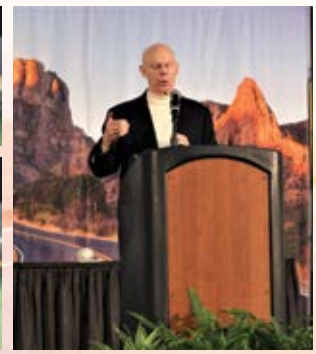
State and city-matched funds were used for the $850,000 project.

During construction, a thunderstorm left large amounts of standing water near the tiedown area requiring a culvert. Hales Sand & Gravel coordinated the change order, design, and placement of a culvert to drain under the taxiway with construction of a surface ditch. This did not affect the budget or schedule of the project.

This project was completed under budget and on schedule, thanks to the coordination between Savage Associates Engineers and Hales Sand & Gravel. The completed project is a large improvement of over thirty years of a four-year cycle of asphalt preservation that prolonged its life prior to the major reconstruction project.

Utah Division of Aeronautics and the mayors of Salina and Gunnison are thankful for the dedicated efforts and skills of Hales Sand & Gravel and Savage Associates Engineering.

2022 UTAH ASPHALT CONFERENCE

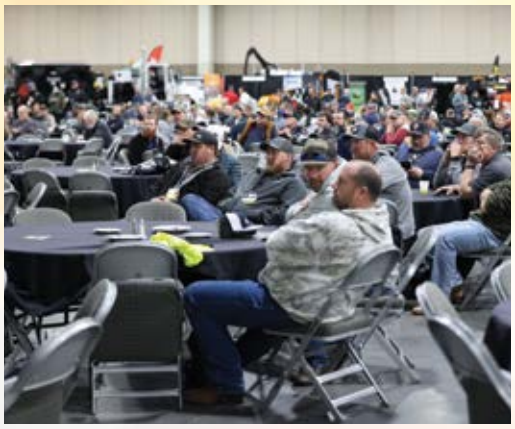


920
ATTENDEES

UAPA AWARDED
FOUR SCHOLARSHIPS

78
EXHIBITORS

30
EDUCATIONAL
BREAKOUT
SESSIONS



OVER 18,000 SQUARE FEET IN BULK SPACE

ATTENDEES DONATED NEARLY $5,960 FROM RAFFLE TICKET SALES TO THE UAPA SCHOLARSHIP FUND

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2022 UTAH ASPHALT CONFERENCE AWARDS

WINNER
HALL OF FAME
JOHN PARSON, CRH AMERICAS MATERIALS

The following article about John Parson originally appeared Feb. 18, 2022, in the CRH Feel Good Friday Newsletter. The title was John Parson Inducted into Utah Asphalt Hall of Fame. It has been edited lightly and is reprinted here with permission from John Parson.

John Parson, former CEO of Staker Parson Materials & Construction and senior leader of CRH Americas Materials, was inducted into the Utah Asphalt Hall of Fame Feb. 2, 2022, at the Utah Asphalt Pavement Association's Annual Conference. The Utah Asphalt Pavement Hall of Fame Inductee is chosen each year from among industry representatives and peers as someone who has significantly contributed to the betterment of the asphalt pavement industry in Utah. It is presented to an individual who actively fostered and demonstrated vision and dedication in advancing the asphalt pavement industry and overall investment in quality infrastructure for the state of Utah.

John grew up in Brigham City, Utah. His grandfather, Jack B. Parson, founded Jack B. Parson Companies in 1952. He started working in the industry as a teenager, weighing and ticketing trucks at the Brigham City pit. In high school and college, he worked in the shop, on a crusher and an asphalt paving crew. He graduated from Utah State University with a bachelor's degree in business administration and began working in supervisory and management roles.

John was instrumental in guiding the sale and integration of Jack B. Parson Companies to CRH in 1996. He led the company as President from 1996 to 2002 when Staker & Parson Companies was formed. He served as President of the combined companies from 2002 to 2006. From 2006 to his semi-retirement in 2018, John was tapped for a series of expanding leadership roles, including West Division President, West Chief Operating Officer, and President of Performance Improvement. John led much of CRH's growth in the West, built from over 100 acquisitions. He currently mentors and coaches developing leaders throughout the U.S. by helping them prepare and progress through CRH leadership positions.

John has served on the boards of the National Stone, Sand and Gravel Association (NSSGA) and the Associated General Contractors (AGC) of Utah, including representing the AGC in the first "Partnering" effort with the Utah Department of Transportation. He was an early advocate of practices that have become industry standards, including the use of Recycled Asphalt Pavement (RAP) and warm-mix asphalt.

Family means the world to John, and he has been married to Dottie Campbell for 42 years. They have six children and 16 grandchildren, and they reside in Huntsville, Utah. John enjoys fly-fishing, hunting, golf, skiing, and spending time with his ever-growing family.

John is the second Staker Parson team member to be inducted into the Hall of Fame. Val Staker, the former CEO of Staker Parson Materials & Construction, who retired in 2001, was inducted in 2016.

When UAPA was formed, I was involved in our local leadership and recognized the need for and potential benefit of a local asphalt association. We considered it a great opportunity to consolidate the many voices of the industry, be they producer, supplier, associate or affiliate members. UAPA gives members an opportunity to provide a unified voice and consistent platform for educational purposes and allows us to make specification and policy recommendations. It is also an opportunity to promote the benefits and share advancements of the ever-growing asphalt industry.

WINNER
INDUSTRY LEADER
DALE HANSEN, ASPHALT MATERIALS, INC.

Dale Hansen was nominated and unanimously approved to receive UAPA's 2022 Industry Leader of the Year Award. His father, Harvey Hansen, was previously inducted into the UAPA Hall of Fame.

Asphalt Materials, Inc. was founded in 1975 by Harvey Hansen, Richard Erickson, and two other partners who were bought out. Dale, his brother Kyle Hansen and his sister Tamara (Tammy) Hansen joined the company later. Harvey Hansen has retired, although he still visits the business now and again, and Richard Erickson died about four years ago.

The company was founded when there weren't enough plants to take care of the local companies that needed materials, and its purpose was to fill that need and take care of those companies. About 8-10 years ago, Asphalt Materials, Inc. added landscaping materials to its offerings. "We don't do our own paving," said Dale. "All we do is provide asphalt and landscaping materials to the customers. But we do things like make water fountains for people to look at for ideas. Many contractors come in, find materials, and then go out and work with homeowners."

When talking about his customers, Dale said, "I've always believed in taking good care of our customers. We make the best asphalt we possibly can for the market. If you sell customers high-quality asphalt, many of your customers become customers for life."

Dale values his membership in UAPA because the association is trying to make the industry better and help everyone make better asphalt. "They work with members to get them on the same page about specifications and improve the industry overall," said Dale. "They are a good platform that helps all the companies and contractors to have a voice within the industry. UAPA works to make everything fair and even."

Dale is one of the ten charter members that started UAPA. He has served as President and is currently on the Board of Directors.

When Dale isn't working, he likes camping, bait fishing, hunting in places like East Canyon, traveling and spending time with his family. "I've been all over," he said. "I've been fishing for salmon in Alaska. That was a blast. I've also been to the Panama Canal. I try to visit every place I can, and I would like to see all of the states."

UAPA congratulates Dale for being unanimously selected as UAPA's 2022 Industry Leader of the Year.

Dale values his membership in UAPA because the association is trying to make the industry better and help everyone make better asphalt. "They work with members to get them on the same page about specifications and improve the industry overall," said Dale. "They are a good platform that helps all the companies and contractors to have a voice within the industry. UAPA works to make everything fair and even."

WINNER
FRIEND OF THE INDUSTRY
EAGLE MOUNTAIN

UAPA is proud to recognize Eagle Mountain, Utah, as a recipient of UAPA's Friend of Industry award. We recently spoke with Zac Hilton, Streets and Stormwater Manager for Eagle Mountain, about the city and the award.

The following article is based on the city's website and the information Zac gave us.

Eagle Mountain has an aggressive, innovative maintenance program and has fostered many relationships with people in the asphalt industry for the last 5-6 years. The vote to give the Friend of Industry award to the city was unanimous.

Eagle Mountain, Utah, is a master-planned community that was incorporated in 1996. Geographically, the city is about 50 square miles and has about 50,000 residents. Its physical size makes it the third-largest city in Utah. Eagle Mountain has 205 paved lane miles, representing a large amount of growth for a city that is only a little more than 25 years old. Last year, the city added just over 20 lane miles of residential streets. For several years before that, it added 15 lane miles per year. Keeping up with the growth has been challenging.

The Friend of Industry award is presented to an individual or organization that demonstrates vision, dedication, and cooperation between the private and public sectors to better the pavement industry. Eagle Mountain has an aggressive, innovative maintenance program and has fostered many relationships with people in the asphalt industry for the last five to six years. The vote to give the Friend of Industry award to the city was unanimous.

When asked about the importance of UAPA, Zac Hilton said, "UAPA is a network where people can find information from one another. It's a great place to learn what's new, what works, and where the industry is going. It forges relationships that help when you are looking for information. Membership becomes a two-way street. You can tap into other people's knowledge to gain knowledge, and sometimes you teach. Anyone who is involved at all is helping UAPA and making the industry better."

Most of the people in Eagle Mountain are part of very young families. There are many young adults and many young children. The city's leaders want to give them some big projects to improve their quality of life. Since Eagle Mountain is located on the west side of Utah county, it is set back on its own, and many residents commute. There are plans to provide more and better transportation to help residents get to other places. Also, the city is working to increase the number of commercial businesses in the community. Eagle Mountain has one grocery store already, Ridley's Family Markets in Porter's Crossing Town Center. There are plans to open a Macey's Grocery, too. It will be in the Marketplace at Eagle Mountain Town Center.

Eagle Mountain is near the Lake Mountains and already has many outdoor opportunities, such as its mountain bike trail system maintained by a group of mountain bike enthusiasts. "It features incredible runs where jumps have been set up, and people either bike or walk," said Zac. "A lot of people come here for that."

It is possible to get to most places in the city on miles and miles of paved trailways. "Every trail that goes in gets used," said Zac. There are also places for off-road driving. Since 2018, the city has had the Cory B. Wride Memorial Park. The park is being built in phases, and the first two phases are complete.

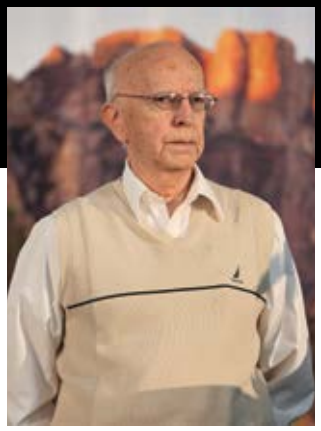
The city's leaders value maintaining its wildlife habitat and are working to create a dedicated wildlife migration zone through the middle of the city.

As Zac reflected on UAPA's Friend of Industry Award, he said, "It's an honor for us to accept the award. I thoroughly enjoy being a part of UAPA because it has given me access to many people. Everyone has been wonderful. UAPA fosters an environment where its members and leaders are patient and share their knowledge. That's huge. I have always tried to reciprocate."

WINNER

FRIEND OF THE INDUSTRY

MARK MORRISON



Mark Morrison began his career 55 years ago in 1967 field testing soil densities and testing Portland Cement Concrete Cylinders in the lab. Mark developed a keen interest in civil engineering, began his career in civil engineering, and became a registered professional engineering in Utah.

As a young graduate engineer, Mark noticed street manholes in Salt Lake City were surrounded with Portland Cement Concrete. Mark was impressed with the history of concrete rings around them and soon learned there were many problems surrounding the them. Mark researched further and found out that there were many other problems in the civil engineering field and began working on solutions.

In 1981 Mark helped Salt Lake City move into the modern era of specification writing. After helping Salt Lake City completely rewrite their specifications Mark and his supervisor, Jerald Lyon, presented the specification product to the American Public Works Association (APWA). Mark worked with the APWA to listen to concerns of local contractors to create specifications that all local specifiers could understand, use, and that all contractors could reasonably be expected to follow over various jurisdictions.

Mark has participated with the APWA specification subcommittee for 45 years and has been a great help in advancing the construction industry. Mark is retired and living in Phoenix, Arizona, but is still contributing to the Utah construction industry as best as he can.

In 1981 Mark helped Salt Lake City move into the modern era of specification writing. After helping Salt Lake City completely rewrite their specifications Mark and his supervisor, Jerald Lyon, presented the specification product to the American Public Works Association (APWA).

WINNER
LARGE PROJECT OF THE YEAR
STRAWBERRY SHEEP CREEK

Name of project: Strawberry Sheep Creek

Project location: Utah and Wasatch County

Project start: June 2020

Project completion: October 2021

Key project team members:
- U.S. Department of Transportation, Federal Highway Division
- GRP-DSB-TSB (Geneva Rock Products, Inc./DSB Construction Joint Venture)
- Central Federal Lands Highway Division, Denver, Colorado
- Mike Summers – Area Manager (GRP)
- Michael Garcia – Project Manager (GRP)
- Tevita Kafoa – Project Manager (DSB)
- Matt Mitchell – Project Superintendent (GRP)
- Shawn Shuey – Lead Inspector (HDR)

Tons of hot mix asphalt mixed: 40,000 tons

Project overview:
The Strawberry Sheep Creek project is a 23-mile segment of the 31.9-mile route that connects US-6 to US-40 through the Uinta-Wasatch-Cache National Forest. This project is one of the most rewarding projects our company has worked on during the past two years. The road is arguably one of the most beautiful highways in the state of Utah! A summary video of the project can be found at youtube.com/watch?v=dU31akRrpRg.

The project was divided into Schedule A, Option X and Option Y.

Schedule A (the base bid) was the most extensive, transforming the old Forest Service gravel road into a paved 2-lane highway. This 12.24-mile segment consisted of the following:
- Removing the old drainage pipes and installing 64 new crossings
- Installation of two structural plate pipe arches and reestablishing streambeds
- 100,000 CY of roadway excavation and embankment
- 58,000 tons of aggregate base
- 40,000 tons of HMA

Option X: A worn-out stretch of paved roadway started at US-6 and extended for seven miles. After minimal maintenance, it needed to be repaired and resurfaced to extend the existing roadway's life. Improvements to this segment include patching existing asphalt, crack sealing, ditch reconditioning and chip seal.

Option Y began at Strawberry Reservoir for 3.75 miles toward US-40. A one-mile portion of this existing paved roadway was beyond repair. As a result, it was pulverized, regraded and repaved with new asphalt. The remaining parts of

this were crack sealed and chip sealed, providing a new and improved surface for motorists.

What makes the project unique?
The project is in some of the state's most rugged and wild terrain, topping out at 8,583' at the project summit. Winter approached fast both years, giving us about 12 working months, but the project team's outstanding final product impressed shareholders. The Federal Highway Association has a high standard for asphalt roughness/smoothness, but our grading and paving crews exceeded expectations for an excellent ride.

The smooth finished road culminated months of earth moving and grading work. Geneva Rock was fortunate to have some of the best dozer and grader operators prepare the base course and asphalt surface. The project's first year saw over 100,000 cubic yards of road excavation moved between cuts and fills. The project features several large, reinforced slopes, hundreds of cut and fill slopes and many super-elevation curves. The project team utilized the latest in GPS and machine guidance to prepare this subgrade. To achieve the necessary tolerances, our survey team installed a GPS base station on a nearby mountain top for our equipment to connect to.

In addition to the earthwork and asphalt placement, this project included two arch culvert structures in active running creeks, over 1000' of rockery wall, and over 60 new CMP drainage structures.

The mountain ranges this project traverses serve multiple purposes, including livestock grazing, hunting and recreational use. We had to maintain access to the public during most construction phases. During the summer months (our construction window), thousands of cattle and sheep were brought on-site to graze in the mountains. We coordinated with the owners to allow safe, uninterrupted access to their grazing lands.

This complex project was finished on schedule, in time for this area's popular deer and elk hunting seasons. The road will provide faster and safer access to Strawberry Reservoir for communities in Utah County and Carbon County for years to come.

WINNER
SMALL PROJECT OF THE YEAR
WEST JORDAN CITY CENTER MILL AND OVERLAY

Name of project: West Jordan City Center Mill and Overlay

Project location: 1825 W. Rosa Parks Drive

Project start: Sept. 20, 2021

Project completion: Sept. 29, 2021

Key project team members: Jason Duffin, Jerry Street, Derek Carter, and West Jordan Streets staff

Tons of asphalt placed: Approximately 1,500 tons

Each spring, the West Jordan Streets crew coordinates with the Capital Projects Group to mill and overlay selected streets throughout the city. The milling operation is contracted with outside parties, although West Jordan provides the trucks and drivers to transport the asphalt millings. The Capital Projects Group also contracts other work, such as lowering utilities and substandard ADA ramp replacements. The Concrete Crew goes through the mill and overlay candidates in advance, and it pumps or replaces gutters to correct gutters that do not flow properly. West Jordan typically contracts striping work unless it is minor because the city doesn't have the staff or equipment for large striping jobs.

West Jordan's paving quantities are minute compared to paving contractors who work on large paving projects for UDOT and other transportation agencies. However, the staff is also responsible for the city's maintenance tasks throughout the year, such as pothole repair, utility cut restorations, signs, striping, sidewalk issues, gutter issues, special projects, and garbage container maintenance. In addition, 2021 was not the city's most productive year for paving. The pandemic caused purchasing delays, staffing challenges, and other issues. That said, the in-house staff still placed approximately 10,672 tons of asphalt in 2021 despite the pandemic.

Out of the multiple roads milled and overlaid last season, the focus for the small project was at the city center, 1825 W. and Rosa Parks Drive. The city center is adjacent to City Hall, the West Jordan Police Department, a fire station, and the West Jordan Courthouse. However, those aren't the only offices on those roads. This portion of work also impacted other locations. A partial list includes a bank, multiple apartment buildings, a Salt Lake County Health Center, the Justice Division for the Salt Lake County Attorney's office, the 3rd District Court in West Jordan, the Salt Lake County Library for West Jordan, and a large city park, the Veterans Memorial Park.

As anyone involved in paving knows, many eyes watch paving jobs. Considering the businesses and government buildings around the site, it was almost as if staff were onstage.

As mentioned, the staff contracts work to lower utilities and replace ADA ramps before the staff coordinates the milling operation and hauls millings. Defective concrete gutter is pumped or replaced by the concrete crew. The paving staff consists of 12 employees with experience ranging from less than one year to over 20 years of paving experience. Of course, West Jordan had to deal with COVID-related illnesses and absences, just as everyone else had to last year, which added to the group's challenges.

Almost any paving job has challenges involving labor, equipment, materials, and traffic control. All of the streets on the proposed list had challenges, but the work at the city center last year was the most challenging work done on rehabilitated roads. The team had to deal with the location, surrounding businesses, and governmental agencies that needed access throughout our project, and the constraints of narrow roads requiring detours instead of shifting traffic.

WINNER
QUALITY IN PAVEMENT PRESERVATION
ANDERSON ASPHALT — WEST HAVEN CITY STREETS

Name of project: West Haven City Streets

Project location: West Haven City

Project start: July 1, 2021

Project completion: Aug. 11, 2021

Key project team members:
- Caden Andersen
- Derek Andersen
- Wade Andersen
- Austin Groll
- Jared Andersen
- Jordan Stacey
- Jadon Niederhauser

Project overview:
The project consisted of preparing the asphalt pavement surface and applying approximately two million square feet of AP4 Asphalt Surface Treatment throughout various streets and subdivisions.

Andersen Asphalt always puts a focal emphasis on which treatments will be most effective. The longevity of the surface treatment is a very high priority. In coordination with the city engineer, public works director, and assistance from third-party engineering, our team determined which roads would benefit most from AP4 Surface Treatment. The team dedicated a cleaning and preparation crew and a full-time application crew for 10 working days. They applied AP4 on streets that were typically less than two years old.

The project goal was to put the right treatment on the right road at the right time to ensure that the roads will continue to perform well for more than five years.

What makes the project unique?
The team used unique preparation equipment and precisely calibrated surface treatment applicators in a methodical process that overcame its industry challenges. The project beautified the streets, protected them, and added frictional benefits that should last for many years to come. This project will help West Haven city stretch its dollars and significantly extend the service life of its pavement.

WINNER
QUALITY IN CONSTRUCTION
UDOT REGION 3 — PAVEMENT PRESERVATION, SR-44 (MP 0 TO MP 14)

Name of project: Pavement Preservation, SR-44 (MP 0 to MP 14)

Project location: SR-191 Greendale Junction to FR-094

Project start: May 24, 2021

Project completion: Nov. 11, 2021

Key project team members:

- UDOT Region 3 — Clayton Weaver and Fred Priebe
- Burdick Materials, A CRH Company — Lee Goodrich and Tony Hickman
- Wall Consultant Group — Brent Schvaneveldt
- Civco Engineering— Troy Ostler
- Jones & DeMille — Bret Sorenson
- Coughlin Company — Reed Poleszak

Project overview:
The project consisted of a profile grind, scrub seal and 2-inch spray paver applied SMA.

What makes the project unique?
The roadway was rough with considerable cracking, and the asphalt was thin (1.5-inches to 5-inches). Due to budget constraints, the asphalt could not be removed and replaced with a 4.5-inch overlay. The team used a profile mill with a maximum depth of 1-inch to improve smoothness. Next, they applied a scrub seal to help fill the cracks, and then they used a spray paver to apply a 2-inch SMA overlay.

This project was Coughlin Company's first one using Lidar and Topcon software to analyze, design and grind the pavement surface to improve both profile and cross-slope at the same time. This project was also the first spray paver project for Burdick Materials. The crew had some challenges learning the process, including additional paver cleaning and maintaining a consistent paving speed. Since belly dumps were not allowed, Burdick Materials used live bottom dumps and end dumps; those choices provided a cleaner project with less tracking and asphalt chunks off the project.

The team used a profile mill with a maximum depth of 1-inch to improve smoothness.

The spray paver is heavier than standard pavers, so starts and stops didn't affect the smoothness as much. The smoothness for this section was improved from an initial MRI of 165 to a final MRI of 58.5. The contractors, consultants, and the owner worked well together and did a spectacular job dealing with the new processes and paving techniques.

Projects and studies from the Midwest have shown that underseals and spray-paver applied overlays reduce cracking, improve impermeability, have longer than typical service life, and lower life cycle costs. This project is anticipated to last longer and perform better than a standard mill and overlay for less overall life cycle cost.

NOMINEE
LARGE PROJECT OF THE YEAR

WESTERN ROCK PRODUCTS – I-15 BLACKRIDGE TO IRON COUNTY

The project location was on I-15 from MP-27 to 44 (New Harmony to the Toquerville exits). The elevation change from the bottom of the project to the top of Blackridge was just under 2,000 feet. Southbound semi-trucks had difficulty slowing down, and northbound semi-trucks had difficulty gaining speed back after slowing down. Typical projects of this size and tonnage start early spring; however, standing water on the southbound lanes caused several semi-truck slide-offs. The undesirable roadway conditions influenced starting midseason instead. Water sitting on the surface caused traction loss, and the trucks would slide as if they were on an ice-covered roadway.

The project used fiber-strand reinforced HMA, SMA and open-graded asphalt. (UDOT used open-graded asphalt to drain the water from the surface of the freeway to mitigate the issue with standing water.) FSR HMA and SMA Lifts were placed below the open grade for strength and stability.

All work had to be done at night. The open-grade asphalt was placed on the southbound lanes in 2020 to alleviate the standing water issues before winter. The timing of the project late in the 2020 season caused shorter work times due to nighttime temperatures. The shorter work schedule also required more cold joints and shorter runs.

The project addressed several safety issues. The team installed over 16,468 linear feet of cast-in-place Concrete Constant Slope Barrier. They also addressed guard rail issues, installed marking tape and epoxy for enhanced visibility, gabion baskets and Riprap for drainage, added additional drain boxes and reconstructed existing boxes. After a change order, the team added 12,677 cubic yards of untreated base course to bring the existing slopes into federal compliance (typically 4:1 or flatter).

NOMINEE
LARGE PROJECT OF THE YEAR

STAKER PARSON MATERIALS & CONSTRUCTION – I-80 IN WENDOVER, (MP 10.46 TO MP 20)

The project called for ten miles of I-80 SMA overlay and an experimental single 6-inch lift of HiHMA mixed design for the Wendover port of entry. In all, the team placed 41,836 tons. They rotomilled the freeway in both directions to a depth of 1.5 inches and paved back a 1.5-inch depth of SMA with a PG-70-28 binder. That accounted for 41,459 tons. The team also relined existing culverts and installed new end sections. Upon completion, the road was shouldered, and new delineators and rumble strips were placed.

At the port of entry, the team removed six inches of concrete and asphalt by roto mill, then paved back a single lift of six inches of PG 76-34 HiHMA. This experimental operation involved years of preparation and study by UDOT, ensuring the 6-inch one-lift paving method would be successful. (This issue of On the Road has a separate article about the thick lift.)

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NOMINEE
LARGE PROJECT OF THE YEAR
UDOT – MID VALLEY HIGHWAY

The Midvalley Highway involved 4.5 miles of roadway. The project included a new two-lane freeway, a new interchange at I-80, and a direct connection to SR-138 in the Tooele Valley.

The Midvalley Highway was a greenfield project. Due to the unique salty marsh ground in the area, over 1,000,000 tons of borrow material were trucked onto the project, and 220,000 cubic yards of material were brought onto the project to surcharge the structure areas. Since some areas settled as much as 30%, it was necessary mid-project to construct the two bridges, the interchange at I-80, and a cattle crossing.

The Midvalley Highway provides direct access to I-80 for those in western Tooele County and is expected to remove 15-20% of the traffic from SR-36 in the Lake Point area. That traffic reduction is equivalent to 6,000 to 8,000 vehicles per day. The traffic reduction is also expected to reduce delays southbound on SR-36 by 70%.

The project was completed during the pandemic challenges without force majeure and was delivered on time and under budget.

NOMINEE
LARGE PROJECT OF THE YEAR
UDOT REGION 3 – SR-44 (MP 0 TO 14)

The project location was on SR-44 between the SR-191 Greendale Junction and FR-094. Work was performed by Staker Parson Materials & Construction, UDOT, Wall Consultant Group, CIVCO Engineering, Jones & DeMille Engineering, and Coughlin Company.

The cracked roadway was rough, and the asphalt was thin (1.5-inches to 5-inches). Budget constraints meant the asphalt could not be removed and replaced with a 4.5-inch overlay. The team used a profile mill with a maximum depth of 1-inch to improve smoothness. The team applied a scrub seal to help fill the cracks and used a spray paver to apply a 2-inch SMA overlay. They laid 35,665 tons of asphalt.

This project was Coughlin Company's first project using Lidar and Topcon software to analyze, design, and grind the pavement surface to improve both profile and cross-slope at the same time. It was also the first project to use a spray paver for Burdick Materials. Crew challenges included learning the process, cleaning the paver more than usual, and maintaining a consistent paving speed.

Since belly dumps were not allowed, Burdick Material used live bottom dumps and end dumps. Live bottom dumps and end dumps provided a cleaner project with less tracking and asphalt chunks off the project. Starts and stops had less effect on the smoothness because the spray paver is heavier than standard pavers. The section's smoothness was improved from an initial MRI of 165 to a final MRI of 58.5.

According to projects and studies from the Midwest, underseals and spray-paver-applied overlays reduce cracking, improve impermeability, have longer than typical service life, and lower life cycle costs. This project should last longer and perform better than a standard mill and overlay for less overall life cycle cost.

NOMINEE

LARGE PROJECT OF THE YEAR

STAKER PARSON MATERIALS & CONSTRUCTION — SR-194, I-15 TO SR-65

This project was a 2.5-mile mill and fill job completed during the night. Scope of work called for a 3-inch deep rotomill, and a 1.5-inch deep pave back of PG 64-34 HMA using a spray paver. Then, the spray paver did a 1.5-inch-deep overlay of a PG 70-28 SMA. This project was one of the first jobs where Staker Parson Materials & Construction and UDOT used a spray paver. The team used rapid set utility collars and placed nine pedestrian access ramps. They also placed new signage and grooved-in all pavement markings.

Staker Parson Materials & Construction had to use a different Material Transfer Vehicle (MTV) because of the spray paver. The current MTVs barely reached the hopper of the spray paver, which created a situation where the paver and the MTV could run into each other during operations. To prevent a collision during paving, the team bought a new Roadtec MTV with the technology to communicate with the paver and ensure the two pieces of equipment traveled at similar speeds.

The spray paver and MTV demanded additional planning and changes to the paving plan. For example, the team had to change from a CQS-1H tack to a PMEM. The team coordinated with a new tack oil vendor and changed how they haul and store tack with their oil distributors or on-site tank.

This job was built during the height of the paving season when getting trucks were in high demand. The team had difficulties finding enough trucks to staff the job and effectively haul the RAP and HMA/SMA. The team did a fantastic job finding backhauling opportunities or property owners along the job route who could take the RAP from them. Although trucking issues persisted, the team successfully planned and communicated to solve them.

NOMINEE

LARGE PROJECT OF THE YEAR

STAKER PARSON MATERIALS & CONSTRUCTION – SR-198 IN SPANISH FORK, PAYSON AND SALEM, (MP 6.22-10.24, 11.61-12.34 AND 12.78-13.03)

SR-198 was a roadway in need of safety upgrades and pavement preservation. Staker Parson Materials & Construction and UDOT Region 3 teams successfully replaced all 48 pedestrian access ramps, added a dedicated bike lane, and provided a new asphalt surface using hot-mix asphalt, stone-matrix asphalt, and a micro-surface that will last years to come. The work on the pedestrian access ramps was subcontracted to Western Paving, Inc. and met all ADA and federal standards. The dedicated biking lane and improved pedestrian access create a safer roadway for the public and benefited the entire community by providing an opportunity to use alternative means of transportation.

One of the project challenges was to take this roadway and realign it with a new lane configuration. To correctly accomplish this goal, workers had to change their rotomill, HMA and SMA paving plan, ensuring the paving mat joints were aligned correctly to accept the new pavement marking layout. Nearly all seven miles of the roadway had to be measured in advance and evaluated compared to the design. A plan was formed internally to productively pave it back while still achieving the new lane configuration goal.

Paving was finished three days earlier than planned. Also, this project was awarded the Utah AGC Under $5 million Highway Project of the Year Award.

NOMINEE

LARGE PROJECT OF THE YEAR

HALES SAND & GRAVEL – US-89 (FAIRVIEW TO THE UTAH COUNTY LINE)

US Route 89 is one of the West's most scenic highways. It reaches from Mexico to Canada and is known as the "National Park Highway." With over 1,600 miles of a mostly two-lane paved highway, US 89 passes through five states, many cities and towns, and it is the gateway to seven national parks and 14 national monuments.

Hales Sand & Gravel, a DBA company of Staker Parson Materials & Construction, worked with Coughlin Company and UDOT Region 4 on a 12.9-mile section of US 89 north of Fairview, Utah. The project used 26,978 tons of SMA asphalt. The work included using Cold In-place Recycling (CIR) for 7.75 miles of the total project. Since CIR is a newer process for many UDOT employees, this project allowed them to watch and learn about it.

Before processing the CIR, Hales Sand and Gravel and Coughlin Company removed the top 1.5 inches of the existing asphalt, consisting mostly of chip and crack seal. Sanpete County accepted the removed material as a product they could use as patching or shouldering material.

Coughlin processed CIR each day, and the Hales Sand & Gravel paving crew would lay and roll the exposed underlined material. The mill hit the project's north end on the fourth production day, and production was limited to only 1.45 miles. With a requirement to implement the appropriate traffic control, UDOT permitted having the forward mills flip around.

The team shouldered ten miles of road and paved five miles with a 0.5-inch-thick lane level and a 1.5-inch SMA overlay. After the team finished the first five miles of lane leveling, they installed a two inch SMA overlay on 7.75 miles of road.

NOMINEE
SMALL PROJECT OF THE YEAR
DUCHESNE COUNTY POLE LINE ROAD


Mineral extraction in the Uinta Basin means heavy loads traveling many county roadways. These roads typically experience heavy wear because they were not designed for the loads they experience.

Most of the high-volume heavy truck traffic on Pole Line Road is related to mineral extraction. For many years, the road has been in poor shape and often had potholes that took up an entire travel lane. Duchesne County has been looking for economical ways to resurface this roadway to make it traversable and require less maintenance until the county could afford full reconstruction.

The county worked with Jones & DeMille Engineering and Pacific Geosource to look at a few options. The groups came up with a plan to mill the existing bituminous surface into the existing road base and compact it as the new base layer. Once that was done, they placed three inches of HMA with FORTA-FI fibers to create a reinforced asphalt mat.

FORTA-FI was used to increase the tensile strength of the new asphalt pavement and extend the pavement life while reducing the necessary thickness of asphalt to provide adequate structure for the design traffic. With the innovative use of reinforcing fibers, this project will provide a longer-lasting pavement that will maintain a higher PCI score and reduce future maintenance operations for Duchesne County. This project will ultimately save Duchesne County money and allow the county to reallocate maintenance funds and crews to other county roads.

This project is the first fiber-reinforced roadway specified for Duchesne County. It will be a pilot for using reinforcing fiber on future projects. FORTA-FI should allow Duchesne County to resurface some of these deteriorated roadways wisely and with a product that requires less maintenance during its lifespan.

NOMINEE
SMALL PROJECT OF THE YEAR
GRANITE CONSTRUCTION, INC. — I-15 PAGES LANE


The UDOT I-15 Pages Lane to 2600 South project was a challenging night project in one of the busiest sections of I-15 in Utah. Located in Davis County between Centerville and North Salt Lake, this five-lane, six-ramp and three-mile section of I-15 has an HOV lane and hundreds of thousands of daily commuters.

UDOT selected a 2-inch mill and 2-inch SMA overlay as the wearing surface treatment, and Granite Construction, Inc. paved approximately 18,100 tons of SMA. Work times varied depending on lane closures. The HOV lane could only be closed a seven-night maximum for the milling and paving operations, and traffic was not allowed on the milled surface. The ramps could only be closed once during the project.

UDOT used epoxy paint on this project because it should have a longer life than typical water-based paints used previously. The epoxy paint was grooved into the new SMA surface to prevent wear and damage by the plows that hit this area hard in the winter.

Granite Construction, Inc. had 55 calendar days to mill 191,602 square yards, place over 21,000 tons of SMA, apply all the thermoplastic messages in the HOV lane, and apply the epoxy paint. The project was completed early, and Granite Construction, Inc. received incentives for early completion, gradation, asphalt content, density, and smoothness.

It was a long two months of frequent seven-night work weeks with thunderstorms that came and went almost nightly. Trucking was a constant struggle; the construction industry has many large projects that have stretched the state's trucking power very thin. However, the project's result is a beautiful and durable section of roadway that will last the state for years to come despite wear from commuters and plows.

NOMINEE
SMALL PROJECT OF THE YEAR
STAKER PARSON MATERIALS & CONSTRUCTION — MAIN STREET - CENTER STREET NORTH SALT LAKE

This project involved removing and replacing the existing curb and gutter, sidewalk, waterways, and pedestrian access ramps. The project team also removed the entire existing roadway asphalt, cement treated the existing road base, graded and compacted the cement-treated road base, and installed 4.5-inches of new roadway asphalt.

This project used a cement slurry treated base. Normally, work is done in the existing subgrade materials, which then have either an existing or new base installed on top of them. Instead, the team removed the asphalt surface and treated the existing base. The team worked with UDOT and the city to determine the best method for doing this work and the correct cement ratio for the expected product.

The project team's challenges included traffic access and the roadway's slope. Many residents live on this street, and the team had to keep open access to their properties. Also, the west side of the roadway had a very steep slope. The slurry would have run off the roadway into the curb if the project team had used a standard cement slurry treatment. They had to figure out how to place the slurry where it could be mixed in the existing base and kept out of the gutters. They used good communication and planning to accomplish their goals.

This project was bid late in the year, so another was time. Thanks to teamwork between the owner and Staker Parson Materials & Construction, work began at the beginning of September and finished before November.

NOMINEE
SMALL PROJECT OF THE YEAR
JONES & DEMILLE ENGINEERING — SR-153

This project included a lane level and overlay on the cracked surface of SR-153 between MP 3.04 and MP 19.2. The route runs along Beaver Canyon and the Beaver River. High-quality work was required because the hot plant was an hour away, and has tight curves, varied widths, steep grades, and multiple river crossings. Due to the narrow 25-foot average road width, this project also included one-foot shoulder widening on shoulders where possible.

The existing roadway conditions, harsh winter conditions, and restricted sunlight during the winter season made it important to place material that would last. UDOT elected to install a fiber-reinforced asphalt overlay section that will add longevity to the pavement life and slow down the reflective cracking, thus preserving the road's life and minimizing maintenance along this section of highway.

The narrow roadway width did not leave much room for the paving crew to work and allow for traffic to pass, and highway elevations range from 6,000 feet to over 10,000 feet. As a result, traffic control and advanced notice of the anticipated work zone were critical for the safe passage of large trucks and other vehicles. The project team focused on adequate signage and added additional signage to alert oncoming drivers.

The project team placed approximately 3,680 tons of HMA 3/8-inch material as a lane leveling course over the existing HMA. After placing the lane level, they placed a 1.5-inch overlay with 11,797.91 tons of fiber-reinforced HMA. The contractor received more than 82% of the possible smoothness bonus without a single project grind. The completed product will be an example of quality for years to come.

NOMINEE
QUALITY IN PAVEMENT PRESERVATION

I-80 - STAKER PARSON MATERIALS & CONSTRUCTION

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NOMINEE
QUALITY IN PAVEMENT PRESERVATION

UDOT SR-248

To reach SR-248, exit US-40 and travel west into Park City. SR-248 passes through beautiful Park City, Utah, and is one of the main access points to the city's world-renowned ski resorts. You can see many ski runs from the road.

SR-248 has repeatedly had different kinds of construction for several years because of water line upgrades, sewer upgrades, and several developments making utility connections. The roadway was in extremely poor condition, and you could feel it as you drove on it.

Funding was limited. Members of a UDOT team did what they could with a one-inch mill and a one-inch OGSC treatment. The method that UDOT chose was economical and fixed most of the smoothness issues the roadway had developed over the years. The goal was to get in, get done, and get out as quickly as possible.

The project required extensive partnering, problem-solving, and community involvement. Park City had a water main system installed by a separate contractor at the same time as Granite Construction's project. Both teams had to coordinate their work, and the corridor was very busy with construction traffic at all hours. Also, the corridor has an elementary school and a high school. That causes a high concentration of pedestrians, cyclists, and buses.

The reconstruction of 49 pedestrian access ramps along the three-mile stretch of roadway required several detours for the cyclists who use the existing trail system and the youth who walk the route to and from school. The project schedule took place both day and night to comply with the city's noise ordinance requirements and accommodate local needs.

Granite Construction completed the project ahead of schedule and minimized the impacts on everyone using SR-248. The project was tough, but the results are beautiful.

CONGRATULATIONS
TO OUR 2022 SCHOLARSHIP WINNERS

KEVIN BIEL
EXPECTED TO GRADUATE IN DECEMBER 2022

Kevin Biel has worked for PEPG Consulting as an engineering intern for three years. His basic education has involved some of UAPA's basic classes like a past Asphalt 101 class, the recent E-ticketing Brunch and Learn, and the UAPA Fall Conference in St. George, where he learned specifics about Fiber reinforced asphalt. As his education continues to progress, he will be more involved with leading and contributing to evaluating the general performance of asphalt.

After graduation, Kevin intends to use his education as a materials engineer to effectively troubleshoot asphalt pavement issues before and after construction, add to the body of knowledge that already exists on this subject, and educate those unfamiliar with asphalt in his workplace.

GERALD STREET
EXPECTED TO GRADUATE IN APRIL 2023

Gerald Street began working In the spring of 2000 as an entry-level maintenance worker in the Streets division with the City of West Jordan. He was 18.

Gerald is now working as an Asphalt Maintenance Crew Supervisor. He said, "It is incredible to see how our asphalt maintenance program has evolved from crews repairing small patches by hand to having a full-scale and highly skilled paving crew." Gerald plays a significant role in every aspect of the program. He supports improved safety and efficiency through training, and he works to pass along his knowledge to the next generation of employees. In 2020, Gerald was deeply honored to receive the "Manager of the Year" award.

Gerald enrolled at Southern New Hampshire University in March 2021 to obtain an associate degree in Business Administration. He wants to advance his career and responsibilities within the Streets Division. His future goals include teaching employees the skills he has learned, maintaining a safe and welcoming work environment, and positively impacting West Jordan for years to come.

ABDULLAH AL MAMUN
EXPECTED TO GRADUATE IN JANUARY 2024

Abdullah Al Mamun is a civil engineering graduate, a university instructor and a researcher. He is working on a Ph.D. in engineering and helping develop a sustainable road system that recycles pavement materials for cold-weather regions like Utah. The project is a joint effort between the University of Utah and the Utah Department of Transportation.

Abdullah's work is relevant to the asphalt industry because of the expected costs to rehabilitate more asphalt roads. Repair costs could increase by $37.3 billion per year through 2032. Using a higher percentage of reclaimed asphalt pavement (RAP) improves sustainability and reduces costs. However, the additional stiffness of RAP incorporated mixtures is challenging for cold-weather regions like Utah.

The project Abdullah is working on analyzes laboratory-aging and natural-aging of asphalt mixtures to improve low-temperature performance. Suitable solutions could then be applied to counteract the adverse effects of oxidative aging. The study also uses an AI-based RT model to determine the relation between oven aging and the observed changes from natural aging.

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