Project Delivery Success for Small, Remote Airport Pavement Improvement Projects

a panel presentation

Thursday, June 19, 2025

Moderator:
Tom Peterson, P.E.
Executive Director

Colorado Asphalt Pavement Association

Colorado Airport Operators Association

Panelists:
Todd Green, Program Manager, CDOT Division of Aeronautics
Paul Kastler, P.E., Airport Project Manager, Lochner
Justin Vensel, Estimating Manager, United East, a CRH Company
David Fife, Quality Control Manager, United Companies, a CRH Company
Mark Bettis, President, Bettis Asphalt & Construction

CAOA Annual Conference Steamboat Springs


BETTIS
ASPHALT &
CONSTRUCTION


Schmidt
construction company


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PAVING
SAND & GRAVEL
A CRH COMPANY


Colorado Asphalt
Pavement Association


Frontier Paving Inc.
FPI
Rifle, CO


ACA
PRODUCTS


Elam
CONSTRUCTION, INC.


SIMON


APC
Construction Co.
A CRH COMPANY


BRANNAN
Sand and Gravel Co.
Founded 1906


Jebro Inc.


FOUR CORNERS
MATERIALS
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ASPHALT PAVING & LIGHT - HEAVY CONSTRUCTION


HOLCIM


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ENERGY

THE COLORADO ASPHALT MARKET:

66 STATIONARY PRODUCTION FACILITIES

5 – 8 PORTABLE PRODUCTION FACILITIES

8 – 9 MILLION TONS

- A majority of producers operate sand, gravel, and quarry operations
- A majority of producers also are paving contractors
- *Some producers are privately held, locally owned and operated and some are large, vertically integrated, publicly traded, and nationally/internationally owned.*


Other
CDOT
10%
17%
33%
40%
Commercial
Local Agency
9M tons of asphalt produced annually

Todd Green, Program Manager
Division of Aeronautics
Colorado Department of Transportation

COLORADO
Department of Transportation
Division of Aeronautics

PROJECT DELIVERY SUCCESS FOR REMOTE AIRPORTS

Colorado Airport Operator's Association (CAOA)
Spring Conference

June 18, 2025

Lochner

CAOA | COLORADO AIRPORT OPERATORS ASSOCIATION

PRESENTED BY:

Paul Kastler, PE
Engineering Project Manager
Centennial, CO

- Joined Lochner Colorado Aviation Team in 2022
- Managed projects throughout Colorado including the Front Range, Eastern Plains and mountain airports
- Previous design and construction project management experience in roadway, municipal utility and transit sectors in Washington State
- Private Pilot and Airport User

PROJECT SCOPING

Challenges & Best Practices

- Importance of having a structured and strong airport capital improvement plan (ACIP)
- Funding sources and timing (FAA & State)
- Budget is key
- Advantages/Challenges of traffic at remote airports

DESIGN

Challenges & Best Practices

- Quality plans and specs make for a smooth project
- Know your contractor base in the area
    - HMA hot plants, batch plants
    - Aggregate pits
- Opportunities/Challenges with FAA specs (P-207/P-209/P-401 vs. P-403)
- Concrete vs. Asphalt design; ability to offer both options
- Importance of project phasing and CSPP; needs of remote communities

BIDDING & CONSTRUCTION

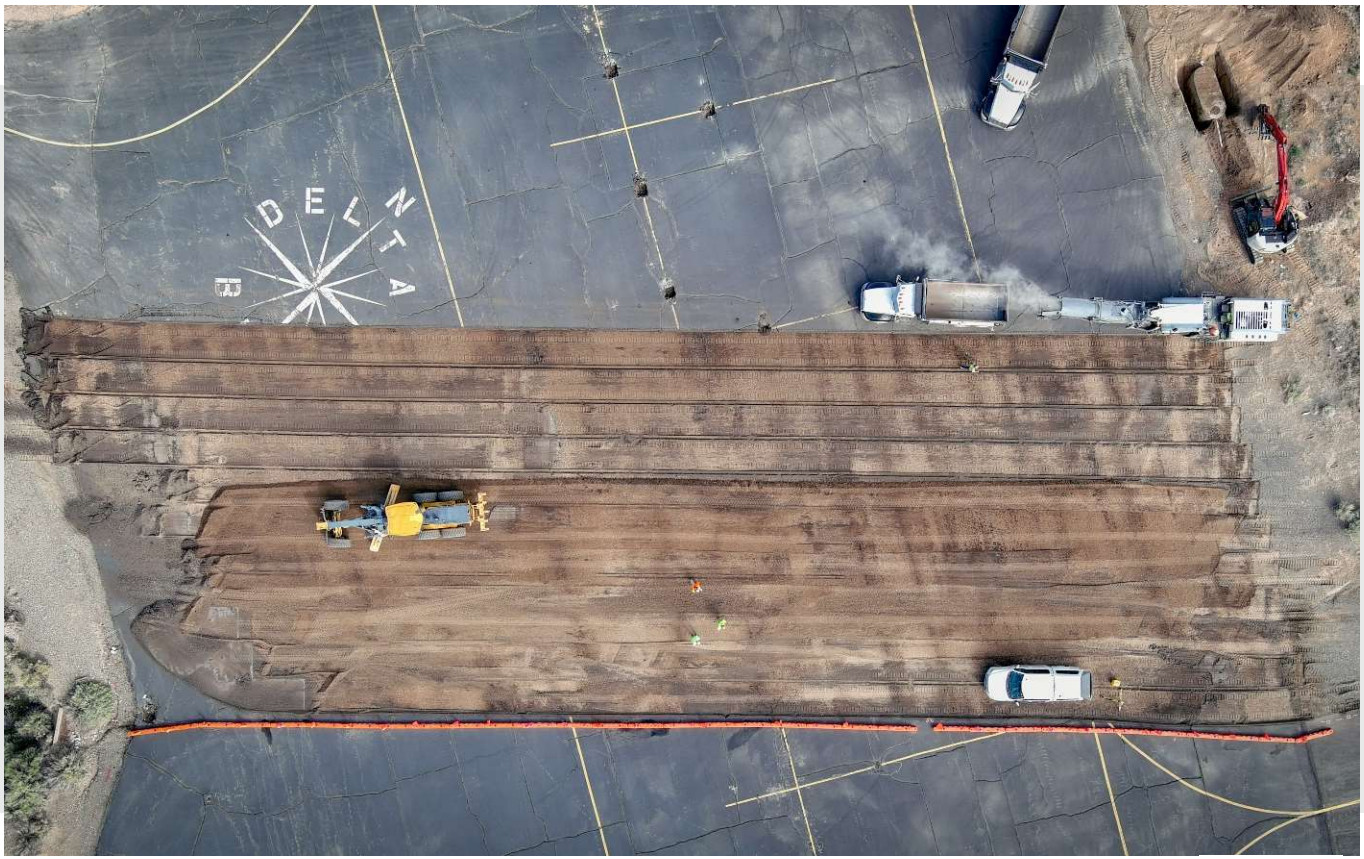
Challenges & Best Practices

Bidding

- Virtual pre-con meetings for smaller projects
- Provide reasonable bid window
- Stagger bid dates with other projects in remote areas

Construction

- Quality on-site construction inspector
- Flexibility on construction start date
- Higher Q/A costs at rural airports



KEY TAKEAWAYS

- Consistent, Quality ACIP = successful projects
- Communication is key to a successful project!
- Flexibility in design and schedule pays dividends

PROJECT DELIVERY SUCCESS FOR REMOTE AIRPORTS

Thank you for joining!

Lochner

CAOA | COLORADO AIRPORT OPERATORS ASSOCIATION

Colorado Airport Operators Association

Annual Conference

Justin Vensel/David Fife
June 19, 2025

David Fife
United Companies a CRH Company
Quality Control Manager

1988-1995 - Western Colorado Testing (Family Business)

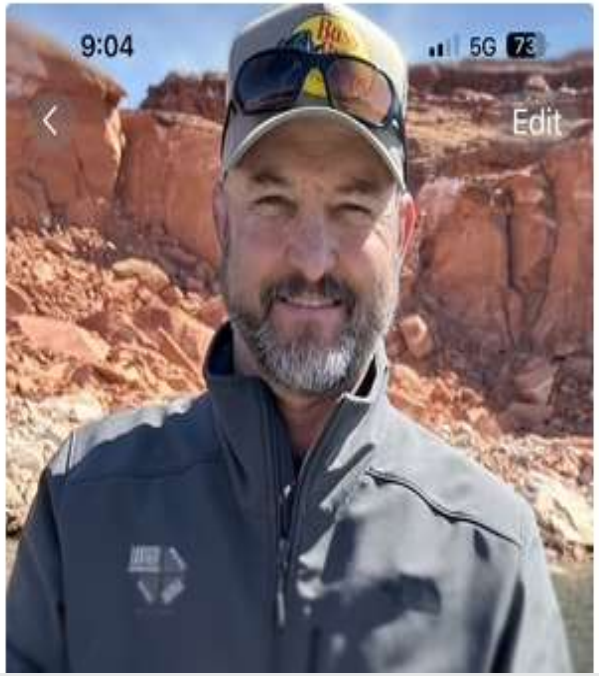
1995-2012- Elam Construction, Quality Control Manager

2012- United Companies, Quality Control Manager

Colorado Mesa University - Bachelor of Science - Construction Management
- Minor Economics

Wife, 2 Sons, 2 Daughters, 2 Granddaughters, and 2 Grandsons

Hobbies – Kids Sports, Tennis, Fishing, Hunting, Mountain Biking



Justin Vensel
United Companies a CRH Company
Estimating Manager United Companies East Division

2002-2017 City of Grand Junction Project Engineer

2017-2023 United Companies Estimator/Project Manager

2023- United Companies East Division, Estimating Manager

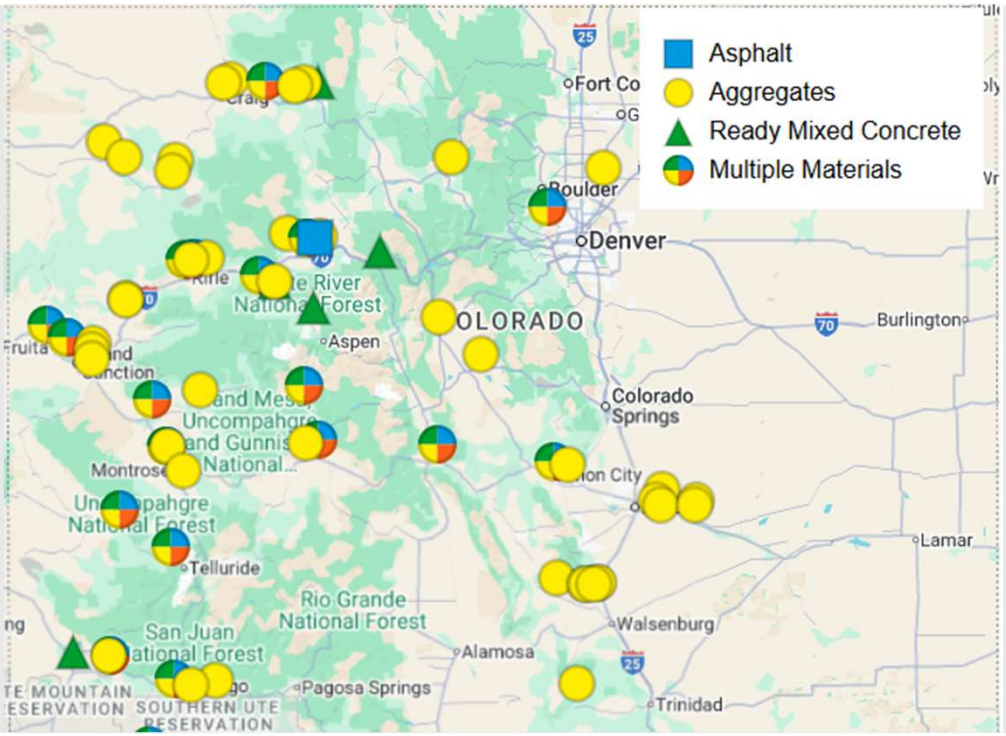
Northern Arizona University - Bachelor of Science – Engineering Technology - Mechanical Engineering

State of Colorado Professional Engineer since 2011

Wife, 2 Sons, 2 Daughters, and 2 Granddaughters

Hobbies – Camping Fishing, Hunting, Hiking/backpacking

CRH
Colorado Footprint



CRH
Colorado Airport Projects

TEX South Side Development –
5,815 Asphalt Tons

Aspen/Pitkin County Airport Airfield Maintenance and Pavement Rehabilitation -
1,120 Asphalt Tons

Walden-Jackson County Airport
Schedule I 12,549 Asphalt Tons
Schedule III 1,456 Asphalt Tons
Schedule IV 618 Asphalt tons
Schedule V 3,678 Asphalt Tons

CRH
Colorado Airport Projects

Montrose Regional Airport Taxiway C&D Intersection Reconstruction
P-401 4,565 Tons
P-403 3,596 Tons

Eagle County Regional Airport (Award Pending)
Schedule II Construct Taxiway B 11,684 Asphalt Tons
Schedule III Construct Taxilane 2,160 Asphalt Tons

Gunnison-Crested Butte Regional Airport
Rehabilitate Taxiway Connectors A4, A5, A6, A7, A8
3,240 Asphalt Tons

CRH
Colorado Airport Projects

Yampa Valley Airport
Schedule I Rehabilitate Taxiways– 19,700 Asphalt Tons
Schedule II Construct Runway 28 Blast Pad – 1,070 Asphalt Tons
Schedule III Construct Taxiway Connector A2 – 590 Asphalt Tons
Schedule V Pave OSS Facility Apron – 720 Asphalt Tons

McElRoy Field Apron Reconstruction (Pending)
Schedule I Apron Reconstruction - 2,730 Asphalt Tons
Schedule II Apron Rehabilitation – 930 Asphalt Tons

CRH
Colorado Airport Projects

Springfield Airport
1278 Asphalt Tons
4731 Class 6 Aggregate Base Course
216 LF RCP Pipe

Alamosa Airport (Pending)
1580 Asphalt Tons
156 LF RCP Pipe
4500 CY Excavation (Drainage Improvements)

CRH
Colorado Airport Projects

Pueblo Airport East Apron Rehab(Pending)
2514 Asphalt Tons

Meeker Airport GA Ramp Reconstruction (?)
2,100 Asphalt tons

Key Issues

- Time between the Award and Construction to make the material and do the designs that are required on the project

-Producing materials may take months before we can start project

- Asphalt Designs with the APA or Hamburg (Rut Test) takes weeks to complete after the material is produced

Key Issues

- Realistic project schedule

- Contractor input during the planning phase of the project

-Proposed contractor haul routes

Key Issues

- P-209 is extremely difficult to make and place

- CDOT Class 6 material is much more user friendly both to produce and to place

Key Issues

- Less incidentals and more line items

- Prefer the P-403 over the P-401

- Small quantity jobs with the Control Strip requirement

Contact Information

Justin Vensel – 970-852-7775
David Fife – 970-549-7122

BETTIS ASPHALT & CONSTRUCTION

THE BETTIS NAME IS SYNONYMOUS WITH QUALITY AND INTEGRITY

WE ARE PROUD TO BUILD THE ROADS AND STRUCTURES THAT SUPPORT THE COMMUNITIES WE LIVE IN.

OUR HISTORY

who we are

Founded in 1979, Bettis Asphalt has grown from a small paving company into a multi-division contractor serving five Midwestern states. Today, the organization remains family-owned as the second generation has assumed leadership, and we remain committed to service and family.

We've expanded into Colorado with operations based in Colby, Limon, and Stratton—offering hot mix asphalt production, asphalt paving, cold milling, patching, maintenance, and parking lot construction.

In Colorado we have completed numerous paving projects for both Cheyenne and Yuma counties.
Our team brings extensive experience to airport projects, including our most recent work at Forbes Airport in Topeka, KS.

BETTIS WEST

CAPABILITIES

Work primarily includes:

- Hot mix asphalt production
- Asphalt paving
- Cold Milling
- Patching
- Parking lot construction & maintenance

Asphalt plant locations:

- Colby, KS
- Stratton, CO
- Limon, CO

FOOTPRINT

Expanding Reach. Maintaining Reliability

Bettis West encompasses Western Kansas into Eastern Colorado to Deer Trail on I-70. Then north from Fort Morgan to Holyoke and south from Rocky Ford to Holly. Approximately a 90-mile radius from our asphalt plant in Stratton.

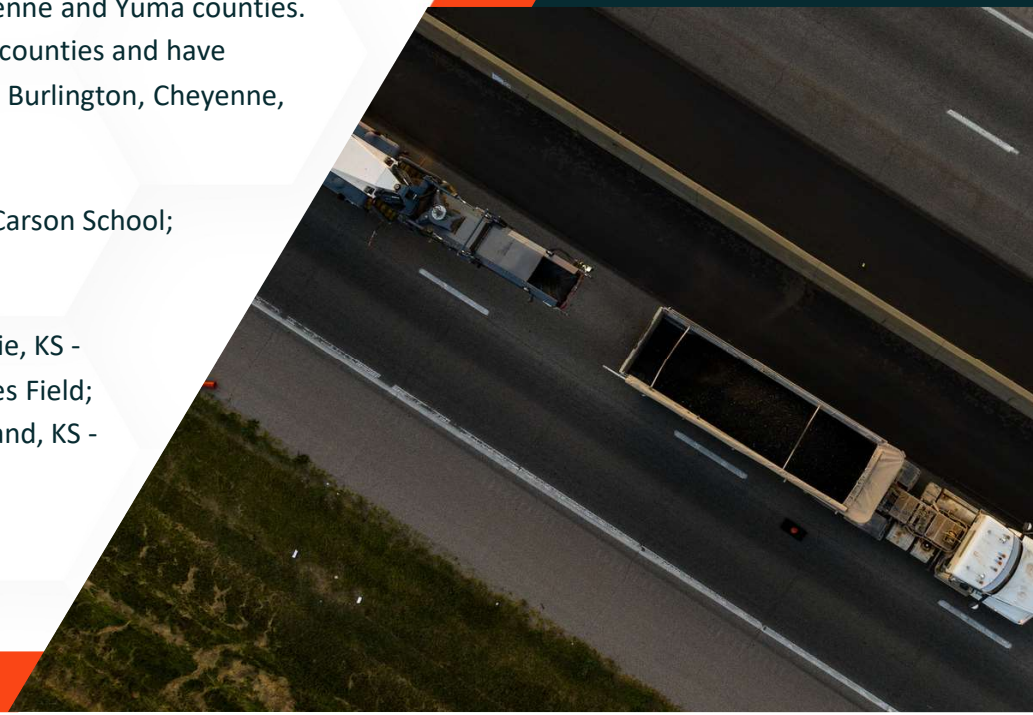
EXPERIENCE

From Highways to Runways—We've Done It.

Many of the projects we've completed in Colorado are smaller scale, remote projects. As stated earlier, we have completed several paving projects for Cheyenne and Yuma counties. We perform annual paving projects for both Kit Carson and Lincoln counties and have completed numerous municipal projects in Limon, Flagler, Stratton, Burlington, Cheyenne, Wells, Yuma and others.

Private projects include: Colby, KS Hospital; Wray High School; Kit Carson School; Burlington Love's; Limon TA Truck Stop; & Idalia Schools.

Airport projects include: Oberlin, KS - Runway Reconstruction; Hoxie, KS - Runway Reconstruction; Lawrence, KS – Airport; Topeka, KS – Forbes Field; Salina, KS - Airport Runway; Topeka, KS - Billard Airport; and Goodland, KS - Taxiway.



CHALLENGES/OBSTACLES

Navigating Site, Schedule, and Scope

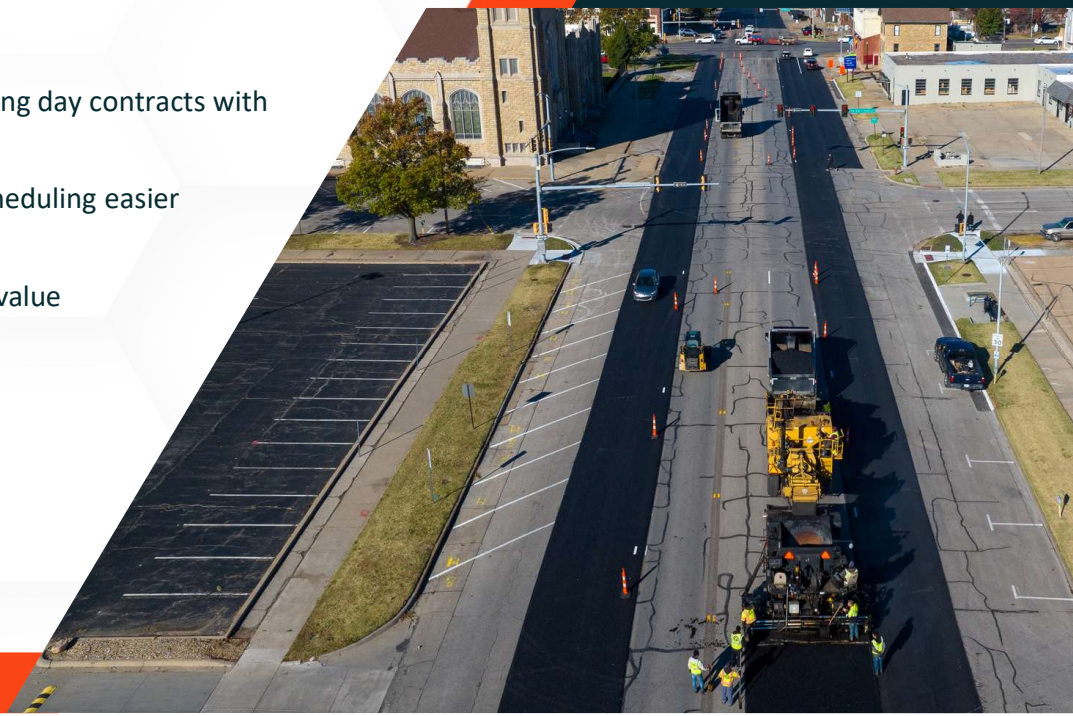
- Smaller scale projects with typical airport specifications are stringent and increase the cost per unit of measure due to mix design, testing, laboratories, and general conditions. This results in higher fixed costs being spread across a small asphalt quantity – plant manufacturing, mobilization, etc.
- Longer distances from the project location to the asphalt plant can increase costs due to trucking materials to plant, then from plant to jobsite.
- Non-Flexible project scheduling and multiple phases with small quantities increases mobilization and presents scheduling challenges.
- Projects with conflicting specifications that include CDOT mix design specs and FAA specs. (Wray Airport, 2024 Bid)

SOLUTIONS

best practices

- Design smaller scale remote projects with standard mix designs from CDOT specifications and not FAA specs
- Reduce phasing of projects when possible
- Provide sufficient time to complete the work and use working day contracts with flexible start dates
- Bid projects with as much lead time as possible to make scheduling easier

- Use CAPA to review bid documents prior to solicitation for value engineering and constructability suggestions



OUR WORK

CASE STUDY

Salina Regional Airport – Runway Rehabilitation

This ~19,000-ton mill and overlay project covered the south half of the main runway at Salina Regional Airport. We used 3D milling technology to meet the FAA's tight grade tolerances, especially where drainage modifications were involved—verified by post-mill surveying with precise results.

After milling, the surface revealed a mix of asphalt and concrete, causing scabbing and raising concerns about reflective cracking. During our test strip, these concerns proved valid. We recommended a revised approach: a 1" leveling course followed by a 1.5" surface lift, keeping final grades on target and quantities in check.

Approved for Phase 1, the revised method delivered excellent results. Despite the added leveling course, we finished on time—crucial due to the runway closure. It was a challenging job, but strong collaboration led to a successful outcome that impressed the contractor, engineer, and owner alike.

BETTIS ASPHALT

THANK YOU

Jebro Inc.

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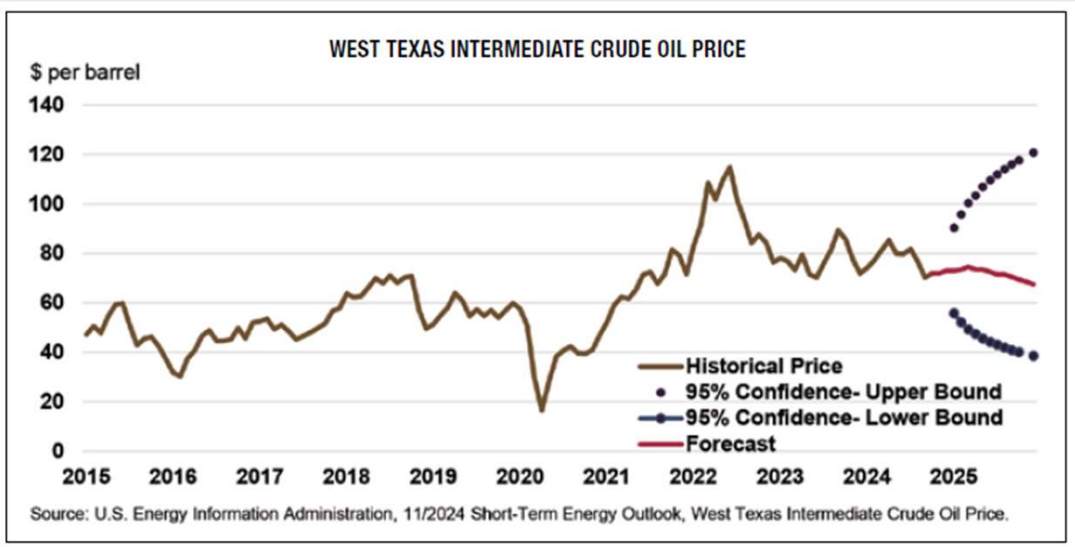

Asphalt Binder Supply & Cost Dynamics

Crude Oil Availability
(Pipelines, Transmountain moving forward moving supply to western Canada/US)

Refinery Capacity ***(reduced throughput when lower petroleum fuel demand)***

Refinery reconfigurations, acquisitions, closures

Refinery Startups & Upsets ***(ie. production problems)***

Demand vs. Supply ***(ie. asphalt production economics and fuels conversion economics)***

Transportation costs ***(truck and rail)***

Energy and terminal costs to heat and store asphalt

Asphalt Binder Issues – Small Airport Projects

- **Late in the Season, Delays in bid opening to award**

Many small airport jobs are let later in the season and we typically see anywhere from 90 to 120 days from bid open to award. This tends to push paving small airports to very late in the season. The biggest issue for paving oil suppliers is the acceptance period for most airport jobs. Oil markets can change quite drastically during that length of time. Many bitumen suppliers quote projects with one-day post-letting acceptance in order to manage this risk. This shifts a great deal of risk to the hot mix producer. Risk that some producers are unwilling to take, which limits competition thus resulting in higher pricing for the owner. The long acceptance period tends to push paving for many small airport jobs to very late in the season—even past Thanksgiving.

Asphalt Binder Issues – Small Airport Projects

- **Uncertainty in funding**

Uncertainty in funding leads to a lot of elapsed time between bid opening and award. Is it possible to wait until funding is assured prior to taking to letting, then letting it with a much shorter acceptance of say no more than 30 days.

Asphalt Binder Issues – Small Airport Projects

- **Use of highly modifed asphalt**

These projects typically require highly modified bitumen (asphalt). Most asphalt suppliers cease production in early November. Re-starting production of such binders late in the year is very energy intensive and creates undue challenges for meeting specifications for these materials. Shipping highly modified asphalt is more challenging as a product temperature is more difficult to maintain during shipment in cooler weather. We see more additives used in cooler weather to assist with compaction. The use of these additives add a degree of complexity to meeting specifications. These challenges lead to higher costs which typically get passed on to the owner.

Asphalt Binder Issues – Small Airport Projects

- **Asphalt Binder – Grade Requirements**

  It is challenging for suppliers to provide asphalt binder for low volume projects when the asphalt binder grades and specifications do not match the state DOT specifications.

  Examples:

  1. The first PG76-34 project in Colorado was for an airport project, CDOT does not specify this grade.
  2. The FAA specifications include an elastic recovery. CDOT does not specify this test.

  Binder grades and specifications that do not align with CDOT can affect the availability and/or price of the asphalt binder due to the limited tank space we have at our facilities.

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