Welcome & Introductions

Chris West – NB West Contracting
Brandon Atchison - MAPA
Why Parking Lots Matter!

Dan Staebell
Regional Director
National Asphalt Pavement Assoc.
dstaebell@asphaltpavement.org
Crowd Participation with Smartphone

Presenter session: Audience texts **dans018** to **22333** to join the session, you will receive notice “You’ve Joined”

Poll Everywhere
Have you ever built, maintained, resurfaced, designed, inspected a parking lot?
What best describes your companies business?

- Consultant
- Maintenance Contractor
- Building Owner / Developer
- Government or Public Agency
- Asphalt Producer / Contractor
- Other
Total Tons

Table 3: Summary of 2017 Estimated and Required Tons

<table>
<thead>
<tr>
<th>State</th>
<th>Tons, Millions</th>
<th>Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>7.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Alaska</td>
<td>5.1</td>
<td>1.0</td>
</tr>
<tr>
<td>American Samoa</td>
<td>0.03</td>
<td>1.0</td>
</tr>
<tr>
<td>Arizona</td>
<td>6.5</td>
<td>1.2</td>
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<tr>
<td>Arkansas</td>
<td>6.0</td>
<td>1.9</td>
</tr>
<tr>
<td>California</td>
<td>26.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Colorado</td>
<td>5.3</td>
<td>2.0</td>
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<tr>
<td>Connecticut</td>
<td>4.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Delaware</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>1.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Florida</td>
<td>16.5</td>
<td>4.6</td>
</tr>
<tr>
<td>Georgia</td>
<td>14.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Idaho</td>
<td>2.8</td>
<td>1.7</td>
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<tr>
<td>Illinois</td>
<td>13.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Indiana</td>
<td>11.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Iowa</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Kansas</td>
<td>2.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Kentucky</td>
<td>4.4</td>
<td>4.4</td>
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<tr>
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<tr>
<td>Maine</td>
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<tr>
<td>Maryland</td>
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<td>Massachusetts</td>
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<tr>
<td>Michigan</td>
<td>13.7</td>
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<tr>
<td>Minnesota</td>
<td>6.9</td>
<td>6.0</td>
</tr>
<tr>
<td>Mississippi</td>
<td>4.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Missouri</td>
<td>6.5</td>
<td>3.9</td>
</tr>
</tbody>
</table>

NCR: No Companies Responding
* Fewer than 3 Companies Reporting
Total Reported Tons includes values from the AASHTO Estimated Tons
Numbers do not add up exactly due to rounding.

Figure 2: Estimated Total HMA/WMA Asphalt Mixture Production by Sector, 2009–2017
How many Walmart Retail units are located in Missouri?

https://corporate.walmart.com/our-story/locations/united-states/missouri

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>236</td>
<td></td>
</tr>
</tbody>
</table>
Have you ever heard this?

It’s just a parking lot!

AMERICA RIDES ON US

APA PAVEMENT ALLIANCE
Facilities Welcome Mat
7 Keys

Handout

• Pick your Mix
• Dig Deep
• Drain the Rain
• Build a Base
• Trucking Along
• The Green Scene
• Pave and Save

Pay attention to details

Asphalt. AMERICA RIDES ON US
6 Steps to Highly Successful Parking Lots

1. Plan Before You Pave
   - Plan for the long-term success of your project, considering the needs of the site, the environment, and the future.

2. Dig Deep
   - Ensure the site is properly prepared before construction begins, including removing debris and compacting the soil.

3. Drain the Rain
   - Install proper drainage systems to prevent water pooling, which can lead to erosion and other issues.

4. Build A Base
   - Lay a solid base that will support the paving layers and ensure stability and durability.

5. Pick Your Mix
   - Choose the right asphalt mix based on the specific requirements of the project and the expected loadings.

6. Pave & Save
   - Apply the pavement layers carefully, ensuring a smooth surface that is durable and cost-effective.

Asphalt. America rides on us.
Pick your Mix

• Parking vs. Highway
  – Static
  – Rolling
Pick your Mix

• Understand Asphalt Cement – Binder
  – Proper % Binder
  – Performance Grade (PG)
  – Ask for guidance!
    • Physical Location of Use
    • Base or Surface
    • Polymer additives

• Warning: Improper Selection can result in:

Just Right!
Rap Percent Use

- Manage Percentage
- Liquid Binder
- Mix Design = Performance

Figure 5: Average Percent RAP Used by Sector
Dig Deep

• Subbase Platform
  – Understanding Support = Critical Part of Design
Plan & Trucking Along

- Nothing Temporary - Plan and design for the long term...
- 1 Loaded Semi = 3000 Cars
  - ESAL Calculation Pavement Interactive
- Cars Minimal Impact –
  - Design Minimum (See SAPA)
Thickness Design Guides

PaveXpress
A Simplified Pavement Design Tool

Join us for a free webinar
PAVE Xpress
A Free, Simplified Pavement Design Tool
An Overview of Major Enhancements
An in-depth look at:
- New life cycle cost analysis module
- New mechanistic-empirical pavement design module based on PerRoad
- The ability to perform designs in both English and Metric units

May 27, 2020
1:00 - 2:30 EDT

Go to asphaltroads.org
to sign up

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Pave and Save

- Select Qualified Contractor
  - SAPA List
- Inspect – Inspect – Inspect
  - Oversight = Sleep like a baby!
- Ask Questions
Recap

• Pick your Mix
• Dig Deep
• Drain the Rain
• Build a Base
• Trucking Along
• The Green Scene
• Pave and Save

Pay attention to details

Asphalt. • AMERICA RIDES ON US
Which "Key" would you consider most important?

- Mix Design
- and Thickness Design
- Solid Subgrade and Aggregate
- Drainage (Sub and Surface)
- Contractor Selection
- All the above
Handy Checklist
Contact dstaebell@asphalt pavement.org

Checklist for Parking Lots

To ensure the longevity, lowest maintenance costs, and best performance of asphalt pavement, it is crucial that contractors of the highest quality are selected for the proper quality of the materials used and the workmanship of their crews. It is important in cases where the design and construction of the pavement are complicated and involve numerous factors that the construction plan be thoroughly discussed, planned, and agreed upon. A new pavement district has been constructed with a subgrade of compacted soil and the base layer and foundation through the pavement's thickness. The following plan is designed to help the contractor or owner's representative understand the key aspects of the project and to produce a quality pavement project. The checklist is based on national recommendations and the government's national standards, practices, and procedures.

Asphalt Mixture

Prior to starting the project, the design team determined the depth of each pavement layer and the type of asphalt mixture to be used. The following questions are designed to ensure that the correct, specified asphalt mixture is being used in the site. You can check off each question below by writing the number in the box next to the question to confirm that the project is being done properly.

Ask Yourself:

☐ What is the correct mix type for the project and the base you are constructing?
☐ How many dump trucks are scheduled to deliver the mix from the plant and how many tons are in each round?
☐ How many dump trucks are scheduled to deliver the mix from the plant and how many tons are in each round?
☐ How many trucks are scheduled to fill the job?
☐ What is the maximum quantity of each type of mix and how many tons are needed in each type of mix?
☐ How many tons are needed in each type of mix for the project?
☐ How many trucks are scheduled to fill the job?
☐ Are the trucks scheduled to fill the job as efficiently as possible and in the correct sequence?
☐ Are the trucks scheduled to fill the job as efficiently as possible and in the correct sequence?

Project Review

Every paving project should start with a detailed review of the project's contract, plans, and specifications. Any questions regarding the project should be raised before the design begins.

Contact dstaebell@asphalt pavement.org

Contact us today for your free copy of Construction Checklist
Resource

asphalt Pavement.org
Which of the following companies do you believe to be the most cost conscious?

A
B
C
D
What percentage of Walmarts have Concrete Parking Lots?

- 0%
- <5%
- 5-10%
- >10%
Used Google Earth
Sample Info = Largest Metro in Each State

Most appear to be built in last 15-20 Years. Many Super Walmarts!

Less than 5% total Parking lots were PCC.

Average SY @ 45K SY

Site Average HMA tons 15 M Tons (6”)

Walmart sees value in ASPHALT!

Asphalt. AMERICA RIDES ON US

<table>
<thead>
<tr>
<th></th>
<th>Total ACC</th>
<th>Total PCC</th>
<th>Total</th>
<th>Average Size SY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent PCC</td>
<td>4.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Which One?
In Depth Training

Parking Lot Asset Management

In today's world, being efficient and effective with resources keeps customers and tenants returning year after year. Proper parking lot design and maintenance is key to the presentation of a welcoming front at home. Join us for in-depth training and education related to the unique requirements of your commercial and industrial parking lots.

Two Options
½ Day or
1½ Day

efficient and effective with resources keeps customers and tenants returning year after year. Proper parking lot design and maintenance is key to the presentation of a welcoming front at home. Join us for in-depth training and education related to the unique requirements of your commercial and industrial parking lots.

What Should Attend:
This course is tailored for those who own, manage, specify, consult, construct, or design commercial and industrial parking lots.

“Parking Lot Management: done in a Manager City, was a very informative course, designed for engineers from a variety of industries and the various design consults. The attendees did an excellent job of keeping it efficient and on the topic, which is exactly what we need in our business.”

- John Johnson, Vice President of Construction Management, Strategic Services

“This is one of the few presenters in the industry that is able to engage, educate, and make an audience of participants always worth the price of admission.”

- Joel Seidenberg, CPM, Director of Construction

Option One — 1½ day comprehensive training course that provides an overview of the NAPA document, "How to Build a Successful Parking Lot." The training dives deep into all aspects of materials and site design, pavement design, and pavement maintenance knowledge. The course also teaches how to maintain and rehabilitate. This course provides an opportunity for a look into the future and the ongoing changes in the parking industry. Based on location, the course is expected to last the first 1½ days of training.

Option Two — 1 day 14-6:30rd: This highlights the NAPA document, "How to Build a Successful Parking Lot," utilizing key sections from the latest version. This course is expected to last the first day of training.

COST

Please contact Dan Hastedt, Vice President of Education, at dhastedt@asphaltconcrete.org or 503.927.3044 (office) 604.440.0149 (cell)

Tuition is provided as part of the cost.

For more information, contact Dan Hastedt at dhastedt@asphaltconcrete.org or 503.927.3044 (office) 604.440.0149 (cell).
Additional Training

NAPA Webinars

NAPA offers a variety of webinars throughout the year on various topics related to the asphalt industry. These topics range from newly released industry regulations to innovative processes and technology that can benefit your company. The NAPA webinar program will deliver the information you need to the comfort of your home or office. Professional Development Hours (PDHs) Participation in NAPA webinars may earn you Professional Development Hours (PDHs). PDHs are educational units used to fulfill continuing education requirements for licensure or certification. In most cases, 1 hour of participation in a webinar equals 1 PDH. Some states and certifying bodies require pre-appraisal of professional development hours and documentation requirements also vary, so be sure to check with your appropriate agency. You are responsible for maintaining the documentation for your PDHs. You can request a certificate of completion after you attend any of the webinars to keep for your records.

UPCOMING WEBINARS

- Prepare and Protect – A Risk Management Series: Little Things, BIG Results – Paving Equipment (Members Only) — Thursday, May 21
- PaveXpress: An Overview of Major Enhancements — Wednesday, May 27
- Benefits of Rehabilitating Concrete Pavements with Slab Fracturing and Asphalt Overlays — Thursday, June 4
- Prepare and Protect – A Risk Management Series: Little Things, BIG Results – Paving Operations (Members Only) — Thursday, June 11
- PaveXpress: How to Evaluate Pavement Alternatives Using LCCA — Tuesday, June 16
- PaveXpress: How to Perform a Mechanistic-Empirical Pavement Design in 3 Simple Steps — Thursday, July 16

Join us for a free webinar

PAVE Xpress
A Free, Simplified Pavement Design Tool
An Overview of Major Enhancements

An in-depth look at:
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- New mechanistic-empirical pavement design module based on PerRoad
- The ability to perform designs in both English and Metric units

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📅 May 27, 2020
⏰ 1:00 - 2:30 EDT
Why Parking Lots Matter

Rick Biermann
Business Development Director – St. Louis
Why Parking Lots Matter

➔ Parking lots and pavements make up about 10% of initial structural construction costs.

➔ Parking lots will be responsible for up to 25% of the future maintenance cost.
What Do Owners Care About

➔ Cost
➔ Speed
➔ Reliability
➔ Aesthetics
➔ Sustainability
Which following statement do you perceive to be most accurate?

A. Concrete has no maintenance costs
B. Asphalt costs more to maintain
C. Asphalt has the lowest Life Cycle Cost
D. Unsure, it depends.

A: 50%
B: 50%
C: 50%
Cost Effective

Original construction is at least 15% less than concrete.

<table>
<thead>
<tr>
<th>ASPHALT</th>
<th>CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL 30 YEAR COST:</strong> $82,960</td>
<td><strong>TOTAL 30 YEAR COST:</strong> $106,290</td>
</tr>
<tr>
<td>Installation Cost</td>
<td>Installation Cost</td>
</tr>
<tr>
<td>$27,160</td>
<td>$31,802</td>
</tr>
<tr>
<td>Maintenance Cost</td>
<td>Maintenance Cost</td>
</tr>
<tr>
<td>• First 5 Years $10,000</td>
<td>• First 5 Years $9,906</td>
</tr>
<tr>
<td>• Years 5-10 $8,800</td>
<td>• Years 5-10 $18,712</td>
</tr>
<tr>
<td>• Years 10-15 $14,000</td>
<td>• Years 10-15 $20,520</td>
</tr>
<tr>
<td>• Years 15-20 $23,000</td>
<td>• Years 15-20 $25,350</td>
</tr>
<tr>
<td>• Years 20-30 $10,000</td>
<td>• Years 20-30 $30,750</td>
</tr>
</tbody>
</table>

AVERAGE ANNUAL MAINTENANCE: $1.70/sq. yd. Based on a 1,000 square yard lot
AVERAGE ANNUAL MAINTENANCE: $3.80/sq. yd. Based on a 1,000 square yard lot
## Maintenance Schedule

**Nothing is Maintenance Free!**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ASPHALT</th>
<th>CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3</td>
<td>Crack Fill, Sealcoat, Restripe</td>
<td>Joint Seal</td>
</tr>
<tr>
<td>3 - 5</td>
<td>Crack Fill, Sealcoat, Restripe</td>
<td>1% Slab Repair / Replace, Restripe</td>
</tr>
<tr>
<td>5 - 10</td>
<td>Crack Fill, Sealcoat, Restripe</td>
<td>1-3% Slab Repair / Replace</td>
</tr>
<tr>
<td>10 - 15</td>
<td>Asphalt Patching, Restripe</td>
<td>3% Slab Repair / Replace Restripe</td>
</tr>
<tr>
<td>15 - 20</td>
<td>Mill, Fill / Repair Base</td>
<td>Joint Reseal / 3% Slab Repair / Replace</td>
</tr>
<tr>
<td>20 - 25</td>
<td>Crack Fill, Sealcoat, Restripe</td>
<td>3% Slab Repair / Replace</td>
</tr>
<tr>
<td>25 - 30</td>
<td>Crack Fill, Sealcoat, Restripe</td>
<td>3% Slab Repair / Replace</td>
</tr>
</tbody>
</table>
Cost Effective

A 1,000 sqyd asphalt parking lot cost **17% less** to construct & up to **75% less** to maintain over the life, compared to concrete.
Asphalt Pavements are Constructed up to 70% faster than other pavements. Newly constructed or repaired asphalt can be driven on almost immediately upon completion.
Routine maintenance can be performed overnight. Giving asphalt pavements a fresh appearance and smoothness with little to no impact on normal traffic and/or business operations.
Properly designed and constructed asphalt pavements are perpetual and may never need complete full depth reconstruction.

93% of pavement surfaces in America are asphalt pavements.
The Parking Lot is Often the first Impression a customer has of a Business.
Which parking lot below do you find most appealing?

A

B
8 out of 10 people prefer the look of asphalt pavements.
How many car commercials have you seen showing the vehicle driving on a pavement other than asphalt?
Which pavement type do you believe to be more sustainable?
The use of recycled asphalt in the production of new asphalt saves almost $3 Billion annually.

Sustainable & Eco-Friendly

Asphalt is 100% recyclable & the world #1 recycled product.
The production of asphalt pavements produces up to 30% less CO$_2$ than the production of Portland cement. *

Reflective pavements, like concrete, increase surrounding building’s cooling load to up to 11% and increase surrounding air temps by 5 - 10°.

It’s NOT just a parking lot!

Why should an Owner care about the Parking Lot?

➔ It will be responsible for up to 25% of their future maintenance cost

➔ It is the first and last thing everyone sees
Why should Asphalt be everyone's first choice in pavements?

Asphalt outperforms every other pavement!
Questions?
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573-635-6071

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www.asphaltroads.org

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